



Conway Township Planning Commission

Monday, December 12, 2022 | 7:00pm

Fowlerville Junior High School | 7677 Sharpe Road, Fowlerville, Michigan 48836

- 1. CALL TO ORDER / PLEDGE**
 - 2. ROLL CALL**
 - 3. CALL TO THE PUBLIC**
 - 4. APPROVAL OF PLANNING COMMISSION MEETING December 12, 2022 AGENDA**
 - 5. APPROVAL OF THE November 14, 2022 MEETING MINUTES**
 - 6. COMMUNICATIONS**
 - a. Zoning Administrator's Report
 - b. Board Ex-Officio Report
 - c. Livingston County Planning Commission Report
 - 7. PUBLIC HEARING ON PROPOSED AMENDMENTS TO THE ZONING ORDINANCE**
 - a. Swimming Pools | Section 6.07 Supplemental Regulations Pertaining to Yards
 - b. Solar Energy Systems | Section 6.26 Solar Energy Systems
 - 8. OLD BUSINESS**
 - a. Recommendation to Conway Township Board Regarding Proposed Zoning Ordinance Amendments – Swimming Pools
 - i. Planning Commission Discussion
 - b. Recommendation to Conway Township Board Regarding Proposed Zoning Ordinance Amendments – Solar Energy Systems
 - i. Solar Advisory Committee Comments
 - ii. Planning Commission Discussion
 - c. Master Plan Update
 - i. Change to existing land use map
 - ii. Update demographics
 - iii. Commercial nodes
 - iv. Capital Improvements
 - 9. NEW BUSINESS**
 - 10. PLANNING COMMISSION MEMBER DISCUSSION**
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11. LAST CALL TO THE PUBLIC

12. ADJOURNMENT

Any person may speak for up to 3 minutes during the public comment period. Groups of 10 or more have the option of selecting a spokesperson, who may speak for up to 10 minutes.

Next Meeting will be January 9, 2023

CONWAY TOWNSHIP POLICY No. 7

PUBLIC COMMENT AND CONDUCT POLICY

Conway Township Board recognizes its obligation to obtain and the benefits to be received from public comments on matters pending before the Board. To provide an orderly and efficient manner to obtain public comment and to provide the public with an opportunity to participate in public meetings, the Conway Township Board hereby adopts the following policy for public comment and conduct at public meetings:

1. Public comment is restricted to only those times designated for public comment on the agenda, unless permitted otherwise by the chairperson or a majority of the Board. All persons addressing the Board shall comment only after being recognized by the chairperson conducting the meeting.
2. No individual speaker shall be permitted to speak more than 3 minutes regardless of topic and no time may be transferred or assigned by others to the speaker as to extend the 3-minute time limit. At the discretion of the chairperson, a speaker may be allowed to comment further than the three-minute limit. Alternatively, the chairperson may direct the speaker to submit further comment to the Board in writing at a later date.
3. When recognized by the chairperson to speak, the individual recognized shall approach and speak from the podium or location designated by the chairperson and shall not deviate from the location. When the speaker is advised by the chairperson to stop speaking when time has expired, the speaker shall cease speaking and be seated.
4. Prior to addressing the Board, each speaker shall first state for the record the speaker's name and address, the subject on which the speaker will speak, and state whether the speaker represents an organization or other person, and identify such organization or person. All remarks shall be addressed to the Board as a whole and not to any member thereof specifically or any other member of the public. Public comment is not intended to require Board members or Township staff to provide any answer to the speaker. Discussions between speakers and members of the audience will not be permitted.
5. Only one speaker will be acknowledged at a time. In the event that a group of persons supporting or opposing the same position desires to be heard, in the interest of time, a person shall be designated to express the group's concern. A maximum of three speakers may speak on the same subject unless otherwise allowed by a vote of the majority of members of the Board present. The Board may direct other persons to submit comments to the Board in writing in the same manner as designated above.
6. Public comments must be presented in a respectful manner and participants shall conduct themselves in an orderly and civil manner. Comments or language of a lewd, insulting, or provocative nature shall not be permitted. No person shall disrupt the Board and/or partake in behavior that becomes hostile, argumentative or threatens the public or an individual's safety, or is disruptive to the meeting. No person shall utilize any profane or obscene speech or gesture.
7. Violation of any provision of this policy shall be deemed a breach of the peace and such person will be asked to leave. If the person being asked to leave does not voluntarily leave or cease the behavior, the person may be ejected and law enforcement may be called to remove the person.
8. Any person shall have the right to tape record, videotape or broadcast the proceedings of the Township Board, but shall not utilize the electric outlets of the Township without prior permission of the Township Clerk. Any tape recording, video camera or other camera utilized by any such person, shall be kept at least ten feet from all members of the Board and shall not be placed behind them.

This policy may be adopted for use by other boards, commissions, and committees of the Township. This policy or a summary of it may be placed on the back of the meeting agenda or made available with the meeting agenda.

* * * * *

I, Cindy Dickerson, Conway Township Clerk, hereby certify that this administrative Conway Township Policy No. 7 was approved by a regular meeting of the Conway Township Board on June 17, 2014.

/s/  _____

Cindy Dickerson
Conway Township Clerk



Conway Township Planning Commission Meeting Minutes
 Monday, November 14th, 2022 | 7:00pm EST
 Conway Township Hall | 8015 N. Fowlerville Road, Fowlerville, MI 48836

Agenda	Items Discussed	Actions to be Taken
Attendees	PC Members Present: Jeff Klein, Meghan Swain-Kuch, Dave Whitt, George Pushies - Ex-Officio, Lucas Curd, and Kayla Poissant Zoning Administrator – Gary Klein Livingston County Planning Commissioner: Dennis Bowdoin Township Attorney: Abby Cooper, JD Township Planners: Justin Sprague and Hannah Smith	
Call to Order/Roll Call	<p>Chair, M. Swain-Kuch called the Conway Township Planning Commission meeting to order at 7:00pm. Roll Call was completed with all members present- Quorum was met.</p> <p>The Planning Commission Meeting/Public Hearings must be rescheduled for another date, time, and location due to being over the maximum capacity of individuals in the building.</p> <p>PC Chair M. Swain-Kuch stated that a new date, time, and location will be scheduled in the near future. The notice of the rescheduled Public Hearing will be posted at least 15 days prior to the meeting date. She stated notices will be posted in the newspaper, near the Township Hall door, and on the Conway Township website. She stated that a venue must be found first before a date can be set.</p> <p>PC Chair M. Swain-Kuch also recommended and encouraged residents to continue submitting letters and emails to the PC via email.</p>	None
Adjournment	Motion to adjourn at 7:02pm. Motion by G. Pushies. Support by J. Klein. Motion approved.	Motion Passed

Respectfully Submitted:

Kayla Poissant,
PC Secretary

Approved:

Meghan Swain-Kuch,
PC Chair

**LIVINGSTON COUNTY PLANNING
COMMISSION MEETING MINUTES**

October 19, 2022

6:30 p.m.

Hybrid In-Person and Virtual Zoom Meeting

Zoom Virtual Meeting Room Meeting ID: 399-700-0062 / Password: LCBOC https://zoom.us/j/3997000062?pwd=SUdLYVFFcmozWnFxbm0vcHRjWkVIZz09

PLANNING COMMISSION	
COMMISSIONERS PRESENT:	BILL ANDERSON PAUL FUNK JASON SCHROCK DENNIS BOWDOIN MATT IKLE
COMMISSIONERS ABSENT:	BRIAN PROKUDA BILL CALL
STAFF PRESENT:	KATHLEEN KLINE-HUDSON ROB STANFORD SCOTT BARB
OTHERS PRESENT:	BRUCE POWELLSON, MARION TOWNSHIP JOANN HAAS, COHOCTAH TOWNSHIP

1. **CALL TO ORDER:** Meeting was called to order by Planning Commissioner Anderson at 6:30 PM.
2. **PLEDGE OF ALLEGIANCE TO THE FLAG**
3. **ROLL AND INTRODUCTION OF GUESTS:** None.
4. **APPROVAL OF AGENDA**

Commissioner Action: IT WAS MOVED BY COMMISSIONER IKLE TO APPROVE THE AGENDA, DATED OCTOBER 19, 2022, SECONDED BY COMMISSIONER BOWDOIN.
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All in favor, motion passed

5. **APPROVAL OF PLANNING COMMISSION MEETING MINUTES**

Commissioner Action: IT WAS MOVED BY COMMISSIONER FUNK TO APPROVE THE MINUTES, DATED SEPTEMBER 21, 2022, SECONDED BY COMMISSIONER SCHROCK.

All in favor, motion passed.

6. **CALL TO THE PUBLIC:** Joann Haas, Cohoctah Township resident, spoke to the County Planning Commission with concerns over the potential solar farm developments that are planned for Cohoctah and Conway Townships. She spoke to the amount of valuable prime farmland and environmental areas that could be impacted by potential solar farm land use.

7. **ZONING REVIEWS:**

A. **Z-36-22 GENOA TOWNSHIP, REZONING**

NSD NEIGHBORHOOD SERVICE DISTRICT/MDR MEDIUM DENSITY RESIDENTIAL WITH A TC TOWN CENTER OVERLAY TO HDR HIGH DENSITY RESIDENTIAL/RPUD RESIDENTIAL PLANNED UNIT DEVELOPMENT IN SECTIONS 11 AND 14.

Current Zoning: NSD Neighborhood Service District & MDR Medium Density Residential with a TC Town Center Overlay

Proposed Zoning: HDR High Density Residential/RPUD Residential Planned Unit Development Sections 11 and 14

Township Master Plan:

The Future Land Use Plan of the Genoa Township Master Plan (2013) designates the site as Mixed Use and High Density Residential:

The Mixed-Use Town Center category includes a mixture of uses integrated into a traditional-style development of high-density single-family homes, attached and detached, along with various commercial uses including retail and office. The intent is to create a destination in the Township as an alternative to the consistent strip development that currently exists along Grand River Avenue from Howell to Brighton.

The High Density Residential designation refers to higher density condominiums, apartments and other multiple family dwellings and it is found within areas served, or planned to be served, by public water and sanitary sewer. Development should respond to infrastructure and land capabilities and should not exceed 8 units per acre. High density residential developments will be served by public water and sewer.

Additionally, the Future Land Use Chapter of the Genoa Township Master Plan establishes a growth boundary that marks the separation between rural and urban areas and defines land that can efficiently support urban services such as sewer, water, and roads. The subject site is within the Primary Growth area that is currently served or available to be served by public sewer and water. These areas include single family and multiple family residential at higher densities with public water and sewer, commercial centers, industrial parks, and mixed-use centers.

County Comprehensive Plan:

The 2018 Livingston County Master Plan does not direct future land use patterns, or development within Livingston County. Alternatively, it offers a county-wide land use perspective when reviewing potential rezoning amendments. The Land Use & Growth Management chapter of the plan includes decision-making recommendations regarding potential land use conflicts and promoting good land governance.

Township Planning Commission Recommendation: Approval. There were several public comments at the September 12, 2022, public hearing expressing concern regarding traffic, the traffic light, the power grid, retention pond, drainage in Lake Chemung, the view from neighboring residences, and apartment rentals.

Staff Recommendation: Approval. The proposed rezoning to HDR/RPUD is consistent with the goals and intent of the Genoa Township master plan, it is supported by existing infrastructure, and it will preserve and protect natural features that might not be protected under other forms of development.

Commission Discussion: Commissioner Funk asked if the audience at the Township Planning Commission meeting was well-informed of the project and why there are so many concerns over the site? Director Kline-Hudson and Commissioner Ikle were present at the Genoa Township Planning Commission public hearing, and they explained the site plan concerns that they heard from area residents. Commissioner Ikle explained the history of the site and why a development is now being proposed at this

location many years later. He noted that the Town Center Overlay district that is currently in place, does not have any setback requirements and the proposed RPUD has setbacks, however, the Genoa Township Planning Commissioners are requesting that the setbacks of the PUD be increased. Commissioner Ikle also noted his concerns about the primary entry to the development and that he did not understand why the applicant stated that a boulevard entrance is not permitted by the Livingston County Road Commission.

Public Comment: None.

Commission Action:

Commissioner Action: IT WAS MOVED BY COMMISSIONER SCHROCK TO RECOMMEND APPROVAL, SECONDED BY COMMISSIONER BOWDOIN.

Motion passed: 5-0

B. PA-01-22: HOWELL TOWNSHIP PA 116 FARMLAND AGREEMENT: Section 9, 40 ACRES, LUKE AND ANNA BOWMAN.

Commission Discussion: None.

Commission Comment: None.

Public Comment: None.

Commission Action:

Commissioner Action: IT WAS MOVED BY COMMISSIONER BOWDOIN TO RECOMMEND APPROVAL. SECONDED BY COMMISSIONER IKLE.

Motion passed: 5-0

C. PA-02-22: HOWELL TOWNSHIP PA 116 FARMLAND AGREEMENT: Section 9, 40 ACRES, LUKE AND ANNA BOWMAN.

Commission Discussion: None.

Commission Comment: None.

Public Comment: None.

Commission Action:

Commissioner Action: IT WAS MOVED BY COMMISSIONER IKLE TO RECOMMEND APPROVAL. SECONDED BY COMMISSIONER FUNK.

Motion passed: 5-0

8. OLD BUSINESS:

A. Fall 2022 Citizen Planner Educational Series: This series begins October 27th, 2022. Planning Commissioners Ikle and Schrock will be attending as well as staff.

B. 2023-2027 Parks & Open Space Plan: Public comment period will soon begin for the plan. It is hoped that a public hearing for the plan will be held at the December 21, 2022 County Planning Commission meeting.

9. NEW BUSINESS: None.

10. REPORTS:

- A. Planning Commission Annual Meeting:** Next month will be the Livingston County Planning Commission annual meeting to select officers for the next calendar year.
- B. State of the County Address:** State of the County will be on November 1st, 2022 at the Public Safety Complex at 5:30 p.m.
- C. Howell Master Planning Session:** Howell's master planning session will be open to the public on October 26 – 28, 2022.
- D. MAP Annual Conference:** Principal Planner Barb provided the Commissioners with a brief overview of the topics discussed at the Michigan Association of Planning annual conference.
- E. Director Kline-Hudson Retirement:** Director Kline-Hudson announced her retirement effective January 15, 2023.

- 11. COMMISSIONERS HEARD AND CALL TO THE PUBLIC:** Joann Haas, Cohoctah Township resident, again requested that the County Planning Commission provide aid or assistance regarding the issues that the townships are experiencing with potential solar projects throughout Cohoctah and Conway Townships. Director Kline-Hudson stated that the Livingston County Planning Commission will be evaluating the proposed language when it is received, and only local township officials can make land use changes within the community or declare a moratorium on such projects. She invited Ms. Haas to visit the Livingston County Planning Department for further information regarding solar farms.

12. ADJOURNMENT:

Commissioner Action: IT WAS MOVED BY COMMISSIONER SCHROCK TO ADJOURN THE MEETING AT 7:35 P.M., SECONDED BY COMMISSIONER BOWDOIN .

Motion passed: 4 – 1 (Ikle: Nay)



Livingston County Department of Planning

LIVINGSTON COUNTY PLANNING COMMISSION MEETING

Wednesday, November 16, 2022 – 6:30 p.m.

Administration Building, Board of Commissioners Chambers
304 East Grand River, Howell, MI 48843

Please note that this is a hybrid meeting with County Planning Commissioners and staff meeting in-person. Audience participants are welcome to attend in-person or via Zoom by using the meeting link at the bottom of the agenda

Kathleen J. Kline-Hudson
AICP, PEM
Director

Robert A. Stanford
AICP, PEM
Principal Planner

Scott Barb
AICP, PEM
Principal Planner

Agenda

1. Call to Order
2. Pledge of Allegiance to the Flag
3. Roll and Introduction of Guests
4. Approval of Agenda – November 16, 2022
5. Approval of Meeting Minutes – October 19, 2022
6. Call to the Public
7. Zoning Reviews
 - A. Z-37-22 Cohoctah Township, Text Amendment, Article XIII Special Uses, Section 13.27 Utility Scale Energy Systems
 - B. Z-38-22 Marion Township, Text Amendment, Article XII Solar Farm Overlay District, Section 12.01 SFO Solar Farm Overlay District; Article XVII Standards for Specific Special Uses, Section 17.34 Utility Solar Energy Facilities; and related amendments in Articles III, VI and VII.
 - C. Z-39-22 Handy Township, Text Amendment, Articles 1, 9, 10, and 16 regarding Organized Event Building ordinance language.
8. Old Business
 - A. Fall 2022 Citizen Planner Educational Series
 - B. 2023-2027 Parks & Open Space Plan
9. New Business
10. Reports
11. Commissioners Heard and Call to the Public
12. Adjournment

Department Information

Administration Building
304 E. Grand River Avenue
Suite 206
Howell, MI 48843-2323

●
(517) 546-7555
Fax (517) 552-2347

●
Web Site
co.livingston.mi.us

Via Zoom (on-line meetings):

<https://zoom.us/j/3997000062?pwd=SUdLYVFFcmozWnFxbm0vcHRjWkVIZz09>

Via the Zoom app

Join a meeting, with meeting number: **399 700 0062**

Enter the password: **LCBOC** (ensure there are no spaces before or after the password)

Meeting ID: **399 700 0062**

Password: **886752**

Meeting recordings may be made using a personal computer or laptop, after requesting ability from the meeting host.

County Planning Connection December 2022 News

Southeast Michigan Regional Trails Summit

Southeast Michigan's local government officials and staff, recreation providers and representatives from trail organizations and friends groups are encouraged to attend the **Southeast Michigan Regional Trails Summit** on Thursday, December 8, 2022, from 9:30 am -12:00 am. at the SEMCOG Office, 1001 Woodward Avenue, Detroit.

Trails bring many economic benefits to local governments and businesses, and contribute to a high quality of life with the outdoor experiences they provide. The Southeast Michigan Regional Trails Summit is an opportunity to learn more about funding opportunities and innovative partnership ideas to support trails in our local communities. The Trails Summit is hosted by the Southeast Michigan Council of Governments (SEMCOG) and the Michigan Trails and Greenways Alliance (MTGA). The event supports the work of Michigan Trails Southeast; a regional initiative to connect more people with trails, connect gaps in the trail network, and connect local communities and trail organizations with funding and capacity resources to support their work.



The agenda will include:

- Keynote speakers on the value of trails and best practices for maximizing them;
- A panel discussion with public and private funding sources for trails;
- Opportunities to share about your community's trail progress, challenges, or priorities for the future, and;
- Networking with other stakeholders in our regional trail system.

Use the following link to register for the Trail Summit: https://loggedin.semco.org/IMIS_SEMCOG/Events/Event_Display.aspx?EventKey=ADHC120822&WebsiteKey=346ba721-3255-4fb4-9ea6-899d0eb35a62

Livingston County Solar Farm Tour Article

Alex Haddad, Communications Director of the Graham Sustainability Institute of the University of Michigan, recently interviewed Rob Stanford, Principal Planner with the Livingston County Planning Department. Rob was interviewed about his participation in the MAP/MSU/Graham Institute training and bus tour regarding alternative energy, which inspired his efforts to lead a similar tour in Livingston County to educate local government leaders and demystify alternative energy solutions.

The link to the article follows:

<https://www.michigan.gov/egle/newsroom/mi-environment/2022/11/09/planners-tour-of-renewable-energy-projects-spurs-further-learning>

About the Graham Sustainability Institute: In partnership with MSU Extension, the Graham Sustainability Institute developed the Solar Energy Systems Guidebook to help Michigan communities become solar-ready by addressing solar energy systems within their policies and regulations. <https://www.canr.msu.edu/planning/uploads/files/SES-Sample-Ordinance-final-20211011-single.pdf>

Section 6.07 Supplemental Regulations pertaining to Yards

6. Swimming pools shall not be subject to yard requirements, provided the following minimum conditions are met:

a. Yard areas with a swimming pool, spa, hot tub or similar device (below ground or above ground) shall erect and maintain a fence or enclosure approved by the Zoning Administrator.

b. Fencing is to be a minimum of four (4) feet high, and equipped with a self-closing and self-latching gate. Latching devices are to be located at a minimum height of three (3) feet above the ground. Such fencing may be omitted where building walls without doorways abut the pool area, provided that the entire perimeter of the pool area is secured. Above ground swimming pools with sides of four (4) feet or more above grade, do not require fencing but do require a removable access ladder that lifts for safety. A spa or hot tub with a locking cover shall not require a fence.

c. Swimming pools, spas, hot tubs, similar facilities and surrounding decks, walks or similar accessories with an elevation measured from the mean grade at any point adjacent to such facility of two (2) feet or less shall be at least ten (10) feet from any lot line. Where the elevation is greater than two (2) feet above grade at any point, the setback shall be at least fifteen (15) feet from any public street right-of-way or lot line.

d. Swimming pools, spas, hot tubs and similar devices shall not be located in any front yard or in any easement.

e. No lights shall be erected, operated or maintained in connection with a swimming pool in such a manner as to create an annoyance to surrounding properties.

f. No overhead wiring shall be above a swimming pool.

g. Seasonal swimming pools, spas, hot tubs and similar structures that are intended to be temporary in nature such as inflatable pools or of similar materials which do not require a permanent location, foundation or other fixed position on the property as defined in Article 2 (Structures) shall not be required to obtain a Land Use Permit as required in Article 3, Section 3.03 if the height of the temporary structure does not exceed twenty-four (24") inches from the grade level.

Proposed Amendments to Conway Township Zoning Ordinance Related to Solar Energy Systems

1) Add New Definitions to Article 2.

Solar Energy System (SES): A photovoltaic system or solar thermal system for generating and/or storing electricity or heat, including all above and below ground equipment or components required for the system to operate properly and to be secured to a roof surface or the ground. This includes any necessary operations and maintenance building(s), but does not include any temporary construction offices, substation(s) or other transmission facilities between the SES and the point of interconnection to the electrical grid.

1. **Building-Mounted Solar Energy System:** A solar energy system attached to the roof or wall of a building, or which serves as the roof, wall or window or other element, in whole or in part, of a building.
2. **Ground-Mounted Solar Energy System:** A solar energy system mounted on support posts, like a rack or pole, that is attached to or rests on the ground. The system is not attached to and is separate from any building on the parcel of land on which the solar energy system is located.
3. **Utility-Scale Solar Energy System:** A large-scale facility of solar energy arrays with the primary purpose of wholesale or retail sales of generated electricity.
4. **Accessory Solar Energy System:** A small-scale solar energy system with the primary purpose of generating electricity for the principal use on the site.

Solar Array: A photovoltaic panel, solar thermal collector, or collection of panels or collectors in a solar energy system that collects solar radiation.

Dual Use: A solar energy system that employs one or more of the following land management and conservation practices throughout the project site:

1. **Pollinator Habitat:** A site designed to have vegetation that will enhance pollinator populations, including a diversity of flowering plants and wildflowers, and meets a score of 76 or more on the Michigan Pollinator Habitat Planning Scorecard for Solar Sites.
2. **Conservation Cover:** A site designed with practices to restore native plants, grasses, and prairie with the aim of protecting specific species or providing specific ecosystem services, such as carbon sequestration or soil health. The site must be designed in partnership with a conservation organization or approved by the Livingston Conservation District.
3. **Forage/Grazing:** Sites that incorporate rotational livestock grazing and forage production as part of a vegetative maintenance plan.
4. **Agrioltaics:** Sites that combine raising crops for food, fiber, or fuel, and generating electricity within the project area to maximize land use.

Maximum Tilt: The maximum angle of a solar array (i.e. most vertical position) for capturing solar radiation as compared to the horizon line.

Minimum Tilt: The minimal angle of a solar array (i.e. most horizontal position) for capturing solar radiation as compared to the horizon line.

Participating Property: One or more properties under a signed lease or easement for development of a utility-scale solar energy system associated with a project.

Non-Participating Property: One or more properties for which there is not a signed lease or easement for development of a utility-scale solar energy system associated with a project.

- 2) **Delete Definition for Solar Energy Collector in Article 2.**
- 3) **Change references from building-mounted solar energy collectors in Sections 7.02(A)(13), 8.02(A)(13), 10.02(A)(15), and 11.02(F) to accessory solar energy systems; remove references to ground-mounted energy collectors in Sections 7.03(A)(20), 8.03(A)(12), 10.03(A)(9), and 11.03(A)(8); and change references from commercial solar energy systems in Sections 7.03(A)(21), 10.03(A)(10), and 11.03(A)(9), to utility-scale solar energy systems.**
- 4) **Replace current Section 6.26 regarding Solar Energy Collectors with the following:**

Section 6.26 Solar Energy Systems

A. Purpose and Intent.

Conway Township promotes the effective and efficient use of solar energy collection systems. It is the intent of the Township to permit these systems by regulating the siting, design, and installation of such systems to protect the public health, safety, and welfare, and to ensure compatibility of land uses in the vicinity of solar energy systems. Accessory and utility-scale solar energy systems, as defined in this Ordinance, shall comply with the provisions of this Section.

B. Criteria For the Use of All Solar Energy Equipment.

1. Solar energy equipment shall be located to minimize visual impacts from the public right-of-way.
2. Solar energy equipment shall be repaired, removed, or replaced within twelve (12) months of no longer being operational.
3. All solar energy equipment must conform to all County, State, and Federal regulations and safety requirements as well as applicable industry standards.

C. Accessory Solar Energy Systems. Accessory solar energy systems, as defined in Article 2 Definitions, include building-mounted systems and ground-mounted systems with the primary purpose of generating electricity for the principal use on the site. Accessory solar energy systems are a permitted accessory use in all zoning districts, subject to administrative review and approval.

1. **Application to Zoning Administrator.** An applicant who seeks to install an accessory solar energy system shall submit an application to the Zoning Administrator upon forms furnished and approved by the Conway Township Board of Trustees.
2. **Application Criteria.** The application must be approved in

writing by the Zoning Administrator. The application shall include the following:

- a. Photographs of the property's existing conditions.
- b. Renderings or catalogue cuts of the proposed solar energy equipment.
- c. Certificate of compliance demonstrating that the system has been tested and approved by Underwriters Laboratories (UL) or other approved independent testing agency acceptable to Township.
- d. Plot plan to indicate where the solar energy equipment is to be installed on the property.
- e. In addition to the criteria contained in this subsection, applicants seeking approval of an accessory solar energy system shall meet the requirements of subsection (4) for a building-mounted system and subsection (5) for a ground-mounted system.

3. Exclusions from Administrative Review.

- a. The installation of one (1) solar panel with a total area of less than eight (8) square feet.
- b. Repair and replacement of existing solar energy equipment, provided that there is no expansion of the size or coverage area of the solar energy equipment.

4. Building-Mounted Solar Energy System Requirements. A building-mounted solar energy system shall be a permitted accessory use in all zoning districts, subject to the following requirements:

- a. Administrative review as set forth in subsection (1) above is required of all building-mounted solar energy systems permitted as an accessory use, subject to the exclusions in subsection (3).
- b. Solar energy systems that are mounted on the roof of a building shall not project more than five (5) feet above the highest point of the roof but, in any event, shall not exceed the maximum building height limitation for the zoning district in which it is located, and shall not project beyond the eaves of the roof.
- c. Solar energy systems that are roof-mounted, wall-mounted

or are otherwise attached to a building or structure shall be permanently and safely attached to the building or structure. Proof of the safety and reliability of the means of such attachment shall be submitted to the Zoning Administrator prior to installation; such proof shall be subject to the Zoning Administrator's approval.

- d. Solar energy systems that are wall-mounted shall not exceed the height of the building wall to which they are attached.
- e. Solar energy systems shall not be mounted on a building wall that is facing an adjacent public right-of-way.
- f. The exterior surfaces of solar energy systems that are mounted on the roof or on a wall of a building, or are otherwise attached to a building or structure, shall be generally neutral in color and substantially non-reflective of light.
- g. Solar energy systems shall be installed, maintained, and used only in accordance with the manufacturer's directions. Upon request, a copy of such directions shall be submitted to the Zoning Administrator prior to installation. The Zoning Administrator may inspect the completed installation to verify compliance with the manufacturer's directions.
- h. Solar energy systems, and the installation and use thereof, shall comply with the County construction code and the electrical code.
- i. A building-mounted solar energy system installed on a nonconforming building, structure, or use shall not be considered an expansion of the nonconformity, but shall be required to meet all height and placement requirements.

5. **Ground-Mounted Accessory Solar Energy System Requirements.** Ground-mounted solar energy systems which are accessory to a principal use shall be a permitted accessory use in all zoning districts, subject to the following requirements:

- a. Administrative review as set forth in subsection (1) above is required of all accessory ground-mounted solar energy systems permitted as an accessory use, subject to the exclusions in subsection (3).
- b. Accessory ground-mounted solar energy systems shall be located only as follows:
 - They shall be located in the rear yard or the side yard, but

not in the required rear yard setback or in the required side yard setback unless permitted by the Planning Commission.

- Should extenuating circumstance exist that prevent locating in the rear or side yard, the Planning Commission may approve a front yard location, but, in no event, shall the energy system be located in the required front yard setback. The applicant shall demonstrate to the Commission that the rear or side yard location is not feasible.
- c. Solar energy systems shall be permanently and safely attached to the ground. Proof of the safety and reliability of the means of such attachment shall be submitted with the application and shall be subject to the Zoning Administrator's approval.
- d. Solar energy systems shall be installed, maintained and used only in accordance with the manufacturer's directions. Upon request, a copy of such directions shall be submitted to the Zoning Administrator prior to installation. The Zoning Administrator may inspect the completed installation to verify compliance with the manufacturer's directions.
- e. Accessory ground-mounted solar energy systems shall not exceed sixteen (16) feet in height, measured from the ground at the base of such equipment, when oriented at maximum tilt.
- f. The exterior surfaces of solar energy systems shall be generally neutral in color and substantially non-reflective of light.
- g. The total area of accessory ground-mounted solar energy systems shall not exceed fifty percent (50%) of the square footage of the principal building of the property. For any parcel of land two (2) acres or less, an accessory ground-mounted solar energy system shall not be deemed an accessory building or structure for purposes of Section 6.06(E).
- h. An accessory ground-mounted solar energy system installed on a nonconforming use or lot shall not be considered an expansion of the nonconformity, but shall be required to meet all placement and height requirements.

D. Utility-Scale Solar Energy Systems. Utility-scale solar energy systems, as defined in Article 2 Definitions, are permitted by Special Land Use approval and are subject to site plan and special land use review

requirements.

1. **Special Land Use Required.** Special land use approval is required for a utility-scale solar energy system. Utility-scale solar energy systems are permitted as a special land use in AR Agricultural Residential, C Commercial, and I Industrial districts only.
2. **Height.** Utility-scale solar energy systems shall not exceed sixteen (16) feet in height, measured from the ground at the base of such equipment, when oriented at maximum tilt. The Planning Commission can permit up to twenty (20) feet in height for utility-scale systems as part of the special land use approval, to allow for grazing or other operations.
3. **Lot Coverage.** The total area of utility-scale solar energy systems shall not be included in the calculation of the maximum permitted lot coverage requirement for the parcel of land.
4. **Installation and safety.** Utility-scale solar energy systems shall be properly installed to ensure safety, and meet the following requirements:
 - a. Solar energy systems shall be safely attached to the ground. Proof of the safety and reliability of the means of such attachment shall be submitted with the special land use application and shall be subject to the Planning Commission's approval.
 - b. Solar energy systems shall be installed, maintained and used only in accordance with the manufacturer's directions. A copy of such directions shall be submitted with the special land use application. The special land use, if granted, may be subject to the Zoning Administrator's inspection to determine compliance with the manufacturer's directions.
5. **Appearance.** The exterior surfaces of solar energy systems shall be generally neutral in color and substantially non-reflective of light.
6. **Compliance with construction and electrical codes.** Utility-scale solar energy systems, and the installation and use thereof, shall comply with all applicable construction codes and electric codes, including state construction codes and the National Electric Safety Code.
7. **Fencing.** Utility-scale solar energy systems shall be fenced in with at least a seven (7) foot chain link fence or seven (7) foot woven wire fence with wooden or steel posts. Fencing must meet all applicable standards, including National Electrical Code

requirements. Barbed wire is prohibited. Fencing is not subject to setback requirements.

8. **Transmission and communication lines.** All power transmission and communication lines between banks of solar panels and to nearby electric substations or interconnections with any buildings or other structures shall be located underground. Exemptions may be granted in instances when soil conditions, shape, topography, or other elements of the natural landscape interfere with the ability to bury lines, or distance makes undergrounding infeasible, at the discretion of the Planning Commission.
9. **Setbacks.** Minimum setbacks shall be two-hundred (200) feet from any non-participating property with a residence and one hundred twenty-five (125) feet from all other non-participating properties. This shall be measured from the property line of the adjacent property to the closest point of the solar array at minimum tilt or any solar energy system components. A utility-scale solar energy system is not subject to property line setbacks for common property lines of two or more participating lots, except road right-of-way setbacks shall apply.
10. **Setback from wetlands.** Utility-scale solar energy systems shall be at least fifty (50) feet from the edge of any wetland, or any shoreline or drain easement. The Planning Commission shall have the authority to require up to one hundred fifty (150) feet setback, at the Commission's discretion.
11. **Sound.** The sound pressure level of a utility-scale solar energy system and all ancillary solar equipment shall not exceed 45 dB(A) at the property line of adjacent non-participating properties or the exterior of any non-participating habitable structure, whichever is closer. The site plan shall include modeled sound isolines extending from the sound source to the property lines to demonstrate compliance with this standard.
12. **Lighting.** Utility-scale solar energy system lighting shall be limited to inverter and/or substation locations only. Any lighting shall be directed downward and be placed to keep light on-site and glare away from adjacent properties, bodies of water, and adjacent roadways. Flashing or intermittent lights are prohibited.
13. **Groundcover.** A utility-scale solar energy system shall include the installation of ground cover vegetation maintained for the duration of operation until the site is decommissioned. A ground cover vegetation establishment and management plan shall be submitted as part of the site plan.
 - a. Properties bound by a Farmland Development Rights Act

(PA 116) Agreement must follow the Michigan Department of Agriculture and Rural Development's Policy for allowing commercial solar panel development on PA 116 lands.

- b. Ground cover at properties not enrolled in PA 116 shall meet one or more of the following types of Dual Use, as defined in this Ordinance, to promote ecological benefits:
 - Pollinator Habitat
 - Conservation Cover
 - Forage/Grazing
 - Agrivoltaics

14. **Drainage.** Drainage on the site shall be maintained in a manner consistent with, or improved upon, existing natural drainage patterns. Any disturbance to drainage or water management practices must be managed within the property and on-site, in order to not negatively impact surrounding properties as a result of the development. This shall be maintained for the duration of the operation and shall be able to be returned to pre-existing conditions following decommissioning. Any existing drainage tiles that are identified on the property shall be shown on the as-built drawings submitted following construction.

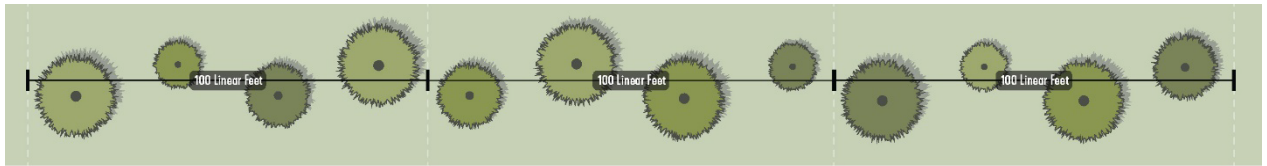
15. **Wildlife Corridors.** Utility-scale solar energy system developments shall have access corridors for wildlife to navigate through the development. Applicants shall demonstrate within their site plan means for allowing wildlife corridors throughout the site, which may include natural patterns, breaks in the fencing, and other means for allowing movement of migratory animals and other wildlife.

16. **Landscaping/Screening.** Landscaping shall be provided in accordance with the standards required in Section 6.16 Required Landscaping and Screening, as well as the following additional screening requirements if determined appropriate by the Planning Commission:

- a. At least four (4) evergreen trees provided every one hundred (100) linear feet. The trees shall be in a staggered pattern and evenly distributed within each one hundred (100) linear feet section, as shown in Figure 6.26.1. Trees shall be planted outside of the fencing.
- b. Each evergreen tree shall have a minimum mature height of fifteen (15) height and have a minimum height of seven (7) feet at the time it is planted.
- c. Landscaping shall be installed and inspected following project completion and prior to energy generation within the project. Landscaping shall be maintained in accordance with Section 6.16(E) of this Ordinance.
- d. If an adjacent property owner desires to have less screening than that required where the utility-scale solar energy system

is adjacent to their property, exemptions may be granted by the Planning Commission so long as a written agreement of desired screening between the developer and adjacent property owner is filed with and accepted by the Township.

Figure 6.26.1 Landscaping/Screening



Landscaping/Screening

At least four (4) evergreen trees provided every one hundred (100) linear feet. The trees shall be in a staggered pattern and evenly distributed within each one hundred (100) linear feet section.

17. **Signage.** Signage shall be permitted in accordance with Article 17. Signage shall be required to identify the owner and provide a 24-hour emergency contact phone number.
18. **Agricultural Protection.** Utility-scale solar energy systems shall be sited to minimize impacts to agricultural production, including the following:
 - a. Systems shall be sited to minimize land disturbance or clearing except for minimally necessary. Topsoil shall be retained on-site.
 - b. Any access drives shall be designed to minimize extent of soil disturbance, water runoff, and soil compaction.
19. **PA 116 Farmland Development Rights Program.** Per the Michigan Department of Agriculture and Rural Development (MDARD), land enrolled in the PA 116 program may be permitted to participate in solar energy development subject to MDARD policy and requirements. Per MDARD standards, this land must be able to be returned to agricultural uses following the end of the solar development agreement or if/when the solar development is decommissioned for any reason.
20. **Battery Storage.** On-site battery storage accessory to a utility-scale solar energy system is prohibited.
21. **Decommissioning.** A decommissioning plan is required at the time of application to be reviewed and approved by the Planning Commission.
 - a. The decommissioning plan shall include:
 - The anticipated manner in which the project will be decommissioned, including a description of the process for removal of all structures and foundations, restoration of soil to a depth of four (4) feet and vegetation, and how all above-grade and below-grade improvements will be removed, retained, or restored for viable reuse of the property consistent with the zoning district.

- The projected decommissioning costs for removal of the system (net of salvage value in current dollars) and site restoration/soil stabilization, less the amount of the surety bond posted with the State of Michigan for decommissioning of panels if installed on PA 116 land.
 - The method of ensuring that funds will be available for site decommissioning and stabilization. A performance guarantee is required. The Planning Commission shall review the cost estimate provided and recommend a financial guarantee amount to the Township Board, who will ultimately determine the amount required. This financial security guarantee must be posted at the time of receiving a land use permit for the system. The security shall be in the form of a cash bond, irrevocable bank letter of credit, or performance bond in a form approved by the Township. The estimate shall be prepared by the engineer for the applicant and shall be subject to approval by the Township.
- b. A review of the amount of the performance guarantee based on inflation, salvage value, and current removal costs shall be required every three (3) years, for the life of the project, and approved by the Conway Township Board of Trustees. Updated costs estimates based on these conditions shall be provided by the applicant for review. The Planning Commission shall review the updated cost estimate and make a recommendation to the Township Board on the performance guarantee amount. The applicant shall provide escrow funds, in an amount determined by the Planning Commission, for the Township to review the updated cost estimates.
 - c. A utility-scale solar energy system owner may at any time proceed with the decommissioning plan approved by the Planning Commission and remove the system as indicated in the most recent approved plan.
 - d. Any proposed amendment to the decommissioning plan shall be presented to the Planning Commission for approval.

22. **Abandonment.** In the event that a utility-scale solar energy system has not been in operation for a period of one year without a waiver from the Planning Commission, the system shall be considered abandoned and shall prompt an abandonment hearing conducted by the Township Board. If deemed abandoned after a hearing, the system shall be removed by the applicant or the property owner and the site shall be stabilized and re-vegetated, in compliance with the approved decommissioning plan. If the abandoned system is not removed or repaired, amongst other available remedies, the Township may pursue legal action against the applicant and property owner to have the system removed and assess its cost to the tax roll of the subject parcel. The applicant and property owner shall be responsible for the payment of any costs and attorney's fees incurred by the Township in securing

removal of the structure. The Township may utilize the benefit of any performance guarantee being held to offset its cost. As a condition of approval, the applicant and property owner shall give permission to the Township to enter the parcel of land for this purpose.

23. **Annual Reports.** For a utility-scale solar energy system, a written annual report shall be submitted to the Planning Commission by a date determined at the time of special land use approval. The annual report shall include an update on electricity generation by the project, as well as document all complaints received regarding the utility-scale solar energy system along with the status of complaint resolutions and the actions taken to mitigate the complaints. Applicants shall also provide an in-person verbal report every three (3) years to the Planning Commission.
24. **Additional approvals and agency reviews.** The following approval and agency reviews shall be required, as applicable:
 - a. Local Fire Chief;
 - b. Department of Environment, Great Lakes, and Energy (EGLE);
 - c. Livingston County Drain Commissioner;
 - d. Livingston County Road Commission;
 - e. Livingston County Health Department;
 - f. Federal Aviation Administration (FAA);
 - g. Local Airport Zoning (if applicable);
 - h. Building Department;
 - i. Tax Assessor.
25. **Operations Agreement.** The applicant shall provide the Planning Commission with an operations agreement, which sets forth the operations parameters, the name and contact information of the certified operator, inspection protocol, emergency procedures and general safety documentation. It shall be a condition of approval that the Zoning Administrator shall be notified and provided copies of any changes.
26. **Indemnity/Insurance.** The Township shall be indemnified from all third-party claims for personal or property damage arising from the developer's negligent and/or intentional acts and/or omissions during construction, maintenance, and decommissioning of the utility-scale solar energy system and shall be listed as an additional insured on applicable insurance policies during the life of the project.
27. **Maintenance and Repair.** Repair, replacement, and maintenance of components is permitted without the need for a new special land use permit. Proposals to change the project footprint of an existing system shall be considered a new

application.

28. **Site Plan Requirements.** Utility-scale solar energy systems are subject to submittal and approval of a site plan meeting all requirements in Article 14 Site Plan Review. Prior to formal site plan submission, applicants may submit an optional conceptual layout plan to the Planning Commission for discussion and feedback. Special land use permits shall be applied for at the time of formal site plan submission.

a. **Optional Conceptual Layout Plan.** For utility-scale solar energy systems, applicants may submit an optional conceptual layout plan for review prior to submission of a formal site plan. The conceptual site plan may be reviewed by the Planning Commission to allow for discussion and feedback. The following information may be shown on a conceptual layout plan:

- General parcel information, as required by Section 14.03(A) General Information, as applicable;
- Existing topography of the site shown at two (2) foot contour intervals with existing surface drainage patterns indicated;
- Proposed plans for site grading and drainage management;
- General landscaping plan, including proposed details for screening;
- The proposed location and layout of all solar arrays in the solar energy system;
- The proposed location and layout of any ancillary equipment (such as inverters), buildings, access drives, and security fencing;
- Location of existing wetlands, shoreline, or drain easements.

b. **Site Plan.** Formal site plan submission for a utility-scale solar energy system must include a detailed site plan including all applicable requirements found in Section 14.03 Required Information of this Ordinance, except that utility-scale solar energy systems shall be submitted at a scale of 1" = 200 feet, plus the following site plan requirements:

- Location of all arrays, including dimensions and layout of arrays, ancillary structures and equipment, utility connections, dwellings on the property and within three-hundred (300) feet of the property lines, any existing and proposed structures, wiring locations, temporary and permanent access drives, fencing details, wildlife corridors, screening and landscaping detail, and any signage;
- Information on where and how the utility-scale solar energy system will connect to the power grid. No utility-scale solar energy system shall be installed until evidence has been given to the Planning Commission that the electric utility company has agreed to allow the applicant to install an

interconnected customer-owned generator to the grid or the applicant otherwise has a means for the wholesale or retail sales of generated electricity;

- Plan for land clearing and/or grading required for the installation and operation of the system;
- Plan for ground cover establishment and management;
- Anticipated construction schedule;
- Sound modeling study including sound isolines extending from the sound source(s) to the property lines;
- A decommissioning plan in accordance with 6.26.D(21);
- The location of prime farmland, as defined by the U.S. Department of Agriculture, Natural Resources Conservation Service – Web Soil Survey, to ensure agricultural protection in accordance with Section 6.26.D(18);
- Additional studies may be required by the Planning Commission if reasonably related to the standards of this Ordinance as applied to the application, including but not limited to:
 - Visual Impact Assessment: A technical analysis by a third party qualified professional of the visual impacts of the proposed project, including a description of the project, the existing visual landscape, and important scenic resources, plus visual simulations that show what the project will look like (including proposed landscaping and other screening measures), a description of potential project impacts, and mitigation measures that would help to reduce the visual impacts created by the project.
 - Environmental Analysis: An analysis by a third-party qualified professional to identify and assess any potential impacts on the natural environment including, but not limited to, wetlands and other fragile ecosystems, wildlife, endangered and threatened species. If required, the analysis shall identify all appropriate measures to minimize, eliminate or mitigate adverse impacts identified and show those measures on the site plan, where applicable.
 - Stormwater Study: An analysis by a third-party qualified professional that takes into account the proposed layout of the utility-scale solar energy system and how the spacing, row separation, and slope affects stormwater infiltration, including calculations for a 100-year rain event. Percolation tests or site-specific soil information shall be provided to demonstrate infiltration on-site without the use of engineered solutions.
 - Glare Study: An analysis by a third-party qualified

professional to determine if glare from the utility-scale solar energy system will be visible from nearby residents and roadways. If required, the analysis shall consider the changing position of the sun throughout the day and year, and its influences on the utility-scale solar energy system.

