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June 10, 2024

Yavapai County Development Services
1120 Commerce Drive
Prescott, AZ 86305

RE: Redlines of the May 13, 2024 Solar Facilities Ordinance Draft

Supervisors, Commissioners, and Staff,

AriSEIA is the State's nonprofit solar, storage, and electrification trade association. We are active at all levels of government in Arizona, working to advance renewables policy. We worked heavily on Eloy's 2023 ordinance and are currently working with Mohave County and Pinal County on similar processes. We have been in touch with Matthew Blake and Jeremy Dye regarding the Yavapai County solar ordinance. We attached our redlines as **Attachment A** to this letter and plan to attend the June 19, 2024 meeting. While we are in the process of completing an economic impact analysis with Elliott Pollack for Yavapai County, it is not yet complete. Therefore, we have attached our equivalent study for Mohave County as **Attachment B** for your reference.

You will note, Attachment A has numerous edits. The Yavapai ordinance is the first we have seen that would include distributed generation (i.e. residential and commercial solar). We would encourage you to reconsider its inclusion in an ordinance that appears to be targeted at utility scale development. **Our largest concern for the utility scale portion of the ordinance is that it appears to unfairly single out and target solar development with restrictions that are not applicable to any other land uses.** Our overall feedback is that solar should not be subject to restrictions that are not applicable to other types of development. There are also provisions we believe violate Arizona law, namely regarding the Arizona Power Plant and Line Siting Committee of the Arizona Corporation Commission.

Our two other largest concerns have to do with the caps on the acreage of projects and the cap on solar development in the County in F(1), as well as the setbacks for solar projects in F(2). We also have concerns about the technical feasibility of some of the storage (BESS) components of the ordinance.

We encourage you to hold a stakeholder meeting and invite residential and commercial installers, as well as utility scale developers to discuss the feasibility of the provisions of this ordinance before moving further. Thank you for your time and consideration.

Respectfully,

/s/ Autumn T. Johnson
Executive Director
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ATTACHMENT A

The following additions will be made to the Yavapai County Planning and Zoning Ordinance.

SECTION 501 ACCESSORY USES AND STRUCTURES

- E. SMALL-SCALE SOLAR USE of solar energy electricity generating equipment, as defined in Section 608, will be permitted for the purpose of reducing onsite consumption of utility power, provided that the following performance standards are met:
1. Roof-mounted photovoltaic panels will not extend above the peak of the roof plane where it is mounted and no portion of any such photovoltaic panel will extend more than twenty-four (24") inches as measured perpendicularly to the roof at the point where it is mounted.
 3. Ground-mounted photovoltaic panels will not exceed ten (10') feet in total height and must follow principal setbacks of the zoning/density district.
 4. All utility service lines serving ground-mounted photovoltaic panels must be located underground.
 5. All components servicing photovoltaic panels must be concealed including mechanical piping, electrical conduits, and the like.
 6. ~~Battery energy storage associated with small scale solar use will be limited to fifty (50 kW) kilowatts.~~ Battery energy storage associated with small scale solar use will be installed in accordance with the very latest published building codes rather than the building code cycle that happens to be in force at the of permit submittal.

Commented [AriSEIA1]: Would this limit the use of batteries at substations or other locations? Would it limit microgrids at multiple building campuses? If the state allowed community solar, would this be possible with this ordinance?

Commented [AriSEIA2]: Would this prohibit anything but a flush mount on flat roofs? You should modify this to apply to roofs with frater than 2/12 pitch.

Commented [AriSEIA3]: Should clarify that carport canopies are not limited to this height restriction.

Commented [AriSEIA4]: This is problematic. This would prohibit retrofit solar. Also, utility disconnect switches and meter socket adapters are required to be on the exterior with 24 hour access by the utility. You could require conduit to be painted.

Commented [AriSEIA5]: Why would there be a cap here? We disagree with a cap, but any cap should be in kWh usable capacity.

SECTION 608 SOLAR FACILITIES

- A. PURPOSE: ~~Utility scale solar projects should adhere to all existing codes, regulations and permitting processes. This Section establishes processes, requirements and performance standards for the placing, design, construction, operation, monitoring, modification, and removal of utility scale solar facilities.~~ This Section:
1. Gives County residents, leaders, staff, and developers clear direction on the appropriate siting of solar facilities while considering unique permitting conditions for each site;
 2. Provides standards for the placement, design, construction, monitoring, modification, and removal of utility-scale solar facilities;
 3. Protects and promotes public safety and welfare;
 4. Promotes reliable, clean energy sources by providing clear standards to encourage utility-scale solar facilities that:
 - a. Minimize and mitigate impacts on natural, cultural, and recreational resources;
 - b. Maintain and protect wildlife populations and corridors, viewsheds, vegetative communities, dark skies, air quality, and natural quiet;
 - c. Protect property values;
 - d. Offer private landholders options for economic diversity and stability; and

Commented [AriSEIA6]: Do these requirements apply to other generating technologies other than solar, especially removal?

e. Provide adequate financial assurance for decommissioning of facilities. 5. Supports projects that provide clear benefits to the County, such as revenue generation, job creation, and economic and environmental benefits.

Small-Scale Solar Use standards are addressed in Section 410.G.10 and Section 501.E and are excluded from this Section.

B. DEFINITIONS: Throughout this Ordinance, the following terms, phrases, words, and their derivations shall have the meaning given on the following pages. When not inconsistent with the context, words used in the present tense include the plural number. The word “shall” is always mandatory and not merely directory. The word “person” includes individuals, partnerships, corporations, clubs, and associations. The following words or terms when applied to this Ordinance shall carry full force when used interchangeably: lot, plot, parcel, or premises; used, arranged, occupied, or maintained; sold, or dispensed; construct, reconstruct, erect, place, or alter (structurally or otherwise).

Agrivoltaics: Agricultural production, such as crop or livestock production or pollinator habitats, underneath or adjacent to PV panels (also known as agrisolar or dual-use solar). This practice may help to prevent water evaporation and produce a localized cooling effect.

Battery Energy Storage System (BESS): ~~A physical container providing secondary containment to battery cells that is equipped with cooling, ventilation, fire suppression, and a battery management system (BMS). A group of batteries used to store and dispatch electric energy along with its component parts including but not limited to any associated containers, ventilation, fire safety equipment, perimeter fencing, transformers, inverters, internal circulation roads and lots, metering, communications equipment, transmission poles and project substation.~~

Commented [AriSEIA7]: This definition is overly specific and not flexible enough for all technologies, configurations, and evolution of the technology. It ideally would also include a reference to associated infrastructure like a project substation insofar as this ordinance impacts standalone storage systems, those facilities include other necessary components.

Battery Management System (BMS): An electronic regulator that manages a battery energy storage system (BESS) by monitoring individual battery module voltages and temperatures, container temperature and humidity, off-gassing of combustible gas, fire, ground fault and direct current (DC) surge, and door access, and is also capable of shutting down the system before operating outside of safe parameters.

Brownfield: A former industrial or commercial site for which the expansion, redevelopment, or reuse of the site may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.

Concentrating Solar Thermal Devices/Towers (CSV): A device using mirrors to reflect and concentrate sunlight onto a receiver. The use of such devices will not be permitted.

Critical Habitat: As defined in the Endangered Species Act, specific geographic areas that contain features essential to the conservation of an endangered or threatened species and that may require special management and protection. These areas are delineated by the U.S.

Fish and Wildlife Service.

Desktop Study: A preliminary review of readily available and accessible information about a project site to help determine existing characteristics and conditions of the Project Area and

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vicinity, and whether additional data may be needed. Desktop studies will be used to make early decisions regarding appropriate site locations, buffering requirements, design, and construction alternatives, which will help to improve time and cost estimates for the applicant by avoiding unforeseen obstacles.

Development Area: The portion of the Project Area where ground disturbance occurs and project infrastructure is installed, including features beyond the project security fence such as transmission or collector lines and driveways. The Development Area does not include buffers, wildlife corridors, or other areas which remain unfenced and undisturbed.

Important Bird Area: Areas identified, monitored, and protected by the Audubon Society as being vital to the continued existence of a large variety of bird species.

Integrated Photovoltaic (Integrated PV): Photovoltaics incorporated into building materials, such as shingles.

Photovoltaic (PV): A material or device, such as a photovoltaic panel, that absorbs sunlight and converts it directly into electricity.

Photovoltaic Array Block (PV Array Block): A grouping of photovoltaic panels.

Rated Capacity: The maximum capacity of a solar facility based on the sum of each photovoltaic system's nameplate capacity reported as Watts Direct Current (Wdc) or Watts Alternating Current (Wac).

Small-Scale Solar Use: The use of solar energy electricity generation equipment intended for onsite usage only. Small-scale solar use standards are addressed in Section 410.G.10 and Section 501.E and are excluded from this Section.

Solar Facility: A commercial facility that converts sunlight into electricity using photovoltaics or other conversion technology, along with all necessary equipment for generating electricity, which may include charge regulators, inverters, associated fencing, landscaping, parking lots, and PV support structures and buildings. A solar facility may also include electrical substations or transformers, transmission lines, and battery energy storage systems (BESS) where permitted by these regulations.

Solar Facility Decommissioning Plan: A plan to disconnect, remove, and properly dispose of equipment, facilities, or devices associated with a solar facility and to return the site to its original state.

Solar Facility Project Area (Project Area): The total area of land (calculated in acres) encompassed by a solar facility including all buffer zones.

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Solar Photovoltaics Panel Coverage: The total acres covered by groupings of photovoltaic panels (PV Array Blocks) including spaces between panels but excluding driveways, wildlife corridors, required setbacks, wetlands, and the like.

Special Status Species: Federally threatened or endangered species, other federally protected species, Arizona Species of Greatest Conservation Need 1A and 1B, and U.S. Forest Service or Bureau of Land Management (BLM) sensitive species, as appropriate.

Visual Resource: A physical feature that defines the visual and aesthetic character of an area, and can include natural features, scenic vistas and viewsheds, or human-made structures on or in a landscape. Resource designations such as a Scenic Byway, Scenic Corridor, Scenic Road, Historic Road, National All-American Road, gateway community, National Scenic, historic, or other trails, National or County parks and monuments, ridgelines, and the Granite Dells are examples of visual resources, or as identified during the application process.

Wildlife Linkage: An area of land used by wildlife to move between or within habitat blocks in order to complete activities necessary for survival and reproduction. Such areas include wildlife corridors.

