



Solar CPCN Application PSC Docket No. 9807-CE-100

Prepared by Geronimo Energy for Springfield Solar Farm, LLC Dodge County, Wisconsin October 2, 2020



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1 Project Description and Overview

Springfield Solar Farm, LLC ("Springfield Solar" or "Applicant") submits this Application for a Certificate of Public Convenience and Necessity ("CPCN") in accordance with Wis. Stat. § 196.491(3) and Wis. Admin. Code § PSC 111.53 to the Public Service Commission of Wisconsin ("PSCW" or "Commission"). The Application was prepared pursuant to the guidance provided by the PSCW's Application Filing Requirements for Large (>50 MW) Solar Energy Projects (Version 27_1, February 2020) ("AFR") and consultations with the PSCW and Wisconsin Department of Natural Resources ("WDNR").1 The Applicant is also seeking WDNR permits that are applicable as identified by the WDNR July 28, 2020 response to the Applicant's submitted engineering plan.

Springfield Solar is seeking a CPCN and all other approvals and authorizations required to construct, install, operate, and maintain the Springfield Solar Project, a 100-megawatt ("MW") alternating current ("AC") solar energy generating facility in the Town of Lomira and Village of Lomira, Dodge County, Wisconsin ("Project"). The Project will utilize a single-axis tracker system and is anticipated to be placed in service as early as November 2022. The Project will support 100 MWAC ("Primary Facility Area") and the required 25-percent alternate area ("Alternate Facility Area") required pursuant to the AFR. The Primary and Alternate Facility Areas comprise the "Project Boundary." The Project will also require construction of a new 138-kilovolt ("kV") substation (located within the Project Boundary) and an approximately 500-foot new 138-kV electric transmission line (the "gen-tie line"). Because the proposed gen-tie line is under one mile in length, no separate CPCN application is required for the gen-tie line.

1.1 General Project Location and Description of Project and Project Area

1.1.1 Provide the following information about the project:

1.1.1.1 Project Location – counties and townships in the project area.

The proposed Project is located in the Town of Lomira and Village of Lomira in Dodge County, Wisconsin. Table 1.1-1 identifies the location of the Primary Facility Area and Alternate Facility Area.

Table 1.1-1 Project Location

	Primary I	Facility Area	Alternate Facility Area		
County	Township Name	Sections	Township Name	Sections	
Dodge	Lomira	3, 4, 9 and 10	Lomira	4 and 5	

 $^{^{\}rm 1}$ Numbering in this Application is consistent with numbering in the AFR.

1.1.1.2 Size of project area (in acres), area to be disturbed by construction activities, and size of solar arrays (in acres).

Springfield Solar reviewed an approximately 935-acre area to site the Primary and Alternate Facility Areas and ancillary facilities ("Project Study Area"). The Project components, which include the solar arrays, access roads, and ancillary facilities, will be sited within approximately 884 acres ("Project Boundary") lying within the Project Study Area.

The Project Boundary is situated on 26 separate parcels of land owned by six different property owners and under purchase option by Springfield Solar. In addition to the Project Boundary acreage, easements for the proposed above-ground collector circuits (5.2 acres, all within State Highway ["STH"] 49 right-of-way ["ROW"]) and the proposed underground collector circuits (18.5 acres) will be required. The Project Boundary (and collector easements) is shown on Figure 1.1.2 (Appendix A).

The Project Boundary includes 573.6 acres of land to support the Primary Facility Area, which can produce 135.0 MW direct current ("DC") (100 MWAC) of power and 146.4 acres of land to meet the Commission's 25 percent standard for an alternate site (the Alternate Facility Area), which can produce 32.5 MWDC (25 MWAC) of power. The Project substation and operations and maintenance ("O&M") building are considered part of the Primary Facility Area. An additional 23.7 acres of land is included to support the above-ground (5.2 acres) and underground (18.5 acres) collection lines outside the Primary and Alternate Facility Areas. This land is not included or contiguous with either the Primary or Alternate Facility Area described above. The total area proposed to be disturbed by construction of the Project is approximately 750 acres. The proposed sites and the evaluation process are described in detail in Section 1.5 below.

Springfield Solar possesses purchase options for the parcels currently proposed to host the panels (Primary and Alternate), access roads, substation, laydown yards, inverter/transformer skids, junction boxes, and O&M building. Springfield Solar intends to purchase the Project parcels (associated with the Primary and Alternate Facility Areas only) currently under purchase options prior to construction, per the landowner agreements. Springfield Solar also has landowner agreements (easements) for portions of the collection system, and will require permits from state and/or local departments of transportation to allow parts of the collection system to parallel and cross public road ROWs.

1.1.1.3 Size (rated capacity), in both DC and alternating current (AC) MWs, of the proposed project.

The full Project nameplate capacity of 100 MWAC can be achieved with the single-axis tracking system proposed for the Project. The conceptual design of the primary array ("Primary Array") will generate 135 MWDC (100 MWAC) and the alternate solar array ("Alternate Array") will generate 32.5 MWDC (25 MWAC). JAM78D10-450/MB 450W bifacial PERCIUM cell modules manufactured by JA Solar were used for the conceptual design.

Additional modules evaluated during the conceptual design process include:

- First Solar FS-6445-A 445W thin-film CdTe
- Canadian Solar CS3Y-PB-AG 440W bifacial poly-crystalline

LONGi Solar LR4-72HBD 445W bifacial mono-crystalline

At the time of construction, several photovoltaic ("PV") module offerings from different suppliers will be evaluated and a selection will be made based on the most cost-effective option. The technologies that may be considered are polycrystalline and monocrystalline PV modules, including bifacial modules, and the final supply of modules may contain a mix of several similar wattages.

1.1.1.4 Number of panel sites proposed for the project and the number of alternate panel sites that have been identified.

The Primary Facility Area is designed for approximately 299,900 individual PV panels with a total DC generating capacity of 135 MWDC which, for a designed 1.35 DC-to-AC ratio, is enough capacity to meet a nameplate generation of 100 MWAC power.

The Alternate Facility Area is designed for approximately 72,350 individual PV panels with a total DC generating capacity of 32.5 MW, for a designed 1.3 DC-to-AC ratio. This design incorporates enough capacity to meet a nameplate generation of 25.0 MW of AC power, which is 25 percent of the Primary Facility Area generating capacity.

1.1.1.5 Identify any new or modified electric transmission lines or other electric transmission facilities that might be needed.

No new or modified electric transmission lines or facilities are proposed for this Project.

1.1.2 Provide a general map showing the location of the project area, nearest communities, townships, and major roads. Include an inset map showing where the project is located in the state. Scale should be appropriate for showing communities within at least 10 miles of the project area boundary.

Figure 1.1.2 provided in Appendix A depicts the general Project location within the state of Wisconsin and Figure 4.1.1 (Appendix A) shows the total Project Area with an aerial photography basemap. Figure 4.1.2 (Appendix A) is a detailed mapbook of the proposed Project facilities.

1.2 Ownership

The applicant is Springfield Solar, which may own and operate the Project, or develop and sell the Project to a utility or an independent power producer. Springfield Solar, a Delaware limited liability company, is a wholly owned subsidiary of Geronimo Energy, LLC, a National Grid Company ("Geronimo").

Geronimo is a full-service renewable energy company headquartered in Minneapolis, Minnesota. Geronimo has developed over 2,400 MW of wind and solar projects that are either operational or currently under construction throughout the United States. Geronimo has a multi-gigawatt development pipeline of wind and solar projects in various stages of development throughout the United States. Geronimo provides custom solutions for utilities and corporations looking to harness renewable energy for business growth. With deep roots in agriculture, Geronimo prides itself on developing renewable energy projects that are farmer-friendly, community-driven, and beneficial for rural communities.

1.3 Project Need/Purpose²

Subsections 1.3.1 thru 1.3.5 are deleted as they apply to utilities only.

1.3.6 IPPs Only – Energy Agreements

1.3.6.1 Identify all Wisconsin utilities under contract for delivery of energy from the proposed project.

Springfield Solar has not yet finalized energy offtake for the Project. Springfield Solar will provide this information to the PSCW and WDNR once the relevant agreements are final and public.

- 1.3.6.2 For each utility under contract or with which an agreement in principle for delivery of energy is in place provide the following, by utility:
 - 1.3.6.2.1 Rated capacity under contract.

Springfield Solar will provide this information once final and public.

1.3.6.2.2 Annual energy to be delivered under contract or expected to be delivered. Springfield Solar will provide this information once final and public.

1.4 Alternatives

Subsection 1.4.1 is deleted as it applies to utilities only.

1.4.2 Utilities (CPCN OR CA) and IPPs (CPCN) — Project Area Selection

- 1.4.2.1 Alternative Project Areas. Describe the project area screening and selection process used to select the proposed project area. Provide the following:
 - 1.4.2.1.1 List individual factors or site characteristics used in project area selection.

Springfield Solar identified the Project as a favorable development using its standard analysis for identifying suitable solar sites in Wisconsin and across the country. The primary selection criteria Springfield Solar reviewed were transmission and injection capacity (existing electric transmission infrastructure), land availability (large, relatively flat parcels with willing landowners), transportation infrastructure, environmental considerations and constraints, landowner interest and a supportive community, and a compelling solar resource.

1.4.2.1.2 Explain in detail how brownfields were considered in the selection of sites to develop.

Because large solar arrays require extensive land, brownfields are not typically utilized for siting purposes and were eliminated from consideration for this Project for that reason.

² Springfield Solar is not a utility, thus it is only providing information required by the AFR for non-utilities. This Application follows the numbering scheme of the AFR and does not include sections required for utilities only.

- 1.4.2.1.3 Explain how individual factors and project area characteristics were weighted for your analysis and why specific weights were chosen.
- 1.4.2.1.4 Provide a list of all project areas reviewed with weighted scores for each siting factor or characteristic used in the analysis.

Springfield Solar did not complete a weighted analysis to identify the Project Area.

1.4.2.2 Provide a narrative describing why the proposed project area was chosen.

The Project Area was identified following a rigorous analysis. The following details the primary factors utilized in the evaluation of potential project sites and the selection process used to arrive at the Project Area:

 <u>Transmission and injection capacity</u>: The primary factor in site selection for utility-scale solar development is availably of existing electric infrastructure necessary to connect a project to the power grid.

Preferred injection points are found where the existing electrical infrastructure is robust, thereby minimizing the interconnection facility costs and network upgrades frequently attributed to new generating facilities. Projects where land is available near points of interconnection are prioritized.

Springfield Solar submitted an interconnection request to MISO on March 9, 2018, to interconnect into the American Transmission Company LLC ("ATC") Butternut 138-kV substation. ATC indicated in its Facilities Study for the Project that the Butternut substation's available capacity was sufficient in order for the Project's interconnection to proceed.

• <u>Land availability and infrastructure</u>: Large tracts of relatively flat undeveloped lands are typically utilized for utility-scale solar facilities. The Project Boundary encompasses mostly agricultural land that has been in production for decades.

Overall, the topography is conducive for solar development. The Springfield Solar site is mostly flat and should not experience shading from external objects. Due to the cold climate of Wisconsin, modules will work more efficiently in cooler temperatures and winter snowfall will allow for additional energy to be captured from the rear side of the modules. Specific Global Horizontal Irradiance for Springfield Solar can be found in table 2.1-1 in Chapter 2.

Through private negotiations Springfield Solar has secured agreements for the 884 acres under consideration for the Primary and Alternate Facility Areas. The area ultimately evaluated for the Project encompassed approximately 884 acres, all within proximity to the proposed point of interconnection with the existing 138-kV 33542 line at the Butternut substation. The Butternut substation is located northeast of the intersection of County Road HH and Richard Street in the Village of Lomira.

Area infrastructure was reviewed for compatibility with large construction vehicles and delivery trucks and a summary of the finding is included in the Road Condition Report in Appendix S. The Project Boundary is located in an area where nearby roads and highways, such as STH 49 and STH 175, are suitable for equipment and material delivery during construction.

- Environmental considerations: A preliminary analysis followed by field surveys was completed to screen for environmental factors including, but not limited to, wetlands, waterways, endangered species, invasive species, critical habitat, floodplains, and cultural and historic resources. The Project Boundary has few field-verified environmental constraints, and the constraints identified will be avoided by the Project or permitted with the applicable authorities.
- Community: Springfield Solar values working with communities that welcome solar projects and responsible economic development opportunities. Springfield Solar places great importance on community-supported projects and engages with local landowners, neighboring landowners, municipal leaders, and state legislators early on in the development process. In order to be a good neighbor, it is important that any project start on the right foot by being transparent and being in constant communication with the public. Springfield Solar has been engaging the community and local municipalities, and values their feedback and concerns.

1.5 Utilities (CPCN OR CA) and IPPs (CPCN) – Site Selection

Refer to Section 1.4.2 above for the individual factors or characteristics used to select the overall Project site and for the development of the Project Boundary. Springfield Solar, along with its consultant, Stantec Consulting Services Inc. ("Stantec"), further evaluated the property for siting the Primary and Alternate Facilities. This more detailed process also factored in the following:

- Community feedback: Throughout the Project development process, feedback from the community has been solicited and received. This feedback, including concerns and preferences, has been considered in the preliminary design, factoring into proposed setbacks, potential locations of panels, and access roads. As the Project progresses, Springfield Solar may make minor changes in the field to accommodate unforeseen circumstances; however, any changes shall take into account the basic premise of considerations that were used in designing the current Project layout.
- <u>Environmental considerations</u>: Natural resources such as wetlands, waterways, endangered species, floodplain, and cultural resources were evaluated as part of the Project development process. The Project was designed to avoid and minimize impacts to these resources to the extent practicable.
- <u>Setbacks and screening</u>: Setbacks from public ROWs, utilities, and sensitive community resources were established and mapped. No sensitive community resources such as churches, schools, or nursing homes are located within a one-mile radius of the Project Boundary.
- <u>Unavailable or restricted land</u>: Managed and public lands, conservancies, land under contracts such as Conservation Reserve Program ("CRP"), Managed Forest Law ("MFL"), and Farmland Preservation Agreements ("FPA") were reviewed and considered for restrictions. There are none of these public or managed lands within the Project Boundary. There are a total of five public parks, two managed forest law properties, and one golf course located within a two-mile buffer of the Project Boundary.

- <u>Airport locations</u>: Airports, airstrips, and runways were assessed to verify sufficient distances exist from runways to Project facilities. There are no active airports or airstrips located within a two-mile buffer of the Project. One Federal Aviation Administration ("FAA")-registered airport is located roughly ten miles northeast of the Project, northeast of the Village of Eden.
- Existing Renewable Energy (Wind) Facilities: The Forward Wind Energy facility is a 138-MW wind farm in Dodge and Fond Du Lac counties. This facility is owned by the Wisconsin Public Service Corporation ("WPSC"), Alliant Energy, and Madison Gas & Electric; operated by WPSC; and began generation in 2008. The southern boundary of the Forward Wind Energy facility intersects with the northern boundary of the Project (Alternate Facility Area). One wind turbine is located within Alternative Array A3. A 500-foot setback buffer from this turbine was incorporated into the design and layout of panels and other Project facilities associated with Alternate Array A3.
- <u>Sound</u>: Sound modeling determined that sound generated by the Project will remain below the state standard of 50 A-weighted decibels ("dBA") during daytime and 45 dBA during nighttime outside adjacent receptors.
- <u>Constructability and collection</u>: Construction considerations were factored into the design including restrictions due to slopes and soils, construction efficiency, and equipment movement. Additionally, the ability to network the collection system between solar panel array sites was optimized to the extent possible.

1.5.2 List the individual factors or characteristics used to select the proposed and alternate panel sites.

The factors described in Sections 1.4.2 and 1.5 above were considered in an iterative process to arrive at a Project design that minimized impacts to the environment and surrounding landowners while maximizing the efficiency of the Project within the Primary Facility Area. The Alternate Facility Area will be utilized should the permitting process so dictate, or if circumstances arise prior to construction that prohibit the use of part of the Primary Facility Area. Revisions to the panel layout design may require associated modifications to other Project components including collection line routes, access roads, and shifts in other panel locations.

1.5.3 Provide information on how site characteristics and the type/s of panels chosen factored into the selection of the final panel sites.

Project site characteristics were considered as described in Sections 1.4.2 and 1.5.1. The conceptual design for the Project includes: 450W JA Solar bifacial monocrystalline modules; SMA SunnyCentral 4600 UP inverters; and self-powered single-axis trackers provided by NEXTracker. For a 2022 in-service date, the Project is expected to use products with similar electrical and physical characteristics that are readily available in the market at the time of purchase. Bifacial technology is expected to be the industry standard by 2022, and potentially as early as 2021. Additional modules evaluated in the conceptual design process are included in Section 1.1.1.3 above.

1.5.4 Setback distances.

1.5.4.1 Provide the minimum setbacks for both boundary fences and solar panels from:

- residences
- property lines
- other buildings (e.g., animal barns, storage sheds)
- roads
- wetlands and waterways
- any other features.

Springfield Solar designed the facilities to maintain minimum solar panel setbacks from residences, property lines, and other features. The Project does not require easements from non-participating landowners to accommodate the setbacks utilized. These setback distances meet or exceed all county, township, and village ordinances or rules. Table 1.5-1 provides all necessary detail.

Table 1.5-1 Design Setbacks

Туре	Setback/ Constraint	Setback	Clarification
Structures	Inhabitable Structures - Building Edge (nonparticipating)	100 feet (from building footprint)	As measured to edge of panel. Does NOT apply to access roads and fences
Structures	Inhabitable Structures - Building Edge (participating)	100 feet (from building footprint)	As measured to edge of panel. Does NOT apply to access roads and fences
Structures	Inhabitable Structures - Building Edge with Waiver	Per waiver	
Structures	Noninhabitable Structures	20 feet (from building footprint)	
Property Lines	Side-yard	8 feet	Measured from side lot line; setbacks could be revised during permitting process
Property Lines	Rear-yard	25 feet	Measured from rear lot line; setbacks could be revised during permitting process
Property Lines	Front-yard	Varies depending on class of road	In no case shall the distance of the setback to the edge of the ROW be less than the following; Streets and Town Roads (designated): 27 feet Streets and Town Roads (undesignated): 42 feet Federal, State, and County Trunk Highways: 67 feet Expressways and Freeways: 200 feet (residential use) and 67 feet (nonresidential use)
Structures	Height	40 feet	Applies to principal structures (panels, O&M facility)

Туре	Setback/ Constraint	Setback	Clarification
Existing Infrastructure	Public Roads	Varies depending on class of road	In no case shall the distance of the setback to the edge of the ROW be less than the following; Streets and Town Roads (designated): 27 feet Streets and Town Roads (undesignated): 42 feet Federal, State, and County Trunk Highways: 67 feet Expressways and Freeways: 200 feet (residential use) and 67 feet (nonresidential use) Communications, collection and power transmission poles and lines may be constructed within the setback limits
Other	Project Fence	20 feet from rights-of-way	Permitted on lot lines

1.5.4.2 Identify any sites where non-participating "good neighbor" agreements have been executed.

No "good neighbor" agreements have been executed for the Project.