- c. Final site plan approval shall only be granted once all necessary governmental approvals have been obtained. Planning Commission approval is conditioned upon approval from all other agencies.
- d. **Modifications of approved site plan.** Any modifications, revisions, or changes to an approved site plan shall be considered either a minor or major site plan amendment and must follow the standards of Section 14.08 Amendment of an Approved Site Plan.
 - **Major Changes.** Major site plan changes considered major include those listed in Section 14.08(C), or the following:
 - Changes of location of arrays, fencing, buildings, or ancillary equipment by more than ten (10) feet.
 - An increase in height of solar panels.
 - **Minor Changes.** Minor site plan changes considered minor include those listed in Section 14.08(D), or the following:
 - Changes of location of arrays, fencing, buildings, or ancillary equipment by less than ten (10) feet.
- e. **Application Fee & Escrow Required.** An applicant for a utility-scale solar energy system must pay applicable application fees according to the Conway Township fee schedule. An escrow account shall be set up when special land use application is filed to cover costs and expenses associated with the review and approval process.

29. **As-Built Drawings.** A set of as-built drawings shall be submitted to the Township following project completion and prior to energy generation within the project.

E. Solar Access Requirements. When a solar energy collection system is installed on a lot, accessory structures or vegetation on an abutting lot shall not be located so as to block the solar array's access to solar energy. The portion of a solar energy system that is protected is the portion which is located so as not to be shaded between the hours of 10:00am and 3:00pm by a hypothetical twelve (12) foot obstruction located on the lot line.

F. Solar Access Exemptions. Structures or vegetation existing on an abutting lot at the time of installation of the solar energy collection system, or the effective date of this ordinance, whichever is later is exempt from subsection (E). above. Said subsection described in subsection (E) above controls any structure erected on, or vegetation planted in, abutting lots after the installation of the solar energy collection system.



Conway Township Planning Commission

Monday, December 12, 2022 | 7:00pm

Fowlerville Junior High School | 7677 Sharpe Road, Fowlerville, Michigan 48836

Solar Energy Systems Community Advisory Committee Submittal

December 4, 2022

Part 1

Swain, Meghan

From: PC Chair <PCChair@conwaymi.gov>
Sent: Tuesday, December 6, 2022 8:29 AM
To: Swain, Meghan
Subject: [EXTERNAL] FW: Updated for Submittal
Attachments: Gmail - Utility Scale Solar Farms in Conway Twp_.pdf; Solar farm in LaFayette to pay \$500K for Clean Water Act violations.pdf; Consumers Energy seeks _crippling_ wind farm tax clawbacks from Tuscola County schools.pdf; Mary Kay Appraiser Case Study Report.pdf; Department of Commerce Issues Preliminary Determination of Circumvention Inquiries of Solar Cells and Modules Produced in China _ U.S. Department of Commerce.pdf; MLSWA PROPERTY DRAINAGE ISSUES.pdf; Solar Tour PP slideshow.pdf; Solar Amendment Fact Sheet 11.01.22 (1).pdf; Additional requirements and main points_ - Google Docs.pdf; Proposed Amendments to Conway Township Zoning Ordincne related to Slor Enery Systems (1) (1).pdf

From: Kennedy <vornehm621@gmail.com>
Sent: Sunday, December 4, 2022 8:53 PM
To: Bill Grubb <supervisor@conwaymi.gov>; PC Chair <PCChair@conwaymi.gov>; Elizabeth Whitt <clerk@conwaymi.gov>; PC Secretary <PCSecretary@conwaymi.gov>; PC1 <PC1@conwaymi.gov>; PC2 <PC2@conwaymi.gov>; PC3 <PC3@conwaymi.gov>; PC Vice Chair <PCViceChair@conwaymi.gov>; Abby Cooper <abby@crlaw.biz>; Trustee 1 - Conway Township <trustee1@conwaymi.gov>; Trustee 2 - Conway Township <trustee2@conwaymi.gov>; MHomier@fosterswift.com
Cc: Kelly Ralko <kelralko@gmail.com>; Sarah Porter <sporter0307@gmail.com>; Steve Smith <stevegsmith1956@gmail.com>; Kennedy Parker <vornehm621@gmail.com>
Subject: Fwd: Updated for Submittal

Conway Township Planning Commission, Board of Trustees, and Attorney Michael Homier,

Please see the listed attachments prepared by the Conway Township Planning Commision Community Advisory Committee to be reviewed and given at least "good faith" consideration. Of significance, is the Conway Township's Community based recommendations in written amendments to Proposed Ordinance 6.26 (attached) as the subject of the Public Hearing scheduled for December 12.2022. The Community Advisory Committee stands firm that all submissions herein should be provided in the Public Hearing Packet (not supplemental packet).

- Gmail Utility Scale Solar Farms in Conway
- Soar Farm in LaFayette clean Water article
- Consumers Energy seeks crippling windfarm tax article
- Mary Kay Appraiser Case Study Report
- Department of Commerce Issues Preliminary Determination of Circumvention Inquiries Report
- MLSWA Property Drainage Issues Report
- Solar Tour PowerPoint
- Solar Amendment Fact Sheet 11.01.22
- Additional Requirements and Main Points Article

- Proposed Amendments to Conway Township Proposed Ordinance 6.26

It is with this communication that the Community Advisory Committee demands that no action or decision is made with respect to Proposed Ordinance 6.26 until newly engaged Attorney Michael Homier has been presented with the information and had opportunity to review and consider the community's recommendations as demonstrated in the attachments. It is evident that the community has not had representation in Proposed Ordinance 6.26 prior to the submission as attached herein. Further, it is our expectation that Attorney Michael Homier will be made aware of the existing November 4, 2022 letter submitted to Conway Township on November 10, 2022. This email is a continuance of the November 4, 2022 letter which represents in excess of six hundred Conway Township resident signatures affixed in opposition to the Proposed Ordinance 6.26. The community is demanding that the Conway Township governing officials act in accordance to their duties to the community served. The time constraints put upon the community in these matters of ordinance amendments are not representative of "good faith" nor a representation of Conway Township governing officials supporting the interests of the community served.

The Community Advisory Committee is requesting to be added to the agenda of the Planning Commission Public Hearing on December 12, 2022.

Further, it is expected that Attorney Michael Homier will be at the next regularly scheduled Planning Commission Meeting.

It is also expected that the Conway Township Board will support a "townhall" meeting with the residents of Conway Township at the earliest opportunity to support Attorney Michael Homier's understanding of our collective position regarding Solar Utility Power Plants in Conway Township and any amendments to Ordinance 6.26, as relate.

Kennedy Parker on behalf of the Community Advisory Committee
Kelly Ralko, Sarah Porter, Steve Smith



Kelly Ralko <kelralko@gmail.com>

Utility Scale Solar Farms in Conway Twp.

Marcella Hadden <MIHadden@sagchip.org>

Thu, Dec 1, 2022 at 9:35 AM

To: Kelly Ralko <kelralko@gmail.com>

Cc: William Johnson <WJohnson@sagchip.org>

Hello Kelly - Any disturbance of the earth is subject by law to Section 106 where if Federal funds are used, they must contact the Tribes THPOs (Tribal Historic Preservation Officers) for review and we have 30 days in which to answer. Reports are thorough and we also work with SHPOs (State Historic Preservation Officers). However, disturbances on private land (homeowners) are not subject to Sec 106 unless they receive funding from the Federal Government like USDA. Hope this information helps.

**THPO**

Marcella L Hadden
TRIBAL HISTORIC PRESERVATION OFFICER

Tribal Historic
Preservation Office

6650 E. Broadway
Mt. Pleasant, MI 48858

 989.775.4751

 mlhadden@sagchip.org

From: Kelly Ralko [mailto:kelralko@gmail.com]

Sent: Monday, November 28, 2022 4:05 PM

To: Marcella Hadden

Subject: [External E-Mail] Fwd: Utility Scale Solar Farms in Conway Twp.

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or on clicking links from unknown senders.

[Quoted text hidden]

Montgomery Advertiser

NEWS

'A long time coming': EPA settles pollution case against Alabama solar farm after four years



Hadley Hitson

Montgomery Advertiser

Published 9:01 p.m. CT Nov. 28, 2022

After four years of investigations and cooperation, the U.S. Department of Justice and the Environmental Protection Agency have settled with AL Solar, a solar farm in rural Alabama, over violations of the Clean Water Act.

“The development of solar energy is a key component of this administration’s efforts to combat climate change,” EPA Acting Assistant Administrator Larry Starfield said in a statement. “These settlements send an important message to the site owners of solar farm projects that these facilities must be planned and built in compliance with all environmental laws, including those that prevent the discharge of sediment into local waters during construction.”

The DOJ and EPA announced settlements with three other solar farms this month as well.

For the Alabama farm, though, Chattahoochee Riverkeeper Jason Ulseth said the announcement has been “a long time coming.” His group was the first to investigate AL Solar’s violations and report them to the EPA and the Alabama Department of Environmental Management.

In the fall of 2018, Chattahoochee Riverkeeper employee Henry Jacobs carefully flew his drone along the bends of the river. He was looking for the red flags of

pollution — spills in the water or anything unusual. This was part of his routine and just one way he and his team sought to preserve and protect the Chattahoochee River.

That day in October, Jacobs spotted a substantial plume of muddy water flowing from Oseligee Creek in Chambers County, Alabama, into the Chattahoochee. The cloud of sedimentation entered the river just upstream from the City of West Point, Georgia, where there had been reports of problems with the drinking water treatment.

“A lot of people don't realize that sediments, dirt that comes off our earth's surface and our construction sites when it comes in large quantities, is one of the most damaging types of pollutants into our river systems,” Ulseth said. “Not only does it cause a lot of environmental harm in terms of harming ecosystems, fish and invertebrate reproduction, but it also causes a lot of economic harm.”

Using the drone, Jacobs and Ulseth were quickly able to trace the damage to where it originated in LaFayette.

“We found the massive solar field that was being constructed in Alabama. That was the source of all of that sedimentation coming into the Chattahoochee River,” Ulseth said.

By driving around the site, Ulseth and his team found a “tremendous amount” of sediment taken from the ground and washed into nearby waterways. This, he said, explained the troubles that West Point, Georgia, was having with its drinking water.

“It actually caused a lot of damage to a drinking water intake in a municipality that has to clean all of that mud out of the water before they can send that water to their customers,” Ulseth said. “In our discussions with that municipality, they have been making efforts to actually move their drinking water intake.”

Those efforts have continued, even with the settlement made earlier this month.

Chattahoochee Riverkeeper reported these findings to the EPA and ADEM, but they also contacted the AL Solar's developers to help them fix the situation.

“There were simultaneous paths of cooperation,” Ulseth said. “Because of the size of the site, and the magnitude of the violations and the damage that was caused, it took a very long time for all of this to play out.”

Now, the solar farm has stabilized and come into compliance with the law.

Under the settlement, AL Solar will pay a \$250,000 civil penalty to the United States and a \$250,000 civil penalty to ADEM. Moreover, in an “effort to offset impacts created by the solar site construction,” the project contractor and the site owner both made contributions to support Chattahoochee Riverkeeper's West Point Lake Floating Classroom. It is an on-the-water environmental education program that launched in 2015 and has welcomed nearly 17,000 students, teachers and adults.

Hadley Hitson covers the rural South for the Montgomery Advertiser and Report for America. She can be reached at athhitson@gannett.com. To support her work, subscribe to the Advertiser or donate to Report for America.



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Consumers Energy seeks "crippling" wind farm tax clawbacks from Tuscola County schools

Michigan Radio | By [Tracy Samilton](#)

Published November 13, 2022 at 8:06 PM EST



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Lester Graham / Michigan Radio

Some Tuscola County school districts say they're regretting their decision to enter into tax revenue agreements with Consumers Energy after the utility sought tax clawbacks related to wind turbine depreciation.

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Consumers Energy is suing more than a hundred schools, townships, and social service groups in Tuscola County, seeking about \$8 million in tax clawbacks.

More than a decade ago, the districts and other groups agreed to allow Consumers Energy, DTE Energy, and standalone wind energy companies like Next Energy to build wind farms in the region – in return for a specified amount of tax revenue over a 20 or 30 year time period.

But then a state agency, the Michigan Tax Tribunal, unexpectedly changed the depreciation schedule for the wind turbines. Based on the new schedule, Consumers Energy sued the groups to whom it had paid taxes, demanding a significant amount of the revenue back.

Josh Hahn is head of Unionville-Sebewing Area Schools. He said Consumers is suing his district for nearly \$1.2 million dollars.

"We would become a deficit district," he said. "Which means the state would take us over, we would have to cut staff and programs, we would lose students. It would severely cripple our district."

Hahn said Consumers Energy has not seemed willing to come to the table, unlike DTE Energy, which recently settled its lawsuits in the county for much smaller tax clawbacks. He estimates Unionville-Sebewing Area Schools will pay only about 4% of what DTE originally sought.

He said it appears that Consumers Energy can't be trusted to keep its word.

"Right now, Consumers is trying to get solar farms in our area, and if this doesn't get resolved, I will share with as many farmers and taxpayers as I know to be very careful of dealing with Consumers Energy," Hahn said.

Diane Foster is Superintendent of Akron-Fairgrove Schools. She said Consumers Energy is demanding \$377,456 from her district.

"We made huge financial decisions based on (turbine) values that were determined prior to us making an appeal to our community," she said. "I don't want our community to think we did something in bad faith. We're not a bank. We're just here to educate kids. And all of a sudden, wow,

whole mountain to those of us that might have to pay pieces of that back."

Foster said the tax revenue from Consumers Energy allowed the district to pay for maintenance, upgraded security, sanitary improvements, and other things the district wouldn't have been able to afford otherwise.

"We thought perhaps there would be some sort of coming to the table (by Consumers) after the DTE settlements," she said.

Foster especially praised Next Era, a standalone energy company that also struck deals with school districts and other groups for wind farms.

"To their credit, they dropped out (of the lawsuits)," Foster said. "They decided they didn't want anything to do with this."

In a statement, Consumers Energy said:

"Consumers Energy stands for a fair and appropriate tax on Michigan wind energy systems to keep energy costs competitive. support local services and create energy jobs

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communities from wind and solar farms is paid by our customers on their monthly bills. We are committed to mutually beneficial solutions that help host communities prosper while maintaining affordable energy for our customers."

DTE Energy and Next Era had not yet responded to requests for comment prior to this story being published.

DTE Energy and Consumers Energy are among Michigan Radio's corporate sponsors.

Environment & Climate Change



Tracy Samilton

Tracy Samilton covers energy and transportation, including the auto industry and the business response to climate change for Michigan Radio. She began her career at Michigan Radio as an intern, where she was promptly "bitten by the radio

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Department of Commerce Issues Preliminary Determination of Circumvention Inquiries of Solar

Cells and Modules Produced in China

 [ICT Supply Chain](#)  [Manufacturing](#)

Today, the U.S. Department of Commerce announced its preliminary determinations in the circumvention inquiries of solar cells and modules from the People's Republic of China (PRC).

Commerce examined a complaint alleging that eight solar companies that manufacture solar cells and modules are manufactured the components in the PRC, then sending those cells and modules to Cambodia, Malaysia, Thailand, and/or Vietnam for minor processing before being exported to the United States. Such actions amount to an effort to evade the existing antidumping duty (AD) and countervailing duty (CVD) orders on solar cells and modules from the PRC. Today's preliminary determination underscores Commerce's commitment to holding the PRC accountable for its trade distorting actions, which undermine American industries.

FOR IMMEDIATE RELEASE
Friday, December 2, 2022

Office of Public
Affairs

publicaffairs@doc.gov

Under U.S. law, Commerce may conduct a circumvention inquiry when evidence suggests that merchandise subject to an existing AD/CVD order is completed or assembled in third countries from parts and components imported from the country subject to the order. AD/CVD orders are designed to provide relief to the U.S. domestic industries when they are facing unfair competition. Circumvention of these duties threatens to undermine American industries, workers, and businesses.

After a thorough, transparent, and data-driven investigation of eight companies across the four countries, Commerce preliminarily found that four of the eight companies being investigated are attempting to bypass U.S. duties by doing minor processing in one of the Southeast Asian countries before shipping to the United States.

The preliminary findings are as follows:

Third Country	Company	Finding
Cambodia	BYD Hong Kong	Circumventing
	New East Solar	Not Circumventing
Malaysia	Hanwha	Not Circumventing

	Jinko	Not Circumventing
Thailand	Canadian Solar	Circumventing
	Trina	Circumventing
Vietnam	Boviet	Not Circumventing
	Vina Solar	Circumventing

Further, some companies in Malaysia, Thailand and Vietnam did not respond to Commerce’s request for information in this investigation, and consistent with longstanding practice, will be found to be circumventing.

Because Commerce preliminarily found that circumvention was occurring through each of the four Southeast Asian countries, Commerce is making a “country-wide” circumvention finding, which simply designates the country as one through which solar cells and modules are being circumvented from the PRC. This does not constitute a ban on imports from those countries. Companies in these countries will be permitted to certify that they are not circumventing the AD/CVD orders, in which case the circumvention findings will not apply. With regard to the companies under

investigation that were not circumventing the AD/CVD duties, no action will be taken as long as their production process and supply chain do not change.

These findings are preliminary, and as a next step, Commerce will conduct in-person audits in the coming months to verify the information that was the basis of its finding. Furthermore, all parties will have an opportunity to comment on Commerce's finding, which Commerce will fully consider before issuing its final determination, which is currently scheduled for May 1, 2023.

Independent of Commerce's final determination, the Presidential Proclamation issued on June 6, 2022, provides that duties will not be collected on any solar module and cell imports from these four countries until June 2024, unless parties cannot certify that the imports will not be consumed in the U.S. market within six months of the entry date. This provides U.S. solar importers with sufficient time to adjust supply chains and ensure that sourcing isn't occurring from companies found to be violating U.S. law.

For more information on antidumping and countervailing duties, visit the [International Trade Administration's FAQs](#).

Public records on this investigation can be found at access.trade.gov under case number A-570-979.

BUREAUS AND OFFICES

International Trade Administration

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PROPERTY DRAINAGE ISSUES

By Clifford H. Bloom
Legal Counsel for the *Riparian Magazine*

Sooner or later, most attorneys are asked the following question by one or more clients—“Can my neighbor drain his/her water onto my property?” Issues involving water drainage frequently arise for properties around lakes. Water flowage problems can range from minor aggravations due to wet soil to major headaches such as basement flooding, property damage and even the undermining of foundations.

Local government regulations regarding water flowage from one property to another are quite rare, especially in rural areas. Therefore, water flowage issues are normally governed by common law principles in Michigan. In legal parlance, the “dominant estate” (or dominant property) is the property at the higher elevation, from which water flows. The “servient estate” (or servient property) is the property with the lower elevation, onto which water flows.

If water flowage exists in its natural state, the owner of the property at the higher elevation has the right to have water flow from his/her property onto all properties having lower elevations pursuant to the natural flow. That is, so long as water is flowing off the higher property at the natural flow (i.e., the speed, frequency, intensity and channel of the water has not been changed from its natural state), the owners of the lower properties upon which water flows naturally cannot change that flowage to the detriment of the owner of the higher property. In other words, properties at a lower elevation must continue to “accept” water which flows naturally from properties located at higher elevations. If the owner of a lower property attempts to alter or impede such flowage and such alteration causes damage or injury to the higher property (for example, water is backed up onto the higher property, which did not occur before), the owner of the lower property could be liable for damages or subject to a cease and desist order from a court.

The flip side of the above common law rule is the mandate that the owner of the higher property may not change the conditions on his or her land in such a fashion as to increase the burden of the water flowage onto the lower properties. That is, the owner of the higher property cannot by development or other alteration of the land increase the amount, intensity or speed of water flowage onto the lower properties in such a fashion as to injure or damage the lower properties. If the owner of a higher property alters water flowage onto a lower property in such a fashion as to cause injury or damage, the owner of the higher property can be liable for damages or be subject to an injunction.

In a nutshell, anyone who alters the natural drainage can potentially be liable for damages or be required by a court to put the land back the way it was before the alteration. One exception to this rule involves drainage easements by prescription. If someone has altered the natural water drainage and such alteration occurs or is tolerated for 15 years or longer, the property owner claiming damage could lose his/her claims. In that case, the property owner who altered the drainage for in excess of 15 years may, in certain cases, obtain a drainage easement by prescription. If that occurs, the altered drainage which has occurred for more than 15 years essentially becomes the new natural water course.

What can a property owner do if he or she believes that the neighboring property has been altered in such a fashion as to adversely affect drainage onto his/her property? Unfortunately, the above-mentioned common law rules are not “self-executing”—that is, the property owner will normally have to file a civil lawsuit for damages or injunctive relief if the neighboring property owner refuses to remedy the situation. Since Michigan generally subscribes to the “American system of attorney fees” (i.e., each party pays their own legal fees, regardless of who wins or loses), the prevailing property owner will normally still have to pay his or her own attorney fees. Accordingly, it is usually beneficial to all parties involved to attempt to resolve drainage problems pursuant to compromises and only use litigation as a last resort due to the expense, time and negative emotions involved. Even if a compromise cannot be reached initially, the parties are sometimes willing to submit the dispute to a third party for mediation or binding arbitration, which can also lead to a resolution of the matter.

<http://www.mlswa.org/legal/archive/legal32.htm>



Conway Township Planning Commission

Monday, December 12, 2022 | 7:00pm

Fowlerville Junior High School | 7677 Sharpe Road, Fowlerville, Michigan 48836

Solar Energy Systems Community Advisory Committee Submittal

December 4, 2022

Part 2

Livingston County Planning Department

Assembly Solar Facility Bus Tour

August 26, 2022

Assembly Solar Facility Project - Tour Goal

- Conway and Cohoctah Township are anticipating and planning for a 1K-2K-acre utility scale solar facility incorporating properties from both communities. The facility would be operated by Ranger Power.
- Ranger Power operates and maintains the Assembly Solar Facility. This tour would provide the participants with a first-hand view of an actual large, utility-scale solar facility on the ground and in full operation, and give the participants the opportunity to ask questions of the operators in a less formal setting.



Assembly Solar Facility Project

- Assembly Solar Project is an operating solar farm in Shiawassee County, Michigan.
- The facility occupies approximately 1,200 acres .
- Includes nearly 800,000 bifacial solar modules.
- All three phases of the Assembly's construction, with all phases happening concurrently, were completed over a 26-month period, between 2020-2022.
- The Assembly solar farm is expected to reduce carbon dioxide emissions by 394,000 tons annually in the short term - equivalent to the yearly emissions of approximately 77,000 cars while powering the equivalent of around 45,000 homes.
- The Michigan Department of Agricultural and Rural Development ("MDARD") recently amended the Farmland Development Rights Program ("PA-116") to allow solar energy facilities to be placed on lands enrolled in the Program. In order to allow for this, farmers must amend their existing PA-116 contract to defer the remaining contract term through the duration of the solar project operations in order to avoid paying back the previous seven years of tax credits.
- Once the project has been decommissioned and the farmland has been restored, the remaining term of the PA-116 contract will resume.

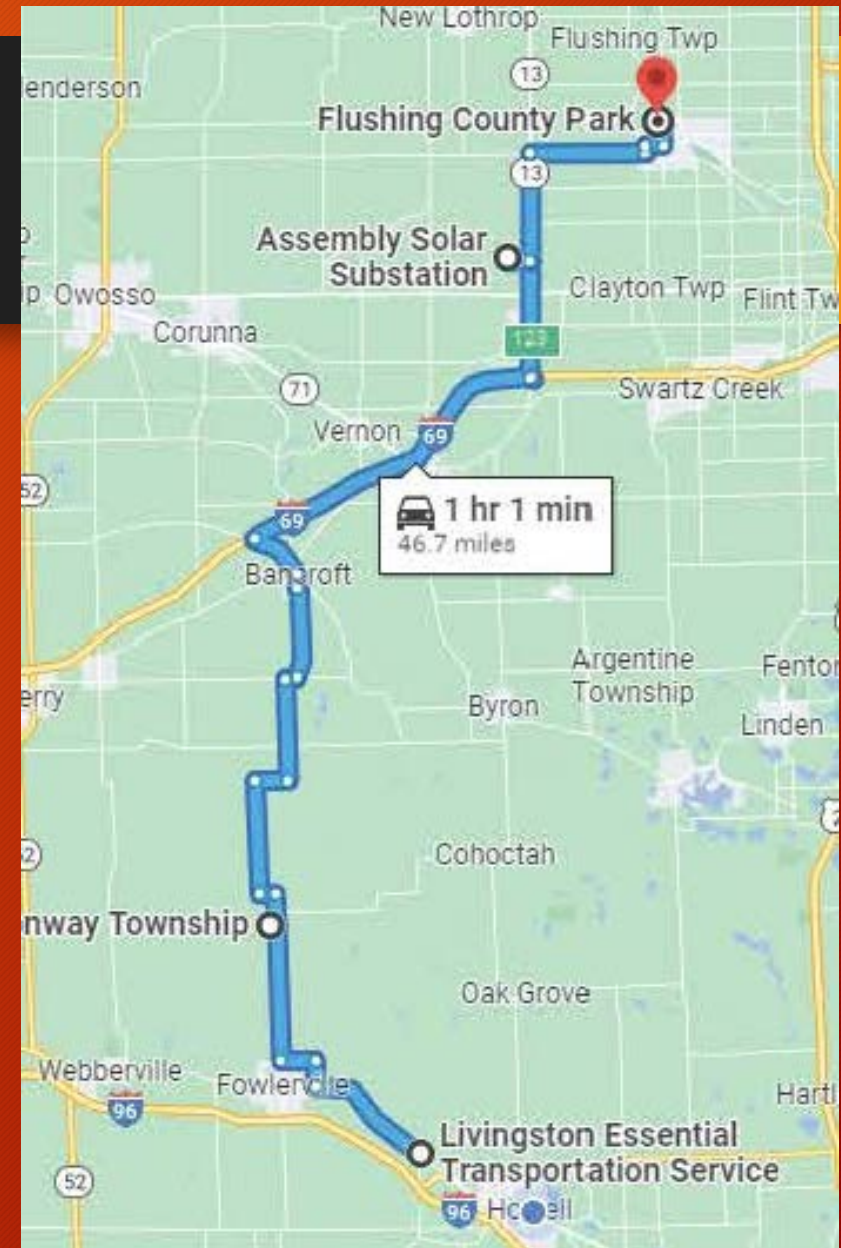
Assembly Solar Phases and Capacities	
<u>Phase</u>	<u>Capacity</u>
I	50 MWac
II	110 MWac
III	79 MWac
Total: 3 Phases	Total: 239 MWac

Tour Route and Participants



Dr Sarah Mills, PhD
UM Graham Sustainability Institute
Our Alternative Energy
Expert and Tour Guide

A total of 29 "tourists" participated. Participants included those from the townships of Conway, Cohoctah, Rosco, Handy, Howell, Marion and Putnam as well as Commissioners from the Livingston County Planning Commission and Planning Department Staff.



Ranger Power reps brief the tourists at the facility



Ranger Power Reps -
From Left to Right: Sean Harris, VP
of Development; Andrew Magnuson,
Site Supervisor; Drew Vielbig,
Development Manager



Portions of the solar array in different angles of tilt



Comparison of array their size and scale to human scale



Lunch debriefing, Q & A at a local park



The tour stopped for lunch at a beautiful public park pavilion in the City of Flushing. This provided the tourists a wonderful opportunity for relaxed reflection and lots of time for questions and answers and scenario discussions.

Final FAQs regarding the Assembly Solar Facility

- Solar panels are made of aluminum, tempered glass, silicon solar cells, and wiring.

- Prior to the start of construction, Ranger Power installed a mixture of native grasses and pollinators that are designed to be slow growing. This natural vegetation is mowed a few times every year. It is also designed to benefit pollinating insects and birds, while also improving water quality through the reduced usage of fertilizer and pesticides. Ranger Power's future projects in Michigan will be designed and planted to achieve a score of at least 76 on the Michigan Pollinator Habitat Planning Scorecard for Solar Sites.

- There are two apiaries located on the Assembly site which are designed to produce Solar Honey.

- Solar panels make no noise. The trackers that tilt the solar panels throughout the day make a very low sound that is inaudible unless standing immediately next to the solar panels. The project will use inverters to convert the DC power produced by the panels to transmission-grid compatible AC power. These inverters make a slight hum when in use during the day, which is caused by a fan. This sound dissipates rapidly as you move away from the inverters.

- In Michigan, we are all accustomed to cloudy days. Solar technology is compatible with this weather, and, in particular, the new generation of bi-facial solar panels which are able to generate additional electricity from sunlight reflected off of snow. On especially cloudy days, solar projects are still able to generate electricity, although at a reduced amount.

CONWAY TOWNSHP
SOLAR ENERGY ZONING ORDINANCE AMENDMENT & DEVELOPMENT PROCESS
November 1, 2022

The purpose of this document is to provide information about the proposed solar ordinance amendment in Conway Township – including the current status of the language and the process/next steps that it will follow. Additionally, it provides information about the process that a proposed solar development would follow if the solar ordinance amendment is adopted. Comprehensive information pertaining to the procedure of Zoning Ordinance amendments, as well as special land use and site plan review, can be found in the Conway Township Zoning Ordinance in *Article 4. Amendments; Article 13. Special Land Uses; Article 14. Site Plan Review.*

1. Status of the Proposed Amendment

Since early 2022, the Conway Township Planning Commission has been working on amendments to the Zoning Ordinance to provide for more comprehensive regulation of solar energy systems in the Township, with particular focus on large/utility-scale solar energy developments. At its October 10, 2022, meeting, the Planning Commission scheduled a public hearing for the draft solar ordinance amendments to be held at the November 14, 2022, Planning Commission meeting. The public hearing notice, as well as the draft language, can be found on the website at www.conwaymi.gov or is available for viewing at the Township Hall, 8015 N. Fowlerville Road, Fowlerville, MI 48836, during normal Township office hours. It should be noted that this is the beginning step of the process – nothing has yet been voted on or passed up to this point. There are several steps in the process before the ordinance amendment can be approved, and the language is subject to change as it moves through the different bodies that participate in the review process.

2. Background– the Township’s Current Regulation of Utility-Scale Solar Energy Systems

Large utility-scale solar energy systems, referred to in the Zoning Ordinance currently as “commercial solar energy systems,” are already permitted in Conway Township. The Zoning Ordinance allows for these developments as special land uses in the AR Agricultural Residential, C Commercial, and I Industrial zoning districts. In Section 6.26(F), the current Zoning Ordinance includes standards that a utility-scale solar development would have to meet, including height restriction, setback requirements, fencing requirements, and Fire Chief approval. The Township has put a moratorium in place on all commercial or utility-scale solar energy systems applications to allow the Township time to consider more comprehensive regulations of this type of use than are currently in place.

3. What is the Proposed Amendment and why is the Township considering it?

The purpose of the proposed language is to build upon the current standards, require additional standards that utility-scale solar developments would have to meet, and through these requirements, provide additional protections for the community. In addition to setback, height, fencing requirements, and Fire Chief approval, the proposed amendment regulates sound and lighting; requires enhanced screening of the development; requires setback from wetlands; requires wildlife corridors; prioritizes agricultural preservation in development design; requires drainage patterns be maintained and restored; requires beneficial groundcover be planted underneath solar arrays; prohibits battery storage systems on site; ensures frequently updated plans are in place for proper project decommissioning and that those plans

are funded with financial guaranties; requires as-built drawings; provides for annual reporting, insurance, indemnity, and maintenance and repair obligations; mandates approval of Department of Environment, Great Lakes, and Energy (EGLE), Livingston County Drain Commissioner, Livingston County Road Commission, Livingston County Health Department, Federal Aviation Administration (if applicable), Livingston County Building Department and Tax Assessor; permits the Planning Commission to require a visual impact assessment, environmental analysis, stormwater study, and glare study; among other standards. The proposed regulations, which are approximately 9 pages in length, would replace the current regulations, which are approximately 3 pages in length, in Zoning Ordinance Section 6.26.

4. Public Hearing set for November 14, 2022, at 7 pm.

At the November 14, 2022, Planning Commission meeting, the Planning Commission will hold a public hearing on the proposed amendments. This is an opportunity for members of the public to comment on the draft and share any feedback they have with the Planning Commission. The purpose of this public hearing is for the Township to receive comments on the proposed ordinance language – no specific projects have been applied for or are being considered.

5. What are the next steps after the Public Hearing?

After the Planning Commission holds the public hearing, the Planning Commission will have a discussion and likely make a recommendation on the proposed amendment to the Township Board. The Planning Commission may make additional changes to the proposed language prior to making a recommendation. The draft amendment and the Planning Commission's recommendation will then be sent to the Livingston County Planning Commission for their review. The Livingston County Planning Commission will review the proposed change and also make a recommendation to the Township Board. Following this review, the recommendations of both the Township Planning Commission and the Livingston County Planning Commission will go to the Township Board. The Township Board will consider the language and can modify or revise the proposed text. The Township Board has the final decision on whether the Zoning Ordinance will be amended as proposed. If the Township Board approves the proposed revisions, the amendment text will be adopted and the Zoning Ordinance formally amended.

6. If the Township Board approves the Proposed Amendment, will a utility-scale solar energy system be built in the Township?

Not necessarily. While the proposed amendment puts in place new regulations for a possible future utility-scale solar energy system, for a project to actually be built, an application would have to be filed for special land use and site plan approval. There would be several more public hearings and meetings. The project would be reviewed by the Zoning Administrator, Planning Commission, Township Engineer, Township Attorney, Department of Environment, Great Lakes, and Energy (EGLE), Livingston County Drain Commissioner, Livingston County Road Commission, Livingston County Health Department, Federal Aviation Administration (if applicable), Livingston County Building Department and Tax Assessor, and the Fire Chief. Upon recommendations from these reviewing bodies, and input from the public as to the particulars of the project, the Planning Commission would make a decision on whether the project complies with Township regulations. If the project complies, the project would be approved. If the Planning Commission determines the project does not comply, then project would not be approved.

7. Will the Township Board prohibit utility-scale solar energy systems in Conway Township if the Township Board votes not to adopt the Proposed Amendment?

No. If the Township Board votes not to adopt the proposed amendment, the moratorium the Township has put on applications for commercial solar energy systems will end and commercial solar energy systems under the existing regulations of Section 6.26(F) will be permitted. The Township will be required to accept an application presented and to review that application based on existing special land use and site plan standards in the Zoning Ordinance.

8. Could the Township to prohibit utility-scale solar energy systems?

Based on current conditions in the area, the Township has been advised its best approach is to continue to allow utility-scale solar energy systems but control where the use can be located and impose additional and reasonable regulations to eliminate or minimize any impact. Totally prohibiting the use altogether where there is a demonstrated need would violate the Michigan Zoning Enabling Act, MCL 125.3207, and open the Township up to legal action and exclusionary zoning claims. If such a challenge were successful, the Township would likely lose the opportunity to control the location and impose regulations that protect the public.

9. How would the Township go about prohibiting the use if it chose to do so anyway?

If the Township wanted to prohibit utility-scale solar energy systems, it would have to (1) vote down the proposed amendment and (2) amend the current Zoning Ordinance to disallow commercial solar energy systems. This process would likely take 4-6 months. Any application that was presented prior to another amendment taking effect prohibiting the use would be required to be accepted and reviewed by the Township in accordance with current Section 6.26(F) and other applicable provisions. If those more minimal criteria were met, the Township would have to approve the commercial solar energy system use.

10. How can I submit my comments and concerns to the Township?

Members of the public may submit comments in writing to the Township Clerk at the Township Hall, located at 8015 N. Fowlerville Road, Fowlerville, MI 48836, or by email to clerk@conwaytownship.com at any time. In person comments may be directed to the Township Planning Commission or Township Board at any meeting. In addition to the scheduled public hearing, each public meeting reserves two periods for public comment. Any future proposed project will have one or more public hearings with specific time dedicated for public input on the particular aspects of a project.

Additional requirements and main points from Conway Township Citizens Solar Advisory Committee after public input and meeting on November 29th, 2022 held at the Conway Township Hall. It is requested by the Citizens of Conway Township that these suggested edits be reviewed and addressed thoroughly by Attorney Michael Homier prior to any Planning Commissioner or hired Township Planner reviewing or changing the verbiage provided. In addition to the requested edits, citizens would like the Board of Trustees and New Attorney to listen to the following requests.

- It is further requested by the citizens in attendance at the November 29th meeting, that Michael Homier make a recommendation as to a New Township Planning Firm and the Conway Township Planning Commission no longer consult with Hannah Smith of CIB Builders. We hope that the Board of Trustees will take the suggestion provided into serious consideration and vote to approve a new Planning Firm in the very near future. We also request to know the current terms of the contract between CIB Builders and Conway Township. If a FOIA request for this information is required, please advise the Committee to do so.
- Furthermore, after some discussion, it is also requested that the Board of Trustees consider new applicants for the 3 Township Planning Commission Terms that will be expiring in December of 2022, including that of Mrs. Swain, and refrain from reappointing any current members who are up for reappointment at this time. As the public looks back at meeting minutes they have found that a Town Hall was discussed as the option to inform the public some time ago, but never followed through with after the proposed solar survey was voted down by members of the Planning Commission. It is fair to say that while the public respects the great amount of work and commitment of time that it takes from those who are currently serving as Commissioners, the public has lost trust in the Planning Commission at this time and would like to see other members of the public appointed to continue on the task at hand and moving forward as a Community.
- It is the request of the public that the Planning Commission update **the Master Plan, changing verbiage and zoning maps simultaneously to revising the solar ordinances while in the Moratorium**, as it was advised for them to do at the joint meeting between Cohoctah and Conway Township over a year ago, that only one Planning Commissioner, who no longer sits on the Commission attended, to reflect that Conway Township **does not promote large scale renewables projects** and permits utility scale solar power plants in industrial zoned areas to cover only a specific percentage of the Township (see ordinance relined revision) on parcels of 20 acres or more and promotes the small scale accessory solar roof and ground mounted use. Unless the State of Michigan requires every municipality to have utility scale solar power plants in their community, it is unfair to require those with primarily agricultural land to be expected to host and be burdened with such a highly impactful land use for decades to come.

- Meeting the public with these requests made with the intent to have a more fair, balanced, democratic process in which they are fully involved with would be made in good faith by the Township Board Members to show that they recognize the public was left out of the process, by no fault of their own, to review the Solar Ordinance Zoning Amendments while developers were in attendance, presenting suggested edits, while Commission members were touring one of the developers facilities who is securing leases throughout the Township without public knowledge. Township Board Members, without any admittance to negligent intent, but in an effort to restore the trust of those in which they were elected by and whom they are serving could listen now to their public, their neighbors and understand we want to work with them to minimize the potential long term effects of this land use and for our elected officials, as well as our appointed ones, to know what the People of Conway Township want the future of their Township to look like.

“The will of the people is the only legitimate foundation of any government, and to protect its free expression should be our first object.” - Thomas Jefferson

Accessory Structure/Building Mounted Ordinance Suggested Ordinance Edits:

One suggestion for Building-Mounted Solar Energy System:

*Revise this ordinance to have an engineer's certification restored as a requirement if it was removed by CIB Planner. It is careless and dangerous for heavy equipment to be placed on aging homes or any homes for that matter without an engineer reviewing the loads on the home to ensure no structural damage occurs. This protects the citizens who are installing these systems. Conway Township can waive or offer reduced permit fees for these units, like Marion Township does to help offset some costs and promote small-scale solar generation. This is especially important for the safety of the residents with homes in a Township where many homes have saturated soils.

Utility Scale Solar Power Plants: See below items the public are requesting be added to the ordinance and in our best efforts as the Solar Ordinance Citizens Committee to provide some of these items where applicable added both below and to the **redlined ordinance provided**. **Some items need to be placed by attorney Michael Homier in the appropriate sections after his review created within ordinance and are only stated below. Some have been added where the Committee feels they fit appropriately.**

- **Legal clause to be added to ordinance: If any provision of this ordinance is or becomes invalid, ineffective, or unenforceable in whole or in part, the validity, effectiveness, and enforceability of the remaining provisions shall not be affected thereby.**
- **Drainage: it is of utmost concern to Township Citizens. It is the request of the citizens that the Township address the Common Law Rule as provided as an attachment as quoted on “Property Drainage Issues” by Clifford H. Bloom with**

this land use and acknowledge that such a land use will not increase the flow of waters to neighboring properties through channelization of water by solar panels in our Township that already has been well documented by our Township and our County Drain Commissioner. Our Township is well known to have high water tables, aging infrastructure issues with the many drains here and a Master Plan that states “Conway is the only Township in the county that drains runoff into neighboring municipalities.” To provide further from the Conway Township Master Plan, the Township under the Natural History section on page 14, “due to the runoff into adjacent municipalities due to it’s elevation” ”therefore, the Township highly encourages low impact development to better manage stormwater.” The people of Conway Township would like the Township Planning Commission, New Attorney Michael Homier and The Board of Trustees to be aware the letter sent to residents recently with their tax bills dated November 1, 2022 page two number 8 states contradictorily what it has already stated in it’s Master plan and stated “Based on current conditions in the area, the Township has been advised its best approach is to continue to allow utility-scale solar energy systems but control where the use can be located and impose additional and reasonable regulations to eliminate or minimize any impact.”

The people would like to know who has advised the Township that the current conditions of this Township are suitable to allow for this impactful land use and we would like them to be removed as an advisor immediately. Again, we want the person identified and for the Township elected and appointed officials to no longer seek advisement with this individual and or entity for any Township business moving forward.

- Further contradictions found in the letter provided with winter tax bills dated November 1, 2022 and are confusing to the public that we would like addressed is the contradiction of the Township Planning Commission working with the developer during the Moratorium. The letter sent states under 4. “ no specific projects have been applied for or are being considered. “This statement is contradictory to the Livingston County Planning Commission website slideshow from the Tour Planning Commissioners as attached and can be found at <https://www.livgov.com/plan/Documents/Solar%20Tour%20PP%20slideshow.pdf> attended that states in slide 2 “Conway and Cohoctah Township are anticipating and planning for a 1K-2K-acre utility scale solar facility incorporating properties from both communities. The facility would be operated by Ranger Power. • Ranger Power operates and maintains the Assembly Solar Facility. This tour would provide the participants with a first-hand view of an actual large, utility-scale solar facility on the ground and in full operation, and give the participants the opportunity to ask questions of the operators in a less formal setting.”

- **Developer to provide copies of full plan sets “to scale” of site plans for each outside agency review. Other information may be requested upon request of each outside agency.**
- **Change “Commercial Energy Solar Energy Systems” to “Utility Scale Industrial Solar Power Plants.”** As the equipment that generates the solar power used is industrial equipment and inspected as such by the County Building Dept. under a commercial permit and used for industrial purposes to generate power for the main grid for commercial and industrial energy consumption outside Conway Township.
- **Demonstrated Need must be Identified by Applicant** to meet the Zoning and Enabling Act Law 4 part test upon application to clarify how the needs of the Conway Township Citizens are being directly fulfilled by power generated upon permitting of a utility scale industrial solar power plant should a Special Use Permit be granted by Conway Township.
 Demonstrated need shall be calculated by the electrical power consumption needs of Conway Township based on projections published by DTE in the lease agreement information packet entitled “DTE Powering Michigan's Clean Energy Future Packets” provided to land owners. Overall land coverage for any utility scale industrial solar power point not to exceed 2.25% of the land in Conway Township according to section D3 of the proposed solar ordinance edits by the Citizens of Conway Township. At this time it is calculated, according to DTE’s formula, Conway Township currently would need 21.19 acres to fulfill the electrical consumption demonstrated need for the entire Township.
- **Tribes THPOs (Tribal Historic Preservation Officers)** are to be included in outside agency review any and all special use permit application for utility scale industrial solar power plants. See email provided for confirmation by our group of this requirement by law and for review contact:

Marcella Hadden <MIHadden@sagchip.org>

- The 200 ft setback was one proposed by developers through their influence on the Planning Commission with a former member who no longer sits on the Commission and it is believed by the public a former member of the Planning Commission who did not recuse themselves from making decisions with the knowledge that their family was in discussions with developers to sign a lease as stated in a public meeting by such a member of the Planning Commission. In addition, the setback matches the exact number proposed by one of the developers in their ordinance edits proposed to the Conway Township Planning Commission prior to the Moratorium being put into place. The public would like **the minimum setbacks shall be 1,000 feet from the property line of any non-participating property and from all public roads. This shall be measured from the property line of the adjacent property to the perimeter fencing**

as specified in section 5. A utility-scale industrial solar power plant is not subject to the side property line side setbacks for common property lines of two or more participating lots, except there shall be a 1,000 foot setback from public roads on all sides of the road and rear setback from abutting parcels. The designation of 1,000 feet is to be restored in good faith by the Planning Commission within the proposed ordinance to remain consistent with original standards set forth by the Township prior to influence of developers.