C. GENERAL PROVISIONS:

1. The operation of a solar facility will require a Solar Facility Use Permit approved by the Board of Supervisors. The Solar Facility Use Permit will be applied for in the same manner as a rezoning (zoning district change) as described in Section 208 of this Ordinance, with the application requirements described for a Solar Facility Use Permit in subsection D of this Section.
2. The Project Area designated within the Solar Facility Use Permit application may include multiple parcels and portions of parcels, which may be wholly owned or leased areas of parcels.
 - a. All land within the Project Area may or may not form one solid area (e.g., when separated by roads) and may form a collection of non-contiguous areas.
 - b. The entire Project Area covered by a Solar Facility Use Permit will be considered a single solar facility. However, no portion of the Project Area may be separated by a distance greater than one-half (1/2) mile from the next closest portion of the Project Area. Any such portion separated by more than one-half (1/2) mile will require a separate Solar Facility Use Permit application.
3. The project boundary will include all the collected Project Areas and will also run along streets abutting the Project Area.
4. A buffer zone within the Project Area will be established and mapped in the Development Plan for the purpose of mitigating the effects of the solar facility upon surrounding

properties and resources located both within and outside of the Project Area and the community at large.

a. The buffer zone will be an area reserved for open space, wildlife corridors, natural vegetation, and landscaping.

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b. The buffer zone will begin at the project boundary and may encompass required setbacks.

D. SOLAR FACILITY USE PERMITS: A Solar Facility Use Permit may be approved for a period of thirty (30) years. The project operator may apply for a single ten (10) year extension so long as the project remains in compliance with all terms of the original Solar Facility Use Permit, including the approved site plan, and meets operational standards acceptable to the Board of Supervisors at time of the renewal application.

1. Pre-Application Requirements:

a. In accordance with the requirements of Section 582 Use Permits, a Preliminary Planning Meeting with Development Services must occur prior to submission of the Use Permit application.

b. Following the Preliminary Planning Meeting, the applicant must engage in the Citizen Participation process pursuant to Section 209 of this Ordinance and shall follow the notice requirements set forth for PAD Applications. ~~prior to submission of the Use Permit application. The notification range for Citizen Participation will be a minimum of two thousand six hundred forty (2,640') feet (i.e., half mile) from the project boundary. The notification range will be extended to five (5) miles from the project boundary for town councils, homeowner associations, resident organizations, and other stakeholders identified during the Preliminary Planning Meeting. Development Services staff will also determine the appropriate number of community meetings the applicant will be required to hold.~~

Commented [AriSEIA8]: Note, the code already sets out a process and details for notice of major projects. It is confusing to require compliance with Section 209 but then to put forward additional specifics that seem to already be permitted under Section 209. This creates confusion that can be resolved by just relying on Section 209. In addition, it is not appropriate to require the public process to be complete before the application itself is made as the application may end up being revised as a result of the feedback from staff during the review process. This is why Section 209 requires the public process to be complete before the public hearing, not before the application is made.

c. Concept Plan and Preliminary Site Investigations: A review of the Concept Plan and Preliminary Site Investigations must be completed prior to submission of the Use Permit application. This review may take place as part of the Preliminary Planning Meeting or as a separate meeting following initial discussion during the Preliminary Planning Meeting.

(1) The Concept Plan of the Project Area will provide a visual summary of the project and will consist of:

(a) Aerial imagery of the Project Area superimposed with the project boundary;

(b) General location and arrangement of buffer zones, tree preservation, sensitive habitats, wildlife corridors, floodplain, fencing, screening, structures (with elevations), PV array blocks, driveways, and entrances;

(c) Locations of any proposed BESS facility and/or substations;

and

- (d) Locations of electric lines and overhead utility lines, including the proposed route of private electric power transmission lines from the solar facility to the points of connection to the grid.

- (2) Preliminary Site Investigations: Preliminary site investigations, inventories and mapping of the following resources will be of

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appropriate scope to effectively evaluate and mitigate potential adverse issues. This information will be used to guide the project applicant and the County in determining the appropriate siting and design of an installation. The applicant will complete the following desktop studies of the Project Area and the surrounding area within at least five (5) miles of the project boundary for review:

- (a) Preliminary habitat and wildlife study which identifies potential wildlife issues by determining whether Special Status Species or their habitats may be present. This study will also address any site-specific wildlife concerns, including the identification of existing and suitable habitat and wildlife corridors to be established and protected from disturbance within the Project Area. Appropriate state and federal wildlife management agencies must be consulted for this study.
- (b) Preliminary study of recreational and public lands, which will include identification of these resources as well as an evaluation of any potential negative impacts to them.
- (c) Preliminary study (Class I and Class II surveys) of archaeological, cultural, and historic sites, which will include identification of these resources as well as an evaluation of any potential negative impacts to them. This study must be conducted by a qualified professional and include an on-site survey of the site. In addition, a summary of communication and collaboration efforts, such as a pre-cultural on-site survey with any potentially affected Native American tribes to evaluate cultural and historic resources or sites, heritage areas, or cultural landscapes must be submitted with the application. Depending on the results of the Class I and Class II surveys, the Development Services Director may require the applicant to conduct a Class III survey.
- (d) Preliminary study of known water resources and watercourses, streams, creeks, washes, etc., both onsite and adjacent to the site, which will include identification of these resources as well as an evaluation of any potential impacts to them. A statement as to potential negative impacts or use of those resources for the project must also be provided.

Commented [AriSEIA9]: This should be limited to recreational impacts on public lands.

(e) Preliminary study of visual resources (viewshed analysis) and residentially zoned property located within five (5) miles from the project boundary, or a distance determined by the Development Services Director, must be identified on a map showing the resource's distance from and relationship to the facility. This preliminary information will be used by the County and the applicant to select suitable site locations and

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the number of viewpoints from which the Visual Impact Analysis will be prepared.

2. Application Requirements: Each application for a Solar Facility Use Permit must be in compliance with this Section including all required site investigations, reports and plans and with Section 582 (Use Permits) of this Ordinance. The following information must be included with the application:
- a. Solar Facility Report: A report providing a detailed description of the project and containing a narrative overview of the solar facility, including:
- (1) Applicant, owner, and the operator of the proposed solar facility;
 - (2) Current uses and physical characteristics of the Project Area and also the surrounding area;
 - (3) Intended energy provider to interconnect to the solar facility and location of proposed interconnection;
 - (4) Approximate rated capacity of the solar facility project;
 - (5) Type and location of interconnection to electrical grid and details of coordination with the local energy provider;
 - (6) Status of interconnection agreement with the local energy provider or a written explanation outlining why an interconnection agreement is not necessary;
 - (7) Approximate number of panels and representative types;
 - (8) The Project Area and solar photovoltaic panel coverage expressed in acres;
 - (9) An inventory with description of all proposed structures and uses including BESS facilities, inverters, and substations;
 - (10) An inventory of all solar facilities within two (2) miles of the project boundary;
 - (11) An explanation of why the proposed site has been chosen based on the preferred/restricted site criteria (subsection F.1.e and f);
 - (12) An explanation of how the facility provides clear economic and environmental benefits to the County;
 - (13) An explanation of how the facility's design and operational procedures apply current best practices and technologies;
 - (14) A detailed description of how the project meets each of the required Performance Standards in subsection F;
 - (15) Results of the Preliminary Site Investigations required in subsection

D.1.c(2). For the preliminary archaeological, cultural, and historic site study (D.1.c(2)(c)), the narrative will document how the site was inspected for culturally and historically significant resources and include the name and details of the professional(s) conducting the study, and any additional information requested at the Pre Application review; and

~~(16) A Construction Management Plan which will include an estimated construction schedule and hours of operation.~~

Commented [AriSEIA10]: This is premature at this stage and can be submitted with permit requests.

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b. Development Plan: In addition to the requirements in subsection D.2.a, the Development Plan must also include:

- (1) The Project Area and solar photovoltaic panel coverage expressed in acres;
- (2) The project boundary, property lines, leased area lines, official street line, and all easements within the Project Area, including but not limited to right-of-way and utility easements;
- (3) ~~Approximate l~~ocation of driveways, parking, and entrances onto streets;
- (4) ~~Approximate l~~ocations and dimensions of all existing and proposed structures, including PV panels, charge regulators, inverters, substations, BESS facilities, connections to the grid, fencing, including the location of all dwellings and associated structures within two thousand six hundred forty (2,640') feet (i.e., half mile) of the project boundary;
- (5) ~~Example e~~levations of structures depicting the typical style, size, and exterior construction materials in sufficient detail to exhibit the relative compatibility of the proposed development with the character of the neighborhood; and
- (6) A conceptual grading plan indicating existing and proposed contours at no greater than two (2')-foot contours

Commented [AriSEIA11]: This is too detailed and should be submitted with site plan, not use permit stage. The developer needs to know that they have an approved project before doing this level of design.

c. Wildlife Protection Plan: This plan will be based on the results of the Preliminary Site Evaluations. The Wildlife Protection Plan must detail the following information:

- (1) an inventory of all Special Status Species that may be present on or utilize the site;
- (2) identification of existing and proposed wildlife critical habitat; (3) location and dimensions of wildlife corridors and details regarding fencing, if any, that accommodates wildlife movement;
- (4) direct and cumulative impacts to wildlife and wildlife linkages and explanation of how these impacts will be avoided through project design, habitat enhancement, stewardship activities, evaluation, continued monitoring, or other mitigation strategies; and
- (5) notations summarizing conditional requirements related to wildlife, such

as timing restrictions to reduce or prohibit activities in specified areas during sensitive life cycle events (e.g., active nest period) and wildlife survey requirements.

