



April 21, 2023

Jon Altshul, Township Manager
Westtown Township
1039 Wilmington Pike
West Chester, PA 19382

RE: Westtown School Solar Farm
Conditional Use Review
Westtown Township
0236-23-0204

Dear Mr. Altshul,

As requested, Cedarville Engineering Group, LLC (CEG) has completed a Conditional Use Review of the Conditional Use Plan for Westtown School Solar Farm. The site (Parcel ID numbers 67-2-27 comprises of roughly 194.047 acres and is located on the south side of Oak Lane and the west side of Shady Grove Way. in the Agricultural/Cluster Residential (A/C) Zoning District of Westtown Township. The project includes the construction of a solar energy system and associated access driveways/utilities.

The following information was received by our office on April 13, 2023:

- A. Full size Plan titled "Conditional Use/Grading Permit Plans for Westtown School", consisting of Sheets 1-10 of 10, prepared by Bohler, dated April 3, 2023.
- B. Stormwater Management Calculations prepared by Bohler, dated April 3, 2023.
- C. Application cover letter prepared by Riley Riper Hollin & Colagreco, dated April 10, 2023,
- D. Glare Analysis prepared by Forgesolar, pages 1-11 of 11, dated March 1, 2023, last revised April 7, 2023
- E. Visual Impact Analysis Plans prepared by Bohler, sheet 1A, 1B, 1C, 2 and 3 of 3, dated April 3, 2023
- F. Completed Conditional Use application dated April 6, 2023.
- G. Conditional Use Completeness Letter prepared by Westtown Township Zoning Officer, Mila Carter, dated April 11, 2023.
- H. Correspondence from the Westtown Township Fire Marshal, Gerald DiNunzio, Jr. dated April 16, 2023.

CEG has reviewed the above referenced items as it pertains to the Conditional Use Application only. This review shall not be considered a Subdivision/Land Development, Grading Plan, or Stormwater Management Plan review.

The referenced documents have been reviewed for compliance with Chapter 170 – Zoning Ordinance and Chapter 149 – Subdivision and Land Development Ordinance, as applicable to the Conditional Use Application.

Chapter 170 – Zoning

1. *Section 170-1618. C.(1) – Solar Energy systems. Solar energy system shall be permitted, subject to the following regulations and with the understanding that when a provision herein does not specifically refer to either accessory or principal uses, it shall apply to both: Principal use. A solar energy system shall be permitted as a principal use subject to conditional use approval in the T-Township and A/C Agricultural/Cluster Residential Districts only, subject to the following and as otherwise provided herein; any solar energy system not meeting the criteria for an accessory solar energy system shall be considered a principal use:*
 - a) *The maximum area occupied by a principal solar energy system on any lot shall be 10 acres;*
 - b) *Notwithstanding lot coverage limitation set forth in the base zoning district(s), the maximum impervious coverage for a principal solar energy system and any accessory or appurtenant structures shall be 20% of the lot area:*
 - c) *A principal solar energy system shall be set back a minimum of 100 feet from any public right-of-way, any lot line, and any historic structure as may be designated by the Township or determined to be eligible for listing on the National Register of Historic Places by the Pennsylvania Historical and Museum Commission or the National Park Service:*
 - d) *The entire facility comprising a principal solar energy system and its appurtenant and accessory structure(s) and equipment shall be enclosed by a fence, barrier or other appropriate means to prevent or restrict unauthorized persons or vehicles from entering the facility. Clearly visible warning signs shall be placed on the fence, barrier or at the perimeter of the facility to inform individuals of potential voltage hazards. All mechanical equipment associated with the facility shall be completely enclosed by a minimum eight-foot -high fence with self-locking gate.*
 - e) *Proper aiseways between panel cluster sections, at least eight feet in width, shall be provided for safe access to clusters. DC/AC inverters shall be installed at each cluster, in addition an automatic disconnect device.*
 - f) *A principal solar energy system shall not include the co-location of batteries or other equipment used to store the energy output from the system except where approved by the Board of Supervisors as a condition of conditional use approval upon satisfaction that adequate safety precautions are included in the design of the system.*
 - g) *A principal solar energy system shall be serviced by an adequate water supply for firefighting purposes.*