****This standard was set in the ordinance several years ago and was originally set in place with the intent to protect the health, welfare, property values and rural character for the citizens of Conway Township. We ask that you remain to do so with your intent as it states in the verbiage of the Moratorium that was put in place to protect the public. The Township is not responsible for increasing the profits of solar developers, its duty is to serve the public and protect their health, safety and interests as well as following the Master Plan that calls for only “small scale industrial.”**

- **Planning Commission to request that Michael Homier from Foster Swift establish minimum required escrow amounts for ongoing project escrow for all reviews, bond amounts for ongoing maintenance and project decommissioning.**
- **Establish additional setbacks for inverters no less than 500 ft within fenced project area from fence line, note additional footage may be required based on findings from the sound analysis.**
- **Stainless steel racking systems to be required.**
- **If Township refuses to require a stainless steel racking system, all galvanized support structures or posts being installed underground are to be made with non toxic metals or encased in pvc. Spec sheets to be provided to the public upon application by developer.**
- **Catch pans for water run off under solar panels to be installed on site.**
- **Township is to consult at the time of the special use permit application with an environmental engineer or arborist at the cost of the applicant or developer at the discretion of the Township to find the most appropriate site specific ground coverage to be used with the purpose to absorb any excess water on site further the life and or duration of the project.**
- **Applicant and or Developer, at the time of application to provide to Conway Township and the Public the manufacturers name, Model/Serial Numbers, Country of Origin and a list of hazardous materials used to manufacture the solar panels, wracking systems and any other components that will be used on site during the**

duration and or life of the project. USEPA TCLP (toxicity) report for the panels/modules. The information provided but not limited to should include developers providing all information on the anti-glare coating they use (manufacturer and product) along with the MSDS sheet for the coating and expected life of coating (usually 3-7 years).

Once all of this information is provided, it is the duty of the Township and its Planning Commission to be thoroughly compared against acceptable toxin levels for potable groundwater (well water), to be reviewed and examined by a **qualified professional** hired by the Township and paid for by the developer at time of application through an established escrow account. If it is found **that any potential contamination to groundwater is disclosed or found through the examination to be possible, the special use application is to be denied to protect the health, safety and well being of the public as we all are on wells throughout the Township.**

- **If the special use permit is approved, ongoing ground water testing is to be performed weekly by 3rd party hired by Township, paid for by the developer during construction and quarterly after construction period ends,** this is being required to be performed at other utility scale solar sites in our State. As other utility scale solar farms throughout the country are now being identified and being held accountable for contamination. This is to protect the health and welfare of the citizens in Conway Township as we are a community that is solely on wells for water consumption. Baseline groundwater measurements must be taken to determine whether any changes to metal concentrations measured in the future are attributable to the utility scale solar power plant.
- **No solar panels used by any developer are allowed to contain PFAS, which include GENX. A detailed spec sheet from the developer directly from the manufacturer must list all components of each solar panel used on site.**
- **No future commercial or industrial battery storage facilities.**
- **No clear cutting.** The people of Conway Township feel any clear cutting permitted would be contradictory to the objective/goal of the energy companies in using this land use to reduce the carbon footprint and should in no way be permitted in order to increase profits.
- **Wildlife Impact Analysis** to be performed by a qualified Wildlife Biologist and paid for by the Developer, hired by the Township. Conway Township is home to many species of wildlife including a well known bald eagle population, cranes, deer, coyotes, as well as many others. The impacts to the ecological balance of this Township is a great concern to citizens and they would like this to be a priority to our Township Officials. The overall

ecological impact needs to be determined prior to approval of any utility scale solar project.

- **Ecological Impact Study** to be performed by a qualified environmental engineering firm paid for by the applicant and or developer through an established escrow account at the time of site plan application, hired by the Township. The study is to include identification of the unique ecological features of the land proposed for the solar power plant. Additionally, each county drain located downstream from the proposed Conway Township solar power plant must study and research the average amount, intensity and speed of flowage. The Vast area of wetlands and watersheds that surround the drains which include Sabine Lake, must be part of the ecological study. The applicant and or developer and or lease holder will be obligated upon written request of a citizen, a citizen group and or any damaged party to submit disputes to a third party for mediation or binding arbitration through a formal complaint process that the Township Attorney Michael Homier must create the process for immediately to be included in the utility scale industrial solar power plant ordinance proposed with revision edits and have the applicant and or developer and or lease holder sign at the time of application.
- **Agricultural Economic Impact Study** to be performed by a qualified economist specializing in Agricultural Production. Paid for by the Developer, hired by the Township. i.e. MSU Extension has an economist who may be willing if the Township engages.
- If the Township chooses to allow clear cutting is permitted for ANY reason a **Tree and Vegetation Clearing Area Assessment is to be required by the applicant to be conducted by a Third Party Environmental Engineering Firm** chosen by the Township paid for out of the escrow account established between the Township and developer/applicant at the time of application. This information is to be shared with the general public online through the Townships Website within one business day of the Township receiving the information.
- **Housing Value Impact Study** to be performed by a 3rd party Licensed Appraiser, paid for by the Developer through escrow at the time of application and hired/chosen by the Township. To include a Loss of Value Analysis and Property Value Loss Guarantee to be provided and signed by the Developer, otherwise known widely throughout the Solar Industry as the “Solar Farm Industry’s Good Neighbor Agreement Program.” **No exceptions.**
- **No land enrolled in PA116 is to be used for permitted utility scale solar power plant/facility.**
- **Add Berms to the ordinance. Berms to be added on site during initial grading of the site to protect the public from view.** Replace language in section 16d. of ordinance to read “Requirement of 6 ft berm with tree staggering no more than 20 ft apart as specified in section 16a. where there are neighboring residential homes within

1000 ft. of all front, rear and side yard lot lines shown on site plan of the project to screen appropriately and lessen negative impacts of drainage as well as to maintain rural character and aesthetic views of neighboring property owners and the general public. - Consult with Munsell Family Farm, they have great screening with trees off Mason Rd. **Should this item be contested, the general public would like the Township to consult with a qualified landscape architect or arborist for the best course of action to minimize negative visual impacts to neighboring properties and the general public through the use of landscaping techniques to protect the public.**

- **Township is to determine when a site is considered no longer fully operational and provide to the public the determination process by the Township or other entity. What percentage of panels are non operable? 50%, 60%, etc. where upon the decommissioning process is initiated.**
- **Decommissioning to begin within 3 months of determination of non operational site, not to take more than 12 months and land is to be restored fully to agricultural use for farming operation use.**
- **Decommissioning review to be done yearly by the Board of Trustees to address escrow amounts no exception.**
- **Recycling plan for all materials, including solar panels to be included in a decommissioning plan and to be provided at the time of application by developers. Detailed report as to where panels damaged during construction are to be recycled, name of facility and amount of materials, “scrap report to be provided” to the Township Zoning Administrator. Decommissioning plan is to also have the name of facility to recycle panels, report the amount of materials taken off site and what all contain is to be provided to the Zoning Administrator and made available to the public.**
- **After completion of initial construction, excess panels or equipment not “in use” must be kept off site.**
- **To be written into the ordinance ** Require 2 “Ongoing” Maintenance Agreements with maintenance schedules** as set forth below, to be signed prior to or at the time of site plan approval. One Agreement is to be held during the construction period and one is to be held for the life and or duration of the project thereafter. Ongoing maintenance amount to be held in escrow during the entire construction period, amount for escrow to be determined by the Township with the consultation of a qualified Landscape Architect, project review by such qualified Landscape Architect is to be paid for by the developer and hired by the Township. The Ongoing Landscaping Maintenance Plan/s must both include, but not be limited to the following action items for applicant/developer and or lease holder:

1. **2 Detailed Ongoing Landscaping and overall site Maintenance Agreements**

are to be signed between the Township and applicant and or developer and or lease holder in good faith, the first is to be signed prior to site plan approval to replace dead trees on site during construction, to provide stabilization reports that will be required to be sent weekly to the Livingston County Drain Commission be shared with the Zoning Administrator and Township Supervisor weekly as well. The second Ongoing Landscaping and Overall site Maintenance Agreement thereafter for the life and or duration of the project is to maintain the replacement of dead trees, maintain stabilization after Drain Commission Permit is closed out and established ground coverage on the entire site, which is to include an ongoing plan for **weed control** as well as a plan to **maintain access roads and or drives for emergency vehicles, especially in the winter months**. Plan for Maintenance of green slatted fencing for screening and overall aesthetics of the site. A yearly site inspection from the Zoning Administrator will be required from the time of construction period conclusion and will be ongoing for the life and or duration of the project. At this time, items to be addressed will be discussed and a timeframe for compliance will be provided. If all items are not replaced or repaired within 30 days, the Zoning Administrator will begin the process of revocation of Special Use Permit. Good husbandry procedures are critical to maintaining the rural landscape of the Township and to minimize negative impacts of this land use to neighboring property owners and citizens of Conway Township. This includes bi-weekly long arm cutting of all grass and or weeds under panels as well as bi-weekly cutting of all other areas on site with ground covered identified by Landscape Architect as needing ongoing maintenance. Should the Landscape Architect advise less or more necessary maintenance, it shall be written into the Agreement and both parties must sign the revised terms. Maintenance Agreement is to address the following maintenance of interior access roads and or drives for emergency vehicles,

- a. Once a deceased tree or trees, broken slats in fencing, broken woven fencing, overgrown weed or ground cover, road deterioration, accumulation of debris that may block access drives for emergency vehicles are reported to the Township or witnessed by any or all Township officials, the Zoning Administrator will investigate within one working day and if confirmed to be deceased, he or she will issue a notice to replace such trees and orange tag the tree onsite. The Zoning Administrator will then send a 14 day notice to the applicant and or developer and or lease holder via email or certified mail to the contact information provided at time of Agreement. Notices will not be sent to landscaping companies or maintenance companies under any circumstances, they will be sent directly to the applicant and or developer and or lease holder ONLY.

- b. In this agreement active email address and address of lease holder is to be provided. If this information should change, the Township Zoning Administrator is to be immediately notified so they can update their records accordingly.
- c. Once notified by the Township of a violation of this agreement by the public or any Township Employee, the applicant and or developer and or lease holder will have 14 days to comply or will be fined civilly \$100 a day from the escrow account established per each violation until they meet compliance during the construction period. After 30 days from notification of the Township, the Zoning Administrator will inspect the site on the next working date after the 30 day period has ended. If the applicant and or developer and or lease holder have been found not in compliance with such Agreement as set forth above, procedures to provoke Special Land Use Permit will begin.
- d. After the construction period is completed for the life and duration of the project a cash bond is to be established with the Township for ongoing Landscaping Maintenance, appropriate amount is to be determined by a qualified landscaping architect hired by the Township at the cost of the applicant and or developer and or lease holder to cover replacement cost and ground cover maintenance should this agreement not be complied with.
- e. The Ongoing Landscaping Maintenance Agreement and Bond will be reviewed and renewed yearly by the Zoning Administrator and Board of Trustees. The original terms are to remain as such for the life and or duration of the project with the exception of the bond amount, which will increase accordingly to adjust for inflation.
- f. The bond is to be held with Conway Township for the entire life and or duration of the project. If the developer and or lease holder does not continue to comply yearly with ongoing Maintenance as set forth in the agreement, Conway Township reserves the right to revoke the Special Land Use Permit after 30 days of non compliance as stated above and will retain the bond indefinitely and begin the decommissioning process.
- g. If after 5 years of initial project completion, this agreement has been followed in good faith and proper good husbandry maintenance has been performed, the bond amount required during the yearly review will then be reduced by 50% for the remaining life and or duration of the project. Bond is to continue to be renewed and reviewed yearly by the Zoning Administrator and Board of Trustees. Should the lease be transferred or sold or the property be outright purchased, a new Ongoing Maintenance Agreement will be required by the new lease holder and or owner

of the parcel as a part of compliance with the Special Use Permit and original bond be returned to previous developer, lease holder and or in the case a owner who owns the property outright, the bond will be returned to the appropriate party.

**Proposed Amendments to Conway Township Zoning Ordinance
Related to Solar Energy Systems**

1) Add New Definitions to Article 2.

Solar Energy System (SES): A photovoltaic system or solar thermal system for generating and/or storing electricity or heat, including all above and below ground equipment or components required for the system to operate properly and to be secured to a roof surface or the ground. This includes any necessary operations and maintenance building(s), but does not include any temporary construction offices, substation(s) or other transmission facilities between the SES and the point of interconnection to the electrical grid.

1. **Building-Mounted Solar Energy System:** A solar energy system attached to the roof or wall of a building, or which serves as the roof, wall or window or other element, in whole or in part, of a building.
2. **Ground-Mounted Solar Energy System:** A solar energy system mounted on support posts, like a rack or pole, that is attached to or rests on the ground. The system is not attached to and is separate from any building on the parcel of land on which the solar energy system is located.
3. ~~**Utility-Scale Solar Energy System:**~~ A large-scale facility of solar energy arrays with the primary purpose of wholesale or retail sales of generated electricity.
4. **Accessory Solar Energy System:** A small-scale solar energy system with the primary purpose of generating electricity for the principal use on the site.

Solar Array: A photovoltaic panel, solar thermal collector, or collection of panels or collectors in a solar energy system that collects solar radiation.

**** Dual Use:** A solar energy system that employs one or more of the following land management and conservation practices throughout the project site:

1. **Pollinator Habitat:** A site designed to have vegetation that will enhance pollinator populations, including a diversity of flowering plants and wildflowers, and meets a score of 76 or more on the Michigan Pollinator Habitat Planning Scorecard for Solar Sites.
2. **Conservation Cover:** A site designed with practices to restore native plants, grasses, and prairie with the aim of protecting specific species or providing specific ecosystem services, such as carbon sequestration or soil health. The site must be designed in partnership with a conservation organization or approved by the Livingston Conservation District.
3. **Forage/Grazing:** Sites that incorporate rotational livestock grazing and forage production as part of a vegetative maintenance plan.
4. **Agrivoltaics:** Sites that combine raising crops for food, fiber, or fuel, and generating electricity within the project area to maximize land use.

Maximum Tilt: The maximum angle of a solar array (i.e. most vertical position) for capturing solar radiation as compared to the horizon line.

Minimum Tilt: The minimal angle of a solar array (i.e. most horizontal position) for capturing solar radiation as compared to the horizon line.

Participating Property: One or more properties under a signed lease or easement for development of a utility-scale solar energy system associated with a project.

1.3 Change to
Utility Scale
Industrial Solar Power
Plants.

**See edits within
ordinance below for
suggested changes
regarding dual use.

Non-Participating Property: One or more properties for which there is not a signed lease or easement for development of a utility-scale solar energy system associated with a project.

- 2) Delete Definition for Solar Energy Collector in Article 2.
- 3) Change references from building-mounted solar energy collectors in Sections 7.02(A)(13), 8.02(A)(13), 10.02(A)(15), and 11.02(F) to accessory solar energy systems; remove references to ground-mounted energy collectors in Sections 7.03(A)(20), 8.03(A)(12), 10.03(A)(9), and 11.03(A)(8); and change references from commercial solar energy systems in Sections 7.03(A)(21), 10.03(A)(10), and 11.03(A)(9), to ~~utility-scale solar energy systems~~: **Utility Scale Industrial Solar Power Plants**
- 4) Replace current Section 6.26 regarding Solar Energy Collectors with the following:

Section 6.26 Solar Energy Systems

A. Purpose and Intent.

A. Conway Township permits utility scale solar in industrial zoned areas designated specifically for solar energy generation. It further permits accessory solar energy systems in all zoned areas of the Township.

~~Conway Township promotes the effective and efficient use of solar energy collection systems.~~ It is the intent of the Township to permit these systems by regulating the siting, design, and installation of such systems to protect the public health, safety, and welfare, and to ensure compatibility of land uses in the vicinity of solar energy systems. Accessory and utility-scale solar energy systems, as defined in this Ordinance, shall comply with the provisions of this Section.

B. Criteria For the Use of All Solar Energy Equipment.

B2. (3) months

1. Solar energy equipment shall be located to minimize visual impacts from the public right-of-way.
2. Solar energy equipment shall be repaired, removed, or replaced within twelve ~~(12)~~ months of no longer being operational.
3. All solar energy equipment must conform to all County, State, and Federal regulations and safety requirements as well as applicable industry standards.

C. Accessory Solar Energy Systems. Accessory solar energy systems, as defined in Article 2 Definitions, include building-mounted systems and ground-mounted systems with the primary purpose of generating electricity for the principal use on the site. Accessory solar energy systems are a permitted accessory use in all zoning districts, subject to administrative review and approval.

1. **Application to Zoning Administrator.** An applicant who seeks to install an accessory solar energy system shall submit an application to the Zoning Administrator upon forms furnished and approved by the Conway Township Board of Trustees.
2. **Application Criteria.** The application must be approved in

writing by the Zoning Administrator. The application shall include the following:

- a. Photographs of the property's existing conditions.
- b. Renderings or catalogue cuts of the proposed solar energy equipment.
- c. Certificate of compliance demonstrating that the system has been tested and approved by Underwriters Laboratories (UL) or other approved independent testing agency acceptable to Township.
- d. Plot plan to indicate where the solar energy equipment is to be installed on the property.
- e. In addition to the criteria contained in this subsection, applicants seeking approval of an accessory solar energy system shall meet the requirements of subsection (4) for a building-mounted system and subsection (5) for a ground-mounted system.

3. **Exclusions from Administrative Review.**

- a. The installation of one (1) solar panel with a total area of less than eight (8) square feet.
- b. Repair and replacement of existing solar energy equipment, provided that there is no expansion of the size or coverage area of the solar energy equipment.

****If engineering certification was removed from ordinance for Building Mounted it is to be restored immediately. That is to protect the public from load damage to their homes.**

4. **Building-Mounted Solar Energy System Requirements.** A building-mounted solar energy system shall be a permitted accessory use in all zoning districts, subject to the following requirements:

- a. Administrative review as set forth in subsection (1) above is required of all building-mounted solar energy systems permitted as an accessory use, subject to the exclusions in subsection (3).
- b. Solar energy systems that are mounted on the roof of a building shall not project more than five (5) feet above the highest point of the roof but, in any event, shall not exceed the maximum building height limitation for the zoning district in which it is located, and shall not project beyond the eaves of the roof.
- c. Solar energy systems that are roof-mounted, wall-mounted

or are otherwise attached to a building or structure shall be permanently and safely attached to the building or structure. Proof of the safety and reliability of the means of such attachment shall be submitted to the Zoning Administrator prior to installation; such proof shall be subject to the Zoning Administrator's approval.

- d. Solar energy systems that are wall-mounted shall not exceed the height of the building wall to which they are attached.
- e. Solar energy systems shall not be mounted on a building wall that is facing an adjacent public right-of-way.
- f. The exterior surfaces of solar energy systems that are mounted on the roof or on a wall of a building, or are otherwise attached to a building or structure, shall be generally neutral in color and substantially non-reflective of light.
- g. Solar energy systems shall be installed, maintained, and used only in accordance with the manufacturer's directions. Upon request, a copy of such directions shall be submitted to the Zoning Administrator prior to installation. The Zoning Administrator may inspect the completed installation to verify compliance with the manufacturer's directions.
- h. Solar energy systems, and the installation and use thereof, shall comply with the County construction code and the electrical code.
- i. A building-mounted solar energy system installed on a nonconforming building, structure, or use shall not be considered an expansion of the nonconformity, but shall be required to meet all height and placement requirements.

5. **Ground-Mounted Accessory Solar Energy System Requirements.** Ground-mounted solar energy systems which are accessory to a principal use shall be a permitted accessory use in all zoning districts, subject to the following requirements:

- a. Administrative review as set forth in subsection (1) above is required of all accessory ground-mounted solar energy systems permitted as an accessory use, subject to the exclusions in subsection (3).
- b. Accessory ground-mounted solar energy systems shall be located only as follows:
 - They shall be located in the rear yard or the side yard, but

not in the required rear yard setback or in the required side yard setback unless permitted by the Planning Commission.

- Should extenuating circumstance exist that prevent locating in the rear or side yard, the Planning Commission may approve a front yard location, but, in no event, shall the energy system be located in the required front yard setback. The applicant shall demonstrate to the Commission that the rear or side yard location is not feasible.
- c. Solar energy systems shall be permanently and safely attached to the ground. Proof of the safety and reliability of the means of such attachment shall be submitted with the application and shall be subject to the Zoning Administrator's approval.
- d. Solar energy systems shall be installed, maintained and used only in accordance with the manufacturer's directions. Upon request, a copy of such directions shall be submitted to the Zoning Administrator prior to installation. The Zoning Administrator may inspect the completed installation to verify compliance with the manufacturer's directions.
- e. Accessory ground-mounted solar energy systems shall not exceed sixteen (16) feet in height, measured from the ground at the base of such equipment, when oriented at maximum tilt.
- f. The exterior surfaces of solar energy systems shall be generally neutral in color and substantially non-reflective of light.
- g. The total area of accessory ground-mounted solar energy systems shall not exceed fifty percent (50%) of the square footage of the principal building of the property. For any parcel of land two (2) acres or less, an accessory ground-mounted solar energy system shall not be deemed an accessory building or structure for purposes of Section 6.06(E).
- h. An accessory ground-mounted solar energy system installed on a nonconforming use or lot shall not be considered an expansion of the nonconformity, but shall be required to meet all placement and height requirements.

Industrial Solar Power Plants

- D. ~~Utility-Scale Solar Energy Systems: Utility-scale solar energy systems~~, as defined in Article 2 Definitions, are permitted by Special Land Use approval and are subject to site plan and special land use review

Note: "Duration or life of project is to be defined as the period from Special Land Use Application Approval Date to the expiration date of the lease contract between the energy company and/or energy company and the participating Land Owner."

requirements.

D1. Permitted in I Industrial Districts only.

Areas specifically designated by Conway Township only will be used for utility scale solar generation. If land designated is rezoned from Agricultural zoned land, these parcels are to be fully returned to Agricultural zoned land through way of decommissioning and land restoration processes prior to the solar lease expiration date.

D3. Total Township Land Coverage. Proposed and approved project/s are not to ever exceed 2.25% of the total land coverage of the Township at any given time during the life of such projects. Should 2.25% of the land in Conway Township be fully dedicated to a utility scale solar generation facility at one given time, no other applications for Special Land Use permits will be considered until such existing projects have reached the end of their duration or life and have been fully decommissioned and if applicable, fully restored to agricultural zoned land. Only lots/parcels of 20 acres or more in size can have utility scale industrial solar power plants on them.

D4.** By a state licensed electrician on site at all times performing work during construction, installation, maintenance, replacement or repair of all electrical equipment, components, wiring, transmission lines or otherwise.

D7. All fencing must include green woven slatted material to reduce negative visual impact on the public and remain consistent with fencing material already used in the Township to reduce visual impact on other special uses i.e. Cell Tower on Fowlerville Rd.

Fencing is subject to the 1,000 foot setback from front, side and rear property lines. This is to meet requirement in 13a. below of dual use farming activities and ample space for safe use of farming equipment to take place on the land in the 1,000 foot setback area by the developer or applicant.

1. **Special Land Use Required.** Special land use approval is required for a utility-scale solar energy system. Utility-scale solar energy systems are permitted as a special land use in ~~AR- Agricultural Residential, C-Commercial, and~~ I Industrial districts only.
2. **Height.** Utility-scale solar energy systems shall not exceed sixteen (16) feet in height, measured from the ground at the base of such equipment, when oriented at maximum tilt. The Planning Commission can permit up to twenty (20) feet in height for utility-scale systems as part of the special land use approval, to ~~allow for~~ **replace "allow for" with "permit for dual use"** grazing or ~~other~~ **energy producing agricultural** operations. ***replace "other" with "non**
3. ~~**Lot Coverage.** The total area of utility-scale solar energy systems shall not be included in the calculation of the maximum permitted lot coverage requirement for the parcel of land.~~
4. **Installation and safety.** Utility-scale solar energy systems shall be properly installed**to ensure safety, and meet the following requirements: ****See additional D4.**
 - a. Solar energy systems shall be safely attached to the ground. Proof of the safety and reliability of the means of such attachment shall be submitted with the special land use application and shall be subject to the Planning Commission's approval.
 - b. Solar energy systems shall be installed, maintained and used only in accordance with the manufacturer's directions. A copy of such directions shall be submitted with the special land use application. The special land use, if granted, may be subject to the Zoning Administrator's inspection to determine compliance with the manufacturer's directions.
5. **Appearance.** The exterior surfaces of solar energy systems shall be generally neutral in color and substantially non-reflective of light.
6. **Compliance with construction and electrical codes.** Utility-scale solar energy systems, and the installation and use thereof, shall comply with all applicable construction codes and electric codes, including state construction codes and the National Electric Safety Code.
- Fencing.** Utility-scale solar energy systems shall be fenced in with at least a seven (7) foot chain link fence or seven (7) foot woven wire fence with wooden or steel posts. Fencing must meet all applicable standards, including National Electrical Code

D8. All power transmission lines to be underground.

D9. Minimum setbacks shall be 1,000 feet from the property line of any non-participating property and from all public roads. This shall be measured from the property line of the adjacent property to the perimeter fencing as specified in section 5. A utility-scale industrial solar power plant is not subject to the side property line setbacks for common property lines of two or more participating lots, except there shall be a 1,000 foot setback from public roads on all sides of the road and rear setback from abutting parcels. This is in line with the original setback standard as the current ordinance stated and in good faith on the Townships part was originally put into place for the intent of protecting the general PUBLIC in consideration to minimizing any negative impacts on housing values, blight, noise, water runoff, possible future contamination of wells and exposure to emf radiation. We would like this to remain the standard to protect the public due to the many unique issues within our Township not limited to but including the drainage issues well known throughout our Township.

D10. Due to Conway Townships unique topography, county drain locations and age, being home to many protected species and having well known and documented drainage issues throughout the Township that floods extensively in the Spring months, there is to be a minimum 500 ft setback from all regulated and unregulated wetlands to protect the PUBLIC and ECOSYSTEM. Developer to pay for a wetland impact study by a third party environmental engineer chosen by the Township, paid for at the time of application via escrow by the developer/applicant.

D11. Sound will not exceed standard 40 DBA max. Standard example from ordinance in (Palmyra Twp.) from any and all property lines during hours of 9 am to 9 pm. 35 DBA max during hours of 9pm to 9 am.

13A. Strike a. No PA116 land is to be used for special use permitted utility scale solar.

~~requirements. Barbed wire is prohibited. Fencing is not subject to setback requirements.~~

~~**Transmission and communication lines.** All power transmission and communication lines between banks of solar panels and to nearby electric substations or interconnections with any buildings or other structures shall be located underground. Exemptions may be granted in instances when soil conditions, shape, topography, or other elements of the natural landscape interfere with the ability to bury lines, or distance makes undergrounding infeasible, at the discretion of the Planning Commission.~~

1,000 feet

9. ~~**Setbacks.** Minimum setbacks shall be two-hundred (200) feet from any non-participating property with a residence and one hundred twenty-five (125) feet from all other non-participating properties. This shall be measured from the property line of the adjacent property to the closest point of the solar array at minimum tilt or any solar energy system components. A utility-scale solar energy system is not subject to property line setbacks for common property lines of two or more participating lots, except road right-of-way setbacks shall apply.~~

10. ~~**Setback from wetlands.** Utility-scale solar energy systems shall be at least fifty (50) feet from the edge of any wetland, or any shoreline or drain easement. The Planning Commission shall have the authority to require up to one hundred fifty (150) feet setback, at the Commission's discretion.~~

****Township Attorney to clearly define wetlands**

11. ~~**Sound.** The sound pressure level of a utility-scale solar energy system and all ancillary solar equipment shall not exceed 45- 40 dB(A) at the property line of adjacent non-participating properties or the exterior of any non-participating habitable structure, whichever is closer. The site plan shall include modeled sound isolines extending from the sound source to the property lines to demonstrate compliance with this standard.~~

12. ~~**Lighting.** Utility-scale solar energy system lighting shall be limited to inverter and/or substation locations only. Any lighting shall be directed downward and be placed to keep light on-site and glare away from adjacent properties, bodies of water, and adjacent roadways. Flashing or intermittent lights are prohibited.~~

13. ~~**Groundcover.** A utility-scale solar energy system shall include the installation of ground cover vegetation maintained for the duration of operation until the site is decommissioned. A ground cover vegetation establishment and management plan shall be submitted as part of the site plan.~~

a. ~~Properties bound by a Farmland Development Rights Act~~

13A. Con't:

Inside the fencing project area for the duration or life of the project, there is to be ongoing dual use required of the applicant/developer or any and all future lease holders. This is to be enforced in good faith by Conway Township through this ordinance to maintain efforts to continue the ongoing stabilization of the land, as well as to promote the ecological and/or agricultural benefits of dual use.

**In order to identify suitable ground coverage for each specific site, it is the request of the public that the Township have a 3rd party environmental engineer chosen by the Township and paid for by the applicant and/or developer out of an escrow account to be established at the time of application.

The land outside the utility scale solar power plant within the 1,000 foot setback area from lot line to site 7ft fencing, must also continue to be farmed by the applicant/developer or any and all future lease holders to promote agricultural benefits and maintain the rural character of the Township. This is to be done by the planting of crops such as corn, beans, wheat, cabbage, peach trees, apple trees, Norway spruce trees, strawberries or pumpkins.

14A. Pre and post construction inspection of all drain tiles via robotic camera and daily inspection reports identifying location and condition of drain tiles is to be conducted by a 3rd party engineering firm hired by the Township and paid for by the developer/applicant out of established escrow account at the time of project approval. 3rd party engineering firm is to be on site to inspect tiles during full duration of construction during excavation, installation of all racking systems and trenching for underground utility lines. All inspection video footage and daily reports are to be placed on file with the Township and made available to the citizens upon FOIA request.

~~(PA 116) Agreement must follow the Michigan Department of Agriculture and Rural Development's Policy for allowing commercial solar panel development on PA 116 lands.~~

- a. ~~b.~~ Ground cover at properties ~~not enrolled in PA 116~~ **shall must** meet one or more of the following types of Dual Use, as defined in this Ordinance, to promote ecological benefits:
 - Pollinator Habitat ****Suitable ground coverage is to be determined by an environmental engineer specific to site soils and conditions.**
 - Conservation Cover
 - Forage/Grazing
 - Agrivoltaics

Drainage. Drainage on the site shall be maintained in a manner consistent with, or improved upon, existing natural drainage patterns. Any disturbance to drainage or water management practices must be managed within the property and on-site, in order to not negatively impact surrounding properties as a result of the development. This shall be maintained for the duration of the operation and shall be able to be returned to pre-existing conditions following decommissioning. Any existing drainage tiles that are identified on the property shall be shown on the as-built drawings submitted following construction.

15. **Wildlife Corridors.** Utility-scale solar energy system developments shall have access corridors for wildlife to navigate through the development. Applicants shall demonstrate within their site plan means for allowing wildlife corridors throughout the site, which may include natural patterns, breaks in the fencing, and other means for allowing movement of migratory animals and other wildlife.

16. **Landscaping/Screening.** Landscaping shall be provided in accordance with the standards required in Section 6.16 Required Landscaping and Screening, as well as the following additional screening requirements if determined appropriate by the Planning Commission:

- a. At least ~~four (4) evergreen trees provided every one hundred (100) linear feet.~~ **TBD** The trees shall be in a staggered pattern and evenly distributed within each one hundred (100) linear feet section, as shown in Figure 6.26.1. Trees shall be planted outside of the fencing.
- b. Each ~~evergreen tree~~ shall have a minimum mature height of fifteen (15) ~~height~~ and have a minimum height of seven (7) feet at the time it is planted.
- c. Landscaping shall be installed and inspected following project completion and prior to energy generation within the project. Landscaping shall be maintained in accordance with Section 6.16(E) of this Ordinance.
- ~~d. If an adjacent property owner desires to have less screening than that required where the utility-scale solar energy system~~

16a. Sixteen (16) Norway Spruce (no Blue Spruce Substitution due to disease). Trees to be in two rows staggered planted no more than 15 feet apart. No tree shall be planted more than 30 feet from the lot line.

16b.(8) feet in height at minimum when planted. (20) ft. in height minimum at maturity.

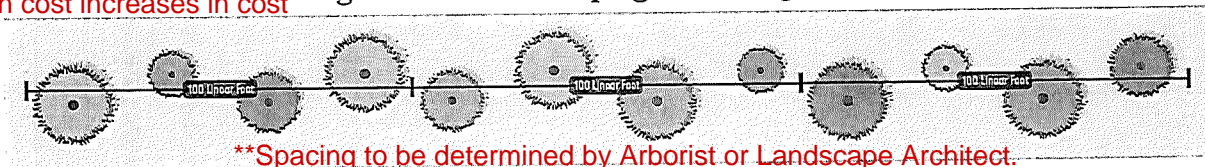
16d. Strike section and replace with verbiage on cover page. It is critical that landscaping remain consistent throughout entire project area. For the public, Township aesthetics, minimalization of any negative impact on property values and views of potential future adjacent property owners.

14A. Con't: Subsequent 3 -year re-inspection for the life and or duration of the project is to be done by a 3rd party engineering firm, hired by the Township, paid for by the applicant/developer and or lease holder with funds to be held in an established escrow fund for project life maintenance and drain tile inspections at the time of initial project approval. Amount to be held is to be determined by 3rd party engineering firm and should include projected inspection cost increases in cost due to inflation.

~~is adjacent to their property, exemptions may be granted by the Planning Commission so long as a written agreement of desired screening between the developer and adjacent property owner is filed with and accepted by the Township.~~

Adjust figure 6.26.1 to reflect new standards presented*

Figure 6.26.1 Landscaping/Screening



**Spacing to be determined by Arborist or Landscape Architect.

Landscaping/Screening

At least four (4) evergreen trees provided every one hundred (100) linear feet. The trees shall be in a staggered pattern and evenly distributed within each one hundred (100) linear feet section.

15A. Wildlife Corridors to be 25 ft wide and placed every 1200 ft. Access to the wetland setback shall not be restricted and there is to be a mandatory corridor for wildlife to access at all times in these areas.

17. Identify the owner and developer, provide all emergency contact information to central Livingston County Dispatch, Fowlerville Area Fire Dept., Conway Township Supervisor and Zoning Administrator.

17. **Signage.** Signage shall be permitted in accordance with Article 17. Signage shall be required to identify the owner and provide a 24-hour emergency contact phone number.

18. Due to the intent to introduce renewables by our State Government, such as utility scale solar, as a way to cut carbon emissions and as a preservation tool for agricultural land that has yet to be fully researched or proven, it is critical to preserve through this ordinance in the best faith of the Township and for it's residents and future, all ecological and agricultural elements within the land. Furthermore, it shall be preserved so that upon decommissioning the land will be fully restored to AG land, rezoned to such and farming activities for food and production of agriculturally based goods, not utility scale solar production will resume.

18. **Agricultural Protection.** Utility-scale solar energy systems shall be sited to minimize impacts to agricultural production, including the following:

- a. Systems shall be sited to minimize land disturbance, ~~or clearing except for minimally necessary.~~ Topsoil shall be retained on-site. **and not stripped for any reason.**
- c.b.** Any access drives shall be designed to minimize extent of soil disturbance, water runoff, and soil compaction.

18a. Record of elevations and grades on all parcels are to be first identified on site plan by Developer/Applicants engineer, grades are to be consistently maintained during construction period and undisturbed for the remaining life/duration of the project. Township is to hire a 3rd party civil engineering firm at the cost of the developer/applicant who is to provide escrow funds upon application with the Township. 3rd party civil engineer is to provide detailed report confirming final grades on site plan to the Township.

~~19. **PA 116 Farmland Development Rights Program.** Per the Michigan Department of Agriculture and Rural Development (MDARD), land enrolled in the PA 116 program may be permitted to participate in solar energy development subject to MDARD policy and requirements. Per MDARD standards, this land must be able to be returned to agricultural uses following the end of the solar development agreement or if/when the solar development is decommissioned for any reason.~~

20. **Battery Storage.** On-site battery storage accessory to a utility-scale solar energy system is prohibited.

21. **Decommissioning.** A decommissioning plan is required at the time of application to be reviewed and approved by the Planning Commission.

- a. The decommissioning plan shall include:
 - The ~~anticipated~~ manner in which the project will be decommissioned, including a description of the process for removal of all structures and foundations, restoration of soil to a depth of four (4) feet and vegetation, and how all above-grade and below-grade improvements will be removed, retained, or restored for viable reuse of the property consistent with the zoning district.

18a. Con't: Any disturbance is to be restored via top soil immediately.

Reports and site plans are to be kept on record at the Township for the life/duration of the project and used during decommissioning to restore any topsoil on site

18b. No clear cutting of any trees is permitted. This would be contradictory to the intent of the permitted use. Only trees that are diseased may be removed on site after being clearly tagged and location marked on a site plan provided to the Township. The Township will then hire a qualified arborist paid for by the developer via established escrow to review the site plan and do a site inspection to identify the species being removed and confirm it's condition at the time of application or after project approval.

19. No land enrolled in PA116 may be used for utility scale solar power plants.

20. No commercial or industrial battery storage facilities will be permitted within the Township currently or in the future to protect the health, safety and welfare of the public from hazards such as industrial run off fires, air pollution and potential ground contamination.

21. Upon developer or lease holder changing possession of land, lease and or if the land is sold outright to developer, entity or energy company, permitting for special use permit must be reapplied for with the Township and decommissioning plan be transferred to new entity, developer and or lease holder and or energy company. New bond amount to be established and new applicant, developer and or lease holder and or energy company is to pay all fees to the Township for any costs incurred including but not limited to any new review from Township Planning Firm, Planning Commission, Board of Trustees and any consultation from 3rd party engineers or outside entities and or agencies.

Given that solar developers often form multiple companies that end up undercapitalized and hence unable to pay for the future costs associated with decommissioning of these massive sites, and to ensure resources are available for final disposal after the plant is shutdown, a financial assurance is required equal to the greater of \$106,000/installed mega watt or 150% of the estimated cost of removal. -cited from A Summary of Solar Energy Power System Damage Studies Jan 1, 2002, page 8. Average Inflation rates since 2002 to 2022 or current year to be applied to the amount of \$106,000/installed mega watt by hired Township Planner upon final implementation of this ordinance.

- The projected decommissioning costs for removal of the system (net of salvage value in current dollars) and site restoration/soil stabilization, ~~less the amount of the surety bond posted with the State of Michigan for decommissioning of panels if installed on PA 116 land.~~
- The method of ensuring that funds will be available for site decommissioning and stabilization. A performance guarantee is required. The Planning Commission shall review the cost estimate provided and recommend a financial guarantee amount to the Township Board, who will ultimately determine the amount required. This financial security guarantee must be posted at the time of receiving a land use permit for the system. The security shall be in the form of a cash bond, irrevocable bank letter of credit, or performance bond in a form approved by the Township. The estimate shall be prepared by the engineer for the applicant and shall be subject to approval by the Township.
 - b. A review of the amount of the performance guarantee based on inflation, salvage value, and current removal costs shall be required every three (3) years, for the life of the project, and approved by the Conway Township Board of Trustees. Updated costs estimates based on these conditions shall be provided by the applicant for review. The Planning Commission shall review the updated cost estimate and make a recommendation to the Township Board on the performance guarantee amount. The applicant shall provide escrow funds, in an amount determined by the Planning Commission, for the Township to review the updated cost estimates.
 - c. A utility-scale solar energy system owner may at any time proceed with the decommissioning plan approved by the Planning Commission and remove the system as indicated in the most recent approved plan.
 - d. Any proposed amendment to the decommissioning plan shall be presented to the Planning Commission for approval.

Abandonment. In the event that a utility-scale solar energy system has not been in operation for a period of one year without a waiver from the Planning Commission, the system shall be considered abandoned and shall prompt an abandonment hearing conducted by the Township Board. If deemed abandoned after a hearing, the system shall be removed by the applicant or the property owner and the site shall be stabilized and re-vegetated, in compliance with the approved decommissioning plan. If the abandoned system is not removed or repaired, amongst other available remedies, the Township may pursue legal action against the applicant and property owner to have the system removed and assess its cost to the tax roll of the subject parcel. The applicant and property owner shall be responsible for the payment of any costs and attorney's fees incurred by the Township in securing

21b. Decommissioning plan to be reviewed every calender year beginning one year from completion of constuiction period.

23. Requires a better clarified process for complaint during construction and for project life. Suggest making a complaint committee to handle complaints from the community at the cost of the developer. Every 3 months during construction period and to be determined upon construction completion. Suggestion of each calendar year. No verbal complaints, all complaints in writing, Identify who, what, where.

24a. To provide at minimum a full project review and an agreement with local Fire Dept. for ongoing training every 3 years at the cost of the developer and an access agreement to the site. A copy to be held with Conway Township.

24 j. Add to section 24 line item j. to include review by Tribes THPOs (Tribal Historic Preservation Officers) by law per section 106 Any disturbance of the earth is subject by this law where if Federal funds are used.

25. *Add to provide a written operations agreement and *add Township Supervisor as must be notified.

26. Identify a minimum amount, suggested 10 million based on Handy Twp. ordinance. Project costs range but can also be calculated based on 5-10 percent of overall total project cost. Typical 1500 acre utility solar farm cost averages cost of 250,000,000 + Township can also request at the cost of the developer a 3rd party engineer estimated cost to determine required cost for the escrows, bonds and insurance. Also add *during electrical generation process.

27. To be done by licensed state electrician. Identify "components." Add "may require permit from local Building Dept. i.e., Electrical Permit depending on level of work." which may also require a waiver from Township or additional permits.

Intention is to ensure when replacing at end of life of panels tor during project life that there is oversite and continued compliance to protect the health, safety and welfare of residents and workers.

removal of the structure. The Township may utilize the benefit of any performance guarantee being held to offset its cost. As a condition of approval, the applicant and property owner shall give permission to the Township to enter the parcel of land for this purpose.

23. **Annual Reports.** For a utility-scale solar energy system, a written annual report shall be submitted to the Planning Commission by a date determined at the time of special land use approval. The annual report shall include an update on electricity generation by the project, as well as document all complaints received regarding the utility-scale solar energy system along with the status of complaint resolutions and the actions taken to mitigate the complaints. Applicants shall also provide an in-person verbal report every three (3) years to the Planning Commission.

24. **Additional approvals and agency reviews.** The following approval and agency reviews shall be required, as applicable:

- a. Local Fire Chief;
- b. Department of Environment, Great Lakes, and Energy (EGLE);
- c. Livingston County Drain Commissioner;
- d. Livingston County Road Commission;
- e. Livingston County Health Department;
- f. Federal Aviation Administration (FAA);
- g. Local Airport Zoning (if applicable);
- h. Building Department;
- i. Tax Assessor.
- j. Tribes THPOs (Tribal Historic Preservation Officers)

25. **Operations Agreement.** The applicant shall provide* the Planning Commission with an operations agreement, which sets forth the operations parameters, the name and contact information of the certified operator, inspection protocol, emergency procedures and general safety documentation. It shall be a condition of approval that the Zoning Administrator *shall be notified and provided copies of any changes.

26. **Indemnity/Insurance.** The Township shall be indemnified from all third-party claims for personal or property damage arising from the developer's negligent and/or intentional acts and/or omissions during construction, * maintenance, and decommissioning of the utility-scale solar energy system and shall be listed as an additional insured on applicable insurance policies during the life of the project.

27. **Maintenance and Repair.** Repair, replacement, and maintenance of components is permitted without the need for a new special land use permit. Proposals to change the project footprint of an existing system shall be considered a new

Anytime there are more than 10 panels needing to be replaced on one specific site at one given time, there needs to be a new special use permit pulled with the Township. Recycling plan to be updated and provided at this time as well.

28a.

This section needs to be better laid out for ease of reference.

*Proposed plans for site grading and drainage management to be verified by 3rd party civil engineer at beginning and end of construction ref. 18a.

application.

28.

Site Plan Requirements. Utility-scale solar energy systems are subject to submittal and approval of a site plan meeting all requirements in Article 14 Site Plan Review. Prior to formal site plan submission, applicants may submit an optional conceptual layout plan to the Planning Commission for discussion and feedback. Special land use permits shall be applied for at the time of formal site plan submission.

- a. **Optional Conceptual Layout Plan.** For utility-scale solar energy systems, applicants may submit an optional conceptual layout plan for review prior to submission of a formal site plan. The conceptual site plan may be reviewed by the Planning Commission to allow for discussion and feedback. The following information may be shown on a conceptual layout plan:
 - General parcel information, as required by Section 14.03(A) General Information, as applicable;
 - Existing topography of the site shown at two (2) foot contour intervals with existing surface drainage patterns indicated;
 - * Proposed plans for site grading and drainage management;
 - General landscaping plan, including proposed details for screening;
 - The proposed location and layout of all solar arrays in the solar energy system;
 - The proposed location and layout of any ancillary equipment (such as inverters), buildings, access drives, and security fencing;
 - Location of existing wetlands, shoreline, or drain easements.
- b. **Site Plan.** Formal site plan submission for a utility-scale solar energy system must include a detailed site plan including all applicable requirements found in Section 14.03 Required Information of this Ordinance, except that utility-scale solar energy systems shall be submitted at a scale of 1" = 200 feet, plus the following site plan requirements:
 - Location of all arrays, including dimensions and layout of arrays, ancillary structures and equipment, utility connections, dwellings on the property and within three-hundred (300) feet of the property lines, any existing and proposed structures, wiring locations, temporary and permanent access drives, fencing details, wildlife corridors, screening and landscaping detail, and any signage;
 - Information on where and how the utility-scale solar energy system will connect to the power grid. No utility-scale solar energy system shall be installed until evidence has been given to the Planning Commission that the electric utility company has agreed to allow the applicant to install an

interconnected customer-owned generator to the grid or the applicant otherwise has a means for the wholesale or retail sales of generated electricity;

*No land clearing or use verbiage clear cutting for consistency.