- d. Cultural Resources Management Plan: This plan will be based on the preliminary study of archaeological, cultural, and historic resources and must be prepared by a qualified professional to protect and mitigate impacts to any known or discovered archaeological, historical, or cultural sites or artifacts found in the Project Area. Instructions notifying operators how to proceed in the event such cultural resources are encountered during construction or grading must be included on construction documents.
- e. Stormwater Management Plan: The proposed Stormwater Management Plan must be in accordance with all applicable County standards/regulations

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and in conformance with the Flood Control District Stormwater Management Requirements in effect at the time of application and must be approved by the Flood Control District prior to issuance of construction permits. The stormwater management plan will include, but not be limited to, the following sections:

- (1) Preliminary and post-development hydrologic analysis of water quantity and proposed usage;
 - (2) Proposed stream buffer/setback analyses;
 - (3) Erosion and sediment control regulations for land disturbing activities;
 - (4) Post-Construction Stormwater Quality Treatment Regulation requirements; and
 - (5) County and the Federal Emergency Management Agency (FEMA) floodplain regulations/requirements.
- f. Visual Impact Analysis: A visual impact analysis demonstrating project siting and, if necessary, proposed mitigation and screening to reduce impacts on the visual character of the surrounding area.
 - (1) The applicant will provide accurate, to scale, photographic simulations showing the relationship of the solar facility to its surroundings.
 - (2) Photographic simulations will show views of solar facility structures and uses from prominent locations, adjacent roads, nearby highways, existing dwellings (from closest adjacent property line), and other residential, scenic, cultural, and recreational areas in order to assess the visual impact of the solar facility.
 - (3) The total number of simulations and the perspectives from which they are prepared will be established by the Development Services Director after the pre-application meeting and will be chosen with the intent of establishing the visual impacts upon sensitive areas potentially receiving the greatest impacts from such a proposal.
 - g. Landscaping Plan: The Landscaping Plan must have sufficient detail to demonstrate compliance with ground cover and vegetation preservation requirements and

screening requirements of this Section (subsections F.5 and F.6). The Landscaping Plan will include:

- (1) Specifications of proposed ground cover (including seed mixes), screening materials (including identification of appropriate plant species and spacing), and proposed herbicides used if any;
- (2) Design and specifications of proposed additional vegetative screening as needed for certain dwellings and other improvements, in compliance with subsections F.6 of this Section;
- (3) Installation and maintenance practices to include the establishment of ground cover and woody plant materials, and the application of herbicides if any;

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- (4) Locations and descriptions of plant communities and densities in areas that have not been previously plowed or graded;
 - (5) Proposed clearing or grading of natural vegetation or woody plants including stands of trees, shrubs, and woodlands, which may be a separate plan;
 - (6) Description of invasive weed populations and densities currently existing on the site and provisions for controlling and preventing the spread of noxious weeds during construction, throughout project operation, and post operation restoration; and
 - (7) Proposed restoration procedures for roadway shoulders and other areas disturbed by construction.
- h. Public Safety, Fire Protection, and Emergency Management Plan: The proposed Public Safety, Fire Protection and Emergency Management Plan for construction and post construction operation of the facility, including plans for ongoing management of forest and fire fuels. Additional mitigation may be required if requested by the local or nearest fire district to support response capabilities. This plan must be finalized and approved by the Development Services Director prior to issuance of construction permits.
- i. Traffic Plan: The applicant will submit a preliminary traffic plan describing estimated travel routes and trip volumes during the construction and decommissioning processes. Public road improvement, repair and maintenance is further addressed within subsection H of this Section. This plan must be finalized and approved by the Development Services Director and Yavapai County Public Works prior to issuance of construction permits.
- j. Airport Studies: For the purpose of determining impacts on area airports, a Glare Impact Study and/or an Airspace Study in accordance with, and if required by, Federal Aviation Administration (FAA) requirements will be submitted by the applicant.
- k. Land Use Impacts and Mitigation: In addition to typical Citizen Participation notification requirements (see Section 209), the applicant must contact all relevant land use entities in the vicinity of the proposed solar facility (i.e., U.S.

Forest Service, Bureau of Land Management, etc.) to discuss, and memorialize in written form, the potential impacts of the project and the recommended mitigation strategies and measures. Such dialogue will be submitted to the Development Services Director for review and reference.

- I. Decommissioning Plan: The applicant will submit a Preliminary Decommissioning Plan to be approved by the Board of Supervisors as part of the application. This Plan will specify the procedure by which the owner or operator, or their successors, will remove the improvements associated with the solar facility and any BESS facility after the end of their usefulness and to restore the property for immediate non-solar related uses, including adequately restored natural conditions. Prior to issuance of construction permits, the applicant will submit a Detailed Decommissioning Plan, which must demonstrate substantial conformance with the Preliminary

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Decommissioning Plan, to be approved by the Development Services Director. The Development Services Director may choose to defer approval of this plan as a separate hearing item through the Board of Supervisors if substantial changes have been made. The Detailed Decommissioning Plan must be prepared by a professional engineer licensed in the state of Arizona who has expertise in the removal of solar facilities through educational knowledge or practical experience. The Plan will be prepared in sufficient detail to determine compliance with subsection M, and will include the following:

- (1) Anticipated life span of the project;
- (2) Implementation and manner in which the project will be decommissioned and reclaimed, including:
 - (a) plans for stabilizing the soils;
 - (b) regrading, reseeding, and replanting; and
 - (c) disposal and recycling of solar facility materials including but not limit to PV panels, inverters, and batteries;
- (3) Decommissioning and reclamation cost estimate prepared by an independent third-party Arizona licensed professional engineer mutually agreed upon by the Applicant and the Development Services Director.
 - (a) The estimate will quantify the gross estimated cost for decommissioning and reclamation of the solar facility and any BESS facility in accordance with the Decommissioning Plan and these conditions.
 - (b) The estimate will explicitly detail the cost and manner in which the estimate was determined.
 - (c) The estimate will establish the full amount of the decommissioning and reclamation cost without regard to the possibility of salvage value unless the Board of

Supervisors accepts the value of the salvage as part of a third party engineer's analysis, as updated every five (5) years with the rest of the cost estimate to ensure reasonable and accurate estimates; and
(d) The estimate will reflect the costs of decommissioning and restoration of the Project Area in accordance with subsection M of this Section.

~~3. Special Land Use Considerations: As part of the review and consideration of the solar facility Use Permit application, off-site impacts including but not limited to those of private electrical power transmission lines (PEPTLs), and appurtenant equipment and structures, connected to the solar facility may be reviewed for land use compatibility issues. These issues may include aesthetic and environmental impacts, detrimental impacts to the public health, safety, and general welfare and also to neighboring landowners. Review of PEPTLs may also include, but will not be limited to, consideration of proposed routes from the solar facility to a substation or other~~

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~~connection site and distances of the PEPTLs from right-of-way easements. Upon review of an off-site impact, the Board of Supervisors may adopt conditions or restrictions deemed necessary and advisable for the protection of the public interest, environmental, cultural, and visual considerations, or to mitigate detrimental impacts to neighboring landowners.~~

4. Site Plan Approval: The applicant must submit and receive ~~administrative Board of Supervisor~~ approval of the Site Plan for the entire project prior to obtaining any construction or other permits related to the solar facility.
5. Waiver Request: In certain instances where the applicant desires a limited deviation from the requirements of this Section, the waiver request to deviate from a specified requirement may be considered for approval if:
 - a. compliance with the specified requirement would be impractical;
 - b. the deviation would not result in adverse impacts compared to what would otherwise be permitted under this Ordinance;
 - c. the deviation would not conflict with planned uses and resources in the area.
 - d. The applicant must submit written information with the application indicating the circumstances which are believed to necessitate the need for a deviation from the specific requirement, as well as any proposed alternatives.
 - e. The written information will clearly outline the positive and negative impacts of the proposed changes and what protective measures will be taken by the applicant to adequately reduce, avoid, and mitigate such impacts, along with explanation of how the proposed changes will not adversely affect public safety and welfare.
 - f. If the proposal is deemed reasonable by the Development Services Director after all internal and external agency reviews are completed, the waiver request will be submitted for consideration as part of the final application to the Board of Supervisors.
6. Application Review Time: Application review time for Use Permits for US Solar Facilities will be ninety (90) days. The application review time may be increased with a

Commented [AriSEIA12]: Arizona law already assigns authority over transmission line siting to the Arizona Corporation Commission. This provision is not likely legally permissible. The County has authority to intervene in and/or provide comments and input into the ACC's line siting proceeding.

determination made by the Development Services Director in writing based upon the size and complexity of the application as determined by factors including but not limited to the number of third-party reviews to be coordinated and completed and the Project Area of the solar facility.

7. A minimum of one (1) year prior to the end of the Use Permit term, the solar facility owner or operator must notify the Development Services Director in writing of future plans for the solar facility, which may include decommissioning and reclamation or a request for Use Permit renewal.
8. Although the solar facility allowed by this Section may potentially be located upon multiple parcels of land, the underlying Solar Facility Use Permit comprises and approves only one (1) unified Solar Facility Use Permit. The use of any parcel, or portion thereof, that results in a conflict with the associated Development Plan (subsection D.2.b) or failure to properly maintain the project area according to the Site Maintenance Agreement (subsection G) may cause the Solar Facility Use Permit

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to terminate. The Development Agreement (subsection E) may also contain provisions that may result in termination of the Solar Facility Use Permit.

9. Prior to terminating a Solar Facility Use Permit pursuant to subsection D.8 or subsection E, and prior to initiating a partial or complete decommissioning and reclamation of any project, the Board of Supervisors must provide the owner and operator, or their successors with official notice of the County's intent to terminate and/or decommission via certified mail. The notice will identify each specific reason for the commencement of the termination or decommissioning and reclamation process and will provide thirty (30) calendar days to remedy the issue identified in the notice. If the remedy requires more than thirty (30) calendar days to complete, the owner or operator or their successors must respond in writing within the thirty (30) calendar day period and inform the County. The request for a reasonable and specific timeframe to remedy the identified issue(s) will be considered by the Development Services Director. In the event that thirty (30) calendar days pass and the issues have not been completely resolved nor has the County received any written correspondence from the owner or operator or their successors, the Development Services Director may place the item on the Board of Supervisor's Agenda to allow public comment and input from the owner or operator or their successors prior to considering a termination of the Use Permit, commencing decommissioning of the solar facility, or providing additional time to remedy the issue(s), which will be determined by the Board of Supervisors.
- E. DEVELOPMENT AGREEMENT: A Development Agreement between the solar facility owner or operator and the County, which is satisfactory to and approved by the County, will be required to provide that the solar facility is developed, maintained, decommissioned, and reclaimed in accordance with the requirements of these regulations and does not create an undue burden on County services. The Development Agreement must be approved by the Board of Supervisors and all associated financial assurances must be posted prior to issuance of

construction permits.

1. The Development Agreement will include the following items, subject to any approved waivers:
 - a. Annual compliance monitoring report prepared by the project operator and submitted to the Development Services Director;
 - b. Posting of financial assurances for installation and maintenance of the solar facility as described in subsections G, H, I, J, and K (failure to develop or maintain the solar facility in the manner required may result in loss of the associated financial assurance funds, or in termination of the Use Permit and decommissioning of the solar facility);
 - c. Provision by the project operator of specialized fire safety equipment or other protections deemed necessary by County emergency services staff as described in subsection L; and
 - d. Decommissioning of the solar facility and reclamation of the Project Area (subsection M), including:
 - (1) posting and collection of associated financial assurance funds;
 - (2) review and recalculation of decommissioning and reclamation costs;
 - (3) the various required deadlines associated with decommissioning and reclamation; and
 - (4) adherence to the finalized Detailed Decommissioning Plan.
2. The Development Agreement includes financial assurance, as described in subsection M.1.g, which must be received prior to the approval of any construction permits and must remain in full force for the duration of the life span of the solar facility and until all decommissioning and reclamation is completed to the satisfaction of the County. If the County receives notice or reasonably believes that any form of assurance has been revoked, or the County receives notice that any assurance may be revoked, the County may, after providing notice and a reasonable opportunity to post a replacement security, terminate the Use Permit and will be entitled to take all actions necessary to obtain the rights to the securitized funds.
3. Liability Insurance: The owner or operator of the solar facility will maintain a current liability insurance policy which will include the County as an additional insured, with the designation of primary and noncontributory. The owner or operator must immediately provide the County, in writing, with notice of cancellation or other changes to this liability insurance policy.
4. Use of Third Parties: The County may obtain reviews, inspections or other work completed by a third party for the purpose of review or monitoring of the solar facility, the costs of which will be required to be reimbursed by the solar facility owner or operator. Examples of such work include but are not limited to reviews and associated inspections of the Wildlife Protection Plan, stormwater quantity and quality plans, the Decommissioning Plan, and compliance reports.
5. Change of Owner or Operator: The solar facility owner or operator must give the County ninety (90) days written notice prior to any proposed change of the solar facility operator or ownership, with the additional requirement that the new owner or

operator must enter into all required written agreements and provide the required financial assurances prior to the release of the then current owner or operator.