- 1.5.4.3 Status of easement agreements:
 - 1.5.4.3.1 Identify all project sites with easement agreements that have been signed.

Springfield Solar has 26 lease agreements or purchase options in place to construct the Primary and Alternate facility areas. Reference Table 1.5-2 for parcel information.

1.5.4.3.2 Identify all sites where easement agreements have not been signed and provide a short description of the status of negotiations.

Table 1.5-2 provided below identifies all Project site land agreements that have been signed and those that are still in the process of negotiation. The below-described parcels sum to approximately 877 acres; the Project Boundary (approximately 884 acres) includes participating parcels and ROW.

Table 1.5-2 Status of Land Agreements

Primary Owner Name	Parcel ID	Туре	Status	Sum of Acreage Rounded Under Agreement
Elsinger Properties, LLC	14613171043000	Purchase option	Participating	65
Brian and Kevin	3013171042000	Purchase option	Participating	58
Kazmierczak	3013171014000	Purchase option	Participating	32
	3013171013000	Purchase option	Participating	38
	3013171012000	Purchase option	Participating	6
	3013171011003	Purchase option	Participating	32
	3013171032000	Purchase option	Participating	41

Primary Owner Name	Parcel ID	Туре	Status	Sum of Acreage Rounded Under Agreement
	3013170941000	Purchase option	Participating	6
	3013170913000	Purchase option	Participating	40
	3013170912000	Purchase option	Participating	37
	3013170921000	Purchase option	Participating	38
	3013170434002	Purchase option	Participating	30
	3013170433000	Purchase option	Participating	36
	3013170431000	Purchase option	Participating	40
	3013170424001	Purchase option	Participating	22
George and Mary Ann Weninger Trust	3013170333000	Purchase option	Participating	70
Richard and	3013170541000	Purchase option	Participating	68
Sharon Zinke Trust	3013170542004	Purchase option	Participating	40
Mark Zinke	3013170423001	Purchase option	Participating	37
Brett and Lynn	3013170922000	Purchase option	Participating	26
King	3013170923000	Purchase option	Participating	35
	3013170932000	Purchase option	Participating	40
	3013170924000	Purchase option	Participating	40
Chris and Lona	3013171021000	Easement	Participating	NA
Thelen	3013171024000	Easement	Participating	NA
	3013171031000	Easement	Participating	NA

1.5.5 Identify whether setbacks are consistent with local zoning (county or municipality) or if there are variations from local zoning setbacks, describe why.

Setbacks are consistent with local zoning. No variations to local zoning requirements are anticipated for this Project.

1.6 Cost

This section is omitted as it is only applicable to public-utility-sponsored projects.

1.7 MISO and Project Life Span

1.7.1 MISO Market. Describe how, at the time of this filing, the proposed facility will be treated as an intermittent resource in the MISO market.

Springfield Solar holds queue position J1171 in MISO's East ATC DPP-2018. Communication has occurred primarily through the MISO study cycle parameters with the Project's feasibility report issued in late 2019 and the confidential January 2020 Facilities Study Final Report — Phase 2, available as described in Appendix D. In its application, Springfield Solar requested full Network Resource Interconnection Service for 100 MW nameplate capacity of the facility.

Solar PV projects in MISO receive the class average of 50 percent for its Initial Planning Year until they can demonstrate three years of operational history. Thereafter, their capacity value is determined based on a three-year historical average output of the resource for peak hours during the summer months.

The Project is currently being evaluated through the System Impact Study ("SIS") process and has completed Phase 1 and Phase 2. Phase 3 is currently projected to conclude in January 2021. Springfield Solar expects to execute a Large Generator Interconnection Agreement ("LGIA") with MISO for the Project in June 2021.

1.7.2 Provide an estimate of the expected life span for the power plant.

The design life for the Project is 25-35 years. Based upon future needs of the marketplace, the community, and Springfield Solar, there may be an opportunity further on in the Project's lifecycle to extend the Project's life beyond 35 years.

1.7.3 Describe how the facility would be decommissioned at the end of its life span.

The Project is expected to operate for at least 25 years based on current forecasts for modern equipment. At the end of the Project's useful life, Springfield Solar will assess whether to cease operations and decommission the Project or to replace equipment to extend the life of the Project. In general, the majority of decommissioned equipment and materials will be recycled. Materials that cannot be recycled with be disposed of at approved facilities. The Project decommissioning plan in included in Appendix T.

Decommissioning activities will require approximately 12 months to complete. In general, decommissioning activities would include:

- 1. Dismantling and removal of all aboveground equipment (solar panels, racking, transformers, Project substation, etc.);
- 2. Removal of all aboveground cabling;
- 3. Removal of foundations (piles, piers, and posts); and
- 4. Scarification of compacted areas within and contiguous to the solar facility (including but not limited to internal and external access roadways).

Removal of underground cabling will be determined by the future landowner.

1.7.3.1 Provide an estimate of the cost of and source of funding for decommissioning

Springfield Solar anticipates negotiation and execution of a development agreement with Dodge County, the Town of Lomira, Village of Brownsville, and/or the Village of Lomira that would require the Project to provide a decommissioning plan and potential financial assurance that such plan be completed. The amount of the financial assurance would be determined by a mutually agreed-upon engineer net of salvage value.

1.8 Required Permits and Approvals

1.8.1 Approvals and Permits

The expected permit requirements for construction and operation of the proposed Project are

listed in Table 1.8-1. The regulatory agency and trigger for the permit requirement are also listed.

Table 1.8-1 summarizes the permits and approval types that may be required at the federal, state, and local level for the Project. Springfield Solar is in contact with Dodge County, the Town of Lomira, and the Village of Lomira, and will update the list if additional requirements are identified. Required permits and approvals will be obtained before commencing construction activities.

Table 1.8-1 List of Potential Permits and Approvals

Agency	Interest or Permit	Contact	Application/ Notice Date	Status
Federal				
State				
PSCW	CPCN for construction of large energy generation facility of 10 0MW or more	Andy Ehlert	Q4, 2020	To be submitted 10/2/20
WDNR	Wisconsin Pollutant Discharge Elimination System ("WPDES")/ Stormwater Runoff Permit (NR216)	Kim Gonzalez (608) 267-2759	Q4, 2020	
U.S. Army Corps of Engineers ("USACE")	Section 404 Wetland Permit		Q4, 2020	
WDNR	Wisconsin Endangered Species Law (s. 29.604, Wis. Stats.)	Stacy Rowe (608) 266-7012	6/18/2020	Coordination Completed
U.S. Fish and Wildlife Service ("USFWS")	Federal Endangered Species Act Coordination	Dawn S. Marsh (952) 252-0092	7/10/2020	Coordination Completed
Wisconsin State Historical Society Historic Preservation Office	Cultural Resources (historical and archaeological) under Section 106 of the National Historic Preservation Act ("NHPA")	Chip Brown (608) 264-6508	Q3, 2020	
Wisconsin Department of Transportation ("WisDOT")	Heavy and oversized load permits	Bob Fasick (920) 492-0148	Anticipated Q1, 2021	
Local				
Town of Lomira	Shoreland Area	Dodge County Land Resources and Park		
Town of Lomira	Land Use Permit	Sharon Belling (920) 948-3493		
Town of Lomira	Construction Permits (various)		Anticipated Q2, 2021	
Town of Lomira	Driveway Access Permit Ordinance		Anticipated Q2, 2021	
Dodge County	Construction Permits (various)		Anticipated Q2, 2021	

1.8.2 Correspondence with Permitting Agencies

Copies of correspondence with applicable permitting agencies are provided in Appendix C.

Springfield Solar will continue to correspond with permitting agencies throughout development, construction, and operations.

2 Technical Description – Project Area, Arrays, Panels, and Ancillary Facilities

2.1 Estimated Solar Resource and Projected Energy Production

Provide a complete solar resource and energy production assessment for the Project. This report should include, at a minimum:

2.1.2 Solar resource data used in analysis

Solar energy resource of the Project was estimated using the Clean Power Research SolarAnywhere dataset. SolarAnywhere irradiance estimates are derived from real-time and historical satellite images, through a series of algorithms developed at the State University of New York at Albany. Solar resource, temperature, and humidity data are derived from surface-based weather stations and NWP model trial fields. Additional details about the algorithms, including numerous validation studies, can be found on the SUNY website.³

Data was procured from the 10x10km SolarAnywhere grid cell containing the centroid of the project (43.65N, 88.45W). SolarAnywhere data are provided by Clean Power Research both as an hourly time series dating back to 1998 and as an hourly typical meteorological year ("TMY") file, which is used to simulate conditions during an average year. The TMY file was then used to simulate a typical full year of production with the photovoltaic systems software ("PVSYST") analysis program. The PVSYST model output information is included in Appendix D.

2.1.3 Gross and net capacity factor (explain the method used to calculate the capacity factors and provide the data used).

The system consists of an installed DC power capacity of 135 MW. These values will be confirmed once the final layout and generation equipment are determined. The gross and net capacity factors for the Project are calculated to be 27.0 percent and 23.64 percent, respectively when comparing the nameplate rating to the energy forecasted from the PVSYST model.

Below is a summary of the available solar energy throughout the year.

Table 2.1-1 Global Horizontal Irradiance

	Global Horizontal Irradiance (GHI) on PV Plane (kWh/m²)											
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
52.1	72.6	117.0	137.6	172.2	182.2	189.9	159.8	128.3	79	50.3	41.3	1382.3

 $^{^3\} http://www.asrc.cestm.albany.edu/perez/directory/ResourceAssessment.html$

2.1.4 Estimated Energy Production of Project

While the maximum output of the Project will be 100 MW AC at the point of interconnection, its output may be less at any given time depending on the available energy available from the sun. The software program PVSYST was used to simulate the energy conversion process using model files from the PV module and inverter manufacturer, historical weather data as discussed in section 2.1.1, and the parameters that apply to the Project.

2.1.4.1 Estimated Production Losses

Energy losses within the system include electrical losses in the AC and DC electrical collection system, energy conversion losses within the PV inverters, step-up transformers and various other equipment, as well as losses due to soiling of the PV modules themselves due to dust, debris and snow cover. Taking those factors into account, a reasonable estimate of energy losses range from 15 percent to 20 percent of the maximum output, which is consistent with industry-wide estimates.

2.1.4.2 Estimated Net Energy Production

The estimated net annual energy production is between approximately 190,000 and 220,000 megawatt-hours. Annual energy production output will depend on final design, site specific features, and annual variability in the solar resource.

2.2 Solar Panel Type and Panel Characteristics

2.2.1 Identify the manufacturer and model of solar panel to be used. (If no Panel Purchase Agreement has been signed, applicants should identify the panel or panels being considered. It is acceptable to identify a range by providing information on the largest and smallest panel being considered, however, consult with Commission staff prior to preparing the application.)

Solar panel technology is continually making advancements in both manufacturing and efficiency and is subject to commodity pricing based on the current market demand and available stock. The final PV module selection therefore cannot be made until detailed engineering is completed and ordering of the PV modules is possible.

Springfield Solar is currently considering the following technologies:

- JA Solar JAM-78D10 450W bifacial mono-crystalline
- First Solar FS-6445-A 445W thin-film CdTe
- Canadian Solar CS3Y-PB-AG 440W bifacial poly-crystalline
- LONGi Solar LR4-72HBD 445W bifacial mono-crystalline

The datasheets for these PV modules are provided in Appendix B.

At the time of construction several PV module offerings from different suppliers will be evaluated, and a selection will be made based on the most cost-effective option. The technologies that may be considered are thin-film, polycrystalline silicon, and monocrystalline silicon (including bifacial

PV modules), and the final supply of modules may contain a mix of several similar wattages.

2.2.2 Panel Delivery Date - Indicate whether this is a firm date.

Panel deliveries are expected to occur between April and August of 2021. This is not a firm date.

2.2.3 Total Number of Panels Required for Project

The Primary Facility Area is designed for approximately 299,900 panels with a generating capacity of 135.0 MW of DC power. Based on the module wattages under consideration and the PV tracker system selected, the final count could range from approximately 299,000 to 305,000. The full Project nameplate capacity of 100 MW AC can be achieved with the single axis tracking systems for the site.

The Alternate Facility Area is designed for approximately 72,350 panels with a generating capacity of 32.5 MW of DC power.

2.2.4 Technical Characteristics of Panels

The PV module selected for the Project will have between 72 and 156 cells, and will be a plate-glass module with an aluminum frame with approximate dimensions of one meter by two meters. The PV modules will be connected in series for up to 1500V operation and will be mounted on a tracker system in-line in portrait orientation on racking which tracks east to west to follow the sun throughout the day.

The datasheets for the currently proposed PV modules are provided in Appendix B and it is anticipated that should other PV modules from another manufacturer be selected the physical characteristics will be similar and follow the industry standards.

2.2.4.1 Panel physical dimensions.

The panel physical dimensions are not known at this time because the panel model that will be installed has not been finalized as of this submittal.

2.2.4.2 Panel material/type.

The panel material/type is not known at this time because the panel model that will be installed has not been finalized as of this submittal.

2.2.4.3 Highest and lowest points during daily rotation.

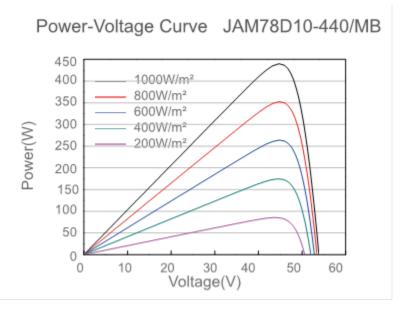
The highest and lowest points of the panels during daily rotation is \pm 50 degrees.

2.2.4.4 Any surface treatment of panels.

The panels will be covered in glass.

2.2.4.5 Panel power curve (provide actual data – solar resource and rated output needed to create the curve).

The power curve for one of the representative proposed solar modules, the JAM78D10-440/MB, is below.



2.2.4.6 Panel tolerances for extreme weather events. Include any operational actions for extreme weather events.

Panel tolerances are not known at this time because the panel model that will be installed has not been finalized as of this submittal.

2.2.5 Technical Characteristics of Inverters

As noted in Section 2.2.1, the final selection of the inverters will be made at a future date based on the current market offering. A manufacturer specification sheet of the inverter used for the basis of the preliminary Project design is provided in Appendix B.

2.2.6 Technical characteristics of any tracking systems, panel supports, and racking.

2.2.6.1 Type of material used for supports and racking.

The supports and racking will be constructed of galvanized steel.

2.2.6.2 Tracking System Used

The NEXTracker NX Gemini tracking system is proposed for this Project. If more suitable or technologically advanced trackers systems are developed post approval, Springfield Solar may choose to use a different unit.

2.2.6.3 Dimensions and number of sections required.

The tracker dimensions proposed for this Project are 168 feet by 14.5 feet per table. A total of 2,890 tables will be required as currently designed.

2.2.6.4 Typical distances between rows, access roads, and fences.

The post to post spacing is 41.3 feet and edge to edge spacing is 26.8 feet. Access roads are 12 to 16 feet wide with a minimum of ten feet of clearance to the array or other equipment. Fences are set back a minimum of 20 feet to arrays or other equipment.

2.2.7 Scale drawings of a typical panel row including inverter pad and transformer box.

Please refer to drawing included in Appendix B for typical panel row.

2.2.8 Provide information on any perimeter fencing that would be used around the solar PV arrays. Describe any requirements on the fencing around the PV sites.

Array fencing will consist of eight-foot-high deer fence with metal fenceposts and direct-embed steel corner posts.

2.3 Other Project Facilities

2.3.1 Site Construction Area. Describe the site construction area. Include the number of, location, and dimensions for:

2.3.1.1 Solar arrays.

Two solar arrays were designed, a 100-MWAC primary array and an alternate 25-MWAC array in the northwestern portion of the Project Boundary. Drawings provided in Appendix B show the locations of both the Primary and Alternate Arrays.

2.3.1.2 Lay-down/staging areas.

There will be a primary five-acre laydown area constructed north of the collector substation. This area consists of entirely agricultural land. Two alternate, approximately five-acre laydown areas may be used, one within the Alternate Facility Area A3 and one outside the fence line of Array A3. These two laydown yards are located approximately 500 feet east of Center Drive and would be constructed entirely within agricultural lands.

2.3.1.3 Parking Area.

Parking (temporary) for construction activities will be provided at the primary Project laydown area. Permanent parking is planned for the O&M building. This parking area will be 80 feet by 50 feet (4,000 square feet) and will accommodate up to ten vehicles. Drawings provided in Appendix B show the location of parking at the laydown area and the O&M building.

2.3.1.4 Provide a scale drawing showing the general construction setup for the solar array sites.

A drawing provided in Appendix B shows the Project's general construction setup.

2.3.2 Collector Circuits.

2.3.2.1 Total number of miles of collector circuits required – separated by circuit type (above-ground vs. underground).

There are approximately 13 miles total of collector circuit runs. A total of 10.75 miles of below-ground collector lines and 2.25 miles of above-ground collector lines will be required.

A primary and alternate 34.5 kV above-ground collector line configuration have been developed for the Project. The primary above-ground collector will be located along the southern side of WI-49 within the existing road ROW. The design will utilize light duty steel structures with direct embedded, crushed rock backfill or drilled shaft foundations. The collector will be strung with 477 kcmil 26/7 "Hawk" ACSR conductor and one 3/8" HS steel cable for the static wire. The structures

will be approximately 55 to 60 feet above ground and framed using stacked crossarms with each circuit arranged horizontally on vertical post insulators. There will be provision for a third circuit if required.

The alternate above-ground collector configuration will also be located along the southern side of WI-49 within the existing road ROW (same alignment as the primary above-ground collector detailed above). The design will also utilize light duty steel structures with direct embedded, crushed rock backfill or drilled shaft foundations. The alternate above-ground collector will be strung with Hendrix® spacer cables on fiberglass cross arms. This collector design will be triple circuit capable with a structure height of 40 to 45 feet above ground.