*Anticipate Construction schedule needs to include days and time of operation. Must fall in hours of 8 am to 6 pm Monday through Friday.

*Plan for dust control on site with (water truck requirement) must be included with application. Number for EPA to be provided on Township website for the public to call in complaints and or concerns of any air or water quality issues.

- * • Plan for land clearing and/or grading required for the installation and operation of the system;
- Plan for ground cover establishment and management;
- Anticipated construction schedule;
- Sound modeling study including sound isolines extending from the sound source(s) to the property lines;
- A decommissioning plan in accordance with 6.26.D(21);
- The location of prime farmland, as defined by the U.S. Department of Agriculture, Natural Resources Conservation Service – Web Soil Survey, to ensure agricultural protection in accordance with Section 6.26.D(18);
- Additional studies may be required by the Planning Commission if reasonably related to the standards of this Ordinance as applied to the application, including but not limited to:

- Visual Impact Assessment: A technical analysis by a third party qualified professional of the visual impacts of the proposed project, including a description of the project, the existing visual landscape, and important scenic resources, plus visual simulations that show what the project will look like (including proposed landscaping and other screening measures), a description of potential project impacts, and mitigation measures that would help to reduce the visual impacts created by the project.

*See Cover Sheet for more details to add to ecological and wildlife analysis'.

- * • Environmental Analysis: An analysis by a third-party qualified professional to identify and assess any potential impacts on the natural environment including, but not limited to, wetlands and other fragile ecosystems, wildlife, endangered and threatened species. If required, the analysis shall identify all appropriate measures to minimize, eliminate or mitigate adverse impacts identified and show those measures on the site plan, where applicable.

*Stormwater study to be reviewed by engineer hired by Township at the cost of developer at the time of application to with established escrow account. Engineer is to also consult with the Drain Commission at the cost of the Developer.

- * • Stormwater Study: An analysis by a third-party qualified professional that takes into account the proposed layout of the utility-scale solar energy system and how the spacing, row separation, and slope affects stormwater infiltration, including calculations for a 100-year rain event. Percolation tests or site-specific soil information shall be provided to demonstrate infiltration on-site without the use of engineered solutions.

- * • Glare Study: An analysis by a third-party qualified

*Glare study analysis to be done by 3rd party qualified engineered professional chosen by the Township paid for by the developer through established escrow at the time of application to be reviewed at time of application and after installation period of all panels on site.

professional to determine if glare from the utility-scale solar energy system will be visible from nearby residents and roadways. If required, the analysis shall consider the changing position of the sun throughout the day and year, and its influences on the utility-scale solar energy system.

- c. Final site plan approval shall only be granted once all necessary governmental approvals have been obtained. Planning Commission approval is conditioned upon approval from all other agencies.
- d. **Modifications of approved site plan.** Any modifications, revisions, or changes to an approved site plan shall be considered either a minor or major site plan amendment and must follow the standards of Section 14.08 Amendment of an Approved Site Plan.
- **Major Changes.** Major site plan changes considered major include those listed in Section 14.08(C), or the following:
 - Changes of location of arrays, fencing, buildings, or ancillary equipment by more than ten (10) feet.
 - An increase in height of solar panels.
- **Minor Changes.** Minor site plan changes considered minor include those listed in Section 14.08(D), or the following:
 - Changes of location of arrays, fencing, buildings, or ancillary equipment by less than ten (10) feet.
- e. **Application Fee & Escrow Required.** An applicant for a utility-scale solar energy system must pay applicable application fees according to the Conway Township fee schedule. An escrow account shall be set up when special land use application is filed to cover costs and expenses associated with the review and approval process.

29. To include as-built drawings provided by hired 3rd party engineer as specified in proposed addition to revision in sec 14a. with location of all drain tiles within project fenced in area.

29. **As-Built Drawings.** A set of as-built drawings shall be submitted to the Township following project completion and prior to energy generation within the project.

E. Strike sections E and F in their entirety. This is too impactful to neighboring properties and interferes with parcel owners ability to have ongoing enjoyment of their properties. This is only to appease the developer and maximize their profits at the detriment of surrounding land owners.

~~**Solar Access Requirements.** When a solar energy collection system is installed on a lot, accessory structures or vegetation on an abutting lot shall not be located so as to block the solar array's access to solar energy. The portion of a solar energy system that is protected is the portion which is located so as not to be shaded between the hours of 10:00am and 3:00pm by a hypothetical twelve (12) foot obstruction located on the lot line.~~

~~**Solar Access Exemptions.** Structures or vegetation existing on an abutting lot at the time of installation of the solar energy collection system, or the effective date of this ordinance, whichever is later is exempt from subsection (E) above. Said subsection described in subsection (E) above controls any structure erected on, or vegetation planted in, abutting lots after the installation of the solar energy collection system.~~



Conway Township Planning Commission

Monday, December 12, 2022 | 7:00pm

Fowlerville Junior High School | 7677 Sharpe Road, Fowlerville, Michigan 48836

Solar Energy Systems Community Advisory Committee Submittal

December 4, 2022

Part 3

MARY MCCLINTON CLAY, MAI
218 Main Street
Paris, Kentucky 40361
859-987-5698

March 15, 2022

Mrs. Carrie Brandon
Kansans for Responsible Solar
P.O. Box 462
Gardner, KS 66030

Dear Mrs. Brandon:

As requested, I am submitting "A Summary of Solar Energy Generation Power Systems Damage Studies as of January 1, 2022." The original study was prepared for Clark Coalition, Winchester, KY on May 25, 2021 and the current update was prepared for Hardin County Citizens for Responsible Solar on January 12, 2022. The study summarizes the current data as it relates to the potential diminution of property value as a result of proximity to Solar Energy Generation Power Systems (SEGPS), also known as utility or industrial scale solar farms.

This analysis includes peer viewed articles, case studies by professional real estate appraisers, solar developer's Neighbor Agreements and buyouts, in addition to four case studies prepared by this office.

These articles, case studies and agreements contradict the unanimous conclusion of solar developer's appraisers that utility scale solar farms are not detrimental conditions, nor do they adversely impact adjacent property values.

Though diminution in value varies, as the result of a detrimental condition's impact upon a property's utility, the evidence presented by these case studies of 100 MW or less solar farms, indicates that solar farms damages property values by **at least -6.0 percent to -30.0 percent.**

The preponderance of evidence based on these empirical studies indicates that **industrial scale solar farms do negatively impact adjacent properties** to the extent that their utility, as interpreted by the market, is affected. For, this reason, the **market considers solar powered electric generating facilities to be a detrimental condition.**

The following report is the basis of my conclusions.

Sincerely,



Mary McClinton Clay, MAI

**A SUMMARY OF
SOLAR ENERGY GENERATION POWER SYSTEMS
DAMAGE STUDIES
AS OF
JANUARY 1, 2022**

Prepared for

Mrs. Carrie Brandon
Kansans for Responsible Solar
P.O. Box 462
Gardner, KS 66030

Prepared by

Mary McClinton Clay, MAI
218 Main Street
Paris, KY 40361

March 15, 2022

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CHARACTERISTICS OF UTILITY SCALE SOLAR GENERATING PLANTS

INTERMITTENT ENERGY SOURCE

According to Dr. Donald van der Vaart, former secretary of the North Carolina Department of Environmental Quality (DEQ), “It’s difficult at first to imagine what’s not to like about solar power. The energy used by the solar panels to produce electricity is free. The solar panels don’t emit any air pollution, and they don’t contribute to greenhouse gases that many believe play a role in global warming.”¹

However, solar power is not the panacea, that the solar developers claim. Numerous drawbacks are attributed to this source of energy, most notably the **intermittent nature of solar power**. “As Strata Solar disclosed in its application to build a solar farm on Gov. Roy Cooper’s Nash County (NC) property: ‘Solar is an intermittent energy source, and therefore the maximum dependable capacity is 0 MW.’”²

Despite the claim by developers that a solar farm’s generating capacity is X megawatts (MW) of electricity, a solar facility plant won’t generate X MW of energy 24 hours a day, seven days a week. Much of the time it won’t produce anything.³

Engineers who’ve worked with electric utilities say solar facilities generate no power most of the day, and seldom reach peak generation, yet they are marked by how many megawatts of electricity they can produce during the rare times they are at maximum output. The ratings are ambiguous at best, and deceptive at worst, raising significant public policy concerns, engineers say.⁴

It is important for county officials who approve permits for solar facilities to understand that the MW rating should not be interpreted as a constant flow of electricity. In

¹ Donald van der Vaart, “Are counties taking the lead in solar plant pushback?,” <https://carolinajournal.com/opinion-article/>, October 30, 2020.

² Jon Sanders, “Why Aren’t We Benefitting from Falling Costs of Solar,” *Economic & Environment, Energy & Environment*, December 17, 2019.

³ Dan Way, “Solar energy output ratings misleading if not deceptive, critics say,” <https://www.carolinajournal.com/news-article/>, May 20, 2019.

⁴Ibid.

actuality, the rating is only potential—a maximum output that occurs for about one hour around noon on a sunny day. A solar plant generates less than the megawatt rating the other 23 hours, and no power at all the 14 hours of no sun light.⁵

As a result of the intermittent nature of solar plants, electric utilities must keep redundant fossil fuel-fired electric sources operating constantly to fill in immediately when solar power is disrupted by clouds, rain and nightfall. Compounding the cost of generating electricity, the federal Public Utility Regulating Policies Act requires utilities to buy all commercial solar power generated, even if it is more expensive than energy from other sources such as nuclear, natural gas or hydro power.⁶

The following chart from the North Carolina State Solar House represents the intermittent nature of solar energy generation. The plot lines indicate that on mostly cloudy or raining days the house produced less than 10 percent of its maximum rating capacity. A partly cloudy day recorded erratic fluctuations. **The variability of solar output would be the same regardless of a solar facility's size.**

For example, the 60 MW generating plant in Currituck County, North Carolina running at full capacity for the full 8,760 hours in a year would produce 525,600 MWh. However, the available usage is only 146,000 MWh or **27.7 percent of the full capacity** since it generates only when the sun is shining.

COST OF SOLAR ENERGY PRODUCTION INCLUDES BACKUP GENERATION

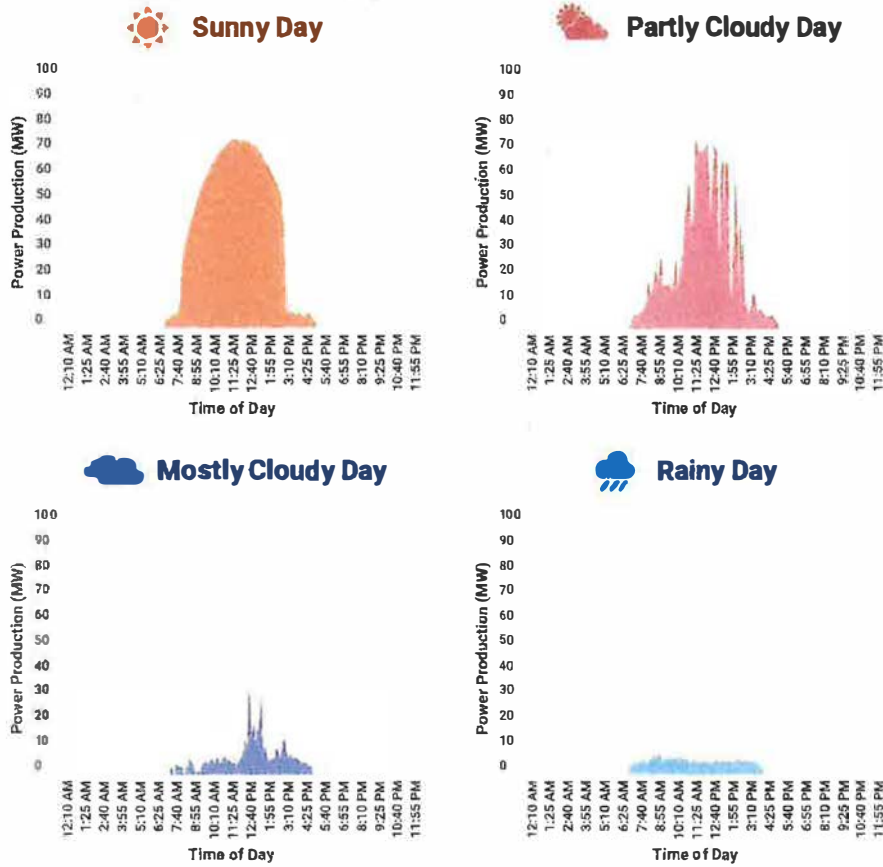
Properly accounting for the cost of solar energy means including the cost of the backup generation that is required to accompany it. Including these backup costs, the **levelized cost of new solar plants is far more expensive than the levelized cost of existing power plants and nearly three times more expensive than the most efficient—zero-emissions nuclear power plants.**

⁵Ibid.

⁶ Ibid.

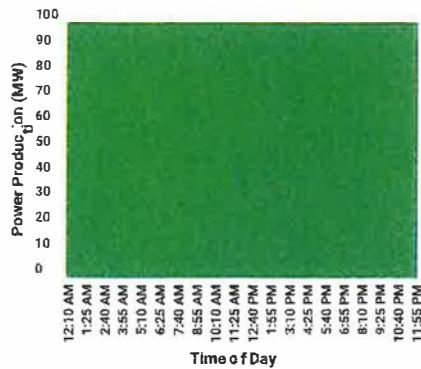
100 MW Solar Farm Production

Engineers who have worked in the electric utility industry say rating solar power plants by the maximum number of megawatts they can produce in peak operating conditions is a deceptive system because they seldom reach that level of output. Solar facilities only generate power six to eight hours a day, and it's far lower than their rating labels. That misleading rating approach leads to wrong assumptions and bad public policy. These plotlines illustrate the difference between rating capacity and actual power production during variable weather conditions. They are based on data captured from the N.C. State University Solar House.



100 MW Conventional Power Plant Production

Coal, Natural Gas, and Nuclear



The conventional power plant illustration shows electricity is generated at full capacity without wild fluctuations throughout the day.

Source: Herb Eckerlin, N.C. State University emeritus professor

Tags: solar (<https://lockerroom.johnlocke.org/tag/solar/>), wind (<https://lockerroom.johnlocke.org/tag/wind/>)

An example of **increased pollution** due to solar power generation comes from a 2019 Duke Energy permit application.

Under its current permits in the heavily regulated market, Duke must completely shut down the backup combustion turbines when solar peaks under full sun, then restart them when the sun recedes.

Duke wants the N.C. Division of Environmental Quality to issue new permits allowing combustion turbines to throttle up and down from a “low load” idling operation instead of switching completely off and on as solar waxes and wanes. In its permit applications, Duke said that would lower pollutant emissions and reduce stress on machines.

Without any solar power in the mix, ‘a typical combined cycle combustion turbine emits NOx at approximately 9-11 lb./hr., assuming 24 hours of ‘normal’ operation. That is equivalent to 264 pounds of NOx emissions daily. When those same plants are operated to supplement solar power facilities, daily emissions more than double to 624 pound a day, based on a table in Duke’s application.

If DEQ agrees to Duke’s alternate operating scenario, a combustion turbine would emit 381 pounds of NOx daily—still **44% more pollution than operating without any solar power on the grid.**⁷

Compounding the additional cost of backup energy generation is the fact that **a solar farm requires 75 times more land than a conventional plant of the same capacity.**⁸ These factors result in solar energy being an **inefficient** form of electrical generation.

SOLAR ENERGY GENERATION IS FEASIBLE DUE TO INCENTIVES

Solar power is thriving due primarily to the **billions of dollars United States taxpayers and electricity customers have given the industry.**

Federal and state incentives include the requirement that utilities buy all the green power generated by solar farms, whether they need it or not; utilities must meet renewable energy purchase targets; legislatures have **exempt property taxes up to 80 percent** of the

⁷ Jon Sanders, op. cit.

⁸ Dr. Donald R. van der Vaart, “Gov. Cooper’s ‘Clean Energy Plan,’ Part 3: Raising Prices and Polluting Moore?” *Energy and Environment*, September 22, 2020.

appraised value of non-residential solar energy electric systems; and solar developers and investors receive **30 to 35 percent tax credits**.

ENVIRONMENTAL IMPACTS ARE LONG TERM

Despite the claims by the solar developer's and their appraisers that solar farms are not sources of contaminants, California classifies spent **solar panels as hazardous waste**, and research has shown that **heavy metals are leaching out of the solar panels** into surrounding groundwater. Groundwater is often relied upon for drinking water in rural counties.⁹

Used solar panels have many chemical waste components, including such things as gallium arsenide, tellurium, crystalline silicon, lead cadmium and heavy earth minerals. The U.S. Environmental Protection Agency (EPA) confirmed in 2018 that **GenX** and related compounds are **used to produce solar panels**.¹⁰

Among the environmental concerns of industrial scale solar farms is the **lack of state regulations governing the decommissioning** of the facilities and the safe disposal of the solar panels after they wear out. Only five states require a decommissioning plan and that does not include rules—only a plan. In addition, decommissioning bonds are not required by most states.

Solar developers claim much of the material in solar facilities can be recycled to recoup cleanup costs or safely disposed of in landfills. According to Steve Goreham, a climate change and energy expert, “there’s a fair amount of value in recycling solar materials, but it doesn’t come close to cleanup costs. For example, he said, a 3-megawatt project in Sacramento County, Calif., cost owners \$220,000 to clean up even after they got

⁹ Donald van der Vaart, “Are counties taking the lead in solar plant pushback?,” <https://www.carolinajournal.com/opinion-article>, October 30, 2020.

¹⁰ John Sanders, “Waste problems from wind and solar are why we need proper decommissioning,” <https://www.carolinajournal.com/opinion-article/>, February 18, 2020.

\$375,000 for recycled materials. A 20 MW solar project in Maryland cost \$2.1 million to remove *after* recycling revenue.”¹¹

Because of the steep costs, Goreham recommends **landowners get a decommissioning plan in writing** from solar companies stating they will be responsible for all removal and land reclamation.

NC State Rep. Chris Mills, R-Pender, lead sponsor of NC House Bill 319 requiring proper decommissioning, acknowledged that some solar companies have negotiated 15-year property leases with landowners, after which they transfer ownership of the facilities to the landowner. The companies sometimes claim solar panels will last 40 years, and they don’t warn about costs to dispose of the tons of aging materials after they degrade below profitability.

According to Goreham, a solar panel’s useful life is 20 to 25 years, when it has degraded to about 80 percent of its productivity.

Without a required decommissioning and a bond to secure it, huge swaths of land could become riddled with dead solar panels, according to Mills. The fear is that this may become the **next Superfund site for the taxpayers.**¹²

INDUSTRIAL SCALE SOLAR HAS POTENTIAL TO DISRUPT AGRICULTURAL ECONOMY

Utility-scale solar energy facilities are increasing the pressure on farming by taking land out of production needed to maintain a delicate economy of scale, viability and profitability. Many county commissioners lack enough knowledge about the complex interplay of solar installations on the economic, ecological, environmental and cultural dynamics of a community as solar companies woo them for siting approvals with promises of jobs and revenue.¹³

¹¹ Dan Way, “Moore County residents worry about solar’s long-term environmental impacts,” <https://www.carolinajournal.com/news-article/environmental-hazard/> May 30, 2017.

¹² Ibid.

¹³ Dan Way, “Big solar farms maybe stressing agricultural ecosystem,” <https://www.carolinajournal.com/news-article/>, May 25, 2017.

LOCAL AND STATE REACTION TO THE PROLIFERATION OF INDUSTRIAL SCALE SOLAR PLANTS

NORTH CAROLINA APPROVES HOUSE BILL 329

Until 2019, the renewable lobby had been successful in keeping decommissioning and reclamation for solar and wind facilities out of state law. However, North Carolina passed House Bill 329 that required the Environmental Management Commission to establish rules for the decommissioning of solar and wind plants by January 1, 2022.¹⁴

INDIANA HOUSE BILL 1381 DEFEATED

Recently, the Indiana Legislature proposed House Bill 1381 which attempted to shift local control over the siting of wind and solar farms to the state. For all practical purposes, it stripped local governments of the ability to specify the type of land they want to see as solar farms in their communities. The first version attempted to overrule county ordinances. The bill was defeated by significant citizen objection.

STANLY COUNTY, NC REGULATIONS INTERNALIZES COSTS OF SOLAR FARMS

To internalize the costs of solar power to those who create them, the developers of solar farms, Stanley County's ordinance attempts to reverse the externalization of these costs from the citizens. "Reducing property values of others, causing more air pollution and contaminating ground water are all 'external' costs of solar power; that is the solar companies aren't paying for them—others external to the companies are. Environmental management seeks to 'internalize' those costs, meaning to have the polluting company pay for them."¹⁵

Stanly County's ordinances include the following:

1. To protect landowners, as well as solar companies, baseline groundwater measurements must be taken to determine whether any changes to metal concentrations measured in the future are attributable to the solar plant.

¹⁴ Jon Sanders, *op. cit.*

¹⁵ Donald van der Vaart, *op. cit.*

2. To follow up on those pre-construction measurements, the solar plant must monitor groundwater during operation and after the plant is shut down.
3. Solar panels used by the plant are not allowed to contain perfluoroalkyl substances (PFAS), which include GenX.
4. Due to the risk and unusual nature of battery fires, enough resources must be made available to the fire department, including training.
5. Setbacks are required to protect the viewshed of neighboring landowners.
6. A pre-approval study of unique ecological features of the land proposed for the plant can be required at the solar developer's expense.
7. Given that solar developers often form multiple companies that end up undercapitalized and hence unable to pay for the future costs associated with decommissioning of these massive sites, and to ensure resources are available for final disposal after the plant is shut down, a financial assurance is required equal to the greater of \$106,000/installed megawatt (MW) or 150% of the estimated cost of removal.¹⁶

KENTUCKY PROPOSES SENATE BILL 266

During the 2021 session of the Kentucky legislature, Bourbon County Senator Steve West introduced a bill that would amend KRS 100.203 to allow cities and counties to prohibit the construction of photovoltaic power stations on agricultural lands.¹⁷

KENTUCKY LEGISLATURE CREATES SITING BOARD

The Kentucky State Board on Electric Generation and Transmission Siting (the Siting Board) was created in 2002 by an act of the Kentucky General Assembly. Its purpose is to review application and, as appropriate, grant certificates for the construction of electric generating facilities and transmission line that are not regulated by the Kentucky Public Service Commission.

Siting Board review focuses on three areas:

- Environmental matters not covered by permits issued by the Kentucky Department for Environmental Protection. The Siting Board review covers matters such as noise, visual impacts and **property values**.

¹⁶ Ibid.

¹⁷ <https://apps.legislature.ky.gov/record/21rs/SB266.html>

- Economic impacts.
- Impact of the proposed facility on Kentucky's electric transmission grid.

DAMAGE STUDY THEORY AND METHODOLOGY

DAMAGE STUDY THEORY

Real estate values are estimated by the application of three approaches to value—the market comparison, cost and income approaches. When real estate is damaged or impaired, an additional analysis is required which changes an appraisal to a damage study.

The term *unimpaired* value refers to the value of the property as if no detrimental condition exists, while the term *impaired* value reflects the value of the property with the detrimental condition. The difference between these two values is the amount of damage.

Solar Energy Generation Power Systems (SEGPS) impacts the value of proximate properties to the extent that the SEGPS is viewed, in the market, as a negative externality. As an externality, it is typically not considered to be economically “curable” under generally accepted appraisal theory and practice. Some of this loss in value may be attributable to stigma, when there are unknowns and risk associated with ownership of the property.¹⁸

From an economic perspective, the rights enjoyed by a fee-simple¹⁹ owner fall into three categories: (1) right of use and enjoyment, (2) right of exclusion²⁰, and (3) right of transfer. In the United States, property itself is not “owned,” but rather the rights of the property are owned. The ability to delineate these rights, and the ability of owners to transfer some or all these rights voluntarily is a necessary condition for property valuation.

The right of use and enjoyment is generally interpreted to mean that the owner may determine how property will be used, or if it is to be used at all. The right of use traditionally is limited by both public restriction (e.g., eminent domain, police power) and private restriction (e.g., liens, mortgages). Private restrictions are generally voluntary, and property

¹⁸ Kirkpatrick, John A., “Concentrated Animal Feeding Operations and Proximately Property Values,” *The Appraisal Journal*, (July 2001): 301.

¹⁹ Definition of Fee Simple: Absolute ownership unencumbered by any other interest or estate, subject only to the limitations imposed by the governmental powers of taxation, eminent domain, police power and escheat. *The Dictionary of Real Estate Appraisal*, 6th ed., s.v. “fee simple estate.”

²⁰ Definition of Exclusion: Denial of Entry or Admission. *Black’s Law Dictionary*, 6th ed., s.v. “exclusion.”

owners willingly submit to the disutility of such restrictions in trade for some other economic benefit.

Impairment often places a restriction on the right of use without some economic compensation. This is illustrated in the potential restriction that may be placed on the use of real estate due to a physical impairment and can thus limit the property to something less than its highest and best use. For example, odor or flies from a nearby animal operation or dust from an adjacent cement plant will restrict the use and enjoyment of impaired property without compensation.

The right of exclusion—often called the right of exclusive use or right of exclusive enjoyment—provides that those who have no claim on property should not gain economic benefit from enjoyment of the property. In other words, the right of use is exclusive to the property owners, and any violation of the right of exclusive use typically carries either payment of compensation to the rightful owner or assessment of a penalty. Physical impairment, such as odor, flies, noise or dust, in effect, is a trespass on property rights and violates the right of exclusion.

The right of transfer provides the owner with the ability to swap one resource for another. An impairment restricts the right of transfer and may destroy the right of transfer altogether.

Real estate value is a function of the **perception of the participants within the market**. All factors that influence a property's desirability, and therefore, its value is the result of the market's perception. Richard Roddewig noted that:

Appraisers must look to the marketplace for answers and analyze what the marketplace itself is actually saying. Scientific conclusions about persistence of contaminants do not necessarily correlate with the marketplace's conclusion about the duration of economic impact on real estate.²¹

²¹ Richard J. Roddewig, "Temporary Stigma: Lessons from the Exxon Valdez Litigation," The Appraisal Journal (January 1997): 100.

Not only are property values diminished by environmental problems, but property owners are also denied opportunity costs stemming from the inability to move. Homeowners, for example, are stuck holding houses unable to be sold with stagnate prices, while homes in other neighborhoods are selling at increasing values. Thus, the owners are **harmed not only by the diminution of value** in the existing residence, but by the **opportunity costs inherent in lost gains** from alternative home investments.

In studying the “most likely impact” of SEGPSs on real estate, it should be recognized that there are outlying extremes. Like many detrimental conditions, there is a segment of the market that appears to be almost immune to the effects, while at the opposite extreme there is often a segment that will not purchase a property at any cost that is impacted by a detrimental condition.²²

DAMAGE STUDY METHODOLOGY

The primary source of chronicled methodology regarding damage studies is the Third Edition of *Real Estate Damages* published by the Appraisal Institute and written by Randall Bell, PhD, MAI.

Like all appraisal related analyses, damage studies are predicated on empirical research of data derived from the market. According to Randall Bell:

Applications of empirical research in real estate include the collection of transactional market data, such as sale or lease comparables, vacancy rates, expenses and capitalization rates. A key benefit of empirical research methods such as comparable sales is that tests can be replicated and measurements can be tested and validated or invalidated by others. A negative aspect of empirical studies is that they can lack the “story behind the data” and are only as good as the data relied upon.

In real estate valuation, empirical data is essential for use in the sales comparison, income capitalization and cost approaches. This data is also required for both simple and multiple

²²²² Randall Bell, “The Impact of Airport Noise on Residential Real Estate,” *Appraisal Journal* (July 2011): 318.

regressions. Case studies can be a valid means of empirical research. These are all staple valuation methodologies.²³

Regarding specific applications of the sales comparison approach for damage studies is the use of **paired sales analysis**. This methodology consists of comparing the subject property or similarly impacted sales by a detrimental condition, known as test areas, to unimpaired properties in control areas. A comparison can also be made of the subject property before and after the identification of the detrimental condition. The latter is known as a **sale-resale analysis**.

According to Randall Bell:

If a legitimate detrimental condition exists, there will likely be a measurable and consistent difference between the two sets of market data; if not, there will likely be no significant difference between the two sets of data. This process involves the study of a group of sales with a detrimental condition, which are then compared to a group of **otherwise similar sales** without detrimental condition. As with a conventional appraisal, care should be taken by the appraiser or analyst when using a paired sales analysis in a sale-resale context to consider and adjust for any major alternations or renovations made to the properties after the first sale but before the subsequent sale.²⁴

Although the trend to industrial scale solar farms is relatively recent and data is limited, it is even more relevant to analyze all the available data as thoroughly as possible. The most recent publication by Randall Bell, MAI, PhD numerates the methods available to the appraiser for such damage studies:²⁵

The Appraisal of Real Estate, 15th Edition, under the section “Contamination and Environmental Risk Issues,” outlines the use of paired sales, case studies, multiple regression and adjustments of income and yield capitalization rates on income-production properties. **In addition** to those methodologies, an appraiser can consider using sale/resale, simple regression, market surveys, literature review, foreclosure rates, sales volume, days on market, listing discounts, mortgage rate adjustments, insurance adjustments, project delay and other methods.

The following is the correct methodology for a damage study.

²³ Randall Bell, PhD, MAI, *Real Estate Damages*, 3rd edition, (Chicago, Appraisal Institute, 2016): 9.

²⁴ *Ibid.*: 33.

²⁵ Randall Bell and Michael Tachovsky, “Real Estate Damage Economics: The Impact of PFAS “Forever Chemicals” on Real Estate Valuation,” *Environmental Claims Journal*, 2021: 11-12.

1. The first step is to determine the area affected by the detrimental condition. Once the area of influence is determined, this may be expanded as the research progresses.
2. The second step is to determine a control area that is not near a solar farm. This location is not only free of any influence from the disamenity, but it represents a competing area to the subject area with respect to land and improvement values, demographics and other economic and environmental factors that make the two groups interchangeable with the exception of the disamenity.
3. The third step is to collect the sales data. This includes useful data on either side of the date of knowledge or appearance of the detrimental condition.
4. Once the data has been gathered the sales need to be analyzed with respect to value change (appreciation or depreciation) for the years prior to the event and then after the event. This will determine how the overall community or neighborhood responded to value change, as well as the control area and the subject area. Any difference between these market movements could be attributable to the disamenity. Increased time on the market and decreased sales volume are also indicators of diminution of market value. In addition, proximity to solar farms may affect the absorption rates of vacant lots.
5. After the sales are gathered, they need to be confirmed with a principle to the transaction. It is paramount to gain an understanding of the motivation behind a sale and to determine if it is indeed an arms-length transaction. Any of the latter sales or bank involved sales must be eliminated from the sample.
6. The cleanest way of analyzing paired sales is on a one to one basis since it avoids comingling sales that could lead to distortion. Sale-resales of the same property both before and after the event are alternative indicators.
7. If a large amount of sales data is available a multiple regression analysis is an alternative or an addition to the above methodology.
8. In the absence of actual sales, buy resistance is an important consideration. Means of measuring this includes reductions in listing price, days on the market or withdrawals from the market, concessions, etc.

Case Studies are another useful method for documenting damage studies. According to Randall Bell:

A case study approach can be advantageous when there is a lack of direct market data or where analyses of direct market data need additional support...In that case, a case study approach enables an appraiser to study an otherwise similar situation with informed market data and draw on those findings to develop opinions about the subject area.

When applying the results of environmental case studies, an appraiser should consider whether the case studies are similarly situated with respect to the subject property(ies) and the environmental condition. However, when performing a case study, the similarly situated property(ies) do not need to be in the same area as the subject property(ies). Data limitations usually necessitate searching a broad geographical area. In case studies and mass appraisals, things do not have to be identical or similar; its rare, if not impossible, to find identical case studies. The objective is to find case studies that are similar on some meaningful level.²⁶

²⁶ Bell, *Ibid.*: 17.

DETRIMENTAL CONDITIONS

A detrimental condition is also known as an external obsolescence. The Bell Chart of 10 Classifications of Detrimental Conditions (DC) has become an industry standard for the analysis of damage studies. Class V detrimental condition applies to industrial scale solar systems.

According to Bell, Class V—Imposed Condition is defined as:

Adverse external factors, eminent domain, undesirable acts or forced events by another person or entity constitute Class V conditions. . . Examples of adverse external factors are dumps, landfills, factories that produce noise and bad odors, neighbors that allow their property to deteriorate and transmission lines. They may also include the discovery that improvements were illegally constructed, or the development of surrounding nuisances (or perceived nuisances) such as a sewer treatment plant, airport noise, or a prison.

Graphically, Class V often reflects a sudden drop in value upon the occurrence of the DC and a **permanent loss in value** as a result of the imposed condition.²⁷

Chief among the characteristics of a detrimental condition is the concept of incompatible land uses, particularly as industrial solar facilities relate to agricultural zoning.

Until recent years, uses within the agricultural zone were limited to farming related pursuits. For example, the Bourbon County, Kentucky zoning ordinance lists uses permitted in the Agricultural Zone (A-1) as:

- A. Production of agricultural, horticultural, floricultural or viticultural crops or livestock commodities and incidental retail sales by the producer of these commodities raised on the site.
- B. Single-family dwellings occupied by the owner or operator of the farm and such additional single-family dwellings as are necessary for occupancy by the employees of the farm operation.

²⁷ Randall Bell, MAI, "The Impact of Detrimental Conditions on Property Values," *Appraisal Journal*, October 1998: 384-385.

- C. Public, semi-public, and private land for open-space reserves that may be permanent open spaces or for future development in accordance with this order.
- D. Home occupancies as defined and restricted in Section 1.8 herein. No home occupation shall be permitted with changes the appearance of the structure from that of a residence.

Additional uses, such as cemeteries, churches, museums, animal hospitals, country clubs, etc. are permitted by Conditional Use approved by the Board of Adjustment. Any other use is a **non-conforming use**.²⁸ According to Edward J. Holmes, AICP, one of Kentucky's most recognized planners:

It should be noted that although some uses are non-conforming, there still could exist **uses that should be prohibited or considered incompatible** when it comes to **encroachment into areas designated for agricultural use**. Uses that should be considered would be those uses that tend to either significantly interfere with agriculture operations or are negatively affected by generally accepted agriculture practices on neighboring lands.

Taking into consideration the value and significance of agriculture in the community policies and regulations should be enacted that protect agriculture land and minimize land use conflicts with prohibited, non-conforming or incompatible uses. This can be implemented through development and zoning regulations.

A community should make efforts through comprehensive land use planning to protect soils that are most suitable for agriculture and directing other development or encroachment uses to non-suitable soils, and areas adjacent to or near urbanized lands, while maintaining continued use of the prime agricultural areas.

It is important to protect agricultural lands by retaining and protecting a critical mass of agricultural land that promotes effective and efficient agricultural activities. **More intensive development or uses of lands should be located away from prime agricultural lands that have not been planned for future growth and development.**²⁹

²⁸ Definition of Non-conforming use: Improvements that are not in line with surrounding uses, such as a jail in the middle of a residential neighborhood. Randall Bell, PhD, MAI, *Real Estate Damages*, 3rd Edition, (Appraisal Institute, Chicago, 2016).

²⁹ Edward J. Holmes, AICP, President, EHI Consultants, Lexington, KY.

A non-conforming use in the agricultural zone has the potential of negatively impacting the value of adjacent properties as a result of its lack of compatibility³⁰ and risk of hazard or nuisance. In other words, **compatibility maximizes real estate values, and in the reverse, incompatibility diminishes market value.** Any issue or condition that may cause a **diminution of value to real estate is defined as a detrimental condition.**³¹

Because utility scale solar plants are relatively new local existing comprehensive plans and ordinances do not provide for them. The **American Planning Association (APA)**, in its advisory regarding utility scale solar facilities, states that “the emphasis for planners is on the direct land-use considerations that should be carefully evaluated (e.g. **zoning, neighbors, viewsheds and environmental impacts**).”³²

According to APA, “Utility-scale solar facility proposals must be carefully evaluated regarding the size and scale of the use; the conversion of agricultural, forestry or residential use; and the potential environmental, social and economic impacts on nearby properties and the area in general.” For example, “if a solar facility is close to a major road or cultural asset, it could affect the **viewshed and attractiveness of the area.**”³³

Among the land use impacts noted by the APA that utility scale solar may have on nearby communities include “the removal of forest or agricultural land from active use. An argument often made by the solar industry is that this preserves the land for future agricultural use, and applicants typically state that the land will be restored to its previous condition.” However, the APA acknowledges that it is “challenging” to restore. The organization also notes that, “it is important that planners consider whether the **industrial nature** of a utility scale solar use is **compatible** with the locality’s vision. The **use of**

³⁰ Definition of compatibility: The concept that a building is in harmony with its uses and environment. Dictionary of Real Estate Appraisal, 5th Edition.

³¹ Bell, op cit.: 458.

³² Darren Coffey, AICP, “Planning for Utility-Scale Solar Energy Facilities,” September/October 2019: 2.

³³ Ibid.: 3.

primefarmland and ecologically sensitive lands (e.g. riparian buffers, critical habitats, hardwood forests) for these facilities should be **scrutinized**.³⁴

According to the APA:

Solar facilities can be appropriately located in areas where they are **difficult to detect**, the **prior use** of the land has been **marginal** and there is no designated future use specified (i.e., not in growth areas, **not on prime farmland** and **not near recreational or historic areas**). Proposed facilities adjacent to corporate boundaries, public rights-of-way or recreational or cultural resources are likely to be more controversial than facilities that are well placed **away from existing homes**, have natural buffers and don't change the character of the area from the view of local residents and other stakeholders.³⁵

Tourism is recognized as a key sector for economic growth in many regions and any utility-scale solar facilities might be visible from a scenic by-way, historic site, recreational amenity, or similar resources could have **negative consequences** for those tourist attractions.³⁶

The APA acknowledges that “**negative impacts to property values are rarely demonstrated** and are **usually directly addressed by applicants** as part of their **project submittal**.”³⁷

EVIDENCE OF DETRIMENTAL CONDITIONS FROM THE MARKET

CONTAMINANTS

The solar panels contain toxic materials such as cadmium telluride, lead and chromium and other toxic materials. Among the problems with such toxins, is that most solar panels are manufactured in China, where the manufacturing process is beyond the United States' control and the panel composition is often unknown. Moreover, current zoning applications do not require that the solar developer identify the source of the panels or the model number.

³⁴ Ibid.: 4.

³⁵ Ibid.: 4.

³⁶ Ibid.: 7.

³⁷ Ibid.: 7.

GenX: Among the most concerning contaminants in solar panels is GenX. According to a DuPont marketing publication:

DuPont Teflon **fluoropolymer films are ideal as protective sheets for solar modules** because they have a unique balance of properties. They are smooth, flexible, lightweight, and long lasting with superior power output. Teflon films also have proven performance in both solar thermal and **photovoltaic (PV) applications**, offering a preferred, technologically advanced alternative to traditional glass.”³⁸

This contaminant was first identified in 2015 in the Cape Fear River downstream from a DuPont chemical plant, the Fayetteville Works, where it had polluted drinking water supplies and private wells. According to an EPA physical scientist, Dr. Mark J. Strynar, “GenX technically is not a chemical but rather a chemical process. The GenX process produces two PFAS (perfluorinated alkylated substances) compounds commonly referred to as FRD903 and FRD 902...and the GenX chemicals are included in the broad classification of PFAS compounds.”³⁹ According to the EPA, “PFASs (which include GenX precursors PFOA and PFOS and the GenX chemical) are in a class of man-made chemicals not found naturally in the environment... Both chemicals are very persistent in the environment and in the human body when exposure occurs... The long-term health effects of chemicals related to the GenX process in humans is unknown, but studies submitted to the EPA by DuPont from 2006 to 2013 show that it caused tumors and reproductive problems in lab animals.”⁴⁰ Dr. Strynar has confirmed that certain PFASs are used in the production of solar panels by documenting 39 records from the SciFinder database used by the EPA to identify applications of PFAS with solar panels. Dr. Strynar has concluded that solar panels have the capacity to be sources of PFAS.

³⁸ DuPont, “DuPont Teflon Films for Photovoltaic Modules: Lightweight, Long Lasting, Flexible Films Offer Greater Power Output,” December 2006.

³⁹ Donna, King, “Solar panels could be a source of GenX and other perfluorinated contaminants; Environmental group has revealed PFAS contamination in 11 counties in N.C.,” North State Journal, February 19, 2018.

⁴⁰ Ibid.

Reportedly, PFAS leach out continuously over their life. Among the drawbacks of the toughness of PFAS is that the chemical degrades slowly, if at all, once it is released into the environment. It is also unaffected by most drinking water treatment. In 2017, the Cape Fear Public Water Utility Authority filed a federal lawsuit against DuPont and Chemours for polluting water, river sediments, soil and air.⁴¹

One of the first to raise concerns about GenX in solar panels was with state Utilities Commissions were the neighbors opposing the industrial-scale Wilkinson Solar Plant in Beaufort County. They expressed “concerns about toxic chemicals, fluids, and substances leaking into the soil and groundwater as solar installations age and deteriorate or suffer damage from windstorms or other disasters.”⁴²

In addition to citizen concern, “Donald van der Vaart, former secretary of the N.C. Department of Environmental Quality, who holds a doctorate in chemical engineering, sees reasons for concern given North Carolina’s more than 7,500 solar installations. ‘North Carolina’s solar power capacity is now the second highest in the nation. **EPA researchers recognize that solar panels may be a source of GenX compounds...** I would expect Duke Energy and the Public Utilities Commission would want to see test results to protect them from future liability.’”⁴³

“Noting that GenX ‘may present an unreasonable risk of injury to human health and the environment,’ EPA requires that the company keep 99 percent of the potential pollutants from entering the environment.”⁴⁴

On February 14, 2019, the EPA unveiled the Agency’s Per- and PolyfluoroalkylSubstances (PFAS) Action Plan to identify, monitor and define clean up

⁴¹Catherine Clabby, “Local Scientists Uncovered Cape Fear GenX Story,” *NC Health News*, October 18, 2017.

⁴² Dan Way, “EPA confirms GenX-related compounds used in solar panels,” *CJ Exclusives*, August 27, 2018.

⁴³ Ibid.

⁴⁴ Vaughn Hagerty, “Chemours vows to reduce pollutants, but concern persist downstream,” *Carolina Public Press*, January 5, 2018 newsobserver.com.

strategies for these substances. The **action plan is the most comprehensive cross-agency plan to address an emerging chemical of concern ever undertaken by the EPA.**⁴⁵

Subsequently, On February 26, 2020, the EPA (U.S. Environmental Protection Agency) issued an update on the Action Plan. Listed among the key highlights from the past year include:

- On February 20, 2020, EPA issued a supplemental proposal to ensure that new uses of certain persistent long-chain PFAS chemicals in surface coatings cannot be manufactured or imported into the United States without notification and review under TSCA
- On November 22, 2019, EPA announced availability for \$4.8 million in funding for new research on managing PFAS in agriculture.⁴⁶

Solar farms with their thousands or millions of solar panels are of concern to the EPA because they concentrate the PFAS source in a relatively small area. In other words, a single panel may not be a problem, but a large collection of them changes the equation.

Zinc: Many solar panels are supported by galvanized steel platforms. The steel oxidizes over time and releases zinc into the soil, which can be toxic to plants at certain levels. Zinc is also detrimental to micro-organisms in the soil. Therefore, the impact of zinc is on and below the surface of the soil compounding the poor prospects of potential future reclamation of the land.

EROSION

One of the most dramatic examples of erosion is the result of the construction of a 500 MW SEGPS on 6,300 acres in Spotsylvania County, Virginia by sPower. Michael O'Brier, whose property has been impacted by the project was cited in one of the project's zoning violations. According to Mr. O'Bier, "it's been a war zone." Impacts from

⁴⁵ U.S. Environmental Protection Agency News Release, February 26, 2020, "EPA Releases Action Plan: Program Update."

⁴⁶ Ibid.

construction of the project range from muddy runoff streaming through his property to having portable toilets placed across his property line by the developers get submerged in muddy water after a rain storm.⁴⁷

As a result of the damage to Mr. O’Bier’s farm the solar developer, Sustainable Property Holdings, LLC, purchased his 3.00 acre property on June 8, 2020 for \$460,000. The assessed value at the time of sale, according to the deed, was \$231,200. The tax map parcel number is 17-2-10A and the transaction is recorded Instrument #200011260.

Other serious erosion problems have occurred in Virginia, most notably in Essex and Louisa Counties. The 200.00 acre 20 MW Essex Solar Center off US Hwy 17 (Tidewater Trail at Muddy Gut Road), as a result of clear cutting and excavation experienced a sediment runoff problem shortly after it opened in 2018. In Louisa County, Dominion Energy’s Belcher Solar Project has experience excessive stormwater runoff that has negatively impacted adjacent properties.

Soil scientists note that “the data shows that **solar panels ‘channelize water,’** causing it to leave the site faster, and infiltrate neighboring properties. Some farmers have confirmed their fields became wetter than before the placement of a nearby solar facility, and they were having difficulty getting in to till their land to prepare it for the growing season.”⁴⁸

Tree removal results in barren land whose topsoil is removed and compacted, along with frequent mowing to control vegetation compacts the soil and leads to the soil being resistant to absorbing water.