F. DEVELOPMENT AND PERFORMANCE STANDARDS: The following standards are intended to mitigate and avoid adverse impacts on adjacent property owners, the surrounding area, viewshed, and natural, cultural, archaeological, and recreational resources, as well as future development within the County.

1. Location and Dimensions: Solar facilities are required to be located in the RCU (Residential; Rural) zoning district. The County will utilize the following criteria to identify appropriate locations within this required zoning district. A waiver request, as described in subsection D.5 of this Section, will be required for consideration to locate a solar facility in any other zoning district. The Board of Supervisors may also utilize and require these criteria for the siting of solar facilities in other zoning districts when considering whether to approve the waiver request:

~~a. The maximum Development Area will not exceed three thousand (3,000) acres.~~

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~~b. The cumulative acreage maximum for all solar facilities located within Yavapai County is eight thousand (8,000) acres.~~

~~c. Solar facilities must be located greater than one (1) mile from any municipal limits. This requirement will not apply to non-contiguous areas of a town or city ("islands") that are less than twenty five (25) acres in size.~~

~~d. Solar facilities must be located greater than one (1) mile from the boundary of any airports and related properties.~~

e. Preferred Sites: Projects that are able to demonstrate compliance with at least three of the following criteria, as determined during the pre-application phase, will be considered as preferred sites. No combination of preferred characteristics will create an entitlement to a Solar Facility Use Permit. Preferred sites will be located on:

- (1) a previously utilized site exhibiting challenging characteristics for reuse (e.g., existing brownfield, aggregate extraction, or mining site);
- (2) project sites exhibiting highly disturbed and degraded ecological features;
- (3) project sites having low environmental, recreational, and cultural or archaeological resource values as identified in the required preliminary site investigations;
- (4) project sites that may retain traditional uses and allow for multiple uses such as Agrivoltaics;

~~(5) project sites that have minimal visual impact or are more than ten (10) miles from visual resources such as natural landforms, vegetation, water features, and human modifications that give the landscape its visual aesthetic quality;~~

- (6) project sites located near major highway interchanges, existing or planned industrial areas, or other solar facilities; and

Commented [AriSEIA13]: Why not allow for a path to neighboring municipalities less than 1-mile from a project boundary to opt-in through incentives such as good neighbor agreements, etc.?

Commented [AriSEIA14R13]: Proximity to a city alone should not create a bright line.

Commented [AriSEIA15]: In general practice, under this section you are functionally limiting business competition to a very limited number of market participants (8,000 acres is 2-3 projects at most). Additionally, this significantly limits optionality for land owners who may be looking for additional revenue streams where traditional agricultural uses are no longer economical and/or not feasible due to outside constraints such as implementation of long term drought contingency plans.

These provisions more than others contained in this draft infringe on free market principles and private property rights.

Commented [AriSEIA16R15]: The County can already review individual projects. There is no need for a hard cap that deprives landowners of property rights so broadly.

Commented [AriSEIA17]: What is the genesis of this provision? Many of the largest international airports in the world are developing solar facilities within their property lines. Often times this is the highest and best use of land surrounding airports.

Commented [AriSEIA18]: This would limit development to most if not all of the County and State of Arizona. There is almost no location in the state where you can't see a specific parcel of land from a mountain or other "natural landform."

(7) project sites that use or are near an existing or planned substation, or transmission line or other satisfactory inter-tie location.

f. Restricted sites: The following factors will not be used to determine preference for siting, but are locations within the Project Area that must remain in an undisturbed condition:

- (1) sites or locations that would fragment, degrade, or irreparably harm important resources of local, County or state significance;
- (2) sites or locations that conflict with or have potential significant negative impacts on Special Status Species and their habitats, other special wildlife designations such as Critical Habitat and Important Bird Areas, identified wildlife corridors (e.g., pronghorn antelope, predators, and other wide-ranging wildlife), and significant stands of unique vegetative communities (e.g., saguaro cactus);
- (3) scenic sites, areas, and viewsheds;
- (4) unique topographic features such as ridges;
- (5) steep slopes averaging greater than ten percent (10%) over two hundred (200') feet or more of horizontal run, or averaging greater

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than fifteen percent (15%) over fifty (50') feet or more of horizontal run;

- (6) sites or locations that conflict with or have potential negative impacts on archaeological, cultural, and historic resources or sites, heritage areas, or cultural landscapes as formally identified by a designated tribal entity or government;
- (7) sites or locations that require significant ground disturbance and grading due to their unique topographical features or environmental constraints;
- (8) forested or heavily vegetated sites or locations comprising 25% canopy density of woody ~~or cactus~~-species (i.e., trees, shrubs, succulents) as averaged across the vegetated area; and

(9) federally recognized floodplains, riparian areas, wetlands, or seeps.

2. Setbacks: The following standards will apply to the Development Area of the solar facility, unless otherwise expressly stated in this Section, including fencing and PV panels, but not including landscaping.

- a. OneFive hundred (1500') feet from any dwellings (existing or under permit) or any parcels zoned R1L, RMM, R1, RCU, R2, RS, C1, C2, C3, PAD, RCD, or OS.
- b. Five hundred (500') feet from any parcel zoned PM, M1, or M2.
- c. Five hundred (500') feet from any lake, creek, perennial or intermittent stream, river, major tributaries, riparian areas, wetlands, or seeps, as measured from the top edge of the bank, or from any delineated Federal Emergency Management Agency (FEMA) Floodplains. Minor tributaries may warrant a reduced buffer setback to be no less than one hundred fifty (150') feet as determined by the Development Services Director.
- d. One thousand (1,000') feet from Federally protected lands (e.g., National Park,

Commented [AriSEIA19]: Inclusion of cactus is problematic.

Commented [AriSEIA20]: Is this as defined by AZDEQ's water of the state, FEMA, WOTUS?

Commented [AriSEIA21]: All setbacks should be consistent with other land uses and not specific to solar. We do not see where the current code has any of these requirements for any other uses. Solar should not be singled out. All setback should be consistent with other uses in the County.

Commented [AriSEIA22]: This is excessive. The code permits noxious uses such as gas fuel tanks and propane dispensing to be located 100' from residential zoned property. Solar should be treated no worse than that from a setback perspective

National Monument, Conservation Lands), and five hundred (500') feet from other federally managed lands.

- e. One thousand (1,000') feet from County open space, parks, and other recreational facilities.
- f. Five hundred (500') feet from forested or heavily vegetated areas comprising forty-five (45%) percent or greater canopy density of woody or cactus species (i.e., trees, shrubs, succulents) as averaged across the vegetated area, or from transitional habitat areas.
- g. Five hundred (500') feet from ravines, canyons, or other significant and well defined drainage features, as measured from the peak of the outer edges of these features.
- h. One hundred fifty (150') feet from any hillsides with slopes of fifteen percent (15%) or greater or with a total elevation gain of fifty (50') feet or more. The setback will be measured from the high and low points where the average slope percentage calculation begins and ends.
- i. Five hundred (500') feet from significant scenic, historic, cultural, or archeological sites as identified in the Cultural Resources Management Plan or as determined by the Board of Supervisors.

Commented [AriSEIA23]: This should defer to state/federal processes related to wetlands and drainages.

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- j. Three hundred (300') feet from the official street Right-of-Way line of any State or Interstate highway.
- k. In all other cases where the above setbacks do not apply, the front, rear, interior side, and exterior side setbacks will be a minimum of one hundred (100') feet.

Commented [AriSEIA24]: All need to be revised to be consistent with other land uses.

Commented [AriSEIA25]: Should defer to SHPO policies.

Commented [AriSEIA26]: What is the purpose of this?

3. Height:

- a. The maximum height of the highest edge of PV panels will be fifteen (15') feet, as measured from the average finished grade of the row.
- b. The maximum height of all other structures associated with the solar facility will be thirty-five (35') feet as measured from the finished grade at the base of the structure to its highest point, including appurtenances. This does not apply to poles and other equipment associated with onsite substation uses.

Commented [AriSEIA27]: This would prohibit agrivoltaics, which the ordinance says it prefers.

4. Wildlife Corridors: The applicant for a proposed solar facility is required to conduct a preliminary habitat and wildlife study as part of the required preliminary site investigations. The study will identify existing corridors, potential impacts, and proposed mitigation measures to avoid or substantially reduce potential impacts to wide-ranging wildlife that may be present on or utilize the Project Area (e.g., pronghorn antelope, elk, bears, mountain lions, etc.). Existing wildlife corridors and those identified in the Wildlife Protection Plan (subsection D.2.c) will be provided a minimum width of one thousand (1,000') feet through the entire length of the course. The applicant must consult with Arizona Game and Fish and other relevant agencies to provide adequate access for wildlife to safely navigate through and around the Project Area. Wildlife linkages and access strategies must be shown in the Concept Plan and Development Plan submitted to the County. The use of wildlife permeable fencing with holes large enough to allow for small and medium-sized animals (e.g., racoons, rabbits, squirrels, etc.) to fit through is required. All fencing must be

permeable to small animals by leaving a six (6") inch gap between the bottom of the fence and the ground, exclusive of substation and BESS facilities. Interior passageways which are unfenced and rarely used non-impervious driveways within the Project Area may also be considered as part of a wildlife corridor. These meaningful accommodations will be provided to support habitat connectivity and facilitate the safe movement of mobile wildlife species.

5. Ground Cover and Vegetation Preservation: Preliminary erosion control, site maintenance, noxious weed control and management, and native plant preservations and revegetation plans will be submitted as part of the Landscaping Plan. The project must be planned and developed in a way that maintains the local ecosystem by minimizing grading and site disturbance and to maximize retention of native vegetation, topsoil, and landforms. Areas cleared during construction that are not needed for site operations must be revegetated with native vegetative cover.
 - a. For the purpose of preventing erosion and managing runoff, any disturbed land, including land under and around the PV panels, must be seeded with a revegetation seed mix based on plants predominantly native to the site and Yavapai County, as approved by the Development Services Director. Such

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ground cover will be continually maintained on the site for the duration of the Use Permit.