2.3.2.2 Specify the collector circuit voltage to be used.

The collector circuit voltage is 34.5 kV.

- 2.3.2.3 Transformer type, location, and physical size of transformer pad at each site.
- (30) SMA MVPS-4200-S 4200kVA on a 22'-0" x 12'-0" concrete pads. Drawings provided in Appendix B showing transformer locations.
 - 2.3.2.4 Underground collector circuits.
 - 2.3.2.4.1 Conductor to be used.

The collector conductors will be Al #750 and parallel #350s.

2.3.2.4.2 Describe installation type and how lines would be laid (open-cut trench, vibratory plow, directional bore, etc.). Provide scale drawing of underground circuit.

There will be up to five collector circuits run in open-cut trenches with directional boring as required at road, creek, and wetland crossings. Drawings provided in Appendix B show the Project's collector circuit routing.

2.3.2.4.3 Depth and width of trench, and minimum depth of soil cover over circuits (if applicable).

The typical burial depth for collector circuits is 36 to 48 inches. The width of the trench is dependent upon the number of circuits. Typical trench widths are as follows:

Single Feeder trench width − 12 to 18 inches

Two Feeder trench – 3 foot spacing and 3 to 6-foot trench width

Five Feeder trench – 3 foot spacing and 15 to 16-foot trench width

- 2.3.2.5 Overhead collector circuits.
 - 2.3.2.5.1 Size of pole to be used.

The primary above-ground collector line will have a structure height of 55 to 60 feet. The alternate above-ground collector will have a structure height of 40 to 45 feet.

2.3.2.5.2 Engineering drawing of structure to be used.

A drawing of the proposed structure is included in Appendix B.

- 2.3.3 Site Foundations. Describe the type of foundation or foundations to be used for each part of the project. If more than one type of foundation may be needed describe each and identify under what circumstances each foundation type would be used. Include the following:
 - 2.3.3.1 Describe how the panel and inverter foundations would be installed (e.g. direct imbed, excavation for pouring of concrete footings, etc.).

The Project will use driven pier foundations and concrete foundations. The inverter/transformer skids will likely be installed on driven pier foundations but could be placed on concrete foundations if required by soil and geotechnical conditions. The main power transformer ("MPT") will be installed on a concrete foundation.

2.3.3.2 Dimensions, surface area and depth required for each foundation.

Foundation dimensions will be determined in the detailed engineering phase; generally, the largest foundation will be the MPT foundation which will be approximately 50 feet by 30 feet. The piers will be from 5 feet to 10 feet deep.

2.3.3.3 Amount of soil excavated for each foundation type.

For driven pier foundations, no excavation is required. For the concrete foundations, soil excavation quantities will be determined in the detailed engineering phase.

2.3.3.4 Describe how excavated soils would be handled including disposal of excess soil.

Project construction is not anticipated to generate any excess soil. Should excess/excavated soil exist, it will be spread within the Project Area. The excavated soils will be graded back in after construction and will not be graded into any cropland, pasture, or wetland areas.

- 2.3.3.5 Materials to be used for the foundation. Include:
 - 2.3.3.5.1 Approximate quantity and type of concrete required for typical foundation.

Subject to detailed engineering, foundations will be standard reinforced concrete with compressive strength less than 5,000 pounds per square inch.

2.3.3.5.2 Materials required for reinforcement.

The concrete will be reinforced with steel rebar.

2.3.3.5.3 Description of the panel mounting system.

The panels will be mounted to a ground-mounted aluminum single-axis-tracker racking system.

2.3.3.6 Provide technical drawings of each foundation type to be used showing foundation dimensions.

See Appendix B for a technical drawing of a typical main transformer foundation.

2.3.3.7 Describe how foundation or support installation would address the risk of frost heave on facilities.

Foundations or supports will be installed to a minimum depth of 4 feet below ground surface to minimize impacts from freezing and thawing conditions. Exact embedment depth for the driven pile on which the solar panels are mounted will be determined with final engineering.

2.3.4 Access Roads

2.3.4.1 Provide the total number and total miles required for access roads. Provide the amounts for both temporary access (used during construction only) and permanent access (for long-term facility operation and maintenance) roads.

State if any temporary access roads would be converted into permanent access roads

Existing public roadways will be used to access the Project. No external temporary roads or temporary widening of existing permanent roads during construction are planned at this time.

Permanent internal access roads within the Project arrays are expected to be approximately five miles in total length. The internal access roads will be located within the secured fenced areas and will not be available for use by landowners. They will be designed to provide access to power conversion equipment within the panel arrays and to solar equipment, and to accommodate ongoing maintenance of the Project components. Roads will not be constructed within every aisle.

No temporary access roads constructed within the Project array are anticipated at this time. If temporary access roads are required during construction, they will be built according to the specifications summarized in Section 2.3.4.2 below.

2.3.4.2 Describe materials to be used and methods for construction of temporary and permanent access roads, including road bed depth.

While not anticipated at this time, if they are eventually required, temporary access roads will be built utilizing wooden construction matting or aggregate. These roads will be used to a limited extent in areas with soil strength and stability limitations for construction vehicles. Where aggregate is used, a geo-fabric (or similar) material will be laid on the ground surface first to enable the easy and complete removal of aggregate once the construction is complete.

Permanent access roads will be constructed by first removing the topsoil and organic material. Then the subgrade is compacted and constructed according to civil design requirements. A layer of road base will then be added and compacted. Road aggregate or fill will be a local pit run aggregate material that meets WisDOT specifications. Upon completion of detailed engineering, the aggregate specifications will be available for construction quality assurance. Permanent access roads will be maintained for the life of the Project.

During decommissioning at the end of the Project's life, the permanent access roads will be restored by removing the aggregate, de-compacting the soil if required, restoring the topsoil, and seeding to permanent perennial vegetation. A schematic showing a cross-section of a typical access road is provided in Appendix B. Decommissioning activities for the Project are discussed in further detail in Section 1.7.3.

2.3.4.3 Specify the required width of temporary and permanent access roads. Fully describe any differences between final road size and that required during construction.

Permanent access roads will be 12 to 16 feet wide. No temporary access roads are planned at this time.

2.3.4.4 Describe any site access control (e.g. fences or gates).

The site will have a perimeter fence with secured gates for site access. Only Springfield Solar personnel and local emergency personnel will have access to the Project.

2.3.5 General Construction Areas

2.3.5.1 Identify size, number, and location of laydown/staging areas outside of those found at the array sites and any other areas used for material storage.

Springfield Solar does not anticipate any alternate laydown area outside of those planned and shown in the detailed site design set located in Appendix B. The primary laydown yard anticipated for the Project will total approximately five acres; two additional alternative laydown area would also be approximately five acres in size.

Springfield Solar will strip the topsoil from the laydown area prior to compacting or installing aggregate materials. The topsoil will be stockpiled and stored near the laydown/staging location and will have temporary erosion control measures per the Project specific Stormwater Pollution Prevention Plan ("SWPPP"). Following construction, the laydown/staging areas will be restored to pre-construction conditions.

2.3.5.2 Identify size and location of construction parking areas.

The construction laydown yard (anticipated to be approximately five acres in size) will also serve as a construction parking area. The exact dimensions of the parking areas within the laydown yard will be determined during detailed design.

2.3.5.3 Describe the expected use of these areas after project completion.

The laydown areas will be reclaimed and restored to pre-existing conditions.

Upon completion of Project construction, aggregate surfaces will be removed to a depth where clean aggregate without soil mixing can be retrieved. This aggregate will be applied throughout the site on access roads as a final top layer.

Once the aggregate is removed, the yard will use deep disking construction equipment to decompact the subgrade. Once the subgrade has been appropriately de-compacted, the topsoil will be evenly spread over the yard.

If the subsequent use will be agricultural in nature, standard agriculture equipment will be used to prepare the soil for a seed bed, and necessary steps taken to return crop yields to preconstruction levels.

2.3.5.4 Provide a list of all hazardous chemicals to be used on site during construction and operation (including liquid fuel).

Hazardous chemicals including fuel for vehicles, paints, and lubricants will be stored on site during the construction period. Gasoline and diesel fuel will be stored on site in secondary containment or in individual tanks. Refueling of the tanks will be contracted with a local fuel delivery service to be completed in the evening hours. Other hazardous chemicals on site will be stored in trailers located at the central laydown area. The expected hazardous chemicals include diesel fuel, gasoline fuel, oil, grease, spray paint, and galvanization paint.

2.3.5.5 Discuss spill containment and cleanup measures including the Spill Prevention, Control, and Countermeasures ("SPCC") and risk-management planning for the chemicals proposed.

Springfield Solar will require that an SPCC Plan be provided by the contractor awarded the construction contract for the Project. The SPCC Plan will outline the procedures and preventive measures that will be followed throughout the construction period. Springfield Solar and its contractors will be required to comply with the plan. At a minimum the SPCC Plan will identify the following:

- Typical fuels, chemicals, lubricants, and paints to be used or stored in the Project Area;
- Methods and location of storage;
- Locations designated for lubrication and refueling (i.e. outside of sensitive resource areas);
- Preventive measures to be used to minimize potential impacts;
- Mitigation methods to be employed, should a spill occur;
- Location of construction spill kits (gloves, booms, sorbents, barrier materials, etc.);
- Emergency notification procedures and forms; and
- Contact information for individuals requiring notification if a spill should occur.

The SPCC Plan will be kept on-site during construction and will meet all Environmental Protection Agency ("EPA") requirements. The SPCC Plan, because of its specificity, will be written by the contractor prior to commercial construction.

2.3.6 Construction Site Lighting.

2.3.6.1 Describe the site lighting plan during project construction.

Lighting equipment used during construction will consist of temporary light plants. The light plants are connected to a trailer and have generators to allow them to be transported around the construction site. The laydown area and parking area may have lights mounted to poles to support construction during non-daylight hours.

2.3.6.2 Provide copies of any local ordinances relating to lighting that could apply.

There are no lighting ordinances for the Town of Brownsville, Town of Lomira, or the Village of Lomira. The Dodge County ordinance for exterior lighting is provided in Section 8.8 of the Dodge County Development Standards. This section details the minimization of physical effects, design, lighting types and height standards. Section 8.0 of the Dodge County Development Standards is included in Appendix E.

2.4 Substation

If the project includes the construction of a substation or modifications to an existing substation, provide the following information:

2.4.1 A complete electrical description of required substation facilities including a list of transformers, busses, and any interconnection facilities required.

This section discusses the substation that will be developed for the Project. A preliminary Substation layout schematic can be found in Appendix B.

The Project substation design will be completed during detailed engineering for the Project. A footprint of approximately 305 feet by 310 feet has been allocated at this stage and will generally include items below within the substation:

- 34.5kV, 1200A air-insulated circuit breakers for the feeders to the solar plant;
- 34.5kV, 3000A air insulated bus and supporting structures (includes air insulated isolation switches for the transformer and the individual feeder circuit breakers);
- 34.5kV metering and instrument transformers;
- 100kVA Station service transformer installation, which includes AC panels, station service transformer with fuses, equipment for a secondary source for AC power, conductors and support structure for all equipment;
- Main power transformer 34.5/138kV, 75/100/125;
- 138kV, 1200A circuit breaker;
- 138kV, 1200A air insulated gang operated disconnect switch;
- 138kV surge arrestors, if required;
- 138kV bus and supporting structures;
- 138kV metering and instrument transformers;
- 138kV dead-end structure for outgoing transmission line (generation tie line to the Point of Interconnection);
- Protection and control building, which will include DC power equipment, DC panels, and relay/control/communication equipment;
- Internal access roads;
- Security fence with vehicle gate, man gate, barbed wire. Fence to be grounded to the substation ground grid per National Electrical Safety Code requirements;
- Bare copper grounding grid (to be installed below grade) with high resistance gravel/rock installed above grade for protection against electrical shock;
- Power cables and control cables installed in a below grade concrete trench, polyvinyl conduit and manholes as required;
- Lightning protection masts (as required);

- Yard lighting and receptacles to be used during maintenance and or during emergency; and
- Any required power factor control equipment (i.e. capacitor bank) with associated isolation equipment such as reactive power switching equipment and disconnect switches.

2.4.2 Indicate the size (in acres) of the land purchase required for the new substation or substation expansion.

A schematic showing the approximate orientation of the substation on the property is provided in Appendix B. The substation will be about two acres in size and is included on a parcel that is under a purchase option.

2.4.3 Indicate the actual size of the substation or substation addition in square feet, the dimensions of the proposed substation facilities, and the orientation of the substation within the purchase parcel.

The proposed Project substation will have a footprint of approximately 305 feet by 310 feet. A physical layout showing the approximate orientation of the substation with major equipment on the property is provided in Appendix B.

2.4.4 Identify current land ownership and whether applicant has control of property or whether or not an option to buy has been signed.

Springfield Solar has executed a purchase option for the land designated for the Project substation.

2.4.5 Describe substation construction procedures (in sequence as they would occur) including erosion control practices (see Section 3.1).

A typical construction sequence for the Project substation involves, in order, site grading work, below-grade installation foundations for the equipment and bus structures/supports, conduit, trenching, manholes and ground grid installation, above-grade physical construction of buswork, support structures, gravel/rocking, and installation of major electrical equipment, wiring and completion of all terminations, followed by testing, commissioning, and ultimately energization. A site-specific construction specification and schedule will be developed but is not yet available. All contractors will be required to follow the SWPPP, as well as adhere to any site-specific environmental requirements including erosion and dust control.

2.4.6 Describe associated permanent stormwater management facilities that will be constructed, or expansion/modification of existing stormwater treatment facilities. Identify the locations of the point(s) of collection and discharge.

Permanent stormwater management facilities will be constructed to manage and treat stormwater associated with the new Project substation. A detention pond will be constructed to handle stormwater runoff from the substation, operations and management building, and the associated parking lot. This pond will be located roughly 50 feet to the west of the substation fence and nearby grades will be constructed to ensure water is properly routed to the pond via overland sheet flow and/or vegetated swales. The detention pond will have an emergency overflow weir designed to safely route excess flow from a 100-year-or-above storm event.

The pond will control stormwater volume and discharge via a culvert that will travel south and then west along the southern boundary of the Project substation, eventually discharging adjacent

to the railroad right of way. This culvert will be sized and placed at an elevation to ensure post-development flows leaving the pond are less than pre-development flows up to the 100-year storm event per state and local requirements. Sufficient cover between the culvert and proposed access road will be designed for and the downstream endwall will have rip rap installed to ensure excess erosion does not occur.

2.4.7 Describe any security requirements for the substation site and provide information on how these would be met.

The substation will be fenced according to the National Electrical Code and National Electrical Safety Code. The fence will be properly grounded to avoid any hazards. The substation will also have safety lighting and may have security cameras mounted at fence gates.

2.5 Transmission and Distribution Interconnection

2.5.1 Describe any transmission or distribution grid interconnection requirement.

This Project requires the construction of a 138-kV transmission gen-tie line.

2.5.2 Identify the length of the generator tie line.

The approximate length of the gen-tie line is 453 feet.

2.5.3 Provide details on the types of structures (underground/overhead, single-pole/H-frame, direct embed/concrete caisson, typical span length, etc.) and lines that would be constructed as part of any necessary generator tie line, including the height of the structures. If the installation will be underground, identify the installation method(s), such as directional bore, open-cut trench, plow, etc.

The proposed design includes the use of two vertically framed wooden direct-embed monopole structures strung with 795 Aluminum Conductor Steel Reinforced ("ACSR") Drake conductor and steel guy wires.

Structure	Above Ground Height	Description
STR 1	61 ft	Vertical inline dead-end with guy wires
STR 2	61 ft	Vertical angle dead-end with guy wires

2.5.4 Describe the transmission configuration (single-circuit, double-circuit, etc.).

The transmission line will be a single-circuit 138-kV line.

2.5.5 Describe the right-of-way (ROW) area needed for the generator tie line and the status of any easements or other land agreements with property owners.

The 138-kV gen-tie line will require a ROW width of 60 to 80 feet. Easements and land agreements will be finalized once a PSCW Order for this Project is received.

2.5.6 Describe all communications and agreements, official or otherwise, with the transmission or distribution owner.

Springfield Solar holds queue position J1171 in MISO's East ATC DPP-2018. Communication has occurred primarily through the MISO study cycle procedure with the Project's feasibility report issued in January 2020 and the most recent system impact report issued in May of 2020. The

confidential J1171 Facilities Study Report developed for MISO is available for review as described in Appendix D.

Through communication with ATC and per the Project's Facility Study Report, it is Springfield Solar's understanding that interconnection to the Butternut substation is to occur via the north end of the existing substation. Specifically, the new 138-kV Project gen-tie line will interconnect via a new line terminal in the Butternut Substation adjacent to the existing 138-kV 33542 line.

2.5.7 For transmission interconnections, indicate where the project is in the MISO Queue and provide copies of the latest draft or final MISO report for the project interconnect. During the PSC review process applicant must continue to supply the latest reports from MISO.

Springfield Solar holds queue position J1171 in MISO's East ATC DPP-2018. The Project is currently in DPP 3 with expected completion of its facilities study on January 21, 2021. The Project is currently tracking to have an executed interconnection agreement in June 2021. During the review process the Project will continue to supply its latest reports from MISO.

2.5.8 Indicate how equipment access will occur, and if off-ROW access roads will be utilized. If off-ROW access roads will be utilized, provide the following:

No off-ROW access roads are proposed at this time.

2.5.8.1 Provide the number of off-ROW access roads proposed, and an identifying name or number for each off-ROW access road.

No off-ROW access roads are proposed at this time.

2.5.8.2 For each proposed route, provide the dimensions (length, width, area) and construction method, including any modifications that would be needed to utilize the off-ROW access roads, such as road widening, road fill placement, tree clearing, etc.

No off-ROW access roads are proposed at this time.

2.5.8.3 Discuss the reasons for the necessity for off-ROW access roads (e.g. topography, rivers/wetlands, etc.). If protection of a natural resource is a reason, discuss how the resource would be protected during construction and operation of the proposed project.

No off-ROW access roads are proposed at this time.

2.5.8.4 Provide quantitative land cover information for off-ROW access roads similar to the information provided in PSC Impact Tables.

No off-ROW access roads are proposed at this time.

2.5.8.5 If the off-ROW access roads would be modified post-construction, provide details.

No off-ROW access roads are proposed at this time.