VIEWSHED

Unlike most adverse influences upon adjacent properties that have a direct impact upon their utility to function (noise, odor, contaminants, traffic, etc.) **SEGPS’s predominant impact is to the viewshed.**

⁴⁷ Mark Hand, “Solar Farm’s Construction Upsets Spotsylvania Residents: Report,” *Patch*, January 29, 2020.

⁴⁸ Dan Way, “Big solar farms may be stressing agricultural ecosystem,” <https://carolinajournal.com/news-article/>, May 25, 2017.

Real Estate appraisers recognize that view affects property value. According to *The Appraisal of Real Estate*, “**The physical characteristics of a parcel of land that an appraiser must consider** are size and slope, frontage, topography, location and view.”⁴⁹

View Characteristics

“A view is normally considered a scene or outlook from a property. Views of bodies of water, city lights, natural settings, parks, golf courses and other amenities are considered desirable features, particularly for residential properties. Such desirable views are typically an enhancement to value. In some cases, however, a view can be considered a negative attribute. A vista of incompatible land, dilapidated buildings, junk vehicles and other **undesirable features can be detrimental to value**. Allegations of **value diminution** most often arise from situations in which the **view is altered or changed**. Examples might include the blockage or obstruction of a desirable view or the creation of an undesirable view. The rezoning of a neighboring property to allow for an undesirable land use could legitimately result in a negative impact on value when such rezoning was not known or anticipated on the date of value.”⁵⁰

Ultimately, issues relating to view diminution are dependent on relevant market data. The value of an obstructed view can be measured by the difference between properties with and without similar views.⁵¹

“View diminution, therefore, is any impact on the ability to see or be seen that is perceived by the market as negative. As usual, **what the market considers to be a negative impact depends on the actual property in question.**”⁵²

The impact of views upon property values has been studied extensively for the past 25 years. These studies have indicated a range of marginal price effect for homes abutting amenities such as lakefront vacant lots: 91.00 to 223.00 percent; ocean front lots: 47.00 to

⁴⁹ Appraisal Institute, *The Appraisal of Real Estate*, 11th Ed. (Chicago, Illinois: Appraisal Institute, 1996): 323.

⁵⁰ Bell, *Ibid.*: 146.

⁵¹ *Ibid.*

⁵² Anderson, *Ibid.*: 28.

147.20 percent; lake front 7.50 to 126.70 percent; golf course vacant lots: 7.00 to 85.00 percent; rivers/streams: 3.00 to 54.4 percent; forest/farmlands: 1.50 to 35.00 percent; golf course: 7.00 to 28.00 percent; trails and greenways: 3.40 to 20.20 percent; and urban parks: 1.00 to 20.00 percent.⁵³

“Clearly, **view amenities are valuable**, and different types of good views can have significantly different quantitative effects on property values.”⁵⁴

With respect to the **intrusion of SEGPPS into the landscape, what happens when desirable views are blocked?** “In real estate, a view can generally be defined as the ability to see or be seen. View diminution, therefore, is any impact on the ability to see or be seen that is perceived by the market as negative.”⁵⁵

“Since views from a residential property often carry a large premium, **changes to a desirable view may be perceived by the market as having a negative impact on value.** When a desirable view is blocked, the question of damages is often a question of a butter’s rights—a property owner’s rights to air, light, view, visibility and access.”⁵⁶

This concept is particularly significant in areas where the market is largely driven by the scenic landscape, such as the inner Bluegrass and historic districts.

Central Kentucky Market

With respect to market expectations, the counties that constitute the Lexington Metropolitan Statistical Area (MSA) including Bourbon, Fayette, Woodford, Jessamine, Scott, and Clark constitute a significant portion of what is uniquely and geographically known as the Inner Bluegrass. This highly fertile area has been **recognized since the antebellum period** as a center for breeding quality livestock, especially thoroughbred racehorses. Not only does the area have a reputation going back over two hundred years, but

⁵³ Jay Mittal, “Valuation Capitalization Effects of Golf Courses, Waterfronts, Parks, Open Spaces, and Green Landscapes—A Cross Disciplinary Review,” Auburn University, *JOSRE*, Vol. 8. No. 1, 2016: 62.

⁵⁴ James R. Rinehart, PhD. and Jeffery J. Pompe, PhD., “Estimating the Effect of a View on Undeveloped Property Values,” *Appraisal Journal*, January 1999: 61.

⁵⁵ Orell Anderson, MAI, “The Value of a View,” *Right of Way*, March/April 2017: 28.

⁵⁶ *Ibid.*: 28.

the breath of its reputation extends world-wide. In fact, in 2006, the World Monument Fund included the Bluegrass region on its global list of 100 most endangered sites.

Few agricultural regions of the country have a real estate market demand that spans the globe. This is not only true because of the fertility of the soil, but the beauty of the landscape. Despite its threat due to development, the surrounding natural landscape is enhanced by the manicured condition of thoroughbred farms that populate the entire area. **This unique, protected and scenic landscape is a large component of the property characteristics that constitute demand for the land. As a result of the scenic viewsheds** roadways throughout the region are designated by the state as **scenic byways.**

As further indication of the emphasis the region places on the preservation of agricultural lands, farm owners have placed approximately **70,000 acres under conservation easements** in the area and **Bourbon County**, to the north, has **six rural historic districts**—more than any other county in Kentucky.

Other areas of Kentucky and throughout the United States have unique landscapes that are inherent determinants of real estate demand and value.

Alternative Detrimental Conditions Can Be a Proxy for Solar Farms

Although only limited peer reviewed published studies of solar farms currently exist, studies of the impact of high voltage transmission lines have the most reliance to the impact of solar farms on surrounding property.

Of the “three critical drivers of HVTL effect on residential property values that are generally assumed—proximity, visibility and encumbrance,” the first two apply to solar farms.⁵⁷

“The two concerns of aesthetics and property values are intrinsically linked. It is well established that a **home’s value will be increased if high-quality scenic vista** is enjoyed from the property (e.g. Seiler, et al, 2001). Alternatively, it is reasonable to assume that if a

⁵⁷ James A. Chalmers, “High-Voltage Transmission Lines and Residential Property Values in New England: What Has Been Learned,” Appraisal Journal, Fall, 2019: 266.

home's scenic vista overlaps with a **view of a disamenity, the home might be devalued**, as has been found for high-voltage transmission lines (HVTL) (Kroll and Priestly, 1992; DesRosier, 2002)...Additionally, there is evidence that proximity to a disamenity, even if that disamenity is not visible and is not so close to as have obvious nuisance effects, may still decrease a home's sales price, as has been found in the case for a land fill (Thayer et al., 1992).”⁵⁸

The 2002 published study by Des-Rosier measured how views of a disamenity affected sales prices. This study found that **homes adjacent to a power line and facing a HVTL tower sold for as much as 20.0 percent less than similar homes that are not facing a HVTL tower.**”⁵⁹

Solar farms could be substituted for wind turbines in the following observation from the Hoen study:

It is unclear how well the hedonic literature on other disamenities applies to wind turbines, but there are likely some similarities. For instance, in general, the existing literature seems to suggest that concerns about lasting health effects provides the largest diminution in sales prices, followed by concerns for one's enjoyment of the property, such as **auditory and visual nuisances** (emphasis added), and that all the effects tend to fade with distance to the disamenity – as the perturbation becomes less annoying.⁶⁰

⁵⁸ Ben Hoen, et al, “The Impact of Wind Power Projects on Residential Property Values in the United States: A Multi-site Hedonic Analysis,” Ernest Orlando Lawrence Berkley National Laboratory Publication No. LBNL-289E, December 2009: 52.

⁵⁹ Ibid.: 55.

⁶⁰ Ibid.: 55.

SOLAR ENERGY GENERATION POWER SYSTEMS DAMAGE STUDIES

Because the proliferation of SEGPSs is relatively recent, both peer reviewed journal articles, as well as professional appraisal studies concerning the subject are limited. However, the following currently available data document the adverse effect of SEGPS and their negative impact on property value.

PEER REVIEWED JOURNALS

UNIVERSITY OF TEXAS STUDY

The first study to discuss any diminution in value as a result of proximity to SEGPSs is a May 2018 study conducted by economists at the LBJ School of Public Affairs at the University of Texas at Austin.⁶¹ This Policy Research Project “investigates where large solar installations are located, the housing and income characteristics of the surrounding areas, and if the installations affect nearby residential properties.”⁶² The study area ranged from a 100.00 foot to 3.00 mile radius from solar facilities ranging from 1MW to 100MW+.

The study was based on geospatial analysis and a survey of residential property assessors’ opinions of the impact. The respondents included both assessors who have “and have not assessed nearby solar installations.”⁶³ The study “results show that while a majority of survey respondents estimated a value impact of zero, some estimated a **negative impact associated with close distances between the home and the facility, and larger facility size.**”⁶⁴

Although the study was based on assessor opinions, rather than empirical data, the conclusions of the assessors that a negative impact is associated with close distance between

⁶¹ Leila Al-Hamoodah, et al, “An Exploration of Property-Value Impacts Near Utility-Scale Solar Installations,” LBJ School of Public Affairs, The University of Texas at Austin, May 2018.

⁶² Ibid.: 1.

⁶³ Ibid.: 15.

⁶⁴ Ibid.:1

the home and the facility, as well as larger facility size is a correct assumption. This trend is typical of most damage studies, including the environmental damage studies performed by this office that are included in the Addendum.

This study is not considered a reliable indication of potential diminution in value because it measures only the opinion of assessors, who generally are not licensed, certified or designated appraisers. Their charge is not the estimation of market value, but the equalization of property assessment. Though they are concerned with recent sales, the emphasis is on the relationship of assessments to sale ratios in the aggregate.

UNIVERSITY OF RHODE ISLAND STUDY

A study documenting the effect of solar development in Rhode Island and Massachusetts was published in September 2020.⁶⁵“The purpose of this paper is to quantify the externalities associated with proximity to utility-scale solar installations using hedonic valuation.”⁶⁶ This study used “a difference-in-difference (DID) identification strategy, which compares changes in housing prices after construction for nearby properties with those further away.”⁶⁷ The study included 208 solar installations, 71,337 housing transactions occurring within one mile (treated group), and 347,921 transactions between one to three miles (control group).

The study’s “results suggest that solar installations negatively affect nearby property values...Property values in the treatment group decline on average 1.7% (or \$5,671) relative to the control group.”⁶⁸ The study also found, with respect to proximity, substantially larger negative impacts on homes located within 0.1 mile of solar installations (-7.0%, or \$23,682).

⁶⁵ Vasundhara Gaur and Corey Long, “Property Value Impacts of Commercial-Scale Solar Energy in Massachusetts and Rhode Island,” Department of Environmental and National Resource Economics, University of Rhode Island, September 29, 2020.

⁶⁶ Ibid.: 3.

⁶⁷ Ibid.: 4.

⁶⁸ Ibid.: 4.

This confirms the hypothesis that nearby solar installations are a **disamenity**.⁶⁹ Also, “these results suggest extremely large disamenities for properties in very close proximity.”⁷⁰

This study, which is based on hundreds of thousands of transactions, **unequivocally has determined that SEGPSs negatively affect nearby property values**, contrary to the claims of solar developers’ appraisers that they have no negative impact.

It is notable, that the conclusions represent an average of all the 208 sites, with both large and small installations, of which some may or may not have a negative effect upon the utility of the nearby property. **If the utility of the property is not diminished, or if the expectations of the market are not impacted by the solar facility, then no diminution should be expected.** This average includes such properties. For example, this would include modestly priced houses with small lots in large subdivisions opposite a relatively small scaled industrial solar facility where the owner would not have expectations of a view nor would the utility of their homes be impacted by the solar installation. This is evident in the following discussion of the AM Best solar farm.

PROFESSIONAL APPRAISER REPORTS

FRED H. BECK & ASSOCIATES, LLC

The first widely available report documenting property value diminution as a result of proximity to SEGPSs was prepared in 2013 by Fred H. Beck, Jr., MAI, CCIM, MRICS of Denver, North Carolina. The report was prepared for the proposed Webbs Road Solar Farm adjacent to the Sailview Subdivision on Webbs Road and Burton Lane in Denver, Lincoln County, North Carolina. This report summarized the available relevant data from North Carolina at the time it was prepared.

⁶⁹ Ibid.: 15.

⁷⁰ Ibid.: 17

Strata Solar Case Study

The first case study involves a sale contract that was cancel upon knowledge of the proposed Strata solar farm on Webbs Road. Mr. and Mrs. Daniel McLean owned a 0.60 acre tract with a 2,000 square foot residence at 4301 Burton Lane opposite Sailview Subdivision. The owners listed the property for sale in July 2013 for \$225,000. In mid-August 2013, they received an offer to purchase contract for \$200,000 with settlement to occur on October 30th. During this period, the public became aware of Strata Solar's proposal. With this knowledge, **the potential purchasers canceled the contract.**

According to the Beck report, the potential purchaser stated:

The public announcement of the solar farm was the impetus to cancel the contract. Mr. Hibben is in the construction business. He commented the solar farm would be unattractive, and the view would not be complimentary to single family dwellings. He mentioned he could not justify putting money in a dwelling that would be negatively affected by the solar farm for many years. We asked Mr. Hibben if he would reconsider if the purchase price was reduced by \$50,000. He said that he would not even consider a more substantial reduction in the purchase price.

**Table 1. Impact of Solar Farms on Property Value – Denver, Lincoln County, NC
By Fred H. Beck & Associates**

Location	Denver, NC
Property Owner	Mr. & Mrs. Daniel McLean
Property Description	2,000 Ft ² House on 0.6 acres
Advertised Price & Date Listed	\$225,000 in July 2013
Event causing potential Buyer to reduce offer	Impaired view caused by Solar Farm
Offer Amount & Date Made	\$200,000/August 2013
Potential Settlement Date	October 30, 2013
Event causing Potential Buyer to cancel purchase	Impaired view of Solar Farm caused by potential Buyer to cancel purchase

Clay County Solar Farm Case Studies

Tusquitte Trace Subdivision is a 15 lot, primarily second home development in Hayesville, Clay County, NC. The subdivision was developed in 2006 prior to the 2007 to 2009 recession with houses in the \$325,000 range. No lots were sold during the recession. However, from 2009 through 2010, three lots were sold with prices increasing from \$73,000 to \$75,000. In 2011 an adjacent farmer leased his farm for a small solar facility which was opposite the entrance to the subdivision. As of the date of the report, October 2013, **no additional lots sold**. Real Estate brokers have reported, the “buyers are turned off by the solar array on the adjacent farm, and they chose other lots without impaired views.”

In June 2011, Clay County residents successfully petitioned the Board of Equalization to **reduce their assessments an average of -30.0 percent** as a result of the solar farms in the county “hampering their views.”

**Table 2. Impact of Solar Farms on Property Values – Hayesville, Clay County, NC
By Fred H. Beck & Associates**

Location	Hayesville, NC
Type of Development	Subdivision
Date of Development	2006
Price Range of homes	In \$325,000 range
Economic Climate	Recession, 2007 - 2009
Activity in 2009 - 2010	Three lots sold in \$73,000 - \$75,000 range
In 2011, Solar Developer Leases Land across from Subdivision Entrance	Potential purchasers of land adjacent to Subdivision entrance are turned off by impaired view and lose interest.
Subsequent Activity in 2011 - 2013	Potential Buyers were turned off by the solar array to be erected opposite the Entrnc
Subsequent Action by land purchasers	Purchasers changed their minds and chose other lots in Subdivision without impaired views.
Community Response	County residents petitioned Clay County Administration to reduce their assessment by an average of 30% as a result of “impaired views.”

Non-residential Use View Impairment Case Study

This case study examines the effect of an incompatible commercial use on a higher priced residential subdivision in Elgin, Richland County, South Carolina. Southridge is a gated community of houses ranging from \$400,000 to \$800,000 that were constructed in the mid-2000s. In the fall of 2010, Verizon Wireless completed a 146,000 square foot call center on 29.00 acres adjacent to Southridge. The appraiser analyzed sales within the subdivision both before and after construction of the call center. Prior to construction, the sales appreciated in value, while after construction, **they declined from -10.70 percent to -23.10 percent, or an average of -15.2 percent.**

AM Best Solar Farm Study

This study examines the effect of smaller scaled solar farms on moderately priced houses. As of the date of the report, AM Best was one of the few solar facilities adjacent to a developing subdivision. This 6.65MW Strata Solar plant is in Goldsboro, Wayne County, North Carolina and adjoins Spring Garden Subdivision to the east. Construction, which began in March 2013 was completed in June 2013 on land zoned I-2 (General Industrial). This zoning classification “is established to accommodate the widest range of manufacturing, wholesale and distribution uses, provided the use does not create smoke, dust, noise, vibration or fumes beyond the property line.”

The appraiser included a graph indicating the average median housing prices within a 1.00 mile radius of the 42 completed major NC solar farms. The majority of solar farms adjoin houses ranging from \$90,000 to \$140,000 compared to the \$153,000 median price of Spring Garden. Also, a chart is included that represents the average household income within 1.00 mile of the NC solar farms indicating \$50,000 to be predominant, which compares to the average Spring Garden household income of \$51,543.

This subdivision began development in the late 1990s and at the time of the report had 60 home sites. Most of the lots have dense trees separating them from the solar farm,

however, it is visible during the winter months to potential lots not yet developed. With no indication of diminution in value, the appraiser concluded that due to the industrial zoning of the solar farm, this market would be aware of the potentially incompatible use to residences and at this price level, the expectations of this market would not discount for proximity to such a use.

In reviewing reports prepared for various solar developers, this office examined recent sales from this subdivision. Based on their indication of no diminution in value when compared to earlier sales from the same subdivision with more protection from the solar plant, this office concurs with the Beck conclusion. This is **an example of a market's perception and expectation of property utility**. Because of the **pre-existing industrial zoning of the solar plant**, the market does **not perceive there to be loss of utility** and therefore, **no damage to their property value**.

MARK W. HECKMAN REAL ESTATE APPRAISERS

Mark W. Heckman, a Pennsylvania certified general real estate appraiser testified in September 2020 at a Mount Joy Township, Gettysburg, Adams County, PA Board of Supervisors meeting concerning the application of Brookview Solar I, proposed a 75 MW SEGPS on 1,500 acres. Based on the following case studies, the appraiser concluded that the property values of the 114 residences within 1,000 linear feet of the SEGPSs would decline up to 20.00 percent.

Adams County View Case Study

This appraiser compared sales of properties with a Multiple Listing Service (MLS) reported "view" with those without such a designation. "View" was defined as: City, Creek/Stream, Golf Course, Lake, Mountain, Panoramic, Pasture, Pond, River, Scenic Vista, Trees/Woods, Valley and Water.

The MLS search was based on a 3-4 bedroom ranch style single family dwelling on a lot of less than 5.00 acres with and without a "view." The result of the search included a data

set of 85 properties with a “view” which indicated an average sale price of \$251,274 and median sale price of \$235,000. The data set without a “view” included 410 properties with an average sale price of \$227,808 and a median sale price of \$215,000. **The difference between the average sale prices was -9.34 percent and the difference between the median sale prices was -8.51%.** (However, the appraiser concluded in the affirmative that the view added 10.31 percent to the average sale price and 9.30 percent to the median sale price).

**Table 3. Impact of View on Property Value– Adams County, PA
By Mark W. Heckman Real Estate Appraisers**

	With a “View”	Without a “View”
Number of Properties included in study	85	410
Average Sale Price	\$251,274	\$228,808
Median Sale Price	\$235,000	\$215,000

- The Impact of View on Property Value is summarized in the Table below:

	Dollar Increase in Price based on “View”	Percent Increase in Price based on “View”
Based on Average Sale Price	\$22,466	9.34%
Based on Median Sale Price	\$20,000	8.87%

The appraiser concluded that, “In Adams County a Good View adds approximately 10% to the value of residential property. So, it is **reasonable to conclude that a loss of 15-20% for degradation of view** is reasonable and credible since many properties would go from Good View to Objectionable View if they now had to see thousands of solar panels.”

MADISON COUNTY INDIANA CASE STUDY

On August 29, 2019 Bethany Keller appeared before the Madison County, Indiana Board of Zoning Appeals to testify regarding her purchase of an 18.42 acre tract improved with a 2,000 square foot single family residence at 3764 W State Road 28 in Alexandria, Indiana. The property would be surrounded by the proposed Lone Oak Solar Plant. Aware of

the proposed 120 MW solar power plant on 1,890.00 acres, the potential purchasers made an offer of \$117,000 on July 31, 2019. The property was appraised on August 14, 2019 for the loan. The appraiser did not know about the proposed solar plant when he appraised the property. The appraised value was \$140,000, or a **difference of ±16.43 percent**.

According to Mrs. Keller's testimony, "We wanted this property. Then after we found out about the solar farm, we were very hesitate. We are moving forward with it, because this is our dream... We are getting this 16.5% less than appraisal value, and we are still gambling our financial future, our son's financial future, and our future health on this. So if you think this isn't going to affect property values, we are not willing to pay more than this, because we are scared."

GREENFIELD ADVISORS

This conclusion of no impact is contradicted by **Greenfield Advisors** of Seattle, Washington. This firm is one of the most published in the field of environmental damage studies in the United States. An April 5, 2019 blog addressed the impact of wind turbines on property value.⁷¹

According to the blog, "wind turbines interferes with the use and enjoyment of residences. Noise pollution is created by wind turbines, more particularly, groups of turbines at wind farms. Shadows and flicker may impact nearby homes, depending on their proximity to the wind farm. Health impacts may arise for nearby residents whose sleep is interrupted by the noise and light issues noted above. **Impacts to view** may be considered a **disamenity** to residents who experience limited overall visibility and/or a change from **natural vistas to a more industrial view.**"

With respect to stigma and decreased demand, "the anticipation of adverse effects from wind farms has been noted in some studies to have more impact on value, than the effects of the wind farms themselves. While all the above may not deter every buyer or

⁷¹ Abigail Mooney, "Do 'Windmills' Affect Property Value?," Greenfield Advisors, April 5, 2019.

homeowner, the stigma of such issues alone can diminish the pool of potential buyer, thus causing some negative impact on the price of the property.”

“Among the studies we reviewed, the **highest diminution** we saw was **-40%**, and that was in circumstances where the wind turbine was located directly on the property. While that loss percentage was on the high end, **most studies** show that the losses in property value from wind farms in the United States is somewhere between **0% and -35%**.

GOOD NEIGHBOR AGREEMENTS

WESTERN MUSTANG SOLAR, LLC’S NEIGHBOR AGREEMENT

In reviewing numerous reports, prepared by MAI designated appraisers for various solar developers, without exception, the appraisers have concluded that, “no consistent negative impact has occurred to adjacent property that could be attributed to proximity to the adjacent solar farm.”⁷²

Furthermore, the Solar Energy Industries Association (SEIA) published the following claim that “large-scale solar arrays often have no measurable impact on the value of adjacent properties, and in some cases many even have positive effects.”⁷³ This publication also included the following quotes from appraisers used by the solar developers.

- A study conducted across Illinois determined that the value of properties within one mile increased by an average of 2 percent.⁷⁴
- An examination of 5 counties in Indiana indicated that upon completion of a solar farm, properties within 2 miles were an average of 2 percent more valuable compared to their value prior to installation.⁷⁵
- An appraisal study spanning from North Carolina to Tennessee shows that properties adjoining solar farms

⁷²CohnReznick, “Adjacent Property Values Solar Impact Study: A Study of Existing Solar Facilities – Lapeer County, MI; Chisago County, MN; Marion County, IN; LaSalle County, IL, Cumberland, Rutherford and Wilson Counties, NC; Isle of Wright County, VA;” June 10, 2020.

⁷³ SEIA, “Solar and Property Values, Correcting the Myth that Solar Harms Property Value,” July 2019, www.seia.org.

⁷⁴ Richard C. Kirkland, “Grandy Solar Impact Study,” Kirkland Appraisals, February 25, 2016.

⁷⁵ Andrew Lines, “Property Impact Study: Solar Farms in Illinois,” *McLeanCounty.gov*, Nexia International, August 8, 2018.

match the value of similar properties that do not adjoin solar farms within 1 percent.⁷⁶

These conclusions, however, are belied by the actions of their solar developer clients who have not only **acquired, in fee, adjoining residential properties** to their solar farms and resold them (North Star Solar Farm, North Branch, MN), but have **paid nearby adjoining property owners** a “good neighbor” fee to **refrain from objecting** to their proposals. The question is: if industrial-scale solar farms are benign and could possibly even enhance adjacent property values, then why is it necessary for solar developers to not only pay adjoining owners, but purchase their properties?

The first “Neighbor Agreement” from Wisconsin, offering \$17,000, is such an offer. This agreement applies to adjacent owners whose property abuts the proposed solar project on two or more sides. The agreement **binds the adjacent property owners “to cooperate** with Western Mustang’s development, construction and operation of the project.”

By cooperation, the solar developer expects the property owner to **“fully support”** the developer’s efforts to obtain any permits and approvals and to agree **“not to oppose, in any way, whether directly or indirectly, any such application or approval at any administrative, judicial or legislative level.”**

In return for this **“cooperation,”** the developer will pay the property owner a “signing payment” of **\$2,000.00** within 45 days after the effective date. In addition, within 45 days of vertical construction of the project, the developer will pay a one-time **additional payment of \$15,000.** The agreement is to remain **confidential.**

The Western Mustang Solar, LLC agreement is included in the Addendum.

LIGHTHOUSE BP’S NEIGHBOR AGREEMENT

A second “Neighbor Agreement,” was discussed in a November 23, 2020 article in *The Lima News* of Lima, Ohio. This article described the second public forum which was

⁷⁶ Patricia McGarr, Property Value Impact Study, Cohn Reznick, LLP Valuation Advisory Services, May 2, 2018.

required by the Ohio Power Siting Board (OPSB) that approves or rejects the proposed 2,600.00 acre 300 MW Birch Solar Project. Lighthouse BP, the developer, stated that: “Landowners who are adjacent to the project will be offered anywhere from **\$5,000 to \$50,000**, depending on their closeness to the solar farm.”

POSEY SOLAR NEIGHBOR AGREEMENT

A third “Neighbor Agreement” was recently issued by Posey Solar to the community of Posey County, Indiana. This agreement offered “**an upfront payment equal to 10% of appraised home value** for neighbors within 300 feet of the solar field. This is in addition to the **annual \$1,000 payment (\$35,000 for project life)** during operations for those who would like to sign a “Good Neighbor Agreement.”

VESPER ENERGY NEIGHBOR AGREEMENT

A fourth agreement was issued by Vesper Energy described as the “Kingwood Solar Neighboring Landowner Compensation Agreement.” The letter sent to the Greene County, Ohio residents, “invites you to receive revenue as a participant of the Kingwood Solar Project through a Good Neighbor Agreement.” Although the stipulations regarding receiving the revenue are not stated within the offer to sign letter, the “payment amounts subject to terms of Good Neighbor Agreement” are delineated.

Agreement Signing: \$1,000.00

Payment Schedule: Lump-sum payment issued at Notice to Proceed with Project Construction

Tiered Payment Structure:
Tier 1 = \$25,000
Tier 2 = \$15,000
Tier 3 = \$10,000
Tier 4 = \$ 7,500

NORTHSTAR SOLAR BUYOUT

The North Star solar facility is the example of a solar farm that resulted in the purchase and subsequent resale of adjoining properties.

In addition, the documents filed with the Minnesota Public Utilities Commission (MPUC) belie the claim that the seven properties that are surrounded by solar panels were purchased for interim employee housing. A letter dated March 15, 2016 from Community Energy Solar to the Executive Secretary of MPUC states:

North Star Solar PV LLC (“North Star”) respectfully submits this filing in accordance with the February 16, 2016 Order Granting Site and Route Permits with Conditions, requiring that: ‘North Star shall notify the Commission of the resolution of the negotiations with the seven remaining landowners surrounded by the solar panels by providing a copy of any signed agreements or **agreed-upon mitigation** by March 15, 2016.

While the precise **terms of the resolutions** reached with these landowners are **confidential**, North Star attached a recorded Memorandum of Purchase Option Agreement. The letter is included in the Addendum.

According to the Minnesota Public Utilities Commission in a February 4, 2021 email to this office:

At no time did the Minnesota Public Utilities Commission require the developer, North Star Solar LLC, to purchase any properties as part of the site permit application review process or as part of granting a site permit. A condition or requirement to purchase property is not something the Public Utilities Commission can require of an applicant/permittee. North Star Solar LLC, on its own accord, offered purchase options to landowners within or near their proposed project boundary.

At the time of its completion, in December 2016, North Star Solar PV was the largest industrial scale plant in the Midwest. This 1,000:00 acre, 138 MW solar farm is in North Branch, Minnesota. It is notable that it cost the North Star developer \$627,000 more to acquire these properties than the price for which they were sold.

These four examples of voluntary payments to the surrounding property owners by the solar developer are significant because their own appraisers have determined that their proposed solar farms will have no adverse impact on adjacent property values. However, these offers, and purchases can only reasonably be interpreted as a **tacit admission of potential value impairment**.

MARY MCCLINTON CLAY, MAI

This office has recently reviewed two reports prepared by Cohn Reznick and Marous & Company for proposed solar farms in Michigan and Indiana, respectively. Included within both reports was an analysis of a case study of the North Star Solar Farm in North Branch, Minnesota. As a result of the errors found within these reports, this office has analyzed the same data that both reports used and refutes their conclusion that there is no negative impact upon adjacent property values. The respective developers' appraisers' analyses are included in the Addendum.

NORTH STAR SOLAR PV CASE STUDY – SALE-RESALES ANALYSIS

As indicated in the previous Neighborhood Agreement discussion, the North Star SPGPS is the example of such a facility that required the purchase and subsequent resale of adjoining properties.

At the time of its completion, in December 2016, North Star Solar PV was the largest SEGPS in the Midwest. This 1,000.00 acre, 138 MW facility is in North Branch, Minnesota. As a result of pressure from property owners who abutted at least three sides of the SEGPS, the developer purchased their seven properties and subsequently resold them. The following charts summarize the sale-resale data of these seven properties.⁷⁷ A map depicting these properties follow and are followed by a map depicting the solar farm.

The chart depicting the seven sales purchased and resold by the developer, CER Land, LLC, for deed transfer purposes, includes three transfers for each property. The first deed represents the sale to the original property owner, which is an arms-length or market sale because it meets the definition of market value.⁷⁸ The second sale is from the original

⁷⁷ The sales data was obtained from county records, MLS data, and information present to the Minnesota Public Utilities Commission on March 15, 2016 regarding the resolution of the negotiations with landowners.

⁷⁸ Definition of Market or Arms-length Sale: A transaction between unrelated parties who are each acting in his or her own best interest. *The Dictionary of Real Estate Appraisal*, 5th ed., s.v. "arms-length transaction." Definition of Market Value: The most probable price that the specified property interest should sell for in a competitive market after a reasonable exposure time, as of a specified date, in cash, or in terms equivalent to cash, under all conditions requisite to a fair sale, with the buyer and seller each acting prudently,

NORTH STAR SOLAR PV SALE/RESALE COMPARISON

SALE/ RESALE	PARCEL NO.	ADDRESS	SALE DATE	GRANTOR	GRANTEE	NET SALE PRICE	\$ CHANGE	% CHANGE	ANNUAL % CHNG	SALE TAX ASSESSM'T	ACRES	COMMENTS
1	110072810	10090 367th Street	05/07/10	Corey Holcomb	Scott Dornbusch	\$216,600	NA	NA	NA	NA	10.090	2001 1,990 SF 4LS, 800 SF Fin.
1	110072810	10090 367th Street	08/03/16	Scott Dornbusch	CER Land, LLC	\$360,800	\$144,200	66.57	8.50	\$250,600	10.090	4BR-3B; Adj. SF at W & Rear
1	110072810	10090 367th Street	03/21/18	CER Land, LLC	Scott Dornbusch	\$302,500	(\$58,300)	-16.16	NA	\$269,500	10.090	Time Adjustment from 5/7/10 Sale to 3/21/18, or 7.9 yrs. \$216,600/7.9 Yr/6.8% = \$364,296 \$364,296 v. \$302,500 = -17.0%
5/7/10 Sale Price was \$219,900 with seller paid amount of \$3,300, or \$216,600.												
2	110073210	10095 367th Street	07/09/10	Rense Dresel	Shawn Yerges	\$299,000	NA	NA	NA	NA	9.900	2002 1,677 SF 3LS, 1000 SF Fin Bsmt,
2	110073210	10095 367th Street	05/18/16	Glenn J. Yerges	CER Land, LLC	\$365,000	\$66,000	22.07	3.46	\$277,900	9.900	4BR, 2.5B; Adj. SF 2 Sides, Rear
2	110073210	10095 367th Street	06/15/17	CER Land, LLC	Shawn Campbell	\$328,004	(\$36,996)	-10.14	NA	\$301,500	9.900	Dense Mature Trees Adj. SF Time Adjustment from 7/9/10 Sale to 6/15/17, or 6.9 yrs. \$299,000/6.9 Yr/6.3% = \$455,851 \$455,851 v. \$328,004 = -28.0%
6/15/17 Sale Price was \$336,900 with seller paid amount of \$8,896, or \$328,004. The 2017 sale was encumbered with a 30 year lease on the rear 6.24 acres to North Star Solar PV at a rate of \$1,000 per acre, or \$6,240 annually with an annual increase of 1.0 percent.												
3	90035100	37083 Keystone Ave	08/08/00	P.W. Lee	Douglas Melby	\$100,000	NA	NA	NA	NA	6.000	1964 1,442 SF 1 Sty, 228 SF Fin Bsmt
3	90035100	37083 Keystone Ave	10/11/16	Douglas Melby	CER Land, LLC	\$302,500	\$202,500	202.50	7.08	\$179,300	6.000	3BR-2B; Adj. SF 2 Sides & Rear
3	90035100	37083 Keystone Ave	08/28/17	CER Land, LLC	Richard Brandt	\$252,290	(\$50,210)	-16.60	NA	\$199,140	6.000	Time Adjustment from 8/8/00 Sale to 8/28/17, or 17.1 yrs. \$200,000/17.1 Yr/2.4% = \$300,034 \$300,034 v. \$252,290 = -15.9%
8/28/17 Sale Price was \$257,000 with seller paid amount of \$4,710, or \$252,290. Mr. Mebly stated that subsequent to his sale, he completely renovated his house and constructed a pole barn at a cost of \$100,000.												
4	110072840	10254 367th Street	11/29/05	Nielson Const.	Kory Abell	\$360,000	NA	NA	NA	NA	9.280	2005 2,326 SF 4LS, Unfin. Bsm't,
4	110072840	10254 367th Street	07/27/16	Kory B. Abell	CER Land, LLC	\$535,000	\$175,000	48.81	3.78	\$285,000	9.280	3BR-2.5B: Corner Lot, Opposite
4	110072840	10254 367th Street	10/27/17	CER Land, LLC	Todd J. Huebl	\$324,950	(\$210,050)	-39.26	NA	\$304,600	9.280	SF at W and Front Time Adjustment from 12/16/05 Sale to 10/17/17, or 11.8 yrs. \$390,000/11.8 Yr/0.0% = \$390,000 \$390,000 v. \$324,950 = -16.7%
11/29/07 Sale Price was \$373,000 with seller paid amount of \$13,050, or \$360,000. \$30,000 Pole Barn was constructed in 2006. \$390,000 is the adjusted SP for the 11/29/05 sale. 10/27/17 Sale Price was \$335,000 with seller paid amount of \$10,050, or \$324,950.												

NORTH STAR SOLAR PV SALE/RESALE COMPARISON

SALE/ RESALE	PARCEL NO.	ADDRESS	SALE DATE	GRANTOR	GRANTEE	SALE PRICE	\$ CHANGE	% CHANGE	ANNUAL % CHNG	SALE TAX ASSESSM'T	ACRES	COMMENTS
5	110072820	10132 367th Street	07/02/01	Corey Holcomb	Richard Daniels	\$226,800	NA	NA	NA	NA	9.308	2001Q1,446 SF 3LS, 700 SF Fin Bsmt
5	110072820	10132 367th Street	09/23/16	Richard Daniels	CER Land, LLC	\$371,800	\$145,800	63.58	3.30	\$239,900	9.308	4BR-2.5B: SF at Rear & Front
5	110072820	10132 367th Street	10/20/17	CER Land, LLC	Tyler Winczewski	\$333,000	(\$38,800)	-10.44	NA	\$256,600	9.308	Time Adjustment from 7/3/01 Sale to 10/20/17 , or 16.3 yrs. \$226,800/16.3 Yr/1.8% = \$303,352 28' x 50' Pole Barn Not Included. Constructed after 2001 Sale. 0%
6	110072830	10200 367th Street	10/27/04	Corey Holcomb	Thomas B. Hoch	\$309,000	NA	NA	NA	NA	9.300	2003 1,472 SF TL, 4BR-3.5B, Barn
6	110072830	10200 367th Street	07/27/16	Thomas B. Hoch	CER Land, LLC	\$387,900	\$78,900	25.53	4.71	\$262,800	9.300	Renov. 2009, SF at Front
6	110072830	10200 367th Street	11/28/17	CER Land, LLC	Mikael Koldste	\$320,100	(\$67,800)	-16.77	NA	\$281,200	9.300	Time Adjustment from 11/8/04 Sale to 11/18/17, or 13.0 Yrs. \$324,500/13.0 Yr/0.4% = \$341,785 \$341,560 v. \$320,100 = -6.3%
<p>Pole Barn was constructed in 2006 for \$15,500. 10/27/04 Sale Price is adjusted to \$324,500. 10/28/17 Sale Price was \$330,000 with seller paid amount of \$9,900 or \$320,100.</p>												
7	110052600	37206 Keystone	07/31/12	John M. Mosley	Kristine Anderson	\$212,000	NA	NA	NA	NA	20.110	1996 1,092 SF SE, 900 SF Fin. Bsmt
7	110052600	37206 Keystone	07/20/16	Kristine Jacobsen	CER Land, LLC	\$450,000	\$238,000	112.30		\$258,000	20.110	4BR-2B, Det. Gar. w/Apt
7	110052600	37206 Keystone	06/15/17	CER Land, LLC	Todd R. Iverson	\$282,200	(\$167,800)	-37.3	NA	\$273,700	20.110	Time Adjustment from 6-4-13 Sale to 5-15-17, or 3.9 Yrs. \$212,000/3.9 Yr/8.6% = \$292,552 \$292,552 v. \$282,200 = -3.5%
<p>Contract for Deed on 7/31/12 with Deed transfer on 6/4/13. 6/15/17 Sale Price was \$290,000 with seller paid amount of \$7,800, or \$282,200.</p>												
Total Purchase Price to CRE Land, LLC				\$2,773,000								
Total Sales Price from CRE Land, LLC				\$2,143,044								
Total Loss				\$629,956								
				-22.72%								



Westwood
 768 West (888) 907-5150 westwood.com
 Westwood Professional Services, Inc.

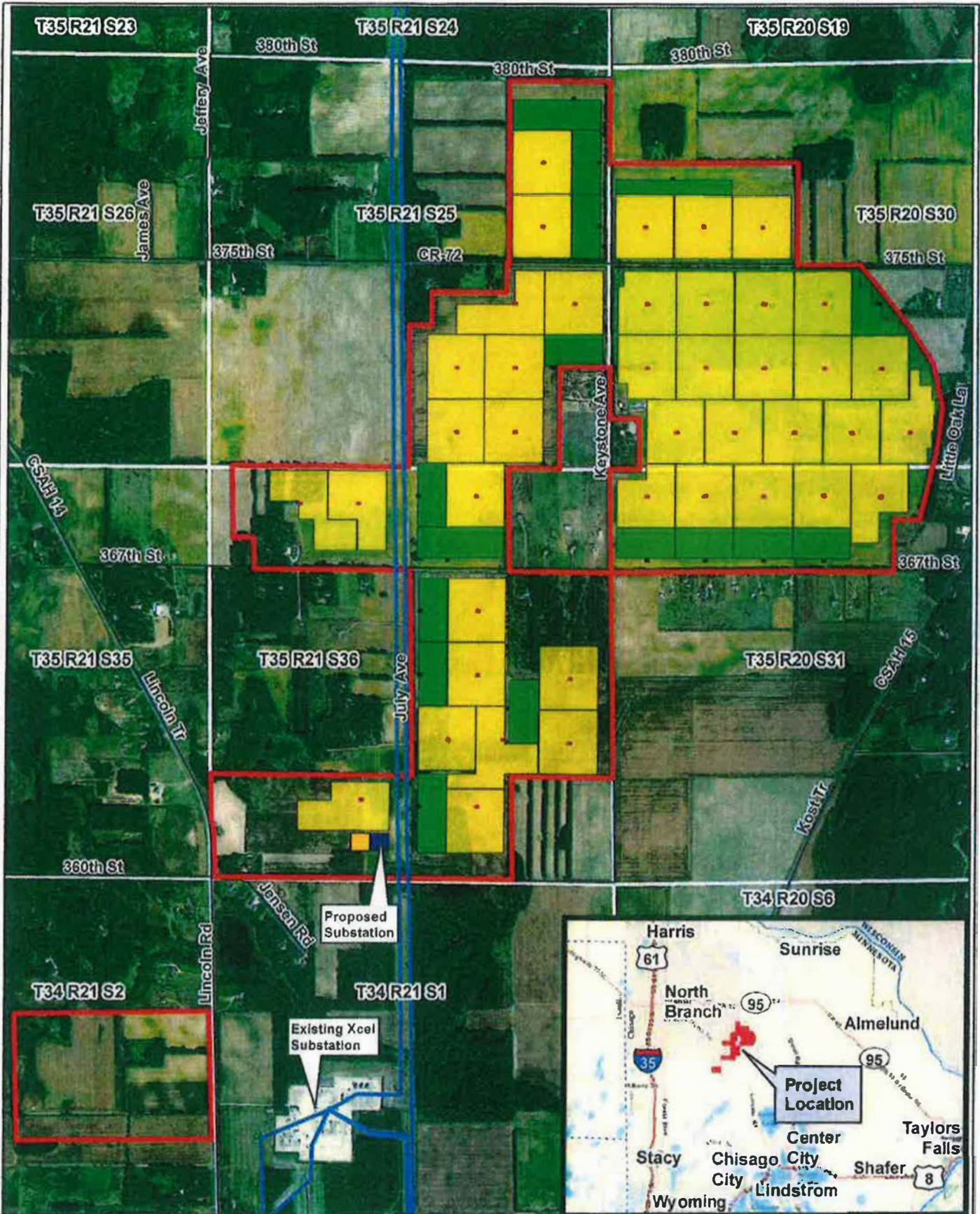


- Legend**
- Project Boundary
 - Parcel Boundary
 - Subject Parcel



North Star Solar Project
 North Branch, Sunrise Township, and Lent Township;
 Chicago County, Minnesota

Parcel Information



Data Source(s): Data and map are approximate. MNDOT BaseMap (2014); Chisago County GIS (2015); ESRI (2012); ESRI Online BaseMap Service (2015); Minnesota MAP imagery (2015); North Star Solar PV, LLC (2015).

0 1,600 Feet

- Site Boundary
- Existing Transmission Line
- Existing Road
- Section Boundary
- Proposed Substation
- Proposed Operations and Maintenance Facility
- Proposed 1MW Array
- Proposed 1MW Inverter

- Proposed 2MW Inverter
- Proposed 2MW Array

SITE PERMIT MAP
 North Star Solar Energy Generating Facility
 PUC Docket IP-6943/GS-15-33

owner to CER Land, LLC. This is not considered a market value sale because it does not meet the definition of market value, primarily because it was negotiated under duress. The third sale is from the developer to a new owner (except for Sale-resale No. 1 which was sold back to the original owner). The third sale is a market value sale because, except for No. 1, the sales were adequately exposed to the market having been placed on the local Multiple Listing Service prior to the last sale.

Because the first and third sales for each property are market value sales, it is possible to apply the sale-resale methodology to these sales to determine if they indicate a “before and after” change in value. The first sale represents a sale that occurred before any knowledge of the solar development existed, while the third sale occurred after construction of the facility. Generally, the only difference between the two sales is time, also referred to as market condition.

In order to compare the two sales, an adjustment must be made to the older sale to bring it up to the value level of the second sale. This is done by making a time adjustment based on supporting data from the market. The following chart represents the annual median and average sale price for houses in North Branch and Chisago County.⁷⁹ The median sale price for North Branch, specifically, was judged to be the most relevant of the two sources since it does not include the extreme values.

This data was used to calculate the compound rate of increase from the date of the first sale to the second sale and then increase the first sale by the indicated rate. After this adjustment is made, then the adjusted sale price of the first sale can be compared to the sale price of the third sale. A difference in the two sale prices will indicate if there is a diminution in value as a result of the construction of the SEGPS.

⁷⁹ The time adjustment chart was prepared by David Abbot, a statistician with the Minneapolis Area Board of Realtors.