- b. Solar facilities will be designed and developed to minimize grading and to protect and preserve prominent landscape features (i.e., rock outcroppings, large boulders, etc.), unique plant communities, riparian zones, steep slopes, and other natural features, prime grassland, woodland, and Sonoran Desert habitat. No more than a ten percent (10%) average change from natural grade will be allowed except for roads, equipment pads, substation, BESS, and other structures that require a leveled surface to meet engineering or safety codes.
6. Screening: The required project boundary setbacks and buffer zone must provide adequate screening to reduce visual impacts associated with the solar facility. In areas where it is determined that setbacks and buffer zones do not appropriately screen the project from sensitive locations (e.g., dwellings, designated viewsheds, scenic highways, etc.), the following screening measures will apply:
 - a. The applicant may use any combination of methods listed in this subsection, or other comparable methods deemed equivalent by the Board of Supervisors, to satisfy the screening requirements. The methods proposed by the applicant must provide adequate relief from ground level views and activity. While full view obstruction is not required, the intent is to minimize and soften views from being dominated by the project by providing strategic natural landscaping. Such screening will be located within the buffer zone and outside of security fencing. Screening may also be required in other locations for specific uses or structures, such as substations and BESS Facilities. The Board of Supervisors may approve a plan to allow phased screening based on special or unique conditions of the use or site. The screening required by this

section must be shown on the required Development Plan.

- (1) Existing vegetation, topography, buildings, open space, or other elements located on or adjacent to the site may be considered as part of the required screening if deemed adequate by the Board of Supervisors.
- (2) Vegetative landscaping intended for screening may include a combination of evergreen and deciduous trees, shrubs, and/or cacti or succulents where appropriate, that are native to Yavapai County and four (4') to six (6') feet in height (excluding cacti and succulents) at time of planting. The combination of plant species to be installed and spacing will be detailed in the Landscaping Plan (subsection D.2.g).
- (3) Berms must generally be constructed with a three-to-one (3:1) horizontal-to-vertical ratio, four (4') feet to six (6') feet above the adjacent grade, with a top that is three (3') feet in width (the wide top is necessary to have a flat area for plantings). The outside edges of the berm must be sculpted such that there are vertical and

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horizontal undulations to give variations in appearance. When completed, the berm must have a naturalistic appearance and may not be uniform like a dike. All land berms will be seeded with a revegetation seed mix based on shrubs, cacti and succulents, grasses and herbaceous forbs, and wildflowers native to Yavapai County as approved by the Development Services Director.

- (4) Proposed fencing will be designed to minimize visual impacts and be complementary with scenic corridors and adjacent properties.
Fencing will also be designed to minimize impacts to wildlife and wildlife corridors. Fencing intended for screening must be at least seventy-five (75) percent visually solid as viewed on any line perpendicular to the fence from adjacent property or a public street.
Fencing may be used in combination with other screening methods but will not be the primary method. For the purposes of this subsection, fencing will not be used to screen more than thirty (30%) percent of the views required to be screened. Depending on the location, such as where fencing abuts residential uses, ornamental features may be required on the fence. Fencing material used for screening will not include chain link fencing with slats. When feasible, fencing will be designed around groups or clusters of equipment, as opposed to fencing the entire site. New fencing must not impede existing easements to private or public lands.
- (5) The perimeter of BESS facilities, substations, and other structures must be enclosed with security or game fencing prior to the

commencement of operations of the solar facility as required by local, state, and federal regulations and national safety codes.

Perimeter fencing around PV arrays must be composed of low visibility game or similar fencing. Arizona Game and Fish and other applicable agencies will be consulted on the design of perimeter fencing and associated wildlife openings. Fencing will be maintained in an upright and functional condition pursuant to the executed Site Maintenance Agreement.

(6) Dwellings located one thousand (1,000') feet or less from the project boundary which are existing or under permit at the time of Board of Supervisors approval of the solar facility may require additional vegetative screening from views of the solar facility structures as determined appropriate by the Development Services Director. Such vegetative screening will be located within the buffer zone in an area extending at least seventy-five (75') feet from either side of the dwelling.

(7) Additional screening where appropriate may be required as determined by the Development Services Director.

7. Outdoor Storage: Material storage areas will be located in low-visibility areas of the project site whenever possible. The locations of any storage areas and an inventory

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of anticipated materials to be stored must be included in the Development Plan. Screening requirements for outside storage areas will be determined by the Development Services Director upon review.

8. Lines and Connections: Projects will be designed to minimize visual impact by: a. Placing all collection lines within the installation underground to the greatest extent practical, including any connections to a substation. Exceptions may be approved by the Board of Supervisors when co-locating with existing above-ground collection lines or if the applicant demonstrates a significant or substantive need for above ground connections.

b. Mitigating visual impacts from transmission lines connecting substations to the utility grid to the greatest extent practical, including by co-locating with existing lines or other linear infrastructure.

c. Any overhead electrical lines must be designed in compliance with Avian Power Line Interaction Committee (APLIC) standards.

9. Outdoor Lighting: Any outdoor exterior lighting associated with the solar facility or BESS facility will be limited to levels required for safety and security. All outdoor lighting must comply with Section 603 Light Pollution Control, and lamps must not exceed a correlated color temperature (CCT) in excess of three thousand (3,000K) kelvins. Light poles associated with the solar facility will not exceed a height of eighteen (18') feet. All lighting must be shown on the Development Plan. Additional lighting after approval of the Use Permit may require an amendment to the Use Permit as determined by the Development Services Director.

10. Glare Impact: All structures and PV panels associated with the solar facility will be

Commented [AriSEIA28]: This likely violates AZ line siting statutes.

arranged to direct reflected sunlight and artificial light away from adjacent parcels and public streets and will be installed in such a manner as to prevent glare that could interfere with any road or air traffic. As indicated in subsection D.2.j of this Section, the Federal Aviation Administration (FAA) may require a glare impact study and/or an airspace study to determine impacts on area airports.

11. Noise: Operational noise impacts at the project boundary will not exceed fifty (50 dBA) decibels where abutting residential or Planned Area Development use districts, or where abutting parcels with dwellings existing at the time of Board of Supervisors approval of the solar facility. This must be demonstrated by a noise analysis prepared by a qualified expert.
12. Signs: Any signs associated with the solar facility will be designed to comply with Section 601 Sign Code and a sign permit must be obtained for all proposed signs. Only signs related to solar facility use and safety will be permitted.
13. General Compliance: The solar facility or BESS facility will be designed, constructed, tested, and operated to fully comply with all applicable County, State, and Federal laws, regulations, codes, and requirements.

Commented [AriSEIA29]: The FAA already has regulations to provide the necessary protection for airports. In reality solar fields have less glare than car windshields and have been installed in many airports in the country (Phoenix, Denver, San Francisco, Indianapolis to name a few). Trackers have a 94% share of utility scale installs, and this provision may unnecessarily cause problems for developers while not making a difference to neighbors.

Commented [AriSEIA30]: This is expensive and unnecessary. Manufacturer documentation showing noise levels of the few items that generate any should suffice. Isn't farm machinery typically noisier than 50 db? Again, this should be consistent with other land uses and not single out solar.

G. INSTALLATION AND MAINTENANCE: The solar facility must be developed in accordance with the approved Development Plan and will be continually maintained and kept in good repair including, but not limited to, fencing, ground cover, screening, lighting, driveways, entrances, PV panels, and structures.

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1. A Site Maintenance Agreement will be mutually executed between the owner or operator and Yavapai County (as a condition of approval).
2. The solar facility operator will be responsible for the cost of developing and maintaining the solar facility.
3. Unless allowed by a phasing plan approved by the Board of Supervisors, all grading, groundcover, berms, fencing, trees, and other forms of landscaping will be installed in accordance with the Development Plan within one (1) year of the commencement of construction.
4. Berms and fencing will be continuously maintained and repaired or replaced if damaged.
5. Solar panels must be repaired or replaced or removed when they are either nonfunctional or in visible disrepair.
6. All undeveloped portions of the subject property will be maintained in a natural, undisturbed, and debris-free condition. The project operator will monitor noxious weed density and provide mitigation to eradicate or prevent the spread of such weeds based on the Landscaping Plan (subsection D.2.g).
7. After the construction of the solar arrays, native low-growing vegetation will be used to stabilize and restore disturbed areas of the site for the duration of the facility's use.
8. Weed and vegetation control or mowing will be performed routinely and a performance bond reflecting the costs of such maintenance for a period of six (6) months must be posted and maintained by the owner or operator.
9. Groundcover and landscaping will be continuously maintained and replaced if dead.
- 10.

While the use of herbicides is not encouraged, any herbicides must be applied in a manner that does not cause “drift”, which occurs when applied pesticides move through the air to abutting properties or aquatic habitat. Only Environmental Protection Agency (EPA) designated minimum risk herbicides may be used for vegetative and weed control. Herbicide applicators must possess an Arizona Certified Pesticide Applicator license.

11. The solar facility operator will be responsible for noxious weed management in accordance with state laws within the Project Area.
12. Persistent failure to maintain the site or its improvements over a continuous period of six (6) months may result in termination of the Use Permit and initiate the facility's decommissioning by the Board of Supervisors (subsection D.8 and D.9).

H. PUBLIC ROAD IMPROVEMENT, REPAIR, MAINTENANCE, AND DEDICATION (including bridges, drainage structures, guard rails and all other roadway related infrastructure): The solar facility owner or operator will be responsible for any damage to public roads caused by the installation or decommissioning of a solar facility. In addition to the Traffic Plan (subsection D.2.i) which provides general travel routes and trip volumes to assist in the general review of the Use Permit, a public road mitigation plan may be required by Yavapai County Public Works to address the following:

1. Improvement, repair, and maintenance of public roads, including during installation and decommissioning of the solar facility.

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- a. Yavapai County Public Works may require more than one Mitigation Plan to document road conditions, first during installation, and again during decommissioning and reclamation.
 - b. The Mitigation Plan will identify all public roads within unincorporated Yavapai County proposed as haul routes to transport equipment, parts and material for construction, operation, maintenance, and decommissioning of any solar facility, including estimated daily vehicle counts as required by Yavapai County Public Works.
2. Yavapai County Public Works may request studies and reports prepared by qualified professionals to determine the likely and expected impact to the haul routes designated by the applicant.
 - a. All associated costs for baseline road condition studies of the haul routes will be paid for by the applicant.
 - b. Yavapai County Public Works will inspect the haul routes periodically to determine the road conditions and any damages caused by the solar facility. The solar facility will be responsible for the costs of such inspections, repairs, and restoration of the haul road, or any other road damaged by activities associated with the solar facility.
 3. Existing roads will be used to provide access to the site. If new roads are constructed, the amount of land disturbance must be minimized. Roads constructed to provide vehicle access for site will be designed and constructed to standards approved by Yavapai County Public Works and the nearest Fire District, in coordination with any required

public safety, fire protection, and emergency management plans.