2.5.9 Describe the type of construction machinery that would be used.

For construction of the gen-tie line, a wheeled or tracked hydraulic drill rig will be used to drill the hole for the pole placement and a wheeled or tracked crane will lift the poles into place. Other support equipment such as skid steers and forklifts will also be used.

2.5.10 Describe the construction disturbance zone, if different from the ROW.

No off-ROW access roads are proposed for this Project. All construction-related disturbance will be confined to the ROW.

2.5.11 Describe how spoil materials would be managed on and off-site.

Spoils from drilling holes for direct-embed structures will be utilized on site to the extent practicable. Excess soil not used for backfilling of the structure holes will be thin-spread within the ROW or within the arrays. No off-site soil disposal is anticipated.

2.5.12 Describe the dewatering method(s) that may be utilized during excavation activities, such as pit/trench dewatering or high capacity wells. Identify treatment methods that would be utilized to treat the discharge, and the discharge location.

If dewatering is required, all water will be pumped away from any existing wetlands or waterways and will be kept onsite. Water will be pumped to a well-vegetated upland area where it can be discharged without causing erosion. Discharge locations will be constructed with energy dissipators to prevent erosion or suspension of surficial soils. In rare events, discharge basins will be construction with a combination of straw bales, filter fabric, and rock. Dewatering will comply with WDNR Technical Standards for dewatering.

2.6 Operations and Maintenance Building

An O&M building is proposed for this Project. Springfield Solar will either rent or buy an existing building in the area of the Project, or construct a Project-specific O&M building in the southeastern portion of Array P6. The O&M building will be located directly west of the Project substation and south of the proposed substation stormwater management pond. A generic, non-Project-specific O&M building layout is provided in Appendix B.

The sections below provide additional detail of the proposed new O&M building if constructed within the Project.

2.6.1 Describe the purpose and use of the proposed O&M building.

The purpose of the O&M building is to maintain an on-site facility for employee offices/workstations, meeting spaces, spare parts, and equipment storage.

2.6.2 Number of full-time employees that would be working at the facility.

Springfield Solar anticipates that there will be up to 4 full-time-equivalent staff employed at the facility.

2.6.3 Provide the size (in acres) of the land purchase required for the facility.

The O&M building will be approximately 2,400 square feet in size and will require an area of approximately 200 feet by 200 feet (40,000 square feet) for access around the building and vehicle parking. A total of about one acre is required for this area.

2.6.4 Building and Building Footprint

2.6.4.1 Provide a drawing or diagram of the O&M building with dimensions including square feet.

A drawing of the proposed O&M building is included in Appendix B.

2.6.4.2 Indicate the actual size of the building in square feet.

The proposed size of the O&M building will be roughly 2,400 square feet.

2.6.4.3 Describe the type of building to be constructed (metal, frame, etc.)

The building will be a metal commercial-style building that houses offices, a conference room, garage space, and equipment storage.

2.6.5 Lighting and Security Plan for O&M Property

2.6.5.1 Describe how the building property will be lit and how the lighting plan minimizes disturbance to nearby residences.

Fixtures used to light the Project Area will limit lighting of the night sky and will be directed away from adjacent properties and public ROWs to prevent light from trespassing or spilling onto those properties. Any lighting used on site will comply with all applicable rules and regulations.

2.6.5.2 Describe any security plans for the property (fences etc.).

The O&M building will be located within a secure fenced area adjacent to the Project substation. Gates and doors to the O&M building will be secured using computerized card readers.

2.6.6 Describe any other facilities needed, including:

2.6.6.1 Parking lots.

A parking lot with space for approximately 10 vehicles will be constructed next to the O&M building.

2.6.6.2 Sheds or storage buildings.

No sheds or additional storage building are planned for this Project. The O&M building will have sufficient space for permanent storage of equipment and materials. If necessary on a temporary basis during construction or decommissioning, all storage containers outside the O&M building will comply with all applicable rules and regulations.

2.6.6.3 Supplies of water.

A potable water well will be constructed to provide water service to the O&M building.

2.6.6.4 Sewer requirements.

A septic system will be constructed to provide sanitary service to the O&M building.

2.6.6.5 Construction of any stormwater management facilities, or expansion/modification to existing stormwater treatment facilities. Identify the locations of the point(s) of collection and discharge.

No separate stormwater management facility will be constructed for the O&M building. The facilities designed and constructed for the substation will be sized to handle stormwater from the O&M building and associated parking lot.

2.7 Battery Storage

If the proposed project would include a large-scale Battery Energy Storage System ("BESS") or plans to include one in the future, provide the following information.

No large-scale BESS system is proposed for this Project at this time.

- 2.7.1 Describe the location of the proposed BESS, including a map that shows its placement within the other project facilities.
- 2.7.2 Explain what criteria was used to decide whether to use a BESS, and provide information on how its inclusion would affect the electrical design of the project and MISO interconnection process.
- 2.7.3 Provide information on how the BESS would be installed, any changes to project impacts through its inclusion, and ongoing operations and maintenance actions it would require.
- 3 Construction Sequence and Workforce
- 3.1 Construction Sequence and Schedule
- 3.1.1 Provide the construction schedule for the proposed project, identifying any potential seasonal or regulatory constraints. Include a timeline showing construction activities from beginning of construction to in-service. Identify all critical path items.

The estimated construction schedule is provided in Table 3.1-1 below.

Table 3.1-1 Estimated Project Construction Schedule

Activity	Start	End
Start of Construction	October 2021	
Site Preparation (Erosion Control	October 2021	June 2022
and Tracking Pads)	October 2021	Julie 2022
Vegetation Removal	October 2021	December 2021
Staging and Laydown Areas	October 2021	November 2021
Construct Project Substation	March 2022	August 2022
Access Roads	October 2021	June 2022
Drive Posts	November 2021	May 2022

Install Racks	December 2021	June 2022
Install Inverter Pads	May 2022	July 2022
Install Solar Modules	April 2022	September 2022
Backfeed	September 2022	September 2022
Commissioning	September 2022	October 2022
In-Service Date		November 2022

3.1.2 Provide a description of the staging and construction sequence required for building of a typical solar array. Include the delivery of materials.

The following provides a description of the staging and construction sequence for the Project:

- Installation of tracking pads at construction entry and exit points, and the installation of erosion control and stormwater best management practices ("BMPs") as outlined in the SWPPP.
- Vegetation removal (crop removal) starting in areas where initial staging and laydown areas will be located. Vegetation removal will continue across the site, sequenced to proceed in an organized and cost-efficient manner. Upland forest clearing will commence in a similar fashion.
- Development of staging and lay-down areas for receiving and storing construction materials and equipment. The laydown areas will also house trailers and parking for personnel and construction-related vehicles.
- Access-road installation to facilitate continued clearing operations and construction of the facility (limited grading is anticipated as roads will be constructed at grade when possible).
- Delivery of equipment, including piles, aluminum supports/mounting structures, tracking systems, and inverters. The Project will be constructed in blocks and multiple blocks will be constructed simultaneously over time. Deliveries will continue over time in advance of construction of the blocks.
- Solar-block construction in sequence, starting with driving pile foundations, then installing aluminum supports/mounting structures onto the piles.
- Delivery and installation of collection system equipment via trenching and directional drilling.
- Delivery and installation of solar PV modules.
- Stabilization and revegetation of disturbed areas in stages as construction of the solar blocks and collection trenches are completed.
- Material and equipment deliveries for installation of the step-up transformer substation.
- Gen-tie transmission line construction and connection to Project step-up transformer substation and ATC infrastructure.
- Interconnection inspections and testing and Project commissioning.
- Vacating staging and laydown areas prior to installation of piles and construction of the final solar blocks.

• Completion of final seed installation and revegetation activities at staging, laydown, and other disturbed areas consistent with revegetation and restoration plan.

3.1.3 Provide an estimate of time required to complete construction at a typical solar array.

The duration of construction for the Project is estimated in Section 3.1.1 to be 13 months. This timeline is in part dependent on winter weather conditions and the ability to work through the winter months. If the winter is mild, activities such as driving posts, installing of racking, and installing inverter pads could be accelerated. In this case, the total construction period could last eight to ten months.

The construction timeline will be finalized after an engineering, procurement, and construction contractor is hired.

3.1.4 Provide a description of the staging and construction sequence for any other facilities to be constructed.

The sequence for staging and construction for all Project facilities is described above in Section 3.1.2.

3.1.5 If grading, land leveling or any other activity that would result in bare soil, indicate how much area (sq. ft. or acres) of bare soils would occur at a given time.

The majority of the Project is currently in agricultural production. Prior to the start of construction (assumed to be October 2021 as stated in Table 3.1-1), Springfield Solar will coordinate with participation landowners to determine the types of crops that may be present within the Project Boundary and the timeframe of removal. Once crops are removed, bare soil with crop remnants is expected throughout the arrays.

Micro-grading or site leveling will likely be necessary prior to array installation. It is estimated that micro-grading or site leveling will occur on roughly 40 to 60 acres at one time. Appropriate BMPs will be installed prior to these grading activities.

3.2 Workforce

3.2.1 Provide information on the workforce size and skills required for project construction and operation.

During construction, the work force will be primarily comprised of delivery drivers, laborers, equipment operators, and management personnel. The equipment operators will operate civil equipment, pile drivers, cranes, and material-handling equipment. Most of the personnel required to construct the Project will be laborers that install racking systems and place modules. Approximately 100 to 200 workers, at peak construction, are anticipated to be needed to construct the Project. Once construction is complete, the Project will require approximately four full-time-equivalent personnel for O&M. The plant operator(s) will have specific training and expertise to run a solar facility, including the high-voltage substation.

Springfield Solar will implement a Construction Compliance Program ("CCP)" consisting of environmental training, regularly scheduled inspections, and tools such as permit matrices to ensure all environmental laws and conditions are met. Under the CCP, the environmental lead will provide environmental training to all managers and the foreman prior to construction. Thereafter,

the contractor will ensure any employee who works at the site is trained in accordance with the CCP. During construction the environmental lead will conduct weekly meetings at the site as well as regular inspections to ensure all environmental regulations and conditions are being implemented.

3.2.2 Estimate how much of the expected workforce would come from local sources.

The amount of labor that will be sourced locally is unknown at this time, and will be dependent upon the engineering, procurement, and construction contractor selected, as well as the labor market and availability at the time of construction.

3.3 Construction Equipment and Delivery Vehicles

Provide a description of the types of construction equipment needed to build the project and the types of delivery vehicles that would be used to deliver panels and equipment to array sites. For large equipment and vehicles include:

3.3.1 Types of construction equipment and delivery vehicles.

The Project will require different equipment types depending on the phase of construction. The first phase consisting of civil work and road building will require dozers, motor graders, and rollers. The pile-driving phase will utilize pile drivers. After pile driving, installation of racking and panels will be supported mainly by skid steers and telehandlers. For the substation, a large truck crane will be needed to set the MPT and other heavy equipment. For other substation components, small cranes, bucket trucks, and forklifts will be used to place equipment. For the gen-tie line, a wheeled or tracked drill rig will be used to drill the hole for the pole placement and a wheeled or tracked crane will lift the poles into place. Other support equipment such as skid steers, ATVs, and forklifts will also be used.

3.3.2 Gross vehicle weight (loaded and unloaded) for all vehicles using local roads.

Except for the MPT, delivery trucks will consist of legal load (80,000 pounds or less) over-the-road flatbed and box trucks. The Project will receive an average of approximately seven to ten box trucks (modules) a day throughout the module delivery period and two to five flatbed trucks a day (inverters, piles, racking, misc.) during the pile-driving period. The main MPT will weigh approximately 200,000 pounds, and will be transported via rail to the nearest railyard and then using special multi-axle trucking and state road permits, as necessary, to the Project.

3.3.3 For vehicles used for delivery (diagrams or drawings of vehicles are acceptable). Include:

3.3.3.1 Overall vehicle length.

Except for the MPT, vehicles used for delivery will be standard over-the-road semi-trucks.

3.3.3.2 Turning radius.

Standard over-the-road semis/delivery vehicles will be used for this Project. These vehicles will have standard turning radii. Vehicles used inside the arrays will be suitable for the engineered internal access roads and turn-arounds.

3.3.3.3 Minimum ground clearance.

Standard over-the-road semis/delivery vehicles will be used for this Project. These vehicles will have standard ground clearances. Vehicles used inside the arrays will be suitable for the engineered internal access roads and will have sufficient ground clearance.

3.3.3.4 Maximum slope tolerance.

The routes to the Project are relatively flat. Slope tolerance is therefore not expected to be an issue.

3.3.4 Roads and Infrastructure. Estimate the potential impacts of construction and delivery vehicles on the local roads. Provide the following:

A Road Condition Report was completed for the Project in August 2020. Current desktop road-condition data and visual inspections were performed as part of that road study. The Road Condition Report is included in Appendix S.

3.3.4.1 Describe methods to be used to handle heavy or large loads on local roads.

The MPT is the only equipment that will require use of transportation vehicles other than standard over-the-road flatbed trailers and box trucks.

3.3.4.2 Probable routes for delivery of heavy and oversized equipment and materials.

The most likely route for equipment transport is from STH 49 via Interstate 41. Once the equipment is near the Project, the equipment will be delivered to the laydown yard using STH 175 and County Road HH.

3.3.4.3 Potential for road damage and any compensation for such damage.

Road damage during the construction phase of the Project is unlikely. Solar projects generally use legal-limit loads. Per the conclusions of the Road Condition Report, no culvert or pavement damage is expected during the equipment delivery and construction phase of the project. Localized roadway damage may occur at turn-offs to Project access roads. If any damage is caused by the construction of the Project, it will be repaired to as good as or better than initial conditions.

3.3.4.4 Probable locations where local roads would need to be modified, expanded, or reinforced in order to accommodate delivery of equipment.

No modifications to local roads are expected.

3.3.4.5 Include an estimate of whether or not trees near or in road right-of-way (ROW) might need to be removed.

No clearing of trees near any Project roadways is anticipated.

3.3.4.6 Provide an estimate of likely locations where local electric distribution lines would need

to be disconnected in order to allow passage of equipment and materials.

No disconnection of local electric distribution lines will be necessary to allow for delivery of equipment and materials.

3.3.4.6.1 Describe how residents would be notified before local power would be cut.

Since local electric distribution lines will not need to be disconnected to allow for delivery of equipment and materials, there will be no cessation of local power, and, therefore, no need to notify customers of the loss of power.

3.3.4.6.2 Estimate the typical duration of a power outage resulting from equipment or materials delivery.

No power outages will be required for the delivery of equipment and materials.

3.3.5 Construction Traffic. Describe any anticipated traffic congestion and how congestion would be managed, minimized or mitigated. Include:

Local deliveries of equipment and materials will likely use STH 49, STH 175, and County Road HH. During construction, between 100 and 200 construction workers are expected to travel to and from the Project. Local traffic congestion may occur from Monday to Friday, twice a day, coinciding with workers arriving or leaving the site.

The site will likely receive between two to five flatbed trucks a day delivering inverters, supports, and racking during the construction period and approximately seven to ten box trucks a day delivering solar modules during the panel installation period. These various delivery trucks are expected to be legal-load flatbed and box trucks. The MPT will likely require a special delivery vehicle, and due to its weight (estimated at 200,000 pounds) may require state road permits for its delivery. The delivery of the MPT utilizing a specialized multi-wheel trailer may require police traffic control along local roadways. This traffic control will only be required during the delivery of the MPT.

Local routes to the Project will have construction signage notifying deliveries and workers to reduce traffic. Signage will be posted to inform the general public of the additional construction traffic.

3.3.5.1 List of roads most likely to be affected by construction and materials delivery.

Table 3.3.5.1: Affected Roads

Affected Roads
Interstate 41
STH 49
STH 175
County Road HH
Pole Road
Center Drive
County Road AY

3.3.5.2 Duration of typical traffic disturbance and the time of day disturbances are most likely to occur.

A traffic increase will likely occur twice a day during the work week (Monday through Friday) when construction workers are traveling to and from the Project. This increase will consist of the personal vehicles owned by the workers. Deliveries of equipment will also be traveling to the Project during the work week; material deliveries will generally be scheduled throughout the day versus during hours when residents are driving to and from work.

4 Project Maps, Aerial Photography, Photo Simulations, and GIS Shapefiles

4.1 Project Area Maps

Project maps are provided in Appendix A. The maps show the Project Boundary and other Project data on aerial photographs and include environmental, parcel, land use, and existing utility/infrastructure information. Also included is environmental information required to support WDNR's review. Springfield Solar will be providing electronic formats of the maps Geographic Information Systems ("GIS") data files separately on discs to the Commission in Appendix F.

4.1.1 General Project Area Map.

See the map labeled Appendix A - 4.1.1 General Project Area Map. This map includes the entire Project Study Area and reaches at least one mile beyond the Project Study Area boundary, and is of approximate scale 1:4800. The map shows the boundaries of the Project Site, the Proposed Array, the Alternative Array (symbolized differently and identified by number), any new collector substation facilities, and access roads.

4.1.2 Detailed Project Area Map.

See the maps labeled Appendix A - 4.1.2 Detailed Project Area Map. The scale for this map is larger than that of the general Project map so additional detail is clearly visible.

4.1.3 Topographic Maps

See the maps labeled Appendix A - 4.1.3 Topographic Map. The maps include the Project Study Area boundary, the Primary Array, the Alternate Array, substation facilities, collector circuits, access roads, and the O&M building.

4.1.4 Substation

4.1.4.1 Substation Map

See the map labeled Appendix A - 4.1.4.1 Detailed Substation Map. The map includes the location, dimensions, and layout of the new substation; recent aerial photos of the substation site; and the location of power lines entering and leaving the substation.

4.1.4.2 Substation Diagram

See Appendix B for a preliminary single-line drawing of the substation that shows an engineering diagram of the substation and substation equipment, including existing interconnection facilities.

4.1.5 O&M Building

4.1.5.1 O&M Building Map

See the map labeled Appendix A - 4.1.5.1 Detailed O&M Building Map. The map includes the O&M building, parking area, roadway/driveway, and other facilities on a recent aerial photo.

4.1.5.2 O&M Building Diagram

See Appendix B for a preliminary drawing of the Project O&M building.

4.1.6 Natural Resources and Land Use/Ownership Maps

4.1.6.1 Wetland and Waterway Maps.

Appendix A - 4.1.6.1 Wetlands_CPCN contains figure sets displaying wetlands within the Project Study Area overlaid on topographic mapping and aerial imagery (separate figure sets as specified in Section 8.3.1 and 8.3.2, respectively). A separate figure set depicting which methods were used to identify wetland presence (as specified in Section 8.3.3) is not included as all wetlands were identified by field wetland delineation.