North Branch

	Median	% YoY Chg	Average	% YoY Chg
2000	\$ 139,000		\$ 147,552	
2001	\$ 155,389	11.8%	\$ 174,121	18.0%
2002	\$ 171,900	10.6%	\$ 188,163	8.1%
2003	\$ 182,000	5.9%	\$ 207,129	10.1%
2004	\$ 197,000	8.2%	\$ 212,733	2.7%
2005	\$ 208,900	6.0%	\$ 230,131	8.2%
2006	\$ 201,950	-3.3%	\$ 214,891	-6.6%
2007	\$ 202,150	0.1%	\$ 206,783	-3.8%
2008	\$ 159,382	-21.2%	\$ 166,781	-19.3%
2009	\$ 141,000	-11.5%	\$ 143,056	-14.2%
2010	\$ 136,000	-3.5%	\$ 147,947	3.4%
2011	\$ 115,544	-15.0%	\$ 121,466	-17.9%
2012	\$ 123,650	7.0%	\$ 129,505	6.6%
2013	\$ 149,900	21.2%	\$ 159,728	23.3%
2014	\$ 163,700	9.2%	\$ 168,857	5.7%
2015	\$ 175,000	6.9%	\$ 195,721	15.9%
2016	\$ 187,750	7.3%	\$ 198,888	1.6%
2017	\$ 208,195	10.9%	\$ 221,678	11.5%
2018	\$ 230,000	10.5%	\$ 251,715	13.5%
2019	\$ 231,800	0.8%	\$ 248,021	-1.5%
2020	\$ 262,500	13.2%	\$ 275,585	11.1%

Chisago County

	Median	% YoY Chg	Average	% YoY Chg
	\$ 147,900		\$ 161,997	
	\$ 164,900	11.5%	\$ 178,846	10.4%
	\$ 181,900	10.3%	\$ 199,640	11.6%
	\$ 200,000	10.0%	\$ 219,703	10.0%
	\$ 210,000	5.0%	\$ 235,939	7.4%
	\$ 229,000	9.0%	\$ 250,686	6.3%
	\$ 224,325	-2.0%	\$ 248,741	-0.8%
	\$ 215,000	-4.2%	\$ 231,397	-7.0%
	\$ 176,000	-18.1%	\$ 192,913	-16.6%
	\$ 155,000	-11.9%	\$ 164,975	-14.5%
	\$ 148,875	-4.0%	\$ 157,998	-4.2%
	\$ 140,000	-6.0%	\$ 146,672	-7.2%
	\$ 139,900	-0.1%	\$ 153,268	4.5%
	\$ 166,950	19.3%	\$ 182,321	19.0%
	\$ 185,000	10.8%	\$ 199,015	9.2%
	\$ 197,500	6.8%	\$ 215,329	8.2%
	\$ 215,000	8.9%	\$ 230,247	6.9%
	\$ 233,250	8.5%	\$ 249,491	8.4%
	\$ 254,900	9.3%	\$ 268,737	7.7%
	\$ 261,403	2.6%	\$ 282,035	4.9%
	\$ 285,500	9.2%	\$ 304,938	8.1%

2007 chg 45.4% 40.1%
 2020 chg 29.9% 33.3%
 2020 chg 88.8% 86.8%

45.4% 42.8%
 32.8% 31.8%
 93.0% 88.2%

Description of the Sales Chart

For ease of comparing the sales data at once, the North Star sales are depicted on the North Star Solar Farm Sale-resale Comparison Chart. The following describes each column of the chart.

Sale-resale: This column identifies the 7 transactions that involved the developer of North Star.

Parcel No.: This is the Chisago County Tax Assessors identifying number of the property.

Address: This is the street address of the property being analyzed.

Sale Date: This is the date that the deed was transferred, i.e. the date on the deed. This date is not to be confused with the date that the deed was recorded, which is sometimes a few days later.

Grantor: This is the seller of the property.

Grantee: This is the buyer of the property.

Net Sale Price: The net sale price is the gross sale price less any money paid by the seller that was applied to reduce the sale price. If the sale price includes any seller paid amount, it will be described in the note after the property transactions.

\$ Change: This is the dollar amount difference between the first and second sale, as well as the dollar amount difference between the second and third sale.

% Change: This is the percentage difference between the first and second sale, as well as the percentage difference between the second and third sale.

Annual % Change: This is the annualized rate of change between the first and second sale.

Sale Tax Assessment: This is the property tax assessment of the property as of the date of sale.

Comments: The comments include a description of the property in the following order: date of construction; square footage above ground level; architectural design (3 or 4

level split, 1-story, tri-level, split entry); basement square footage of finish; number of bedrooms and baths; location of solar farm, i.e. rear and front.

Also, under comments, the time adjustment is made from the date of the first sale to the date of the third sale. This includes calculating the number of years between the two sales and determining the rate or percentage change between these two years based on the North Branch median sale price chart. After the number of years is determined and the rate of increase between that time, these numbers are applied to the first sale price which adjusts it the level of the third sale price. In other words, this indicates, in the first example, that the value of the \$216,000 sale price in 7.9 years increased at 6.8 percent, is \$364,296.

Sale-Resale Analysis

The following is a discussion of the results of each of the seven properties with the first sale adjusted for time from its sale date to the date of the third sale and the resulting comparison of the two sales, adjusted for time, to determine if there is a change in value.

Regarding Sale-Resale No. 1, Scott Dornbusch not only sold his property to CER Land, LLC, for \$360,000, but he bought it back for \$302,500. However, with respect to the comparison between the first sale price, increased for time, to the date of the third sale, this example indicates a **diminution in value of -17.0 percent**. Although this sale-resale is not arms-length, it is nonetheless, consistent with the other 6 arms-length sales. Because this sale was repurchased by the same individual, it is reasonable that his prior invested interest in the property would indicate this to be a minimal indication of value loss.

Sale-resale No. 2 is the property on the south side of 367th surrounded on three sides by the solar plant. The rear 6.24 acres of this property was encumbered by a 30 year lease to North Star Solar PV, LLC at a rate of \$1,000 per year to be increased at 1.0 percent annually. This example represents a highest rate of **decline in value of -28.0 percent**. The most predominant rate of decrease is -17.00 percent (Sale/resales No. 1, No. 3, and No. 4), which

suggests that this encumbrance would add an additional -11.00 percent, despite that it contributes an annual income stream of \$12,000.

Sale-resale No. 3 represent an original sale that occurred in 2000 that was extensively renovated, subsequent to that sale, with the additional construction of a pole barn. The seller indicated that the cost of such improvements was approximately \$100,000. Adjusted for these improvements, this sale-resale **indicates -16.0 percent diminution in value.**

Sale-resale No. 4 is at the corner of Keystone Avenue and represents a **diminution in value of -12.9 percent.**

Sale-resale No. 5 **does not indicate a decrease in value** between the original sale and the second resale. However, the sale price does not reflect the addition of a pole barn in the estimates. According to reports from the Chisago County Assessor's office more than one purchaser indicated that they did not consider the solar plant to be detrimental—in fact, they preferred this industrial use to having neighbors.

Sale-resale No. 6 **indicates a -6.3 percent diminution in value.**

Sale-resale No. 7 is the largest property among this group on the west side of Keystone Avenue. This example indicates a **diminution in value of -3.5 percent.** The original purchaser reported that the last purchaser stated that, "he did not want neighbors."

The sale-resales indicate a range of diminution in value from 0 to -28.0 percent, or an average of -12.5 percent and a median of -15.9 percent. **The median of -15.9 percent of diminution in value is consistent with the indication from the Madison County Indiana case study with a -16.43 percent value decline.**

It is notable that CER Land, LLC purchased the seven properties for a total of \$2,773,000 and sold them for \$2,143,044. This represents a loss of -\$629,956, or -22.72 percent.

MCBRIDE PLACE SOLAR FARM CASE STUDY – SALE-RESALES ANALYSIS

McBride Place Solar Farm is on Mount Pleasant Road in Midland, North Carolina. The project consists of 627 acres of a total tract of 974.59 acres. The 74.9 MW project was approved in 2017.

An analysis of the sales of the single-family dwellings that surround the project indicate that three sale-resales have occurred spanning the time period before and after the project was approved.

A time adjustment derived from the Zillow Home Value Index for North Carolina Single Family Market from 2014 to 2021. The first sale was increased for time based on the indicated rate of appreciation of 5.35 percent, 5.08 percent and 5.00 percent respectively. This resulted in the anticipated value based on market appreciation, as if the solar farm had not been constructed. When comparing these values to the actual sale prices after construction, these **sales indicate diminution of -15.65 percent, -15.51 percent and -16.44 percent**, respectively. The analysis is depicted on the following chart and map.

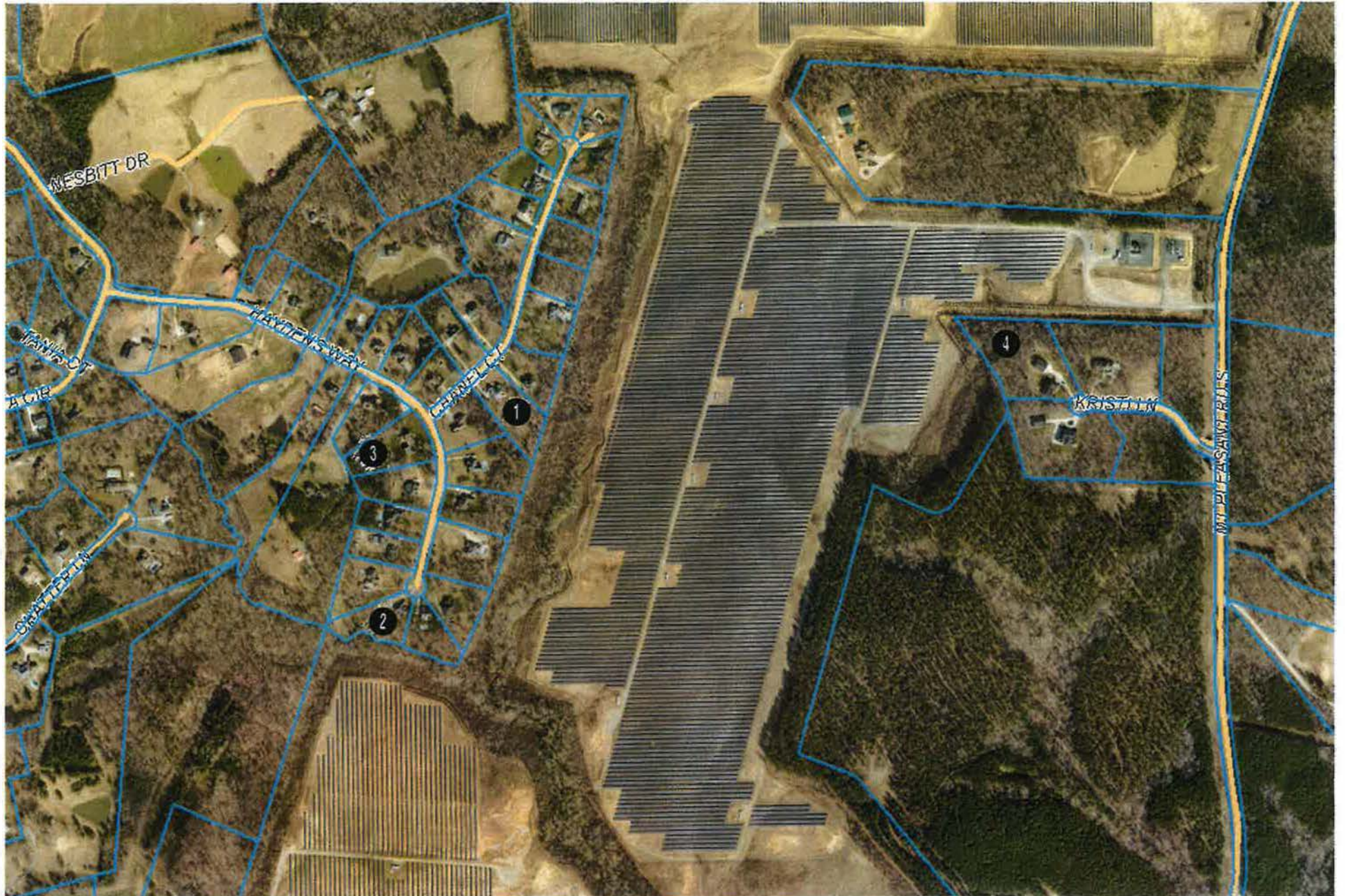
It is notable that a fourth sale, though not a sale-resale, was **-16.81 percent** below its assessment at the time of sale.

It is significant that Sale-Resale No. 1's property line is **325.0 linear feet west of the closest solar panel and the dwelling is 550.0 linear feet west**. Sale-resale No. 2's rear property line is **200.0 linear feet north of the closest solar panel and the dwelling is 350.0 linear feet north**. Sale-resale No. 3 is one lot removed from the solar panels on the west side of Haydens Way. Sale No. 4's east property line is within 150.0 linear feet of the closest solar panel while the dwelling is within 550.0 linear feet. Dense woodland is between the solar panels and all the examples of diminution.

SALE/RESALES ADJOINING MCBRIDE PLACE SOLAR FARM - MIDLAND, NC

SALE/ RESALE	PARCEL NO.	ADDRESS	SALE DATE	DEED BOOK/PAGE	GRANTEE	SALE PRICE	SALE TAX ASSESSM'T	ACRES	COMMENTS
1	5556-26-2054	4504 Chanel Court	1/17 1/20	12328-116 13932-047	NA Phillip G. Pees	\$399,000 \$393,500	\$396,720 \$474,750	1.730	2005 2,558 SF 1 Sty BV, 4-3.5, Full Bsmt, 2-CAG, FAG, CA, FP Adjust 1/17 Sale to 1/20, or \$399,000/3.0 Yr/5.35%* = \$466,527, or -15.65%
2	5556-27-5419	4599 Chanel Court	9/15 8/20	11575-087 14404-283	NA Peter Weinziel	\$462,000 \$500,000	\$473,490 \$531,440	1.000	2007 2,411 SF 2 Sty BV, 5/4.5 Full Bsmt, 2-CAG, HP, CA, FP Adjust 9/15 Sale to 8/20, or \$462,000/5.0 Yr/5.08% = \$591,775, or -15.51%
3	5556-15-6844	8704 Haydens Way	7/12 4/19	10081/209 13463/180	NA Ben. Merriman	\$322,000 \$375,000	\$306,680 \$372,460	1.960	2001 1,353 SF 2 Sty BV, 4/3 Full Bsmt, 2-CAG, HP, CA, FP Adjust 7/12 Sale to 4/19, or \$322,000/6.8 Yr/5.0% = \$448,771, or -16.44%
4	5556-46-7264	5811 Kristi Lane	4/20	14095/125	Fred E. Trull, Jr.	\$530,000	\$637,100	3.740	2019 2,462 SF 2 Sty BV, 6/4 Part. Bsmt, 2-CAG, FAE, CA Sale Price compared to Assessment = -16.81%

*The time adjustment was based on the Zillow Home Value Index for the North Carolina Single Family Market from 2014 to 2021.



SUNSHINE FARMS CASE STUDY – SALE-RESALE ANALYSIS

Ecoplexus, Inc., a San Francisco solar developer built a 20 MW project on the former 121.4 acre Goose Creek Golf and Country Club at 6562 Caratoke Highway in Grandy, North Carolina. This is an example of single-family lots that were generally acquired by virtue of their abutting a golf course view, and then having it replaced by the view of solar panels.

The North Carolina Utilities Commission gave its approval for the facility in January 2015. Based on concerns from the neighbors regarding its incompatibility with neighboring residential lots, the Currituck County Planning Board denied Ecoplexus a permit in April 2016. The solar company filed suit, and in March 2017, a Superior Court judge upheld the county's decision to turn down the project. However, on appeal, the North Carolina Court of Appeals overturned the decision in December 2017. The project was constructed in 2019.

The solar farm is surrounded by 62 properties, which consist predominantly of single-family lots and improved tracts on Grandy Road and Uncle Graham Road. The east side, on Caratoke Highway, is predominantly improved with commercial tracts. The northern property line abuts a single-family subdivision, Carolina Club, that also encircles a second golf course.

All the properties that encircle the solar farm were examined for sale-resales prior to and after the knowledge of the proposed golf course. Since there were no sale-resales, which are the most reliable measure of damage since they require the least adjustment, the only sale-resales available to analyze were the vacant lot sales from the adjacent Carolina Club Subdivision on Savannah Drive.

The following chart represents two groups of sales—those abutting the solar farm or commercial uses and those not abutting. Sale Nos. 1 through 5 represent the former, while Sale Nos. 6 through 13 represent the latter. Sales No. 1, No. 2 and No. 3 contain approximately 0.50 acre and sold in mid-2017 for \$27,000 to \$28,000, or an average of \$27,500. Sale No. 4 is larger, containing 0.870 acres and sold for \$29,500 during this same

period. Though Sale No. 5 did not abut the solar farm, it was only two lots to the northwest. This sale sold in late 2018 for \$30,000.

Sale Nos. 6 through 13 sold between late 2017 and mid-2021. These sales are 0.50 acre in size and ranged in price from \$32,500 in 2017 to \$38,500 in 2021.

Comparing the two groups of sales from 2017 indicates a range in price from \$27,500 to \$32,500, or a **difference of -15.38 percent**.

There is insufficient data to determine if the lots that adjoin the solar farm continue to increase in value at the same or a reduced rate as the rest of the local market, or if their value stabilized. Nonetheless, this case study indicates a minimal diminution of **-15.50 percent R** as a result of their proximity to the solar farm. This diminution in value reflects an ordinance that requires a **300.0 linear feet setback for the solar panels from the residential property line; no chemicals can be used to control vegetation throughout the life of the project; and the solar farm had to submit a decommissioning plan.**

Among the neighboring property owners' concerns during the permitting process was the potential damage to their residences in the case of a hurricane. The developer claimed that the arrays would withstand winds up to 120 miles per hour. However, the effect of Hurricane Dorian in 2019 was that dozens of frames and panels were mangled even though the storm was 50 miles offshore and the winds were 60 miles per hour. This is an example of the solar developer's misrepresentation and the unpredictable nature of the impact of an unstable structure occupying immense areas of land.

GRANDY, NORTH CAROLINA SINGLE FAMILY LOT SALES

SALE	PARCEL ID	ADDRESS	GRANTOR	GRANTEE	DB/PAGE	SALE PRICE	LOT SIZE	SP/SF	SALE DATE	COMMENTS
Lots Abutting Solar Farm or Commerical Use										
1	94G-16	125 Savannah	George Mills	Earl Thomas Hall	1404-149	\$27,000	0.510	\$1.22	4/25/17	Abutts Commercial at Rear
2	94G-5	147 Savannah	Wm Weatherly	Branden Shuler	1404-848	\$27,000	0.580	\$1.07	4/28/17	Abutts Solar Farm
3	94-G	143 Savannah	Wm Weatherly	Roger Mihovch	1404-848	\$28,000	0.460	\$1.40	6/20/17	Abutts Solar Farm
4	94G-4	149 Savannah	Wm Weatherly	David A. Ki ng	1402-737	\$29,500	0.870	\$0.78	7/13/17	Abutts Solar Farm
5	94G-2	153 Savannah	Rodney Blake	G. Romero-Mendez	1465-529	\$30,000	0.510	\$1.35	12/10/18	2 Lots NW of Solar Farm
Lots Not Abutting Solar Farm or Commerical Use										
6	94G-35	112 Savannah	Jeff Weatherly	Frasca Custom Hms	1425-482	\$32,500	0.460	\$1.62	11/15/17	
7	94G-1	155 Savannah	Keith Ostrom	Hunter D. Wright	1447-837	\$35,000	0.490	\$1.64	06/15/18	
8	94G-5	142 Savannah	Michael Mills	Lutz Quality	1510-321	\$35,000	0.460	\$1.75	12/17/18	
9	94G-24	109 Savannah	John Peterson	Michael Locicero	1430-662	\$33,000	0.450	\$1.68	01/09/18	
10	94G-46	134 Savannah	Bernard Hall	Anthony Leete	1534-847	\$37,000	0.460	\$1.85	05/11/20	
11	94G-44	130 Savaanah	John Bergstrom	Scott Shaker	1601-332	\$38,500	0.610	\$1.45	02/23/21	
12	94G-34	110 Savannah	Jonathan Thau	Kelly Coon	1591-766	\$38,000	0.460	\$1.90	01/14/21	
13	94G-33	108 Savannah	Lina Ward	Joaqin Salazar	1618-635	\$37,400	0.460	\$1.87	04/27/21	

Currituck County GIS Data Viewer



County Boundary

- State
- County

Streets

Wright Memorial Bridge

Major Streets

- Arterial_Principal
- Arterial_Major
- Collector_Major

Parcels

Currituck County

Aerial Photography (2011)

- Red: Band_1
- Green: Band_2
- Blue: Band_3

Currituck County GIS

Phone: (252) 232-2034

E-mail: gis@currituckcountync.gov

This map should be used for general reference purposes only. Currituck County assumes no legal liability for the information shown on this map.

SPOTSYLVANIA SOLAR CASE STUDY – PAIRED SALES ANALYSIS

Spotsylvania Solar in northern Spotsylvania County Virginia, adjoining the 2,350 acre Fawn Leaf gated community to the south. The development consists of 1,398 single family lots with 900 residences and a 288.0 acre lake. Home prices range from the high \$500,000s to \$2,500,000. Of the 1,398 single family lots, 1,080 have sold, leaving a current inventory of 318.

Spotsylvania Solar is a 617 MW industrial scale electrical generating plant, comprised of four solar phases—Pleinmont 1, Pleinmont 2, Richmond and Highlander. The project sites contain a total of 6,350 acre of which 3,500 will be developed with solar panels. The developer is sPower who merged with AES in 2020. The project was announced in 2018 and approved in April 2019. Approximately half of the project was completed in July 2021 with the remaining anticipated to be completed in the fall of 2021. The surrounding areas to the east, west and south are rural, yet populated.

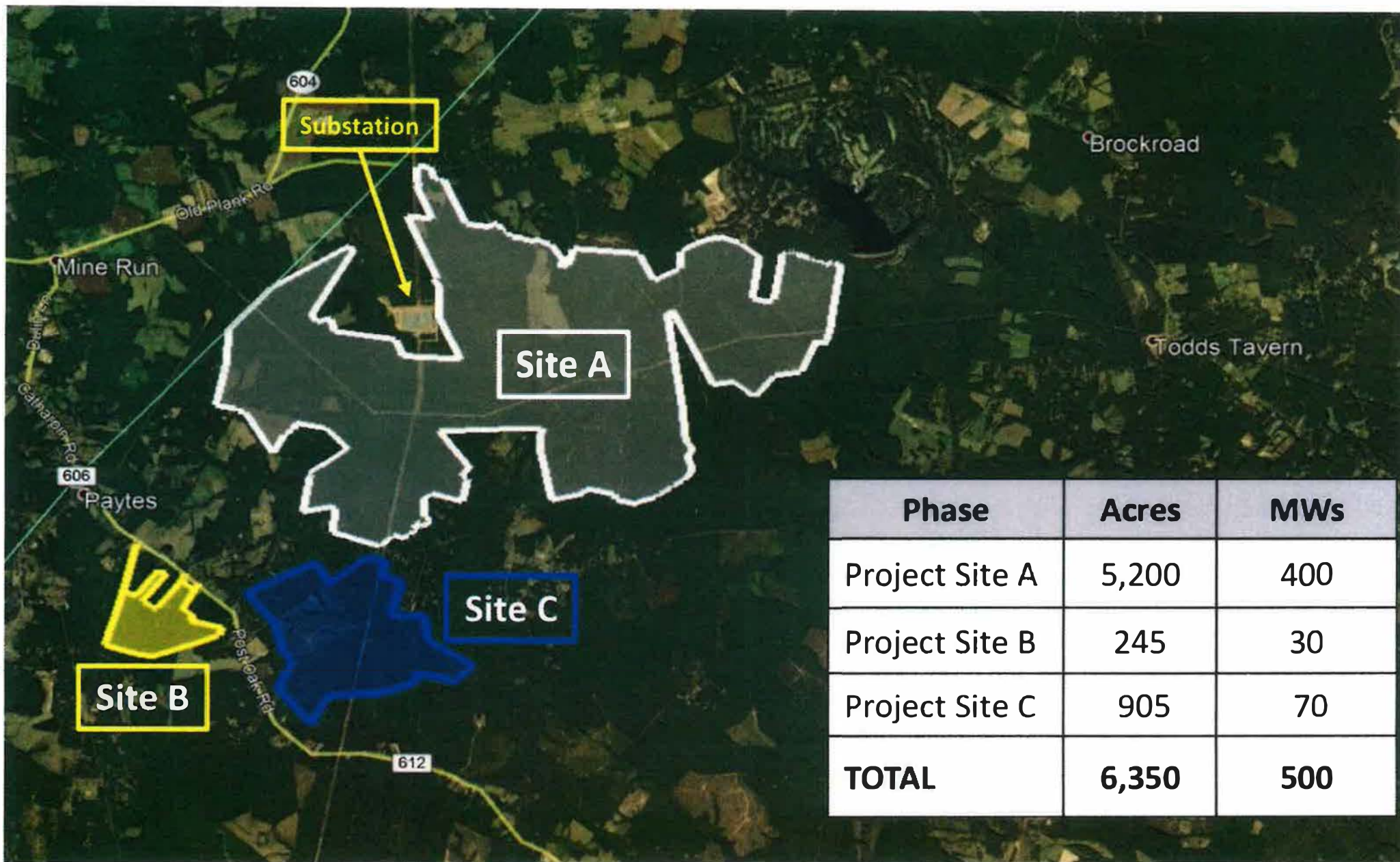
The northeastern most portion of Site A adjoins the Fawn Lake subdivision at the development's southwestern property line as indicated on the following aerial photograph. The chart following represents five land sales that occurred before and after the knowledge of the solar farm. A plat of the five lots follows.

Land Sales No. 1 and No. 2 occurred in 2015 indicating a range of values from \$85,000 to \$90,000 depending on size. Sale No. 3 is a 2017 sale that adjoins the site of the future solar farm, which is a slightly more remote location than the prior sales abutting the main road. This property sold for \$77,250.

Sale No. 4 and 5 represent land sales that occurred after the approval of the solar farm. Sale No. 4 is at the corner of the main road and are in Site A. The lots on Bander Way and Southview Hill are also in Site A. This sale sold for \$65,000, while Sale No. 5, which adjoins the solar farm sold for \$55,000.

Comparing Sales No. 3 and 5 without any adjustment for market change (time) indicates a diminution in value of a minimum of -30.0 percent.

Comparable Sale No. 3:	\$77,250
Comparable Sale No. 5:	<u>\$55,000</u>
Difference:	\$22,500, or -28.8, or -30.0 percent (R)



Phase	Acres	MWs
Project Site A	5,200	400
Project Site B	245	30
Project Site C	905	70
TOTAL	6,350	500

**FAWN LAKE LOT SALES
SPOTSYLVANIA SOLAR**

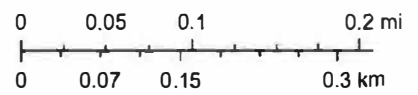
NO.	ADDRESS	GRANTOR	GRANTEE	DATE	PRICE	SIZE	SP/SF	DB INST	MAP	COMMENTS
1	11200 Brander Way	Simply Home LLC	Christopher Pichurko	03/17/15	\$90,000	32,470	\$2.77	0003 960	18C-43-1-205	Interior Lot, North of Brandermill Pk
2	11709 Southview CT	Simply Home, LLC	Bernard J. Logan	06/25/15	\$85,000	23,599	\$3.60	0010 297	18C-43-1-192	Interior Lot, North Side of Southview
3	11602 Southview CT	NA	Casey Pence	11/03/17	\$77,250	30,122	\$2.56	0019 899	18C-43-1-183	Adjoins Solar Farm, S. Side SV
4	11009 Southview HL	NA	Mark S. Wilson	08/05/19	\$65,000	26,893	\$2.42	0012 434	18C-43-1-177	SE Corner of Brandermill & SV HL
5	11700 Southview CT	NA	Charles Pattillo	09/27/19	\$55,000	32,958	\$1.67	0016 191	18C-43-1-185	Adjoins Solar Farm, S. Side SV



July 29, 2021

 Tax County Boundary

1:9,028



CONCLUSION

The following charts and graphs summarize the current available known damage studies regarding utility scale solar facilities. The data is limited because few industrial generating plants in excess of 100 MW, though they have been approved for development, have been constructed. It also takes time for the market to react to this relatively recent trend. Nonetheless, the evidence is compelling and contradicts the claims by solar developers that there is no diminution in property value as a result of proximity to utility scale solar farms.

The previously discussed data is from two peer reviewed journals and includes case studies from appraisers in several states. Though diminution in value varies, as the result of a detrimental condition's impact upon a property's utility, the evidence presented by these case studies, indicates that utility scale solar farms damage property values by **at least -15.0 percent**.

One of the North Branch properties indicated as much as **-28.0 percent**. It is significant that this 9.90 acre property was the most impacted because its rear yard was encumbered by solar panels. A 30 year lease to the solar developer for \$6,240 annually was not enough to offset the decline in value because of the nuisance. This example illustrates the fact that the greater the impact of the solar farm, the greater the reduction in utility and the greater the resulting diminution in value.

The preponderance of evidence based on these empirical studies indicates that **industrial scale solar plants do negatively impact adjacent properties** to the extent that their utility, as interpreted by the market, is affected. For, this reason, the **market considers solar powered electric generating facilities to be a detrimental condition**.

It is reasonable to anticipate that **utility scale solar farms larger than 100 MW** will have **greater negative impact**, particularly in areas where the unique quality of the landscape is a signature characteristic, such as the inner Bluegrass Region of Kentucky.

SUMMARY OF INDICATED VALUE DECLINE

DATE	STUDY	RESULT
2018	University of Texas	Assessor survey responses ranged from value impact of zero to estimation of negative impact associated with close distance between the homes and the facility, and impact increased with increased size of the solar plant.
2020	University of Rhode Island	Average decline within 3.0 mile radius was -1.7% , or \$5,671. Average decline within 0.1 mile was -7.0% , or \$23,682. The "results suggest extremely large disamenities for properties in very close proximity."
2013	Fred H, Beck & Associates, LLC	Strata Solar Case Study: Potential Purchasers cancel contract upon learning of the solar facility. Clay County Case Study: Lot sales stopped after announcement of solar plant. Clay County Board of Equalization reduced affected property assessments -30.0% . Non-residential Use View Impairment Study: Adjacent incompatible use adversely impacted nearby properties -10.7% to -25.1% , or an average of -15.2% . AM Best Solar Farm Study: No diminution in value due to pre-existing industrial zoning for solar farm.
2020	Mark W. Heckman, R.E. Appraisers	Adams County View Case Study: The loss of view results in a -15% to -20.0% loss in value.
2019	Madison County Indiana	Potential purchaser offered -16.43 % less than appraised value upon learning of the proposed solar plant.

SUMMARY OF INDICATED VALUE DECLINE

DATE	STUDY	RESULT
2021	Mary McClinton Clay, MAI	North Star Solar Case Study: An Analysis of the 7 adjoining properties purchased by North Star PV, LLC. A sale-resale analysis of the sale prior to and subsequent to the purchase by the solar developer. The sale-resales indicate a range of diminution from -6.3% to -28.0% with a median decline of -16.9% and an average decline of -16.8% .
2021	Mary McClinton Clay, MAI	McBride Place Solar Farm Case Study: Analysis of 3 sale-resales and a comparison of the sale price and tax assessment. The sale-resales indicate -15.65% , -15.51% and -16.44 percent diminution in value. The sale price/tax assessment indicates a -16.81% loss of value.
2021	Mary McClinton Clay, MAI	Sunshine Farms Case Study: Analysis of 13 vacant single family lot sales from a subdivision that abutts a solar farm. The sales that adjoin the solar farm sold for -15.5% percent less than the lots that did not abutt the solar farm.
2021	Mary McClinton Clay, MAI	Spotsylvania Solar Case Study: Analysis of 5 vacant single family lots from a section of Fawn Lake Subdivision that abutts a 6,412 acre solar farm. The lots that abutt the solar farm sold for -30.00 percent less than those that did not abutt.
2020	Western Mustang Solar Neighbor Agreement	Monetary offer of \$17,000 to adjacent property owners to quel opposition to the proposed solar facility.
2020	Lighthouse BP Neighbor Agreement	Monetary offer of \$5,000 to \$50,000 to adjacent property owners depending on proximity to the solar facility to quel opposition.

ADDENDUM

MARY MCCLINTON CLAY, MAI
218 Main Street
Paris, Kentucky 40361
859-987-5698

KENTUCKY ENVIRONMENTAL DAMAGE STUDIES

In the event that there is insufficient sales data within a subject area to extract an indication of diminution of value as a result of a specific detrimental condition, it is acceptable appraisal methodology to use another location with sufficient data or a similar detrimental condition with similar diminution upon utility as a proxy for the subject area or detrimental condition.

The following summary of environmental damage studies conducted by this office include the following detrimental conditions: ground water contamination by tannery sludge; animal odors; leaking underground storage tanks; cell tower and transmission line easements; fugitive particulate emissions (dust), and airport proximity.

GROUND WATER CONTAMINATION

The ground water contamination study was prepared for the plaintiffs in *Yellow Creek Concerned Citizens v. Middlesboro Tannery*. This study estimated the effect of tannery contamination on 350 properties along Yellow Creek, in Bell County. This study was conducted after city water had replaced well water in the affected watershed. The analysis compared affected sales along Yellow Creek and associated Williams Creek with three creeks upstream that were not contaminated. The multiple regression analysis found that there was residual diminution in value of **-16.5 percent** for improved properties and **-22.00 percent** for unimproved land.

ANIMAL ODORS

A damage study prepared for the case *James E. Sullivan, et al v. Board of Regents, et al* estimated the effect of an animal waste fermentation project at the Organic Pasteurization

Plant at North Farm of Murray State University on Sullivan's Executive Par 3 Golf Course and Sports Center and on-site residential improvements in Murray. An income analysis of the golf course before and after the construction of the "manure cooker" indicated that the golf course was damaged 28.00 percent. Based paired sales analysis of dwellings within proximity to chicken houses, it was estimated that the two residential improvements had diminution in value from **-21.0 to -28.0 percent**.

Two studies in western Kentucky measure the effect of hog barns on proximate vacant land and residential properties. The first study estimated the damage of hog barns on residential properties in five western Kentucky counties including Calloway, Graves, Carlisle/Hickman, Warren and Davies. Sales data to within 2.00 miles of hog barns were analyzed using matched pairs. The study indicated that vacant land values within one mile of a hog barn diminished approximately 40.0 percent, while improved properties declined between 26.7 and 11.00 percent depending on their proximity to the barn. This study was prepared for the case of *Gene Nettles, et al v. Environmental and Public Protection Cabinet; Division of Water, David Morgan, Director, and J.P. Amberg Hog Farm*.

The second study was prepared for the case *Terry Powell, et al v. Tosh, et al*. This study estimated the diminution of value as a result of proximity to 5,000 hog confined animal feeding operations (CAFOs) in Marshall County. The results of the paired sales study were that improved properties adjacent to or within approximately 0.25 miles to hog farms are damaged approximately **-50.0 percent**. Properties from approximately 0.5 mile to 1.25 miles are damaged **-25.0 percent**. Farms beyond 1.25 miles to 1.5 miles and/or those adjacent to agricultural fields that may experience routine manure spreading are damaged approximately **-10.0 to -12.0 percent**. Vacant land was damaged **-40.0 percent**.

LEAKING UNDERGROUND GASOLINE STORAGE TANKS

This study was prepared for the case *Terrence G. Kerschner, et al v. Burley Oil Company, et al*. The study estimated the effect of leaking underground gasoline storage tanks

on Country Lane Estates in Frankfort and, specifically, on a residence where the petroleum surfaced. The results of this study was that the property most affected by the leak was damaged **-100.0 percent**, with adjoining properties damaged **-50.0 percent** and the remaining properties within the subdivision were damaged **-20.0 percent**.

CELL TOWERS AND HIGH VOLTAGE TRANSMISSION LINES

The overhead transmission line study was prepared for the case *Kentucky Utilities Company v. James and Mary Jent, CDH Preserve, LLC and Farm Credit Services of Mid-America, FLC, Violet Monroe* and estimated the effect of High Voltage Transmission Lines on three Hardin County agricultural properties. The study was later expanded to include cell towers in a Bourbon County property division dispute.

The paired sales analysis indicated a range of diminution in value as a result of the encumbrance of high voltage transmission lines (HVTL) on agricultural properties. The amount of damage is the result of the degree to which HVTL impact the utility and degree of trespass upon the bundle of rights. The study indicated a range of diminution in value from minimal impact of **-12.0 percent** to a **maximum of -50.0 percent** depending on the placement of the easement within the property.

The study also indicated buyer resistance to lots impacted by HVTL. Two subdivisions in the same area were analyzed—one with and one without the encumbrance. The subdivision without the easement consists of 14 lots that sold from 2005 until 2011, with the absorption rate of 2 lots per year. The other is significantly encumbered by the transmission line. This subdivision consists of 16 lots of which only 6 have sold from 2007 to 2011, or 1.2 lots per year. The transmission line diagonally traverses the remaining lots, which had yet to sell when the study was conducted in 2012.

With respect to the effect of cell towers on agricultural property a paired sales analysis was made between two farms on opposite sides of the road in Bourbon County. The

analysis indicated a **-24.28 percent** damage to the farm. The comparison indicates buyer resistance and damage as a result of proximity to vertical structures similar to HVTL.

FUGITIVE PARTICULATE EMISSIONS

This study examined the condition of Claremont Acres, a single-family residential subdivision in the closest proximity to the Louisville Gas and Electric Plant (LG & E) at 5252 Cane Run Road in western Louisville. This four street subdivision was developed in the late 1960s and consists of predominantly 1,000 square foot masonry ranch houses with detached garages. The subdivision abuts a single row of dwellings which front along Cane Run Road on the south side of the street opposite the LG & E facility. The properties suffered from air borne dust contamination from coal ash landfills that were expanded in 2010. The most affected properties were 300 feet southeast of the ash pond, 2,500 feet from the ash landfill, and 3,000 feet from the stacks. The Claremore Acres properties that suffered from the dust, which the EPA tested were 0.31 to 0.45 miles from the Cane Run generating plant.

The study documented an **overall diminution in value of -25.8 percent for properties within approximately 0.50 mile of the source of the detrimental condition.**

PROXIMITY TO REGIONAL AIRPORT

This 2019 study of a Kentucky regional general aviation airport was prepared for the case, *Mary Williams v. Henderson City-County Airport Board*. The study examined three 5.00 acre residential subdivisions in the vicinity of the Georgetown-Scott County Regional Airport. The control subdivision was 1.75 miles southwest of the runway. The two impacted subdivisions were within 0.33 and 0.50 miles northwest of the runway.

The study indicated a **diminution of -20.5 percent as a result of being within 0.5 mile west of the beginning of the Runway Protective Zone (RPZ) and diminution of-20.18 percent for lots abutting the RPZ from approximately the mid-point to the end. Lots within the RPZ indicated a diminution of -50.15 percent.**

DRAINAGE AND EROSION

A 2021 storm water drainage study was prepared for the Henderson County, Kentucky case, *Patricia Kushino, et al v. Federal Aviation Administration, et al*. This study estimated the diminution in value of an 80.00 acre woodland that was part of the 183.90 acre Williams Farm. The property was negatively impacted by the construction of a drainage ditch from the adjacent regional airport. Prior to the drainage ditch the woodland had natural drainage and a healthy stand of hardwood trees. After construction it suffered from constant flooding and become non-productive. The estimated contributing value of the woodland prior to the damage was \$3,000 per acre and after construction, its contributing value was \$850 per acre, or a **loss of -72.00 percent**.

A 2012 drainage study was prepared for the Fayette County case, *Jerry Whitson v. Donnie Cross*. This study involved the diminution in value to a rural residential tract improved with a dwelling a horse barn used for layups at the Kentucky Training Center. The property was encumbered by drainage from a pond on the adjoining tract which accumulated for extended periods of time at the front of the horse barn. The extent of the drainage rendered the horse barn non-contributing to the overall property value based on the expectations of the rental market for stalls. Although the contributing value of the horse barn was \$55,000, the cost to cure was less at \$32,614. Therefore, the estimate of damages was **-13.0 percent**.

NEIGHBOR AGREEMENT

This Neighbor Agreement (the "Agreement") is made as of this ____ day of _____, 2020 (the "Effective Date"), by and between **WESTERN MUSTANG SOLAR, LLC**, a Delaware limited liability company ("Western Mustang") and *****

RECITALS

A. Owner owns the residential property located at ****, identified by Parcel Identification Number 000000000 (the "Property").

B. Western Mustang intends to study, develop and use certain property identified by Parcel Identification Number 0000000000 (the "Project Property"), which Project Property is adjacent to the Property, for a solar project (collectively, the "Project").

C. Owner has agreed to cooperate with Western Mustang's development, construction, and operation of the Project in accordance with the terms and conditions set forth herein.

D. The Owner is eligible for this Agreement because Western Mustang, LLC has determined that the Project Property is located on two or more sides of the Owner's residential Property.

AGREEMENT

NOW, THEREFORE, the parties agree as follows:

1. Cooperation. Owner shall fully support and cooperate with Western Mustang's development, construction, and operation of the Project, including in Western Mustang's efforts to obtain from any governmental authority or any other person or entity any environmental impact review, permit, entitlement, approval, authorization, or other rights necessary or convenient in connection with the Project. Without limiting the generality of the foregoing, in connection with any application by Western Mustang for a governmental permit, approval, authorization, entitlement or other consent related to the Project, Owner agrees not to oppose, in any way, whether directly or indirectly, any such application or approval at any administrative, judicial, or legislative level.

2. Consideration. All terms in this Section 2 shall be subject to Owner complying with this Agreement. Western Mustang shall pay Owner a signing payment of Two Thousand and 00/100 Dollars (\$2,000.00) within 45 days after the Effective Date. Within 45 days of the date when Western Mustang begins construction of vertical improvements for the Project and is diligently pursuing construction of the Project (such date being the "Construction Commencement Date"), Western Mustang shall pay Owner a one-time additional payment of Fifteen Thousand Dollars and 00/100 (\$15,000.00).

3. **Merger.** This Agreement, including any exhibits attached hereto, contains the entire agreement between the parties in connection with any matter mentioned or contemplated herein, and all prior or contemporaneous proposals, agreements, understandings and representations, whether oral or written, are merged herein and superseded hereby. No modification, waiver, amendment, discharge or change of this Agreement shall be valid unless the same is in writing and signed by the party against whom the enforcement thereof is sought

4. **Confidentiality.** Owner shall hold in confidence all information related to this Agreement and the Project (collectively, the “Confidential Information”). Owner shall not use any such Confidential Information for its own benefit, publish or otherwise disclose such Confidential Information to others, or permit the use of such Confidential Information by others for their benefit or to the detriment of Western Mustang. Owner may disclose Confidential Information to brokers, accountants and attorneys so long as such parties agree to not disclose the Confidential Information.

5. **Attorney’s Fees and Costs.** Each party shall be responsible for their own costs and attorneys’ fees in the event there is a dispute over this Agreement.

6. **Governing Law.** This Agreement shall be governed and construed in accordance with the laws of the State of Wisconsin.

7. **Counterparts.** It is anticipated that this Agreement will be executed in counterparts. This Agreement will, therefore, be binding upon each of the undersigned upon delivery to counsel for the parties of two or more counterparts bearing all required signatures.

8. **Successors and Assigns.** All provisions of this Agreement shall be binding upon and inure to the benefit of Western Mustang and Owner, and their respective successors, assigns, heirs, and personal representatives. Western Mustang may freely assign its rights and obligations under this Agreement without Owner’s prior written consent; provided, however, that any such assignee is an owner or operator of the Project.

(Signatures on following page)

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed and delivered by their duly authorized representatives as of the Effective Date.

WESTERN MUSTANG:

WESTERN MUSTANG SOLAR, LLC, a
Delaware limited liability company

By: _____

Printed Name: _____

Title:

OWNER:

By: _____

Printed Name:*****

MISCELLANEOUS DATA

PURPOSE OF THE APPRAISAL

The purpose of the appraisal is to summarize the available damage studies that pertain to solar energy generation power systems, otherwise known as solar farms.

INTENDED USER AND USE OF THE APPRAISAL

The intended user is the addressee; and the intended use is for submission to the Kansas State Committee on Utilities.

SCOPE OF THE REPORT

The scope of the report examines all available published and empirical evidence to document diminution in value as a result of proximity to industrial scale solar farms.

CERTIFICATION

The undersigned does hereby certify that, except as otherwise noted in this appraisal report.

To the best of my knowledge and belief, the statements of facts contained in this appraisal report are true and correct.

The reported analyses, opinions and conclusions are limited only by the reported assumptions and limiting conditions and are our personal, unbiased professional analyses, opinions and conclusions.

I have no present or prospective interest in the property, which is the subject of this report, and I have no personal interest or bias with respect to the parties involved.

Compensation is not contingent on an action or event resulting from the analyses, opinions, or conclusions in, or the use of, this report.

I do not authorize the out-of-text quoting from or partial reprinting of this appraisal report. Further, neither all nor any part of this appraisal report shall be disseminated to the general public by the use of media for public communication without the prior written consent of the appraisers signing this appraisal report.

As of the date of this report, Mary McClinton Clay, MAI has completed the requirements of the voluntary continuing education program of the Appraisal Institute.

The use of this report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives.

Mary Clay performed the following functions on this appraisal report: 1) researched available data sources; 2) and wrote the appraisal report.

No one provided significant professional assistance to the persons signing this report.

This report is in conformance with the USPAP Competency Provision.

The USPAP Departure Provision does not apply to this report.

The appraiser's employment is not conditioned on producing a specific value.

The owner or a representative of the property was interviewed. Interviews and research of necessary documents were conducted to confirm the accuracy of the supporting data.

No information pertinent to the valuation has knowingly been omitted.