- a. Grading and road construction permits are required under certain circumstances as described in the current version of the Yavapai County Engineering Design and Construction Manual.
- b. Measures to control and mitigate dust on roads will be outlined in a dust control and mitigation plan.

4. If prior to or during initial installation of the solar facility Yavapai County Public Works determines the haul routes designated by the applicant appear inadequate for use as haul routes because of the weight of the loads, the number of trips, drainage issues, or because of safety concerns, then the solar facility owner or operator may be required to improve and maintain the roads to accommodate the anticipated traffic load. The costs and details for required improvements will be included in the project's Development Agreement and subsequent amendments as needed.

- 5. Yavapai County Public Works may require financial assurance to address any reasonably foreseeable costs and expenses related to the repair and maintenance of the haul roads designated by the applicant. Such financial assurance requirement may be a separate agreement or may be included as part of the solar facility Development Agreement required by subsection E.2 of this Section.
- 6. The property owner/developer must dedicate the full or half-street right-of-way for all minor and major arterial roads (see Yavapai County Interactive Map) or as identified by the Yavapai County Public Works Director prior to obtaining a building permit.
- 7. The property owner/developer will coordinate with the appropriate Fire Department or Fire District on the required roadway cross section to provide adequate weight

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capacity and internal circulation from the project vehicular access points to key internal project components (i.e., inverters, batteries, etc.) for fire and emergency response apparatus.

I. **STORMWATER MANAGEMENT PERFORMANCE BOND:** The solar facility owner or operator will be responsible for all stormwater facilities. The project must be planned with low impact development stormwater management techniques, as outlined in the current version of the Yavapai County Engineering Design and Construction Manual, to capture and infiltrate stormwater and rainwater. A performance bond or other surety acceptable to the Board of Supervisors may be required as deemed necessary to ensure compliance with the County's stormwater regulations and to correct nonfunctioning or inadequate stormwater controls or necessary maintenance and may be a separate agreement or may be included as part of the solar facility Development Agreement required by subsection E.2 of this Section. The bond or other surety, if any, may be required to remain in effect during the entire term of the Use Permit.

J. **BATTERY STORAGE:** In addition to the above general provisions, application requirements, and development and performance standards, the following additional requirements must be met for the approval of a battery energy storage system (BESS) facility:

- 1. Location: Due to their potentially combustible nature and possible large footprint, the

Commented [AriSEIA31]: During installation there would be too much development risk. If it was misrepresented prior to installation then that can be addressed; otherwise, it is open for too much subjectivity.

siting of BESS facilities must meet the following criteria:

- a. BESS facilities will be located in nonresidential areas.
- b. BESS facilities may not be located in areas used by the public (e.g., parkland).
- c. Buffer the BESS facility from the surrounding areas by siting toward the interior of the parcel and through the use of greater parcel sizes and setbacks. BESS facilities may also be co-located with the project substation as described in subsection K.
- d. Take advantage of existing topography, structures, and vegetation to provide extra screening.
- e. Design the BESS facility so that it mitigates the potential detrimental impacts to the general health, safety, and welfare of the community.
- f. Design and configure the BESS facility in a way that minimizes other adverse impacts on the community (e.g., views, noise, and vibration).

2. Configuration:

- a. All battery cells will be contained within a BESS equipped with cooling, ventilation, built-in 24/7 automated fire detection and extinguishing technology (following all manufacturer recommendations), and a battery management system (BMS).
- b. The BMS will monitor individual battery module voltages and temperatures, container temperature and humidity, combustible off-gassing, fire, ground fault and direct current (DC) surge, and door access.
- c. The BMS must be capable of shutting down the system before it begins to operate outside of safe parameters (before thermal runaway takes place).

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3. Construction, Maintenance and Operation: BESS facilities will be constructed, maintained, and operated in accordance with applicable codes and standards including, but not limited to:

- a. All applicable fire, electrical and building codes adopted by the County.
- b. National Fire Protection Association (NFPA) 855, Standard for the Installation of Stationary Energy Storage Systems, 2023 Edition and subsequent additions.
- c. Underwriters Laboratories (UL) 9540A, Standard for Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems and subsequent editions; and, unless otherwise required by such regulations and codes:
 - (1) Access to all batteries and electrical switchgear will be from the exterior for normal operation and maintenance.
 - (2) Access to the container interior will not be permitted while the system is in operation except for safety personnel and first responders; and
 - (3) Signage must include the following information:
 - (a) Type of technology associated with the BESS;
 - (b) Any associated special hazards;
 - (c) Type of suppression system installed in the area of the BESS;

Commented [AriSEIA32]: Not all BESS configurations have a walk in interior, some containers have access to cells from the sides. This should clarify.

(d) 24-hour emergency contact information, including reach back phone number.

(4) Disconnect and other emergency shutoff information must be clearly displayed on a light reflective surface.

K. SUBSTATIONS: In addition to the above general provisions, application requirements, and development and performance standards, the following additional requirements must be met for the approval of a substation:

1. Location:

- a. Substations may not be located within two thousand six hundred forty (2,640') feet (a half mile) of adjacent residential districts, existing or approved residences, subdivisions, public lands and uses, or parkland. An exception to this requirement will be made when co-locating within five hundred (500') feet of an existing utility substation.
- b. Buffer the substation from the surrounding areas by siting toward the interior of the parcel and through the use of greater parcel sizes and setbacks.
- c. Take advantage of existing topography, structures, and vegetation to provide extra screening.
- d. Design the substation so that it mitigates the potential detrimental impacts to the general health, safety, and welfare of the community.
- e. Design and configure the substation in a way that minimizes other adverse impacts on the community (e.g., views, noise, and vibration).

2. Term: Substations included as part of the solar facility will have the same Use Permit term as the solar facility, however, substations and transmission lines may have a life

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expectancy longer than that of the remainder of the solar facility. Therefore, upon decommissioning of the solar facility, the substation owner may apply for a Use Permit or other zoning approval to allow the continued use of the substation.

Commented [AriSEIA33]: This needs to clarify that the initial use permit will provide approval for substation and solar facility. There are not two SUPs required at the outset.

L. EMERGENCY PREPAREDNESS/SAFETY INSPECTIONS:

1. The solar facility owner or operator will allow County employees and designated third-party inspectors access to the solar facility premises with forty-eight (48) hour notice for inspection purposes as set forth in their application.
2. The solar facility operator will coordinate with County emergency services staff (e.g., Fire District, Sheriff's Department, and Emergency Management staff) to provide materials and continuing education to these departments serving the Project Area with emergency services.
 - a. These materials will inform staff on how to safely respond to onsite emergencies, including emergencies associated with any BESS Facilities.
 - b. The solar facility operator will arrange a pre-operational training session with emergency services staff to familiarize personnel with issues unique to the solar facility prior to the initiation of solar operations.
3. The solar facility owner or operator will provide a fire safety plan, a fire evacuation plan, and

all other submittals relating to emergency planning and preparedness as required by applicable fire, electrical and building codes adopted by the County or referenced in this Section.

4. In addition to the annual life and fire safety inspections required by the fire code and performed by County staff, the solar facility operator will conduct semi-annual on site self-inspections of the battery units and submit a written report to the Development Services Director on their condition.
5. The solar facility Development Agreement, required by subsection E.1.d of this Section, must address provision of specialized BESS facility fire safety equipment or other protections, if necessary for support of the BESS facility use.
 - a. The cost of this specialized equipment, or a portion thereof, may be required to be reimbursed by the solar facility owner or operator.

M. DECOMMISSIONING AND RECLAMATION: The Solar Facility Use Permit will include the submission of a Detailed Decommissioning Plan as described in subsection D.I. Prior to the issuance of construction permits, the cost estimate for the complete removal of non operational above and below ground improvements must be submitted and financial assurance must be posted.

1. Decommissioning Plan: The Decommissioning Plan will address the following items: a. All physical improvements, materials, and equipment related to solar energy generation, transmission, and storage must be removed from the surface and the subsurface to a minimum depth of forty-eight (48") inches. The pre existing soil grade will also be restored following disturbance caused in the removal process. These will include, but are not limited to, structures, buildings, equipment, cabling and wiring, solar electric systems, electrical

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components, security barriers, foundations, pilings, berms, storm water improvements, and any other associated facilities.

- b. All fencing will be removed and recycled or reused unless the Development Services Director grants approval for any existing perimeter fencing to remain in place.
- c. All access roads located within the Project Area will be removed unless the Development Services Director approves a written request from the current or purchasing landowner to allow a portion of the access roads and associated culverts or related materials to remain.
- d. For any part of the solar facility on leased property, the Decommissioning Plan may propose to incorporate agreements with landowners regarding the retainment of driveways, roads, landscaping, berms, fences, gates or repurposed buildings or other structures with approval by the Board of Supervisors. However, any proposed use of remaining buildings or other structures must be in conformance with the regulations for the zoning district in effect at the time of Board of Supervisors approval.
- e. Ground cover and screening established as part of the solar facility Development Plan and other existing vegetation may remain as part of the

Decommissioning Plan. Land disturbed as part of the decommissioning process must be reseeded and re-vegetated with native seed mixes (such as those described in subsection F.5 or other plant species suitable to the area. A list of such appropriate plant materials will be provided by the Development Services Director. Such planting and associated grading or other land disturbance must be completed within one (1) year of removal of solar facility structures and equipment, in accordance with the Decommissioning Plan approved and adopted by the Board of Supervisors.

- f. Disposal and recycling of all solar facility materials and equipment, including but not limited to PV panels, inverters, and batteries must fully comply with all applicable County, state and federal laws, regulations, and code requirements, which includes a County-approved demolition permit for work to be performed by a licensed contractor and an approved location for disposal of such materials and equipment.
- g. Guaranteed Funds: Financial assurance for the estimated cost of decommissioning and reclamation, which may include the possibility of salvage value if allowed by the Board of Supervisors, prepared as required in subsection E.2, must be guaranteed by the owner or operator of the solar facility prior to issuance of construction permits to ensure that decommissioning and reclamation can successfully occur. Should another authority having jurisdiction (e.g., Arizona State Land Department, Bureau of Land Management, etc.) also require financial assurance for decommissioning and reclamation, the Board of Supervisors may consider accepting the same or portions of the same financial assurance to satisfy both requirements, so long as the assurance meets the specifications of both Yavapai County and the separate authority, as part of a waiver request

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pursuant to subsection D.5. Upon issuance of the financial assurance, the applicant will name the County as a party to the financial assurance. The applicant may choose one of the following options (either the full cost option or the tiered securitization option) to provide financial assurance:

(1) Full Decommissioning Cost: The full cost of decommissioning and reclamation will be guaranteed by a combination of the following: (a) Trust

Fund: The owner or operator of the solar facility will establish a trust fund into which money specifically earmarked for decommissioning and reclamation is deposited. The solar facility Development Agreement will prohibit the release of these funds without the written consent of the County. The County will consent to the release of the funds upon compliance with the Decommissioning Plan approved by the Board of Supervisors.