The mapping extent of field-delineated wetlands is only within the Project Study Area near areas considered for the proposed facilities. Properties owned by non-participating landowners were not investigated; therefore, actual wetlands may continue beyond the edges of mapped features.

4.1.6.2 Land Ownership Maps, minimum scale 1:10,000 (map extent to 1.0 mile from the project boundary).

Appendix A - 4.1.6.2 Land Ownership Map shows the following features: current parcel boundaries and landowners, roads, municipal boundaries, Project Study Area boundary, Primary Array, Alternate Array, access roads, collector circuits, and topographic contours.

4.1.6.3 Public Lands.

Appendix A - 4.1.6.3 Public Lands Map is a figure displaying public and managed lands within two miles of the Project Study Area. This figure illustrates public land data including national, state, and county forests; parks, trails, and other managed lands as identified through the WDNR, USFWS, and U.S. Geological Survey ("USGS") Gap Analysis data.

4.1.6.4 Land Cover.

Appendix A - 4.1.6.4 Land Cover Map is a figure displaying the land cover types within the Project Study Area. Section 5.3 and Tables 5.3.2 and 5.3.3 provide summaries of the land cover types and those that will be impacted by Project construction or facilities.

4.1.6.5 Flood Insurance Rate Maps (within the project boundary). Provide flood insurance maps if the site is within 0.5 miles of a floodplain.

Appendix A - 4.1.6.5 Flood Map is a figure displaying the digital flood information within two miles of the Project Study Area. The figure displays digital Flood Insurance Rate Maps ("FIRMs") data acquired from the Federal Emergency Management Agency ("FEMA") website.

4.1.6.6 Soil Survey Maps (within the project boundary).

Appendix A - 4.1.6.6 Soils Map is a figure displaying the Project Study Area. It illustrates soil information acquired from the U.S. Department of Agriculture ("USDA") Natural Resources Conservation Service ("NRCS") Soil Survey Geographic Database.

4.1.6.7 Bedrock Maps (within the project boundary). Map showing depth to bedrock for the entire project area.

Appendix A - 4.1.6.7 Bedrock Map presents the bedrock geological information gathered for the Project Study Area. The information is from state/regional-scale studies and not from geotechnical data. Appendix H contains the geotechnical study report for the Project.

4.1.7 Community Maps

4.1.7.1 Zoning Maps

See the map labeled Appendix A - 4.1.7.1 Zoning Map. The map includes the Project Study Area and existing zoning out to 0.5 mile beyond the boundaries of the Project Study Area.

4.1.7.2 Sensitive Sites

Figure 4.1.7.2 is not necessary as no schools, day care centers, hospitals, or nursing homes were identified within 0.5 miles of the Project Study Area.

4.1.7.3 Airports

See map labeled Appendix A - 4.1.7.3 Airport Maps. The map includes all FAA airports within two and ten miles of the Project Study Area. There are two FAA airports directly on (but not within) the ten-mile buffer for the Project Boundary. This figure was included to show these two airports even though neither are located within the ten-mile buffer.

4.1.8 Communication Infrastructure

4.1.8.1 Identify radio, television, microwave towers, and any NEXRAD or Doppler weather radar installations on a map and show the results of the line of site analysis. Include communications and NEXRAD/Doppler installations within a 50-mile radius of the project area.

Figure 4.1.8.1 is not included because PSCW staff have indicated this information is not necessary for solar CPCN applications.

4.2 GIS Shapefiles – Provide GIS shapefiles and attributes as listed below.

All Project maps were created using ESRI ArcGIS Version 10.4 or higher. A spreadsheet of each GIS file, including the description of the data, the data source, and the date of when the data was generated or collected is provided as part of the GIS data disc, Appendix F – GIS Shapefiles. GIS shapefiles provided on the data disc include all features described in Table 4.2 located in Appendix I – GIS Data.

4.3 Topography – Raster files of topographic features within the project area and surrounding landscape (2-mile radius of the project area).

See Appendix A - 4.3 Project Topographic Maps for site topographic maps. Raster files have been provided in Appendix F – GIS Data.

4.4 Photo Simulations

Existing aesthetic conditions of the Project Study Area and its vicinity were documented with photographs taken during July 2020. A subset of photographs collected during a site visit served as the baseline images for the creation of visual simulations. The simulations show rendered views that include the proposed solar arrays and collector substation as proposed in engineering and plan documents.

Prior to commencing the photo simulation tasks for the Project, Springfield Solar consulted with Commission staff to determine the suitability of potential Key Observation Points ("KOPs"). Five KOPs and an alternate KOP were selected and used to create visual simulations of what the project may look like once constructed:

- KOP A View northwest from County Highway HH, near Richard Road
- KOP B View northeast from County Highway HH, near Richard Road
- KOP C View northeast from STH 175
- KOP D View west northwest from STH 175, near Lithostone Drive
- KOP E View northwest from STH Highway 49
- KOP F (Alternate) View southwest from County Road AY

A summary depicting the existing and simulated conditions is provided in Appendix G. It contains baseline photographs and visual simulations for the listed KOPs.

5 Natural and Community Resources, Description and Potential Impacts

5.1 Site Geology

5.1.1 Describe the geology of the project area.

Dodge County lies within the Eastern Ridges and Lowlands of the Central Lowland Physiographic Province of the United States. Characteristic features of the Central Lowland province are flat lands with geomorphic remnants of glaciation. The Project is located in the Southeast Glacial Plain of Wisconsin, underlain by limestone and dolomite with some sandstone and shale, generally covered by a thick layer of glacial deposits that originated during the last part of the Wisconsin Glaciation.

Bedrock within the Project is underlain by Ordovician dolomite and some limestone, sandstone, and shale are present within these rock layers. Depth to bedrock in most of the Project Area is between 3.6 to 7.9 meters (12 to 26 feet) below the surface. USDA NRCS Soil Survey Geographic Database ("SSURGO") mapping indicates that depth to a restrictive layer for most of the Project Area is greater than 2 meters (6.5 feet), with some areas less than one meter.

The Project Area is located in northeastern Dodge County. Soils in this portion of the county are described as nearly level outwash and lake plains to undulating and rolling on till plains. Soils are derived from lime-rich tills overlain in most areas by a silt-loam loess cap. The majority of land cover and land use in the general area is row crops and pasture.

5.1.2 Geotechnical Report on Soil Conditions.

A desktop geotechnical review and preliminary geotechnical field investigation was performed for the Project. Summary reporting for desktop and field geotechnical investigations is included in Appendix H.

5.1.2.1 Provide a summary of conclusions from any geotechnical report or evaluation of soils in the project area including (subjects in bullets below):

Springfield Solar commissioned Terracon Consultants, Inc. to perform a desktop review and preliminary subsurface exploration and geotechnical engineering evaluation for the Project. The purpose of the investigation and report was to explore subsurface conditions, conduct field and laboratory testing to characterize the subsurface soils and bedrock properties, and to provide preliminary geotechnical engineering parameters for the design and installation of the tracking systems for the solar panels.

Summary reporting for desktop and field geotechnical investigations is included in Appendix H.

 Results of soil borings including a review of soil bearing capacity and soil settlement potential.

Twelve soil test borings were performed for the Project at select locations within and adjacent to the Project Area. Borings were conducted to a depth of 7 to 16 feet, and were terminated due to auger refusal on probable cobbles, boulders, or possibly bedrock. Soil boring and test pit locations are shown in Figure 1 in the Geotechnical Report located in Appendix H.

According to the geotechnical evaluation, a majority of the Project has a topsoil thickness ranging from about five to eight inches thick, generally underlain by cohesive soils comprised of lean clay, silty clay, and sandy lean clay, extending to the boring termination depths.

Groundwater was not encountered during auger advancement at 11 of the 12 borings. Wet soil and groundwater were encountered in one boring at a depth of approximately three feet. Estimated groundwater depths at the specific boring locations at the time of drilling are presented in Table 1 (Soil Data) enclosed in Appendix C of the Terracon Geotechnical Report.

• Soil conditions related to site geology that might create circumstances requiring special methods or management during construction.

The soils within the Project are frost-susceptible and the frost heave interaction of fine-grained surface soils on pile foundations can be significant. Based on a review of soil samples and published soils maps for the area, Terracon anticipates that frost heave stress would be approximately 1,500 pounds per square foot along the pile perimeter to the frost development depth. Side and lateral resistance for the site soils are anticipated to be satisfactory for conventional pile foundation design.

Groundwater is not anticipated to be encountered during typical excavations at this site.

Evaluation and recommendations regarding general site grading, service roads, solar array, equipment slabs, and seismic classification are provided in detail in the Terracon Geotechnical report.

5.1.2.2 Depth to bedrock

 Identify any sites where panel supports or foundation construction must be modified because of the presence of bedrock, and construction methods and foundation issues associated with situations where bedrock formations are near the surface.

Cobble and potential bedrock were encountered between 7 and 16 feet below ground surface. Pre-drilling may be required in some areas if pile driving encounters difficulties. Additional design-level geotechnical investigations may be required to fully understand subsurface conditions and how they may impact construction of the Project.

 Likelihood or potential that construction on bedrock formations may negatively impact private wells within two miles of panel sites.

It is not anticipated that construction impacts to bedrock formations will negatively impact private wells within two miles of the Project.

5.2 Topography

- 5.2.1 Describe the general topography of the project area.
- Raster files of topographic features within the project area and surrounding landscape (10-mile radius of the project area).

Raster files of topographic features within the Project Boundary and surrounding landscape, including the area within a ten-mile radius, can be found in the electronic files provided for section 4.2.

The surface topography of the Project Area is relatively flat across most of its extent, ranging from elevations approximately 990 feet above mean sea level ("msl") to 1,120 feet msl. Along the western edge of the Project, the topography gradually drops down to Kiefer (Kummel) Creek, which flows through the Village of Brownsville, ranging from approximately 1,000 feet msl near the top of the slopes to approximately 980 feet msl along Kiefer (Kummel) Creek.

5.2.2 Describe expected changes to site topography due to grading activities.

The topography of the Project will not be substantially changed by construction activities including installation of the foundations for the tracking systems and trenching for the collection system. Other than grading requirements for the substation/step-up transformer and other localized areas, no significant grading is anticipated. Panel arrays will be designed and constructed to conform to the existing topography to avoid the need for significant grading. However, some localized grading will be necessary to meet racking tolerances. Access roads will be constructed as close to existing grade as possible; maintaining preconstruction hydrologic flow patterns.

Upon completion of construction activities, the areas temporarily impacted due to construction activities will be returned to their pre-construction topography.

5.3 Land Cover

The Project is located in a predominately agricultural rural landscape, between the Villages of Brownsville and Lomira. The agricultural areas' crops consists of corn, soybean, alfalfa, and peas. Non-agricultural upland within the Project Study Area consists primarily of untilled edges of active agricultural fields, forest, and roadside. Figure 4.1.6.4 in Appendix A provides an overview of the land cover existing within the Project Boundary.

Due to recent PSCW data requests on other recently submitted solar CPCN applications, Springfield Solar is including a separate land cover table that provides a summary of land cover (including wetlands and waterways), archaeological/historic sites, endangered resources, and participating and non-participating landowners within and adjacent to the fenced solar production areas (Array IDs). This table is included in Appendix V.

5.3.1 List and identify the dominant plants in the following land cover categories. Analysis should use recent data not greater than two years old. Land cover can be based on recent aerial imagery or on-site evaluation. Include an estimate of the number of acres within each land cover category. Include a table that identifies each land cover type along with the estimated number of acres within the project area. Explain what method was used to calculate the areas reported.

The vegetative communities within the Project were evaluated by a combination of aerial photographic review and field visits during 2020. A summary of the vegetative communities follows.

5.3.1.1 Agricultural

The dominant vegetation is comprised of actively cropped agricultural land. No pastured lands exist in the Project Area. The agricultural areas' crops consisted of corn, soybean, alfalfa, and peas. Other agricultural field species were common dandelion (Taraxacum officinale), common plantain (Plantago major), orchard grass (Dactylis glomerate), purslane speedwell (Veronica peregrina), and white clover (Trifolium repens).

5.3.1.2 Non-Agricultural Upland

Non-agricultural upland within the Study Area consisted primarily of the untilled edges of agricultural fields, forest, and roadside.

Upland forests were dominated by black cherry (Prunus serotina), white pine (Pinus strobus), swamp white oak (Quercus bicolor), white oak (Quercus alba), boxelder (Acer negundo), common buckthorn (Rhamnus cathartica), black walnut (Juglans nigra), gray dogwood (Cornus racemosa), garlic mustard (Alliaria petiolate), dame's rocket (Hesperis matronalis), and common burdock (Arctium minus). Upland roadsides were dominated by Kentucky bluegrass (Poa pratensis) and smooth brome (Bromus inermis).

Approximately 10.3 acres of upland forested land is proposed to be cleared for this Project. Clearing will occur within Alternate Array A3 (2.6 acres) and Primary Array P5 (7.7 acres) prior to the start of construction. Additional details are provided in Section 5.5.

5.3.1.3 Wetlands (Eggers and Reed classification type)

A total of 13 wetlands were identified within the Project Study Area in the northwestern Alternate Array area and in the southern portion of the STH 49 and STH 175 intersection. The wetlands delineated within the Project Study Area are further summarized in the Wetland Delineation Report in Appendix I. A summary of the wetland communities is also included in WDNR Tables 1 and 2 in Appendix U.

The field-delineated wetlands located with the Project Study Area consist of low-quality farmed, fresh (wet) meadow, and hardwood swamp wetlands. A summary of the wetland communities surveyed within the Project Study Area is presented below:

Typical fresh (wet) meadow vegetation includes reed canary grass (Phalaris arundinacea), various sedges (Carex, spp.), orange jewelweed (Impatiens capensis), and narrowleaf cattail (Typha angustifolia). Fresh (wet) meadow wetlands located within the roadside ditch are considered degraded due to past grading/construction practices and the presence of invasive plant species.

Typical farmed wetland vegetation includes varying degrees of herbaceous agricultural weed coverage and stunted crops depending on degree of ponded conditions. Common herbaceous species includes field nut sedge (Cyperus esculentus), redtop (Agrostis gigantea), lady's thumb smartweed (Persicaria maculosa), barnyard grass (Echinochloa crus-galli), and giant ragweed (Ambrosia trifida). Farmed wetlands are considered degraded due to historic agricultural practices.

Dominant species included in the hardwood swamp areas delineated within the Project Study Area include green ash (Fraxinus pennsylvanica), swamp white oak (Quercus bicolor), box elder maple (Acer negundo), garlic mustard (Alliaria petiolate), and orange jewelweed (Impatiens capensis). The hardwood swamp wetland community was only identified within the Project Study Area and outside the Project Boundary; no hardwood swamp wetlands are located within the Project Boundary.

No wetlands will be impacted by the Project as currently proposed.

5.3.1.4 Developed land

- Residential
- Commercial/Industrial

Developed land within the Project includes residential, commercial/industrial, and roadways. Maintained gravel, paved, or lawn areas surrounding buildings are considered developed and are included in the total acreage of developed land. The Project Study Area includes approximately 24 acres of developed land.

Table 5.3-1 Total Land Cover

Acres of Land Cover Categories within Project Study Area (acres)				
Land Cover Cla	Acres ¹			
Agriculture	Cropland	884.2		
	Specialty Crops	0.0		
	Grassland	2.5		
Non-Agricultural Upland	Upland Wooded	20.1		
	Fallow Field	0.0		
Wetlands/Waterbodies	Forested Wetland	2.6		
	Non-Forested Wetland	2.5		
	Open Water	0.0		
Developed Land	Residential	9.6		
Developed Land	Developed/Urban	14.4		
	935.9			

¹Both solar panel and above-ground and underground collector line portions outside of the Project Boundary are included in the Project Study Area used to calculate land cover acres.

5.3.1.5 Floodplains.

The Project is not located within a regulatory floodplain. The nearest floodplain is associated with Kiefer (Kummel) Creek and is located approximately 500 feet southwest of Alternate Array A1. This floodplain is located within the Village of Brownsville.

5.3.2 Land Cover Impacts – In table format, estimate the number of acres, in each land cover type identified in Section 5.3.2, that would be affected by project construction and or facilities.

Land cover impacts are summarized in Table 5.3-2 by the land cover categories described in Section 5.3.2 of the AFR. Impacts have been calculated within GIS software utilizing the previously described land cover digitized dataset and polygons representing the footprints of Project facilities. Land within the solar array fence line is considered impacted; however, the area (exclusive of access roads) will be revegetated as described in Section 5.5. Several small, farmed wetlands are located within the Project Boundary; however, none are located within the Primary and Alternate Array fences. All field-delineated wetlands have been avoided in the design of the panel arrays and associated facilities and no permanent or temporary impacts will occur.

Collector circuits will be installed utilizing a combination of trenching and directional-boring methods. The directional-boring method will be utilized where collection crosses wetlands or waterways (Kiefer [Kummel] Creek within Alternate Array A1). No permanent or temporary impacts to wetlands or waterways are anticipated. Bore pits will be placed in previously disturbed upland areas, to be determined prior to construction.

Table 5.3-2. Land Cover Impacts (acres)

	Land Cover Impacts												
Land Cover Classification	Primary or Alternate Array	Solar Array (Up to fence line, exclusive of all associated array facilities) ¹		Array Access Roads ¹		Collector Circuits ¹		Inverters		Substation (Access Roads and Detention Basins) ²		O&M Building	
		Perm	Temp	Perm	Temp	Perm	Temp	Perm	Temp	Perm	Temp	Perm	Temp
Agricultural (Row/	Primary	554. 4	0.0	7.1	0.0	0.0	2.1	0.1	0.0	2.2	0.0	1.0	0.0
Traditional Crops) ³	Alternate	140. 2	0.0	3.4	0.0	0.0	0.1	0.0	0.0	2.2			
Non- Agricultural	Primary	7.7	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Upland (Wooded)	Alternate	2.6	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0			
Non- Agricultural Upland	Primary	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 0.0	0.0		0.0
(Prairie/ Grasslands/ Pasture/ Fallow Field)	Alternate	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	
Wetlands (farmed and	Primary	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
wet meadow only impacted) ⁴	Alternate	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00			
Waterbodies	Primary	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Alternate	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Developed and Residential	Primary	0.0	0.9	0.2	0.0	0.0	0.0	0.0	0.0	_ 0.0 C	0.0	0.0	0.0
(includes road ROW)	Alternate	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0				
Total	Primary	<u>563.</u> <u>7</u>	<u>24.6</u>	<u>7.4</u>	0.0	0.0	<u>2.1</u>	<u>0.1</u>	0.0	2.2 0.0		1.0	0.0
1 Januar eta iradu	Alternate	<u>142.</u> <u>8</u>	<u>9.0</u>	<u>3.5</u>	0.0	0.0	<u>0.1</u>	0.0	0.0		1.0	<u>0.0</u>	

¹ Impacts include area up to fence line; impacts associated with collection system within array fence line are included in "Solar Array" category. All permanent array access roads are represented in "Access Roads" category (Permanent).