Mary McClinton Clay, MAI

March 15, 2022

STATEMENT OF LIMITING CONDITIONS

1. Possession of this report or copy thereof does not carry with it the right to publication nor may it be used for any purpose by any but the applicant without the previous written consent of the appraiser(s), and in any event, only in its entirety.
2. The information contained in this report, gathered from reliable sources, and opinion is furnished by others, were considered correct, however, no responsibility is assumed as to the accuracy thereof.
3. The appraiser(s) is not required to give testimony in court with reference to the subject property unless further arrangements are made.
4. "The American Institute of Real Estate Appraisers conducts a voluntary program of continuing education for its designated members. MAI's who meet the minimum standards of this program are awarded periodic education certification." Mary McClinton Clay, MAI has completed this program.

MARY MCCLINTON CLAY
PROFESSIONAL QUALIFICATIONS

Mary McClinton Clay, MAI
218 Main Street, Paris, KY 40361
859-987-5698/Cell: 859-707-5575
mclayky@bellsouth.net

Market Area: Commonwealth of Kentucky

Primary Practice Focus: Litigation and zoning support with an emphasis on damage studies, including environmental and eminent domain.

Appraisal Experience:

1985 to Present: Self-employed - engaged in commercial, industrial and farm valuation.

1979-1984: Employed by Realty Research- engaged primarily in income property appraisal.

1976-1979: Residential appraisal experience with fee appraisers.

Previous assignments include: Eastern State Hospital; Gateway Shopping Center; Lakeside Heights Nursing Home, N. KY; L&N Office Building, Louisville; Alltech Biotechnology Center, Nicholasville, Paris Stockyards; Conrad Chevrolet, Lexington; CSX Rail Yards in Mt. Sterling and Paris; First Baptist Church, Cold Spring; Lusk-McFarland Funeral Home, Paris; Feasibility Study of proposed Hamburg Place Office/Industrial Park, Lexington; Rent Analysis of IRS Service Center, Covington; Surtech Coating, Nicholasville; Clem Refrigerated Warehouse, Lexington; Bluegrass Manufacturing, Lexington; Finley Adhesives, Louisville; Central Manufacturing and Central Light Alloy, Paris; Review Appraisal of Rand McNally Plant, Versailles and Timberland Distribution, Danville; Old Scott County Jail; Millspring Battlefield; Truck Terminals, Fast Food Restaurants, Retail Centers, Lumber Mills, Car Wash, Multi-Family Residential, Mobile Home Parks, Convenient Stores and Subdivision Analyses.

Thoroughbred Horse Farms including Pin Oak Farm, Bunker Hunt Farms, Pillar Stud Farms, Elmendorf Farm, Summer Wind Farm, Hidaway Farm, Stoner Creek Stud, Runnymede Farm, Wilshire Farm, Lynnwood Farms, Stonereath Farm, Idle Hour Farm, Canefield Farm, Elk Creek Farm, Lochness Farm, Stoneleigh Farm, Elizabeth Station Farm.

Right of Way Experience: Rose Street Extension, Lexington, 1986-87; AA Highway: Greenup Co., 1989, Carter Co., 1990-91; U.S. 27 Campbell Co. 1991-1992, 1993; Bridge Realignment, Walton, 1992; Industry Rd, Louisville, 1993; 19th St. Bridge, Covington, 1994; U.S. 27, Alexandria, 1994; S. Main St., London, 1995; Paris Pike, Paris and Bourbon County, 1995-98; KY Hwy 22 at I-75, Dry Ridge, 1996; Bridge Projects on KY Hwy 19, Whitley County, 1997; US 150, Danville, 1998; US 460 Morgan Co., 1999; US 62 South, Georgetown, 2000; Bluegrass Pkwy and KY 27 Interchange, Anderson Co., 2001; KY 519, Rowan County, 2002; US 641, Crittenden County, 2005; US 25, Madison County, 2008-09; US 68, Bourbon County, 2009-10; Clark County, 2011; US 68 Millersburg By-pass, Bourbon County, 2012-13; US 119, Bell County, 2014-15; US 25, Madison County, 2016-17; Excess Land, Georgetown By-pass, 2020; Access Break, Industrial Drive, Lebanon, 2020; Excess Land, Bluegrass Parkway and Harrodsburg Road, Lawrenceburg, 2021.

Railroad Right of Way Experience: CSX in Floyd, Perry, Clark, Woodford, Franklin, Montgomery, Johnson, Magoffin, Breathitt, Fayette, Madison, Mason, and Bourbon Counties, 1987-2016.

Rails to Trails: Rowan County, 2005; Montgomery County, 2009, Franklin County, 2014; Floyd County, 2016.

MARY MCCLINTON CLAY
PROFESSIONAL QUALIFICATIONS

Environmental Damage Studies: *Yellow Creek Concerned Citizens v. Middlesboro Tannery*: effect of tannery contamination on 350 properties along Yellow Creek, Bell County, KY, 1988; *James E. Sullivan, et al v. Board of Regents, et al*: effect of Animal Waste Fermentation Project at the Organic Pasteurization Plant at North Farm of Murray State University on Sullivan's Executive Par 3 Golf Course and Sports Center, Murray, KY, 2003; West Farm Subdivision, Pulaski County: effect of contamination of groundwater from underground storage of dry cleaning solvents on residential lot values, 2004; *Gene Nettles, et al v. Environmental and Public Protection Cabinet: Division of Water, David Morgan, Director and J.P. Amberg Hog Farm*: Diminution of Value Analysis As a Result of Proximity to Hog Facilities in Daviess, Warren, Calloway, Graves, Hickman and Carlisle Counties, Kentucky, 2006; *Terry Powell, et al v. Tosh, et al*: Diminution of Value Analysis as a Result of Proximity to Hog CAFOs in Marshall County, KY, 2007; *City of Versailles v. Prichard Farm Partnership, Ltd.*: effect of sewage treatment pump station and ancillary easements upon Woodford County cattle farm, 2008; *Kentucky Utilities Company v. James and Mary Jent, CDH Preserve, LLC and Farm Credit Services of Mid-America, FLC, Violet Monroe*: the effect of High Voltage Transmission Lines on three Hardin County agricultural properties, 2011; *Terrence G. Kerschner, et al v. Burley Oil Company, et al*: the effect of Leaking Underground Gasoline Tanks on Country Lane Estates, Frankfort, KY, 2013; *Jerry Whitson v. Donnie Cross*: effect of Drainage Encroachment upon Adjacent Property, 2013; the effect of Cell Tower on Bourbon County Farm, 2014; *Steve D. Hubbard v. Prestress Services Industries, LLC*: effect of Fugitive Particulate Emissions upon a Single Family Dwelling, 2016; *Henderson City-County Airport v. Mary Janet Williams, et. al.*: the effect of Proximity of a Regional General Aviation Airport on Agricultural Values, 2019; *Patricia Kushino, et al v. Federal Aviation Administration, et al*: the effect of Stormwater Drainage on Woodland Value, 2021.

Additional Damage Studies:

Faulty Construction: 172 Post Oak Road, Paris, KY; 152 Cross Creek Drive, Paris, KY; Hartland Subdivision, Lexington, KY

Flood Damage: 208 Cary Lane, Elizabethtown, KY

Blasting Damage: Chicken Farm, Tolesboro KY

Super Fund Sites: KY Wood Preserving, Inc., Winchester, KY; River Metals Recycling, Somerset, KY

Industrial Scale Solar Farms: "A Summary of Solar Energy Power Systems Damage Studies as of May 25, 2021"

Expert Witness: Circuit Courts of Bourbon, Carter, Fayette, Franklin, Hardin, Laurel and Woodford Counties

Court Testimony:

Laurel Circuit Court: *Yellow Creek Concerned Citizens v. Middlesboro Tannery*, 1995.

Franklin County Circuit Court: *Richard McGehee v. Commonwealth of Kentucky Transportation Cabinet*, 2008; *Terrence G. Kerschner, et al v. Burley Oil Co., et al*, 2014.

Hardin County Circuit Court: *Richard McGehee v. Commonwealth of Kentucky Transportation Cabinet*, 2008.

Woodford County: *Horn v. Horn*, 2009

Bourbon County Circuit Court: Blasting Case, 1980s; Waterway Impediment Case, 2000; Faulty Construction, 2009, *Hadden v. Linville*, 2015.

Fayette County Circuit Court: Faulty Construction, 1980s; Bluegrass Manufacturing (Divorce Case), 1999, *Whitson v. Cross*: Drainage Encroachment, 2013.

Carter County: Condemnation for Commonwealth of KY Transportation Cabinet.

MARY MCCLINTON CLAY
PROFESSIONAL QUALIFICATIONS

Conservation and Wetland Easements: Bluegrass Heights Farm, Fayette County: Conservation and Preservation Easement; Wetland Easements in Pulaski, Lincoln, and Fulton Counties for NRCS.

Zoning Support: *John Vance, et al v. Paris City Commission* 2019; *Citizens for Progressive Growth and Development v. Paris Bourbon County Planning Commission* 2004-2007 and 2016; *Paris First v. Paris Bourbon County Planning Commission* 2003-2006; *Paris First v. Paris City Commission* 2002-2003; *Coppers Run Historic District, Inc. v. Abundant Life Worship Center* 1995; *Sugar Grove Farm v. East Kentucky Power* 1994-1996; *Lawrence Simpson, et al v. Harry Laytart* 1986-1996.

Professional Organizations:

Appraisal Institute: MAI, 1985; SRPA, 1982; SRA, 1980

Appraisal Institute Education Certification:

The Appraisal Institute conducts a voluntary program of continuing education for its designated members. I am certified under this program through December 31, 2023.

Education: Hollins College, B.A., 1972

Appraisal Education: Society of Real Estate Appraisers Course 101, 1977; SREA Course 201, 1978; SREA Course 301, 1981; AIREA Course VIII, 1979; AIREA Course VI, 1979; AIREA Course II, 1980; AIREA Course in Investment Analysis, 1980; AIREA Course in Valuation Litigation, March, 1986; Appraisal Institute Standards of Professional Practice, 1992; AIREA Comprehensive Examination, August, 1983; Courses in Real Estate Finance, Income Property Appraisal, Real Property Valuation, and Investment Analysis, 1977-1978, Eastern Kentucky University; Appraisal Institute Course 400G, Market Analysis/Highest and Best Use, 2008, Conservation Easement Certification, 2008.

Attended numerous seminars covering a variety of topics including investment analysis, feasibility and market analysis, eminent domain and condemnation, valuation of lease interests, component depreciation, risk analysis, current issues in subdivision and zoning law, Yellow Book and appraiser as expert witness.



Conway Township Planning Commission

Monday, December 12, 2022 | 7:00pm

Fowlerville Junior High School | 7677 Sharpe Road, Fowlerville, Michigan 48836

Communications Received Regarding Amendments to Section 6.26 – Solar Energy Systems

Swain, Meghan

From: PC Chair <PCChair@conwaymi.gov>
Sent: Monday, December 5, 2022 8:03 AM
To: Swain, Meghan
Subject: [EXTERNAL] FW: No Utility Scale Solar Power Plants

From: rahartley@tds.net <rahartley@tds.net>
Sent: Thursday, November 17, 2022 8:45 AM
To: PC Chair <PCChair@conwaymi.gov>
Subject: Fwd: No Utility Scale Solar Power Plants

From: rahartley <rahartley@tds.net>
To: clerk <clerk@conway.mi.gov>
Date: Wednesday, 9 November 2022 11:10 AM EST
Subject: No Utility Scale Solar Power Plants

These are my concerns with the Utility Scale Power Plants in Conway township.

1. First they will reduce the value of our homes any where near them , they are risk to our health and an environmental issue.
2. They are to expensive as a means to provide electricity.
3. MI does not have enough days with sunshine to make them worth while.
4. All these panels would be made in China and that is helping a Communist countries economy not ours.
5. This is not proper land use for a Residential- Agricultural area.

I want this attempt stopped by not allowing these companies to put any Solar Panel farms in Conway township.

We have another more important issue facing Conway township citizens. That is our Internet speeds we have to live with. We have TDS for our provider and our speeds are only 11- 12 MB. Everyday we lose connections with our TV due to the speed we now have when we are streaming. TDS just a mile from where I live provides these homes with 50MB's. I asked them when will I get that speed. They said it is to costly to update our lines to provide us that speed. What has happened to all that money to help get better speeds in our area that I have seen articles written about? Who is responsible for getting something done about our Internet speeds with that money? Can someone please call me to discuss at 517-468-1642.

Sincerely, Ronald Hartley

4300 Herrington Road
Fowlerville, MI 48836

Swain, Meghan

From: PC Chair <PCChair@conwaymi.gov>
Sent: Monday, December 5, 2022 8:14 AM
To: Swain, Meghan
Subject: [EXTERNAL] FW: Utility scale solar

From: Karen Oneil <ksoneil61@gmail.com>
Sent: Wednesday, November 16, 2022 1:41 PM
To: PC Chair <PCChair@conwaymi.gov>
Subject: Utility scale solar

I am writing to you today as a concerned citizen who resides in Conway Township. I recently have been made aware of a large-scale utility solar panel project coming to Fowlerville. I did not hear this from my Township but instead heard it from other concerned residents. I am deeply concerned about the lack of knowledge I have been provided about this project, what it could mean for our community and the detriment it will leave behind. I currently reside on Hayner Road and am surrounded by farm fields. I have lived in Livingston County and Fowlerville for all of my life and my family has been here since approximately 1887. The possibility of having a couple of land owners ruin our way of life is unsettling. Not only are large scale utility solar projects unsightly but the damage they leave behind is disturbing. I am concerned about the environmental consequences and I am also deeply concerned how this change will instantly decrease the value of my property, my neighbor's property and overall, the property value for Fowlerville in general. With farmland rapidly disappearing I feel it is important that we as a community do our part and continue to grow food and crops for our community, those around us and for the rest of the world. I oppose the large-scale utility solar project you are trying to bring in to Fowlerville and for that reason I am requesting that you please do not do this to our community.

Karen O'Neil

Address unknown to property search

“In the effort to try to save the climate, are we destroying the environment?”

Michael Shellenberger January 4, 2019

I am writing to express our opposition to the proposed Utility Scale Solar projects that are being pursued by Conway Township. My family lives at 9402 Sober Road and our property would be directly affected by such projects.

Based on information provided in the Michigan State University Planning & Zoning for Solar Energy Systems guide, which is intended to help communities have zoning regulations in place to address all scales of Solar Energy Systems (SES), it is vital that communities have planning and zoning in place to address these proposals. By doing so, the communities have the opportunity to proactively determine how SES can fit into their landscape through master planning and zoning ordinance development. A community's Master Plan sets the vision and high-level goals for the community. Local policy related to renewable energy generation is established first in the master plan. Including SES in local plans support the establishment of related zoning regulations, consistent with the requirements of the Michigan Zoning Enabling Act (MZEA). A community-supported vision, followed by the adoption of reasonable zoning standards, together establish a successful framework for SES in a community. Incorporating renewable energy into the master plan is a logical place to start before drafting zoning regulations. The MZEA **requires** that all zoning be based on a plan. The master plan therefore establishes the community's formal policy position on solar energy development. While neither ideal nor recommended, communities sometimes zone first and plan second. If a community cannot avoid amending the zoning ordinance without first amending the plan, they should work closely with a qualified planner or municipal attorney to perform a master plan review in order to find element that support or contradict a solar energy zoning amendment.

Conway Township has not informed its residents in the ongoing plan to proceed with Utility Scale Solar projects that will negatively affect many homeowners. Changes such as reduced setbacks (originally 1000 ft was amended 200 ft) and criteria for the use of all solar energy equipment (originally 6 months to repair, remove, or replace was amended to 12 months) have been made to our current Zoning Ordinance that does not protect property owners from the negative affects of decreased property value, possible health issues due to contamination, drainage issues, decreased wildlife for those who hunt for their family's food source and general aesthetics of our country views. The original set back was put in place to protect those living in agricultural areas. These changes will leave us vulnerable and have negative impacts for years to come opening the door for additional projects that are not consistent with our township's current Master Plan. It is clear that our Township Planning Commission did not have the knowledge needed to properly make the amendments especially in the time constraints of a moratorium. They relied on the knowledge of the township attorney who does not specialize in land use. They should have quickly realized they would need to seek counsel specializing in land use.

Without proper information township officials were easily misled with information from the developers instead of relying on unbiased research that so many have been doing related to solar energy. The changes have been made with immense pressure from the developers and large families that have a long history in the township and community. The township chose not to communicate with the public which could have voiced the many, many concerns which would lead to the areas of research that were necessary to draft proper ordinance amendments. With lack of knowledge and time constraints the township did not address zoning problems or create an overlay district and now the developers are aggressively pursuing the township without an adequate zoning ordinance in place to protect the citizens who live here.

The township is gambling with potential decreases in property values of up to a 30% for homeowners adjoining said projects (the township Master Plan notes adverse effects of industrial operations). For many people, the value of their home is their biggest retirement asset which they have spent years updating, fixing and improving because they love where they live. With increased pressure from federal and state governments for continued renewable energy programs, it is likely that solar companies will become excluded from personal properties taxes in the future. This will mean only the farmers who decided to participate will benefit from the lease payments, not the schools, not the township, not essential services. So, the price paid will be on the backs of the homeowners.

Conway Township as noted in their own Master Plan, is commuter county with 93% of it's residents driving an average of 40 minutes to work. The residents of this township chose their property and the agricultural aesthetic over their time to commute and vehicle costs to get to work. This means increased fuel and maintenance to live in the peaceful country setting we chose at the time of purchase. These projects would completely change the landscape of not just from our houses but our drives to and from work, school, church and everyday activities.

In reading our township's Master Plan we feel the planned solar project contradicts the following stated objectives:

1. Preserve and promote the right of the individual property owner while maintaining a rural way of life.
2. Protection of natural resources and rural character of the township.
3. Neighborhoods must prevent pollution and siltation of wetland by controlling drainage and stormwater runoff.
4. Enhance single family residential character of neighborhoods.
5. Preserve existing agricultural operations and encourage continued farming activities through long-term protection of agricultural resources.
6. Encourage limitations of development densities, and the avoidance of excess consumption of prime farmland.
7. Allow for **small** industrial development in a manner that maintains the health and vitality of the surrounding natural environment.
8. Identify **appropriate** locations in the township for **small-scale** commercial and industrial land uses.
9. Update Zoning Ordinance to allow for renewable energy generation in designated areas of the community. (This is clearly listed in the Industrial Goals section yet the projects are targeting agricultural property).
10. Preserve the natural resources of the township, including its open spaces, woodlands, wetlands, agricultural areas, floodplains and natural aesthetics.
11. Preserve the natural water bodies and drainage ways, flora and fauna, and unique geologic landforms, which give Conway Township its natural character.
12. Update the Zoning Ordinance and other enforcement tools to ensure development will minimize disruptions to wetland, floodplains, rivers, and other natural features. Maintain and protect the surface and groundwater throughout the township through strategic measure that prevent wastewater discharge.
13. Permit alternative sources of energy that benefit township residents and do not negatively impact the township's unique character and natural resources.
14. Conway Township is a zoned community that promotes the preservation of the existing farmland, woodlands and wetlands, and other natural resource asset of the community.
15. To maintain and preserve the desired rural character of the township and immediate areas surrounding the designated area; industrial land use will require high quality site design layouts, standards and bulk regulation necessary to mitigate, or avoid **adverse effects created by industrial use and operation; i.e. noise, smoke, glare, waste and other features of typical industrial operations. Strict compliance with standard zoning regulations and zoning district regulations should be enforced.**
16. Conway Township must effectively communicate the importance of long-term planning. Notify residents of meetings that will address development and public service improvement proposals. Notification should be provided through **multiple sources** including the township's newsletters, Municipal postings, community website, and other available means of communication. (We found out three weeks ago and every neighbor we have spoken to had no idea as well).
17. The local government has the responsibility to protect the health, safety, and welfare of their citizens. **Proactive mitigation policies and actions reduce conflicts and promote safe and resilient communities.**
18. Preserve existing agricultural operations and encourage farming activities through long term protection of agricultural operations.

As you can see this is not a small list of contradictions with the current Township Master Plan which will negatively impact a large number of residents for projects that only benefit a few. Additionally, there is so much research that shows solar energy is not an adequate renewable energy source. Energy costs continue to rise, they are not recycled and contain hazardous materials, they have serious and permanent negative affects to water sources and animals. As

the search for proper renewable energy progresses and technology advances solar farms will be a thing of the past. Not for our residents though...we will be stuck looking at them for 25-30 years.

We sincerely hope you will consider the concerns of our small town for the people who want to live in a peaceful setting and enjoy our natural country aesthetics.

Sincerely,

Robert P. Porter
Sarah K. Porter
9402 Sober Road
Fowlerville MI 48836

Swain, Meghan

From: PC Chair <PCChair@conwaymi.gov>
Sent: Tuesday, December 6, 2022 10:24 AM
To: Swain, Meghan
Subject: [EXTERNAL] FW: Stop Solar Power Plants

From: Janet Riley <THREEBOYS_712@msn.com>
Sent: Tuesday, November 8, 2022 10:18 AM
To: Elizabeth Whitt <clerk@conwaymi.gov>
Cc: PC1 <PC1@conwaymi.gov>; PC2 <PC2@conwaymi.gov>; Bill Grubb <supervisor@conwaymi.gov>; PC Secretary <PCSecretary@conwaymi.gov>; PC3 <PC3@conwaymi.gov>; Trustee 1 - Conway Township <trustee1@conwaymi.gov>; Trustee 2 - Conway Township <trustee2@conwaymi.gov>; abby@crlaw.biz; PC Chair <PCChair@conwaymi.gov>
Subject: Stop Solar Power Plants

Dear Liz Whitt,

My name is Janet Riley. I live at 5987 Lovejoy Rd. I am against the solar power plants being permitted in Conway and Cohoctah townships. I cannot believe they are even being considered. This will totally destroy many peoples lives and this community. Home values will decrease. No one will want to move to Fowlerville if you permit this eye sore. The schools will receive tax dollars but the student population will decrease. I am concerned for my families safety and also all the wildlife habitat and safety.

The township board was elected to serve all the people, not the few select farmers who will profit tremendously while crushing others dreams. In my opinion, this is dirty money. This should be proposed on an election ballot and voted on by all the people in the township.

I am not against solar energy but it should be done in an industrial area or along side the highway, not next door and surrounding peoples homes where they are raising their children.

Stand up for the people of this township, DO NOT BE BULLIED by these powerful companies!!

Please include my letter in the township hall meetings and confirm that you have received it.

Janet Riley

Sent from Mail for Windows

Address unknown in Conway Township

From: steven weiss <stevenweiss7@gmail.com>
Sent: Monday, November 7, 2022 1:37 PM
To: Elizabeth Whitt <clerk@conwaymi.gov>
Subject: To: Conway Township zoning and planning commission

To: Conway Township zoning and planning commission
Cc: Conway Township clerk
Cc: Livingston county planning commission

From: Steven Weiss
7104 Sober Rd.
Fowlerville, Mi. 48836

Re: proposed utility scale solar farms in the Township

As a tax paying resident of this Township for the past 32 years, I vehemently oppose the proposed installation of utility scale solar farms in the township.

The size and scope of this proposed project is going to negatively impact this community.

First and foremost it is a major eyesore for the residence who live in this area for its rural charm.

The impact that all of this extra traffic of construction equipment and vehicles is going to reach havoc on the roads that are already in horrible shape.

The township residents expressed their approval years ago to increase their property taxes to help pay for road construction and improve these roads now we're going to go the other way?

I think it would be a good idea for the elected Township and county officials to listen to what the residents want and not with some big energy companies and corporate farmers greed. we all know that this is what it comes down to.

Some years back when they decided to revamp the master plan to address subdivisions in this Township they asked for residents input and approval on how to go about doing this.

Article 7. Section 7.01 of the Conway Township master plan that was approved. The very first paragraph "the agricultural residential district is established to preserve and protect lands best suited for agricultural uses while also designating land area for rural residential living that does not alter the general agricultural character of the district."

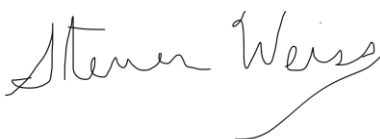
How can this possibly ok

to install vast amounts of solar panels in these areas that are supposed to be protected to not alter the general agricultural character of the district?

Other negative impacts on the residence include a decrease in property value, noise from the inverters (Constant humming sound), Impaired views, potential toxin or metal contamination that these panels are going to be constructed of, major drainage issues (in an area that has already has flooding issues), impact on the local wildlife, just to name a few.

Please listen to the residents that you are supposed to be representing and protecting their best interests and not that of big business.

Steven Weiss
7104 Sober Road
Fowlerville, Mi. 48836
Stevenweiss7@gmail.com



Swain, Meghan

From: PC Chair <PCChair@conwaymi.gov>
Sent: Monday, December 5, 2022 8:03 AM
To: Swain, Meghan
Subject: [EXTERNAL] FW: Large scale utility project

From: nicole williams <nicolechandler2727@hotmail.com>
Sent: Wednesday, November 16, 2022 10:39 AM
To: PC Chair <PCChair@conwaymi.gov>
Subject: Large scale utility project

Good morning,

I am writing to you today as a concerned citizen who resides in Conway Township. I recently have been made aware of a large-scale utility solar panel project coming to Fowlerville. I did not hear this from my Township but instead heard it from other concerned residents. I am deeply concerned about the lack of knowledge I have been provided about this project, what it could mean for our community and the detriment it will leave behind. I currently reside on Sober Road and am surrounded by farm fields. I moved to Livingston County and Fowlerville particularly to live out in the country. The possibility of having a couple of land owners ruin our way of life is unsettling. Not only are large scale utility solar projects unsightly but the damage they leave behind is disturbing. I am concerned about the environmental consequences and I am also deeply concerned how this change will instantly decrease the value of my property, my neighbor's property and overall, the property value for Fowlerville in general. With farmland rapidly disappearing I feel it is important that we as a community do our part and continue to grow food and crops for our community, those around us and for the rest of the world. I oppose the large-scale utility solar project you are trying to bring in to Fowlerville and for that reason I am requesting that you please do not do this to our community.

Sent via the Samsung Galaxy S20 FE 5G, an AT&T 5G smartphone
Get [Outlook for Android](#)

address unknown to property search

MEMBERS
KEVIN M. HIRZEL, ESQ.*
MATTHEW W. HERON, ESQ.*
ADAM C. TOOSLEY, ESQ.**

HIRZEL LAW
CONDOMINIUM & REAL ESTATE LAW

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RICHARD M. TAUBMAN, ESQ.*
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MATTHEW P. MARKLEY, ESQ.*
KARA D. MOORE, ESQ.*

*Licensed in Michigan Only

**Licensed in Michigan and Illinois

***Licensed in Illinois Only

Chicago
564 W. Randolph St., Ste. 200
Chicago, IL 60661

Farmington
37085 Grand River Ave, Ste. 200
Farmington, MI 48335

Grand Rapids
250 Monroe Ave. NW, Ste. 400
Grand Rapids, MI 49503

Traverse City
1001 Bay St., Ste. E
Traverse City, MI 49684

Kara D. Moore
kmoore@hirzellaw.com
Farmington Location

November 4, 2022

VIA EMAIL (CLERK@CONWAYTOWNSHIP.COM abby@crlaw.biz)

Conway Township
Planning Commission
P.O. Box 1157
8015 N. Fowlerville Road
Fowlerville, MI 48836

CC: kcline-hudson@livgov.com
CC: Livingston County Planning Commission, 304 E Grand River Ave # 206, Howell, MI 48843
CC: Cohoctah Township at abby@crlaw.biz , bfearclerk@gmail.com
CC: supervisor@conwaymi.gov, trustee1@conwaymi.gov, trustee2@conwaymi.gov
RE: SOLAR ENERGY ZONING ORDINANCE AMENDMENT

Dear Planning Commission,

Please be advised that those signing below are residents of or owners of property in Conway Township ("Township"). It is our understanding that a meeting is scheduled for November 14, 2022, in which you intend to present and vote to approve an amendment to the Zoning Ordinance as they relate to Solar Energy. These residents and/or property owners wish to express their strong opposition to the proposed ordinance amendment; accordingly this letter is to urge you to reconsider and to inform you of the potentially drastic results that await the residents should this amendment be adopted.

This amendment to the Zoning Ordinance would reduce the setback requirements enforced against solar farms or the likes from 1,000 feet from a property line to 200 feet from a property line. Likely, this will dramatically decrease the value of the properties – affecting the residents in the short term and the Township in the long term. In fact, there have been many advanced studies that outline the significant decrease in property values within close proximity to solar farms or otherwise abutting solar farms or similar sites. (Exhibit A, Mary McClinton Clay Report, and Exhibit B, Dr. Herbert M. Eckerlin, PE, PhD, Letter.)

www.HirzellLaw.com

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Other negative impacts on the residents include noise from inverters (a constant humming sound), impaired view, potential toxin or metal contamination, and major drainage issues (in an area that already has flooding issues). In fact, the residents and property owners are concerned that the extensive construction, likely performed within a short time period, would greatly affect the water flow, drainage, and pooling issues, causing more flooding than which already occurs due to the area's highwater table and wetlands.

Although an amendment to the Solar Energy Zoning Ordinance appears necessary to address things such as required maintenance of the solar projects and the proper locations for such, the proposed Amendment is not the proper or desired course of action. The Solar Energy Zoning Ordinance Amendment fails to address proper zoning locations for such solar use, permitting such to be located within Agricultural Residential areas while many residents and/or property owners would prefer to see this amended to be restricted to Industrial areas only as the placement of such in Agricultural or Agricultural Residential areas would not be harmonious with its surroundings. There is no evidence of a demonstrated need that would prevent the total prohibiting of solar farms or the like from areas zoned as Agricultural, Residential, or Agricultural Residential.

Further, there are many aspects that the residents or property owners wish to be addressed in any amendment to the Solar Energy Zoning Ordinance. The proposed Amendment fails to address maintenance needs as they relate to the Solar farms, devices, properties, or the likes. This is an imperative term to set forth from the onset and should be included in any amendment to the Solar Energy Zoning Ordinance. Also, many residents desire a berm requirement written into the ordinance, which is currently left to the Planning Commission's discretion, and desire a demonstrated public need requirement included in the ordinance for any solar energy use(s).

Moreover, the manner in which this ordinance is drafted clearly does not take into account the public interest, and instead, is tailored to the desires of the energy companies. This is not the role of the Township and should not be the reason why this is being undertaken. In fact, it is evident that this amendment was drafted with a heavy influence from the developers, energy companies, or individuals with an interest in solar energy – even the notice appears to have been issued by a news company owned by an interested party. In stark contrast, there has been no input from the residents and/or property owners who will be affected – to whom this Township owes its duty. Pursuant to the Township Bylaws, Amended December 21, 2017, the Township's purpose is as follows:


The purpose of this ordinance is to impose certain regulations and restrictions in order to effectively implement the Conway Township Comprehensive Plan by controlling the use of land, buildings and structures **to promote the public health, safety and general welfare of the residents of Conway Township.** Zoning districts are established in this ordinance of such number, shape and area, and of such common unity of purpose, adaptability or use, that are deemed most suitable to provide the highest and best use of the land and **protect the common rights and interests of all, while promoting wholesome, harmonious and aesthetic development of Conway Township.** Regulations and restrictions within this ordinance limit the location, height, bulk, number of stories, size, use and occupancy of dwellings, structures and land for agricultural, residential,

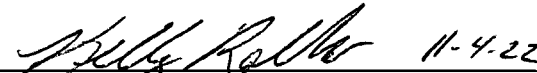
commercial or other purposes, with such minimum regulations as are deemed necessary to carry out the provisions of the ordinance. (Emphasis added.)

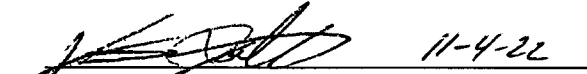
Accordingly, the Township would be failing in its purpose if this amendment should be adopted as it would clearly not protect the residents' rights and/or interests in their properties. Moreover, it would deplete the agricultural aesthetic that is a primary characteristic of the Township. Further, it is unknown what health and safety concerns close and continuous proximity to the Solar Farms could cause both to the residents and to the land.

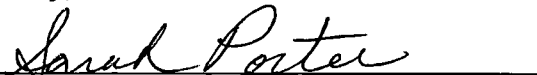
Below are the signatures of the ever-growing list of residents and/or property owners, opposing the Solar Energy Zoning Ordinance Amendment.


WHEREFORE, we, the undersigned residents, oppose the adoption of the proposed Solar Energy Zoning Ordinance Amendment.



Steven Weiss
7104 Sober Rd.
Fowlerville, MI 48836



Kelly Ralko
11935 Daisey Ln.
Perry, MI 48872

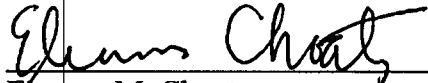

Kevin Ralko
11935 Daisey Ln.
Perry, MI 48872



Sarah Porter (Porter Family Trust)
9402 SOBER RD
Fowlerville, MI 48836


Robert Porter (Porter Family Trust)
9402 SOBER RD
Fowlerville, MI 48836


Gregory Busick
7575 Sherwood Rd.
Fowlerville, MI 48836


Parker, Kennedy M.
7000 Hayner Road
Fowlerville, MI 48836


Eleanor M. Choate
7540 Fowlerville Rd
Fowlerville, MI 48836


James Dannemiller
6425 Chase Lake Rd.
Fowlerville, MI 48836


James E. Choate
7540 Fowlerville Rd
Fowlerville, MI 48836

Antoinette Busick

Antoinette Busick
7575 Sherwood Rd.
Fowlerville, MI 48836

Cheryl Toomey

Cheryl Toomey
11363 Owosso Rd.
Fowlerville, MI 48836

Dan Clacher

Dan Clacher
7617 W. Sherwood Rd.
Fowlerville, MI 48836

Tara M. Keyes

Name: Tara M. Keyes
Address: 11841 Daisy Ln.
Perry, Mi. 48872

Bill Neaton

Name: BILL NEATON
Address: 7033 HAYNGR
FOWLERVILLE MI

Sheila James

Name: Sheila James
Address: 11385 OWOSSO Rd.
Fowlerville mi 48836

Sam Muecke

Name: Sam Muecke
Address: 7033 Hayner Rd
Fowlerville MI 48836

Name: Bob NATION
Address: 6225 GURDY Rd
Berkley, MI 48248

Name: STACY SALOIS
Address: 9230 NICHOLSON Rd
Fowlerville MI 48836

Name: ROBERT BARNETT
Address: 6750 HAYNER RD
Fowlerville MI

Name: LON SMITH
Address: P.O. Box 3290
ANN ARBOR MI 48106
* own 80 acres in Conway

Name: SCOTT FLAHERTY
Address: 8655 NICHOLSON RD
Fowlerville, MI

Name: STEVE SMITH
Address: 8163 Robb Road
Fowlerville

Pam & Rusty Sarver
9094 Robb Rd.
Fowlerville,
Pam & Rusty
William R Sarver

Signature: Jody Radnosky
 Name Print: Jody Radnosky
 Address: 9418 Robb Rd
Fowlerville MI

Signature: Michael Toole
 Name Print: Michael Toole
 Address: 9364 Robb Rd
Fowlerville, MI 48836

Signature: Laurel Toole
 Name Print: Laurel Toole
 Address: 9364 Robb Rd
Fowlerville MI 48836

Signature: Roxan T. Henriksen
 Name Print: Roxan T. Henriksen
 Address: 10888 Hayner Rd
Fowlerville, MI 48836

Signature: Devin Henriksen
 Name Print: Devin Henriksen
 Address: 6888 Hayner
Fowlerville, MI

Signature: Robert K. Henriksen
 Name Print: Robert K. Henriksen
 Address: 6888 HAYNER RD
FOWLERVILLE MI 48836

Signature: Judy Bell
 Name Print: Judy Bell
 Address: 11675 Owosso Rd.
Fowlerville, MI 48836

Signature: Jonathan Bell
 Name Print: JONATHAN BELL
 Address: 11675 OWOSSO RD
FOWLERVILLE, MI 48836

Signature: Ransom DeFaut
 Name Print: Ransom DeFaut
 Address: 8708" Featherline
Fowlerville

Signature: Steve Jolliff
 Name Print: STEVE JOLLIFF
 Address: 9834 MARSH RD
Fowlerville, MI

Signature: Lynne M. McLean
 Name Print: Lynne M McLean
 Address: 9411 Pierson
Fowlerville MI 48836

Signature: Dawn Demerly
 Name Print: Dawn Demerly
 Address: 7415 Lovejoy Rd
Byron MI 48418

Signature: William V. Piggins
 Name Print: WILLIAM V. PIGGINS
 Address: 10595 STOW RD
WEBBERVILLE MI 48892

Signature: Danny DeLaVergne
 Name Print: Danny DeLaVergne
 Address: 8860 N. Robb rd.
Fowlerville MI

Signature: Jeremy Kirby
 Name Print: Jeremy Kirby
 Address: 7320 Nicholson Rd.
Fowlerville MI 48836

Signature: Donna Gaspar + Skiven
 Name Print: Donna Gaspar
 Address: 5344 Chase LK
Fawnville MI 48836

Signature: Dawn Demerly
 Name Print: Dawn Demerly
 Address: 9290 CHASE LAKE
Fowlerville

Signature: Lonna Rajala
 Name Print: Lonna Rajala
 Address: 8893 N. Gregory Rd.
Fowlerville, MI 48836

Signature: Brad Rajala
 Name Print: Brad Rajala
 Address: 8893 N. Gregory
Fowlerville, MI 48836

Signature: Jason Urbanus
 Name Print: JASON URBANUS
 Address: 18575 Sober
Webberville, MI 48892

Signature: Patrick Eastman
 Name Print: PATRICK EASTMAN
 Address: 9015 Pierson
Fowlerville MI

Signature: Brenda Wellman
 Name Print: Brenda Wellman
 Address: 8657 Killinger
Fowlerville, MI 48836

Signature: *Larisa Lane*
Name Print: Larisa Lane
Address: 12800 Sober Rd.
FOWLERVILLE, MI 48836

Signature: *Cathy Quick*
Name Print: Cathy Quick
Address: 6728 Sober
Fowlerville, MI 48836

Signature: *Paul Quick*
Name Print: Paul Quick
Address: 6728 Sober Rd
FOWLERVILLE, MI 48836

Signature: *Sue Beyer*
Name Print: SUE BEYER
Address: 6825 SOBER
FOWLERVILLE, MI 48836

Signature: *Jessica Beyer*
Name Print: Jessica Beyer
Address: 6825 Sober rd
Fowlerville MI 48836

Signature: *Gerrit Eaten*
Name Print: Gerrit Eaten
Address: 11509 Saddle Dr
Fowlerville MI 48836

Signature: *Amy Otten*
Name Print: Amy Otten
Address: 11509 Saddle Dr
Fowlerville, MI 48836

Signature: *Matthew Osborne*
Name Print: Matthew Osborne
Address: 7179 Neyland Drive
Fowlerville, MI 48836

Signature: *Aaron Kates*
Name Print: Aaron Kates
Address: 8537 Killinger Rd
Fowlerville, MI

Signature: *Debbie Brown*
Name Print: Debbie Brown
Address: 7386 Rustic Way Drive
Fowlerville, MI 48836

Signature: *Scott Bessert*
Name Print: SCOTT BESSERT
Address: 7360 Stow Rd
FOWLERVILLE MI 48836

Signature: *Edward Hillard*
Name Print: EDWARD HILLARD
Address: 9389 Woodway Lane
FOWLERVILLE MI 48836

Signature: Robert L. Stidham
Name Print: Robert L. Stidham
Address: 8362 Sober Rd
Fowlerville, MI 48836

Signature: Chelsey Duggan
Name Print: Chelsey Duggan
Address: 11954 Secluded Ridge
Byron MI 48418

Signature: Ryan Poniewierski
Name Print: Ryan Poniewierski
Address: 7238 North Gregory Rd
Fowlerville, MI 48836

Signature: Chad Colton
Name Print: CHAD COLTON
Address: 10720 Chase Lake Rd
Fowlerville MI 48836

Signature: Grant Woolley Jr
Name Print: Grant Woolley Jr
Address: 7388 Fowlerville Rd.
Fowlerville MI 48836

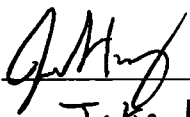
Signature: Darren Duffney
Name Print: Darren Duffney
Address: 7053 Chase Lake Rd
Fowlerville MI 48836


Signature: Curtis L Peterson
Name Print: Curtis L Peterson
Address: 8126 Ruger Ridge
Fowlerville, MI 48836

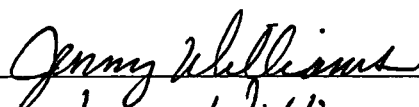
Signature: Dakota Brooks
Name Print: Dakota Brooks
Address: 8051 North Rd
Fowlerville, MI

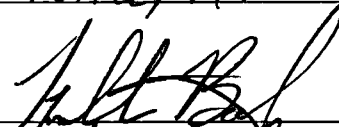
Signature: Ryan Duggan
Name Print: Ryan Duggan
Address: 11954 Secluded Ridge
Byron MI 48418

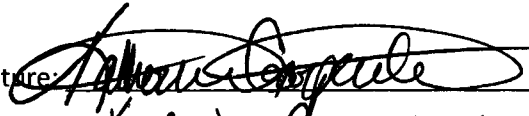
Signature: Kyle Merritt
Name Print: Kyle Merritt
Address: 7140 Robb Rd
Fowlerville, MI


Signature: 
 Name Print: Jake Henry
 Address: 7800 W. Allen Rd
Fowlerville, MI

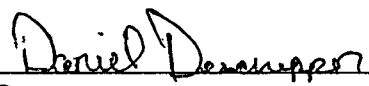
Signature: 
 Name Print: David James
 Address: 11211 STOW RD
Webberville MI


Signature: 
 Name Print: Jenny Williams
 Address: 7810 N. Gregory Rd
Gouldenville, MI 48936

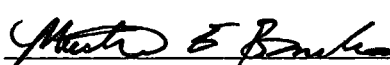
Signature: 
 Name Print: Nicholas Bailey
 Address: 7724 Hidden Knoll Ct.
Byron, MI, 48418


Signature: 
 Name Print: Katherine Carpenter
 Address: 11521 Gen Mary Dr
Byron MI 48418

Signature: 
 Name Print: Michael R. Carpenter
 Address: 11521 Glen Mary Dr.
Byron, MI 48418

Signature: 
 Name Print: Daniel Descheppe
 Address: 10505 Lovejoy Rd.
Perry MI 48872

Signature: 
 Name Print: Rebecca Descheppe
 Address: 10505 Lovejoy Rd
Perry MI 48872

Signature: 
 Name Print: Matthew E Banks
 Address: 11562 Glen Mary Dr
Byron MI 48418

Signature: 
 Name Print: Donald Dale Fenner
 Address: 8355 STOW R.D
WEBBERVILLE MI 48892

Signature: Kevin L Wood
Name Print: KEVIN L. WOOD
Address: 7473 N. GREGORY RD.
FOWLERVILLE, MI 48836

Signature: Christie Peterson
Name Print: Christie Peterson
Address: 8126 Roger Ridge
Fowlerville MI 48836

Signature: George Bird
Name Print: George Bird
Address: 3836 Herrington Rd
Webberville MI 48992

Signature: Tricia Annette Keezer
Name Print: TRICIA ANNETTE KEEZER
Address: 6588 ROBB ROAD
Fowlerville, MI

Signature: Lauren Harrison
Name Print: LAUREN HARRISON
Address: 9373 PIERSON
FOWLERVILLE MI 48836

Signature: Daniel Peterson
Name Print: Daniel Peterson
Address: 8126 Roger Ridge
Fowlerville MI 48836

Signature: Nathaniel Deschapper
Name Print: Nathaniel Deschapper
Address: 7661 Louisa Rd
Byron MI 48418

Signature: Jennifer Chase
Name Print: Jennifer Chase
Address: 3836 Herrington Rd.
Webberville MI 48892

Signature: Steve Killen
Name Print: Steve Killen
Address: 7812 Hiddencircle
Byron, MI

Signature: Danny Vander Velde
Name Print: Danny Vander Velde
Address: 7716 Hidden Cr. Dr.
Byron, MI

Signature: Loretta Joyce Smith
Name Print: Loretta Joyce Smith
Address: 7289 Lovejoy Rd
Byron, MI 48418

Signature: Em R Honey
Name Print: Emilee Honey
Address: 9161 Marsh Rd
Fowlerville, MI 48836

Signature: J.C.V.
Name Print: Joshua Cody VanKuren
Address: 10311 Redhawk
Perry MI

Signature: J.S.
Name Print: Jason Simmons
Address: 5216 N Herrington Rd
Webberville MI 48892

Signature: W.B.
Name Print: Wesley Bayle
Address: 11756 secluded vid gear
Byron mi

Signature: Angela Maher
Name Print: Angela maher
Address: 10920 Nicholson
Fowlerville, MI 48836

Signature: Edward Caudill
Name Print: Edward Caudill
Address: 7422 Sherwood
Fowlerville, MI 48836

Signature: Lori J Mudge
Name Print: Lori O Mudge
Address: 7422 Sherwood
Fowlerville, MI 48836

Signature: R.M.D.
Name Print: Robert M VanDike
Address: 9595 Sherwood
Fowlerville mi 48836

Signature: Gayle Jones
Name Print: Gayle Jones
Address: 131 S Benjamin
Fowlerville, MI 48836