The following shall be addressed:

- The issues included in the April 11, 2023, Completeness letter from Westtown Township shall be addressed to the satisfaction of the Township Zoning Officer.
 - The applicant shall clarify on the Zoning Table, sheet C-301, specifically what the 7.78 acres shown includes (i.e., area within fence, limit of disturbance, etc.).
 - The total resultant impervious coverage, including the additional impervious coverage referenced under the Impervious Surfaces Summary Table, sheet C-301, shall be referenced under the Zoning Table, same sheet.
 - The applicant shall clarify the limits of equipment access required between the panel clusters. The plan currently shows a stabilized area limited to the middle section of the solar facility; the applicant shall demonstrate that equipment shall be limited to the area labeled as “Proposed Gravel Pathway”.
 - A detail of the warning sign, including the sign location and intervals of installation along the fence, shall be provided.
 - The applicant shall address the need for storage of energy output as referenced in the above Ordinance section.
 - The issues included in the above referenced August 16, 2023, letter from the Westtown Township Fire Marshal shall be addressed to the satisfaction of the Fire Marshal as it pertains to adequacy of water supply for firefighting purposes.
2. *Section 170-1618.C.(9) - Lighting Solar energy systems shall not be artificially lighted except to the extent required for safety or by applicable federal, state, or local authority.*

The following shall be addressed:

- The applicant shall confirm the lighting to be installed. The location and associated details of the lighting to be used shall be provided on the plan.
 - If lighting is to be proposed, a Lighting Plan shall be provided, to demonstrate compliance with the criteria set forth in Zoning Ordinance Section 170-1514.
3. *Section 170-1618.C.(17) - Conditional use approval. In consideration of conditional use approval where required pursuant to this section, in addition to review of the standards for conditional use approval set forth in Section 170-2009D of this chapter, the Board of Supervisors shall be satisfied that the solar installation will not unduly impact other property owners or the travelling public or that potential impacts are mitigated by design of the system or structure(s) upon which it is mounted, by distance form points of visibility, by the presence of intervening topography or structure, , or will be mitigated through introduction of landscaping.*

Section 170-1618.C.(17) (a)- Any application for conditional use approval for a principal solar energy system shall include submission of a visual analysis demonstrating that the system is designed and located to meet the objectives stated above.

Section 170-1618.C.(17) (b)- As a condition of approval, the Board of Supervisors may require a buffer yard around the perimeter of any facility comprising a principal solar energy system and its appurtenant or accessory structure(s) and equipment providing a continuous visual screen between such facility and any adjacent property, public right-of-way or historic structure as viewed by a person standing at ground level.

The applicant has submitted a Glare Analysis and Visual Impact Analysis Exhibits. The following shall be addressed:

- The Visual Impact Analysis Exhibit shall include individual profiles of glare produced by the panel and its effect on all properties adjacent to the subject tract. This includes the adjacent properties located along Shady Grove Way, East Street Road, Station Way and Westtown Road.
 - Based upon the above referenced profiles, visual screen, including but not limited to landscape buffering and berms shall be provided to adequately obscure glare from the panels to the referenced properties and to traffic along Shady Grove Way and Street Road. The Overall Site Plan, sheet C-301, shows a proposed landscape buffer limited to the northern portion of the tract, abutting Shady Grove Way.
 - A detail of the buffering used to obscure glare shall be provided on the plan.
4. *Section 170-1618.C.(12)(b) - Glare. The applicant or the installer or manufacturer of the solar energy system shall submit with the applicant for permit or conditional use approval, as applicable, as signed statement including the following:*
- 1) *Section 170-1618.C.(12)(b)[1] - Certification that the proposed system shall not project glare or reflect concentrated solar radiation visible beyond the property lines of the property upon which the solar energy system shall be located such that a nuisance situation is created;*
 - 2) *Section 170-1618.C.(12)(b)[2] - Acknowledgement that, should any glare or concentrated solar radiation projected prove to be visible beyond the property lines of the property upon which the solar energy system shall be located, at any time subsequent to the installation of the system, such that, in the opinion of the Zoning Officer, a nuisance situation or safety hazard arises for another property owner or the travelling public, the Township may at its discretion require mitigative action or may require the removal of the system or portion thereof generating the glare or reflected solar radiation;*
 - 3) *Section 170-1618.C.(12)(b)[3] - Acknowledgement that, should any mitigation or system removal deemed necessary by the Township fail to be dealt with in accordance with the Township's determination within six months of notification of the landowner and/or system owner, or immediately in any case determined to be a safety hazard, the Township may implement such mitigation or remove such systems as it deems necessary, costs therefore to be reimbursed within 90 days, and if not, a commensurate lien shall be placed upon the property.*

- 4) *Section 170-1618.C.(12)(b)[4] - Acknowledgement that the obligations set forth herein shall continue so long as the subject solar energy system remains in operation and that any subsequent property owners shall be so notified.*

Receipt of the above shall be confirmed by the Township Zoning Officer.

5. *Section 170-1618.C.(14)- Solar access easements. A solar energy system shall be located to ensure solar access without reliance on adjacent properties. Where any applicant desires to ensure that solar access to a solar energy system shall not be obstructed of time by permissible uses or activities on any adjacent property (i.e. by planting or growth of vegetation, new construction, etc.), it shall be the responsibility of the owner of the solar energy system to obtain appropriate solar access easement(s) from neighboring property owner(s) and to notify the township upon the recording of any such easement(s). All solar access easements shall be recorded in the office of the Chester County Recorder of Deeds.*

This solar system is located on Parcel 67-2-27. Access to this tract will require adjoining parcels to be used to access this tract. In addition, the installation of the electric line and transformer associated with the facility will require construction on an adjacent parcel.

The following shall be addressed:

- Proposed access from a public roadway to Parcel 67-2-27 shall be shown on the plan.
 - An easement will be required to permit access as referenced above, though all affected parcels. Easement agreements prepared and executed in a form acceptable to the Township Solicitor will be required prior to issuance of applicable Township permits associated with this project, and shall be recorded concurrently with the Stormwater Management BMP Operation and Maintenance Agreement to be required for the project.
 - The plan shall clearly show all tax parcel boundaries and numbers, with applicable line type reference included in the plan legend.
6. *Section 170-2009.B.(3).(d) - The application shall include sufficient information, e.g., preliminary site grading and road profiles, preliminary stormwater management analysis, etc., to preliminarily determine compliance with the Township natural feature, site analysis, conservation design process (if applicable) and density requirements.*

Section 170-2009.B.(6).(b) - In addition to demonstrating compliance with all standards applicable to the conditional use being requested, the site plan shall show the applicant's intentions with regard to the following: Location, approximate dimension, and arrangement of all areas devoted to ground cover, trees, screen planting, pen space, recreation, and similar purposes, as applicable.

Section 144-202 - Definitions - REDEVELOPMENT: Any regulated activity that involves demolition, removal, reconstruction, or replacement of existing impervious surface(s).

Section 144-202 - Definitions - NEW DEVELOPMENT: Any regulated activity involving placement or construction of new impervious surface or grading over existing pervious land areas not classified as redevelopment as defined in this chapter.

Section 144-301.Q - Applicants shall utilize the Pennsylvania Stormwater Best Management Practices Manual (PA BMP Manual), as amended, or other sources acceptable to the Municipal Engineer, for testing and design standard for BMPs, and, where there is a conflict with the provisions of this chapter, the most restrictive applies.