5.3.2.1 Solar panel rows and pads

Land cover impacts associated with the solar panel rows and pads are included in Table 5.3-2.

² Impacts from substation include access road and detention basins. See text below for land cover summary of gen-tie line ROW.

³ No specialty crops will be impacted.

⁴ Approximately 5.1 acres of wetland is located within the Project Boundary. No wetlands are located inside the Primary and Alternate Array fence lines. All wetlands will be avoided by Project facilities.

5.3.2.2 Collector circuits. For collector circuits in wooded areas, disclose whether or not a ROW around the cables would be maintained in an open (no tree) condition.

Land cover impacts associated with the collector circuits are included in Table 5.3-2.

5.3.2.3 Access roads

Land cover impacts associated with the access roads are included in Table 5.3-2.

5.3.2.4 Substation

Land cover impacts associated with the substation are included in Table 5.3-2.

5.3.2.5 O&M Building

Land cover impacts associated with the O&M building are included in Table 5.3-2.

5.3.2.6 Generator tie line

The Project gen-tie line ROW includes 1.03 acres of predominantly agricultural land. No wetlands or other land cover types are present within the gen-tie line ROW. Land cover impacts associated with the gen-tie line are included in Table 5.3-2.

5.4 Invasive Species

5.4.1 Describe locations where invasive species, forest pests, or diseases have been observed in the project area (e.g., invasive plants, oak wilt, etc.). State if invasive species surveys have occurred or would be conducted. If invasive species surveys have been conducted, provide documentation showing where surveys occurred and locations of invasive species found, indicating which species.

The Project Study Area was evaluated for the presence of invasive species during field investigations in June and July 2020. The dominant species and general locations of the invasive species were noted on wetland delineation field mapping (Appendix I) and later digitized in GIS. The most dominant invasive plants found during the 2020 field investigations were reed canary grass, narrowleaf cattail, and garlic mustard.

5.4.2 Describe mitigation actions during construction that would be used to prevent the introduction or spread of invasive species, forest pests, or diseases.

Invasive species management for the Project may consist of spot cutting, mowing, and herbicide treatments. Vegetation management will be conducted prior to construction and/or the year following construction to prepare the Project Area for permanent seed installation.

Construction equipment that may come in contact with field-verified invasive species areas will be cleaned before arriving and prior to leaving the Project. Cleaning of construction equipment may consist of brushing, power washing, and steam cleaning.

5.4.3 Describe planned ongoing invasive species monitoring and management for the project during operations.

Invasive and weed species management will be conducted as needed to reduce the spread of invasive species from existing populations, improve establishment and success of the permanent seed mixes, and reduce vegetation impacts to the PV panels and solar facility infrastructure.

Flowering non-native species that are not considered invasive and do not have heights that would interfere with the Project operations will not be actively managed.

Vegetation cutting shall be appropriately timed to assist with control of invasive species (e.g., mow annual and biennial species during flowering but prior to seed production) and to remove vegetation to assist with site seedbed preparation.

Herbicide treatments are recommended for management of perennial invasive and noxious species, as mowing alone is not typically sufficient for adequate control. Ongoing management of invasive and noxious species is required for compliance. Herbicides are also used to remove undesirable vegetation to prepare for permanent seed installation. Additional information regarding invasive species management is provided in the Vegetation Management Plan included in Appendix J.

5.5 Vegetation Management and Site Restoration

5.5.1 Provide a vegetation removal plan that discusses the types and locations where vegetation would be removed (e.g. herbaceous, agricultural crop clearing, shrub/forest clearing, etc.), the timing of vegetation removal, and the equipment to be used.

The Project's Vegetation Management Plan is included in Appendix J. Additional details about vegetation removal, timing, and equipment can be found in the Vegetation Management Plan.

Approximately 10.3 acres of upland forested land is proposed to be cleared for this Project. Clearing will occur within Alternate Array A3 (2.6 acres) and Primary Array P5 (7.7 acres) prior to the start of construction. The upland forested areas proposed to be cleared consist of highly disturbed areas dominated by box elder, white pine, black walnut, and common buckthorn. These two forested areas were adversely impacted by a tornado that passed through the Project Study Area in the summer of 2018. Most of the trees were either broken off or significantly damaged, with tree debris littering the area. Invasive species (common buckthorn) have begun to take over these areas.

Trees will be removed using heavy equipment. Prior to clearing and where applicable, perimeter BMPs will be installed to minimize issues with erosion from the removal of vegetation. Cut logs will be piled around the perimeter of the forested areas prior to transport off the Project or for landowner use. Stumps are proposed to either be removed or ground prior to preliminary grading and temporary seeding. The cleared areas will be stabilized with permanent seed mixes detailed in the Vegetation Management Plan in Appendix J.

5.5.2 Provide a detailed revegetation and site restoration plan that discusses the following items:

5.5.2.1 Types of revegetation proposed for impacted areas. Include seed mixes, if known, and if seed mixes would be pollinator friendly.

Proposed permanent seed mixes are provided in Section 4.1 of the Vegetation Management Plan included in Appendix J. A description of the mixes and installation location is provided below.

Proposed seeding locations are dependent on the final design (e.g., distance between panels, fence placement, etc.). Three permanent seed mixes are proposed for the Project:

- 1. Low-growth native / non-native graminoid seed mix for PV panel areas
- 2. Pollinator refuge prairie seed mix for select buffer areas
- 3. Pollinator refuge wetland native seed mix for wetlands (No field-delineated wetlands are currently located within array fences. This mix will only be used if wetlands are disturbed as part of construction of the Project.)
- 5.5.2.2 Vegetation monitoring and management protocols for subsequent years after construction.

All areas will require some form of ongoing maintenance to establish and maintain desirable vegetation that is compatible with PV panels and Project operations. Maintenance is expected to be most intensive in the establishment phase, or approximately 2 to 3 years following seeding as desirable species germinate, grow, and mature. In general, native species take longer to mature than non-native species. Monitoring will occur to confirm compatibility of vegetation with facility goals concurrently with routine vegetation maintenance activities.

Frequent cutting is typically required during the establishment phase (years 1 and 2 post-seeding) to reduce fast-growing weeds, minimize vegetation height under the PV panels, and assist with growth of planted species. This applies to all seed mixes. Mowing should be conducted when vegetation reaches a height of 8-12 inches. Anticipated establishment mowing will occur 4 weeks following seeding and every 4-6 weeks thereafter from mid-spring to mid-fall. Actual mowing frequency is dependent upon soil moisture; dry periods will reduce mowing frequency.

Years 3-5 represent a transition phase where desirable vegetation becomes increasingly established but remains susceptible to weed growth. The frequency of cutting may be reduced (approximately once per year), or transition to selective mowing to target specific areas of weed growth and minimize vegetation height under the PV panels.

Over the long-term (years 6-30), mowing should occur at least once every other year. Long-term mowing benefits low growing grasses by reducing thatch that hinders sunlight. Mowing at this time may be done to reduce thatch and litter build-up and minimize the establishment of woody vegetation.

The Project's Vegetation Management Plan is attached as Appendix J.

5.6 Wildlife

Wildlife habitat found within the Project Area was identified based on desktop habitat review, field investigations and observations, and state and federal information on threatened and endangered species.

5.6.1 Describe existing wildlife resources and estimate expected impacts to plant and animal habitats and populations.

The Project Study Area consists of mostly active agricultural land that provide suitable habitat for a variety of common Wisconsin wildlife and plant species. Typical mammals found in these habitats

in central Wisconsin include white-tailed deer (Odocoileus virginianus), coyote (Canis latrans), common raccoon (Procyon lotor), red fox (Vulpes vulpes), eastern gray squirrel (Sciurus carolinensis), groundhog (Marmota monax), opossum (Didelphimorphia), rabbits (Sylvilagus floridanus), and mice (Peromyscus maniculatus), amongst others. Wildlife may utilize agricultural land and adjacent forested habitats to forage, shelter, and to move through the surrounding landscape.

Numerous bird species may also be found in the Project Study Area and their presence varies depending on time of year. Typical breeding bird species likely to occur within the Project Area include red-tailed hawk (Buteo jamaicensis), horned lark (Eremophila alpestris), tree swallow (Tachycineta bicolor), American robin (Turdus migratorius), gray catbird (Dumetella carolinensis), common yellowthroat (Geothlypis trichas), song sparrow (Melospiza melodia), and red-winged blackbird (Agelaius phoeniceus).

The Project is anticipated to have minimal impact on wildlife species and their preferred habitats since the majority of the Project Study Area consists of active agriculture. No significant wildlife habitat is expected to be lost as a result of Project construction. After construction is complete, Geronimo will revegetate the Project with a mix of native and non-native perennial grasses and sedges. A pollinator-friendly seed mix will be incorporated in select open spaces between solar production area and the perimeter fence. It is anticipated that revegetation of the Project with a permanent cover of vegetation will maintain suitable habitat for a variety of wildlife species including pollinating insects, nesting birds, and small mammals.

The fence that will be used to surround and provide security to the Project will consist of a sevento eight-foot-high deer exclusion fencing. The Project substation will require a six- to eight-foot high chain link fence which may include three strands of barb wire at the top. A schematic of the proposed Project fencing is found in Appendix B.

Based on the lack of existing available habitat and list of species likely to occur within the Project Study Area, Springfield Solar does not anticipate any adverse impacts to plant and animal populations.

5.6.2 Wildlife pre-construction surveys. (See Habitat Surveys and Biological Assessments in the Introduction.)

No specific pre-construction wildlife surveys were completed. See Section 5.6.2.1 below for additional information regarding agency consultations regarding wildlife.

5.6.2.1 Provide a summary of pre-application consultation meetings held with DNR or USFWS for the purposes of determining whether or not any pre-construction wildlife studies would be required for the project.

Springfield Solar consulted with both the WDNR and USFWS for the purpose of determining whether pre-construction wildlife studies would be required for the Project. Both the WDNR and the USFWS indicated that no species-specific wildlife studies would be required for the Project, and no further actions for endangered resources would be required for the Project.

An Endangered Resource ("ER") Review was completed by Springfield Solar's consultant on June 18, 2020. The review showed that no element occurrences ("EO") or rare habitat features are

present within the Project Study Area. An ER Review Verification Broad Incidental Take Permit/Authorization for No/Low Impact Activities (Form 1700-079) was sent to WDNR via email on June 18, 2020. An email correspondence from WDNR acknowledging the receipt of the ER Review Verification Form stated that the form had been reviewed and filed. No further actions regarding endangered resources are required for the Project per this consultation.

On June 25, 2020, Springfield Solar's consultant requested and received an Official Species List report for the Project (Consultation Code 03E17000-2020-SLI-1464) from the USFWS. Springfield Solar received a response from USFWS on July 10, 2020. The response indicated that there are no federally listed species documented within the Project Study Area and noted that the Project is located within the geographical range or may contain suitable habitat for the following federally listed species:

- Suitable habitat for the northern long-eared bat ("NLEB", Myotis septentrionalis) may exist within the Project Study Area. No documented records of NLEB exist within the vicinity of the Project Study Area. USFWS recommended that tree removal occur between November 1 and April 1 or at minimum avoid removing trees outside of the pup season (June 1-July 31).
- Whooping cranes (*Grus americana*) may use the agricultural fields within the Project Study Area during migration, although no suitable habitat is present within the Project Study Area. Due to loss of quality stopover habitat within the Project Study Area, negative impacts to this species are not anticipated.
- The rusty-patched bumblebee (RPBB, *Bombus affinis*) is in the geographical range of the Project Study Area. No negative impacts to this species are anticipated. The USFWS recommended that Springfield Solar provide suitable habitat for this species in the post-construction vegetation management plan.
- 5.6.2.2 If, after consultation with DNR or USFWS, wildlife pre-construction studies are required, provide the following:
 - A copy of the approved survey methodologies for any studies including the species of interest, dates of surveys, and a schedule for releasing data and reports to the PSC and DNR.
 - Copies of all data collected for all pre-construction studies (data should be provided using a format acceptable to DNR and PSC staff).
 - Final report/s or analyses prepared using the data collected.
 - Provide any monitoring and response protocol for wildlife accessing the solar arrays.

No wildlife pre-construction studies are required per consultation with the WDNR or USFWS.

5.7 Public Lands and Recreation

To assess the Project for the presence of public lands, recreational sites, and other special use areas, the following were reviewed: USGS Protected Areas Database of the U.S. ("PADUS"), USGS topographic maps, aerial photographs, agency databases, and the internet (i.e., Google Earth,

Google Maps). Geronimo also consulted with the USFWS and WDNR for natural resource areas, such as USFWS wetland easements and state lands, and contacted the planning department staff and reviewed the Dodge County website for any special areas.

A GIS file of public lands within two miles of the Project boundary, is included with this submission. A map showing federal, state, county, and local properties within two miles of the Project Area is included as Figure 4.1.6.3 in Appendix A.

5.7.1 State properties, including but not limited to: Wildlife Areas, Fisheries Areas, and State Parks and Forests

No state properties are located within the Project Boundary or within two miles of the Project (see Figure 4.1.6.3 in Appendix A). Four privately owned, WDNR-managed Forest Law properties are located within two miles of the Project. The Project will likely not be visible from these properties due to distance, topography, and tree cover.

5.7.2 Federal properties, including but not limited to: Wildlife Refuges, Parks, and Scenic Riverways

No federal properties, (including Wildlife Refuges, Parks, and Scenic Riverways) are located within the Project Boundary or within two miles of the Project.

5.7.3 County Parks

No county parks are located within the Project Boundary or within two miles of the Project.

5.7.4 Recreation Trails

No recreational trails are located within the Project Boundary or within two miles of the Project.

5.7.5 Identify the owner/manager of each recreation resource.

No state, federal, county-owned, or other special use areas are located within the Project Boundary or within two miles of the Project.

5.7.6 Provide any communications with these owners/managers.

No state, federal, county owned, or other special use areas are located within the Project Boundary or within two miles of the Project, therefore no communications with the land owner/managers has occurred.

5.7.7 Discuss how short and long-term impacts to these resources would be avoided and/or minimized.

No state, federal, county-owned, or other special use areas are located within the Project Boundary or within two miles of the Project, therefore no short or long-term impacts are anticipated.

5.8 Contaminated Sites

List all contaminated sites and solid waste sites within the project area, and in a separate list, all contaminated sites and solid waste sites within two miles of the project area boundary.

5.8.1 Using the Wisconsin Remediation and Redevelopment Database ("WRRD"), http://dnr.wi.gov/topic/Brownfields/WRRD.html, identify any contaminated sites (open and closed) within the project area and within 2 miles of the project area.

According to a records search conducted by GeoSearch on August 20, 2020, there are 54 open/closed contaminated sites within a two-mile radius of the Project. Information on these sites was obtained from the WRRD. The databases are listed in the table below.

WRRE) Sites
Leaking Underground Storage Tank	18
(LUST)	
SPILLS	26
No Action Required (NAR)	9
Voluntary Party Liability Exemption (VPLE)	0
Superfund National Priorities List (NPL)	0
Drycleaner Environmental Response Fund	0
(DERF)	
Wisconsin Ready for Reuse Loan and	1
Grant Program (Brownfield) Sites	
Site Assessment Grants (SAG)	0

5.8.2 Using the Historic Registry of Waste Disposal Sites, http://dnr.wi.gov/topic/Landfills/registry.html, identify any Environmental Repair and Solid Waste disposal sites within the project area and within 2 miles of the project area.

According to a records search conducted by GeoSearch on August 20, 2020, there are 46 Historic Registry of Waste Disposal Sites located within two miles of the Project. The databases searched include Solid and Hazardous Waste Information Management System ("SHWIMS"), Licensed Solid Waste Landfills ("SWLF"), Historic Registry of Waste Disposal Sites ("HISTWDS"), and Environmental Repair Program ("ERP"). Based on one or more of the following reasons, the sites listed in the GeoSearch report are not expected to present an environmental concern with respect to the Study Area: distance from the Study Area, position of sites with respect to assumed groundwater flow direction, the presence of low permeability native soils, and regulatory status.

Historic Registry of Waste Disposal Sites				
SHWIMS	31			
SWLF	0			
HISTWDS	4			
ERP	11			

5.9 Floodplain

5.9.1 Identify any work occurring in floodplains or flood-prone areas.

The Project is not located within a floodplain or flood-prone area. The nearest mapped floodplain is associated with Kiefer (Kummel) Creek, located within the Village of Brownsville and adjacent to

an Alternate Array A1 (approximately 500 feet southwest).

5.9.2 Discuss if impacts to the floodplain have been evaluated, and how impacts to the floodplain will be avoided or minimized.

The Project is not located within a floodplain or flood-prone area.

5.9.3 Provide information on any discussions that have occurred with the application floodplain zoning authority, and how the project will comply with local floodplain ordinance(s).

The Project is not located within a floodplain or flood-prone area; therefore, no discussion with the floodplain zoning authorities has occurred.

5.10 Local Zoning and Safety

5.10.1 through 5.10.5

Sections 5.10.1 through 5.10.5 only apply to public utilities. Therefore, these sections are not included in this application.

5.10.6 Provide a list of potential local issues normally associated with zoning, road use and safety, or other condition uses.

The Project Boundary is located within the A-1 Prime Agricultural Zoning District and A-2 General Agriculture of Dodge County. A small portion of Alternate Array A-3 (southern portion) is located within R-1 Single Family Residential zoning.

Springfield Solar is coordinating with Dodge County, the Town of Lomira, Village of Lomira, and Village of Brownsville in an attempt to establish development agreements that will address the localities' concerns regarding the Project.

5.10.6.1 Provide copies of all correspondence to and from local government pertaining to issues of zoning, safety, or local road use safety plans.

Communications with Dodge County, the Town of Lomira, Village of Lomira, and Village of Brownsville regarding the development agreements are ongoing. Details about outreach to local municipalities is outlined in Section 7.2, below.