Signature: Tom Smith
Name Print: Thomas Smith
Address: 9490 Sherwood rd
Fowlerville, mi 48836

Signature: Tom Nixon
Name Print: Tom Nixon
Address: 6953 Robb Rd
Fowlerville MI 48836

Signature: Robert R Delmotte
Name Print: Robert R Delmotte
Address: 11590 Fowlerville Rd
Fowlerville, MI 48836

Signature: Rebecca Perry
Name Print: Rebecca Randolph
Address: 10662 Redhawk Dr
Perry, MI 48872

Signature: Kathy Wehman
Name Print: Kathy Wehman
Address: 11591 Glen Mary Drive
Byron, Mi 48418

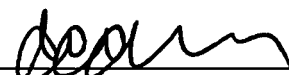
Signature: Steven Calmey
Name Print: STEVEN CALMEYN
Address: 9300 VOGT RD
Fowlerville. MI

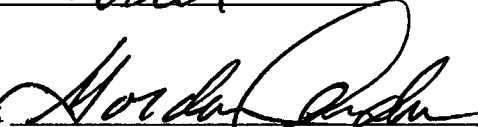
Signature: Angela Sawlino
Name Print: Angela Sawlino
Address: 11611 Glen Mary dr.
Byron, MI


Signature: Charles Rogers
Name Print: Charles Rogers
Address: 10921 W Allen
Fowlerville MI, 48836

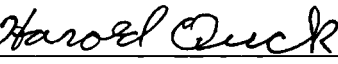
Signature: Alyssa Rogers
Name Print: Alyssa Rogers
Address: 10921 W. Allen
Fowlerville, MI 48836

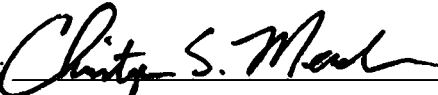
Signature: Ty Honsinger
Name Print: Ty Honsinger
Address: 8675 Horn Road
Fowlerville, MI 48836

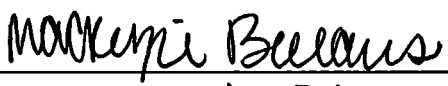
Signature: 
 Name Print: SCOTT CREAM
 Address: 6040 SHERWOOD RD
FOWLERVILLE

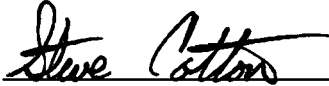
Signature: 
 Name Print: GORDON CLOUMAN
 Address: 11690 Mohrke Rd.,
Webberville, MI 48892

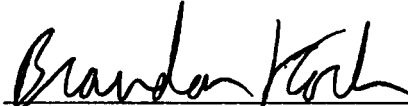
Signature: 
 Name Print: Breck Armstrong
 Address: 8550 Robb Rd.
Fowlerville, IL 48836

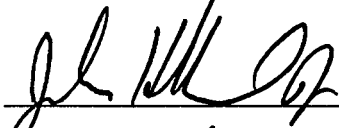
Signature: 
 Name Print: Harold Quick
 Address: 11063 OWOSSORD.
Fowlerville, mi. 48836

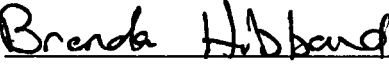
Signature: 
 Name Print: CHRISTOPHER S MEADOWS
 Address: 9101 CHASE LAKE ROAD
FOWLERVILLE, MI 48836

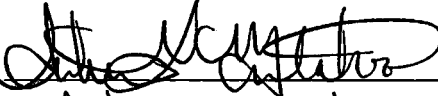
Signature: 
 Name Print: Mackenzie Bitous
 Address: 10423 N. Fowlerville Rd
Fowlerville, MI 48836


Signature: 
 Name Print: Steve Cotton
 Address: 8046 W Allen Rd
Fowlerville

Signature: 
 Name Print: Brandon Koch
 Address: 6795 Robb Rd
Fowlerville, MI 48836

Signature: 
 Name Print: John H. Hibbard Jr
 Address: 6980 Chase Lake
Fowlerville Mich 48836

Signature: 
 Name Print: 6980 Chase
 Address: Fowlerville, mi.
Brenda Hibbard

Signature: 
 Name Print: Autumn Montalvo
 Address: 9531 Sober Rd
Fowlerville, MI 48836

Signature: 
 Name Print: JAMES MONTALVO
 Address: 9531 SOBER RD
FOWLERVILLE, MI 48836

Signature: Willie Keim
 Name Print: WILLIAM KEIM
 Address: 7812 Hidden
CIRCLE BYRON MICH
48418

Signature: CATLY KILLEN
 Name Print: Catly Killen
 Address: 7812 Hidden Circle
Byron MI 48418

Signature: Ramon M. Miller
 Name Print: Ramon M. Miller
 Address: 7622 Sober Rd
Fowlerville MI, 48836

Signature: Harry C Boyd Jr
 Name Print: HARRY C BOYD, JR
 Address: 11756 Sochuded Ridge Rd
Byron, MI 48418

Signature: Jonathan Shane Hartsell
 Name Print: JONATHAN S. HARTSELL
 Address: 10990 Mohle Rd.
Fowlerville

Signature: Barry Hartsell
 Name Print: Barry Hartsell
 Address: 10990 Mohle Rd.
Fowlerville

Signature: Brynden Brockway
 Name Print: Brynden Brockway
 Address: 8720 Sherwood Rd
Fowlerville MI 48836

Signature: Landon Brockway
 Name Print: Landon Brockway
 Address: 8720 Sherwood Rd
Fowlerville MI 48836

Signature: Hudson Brockway
 Name Print: Hudson Brockway
 Address: 8720 Sherwood Rd
Fowlerville MI 48836

Signature: Stephen P. Achowski
 Name Print: STEPHEN P. ACHOWSKI
 Address: 11706 Maplefield Dr
BYRON MI 48418

Signature: Tracie Zander
 Name Print: Tracie Zander
 Address: 11600 Brimley Rd
Webberville

Signature: Debbie Ott
 Name Print: Debbie Ott
 Address: 7040 Fowlerville

Signature: [Signature]
 Name Print: Samantha Vandervelde
 Address: 7116 Hidden Circle Dr
Byron, MI 48410

Signature: [Signature]
 Name Print: JOHN TRAY
 Address: 9701 CHASE 1K RD
Fowlerville, MI

Signature: [Signature]
 Name Print: Charlotte Wallace
 Address: 11580 Bell Oak Rd
Webberville, MI 48892

Signature: [Signature]
 Name Print: MARCUS LeMay
 Address: 11649 Brimley Rd
Webberville, MI 48892

Signature: [Signature]
 Name Print: TERRI WRIGHT
 Address: 9394 Grant Rd
Fowlerville MI 48836

Signature: [Signature]
 Name Print: Amy Dixon
 Address: 6828 Robb rd
Fowlerville MI 48836

Signature: [Signature]
 Name Print: Donald D. Baughan
 Address: 8748 Gregory
Fowlerville MI 48836

Signature: [Signature]
 Name Print: Jennifer RWalker
 Address: 8574 Sherwood Rd
Fowlerville, MI 48836

Signature: [Signature]
 Name Print: Wesley Brown
 Address: 10222 CHASE 1K RD.
Fowlerville, MI 48836

Signature: [Signature]
 Name Print: Michael Wilson
 Address: 8155 Livisby Rd
Byron, MI 48418

Signature: [Signature]
 Name Print: TOBA Wilson
 Address: 8155 Loughey RD
Byron MI 48418

Signature: [Signature]
 Name Print: DUSTIN MILLER
 Address: 6799 SOBER RD
FOWLERVILLE, MI 48836

Signature: Daryl Tait
 Name Print: Daryl Tait
 Address: 6677 N. Fowlerville
Fowlerville Mi 48836

Signature: Tasha M Farmer
 Name Print: Tasha M Farmer
 Address: 6604 Fowlerville Rd
Fowlerville Mi 48836

Signature: Paul Raulik
 Name Print: Paul Raulik
 Address: 9513 Chase Lake Rd
Fowlerville

Signature: Dw T. Petty
 Name Print: Dw T Petty
 Address: 7980 N. Gregory Rd
Fowlerville mi

Signature: Jenny Petty
 Name Print: JENNY PETTY
 Address: 7980 N. GREGORY RD
FOWLERVILLE MI.

Signature: Lisa Varney
 Name Print: Lisa Varney
 Address: 6682 E. Julie Ct.
Byron MI 48418

Signature: Michael Scopeland
 Name Print: Michael Scopeland
 Address: 11992 Stow Rd
Perry MI 48872

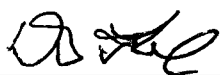
Signature: Pete Masalski
 Name Print: Pete Masalski
 Address: 8571 K. Hingora
Fowlerville mi 48836

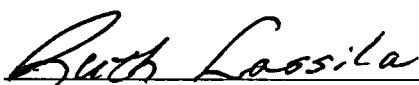
Signature: Tim Williams
 Name Print: Tim Williams
 Address: 7810 N. Gregory Rd.
Fowlerville

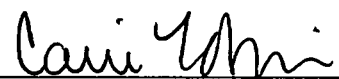
Signature: Marc Cram
 Name Print: Marc Cram
 Address: 7401 Robb Rd
Fowlerville, MI 48836


Signature: Elena Cram
 Name Print: Elena Cram
 Address: 7401 Robb Rd
Fowlerville, MI 48836

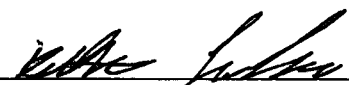
Signature: Melissa S. Sutfin
 Name Print: Melissa S Sutfin
 Address: 8236 N. Gregory
Fowlerville, MI 48836

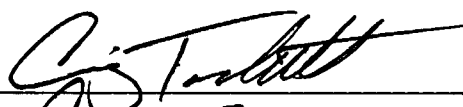
Signature: 
 Name Print: DAVID G LOE
 Address: 6881 SOBER RD
FOWLERVILLE MI 48836

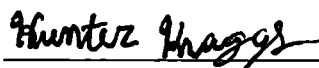
Signature: 
 Name Print: RUTH LASSILA
 Address: 6500 Fowlerville Rd
Fowlerville, MI. 48836

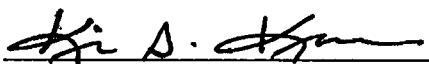
Signature: 
 Name Print: Carrie Tobin
 Address: 8531 Robb Rd
Fowlerville, MI 48836


Signature: 
 Name Print: LYLE Young
 Address: 9753 Sherwood Rd
Fowlerville MI


Signature: 
 Name Print: Katherine Lawless
 Address: 9472 Grant Rd
Fowlerville, MI 48836

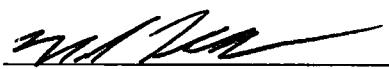
Signature: 
 Name Print: CRIG TACKETT
 Address: 9695 MARSH RD
Fowlerville MI 48836

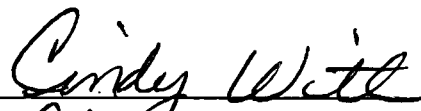
Signature: 
 Name Print: Hunter Knagg
 Address: 10927 Owosso rd
Fowlerville 48836


Signature: 
 Name Print: Kim Knagg
 Address: 10927 Owosso Rd.
Fowlerville, MI 48836.

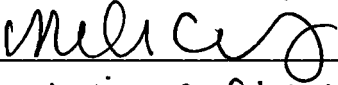
Signature: 
 Name Print: Pamela Koleno
 Address: 7617 Sherwood Rd.
Fowlerville 48836


Signature: 
 Name Print: Marvin R. Witt
 Address: 7065 Lovejoy Rd
Byron, Mich. 48418

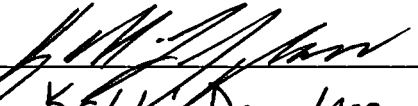
Signature: 
 Name Print: MARK LAWLESS
 Address: 9472 Grant Rd
Fowlerville, MI 48836

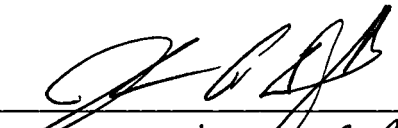
Signature: 
 Name Print: Cindy Witt
 Address: 7065 Lovejoy
Byron, MI 48418

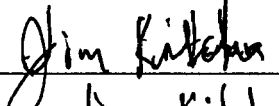
Signature: 
 Name Print: CRAIG BARTRAM
 Address: 7227 LOUIE JOY
Byron M, 48458
48418


Signature: 
 Name Print: MELISSA CLAY
 Address: 11455 Nicholson Rd
Fowlerville, MI


Signature: 
 Name Print: JORDAN CLAY
 Address: 11455 N. NICHOLSON Rd.
FOWLerville, MI

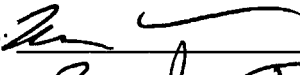
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 Name Print: KELLI DOUGLAS
 Address: 6944 Robb Rd.
Fowlerville, MI


Signature: 
 Name Print: John P. Douglas
 Address: 6944 Robb Rd
Fowlerville MI

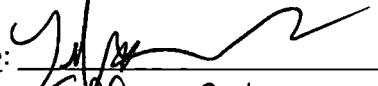
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 Name Print: Jim Kitchin
 Address: 10050 Redhawk
Perry, MI 48872


Signature: 
 Name Print: Jordan Baker
 Address: 8544 Sherwood
Fowlerville, MI 48836

Signature: 
 Name Print: Lauren Baker
 Address: 8544 Sherwood Rd
Fowlerville MI 48836

Signature: 
 Name Print: Brandon Davis
 Address: 8143 Owosso Rd.
Fowlerville MI

Signature: 
 Name Print: Justina Behrke
 Address: 7846 Chase Cr Rd.
Fowlerville, MI

Signature: 
 Name Print: Tiffani Behrke
 Address: 7846 Chase Cr Rd.
Fowlerville MI 48836

Signature: 
 Name Print: CALEB BOWEN
 Address: 9044 Eva Ln. Fowlerville
MI, 48836

19 of 38

Signature:

Thomas Parker

Name Print:

THOMAS PARKER

Address:

7000 HAYNER RD
FOWLERVILLE MI 48836

Signature:

Shawn Donoghue

Name Print:

Shawn Donoghue

Address:

7170 Hayner Rd Fowlerville mi.
48836

Signature:

William Watson

Name Print:

WILLIAM WATSON

Address:

9415 ROBB RD.
FOWLERVILLE MI 48836

Signature:

Megan Beach

Name Print:

Megan Beach

Address:

9020 Eva Ln
Fowlerville MI
48836

Signature:

Laura Watson

Name Print:

Laura Watson

Address:

9415 Robb Rd
Fowlerville MI. 48836

Signature:

Kathleen M. Jackson

Name Print:

Kathleen M. Jackson

Address:

11555 Mohrle Rd
Webberville, Michigan 48843
Michigan

Signature:

Larry Gresehover

Name Print:

LARRY GRESEHOVER

Address:

9341 ROBB RD.
FOWLERVILLE, MI 48836

Signature:

David R Brown

Name Print:

David R Brown

Address:

7151 Hayner Rd
Fowlerville Mich 48836

Signature:

Pamela I. Gresehover

Name Print:

Pamela I. GRESEHOVER

Address:

9341 ROBB RD.
FOWLERVILLE, MICH. 48836

Signature:

Linda G Brown

Name Print:

Linda G Brown

Address:

7151 Hayner Rd
Fowlerville, Michigan 48836

Signature:

Charmaine-L. Address

Name Print:

Charmaine-L. Address

Address:

7170 Hayner Rd Fowlerville
MI 48836

Signature:

Stan Radniewski

Name Print:

STAN RADNIEWSKI

Address:

9418 Robb Fowlerville MI 48836

Signature: Sherry A. Egnor
 Name Print: Sherry A. Egnor
 Address: 9355 Stow Rd
Webberville, MI 48892

Signature: John Fuller
 Name Print: John Fuller
 Address: 6318 Nicholson
Fowlerville mi. 48836

Signature: Caryl Fuller
 Name Print: Sherry Fuller
 Address: 6318 Nicholson Rd
Fowlerville MI 48836

Signature: Kurt H
 Name Print: Kurt H HARTLEY
 Address: 7455 Fowlerville RD.
Fowlerville, MI

Signature: Charles Whitaker
 Name Print: Charles Whitaker
 Address: 11077 owoso rd
Fowlerville, MI

Signature: John
 Name Print: 5055 E Wilkinson
 Address: 6993 chase lake RD
Fowlerville MI 48836

Signature: Lynn Cannon
 Name Print: Lynn Cannon
 Address: 10412 chase lake rd
Fowlerville mi 48836


Signature: Richard Hibbard
 Name Print: Richard Hibbard
 Address: 1368 Grant Rd
Fowlerville mi 48836

Signature: Heather McGalliard
 Name Print: Heather McGalliard
 Address: 11792 Secluded Ridge Dr
Byron MI 48418

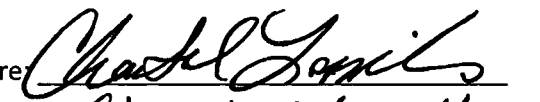
Signature: Ernie Litwiler
 Name Print: Ernie Litwiler
 Address: Byron mi 48418

Signature: Stacy Kaake
 Name Print: Stacy Kaake
 Address: 7157 Fowlerville Rd
Fowlerville, MI

Signature: Clayton Kenzie
 Name Print: Clayton Kenzie
 Address: 4864 w allen rd
Fowlerville, MI

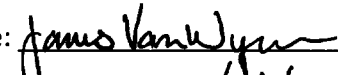
Signature: 
Name Print: BRIAN D. BLAUSCY
Address: 5978 N. HERRINGTON RD
WEBBERVILLE, MI 48892

Signature: Brenda Blauscy
Name Print: Brenda Blauscy
Address: 5978 N Herrington Rd
Webberville MI 48892


Signature: 
Name Print: Chantal Cassila
Address: 6500 N. Fowlerville Rd.
Fowlerville, MI 48836

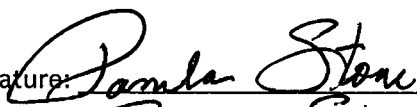
Signature: Jennifer Garrett
Name Print: Jennifer Garrett
Address: 7683 Fowlerville Rd
Fowlerville MI 48836

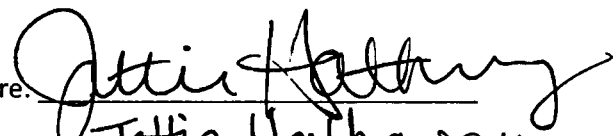
Signature: Emily Garrett
Name Print: Emily Garrett
Address: 7683 Fowlerville Rd
Fowlerville MI 48836

Signature: 
Name Print: James VanWynen
Address: 9799 Chase Lake Rd.
Fowlerville, MI 48836

Signature: Robert Payne
Name Print: Robert Payne
Address: 9637 Marsh Rd.
Fowlerville, MI 48836

Signature: 
Name Print: JAMES R. HILL
Address: 7671 OWOSSO RD
FOWLERVILLE

Signature: 
Name Print: PAMELA STONE
Address: 7671 OWOSSO RD
FOWLERVILLE MI 48836

Signature: 
Name Print: Jettie Hathaway
Address: 1923 Lovejoy Rd
Byron MI 488418

Signature: X [Signature]
Name Print: Russell Labadie
Address: 6876 Hayner
Fowlerville, MI

Signature: X Andreea Labadie
Name Print: Andreea Labadie
Address: 6876 Hayner Rd
Fowlerville, MI 48836

Signature: Kari Shadrick
Name Print: Kari Shadrick
Address: 6870 Hayner Rd
Fowlerville, MI 48836

Signature: [Signature]
Name Print: William Shadrick
Address: 6870 Hayner Rd
Fowlerville, MI 48836

Signature: [Signature]
Name Print: Timothy Gore
Address: 8444 W. Allen Rd
Fowlerville, MI 48836

Signature: [Signature]
Name Print: Brian Hamilton
Address: 7740 N Gregory Rd
Fowlerville MI 48836

Signature: [Signature]
Name Print: James C Pappas
Address: 5174 N Herring Rd
Webberville, MI 48892

Signature: [Signature]
Name Print: David Ryan
Address: 11311 Brimley Rd
Webberville MI

Signature: [Signature]
Name Print: Dakota Ryan
Address: 11311 Brimley Rd
Webberville MI

Signature: [Signature]
Name Print: Eric Morrison
Address: 11465 Secluded
Syracuse MI 48408

Signature: Kenneth Ott
Name Print: KENNETH OTT
Address: 7040 Fowlerville Rd
Fowlerville MI 48836

Signature: Matthew Fronczak
Name Print: MATTHEW FRONCZAK
Address: 8574 SHERWOOD RD.
FOWLERVILLE, MI 48836

Signature: Michael Bayer
Name Print: Michael Bayer
Address: 9201 Pierson Road
Fowlerville, MI 48836

Signature: Robert Rockafellow
Name Print: ROBERT ROCKAFELLOW
Address: 6733 SHERWOOD RD
FOWLERVILLE, MI 48836

Signature: Amy Terrell
Name Print: Amy Terrell
Address: 7639 Owosso Rd
Fowlerville MI 48836

Signature: Patricia Freeman
Name Print: Patricia Freeman
Address: 6255 Owosso Rd
Fowlerville MI 48836

Signature: Victoria Bayde
Name Print: Victoria Bayde
Address: 11706 Secluded Bridge Dr.
Dixson, MI 48418

Signature: Greg O'Neill
Name Print: Greg O'Neill
Address: 11577 Mohale Rd
Webberville 48892


Signature: Heather N. Montgomery
Name Print: Heather N. Montgomery
Address: 4194 N. Herrington rd
Webberville MI 48892

Signature: Tyler J Vermeesch
Name Print: Tyler J Vermeesch
Address: 7191 Nicholson Rd
Fowlerville, MI 48836

Signature: 

Name Print: John Ellis

Address: 6435 Stow Rd,
Fowlerville, MI, 48836

Signature: 

Name Print: Nick Carey

Address: 7805 Nicholson Rd

Signature: Anna Smith

Name Print: Anna Smith

Address: 7387 Lovejoy Rd
Byron, MI 48418

Signature: Mary J. DeFaut


Name Print: Mary J. DeFaut

Address: 8308 N. Fowlerville Rd
Fowlerville, MI

Signature: Roxanne M. Mitz

Name Print: Roxanne M Mitz

Address: 7777 Nicholson Rd
Fowlerville, MI 48836

Signature: 

Name Print: EDWARD D THOMAS

Address: 10667 SOBER RD
WEBBERVILLE, MI 48892

Signature: Amber Thomas

Name Print: Amber Thomas

Address: 10667 Sober Rd
Webberville MI 48892

Signature: Lynette Crawford

Name Print: Lynette Crawford

Address: 9941 Grant Rd
Fowlerville MI 48836

Signature: Jill Crawford

Name Print: Jill Crawford

Address: 9941 Grant Rd.
Fowlerville MI 48836

Signature: Stephanie Shreve

Name Print: Stephanie Shreve

Address: 9880 Marsh Rd.
Fowlerville, MI 48836

Signature: Linda Dalton
 Name Print: LINDA DALTON
 Address: 9698 MARSH RD -
FOWLERVILLE, MI.
48836

Signature: Carol Eastwood
 Name Print: CAROL EASTWOOD
 Address: 9393 N. Gregory Rd
Fowlerville, MI 48836

Signature: Wade Killinger
 Name Print: Wade Killinger
 Address: 9035 N. Fowlerville
Fowlerville MI 48836

Signature: Denise Killinger
 Name Print: Denise Killinger
 Address: 9035 N. Fowlerville
Fowlerville MI 48836

Signature: Catherine Fields
 Name Print: Catherine Fields
 Address: 8822 Robb
Fowlerville MI 48836

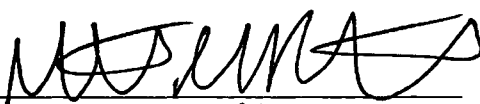
Signature: MM
 Name Print: SAM BURS
 Address: 7857 Hidden Circle Dr
BYRON 48418

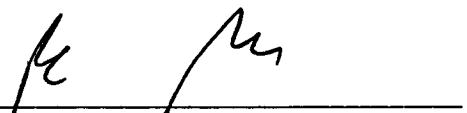
Signature: [Signature]
 Name Print: Camille Hall
 Address: 7015 Fowlerville Rd
48836


Signature: Eileen M. Bains
 Name Print: Eileen M. Bains
 Address: 10111 Sherwood Rd
Fowlerville MI 48836

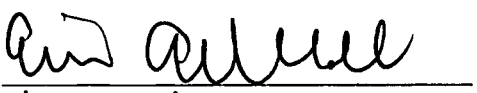
Signature: R. Choate
 Name Print: Rebecca Choate
 Address: 7940 Fowlerville Rd
Fowlerville rd 48836

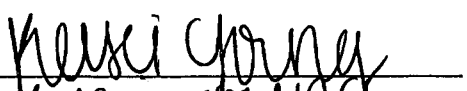
Signature: April L. Stidham
 Name Print: April L. Stidham
 Address: 8362 Saber Road
Fowlerville, MI 48836


Signature: 
 Name Print: Mariah Rhodes
 Address: 9697 Marsh Rd
Fowlerville MI 48836

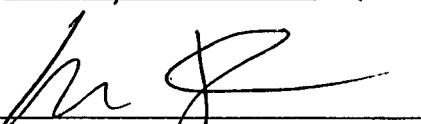
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 Name Print: Ryan Rhodes
 Address: 9697 Marsh Rd
Fowlerville, MI 48836

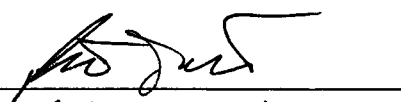
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 Address: 9393 N. Gregory Rd.
Fowlerville MI 48836

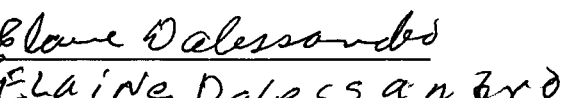
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 Address: 7674 Robb Rd
Fowlerville MI 48836

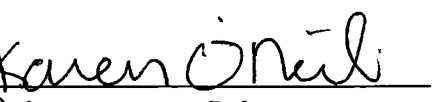
Signature: 
 Name Print: Kelsey Young
 Address: 9753 Sherwood
Fowlerville MI 48836

Signature: 
 Name Print: Heidi Wilkie
 Address: 11506 Spencer Dr.
Fowlerville, MI 48836

Signature: 
 Name Print: Evan Falzon
 Address: 9800 N. Marsh Rd
Fowlerville. MI

Signature: 
 Name Print: Robert Terrell
 Address: 10500 W Allen Rd
Fowlerville MI 48836

Signature: 
 Name Print: Elaine Dalessandro
 Address: 6572 Howner Rd
Fowlerville, MI 48836

Signature: 
 Name Print: Karen O'Neil
 Address: 6572 Hayner
Fowlerville MI 48836

Signature: [Signature]
 Name Print: John Capeman
 Address: 5508 Stoner Rd
Fowlerville MI 48836

Signature: [Signature]
 Name Print: Kaitlynn Campos
 Address: 930 Chase Blvd
Howell MI 48855

Signature: [Signature]
 Name Print: Andrea K. Bedwell
 Address: 1109 Owsso Rd
Fowlerville, MI 48836

Signature: [Signature]
 Name Print: Hylie Porter
 Address: 9402 W. Sober Rd
Fowlerville, MI 48836

Signature: [Signature]
 Name Print: Tlene P. DeLaere
 Address: 8861 Sherwood Rd
Fowlerville, MI 48836

Signature: [Signature]
 Name Print: Kristen Nation
 Address: 6225 Lovejoy Rd
Byron MI 48418

Signature: [Signature]
 Name Print: Cynthia D Hoskins
 Address: 11943 Mayer Rd
Webberville, MI 48892

Signature: [Signature]
 Name Print: Mari K Howard
 Address: 10093 Redhawk
Perry MI 48872

Signature: [Signature]
 Name Print: Presslee Hocking
 Address: 11162 Bell Oak Rd
Webberville, MI 48892

Signature: [Signature]
 Name Print: Jessica Mills
 Address: 7720 Mohrle Rd
Fowlerville, MI 48836

Signature: Maryann Quick
Name Print: Maryann Quick
Address: 11063 Owosso Rd
Fowlerville, MI 48836

Signature: Jeff Myers
Name Print: Jeff Myers
Address: 9527 Sherwood Rd
Fowlerville MI

Signature: Jeff Temple
Name Print: Jeff Temple
Address: 7299 Rustic Way Dr
Fowlerville MI 48832

Signature: Shawn T Schoonbeck
Name Print: Shawn T Schoonbeck
Address: 8720 Antelill Rd
Fowlerville MI 48855

Signature: Chad Gardner
Name Print: CHAD GARDNER
Address: 11089 Mohrle Rd
WEBBERVILLE MI 48892

Signature: J Copeman
Name Print: J Copeman
Address: 8999 Sober Rd
Fowlerville 48836

Signature: Theresa Chapton
Name Print: Theresa Chapton
Address: 6905 Fowlerville
Fowlerville MI 48836

Signature: Shawn Home
Name Print: Shawn Home
Address: 9240 Sober Rd
Fowlerville. MI

Signature: Victoria Havel
Name Print: Victoria Havel
Address: 9240 Sober Rd.
Fowlerville, MI 48836

Signature: Gravin Barnes
Name Print: Gravin Barnes
Address: 8074 W. Allen Rd.
Fowlerville MI 48836

Signature: William C. Miselich
 Name Print: William C. Miselich
 Address: 6755 CHASE LK. Road
Fowlerville MI, 1

Signature: Danita LeFevre
 Name Print: Danita LeFevre
 Address: 9342 Grant Rd.
Fowlerville, MI.

Signature: Kyle Elliott
 Name Print: Kyle Elliott
 Address: 6568 Hagner Rd
Fowlerville MI

Signature: Brad Elliott
 Name Print: Brad Elliott
 Address: 6568 Hagner Rd
Fowlerville MI

Signature: Chris Hocking
 Name Print: Chris Hocking
 Address: 1162 Bell oak rd
Webbville MI 48836

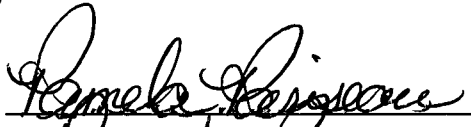
Signature: Dave Beach
 Name Print: Dave Beach
 Address: 9106 N. Robb Rd.
Fowlerville MI 48836


Signature: Ashley Beach
 Name Print: Ashley Beach
 Address: 9106 N. Robb Rd.
Fowlerville MI 48836

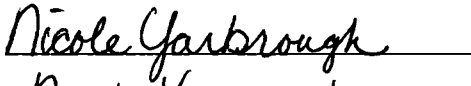
Signature: Zachary Archibald
 Name Print: Zachary Archibald
 Address: 7676 Robb Rd
Fowlerville MI 48836

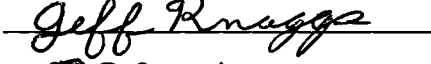
Signature: Elissa Huck
 Name Print: Elissa Huck
 Address: 8330 Killinger Rd
Fowlerville, MI 48836

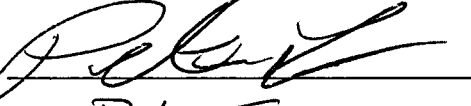
Signature: Pamela S. Huck
 Name Print: Pamela S. Huck
 Address: 8330 Killinger Rd
Fowlerville, MI. 48836

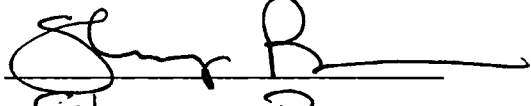
Signature: 
Name Print: Pamela Parisseau
Address: 7676 Sober Rd.
Fowlerville MI 48836


Signature: 
Name Print: Dirk Parisseau
Address: 7878 Sober RD
Fowlerville MI 48836

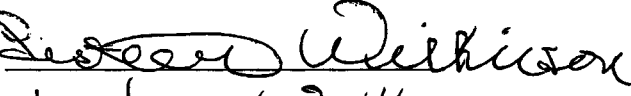
Signature: 
Name Print: Nicole Yarbrough
Address: 6560 Bobb Rd.
Fowlerville MI 48836

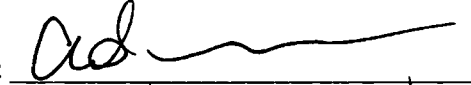
Signature: 
Name Print: JEFF Knaggs
Address: 10927 OWASSO RD.
Fowlerville


Signature: 
Name Print: Pete Furca
Address: 11395 Saddle Dr.
Fowlerville MI 48836

Signature: 
Name Print: Sherry Brown
Address: 10009 Fowlerville rd
Fowlerville MI 48836

Signature: 
Name Print: Ryan Atherton
Address: 7620 W. Allen Rd
Fowlerville MI 48836

Signature: 
Name Print: Lesteen Wilkinson
Address: 9900 Pierson Rd
Fowlerville, MI 48836

Signature: 
Name Print: Adam Redman
Address: 10009 Fowlerville rd
Fowlerville MI 48836

Signature: 
Name Print: RON WILKIE
Address: 11100 SPENCER DR.
FOWLerville, MI 48836

Signature:

George R. Viciera III

Name Print:

GEORGE R. VICIERA III

Address:

7162 Sober Rd
Fowlerville MI 48836

Signature:

Ray Ruzzic

Name Print:

Ray Ruzzic

Address:

7300 Sober Rd
Fowlerville MI 48836

Signature:

Kelly L. Jones

Name Print:

KELLY L. JONES

Address:

7000 SOBER RD.
Fowlerville, Mi. 48836

Signature:

Darrin Cross

Name Print:

DARRIN CROSS

Address:

7107 Sober Rd
Fowlerville M. 48836

Signature:

John A. Sheets

Name Print:

John Sheets

Address:

7000 Sober Rd
Fowlerville, Mi 48836

Signature:

Wayne Stiffler

Name Print:

Wayne Stiffler

Address:

7107 Sober Road
Fowlerville mi 48836

Signature:

Primo Marocco

Name Print:

PRIMO MARROCCO

Address:

7379 Sober Rd.
Fowlerville, Mich. 48836

Signature:

Cynthia Cross

Name Print:

CYNTHIA CROSS

Address:

9107 Sober
Fowlerville 48836

Signature:

Janet Marrocco

Name Print:

Janet Marrocco

Address:

7379 Sober Rd.
Fowlerville, MI 48836

Signature:

Laura Lynch

Name Print:

Laura Lynch

Address:

7159 Sober Rd.
Fowlerville, MI 48836

Signature: Robbie Jane Munro
 Name Print: Robbie Jane Munro
 Address: 7191 Sober Rd
Fowlerville MI 48836

Signature: Robert Wilkinson
 Name Print: Robert Wilkinson
 Address: 7338 Sober Rd
Fowlerville MI 48836

Signature: Chadwick William
 Name Print: Chadwick William
 Address: 7033 Sober rd
FOWLERVILLE, MI 48836

Signature: Stephen Smith
 Name Print: Stephen Smith
 Address: 6988 Sober rd.
Fowlerville MI. 48836

Signature: Gail M Smith
 Name Print: Gail M Smith
 Address: 6988 Sober
FOWLERVILLE, MI 48836

Signature: Taffey W James
 Name Print: Taffey W James
 Address: 6950 Sober
Fowlerville, Mich. 48836

Signature: Cindy Furca
 Name Print: Cindy Furca
 Address: 11395 Saddle Dr
Fowlerville MI 48836

Signature: Brandon Primeau
 Name Print: Brandon Primeau
 Address: 11521 saddle drive
Fowlerville MI 48836

Signature: M. Primeau
 Name Print: Michelle Primeau
 Address: 11521 Saddle Dr.
Fowlerville mi 48836

Signature: Jaden Primeau
 Name Print: Jaden Primeau
 Address: 11521 saddle Drive
Fowlerville MI 48836

Signature: Curtis A Schultz
 Name Print: Curtis A Schultz
 Address: 11524 SADDLE DR
MI 48836

Signature: Ben M Mrawski
 Name Print: Benjamin Mrawski
 Address: 11502 Saddle Dr
MI 48836

Signature: Brian Maher
Name Print: Brian Maher
Address: 7405 Chase Lake
Fowlerville MI. 48836

Signature: Teri Maher
Name Print: Teri Maher
Address: 7405 Chase Lake Rd
Fowlerville, MI 48836

Signature: Breaghan Maher
Name Print: Breaghan Maher
Address: 7405 Chase Lake Rd
Fowlerville. MI

Signature: Kimberly J. Dewell
Name Print: Kimberly J. Dewell
Address: 835 Hickory St.
Fowlerville, MI 48836

Signature: Roman Pariseau
Name Print: Roman Pariseau
Address: 7676 Sober Road
Fowlerville, MI 48836

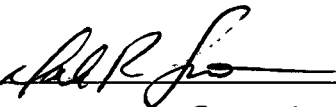
Signature: Andrew Primeau
Name Print: Andrew Primeau
Address: 11521 Saddle Dr
Fowlerville MI. 48836

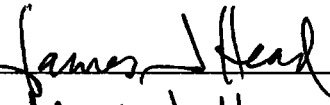
Signature: Austin Primeau
Name Print: Austin Primeau
Address: 11521 Saddle Dr
Fowlerville MI, 48836

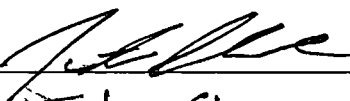
Signature: Ann Clemons
Name Print: Ann Clemons
Address: 7450 W. Allen
Fowlerville, MI 48836


Signature: Tricia Allen
Name Print: Tricia Allen
Address: 7880 N. Nicholson
Rd Fowlerville, MI 48836


Signature: Kim Yarnbrick
Name Print: Kim Yarnbrick
Address: 7615 Lovejoy Rd
Byron, MI 48418

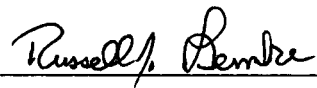
Signature: 
Name Print: DALE SMITH
Address: 10587 MARSH RD
FOWLERVILLE, MI 48836

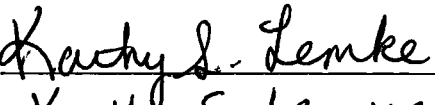
Signature: 
Name Print: JAMES J. HEAD
Address: 10200 MARSH RD.
FOWLERVILLE, MI 48836

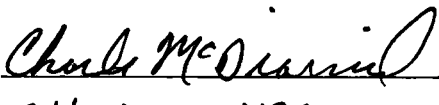
Signature: 
Name Print: Justin Shreve
Address: 9880 Marsh Rd
Fowlerville, MI 48836

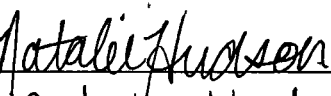
Signature: 
Name Print: Heather Schmitz-Tackett
Address: 9695 Marsh Rd.
Fowlerville, MI 48836

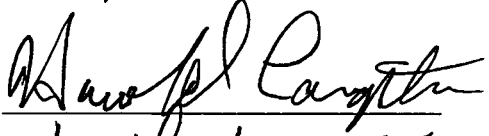
Signature: 
Name Print: Craig Tackett
Address: 9695 Marsh Road
Fowlerville, MI 48836

Signature: 
Name Print: Russell J Lemke
Address: 6937 Sober Rd
Fowlerville MI 48836

Signature: 
Name Print: Kathy S. Lemke
Address: 6937 Sober Rd.
Fowlerville, MI 48836

Signature: 
Name Print: CHARLES McDIARMID
Address: 6925 - SOBER Rd
FOWLERVILLE MI. 48836

Signature: 
Name Print: Natalie Hudson
Address: 6196 Sober Rd
Fowlerville, MI 48836

Signature: 
Name Print: Harold Langston
Address: 6159 Sober
Fowlerville. MI

Signature: Marie A Byers
Name Print: Marie A Byers
Address: 8746 W Allen Rd
Fowlerville MI 48836

Signature: Nathaniel Hale
Name Print: Nathaniel Hale
Address: 8160 Chase Lake Rd.
Fowlerville MI 48836

Signature: Tiffany Gross
Name Print: Tiffany Gross
Address: 10365 Sherwood Rd
Fowlerville MI 48836

Signature: Douglas R Young
Name Print: DOUGLAS R YOUNG
Address: 10321 CHASE LK RD.
FOWLERSVILLE, MICH. 48836

Signature: John A Suski
Name Print: JOHN A SUSKI
Address: 6901 SOBER RD
Fowlerville MI 48836

Signature: Michael Murray
Name Print: MICHAEL MURRAY
Address: 8865 KILLINGER
POWERSVILLE, MI 48836

Signature: Sonic Kates
Name Print: Sonic Kates
Address: 8537 Killinger Rd
Fowlerville

Signature: Gary Reed
Name Print: GARY REED
Address: 11936 Secluded Ridge Dr.
Byron MI

Signature: Katie Reed
Name Print: Katie Reed
Address: 11936 Secluded Ridge Dr.
Byron, MI

Signature: Matt Kates
Name Print: Matt Kates
Address: 8537 Killinger Rd
Fowlerville Rd

Signature: Cynthia Britton
Name Print: Cynthia Britton
Address: 9038 Fowlerville Rd.
Fowlerville, MI 48836

Signature: Carri Sumer
Name Print: Carri Sumer
Address: 7540 Fowlerville Rd
Fowlerville 48836

Signature: Adam Curtis
Name Print: Adam Curtis
Address: 10290 Chase Lake Rd
Fowlerville, MI 48843

Signature: Matthew Lonskey
Name Print: Matthew Lonskey
Address: 6632 Hanna Ct
Byron MI 48418

Signature: Patrick Stawara
Name Print: PATRICK STAWARA
Address: 11861 Secluded Nodge Dr.
Byron MI 48418

Signature: Brett Gardner
Name Print: Brett Gardner
Address: 11089 Mohrie Rd
Webberville, MI 48892

Signature: Jeff Falzon
Name Print: Jeff Falzon
Address: 7653 Chase Lake
Fowlerville MI

Signature: Benis Rippey II
Name Print: Benis Rippey II
Address: 8484 Sober Rd
Fowlerville, MI

Signature: Arthur Kisker
Name Print: Arthur Kisker
Address: 9300 Sober Rd
Fowlerville, MI

Signature: Ryan Bell
Name Print: Ryan Bell
Address: 6488 N Gregory Rd
Fowlerville, MI 48836

Signature: Darlene Duncan
 Name Print: Darlene Duncan
 Address: 11155 Allen
Fowlerville, Mi

Signature: Robert M. Duncan
 Name Print: Robert M. Duncan
 Address: 11155 Allen Rd
Fowlerville, Mi 48836

Signature: Jesse Fritze
 Name Print: Jesse Fritze
 Address: 6285 Sober Rd
Fowlerville MI

Signature: Jeff A Seiter
 Name Print: Jeff A Seiter
 Address: 6140 Sherwood Rd
Fowlerville MI 48836

Signature: Vicki C Seiter
 Name Print: Vicki Seiter
 Address: 6160 Sherwood Rd
Fowlerville MI 48836

Signature: Brian E Williams
 Name Print: BRIAN E WILLIAMS
 Address: 6124 N. HERRINGTON RD
WEBBERVILLE MI 48892

Signature: John New
 Name Print: John New
 Address: 6481 Sherwood
Fowlerville MI

Signature: Denise New
 Name Print: Denise New
 Address: 6481 Sherwood
Fowlerville MI

Signature: Daniel Pattiolo
 Name Print: Daniel Pattiolo
 Address: 6393 Sober Rd
Fowlerville MI 48836

Signature: Michael McLean
 Name Print: MICHAEL McLEAN
 Address: 911 PIERSON RD.
FOWLERVILLE, MI 48836

Signature: Robin Oakley
 Name Print: Robin Oakley
 Address: 6614 Hanna CT
Byron, MI 48418

Signature: Shawn Mammset
 Name Print: Shawn Mammset
 Address: 7104 Fowlerville Rd
Fowlerville. MI

Signature: Jessica Falzon
 Name Print: Jessica Falzon
 Address: 9800 Marsh Rd
Fowlerville 48836

Signature: Jennifer L Choate
 Name Print: Jennifer L Choate
 Address: 9788 Marsh Rd
Fowlerville 48836

Signature: Doug Choate
 Name Print: DOUG CHOATE
 Address: 9788 Marsh Rd.
Fowlerville 48836

Signature: Susan L Niedzwiecki
 Name Print: Susan L Niedzwiecki
 Address: 7600 Fowlerville
Fowlerville 48836

Signature: Mary Kay Vidito
 Name Print: Mary Kay Vidito
 Address: 7512 N. Fowlerville Rd
Fowlerville, MI 48836

Signature: Mary A. Vidito
 Name Print: Mary A. Vidito
 Address: 7512 N. Fowlerville Rd
Fowlerville, MI 48836

Signature: James Choate
 Name Print: JAMES CHOATE
 Address: 7540 Fowlerville Rd.
Fowlerville 48836

Signature: Eleanor Choate
 Name Print: Eleanor Choate
 Address: 7540 Fowlerville Rd
Fowlerville, MI 48836

Signature: Carl Niedzwiecki
 Name Print: CARL NIEDZWIECKI
 Address: 7600 Fowlerville Rd
Fowlerville 48836

Signature: Deborah Burgett
 Name Print: DEBORAH BURGETT
 Address: 10321 E. Loue Joy Rd
Perry, MI 48872

Signature: Michael Zielinski-Castelnero
 Name Print: Michael Zielinski-Castelnero
 Address: 10321 E. Loue Joy Rd.
Perry, MI 48872

Signature: Randy Britton
 Name Print: Randy Britton
 Address: 9038 Fowlerville Rd
Fowlerville MI 48836