(b) Payment Surety Bond: The owner or operator of the solar facility will obtain a surety bond satisfactory to and approved by the County in an amount equal to the estimated cost of

decommissioning and reclamation. A standby trust fund must be established into which the surety company will make payments if the owner/operate fails to comply with their financial responsibilities. This money deposited into the standby trust fund will be used to pay a third party to perform the work described in the Decommissioning Plan approved by the Board of Supervisors.

- (c) Letter of Credit: A letter of credit issued by a financial institution that has a credit rating of at least BBB+ or higher by Standard and Poor's or Baa1 or higher by Moody's; and financial ratios and capitalization requirements that are acceptable to the County, in the full amount of the decommissioning and reclamation estimate.
- (2) Tiered Securitization: An amount equal to, or more than, ten (10%) percent of the approved decommissioning and reclamation cost estimate will be either: deposited into a cash escrow account at a financial institution acceptable to the County; or an amount equal to, or more than, ten (10%) percent of the decommissioning and reclamation cost estimate in the form of a payment surety bond or a letter of credit issued by a financial institution that has a credit rating of at least A- from Standard & Poor's or A3 from Moody's and assets (50%) and capital surplus (50%) totaling at least \$10,000,000,000, or an A.M. Best financial strength rating of at least A- (Excellent) or other credit rating and capitalization reasonably acceptable to the County will be obtained. The amount deposited in the cash escrow account, or the amount of the surety bond or letter of credit, will increase by an additional ten (10%) percent each year on the

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anniversary of the commencement of operation of the solar facility for nine (9) additional years until 100% of the full cost estimate of decommissioning and reclamation is achieved.

- h. Cost Estimate Update: The estimated decommissioning and reclamation costs must be recalculated at an interval no sooner than every year but not later than every five years by an independent third-party Arizona licensed professional engineer, following the requirements for the original cost estimate as required in subsection M.1.g of this Section. The cost of preparing this update must be paid by the owner or operator.
 - (1) If the recalculated estimated cost of decommissioning and reclamation exceeds the original estimated cost by two percent (2%) or greater, then the solar facility owner or operator will deposit additional funds into the trust fund or cash escrow account or make an update to the payment surety bond or letter of credit to meet the new cost estimate.
 - (2) If the recalculated estimated cost of decommissioning and reclamation is less than ninety-eight percent (98%) of the original estimated cost,

then the County may consider approval of a written request by the owner or operator to reduce the required deposits or, payment surety bond, or letter of credit to the recalculated estimate of decommissioning and reclamation cost.

(3) Any increase or decrease in the decommissioning and reclamation securitization will be funded by the applicant or refunded to the applicant (if permissible by the form of security) within ninety (90) calendar days and will be similarly readjusted for every subsequent five (5)-year decommissioning cost estimate update.

2. Amendment to Decommissioning Plan: Any amendment must be approved by the Board of Supervisors prior to beginning decommissioning and reclamation. Applications for an amendment will require a public hearing under the same procedures as required for the Use Permit. Required timeframes for completion of decommissioning and reclamation will not be extended due to the amendment application process.
3. Partial Decommissioning: If decommissioning is triggered for a portion, but not the entire solar facility, then the owner or operator will complete decommissioning and reclamation in accordance with the Decommissioning Plan for the applicable portion of the solar facility. The remaining portion of the solar facility will continue to be subject to the Decommissioning Plan.
4. Date of Decommissioning: If the solar facility is to be decommissioned and reclaimed, the solar facility owner or operator must notify the Development Services Director in writing of the proposed date of discontinued operations and plans for removal.
5. Abandonment of Solar Facility: Unless otherwise approved by the Development Services Director (e.g., to allow time to repair damage from severe weather or to update equipment), solar facilities that have not been in active and continuous service for a period of six (6) months will be decommissioned and reclaimed at the solar facility owner or operator's expense.

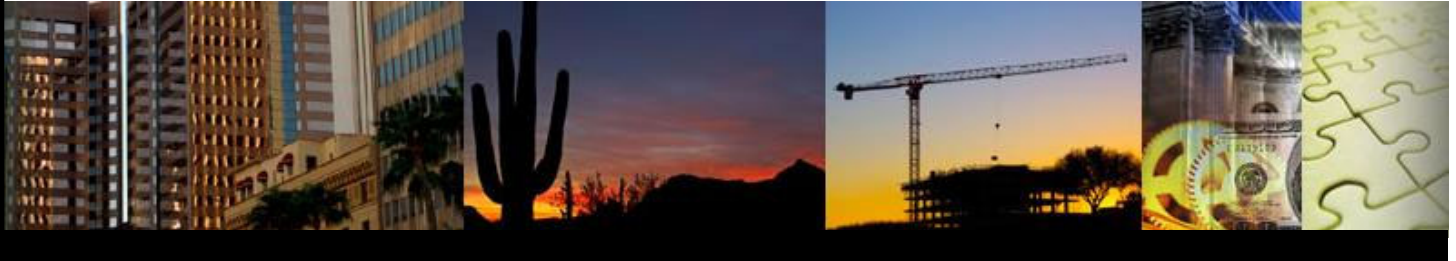
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6. The owner or operator or their successors, within six (6) months after the complete cessation of use of the solar facility and at their sole expense, will initiate and provide continuous decommissioning of the solar facility in accordance with the approved Decommissioning Plan.
 - a. Following the completion of decommissioning of the entire solar facility and payment for any such costs arising out of a default by the owner or operator or their successors, any remaining securitized funds held by the County will be distributed to the project owner(s) in the same percentage of the securitized funds matched with the percentage of the project owner's acreage ownership of the solar facility.
7. Default Decommissioning and Reclamation by the County: If the owner or operator, or their successors, fail to decommission the solar facility pursuant to the approved Decommissioning Plan, and the County has not approved a repowering of the solar facility, the County will have the right, but not the obligation, to commence decommissioning and reclamation activities and will have access to the property, and

will have the right to draw on securitized funds up to the amount of the actual decommissioning costs, and the rights to the solar generation equipment and BESS equipment and materials remaining on the property. If applicable, any excess decommissioning and reclamation securitized funds will be returned to the current owner(s) of the property after the County has completed the decommissioning and reclamation activities and paid all outstanding invoices, divided according to the percentage of the property owner's acreage ownership of the solar facility. Nothing herein will limit other rights or remedies that may be available to the County to enforce the obligations of the owner or operator or their successors, including under the County's zoning powers.

ATTACHMENT B

Mohave County Solar (Example Project) Economic Impact and Tax Revenue Analysis



Prepared for:

Arizona Solar Energy Industries Association (AriSEIA)

October 2023

Prepared by:



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Summary of Impacts

The following report estimates the potential economic impacts and tax revenues that would be generated by a typical solar project located in Mohave County. This example solar power generating facility would sit on an estimated 1,200 acres and produce up to 200 MW of power and includes the addition of 200 MW of battery storage. The total capital cost of the project is estimated at \$528.0 million including construction costs and equipment. A facility of this size is generally in range with recent power purchase contracts announced by Arizona Public Service and Salt River Project, two of the state’s largest electric utilities.

About Elliott D. Pollack & Company

Elliott D. Pollack & Company has been in business for more than 30 years and is headed by one of Arizona’s most noted economists. The firm is known for its expertise in two primary areas – real estate and economics, with its primary practice in the State of Arizona. The firm has been employed by public institutions, state, county, and local governments, private entities, and Native American Communities, in a variety of assignments that include economic impact analyses, real estate market studies, forecasting, and public speaking at events around the State. In Mohave County specifically the firm has recently completed studies such a housing assessment for Bullhead City, a recreation plan for Lake Havasu City, Low Income Tax Credit market studies and an economic impact analysis of a proposed retail and hotel development.

Impact Summary

There is a common misconception that solar projects do not contribute to the economy nor generate tax revenues for local governments. This report will show that in the first year during construction an estimated \$1.1 million in tax revenues and 302 jobs would be created in the local economy from this example project. In addition, over the life of the project, more than \$28.1 million in tax revenue would be generated by personal property tax on equipment. These taxes would directly benefit the county, fire districts, school districts and other special districts such as flood control, library, and education districts. Furthermore, employees working on the project would spend money in the local economy, pay property taxes on the homes they occupy and contribute to state shared taxes for the County and local governments (\$1.7 million).

In total, this example Mohave County Solar Project would generate an estimated \$30.9 million in tax revenues during the life of the project.

Mohave County Solar Project Summary Impact

Construction related jobs	302
Taxes generated during construction	\$1.1 million
Personal property tax generated during life of project	
Mohave County and special districts	\$13.1 million
Local school districts	\$15.0 million
Tax revenues generated by employees	\$1.7 million
Grand total of taxes generated during life of project	\$30.9 million



Economic Impact and Tax Revenue Analysis

Economic Impacts

- Development would provide an immediate \$36.4 million in direct construction impact in the County, generating a direct, indirect and induced total of \$49.6 million in total economic impact from construction activity. This investment would create 302 construction and related jobs and \$15.2 million in wages over the projected 14-month construction schedule.
- Through the life of the project, an estimated \$392.8 million in economic activity would occur within the County’s economy.
- All totaled, the example solar project would create over \$442.5 million in economic activity within Mohave County during construction and 40 years of operations.

Economic Impact over Life of Project			
Mohave County Solar Project			
(2023 dollars)			
Construction			
Impact Type	Jobs	Wages	Economic Output
Direct	225	\$11,452,000	\$36,400,000
Indirect	35	\$1,672,000	\$6,152,000
Induced	42	\$2,061,000	\$7,084,000
Total	302	\$15,185,000	\$49,636,000
Operations			
Impact Type	Annual Jobs	Wages over 40 Yrs	Economic Output (40 yrs)
Direct	4	\$5,000,000	\$219,940,000
Indirect	5	\$16,996,000	\$154,080,000
Induced	3	\$5,488,000	\$18,816,000
Total	12	\$27,484,000	\$392,836,000
Source: Elliott D. Pollack & Company; IMPLAN			

Tax Revenues Generated

Construction and operations of the solar project would create significant tax revenue for Mohave County and other entities. While the project would be exempt from prime contracting transaction privilege tax (under ARS 42-5075(b)(7) and ARS 42-5061), there is still substantial value from solar equipment that would increase the personal property revenues for the County. Revenues would also be generated from secondary sources of employee generated revenue. In addition, the project would be subject to a state land lease along with a capacity fee per megawatt.