5.10.6.2 Provide a discussion of how local concerns will be accommodated.

Springfield Solar has met and coordinated with the Town of Lomira, Village of Brownsville, and Dodge County representatives as well as with the larger community to discuss local issues. Springfield Solar will continue to work proactively with the Town, Villages, County, and communities to identify and address issues and concerns should they arise. The Project's goal is to utilize development agreements with the local government units to address concerns.

5.10.7 Describe any impacts the proposed project would have on existing infrastructure including electric distribution lines and gas pipelines.

A gas pipeline owned by Guardian Pipeline bisects a portion of the Project. As currently designed Springfield Solar will require a consent and crossing for its underground electrical connection of its solar array footprint. Through obtainment of a consent and crossing, the Project will not impact

the existing infrastructure.

The Project will be constructed near a natural gas pipeline as well an electric transmission line. The panel and associated facilities siting/layout will not encroach on the easements of these utilities.

5.11 Land Use Plans

Project facilities will be located in the Town and Village of Lomira within Dodge County.

5.11.6 through 5.11.4 County Recreation Plans, Farmland Preservation Plans, Highway Development Plans, Sewer Service Area Plans

Land use plans, zoning ordinances, and relevant planning documents are listed in Table 5.11-1 and provided in Appendix E.

Table 5.11-1 Land Use Plans and Ordinances

Government	Plan or Ordinance			
Town of Lomira	Town of Lomira Code of Ordinances			
Village of Lomira	Village of Lomira Zoning Ordinance			
Village of Lorrilla	Village of Lomira Comprehensive Plan			
	Dodge County Zoning Ordinance			
Dodge County	Dodge County Shoreland Protection Ordinance			
	Dodge County Comprehensive Plan			

5.12 Archaeological and Historical Resources

Stantec conducted an initial cultural resources database review, created an archaeological site probability model, and conducted field investigations to identify any cultural resources present within the Springfield Solar Project Boundary. The results of the cultural resources database review indicated that 14 archaeological surveys have been conducted within one mile of the Project, including three surveys conducted within a participating parcel. Five archaeological sites are within one mile of the Project, including one located within a participating parcel. While none of the six recorded cemeteries and burial sites are within the Project, the Lomira Cemetery is located adjacent to a participating parcel. Finally, 18 cataloged historic structures are located within one mile of the Project. While none are located within a participating parcel, five of the cataloged structures are within 0.3 miles of a participating parcel.

Archaeological site-location modeling was used to identify areas of high potential for archaeological sites. Stantec identified the area of high archaeological site potential through review of the Wisconsin Historic Preservation Database online archaeological site files and historical maps mainly postdating the Civil War. High potential for prehistoric Native American sites was found to be within 300 feet of sources of water, in this instance Kiefer (Kummel) Creek and its tributaries. Further, site locations were restricted to areas with less than 15 percent slope and on soil types that were not subject to frequent flooding.

Stantec archaeologists conducted a pedestrian survey of 42.4 acres of high prehistoric Native American and Historic period Euro-American archaeological site potential. The pedestrian survey resulted in the identification of three Historic period sites with artifacts dating from the late nineteenth to twentieth centuries. No prehistoric Native American archaeological sites were identified.

In conclusion, the cultural resources investigations determined that there will likely be no adverse effects associated with the siting and construction of the Project on cultural resources listed in or eligible for either the National Register of Historic Places ("NRHP") or the Wisconsin State Register of Historic Places. No significant cultural resources will be impacted by the Project. The Cultural Resource Due Diligence Report is included in Appendix K.

5.12.1 Provide maps or GIS files and a description of all archaeological sites, historic buildings and districts, and human burial sites within or near the proposed project area.

Mapping of archaeological, historic buildings and districts, and human burial sites are included in the Cultural Resources Due Diligence Report included in Appendix K.

5.12.2 Determine the boundaries, historic significance, and integrity of each resource. Additional field surveys may be required to make these determinations.

Springfield Solar's consultant (Stantec) completed field surveys within archaeological site high-probability (determined from site probability modeling completed in June 2020) areas within the Project during the weeks of July 13 and 20, 2020. The three Historic period sites identified during the pedestrian survey yielded assemblages with both few artifacts and artifacts that predominantly date to the twentieth century. The artifacts from all three sites are common types, and disturbance of the site areas by plowing suggests little potential for the presence of intact artifact deposits.

For the five cataloged historic structures within 0.3 mile of the Project, the Stantec field reconnaissance survey indicated that four are screened from proposed solar facilities by landscape trees, field tree lines, other residences, commercial structures, farm outbuildings, and in one instance, an interstate highway interchange. The fifth structure is not present at the location denoted within the Wisconsin Architecture and History Inventory database.

The Cultural Resource Due Diligence Report is included in Appendix K.

5.12.3 Identify the potential project effects on each resource.

The three historic period sites identified during the pedestrian survey appear to lack subsurface integrity and robust data sets that would allow researchers to address questions important to the understanding of local history. Stantec does not recommend further archaeological investigations at Historic period sites.

For the five cataloged historic structures, based on the screening between the cataloged structures and the solar facilities, Stantec concluded that the proposed Project will not have an adverse effect on these resources. As such, Stantec has not evaluated the unevaluated structures for eligibility for listing in the NRHP.

The Cultural Resource Due Diligence Report is included in Appendix K.

5.12.4 Describe modifications to the project that would reduce, eliminate, avoid, or otherwise mitigate effects on the resources. Examples of modifications include changes to construction locations, modified construction practices (e.g. use of low-pressure tires, matting, etc.), placement of protective barriers and warning signage, and construction monitoring.

No know cultural or historical sites will be impacted by the Project.

5.12.5 Obtain a Burial Site Disturbance Authorization/Permit from WHS for all human burial sites that would be affected by the project.

As described in the Cultural Resource Due Diligence Report (Appendix K). no known cemeteries or burial sites are present within the Project Area of Potential Effects ("APE") for direct effects. Six cemeteries and one burial site are located within the Project APE for indirect effects. The six cemeteries date to the Historic Euro-American period (post-1850) while the one burial site is of unknown age. All seven cemeteries and burial sites are marked, and the six cemeteries are currently active. Cemeteries and burial sites are protected under Wis. Stat. § 157.70. All but the Lomira or Old Community Cemetery, which is adjacent to a participating parcel along the east side of County Highway 175, are more than five feet from the nearest Project Boundary. None are closer than 500 feet from the nearest Project Boundary.

Springfield Solar will not be required to obtain a Burial Site Disturbance Authorization from the Wisconsin Historical Society.

5.12.6 Provide an unanticipated archaeological discoveries plan. The plan should outline procedures to be followed in the event of an unanticipated discovery of archaeological resources or human remains during construction activities for the project.

An unanticipated archaeological discoveries plan is included in the Cultural Resource Due Diligence Report included in Appendix K.

- 5.13 ER Review Endangered, Threatened, and Special Concern Species and Communities
- 5.13.1 Provide a copy of the completed ER screening and all supporting materials (see DNR Application Needs in the Introduction).

An ER Review was conducted for the Project to identify whether any state- or federally listed rare species, natural communities, or other natural features with element-occurrence records may occur within one mile of the Project Area. A Certified ER Review was submitted to the WDNR on June 18, 2020. The review showed that no EOs or rare habitat features are present within the Project Study Area. An ER Review Verification Broad Incidental Take Permit/Authorization for No/Low Impact Activities (Form 1700-079) was sent to WDNR via email on June 18, 2020. An email correspondence from WDNR acknowledging the receipt of the ER Review Verification Form stated that the form had been reviewed and filed on June 18, 2020. No further actions regarding endangered resources are required for the Project. The certified ER Review and corresponding agency responses are provided as Appendix L.

5.13.2 Discuss how any DNR-required actions to comply with endangered species law would be incorporated into the project construction or operation.

No further actions regarding endangered resources are required for the Project as discussed in Section 5.13.1.

5.13.3 Discuss how any DNR-recommended actions to comply with endangered species law would be incorporated into the project construction or operation.

No further actions regarding endangered resources are required for this the Project as discussed in Section 5.13.1.

5.14 Agricultural Impacts

5.14.1 Identify current agricultural practices in the project area.

The primary land use in the area is agricultural crop production (alfalfa, corn, soybeans, and peas). Dairy farm facilities are located near the Project Boundary, but not located within the Project Boundary.

5.14.2 Identify the location of agricultural drainage tiles, irrigation systems, erosion control and water management practices and facilities in the project area that could be impacted by construction activities or the location of the proposed facilities.

Dodge County does not have a comprehensive file detailing the drainage tile or irrigation systems within the proposed Project Boundary. Despite the lack of formal drainage tile documentation, Springfield Solar has engaged and will continue discussions with agricultural landowners supporting the Project to determine where drainage tiles exist.

Springfield Solar will coordinate with the participating landowners and will contract with a professional drainage tile company to locate, to the extent practicable, all drainage tiles potentially impacted by the Project once a PSCW order is issued and final Project designs are underway. Springfield Solar will attempt to refine the Project layout, if necessary, to avoid impacts to the existing drainage system, although some impacts may be unavoidable.

To the extent possible, major tile channels will be completely avoided. If impacts to a major tile line are unavoidable, the tile line will be rerouted post-construction. In the event that tile is damaged, cut, or removed as a result of trenching, it will be repaired or replaced depending on structural conditions. Springfield Solar will make efforts to complete permanent tile repairs within a reasonable timeframe, taking into account weather and soil conditions.

5.14.3 Identify any farming operations such as herd management, specialty crop production, field and building access, organic farming, etc. that could be impacted by the construction of the project.

Dairy farm facilities are located near the Project Boundary, but not within the Project Boundary. No impacts to herd management, specialty crop production, field and building access, or organic farming are anticipated for this Project. GIS information regarding confined animal facilities was gathered from state and county databases as well as field collected data. GIS database information

on confined animal operations is included in Appendix F.

5.14.4 Describe how damage to agricultural facilities and interference with farming operations would be minimized during construction.

No damage to agricultural facilities or interference with farming operations are anticipated during construction of the solar facilities. Minimal interference between Project construction equipment and farm equipment travelling on town, village and state roadways may occur, but is not anticipated to be an issue. The Project is being constructed on lands that are primarily comprised of agricultural land that were planted for the purpose of crop production. Approved and signed landowner agreements are in place for all solar facilities within the perimeter fence, therefore, farming activities will be halted during construction. The lands that are converted to solar production areas will be suitable for a return to agricultural farming activities at the end of the Project lifespan (assumed to be 20 to 30 years).

5.14.5 Describe how damage to agricultural facilities would be identified and repaired.

No damage to agricultural facilities is anticipated for this Project.

5.14.6 Identify any farmland affected by the project that is part of an Agricultural Enterprise Area.

The Project will not affect any farmland that is part of an Agricultural Enterprise Area.

5.14.7 Identify any lands within the project boundary that are enrolled in agricultural conservation or agricultural tax incentive programs. Describe the process for returning land to agricultural use after decommissioning, including any subsequent years of monitoring.

None of the project parcels are enrolled in the Conservation Reserve Program ("CRP").

5.14.8 Discuss induced voltage issues as they relate to the project arrays, collector circuits, and generator tie line. Provide the following information:

Identify the location of confined animal dairy operations within one-half mile of any proposed transmission or distribution centerline or other project facilities.

Five confined animal dairy operations and one dairy/stock cattle facility are located within 0.5 miles of the Project Boundary. One dairy operation is located approximately 100 feet west of Primary Array Area P5 (across STH 175), one dairy operation is located approximately 0.39 mile south of Primary Array P3, and one dairy operation is located approximately 0.46 mile northwest of Alternative Array Area A1. One dairy/stock cattle operation intersects the proposed aboveground collector line adjacent STH 49.

5.14.8.1 Identify the location of agricultural buildings located within 300 feet of any proposed transmission or distribution centerline or other project facilities.

One dairy/stock cattle facility is located within 300 feet of the distribution/collector centerline adjacent STH 49. The distribution/collector line will be installed above-ground within the existing STH 49 ROW; therefore, impacts to agricultural buildings are not anticipated.

One dairy cattle facility is located within 300 feet of Primary Array Area P5. This dairy facility is

located on the opposite side of STH 175 and is not located within the Project Boundary.

5.14.8.2 Discuss induced voltage issues related to the project and its transmission or distribution line routes.

Springfield Solar does not anticipate issues regarding induced (stray) voltage as a result of the Project. Induced voltage issues are generally caused by improperly grounded and/or isolated electrical circuits found in older buildings, factories, or barns. Grounding for Springfield Solar's PV array will be designed and certified by a licensed electrical engineer according to current applicable electric code requirements.

5.14.8.3 Discuss any plans to conduct stray voltage testing pre and post construction.

Given the substantially low risk of the Project causing induced voltage, Springfield Solar may conduct pre- and post-construction induced voltage testing at appropriate agricultural facilities located within 0.5 mile of the Project in coordination with the local distribution utility.

5.15 Airports and Landing Strips

5.15.1 Airport, Landing Strips, and Helipads

5.15.1.1 Identify all public and private airports, landing strips, and helipads within 10 miles of the project facilities (both for solar arrays and the nearest generator tie line structure).

The only airport within ten miles of the Project is Fond Du Lac County Skyport (FLD), approximately 9.9 miles north of the Project's northern boundary.

A decommissioned airport and runway associated with the Quad Facility is located approximately 0.25 mile northeast of the Project. This airstrip has been inactive since the early 2000s and is not included in any FAA, Dodge County, or private airport GIS databases. The former runway is still present on this property.

5.15.1.2 Describe each of the airports, landing strips, and helipads with a description of the runways/landing zone and type of use.

FLD has two concrete runways. Runway 18/36 is approximately 6,000 feet in length and oriented north-south, while Runway 27 is approximately 3,500 feet in length and oriented east-west. Both are public use for light general aviation.

5.15.1.3 Describe any potential for impacts to aircraft safety and potential facility intrusion into navigable airspace.

Due to the height of proposed facilities and distance to the airport, no impacts to navigable airspace are expected.

5.15.1.4 Describe any mitigation measures pertaining to public airport impacts.

Due to the height of the proposed facilities and distance to the airport, mitigation measures are not expected to be necessary.

5.15.2 Commercial Aviation

5.15.2.1 Identify all commercial air services operating within the project boundaries (i.e. aerial applications for agricultural purposes, state programs for control of forest diseases and pests (i.e. Gypsy moth control).

No commercial air services are known to operate with the Project Boundary.

5.15.2.2 Describe any potential impact to commercial aviation operations.

No commercial air services are known to operate with the Project Boundary.

5.15.2.3 Describe any mitigation measures pertaining to commercial aviation.

No commercial air services are known to operate with the Project Boundary.

5.15.3 Agency Consultation

5.15.3.1 Identify any potential construction limitations and permit issues.

The FLD is located approximately 9.9 miles north of the Project Boundary. The proximity of FLD does not impose any limitations on construction equipment or construction activity.

5.15.3.2 Provide a summary of the status of any FAA determinations with details on mitigation actions or how any unresolved problems with aircraft safety are being addressed (including generator tie line structures).

No FAA determinations or mitigation actions are required for this Project.

5.15.3.3 Provide a list of any structures requiring WisDOT high structure permits, and the status of any such permits.

No WisDOT high structure permits are required for the Project.

5.16 Communications Towers

For the following sections, include in the assessment all facilities that make up the solar arrays as well as any structures that are part of a necessary generator tie line for the project.

The Forward Wind Energy facility is located in the vicinity of the Project Boundary. One wind turbine is located within Alternate Array A3 and a total of five additional wind turbines are located within 0.5 mile of the northern Project Boundary. Information regarding these turbines and their effects/interference on communication towers was not readily available at the time of the submittal of the CPCN application.

5.16.1 Provide an analysis or supportive data to predict whether or not any aspect of the proposed project would interfere with:

Solar facilities are not likely to cause disruptions to line-of-sight and broadcast communications. The height of the Project facilities should not obstruct microwave beam paths, degrade broadcast communications, or interfere with cell phone communications or radio broadcasts. Although unlikely, if any resident or business were able to show impacts to line-of-sight or broadcast communications due to the Project, such impacts will be mitigated to the extent practicable.

5.16.1.1 Cell phone communications

The Federal Communications Commission ("FCC") website was queried for registered antenna structures (towers) within three miles (4.8 kilometers) of the Project area. No towers are located within the Project Boundary, one is adjacent to the Project Boundary and five additional towers are within three miles (4.8 kilometers) of the Project Boundary. Based on the search, the two closest towers are located approximately 650 feet (198 meters) and 3,500 feet (1,067 meters) from the closest proposed panel, one tower being 64.4 feet (19.6 meters) in height and one being 88.1 feet (26.9 meters) in height. The closest tower to the Project Boundary is owned by Wisconsin Central Railroad, and the second is owned by Subcarrier Communications, Inc. At this distance and based on the maximum height of the solar panels (10 to 12 feet (3.0 to 3.7 meters)) and the perimeter security fence (8 feet (2.4 meters)), the cellular services on the two towers should not be impacted.

5.16.1.2 Radio broadcasts

The exclusion distance for AM broadcast stations varies as a function of the antenna type and broadcast frequency. For directional antennas, the exclusion distance is calculated by taking the lesser of ten wavelengths or 1.9 miles (three kilometers). For non-directional antennas, the exclusion distance is simply equal to one wavelength. Potential problems with AM broadcast coverage are only anticipated when AM broadcast stations are located within their respective exclusion distance limit from an object that may potentially cause interference. Most facilities do not typically cause interference with FM broadcast stations.

The FCC website was reviewed for AM and FM radio stations within three miles (4.8 kilometers) of the Project Boundary. No stations were identified by this search. As there were no AM or FM stations found within three miles (4.8 kilometers) of the Project, the Project should not impact the coverage of local AM or FM stations.

5.16.1.3 Internet (WiFi)

Springfield Solar does not anticipate that the Project will impact WiFi or internet services for nearby residences and is not aware of evidence suggesting utility-scale solar interferes with internet service.

5.16.1.4 Television

Multipath interference to a television receiver occurs when television signals are scattered by reflecting off an object such as rotating wind turbine blades. Modern digital television ("TV") receivers have undergone significant improvements to mitigate the effects of signal scattering. When used in combination with a directional antenna, it becomes even less likely that such signal scattering will cause interference to digital TV reception.

The FCC website was reviewed for any TV stations within three miles of the Project; no stations were identified by this search.