Section 144-308.H - Regulated activities located within the Chester Creek Watershed shall achieve the applicable peak flow release rate control requirements presented in the approved Act 167 Plan for that watershed in Table 308.2 below and as presented in the Chester Creek Watershed Release Rate Map in Appendix F of this Chapter.

District	Control Criteria
100%	Post-development peak discharge for all design storms must be no greater than predevelopment peak discharges.
75%	Post-development peak discharge for all design storms must be no greater than 75% of the predevelopment peak discharges.
50%	Post-development peak discharge for all design storms must be no greater than 50% of the predevelopment peak discharges.

Section 144-309.D - The applicant shall utilize the following ground cover assumptions for all predevelopment water quality and runoff volume, infiltration volume and peak flow rate calculations:

1. *For regulated activities involving new development, the following ground cover assumptions for all predevelopment water quality and runoff volume, infiltration volume and peak flow rate calculations.*
 - a) *For areas that are woods (as defined in Article II of this chapter), predevelopment calculations shall assume ground cover of woods in good conditions.*
 - b) *For all other areas (including all impervious surfaces), predevelopment calculations shall assume ground cover of meadow.*

The following shall be addressed:

- The Detail Sheet, sheet C-901, shows a “Gravel Path Paving Detail, consisting of “12 inches gravel”. Plan Sheet C-303 references the construction of a “Proposed Gravel Pathway” providing access from an existing driveway to the proposed facility. This area represents the only means of vehicular, equipment, and emergency vehicle access to the solar facilities. The plan and associated details shall be revised to reflect a pavement design appropriate for adequately accommodating the referenced traffic loading.



- Proposed grading of the above referenced access driveway shall be provided to accurately show the limit of disturbance associated with the driveway construction.
- Stormwater management facilities will be required downslope of the above referenced access driveway and the proposed electric line/transformer installation, in accordance with the applicable criteria set forth in the Township's Stormwater Management Ordinance, Chapter 144. Stormwater management BMPs are only shown downslope of the solar facility.
- The Site Plan shall be revised to clearly show all existing facilities in the vicinity of the proposed electric line and transformer, including but not limited to buildings, parking areas, driveways, and athletic facilities.
- The plans propose two (2) Vegetative Filter Strips to be utilized as stormwater management BMPs for the project. Per the Pennsylvania BMP Manual, BMP 6.4.9, this BMP is to be utilized in areas receiving sheet flow, with the minimum filter width equaling the width of the contributing drainage area. Based upon the existing topography and length of flow being conveyed to these areas. Vegetative Filter Strips are not acceptable for this application. Alternative BMPs shall be provided, meeting the requirements set forth in the Township's Stormwater Management Ordinance and the Pennsylvania BMP Manual.
- The Stormwater Management Narrative indicates that a land cover of row crop was assumed as a pre-development condition for calculating pre-development flows. Development of this site shall be considered New Development in accordance with the definition referenced above, therefore all cover located within the project limit of disturbance shall be considered Meadow in predevelopment condition, in accordance with Section 144-309.D, of the Township's Stormwater Management Ordinance. Calculations shall be revised accordingly, to demonstrate compliance with the peak rate control requirements set forth in Section 144-308.H of the Township's Stormwater Management Ordinance.
- Financial security and an applicable agreement, in a form deemed acceptable to the Township solicitor, shall be provided to ensure satisfactory completion of the improvements associated with the development, including but not limited to:
 - Erosion and sedimentation control facilities
 - Access construction
 - Stormwater management facilities
 - Site buffering required for glare control.
 - Site lighting (if applicable)

Please do not hesitate to contact me with any questions.

Best Regards,
Cedarville Engineering Group, LLC

A handwritten signature in black ink, appearing to read "R. E. Flinchbaugh".

Robert E. Flinchbaugh, P.E.
Municipal Team Lead

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