- Mohave County would receive an estimated \$1.1 million in cumulative tax revenue from construction related impacts. These impacts are generated by the share of employees that would spend within Mohave County during the 14-month construction phase.

Tax Revenues during Construction Mohave County Solar Project (2023 dollars)				
Impact Type	Secondary Revenues			Total Revenues
	Employee Spending Sales Tax	Resident Property Tax	State Shared Revenues	
Direct	\$119,600	\$678,400	\$1,940	\$799,940
Indirect	\$17,800	\$104,500	\$290	\$122,590
Induced	\$21,900	\$127,000	\$360	\$149,260
Total	\$159,300	\$909,900	\$2,600	\$1,071,800

1/ The figures are intended only as a general guideline as to how the taxing jurisdictions could be impacted by the project. The above figures are based on the current economic structure and tax rates of the State of Arizona, county and other taxing jurisdictions.

Source: EDPCo; IMPLAN; ADOR; ATRA

Operations of the example solar project would create tax revenue for the County and local school districts.

- Mohave County property taxes include taxing jurisdictions such as the Mohave County Fire Districts, flood control district, library district, community college and educational districts. These jurisdictions would receive an average of \$327,000 per year in personal property taxes. The school districts would receive an average of \$376,000 in tax revenue each year.
- Average annual taxes generated for the County from employees total an estimated \$42,400 each year.

In total, the combined annual taxes generated for the County total an estimated \$745,400 each year, on average.



Average Annual Tax Revenues Mohave County Solar Project (2023 dollars)	
Average Annual Operating Taxes Generated	
Personal property tax	
Mohave County and Special Districts	\$327,000
Local School Districts	\$376,000
Tax revenues generated by employees	\$42,400
Total Operations Related Revenue	\$745,400
<p>1/ The figures are intended only as a general guideline as to how the county could be impacted by the project. The above figures are based on the current economic structure and tax rates of the State of Arizona and county.</p> <p>Source: Elliott D. Pollack & Co.; IMPLAN; AZDOR; AriSEA; ATRA</p>	

- Over the life of the project, the County and its school districts would receive an estimated \$30.9 million in total from construction and ongoing annual tax collections generated by the Mohave Solar Project.

Tax Revenues: Life of Project Mohave County Solar Project (2023 dollars)	
Construction related tax revenues	\$1,071,800
Operations Impact	
Personal property tax	
Mohave County and Special Districts	\$13,100,000
Local School Districts	\$15,000,000
Tax revenues generated by employees	\$1,696,000
GRAND TOTAL FISCAL IMPACT	\$30,867,800
<p>1/ The figures are based on a 40-year life and intended as a general guideline as to how the local governments could be impacted by the project. The above figures are based on the current economic structure and tax rates of the State of Arizona and other taxing jurisdictions.</p> <p>Source: Elliott D. Pollack & Co.; AriSEA; IMPLAN</p>	



Assumptions & Methodology

The typical 1,200-acre solar power generating facility would produce up to 200 MW of power and includes the addition of 200 MW of battery storage. The total value of the example project is estimated at \$528.0 million including construction and equipment.

Project Assumptions	
Mohave County Solar Project	
(2023 dollars)	
Acres	1,200
Solar Facility (MW)	200
Battery Storage (MW)	200
<u>Engineering, Procurement and Construction Value</u>	
Solar Facility Construction	\$40,000,000
Solar Equipment	\$167,000,000
Battery Storage Construction	\$45,000,000
Battery Storage Equipment	\$276,000,000
Total value of project	\$528,000,000
Source: AriSEA; Elliott D. Pollack & Company	

The following table outlines the weighted average tax rates used in estimating the property tax impacts of the example Mohave County Solar Project. These rates are applied to every \$100 of net assessed value. The rates are current as of 2023 and are used for the entire duration of the project life.

Weighted Average Property Tax Rates	
Mohave County Solar Project	
DISTRICT	RATE
Mohave County	1.755
Flood Control District	0.500
Fire District Assistance Tax	0.100
Library District	0.255
Fire District	1.453
TV CID	0.056
Western AZ Vocational Edu Dist.	0.050
Community College	1.098
Local School Districts	6.048
Grand Total	11.314
Source: Mohave County Assessor's Office	



Economic Impact Methodology

Economic impact analysis examines the economic implications of an activity in terms of output, earnings, and employment. For this study, the analysis focused on the construction impacts as well as the ongoing operations including direct expenditures by the residents.

The different types of economic impacts are known as direct, indirect, and induced, according to the manner in which the impacts are generated. For instance, direct employment consists of permanent jobs held by project employees. Indirect employment is those jobs created by businesses that provide goods and services essential to the operation or construction of the project. These businesses range from manufacturers (who make goods) to wholesalers (who deliver goods) to janitorial firms (who clean the buildings). Finally, the spending of the wages and salaries of direct and indirect employees on items such as food, housing, transportation and medical services creates induced employment in all sectors of the economy, throughout the region. These secondary effects are captured in the analysis conducted in this study.

Multipliers have been developed to estimate the indirect and induced impacts of various direct economic activities. IMPLAN developed the multipliers used in this study and were selected based on the land use type. The multipliers used for this project represent the construction of power and communication as well as electric power generation for ongoing operations.

The multipliers specific to Mohave County are used in this study. This means that the indirect and induced figures represent jobs created throughout the region.

The economic impact is categorized into three types of impacts:

- (1) **Employment Impact** – the total wage and salary and self-employed jobs in a region. Jobs include both part time and full-time workers.
- (2) **Earnings Impact** – the personal income, earnings or wages, of the direct, indirect and induced employees. Earnings include total wage and salary payments as well as benefits of health and life insurance, retirement payments and any other non-cash compensation.
- (3) **Economic Output** – also referred to economic activity, relates to the gross receipts for goods or services generated by the company’s operations.

Economic impacts are by their nature regional in character. Such impacts are best illustrated when not assigned to a specific municipality or locality, although clearly the primary impact of



job creation would be in the municipality and county where the project is located. Indeed, many communities in the surrounding region would also benefit from the operations of the project.

Fiscal Impact Methodology

Fiscal impact analysis studies the public revenues associated with a particular economic activity. The primary revenue sources of local, county, and state governments (i.e., taxes) are analyzed to determine how an activity may affect the various jurisdictions. This section would evaluate the impact of the project on State, county and local school districts.

The fiscal impact figures cited in this report have been generated from information provided by a variety of sources including the U.S. Bureau of the Census; the U.S. Department of Labor; the Internal Revenue Service; the State of Arizona; the Arizona Tax Research Association; and the U.S. Consumer Expenditure Survey. Elliott D. Pollack & Company has relied upon the estimates of operating revenues outlined in this study.

Fiscal impacts are categorized by type in this study, similar to economic impact analysis. The major sources of revenue generation for governmental entities are calculated based on ongoing operations. Employees would spend part of their salaries on local goods and services and pay taxes on the homes they occupy. This spending would contribute to revenues collected by the State that are ultimately shared with local governments.

The project would be exempt from prime contracting transaction privilege tax (under ARS 42-5075(b)(7) and ARS 42-5061). However, there is still substantial value from solar equipment that would increase the personal property revenues for the County. Revenues would also be generated from secondary sources of employee generated revenue. The following is a description of the applicable revenue sources that would be considered for this analysis.

Primary Taxes Generated by Project

- **Personal Property Tax**

Renewable energy projects are centrally assessed by the Arizona Department of Revenue. The total original cost is used to calculate the full cash value. The depreciation schedule is then based on straight-line depreciation over the useful life (currently 30 years capped at 90% of taxable original cost per ARS 42-14155). The full cash value factor for renewable energy is 20% and the assessment ratio of 15% is applied for a total taxable value each year.



Secondary Taxes Generated by Employees

The following tax rates are applied to the spending of direct, indirect and induced employees.

- Transaction Privilege Tax

The State, counties, and local cities in Arizona charge sales tax on retail goods and utility usage. The sales tax rate for the State is 5.6%. Portions of this tax are redistributed through revenue sharing to counties and cities throughout Arizona based on population. The weighted average tax rate for local governments is 2.15%. Based on data from the U.S. Consumer Expenditure Survey, the projected extent of retail spending and resulting sales tax receipts was calculated.

- Property Tax

Given that the location of the example project is unknown, the value of the land was not estimated and, thus, real property taxes for the land are not calculated in this report. However, the employees would be subject to residential property tax in Arizona with an assessment ratio of 10%. In order to estimate property taxes, the assessed full cash value of the occupied space along with the projected value of a typical housing unit has been calculated.

- State Shared Revenues

Each municipality in Arizona receives a portion of State revenues from four different sources - State sales tax (see description above), State income tax, vehicle license tax and highway user tax. The formulas for allocating these revenues are primarily based on population. Counties also share in the revenue sources of the State, with the exception of income tax.

State Income Tax

The State of Arizona collects taxes on personal income. The tax rate used in the analysis averages about 1.6% for earnings. These percentages are based on the most recently available income tax data from the State and the projected wage levels of jobs created by the construction and operations impact. This tax is applied to the wages and earnings of direct and indirect employment. Portions of this tax are redistributed through revenue sharing to cities throughout Arizona based on population.

HURF Taxes

The State of Arizona collects specific taxes for the Highway User Revenue Fund (HURF). Both the registration fees and the motor vehicle fuel tax (gas tax) are considered in this analysis. The motor vehicle fuel tax is \$0.18 per gallon and is calculated based on a vehicle traveling the Arizona statewide average of 12,000



miles per year at 16.6 miles per gallon. Registration fees average \$65 per employee in the State of Arizona. These factors are applied to the projected direct and indirect employee count. Portions of these taxes are distributed to cities and counties throughout Arizona based on a formula that includes population and the origin of gasoline sales.

Vehicle License Tax

The vehicle license tax is a personal property tax placed on vehicles at the time of annual registration. This factor is applied to the projected direct, indirect and induced employee count. The average tax used in this analysis is \$343 and portions of the total collections are distributed to the Highway User Revenue Fund. The remaining funds are shared between cities and counties in accordance with population-based formulas.

The above tax categories represent the largest sources of revenues that would be generated to the various jurisdictions. The revenue impacts do not include certain revenue sources such as corporate income taxes. All tax collections represented in this analysis are gross collections and do not take into consideration any incentives or development agreements that may occur.