5.16.1.5 Doppler radar network

A Doppler radar is a specialized radar that uses the Doppler effect to produce velocity data about objects at a distance. It does this by bouncing a microwave signal off a desired target and analyzing

how the object's motion has altered the frequency of the returned signal. This variation gives direct and highly accurate measurements of the radial component of a target's velocity relative to the radar. Doppler radars are used in applications such as aviation, sounding satellites, and weather. Tall structures such as trees or buildings within the sight line of the sending position may result in radar interference. Because radar towers are elevated to avoid interference from topography (minimum height of Next Generation Weather Radar, or NEXRAD, towers is 32.8 feet (ten meters) in height, for example), it is not anticipated that there would be any impact to radar services due to the development of the Project.

5.16.2 Describe mitigation measures should interference occur during project operation for any of the communications infrastructure listed above.

The facilities developed for the Project are consistent with the height of existing development in the Project area and are not anticipated to impact any communications infrastructure. After commercial operation, any interference reports will be investigated. Any reports determined to be caused by the installation of the Project will be mitigated to the extent practicable to provide the same level of coverage prior to the installation of the Project.

5.17 Electric and Magnetic Fields (EMF)

5.17.1 Provide an estimate of the magnetic profile created by collector circuits. Estimates should be made using the following criteria:

- Show a separate profile for the typical buried collector circuits. If some trenches would support more than one buried circuit, provide a separate estimate for each bundled configuration.
- Show a separate profile for any above-ground collector circuits.
- Assume all panels are working and project is producing at maximum capacity.
- Show EMF profile at 0 ft., 25 ft., 50 ft., and 100 ft. from the centerline of each circuit type modeled.

Springfield Solar is proposing to construct both and underground and above-ground collection system. An EMF study for the underground collector system, overhead collector system and overhead gen-tie line was completed for this Project. The overhead line EMF study was completed using the Bonneville Power Administration ("BPA") Corona and Field Effects software and the underground line EMF study was completed using CYMCAP software.

Model and software results for the underground collection system indicated the maximum magnetic field strength at 25 feet from the centerline of the trench was below 5.9 milli-Gauss ("mG"). The maximum electric field strength at 50 feet from the centerline of the overhead collector lines was below 45 milli-Gauss and the electric field was below 0.2 kV/m. The Springfield Solar EMF report that includes EMF profile data at various distances is included in Appendix O.

5.17.2 Provide an estimate of the magnetic profile created by any necessary electric transmission facilities (generator tie line). Estimates should be made using the following criteria:

- Show the predominant generator tie line configurations proposed for the project (H-frame, single-pole delta, double-circuit, etc.).
- Show any existing lines that would be affected by the proposed generator tie-line and a post-construction diagram that incorporates the new existing lines.
- Assume all panels are working and project is producing at maximum capacity.
- Show EMF profile at 0 ft., 25 ft., 50 ft., and 100 ft. from the centerline of each circuit type modeled.

The maximum electric field strength and magnetic field strength estimated near or at the centerline of the overhead transmission lines and also maximum values recorded in the entire monitored area was calculated for the Project. In each scenario, for the Project's transmission line at 50-feet from the centerline, the magnetic field was below 34 mG and the electric field was below 0.33 kV/m. Higher magnetic and electric field values were recorded due to the existing transmission lines.

5.18 Noise

Pre- and post-construction noise studies are required for all electric generation projects. Noise measurement studies must be approved by PSCW staff.

5.18.1 Provide existing (ambient) noise measurements and projected noise impacts from the project using the PSC's Noise Measurement Protocol. The PSC Noise Measurement Protocol can be found on the PSC website at:

https://psc.wi.gov/SiteAssets/ConventionalNoiseProtocol.pdf.

Springfield Solar commissioned Stantec to complete a pre-construction ambient sound survey and operational predictive assessment for the Project. Sound generated due to operation of the facility will be from the substation transformer and the inverters located throughout the Project Area. Results of the analysis show that the Project will comply with the state standard and the Town of Lomira, Village of Lomira, and Dodge County ordinances.

Solar energy facilities operate by converting solar radiation into electricity. The Project will only produce electricity (and inverter operation will only be necessary) between sunrise and sunset. After sunset, the site will no longer receive solar radiation and the inverters will not operate and produce sound. The substation transformer will be energized but will not produce sound. Sunrise and sunset times on the longest day of the year (June 20) will be approximately 5:08 am to 8:36 pm. Therefore, the majority of the operation of the solar facility, and therefore the sound production, will occur during the daytime hours as defined by Wis. Admin. Code § PSC 128.14, 6:00 a.m. to 10 p.m. daily, discussed in more detail directly below.

A total of 31 inverters were assessed within the Project area in the noise study; however only 25 of the 31 are expected to be used in the final Project layout. The nearest noise-sensitive area ("NSA") to an inverter is approximately 400 feet. Per the manufacturer's specifications, the

maximum sound level from each inverter is less than 84 dBA at a distance of one meter (three feet).

The sound impacts for the Project were evaluated to determine compliance with state standards (PSC 128.14). Under this regulation, nighttime hours are the time period beginning at 10:00 p.m. and ending at 6:00 a.m. daily and daytime hours are the time period beginning at 6:00 a.m. and ending at 10:00 p.m. daily. The sound limits apply at the outside wall of a non-participating residence or occupied community building. The energy system must be designed so that the sound attributable to the proposed system does not exceed 50 dBA during daytime hours and 45 dBA during nighttime hours. Sound levels from the proposed Project were calculated to verify that sound attributable to the proposed solar array will not exceed 50 dBA during daytime hours and 45 dBA during nighttime hours.

Pre-construction ambient sound measurements were made at five monitoring sites surrounding the proposed substation location and solar array inverters. Stantec considered locations that represent the overall Project layout, with locations near residences with potential solar farm arrays in multiple directions and around the area of the substation. Based upon the Leq values, the background sound levels varied from 33.5 to 75.8 dBA for the varying sample locations and sample periods. The predominant sound source during the sampling was distant vehicular traffic, passing cars, distant trains, corn rustling in the wind, birds, and insects. Results of the existing ambient sound measurements are provided in Section 5.0 of the Pre-Construction Sound Report included in Appendix P.

Sound analyses were completed for both a centralized skid inverter (under the conditions of the inverter operating at full load) and the substation transformer based on information provided by the equipment manufacturers. An analysis of the impacts from a single skid inverter and a contour map showing the overall expected sound levels from the total solar array area can be found in Figures 2 and 3 of the Pre-Construction Sound Report included in Appendix P of this application.

The maximum inverter-related sound level that would be expected at the outside wall of the receptor anticipated to receive the highest sound (a distance of approximately 400 feet) would be approximately 44 dBA. This value is less than both the PSCW daytime impact standard of 50 dBA and the nighttime threshold of 45 dBA at the wall of the residence.

The sound analysis for the substation was conducted to determine the maximum sound level that would be experienced at the nearest NSA. The substation transformer will have a sound level of approximately 85 dBA at one meter (three feet). The substation will be set back from the nearest residence by approximately 1,000 feet. The maximum sound level that would be experienced at this receptor would be 37 dBA. This value is less than both the PSCW daytime impact standard of 50 dBA and the nighttime threshold of 35 dBA at the wall of a non-participating residence. Therefore, the impacts of the substation on the nearby residences will comply with the state standard and will not be discernable at the residences surrounding the substation. An analysis of the impacts from the total solar array and a contour map showing the overall expected sound levels from the substation can be found in figures 2 and 3 of the Pre-Construction Sound Report included in Appendix P of this application.

The projected sound values due to operation of the facility, including the skid inverters and the substation, are at or very near the existing background ambient sound levels.

To further substantiate the calculations shown above, computer modeling of the solar array was completed. Sound contours were calculated using the Decibel Module of WindPro Modelling software by EMD International, which utilizes conservative ISO 9613-2 algorithms to estimate sound propagation and atmospheric absorption. The parameters and assumptions made in developing the estimates include the following:

- all inverters and the substation were running at all times;
- substation sound power level was conservatively estimated at 96.3 dBA and an inverter sound power level of 95.8 dBA was used;
- ground attenuation scenarios of 0.0 and 0.5 (on a scale of 0.0 representing hard ground to 1.0 representing porous ground) were both modeled (separate figures provided);
- meteorological conditions were conducive to sound propagation (10 degrees Celsius and 70 percent relative humidity);
- receptors were represented as a centerpoint on the residence (a total of 1191 receptors were identified in the model); and
- topography (elevations) were considered and estimated using USGS National Elevation Data.

The maximum modeled sound impact from a solar inverter to any residence is 45.5 dBA with a ground attenuation of 0.0, while the maximum was determined to be 42.5 when a ground attenuation of 0.5 is used. These results substantiate the information presented earlier in this section.

A post-construction sound analysis and report will be completed following construction of the Project and commencement of operations. The purpose of the analysis will be to verify the findings and conclusions of this report.

5.18.2 Provide copies of any local noise ordinance.

State and local sound regulations were reviewed. The Town and Village of Lomira and Dodge County have similar public nuisance ordinances that restrict unreasonably loud or disturbing noises. No regulations directly applicable to a solar facility were identified for the Town or Village of Lomira or Dodge County. In the absence of existing pertinent regulations, the Commission's Noise Protocols were used as a guideline for the Project.

5.18.3 Provide equipment manufacturer's description of noise attenuating methods and materials used in the construction of proposed facilities.

The SMA Sunny Central Model 4000 UP-US/4200 UP-US inverter was used for the design conceptual design of the Project. The final selection of the inverters will be made once the PSCW order is received and will be based on the current market offering. The specification sheet for this unit is provided in Appendix A of the Pre-Construction Sound Report, which is included in Appendix P of this application. Manufacturers of the relatively small solar inverters and motors used for solar

energy facilities do not provide information on sound attenuating methods and materials used in construction of the equipment because these sources do not produce appreciable sound.

As stated in Section 5.18.1, the projected sound values due to operation of the facility, including the skid inverters and the substation, are at or very near the existing background ambient sound levels.

5.18.4 Describe how noise complaints would be handled.

Springfield Solar will work to maintain equipment and conduct repairs in a timely manner to avoid excessive sound. If Springfield Solar receives a reasonable sound complaint from a local resident, the complaint will be investigated and mitigated to resolve the complaint, if appropriate.

5.18.5 Discuss any mitigation measures that would be used to address noise complaints during the operation of the project.

As determined by the Sound Analysis conducted for the Project, sound resulting from the operation of the solar facility is anticipated to have minimal impact on nearby residences. No additional mitigation measures are required beyond compliance with the equipment specifications used for the analysis.

5.19 Solar Panel Glint or Glare

5.19.1 Provide an analysis showing the potential for glint or glare from a typical project solar panel, as well as from the project as a whole. Include the following:

- The analysis should list the basic assumptions used and the methodology/software used for creating the glint or glare analysis.
- The analysis should evaluate impacts to aircraft and air traffic controllers from any impacted airports.
- The analysis should also examine the risk of glint or glare to local residents and road users in the project area.
- The analysis software may indicate that proposed array areas are large enough to impact the accuracy of glare results. If this warning is encountered in the modeling, the applicant should break the affected array areas into smaller subarrays and perform the glare analysis using these smaller sub-arrays.
- The analysis software may model different amounts of glare at observation points with different elevations. For any stationary observation points that could have human occupancy at higher elevations (e.g. a second story of a residence), the applicant should model multiple elevations for those stationary observation points.
- The analysis software may model different amounts of glare depending on the assumed heights of the solar panels. The applicant should model panel elevations for at least two different solar panel heights to establish a range of potential glare results.

 The analysis software may model different amounts of glare depending on the assume rest angle of the solar panels. The applicant should model at least two resting angle configurations, including one configuration with a resting angle set at between zero and five degrees.

Based on the solar array parameters provided, glare is not predicted to occur from the proposed Project at the four airports located within ten miles of the Project, including the Fond du Lac Airport, Dinnerbell Airport, Baier Landing Strip, and Middlestadt Landing Strip. Glare is not predicted for drivers of vehicles on 17 roads analyzed adjacent to the Project at either five-foot (cars and small trucks) or nine-foot (semi-trucks) viewing heights, or for one railroad analyzed with a 15-foot viewing height. Glare is also not predicted for the 195 homesites and apartment buildings analyzed. All routes, flight paths, and homes were also analyzed using 8.5-foot and 13.5-foot panel heights. The full glare report can be found in Appendix N.

5.19.2 In the event of an inquiry or complaint by a resident in or near the project area, describe what modeling or other analysis would be used to evaluate the possibility of unreasonable panel glint or glare at the residence.

In the event of a complaint about glare by a resident within or outside of the Project Boundary, ForgeSolar modeling will likely be used to assess the extent and time of day of glare at the point of concern.

5.19.3 Describe mitigation options available to reduce unreasonable panel glint or glare.

As the PV panels will be mounted to single-axis tracking systems, the surface of the panels will be in line with the position of the sun, thereby reducing the potential for steep, glancing angles (i.e., chance for glare) compared to fixed-axis systems. Additional options for minimizing the impacts include antireflective coating on panel surfaces, fencing, and vegetation.

- 6 Local Government Impacts
- 6.1 Joint Development and Other Agreements
 - 6.1.1 Provide a summary of major agreement items agreed upon in any Joint Development Agreements ("JDA") or other type of agreement including:
 - 6.1.1.1 All services to be provided by the city, town, and/or county during construction and when the plant is in operation (e.g. water, fire, EMS, police, security measures, and traffic control).

Although the Project is under the PSCW's jurisdiction, Springfield Solar is working to partner with the Town of Lomira, Village of Lomira, Village of Brownsville, and Dodge County to prepare one or more JDAs regarding Springfield Solar's formal commitments to the local community.

Springfield Solar does not anticipate significant impacts to local public services or traffic. During construction activities, Springfield Solar anticipates minimal disruptions to the free flow of traffic on the roads that will be employed for Project access. The majority of focused construction traffic will be temporary in duration, and post-construction traffic disruptions should be rare.

6.1.1.2 Specifically, address community and facility readiness for incidents such as fires.

Training and coordination with local emergency responders will be included in Springfield Solar's emergency-response plan that will be finalized and submitted as part of the post-order preconstruction preparation for the Project. Safety protocols and contact information for Springfield Solar's facility operations team will be provided to all local first responders.

Solar energy systems and their components do not present unusual safety hazards. When requested, or previously scheduled, periodic meetings will be held with first responders to ensure their familiarity with site facilities.

6.1.2 Provide a copy of all agreements with local communities (e.g., JDA).

No agreements have been finalized with local communities at this time.

6.2 Infrastructure and Service Improvements

No additional infrastructure or current upgrades to existing facilities are expected to be required to construct the Project. Cumulative benefits to the budgets of local governments will be significant due to yearly Shared Revenue Utility Payments. Additional benefits include the Project's Community Fund, significant local spending, and increased local jobs during construction and operation.

6.2.1 Identify any local government infrastructure and facility improvements required (e.g. sewer, water lines, railroad, police, and fire).

Springfield Solar is not aware of any infrastructure or upgrades to existing facilities that will be needed for the construction (or operation) of the Project. If improvements are necessary, such as the repair/improvement to specific roads used in hauling materials during construction, they will be done at Springfield Solar's expense.

Springfield Solar anticipates that no changes to existing roads along haul routes will be required. If such changes are needed for accommodating turning radii, Springfield Solar will adhere to all local construction standards.

A Road Condition Report was completed by Springfield Solar in August 2020 and is included in Appendix S. The Road Condition Report reviewed existing desktop road condition data prior to completing visual field inspections. This report will assist Springfield Solar, Dodge County, the Town of Lomira, and the Village of Lomira in assessing any potential damage to county and town roads. Any such damage will be repaired by Springfield Solar to original condition or better.

Springfield Solar may assist Dodge County, the Town of Lomira, and the Village of Lomira in conducting additional pre- and post-construction inspections of haul roads utilized during construction.

6.2.2 Describe the effects of the proposed Project on city, village, town and/or county budgets for these items.

Local government budgets will be positively impacted by hosting the Project. Wisconsin's Shared Revenue Utility Aid Program provides for payments to be distributed annually to the communities hosting an electric generator. Springfield Solar's proposed 100-MW Project would be eligible for

two components of the Shared Revenue Utility Aid Program: Component 4, the MW-based payment, and Component 5, the Incentive payment.

6.2.3 For each site provide an estimate of any revenue to the local community (i.e. city, village, town, county) resulting from the Project in terms of taxes, shared revenue, or payments in lieu of taxes.

Springfield Solar will generate approximately \$400,000 in annual payments through the above-referenced Shared Revenue Utility Aid Program. A 100-MW project would generate Shared Revenue Utility Payments of \$10 million added revenue to the Village of Lomira, Town of Lomira, and Dodge County over an assumed 25-year life.

A 100-MW project would annually contribute approximately \$19,600 to the Village of Lomira, \$152,759 to the Town of Lomira, and \$227,741 to Dodge County. The Utility Payment breakdown for the Village, Town, and County is summarized below in Table 6.2-1. Actual amounts will be determined with final design based on MW placement of the array. Estimates in the table below assume approximately 9.6 MW AC located in the Village of Lomira and 90.4 MW AC located in the Town of Lomira, as currently designed:

Table 6.2-1 Estimate of Annual Revenue For 100-MW Project

	Village of Lomira	Town of Lomira	Dodge County
MW based Payment	\$11,199.97	\$61,158.57	127,741.46
Incentive Payment	\$8,400.00	\$91,600.00	\$100,000.00
Total	\$19,599.97	\$152,758.57	\$227,741.46

6.2.4 Describe any other benefits to the community (e.g. employment, reduced production costs, goodwill gestures).

Approximately 100 to 200 construction workers will be employed to build the Project. In addition to construction labor, the Project will require skilled electricians, operations staff, and maintenance workers. When possible, these jobs will be sourced from surrounding communities.

Other benefits include significant revenues to area landowners who participate in the Project (as both land sellers and easement grantors), and a potential increase in local employment opportunities to support the Project. Food service, lodging, fuel, sanitation, gravel, asphalt, and other service providers commonly experience a post-construction uptick in their businesses.

Springfield Solar commits to establishing a Community Fund for the Lomira School District. The Project will set up a 501(c)3 and annually donate \$200 per MWAC installed capacity over a 20-year commitment. This will result in additional revenue of \$20,000 annually, or \$400,000 over the 20-year period, for the Lomira School District.

7 Landowners Affected and Public Outreach

7.1 Contact Lists

Provide a separate alphabetized list (names and addresses) in Microsoft Excel for each of the groups described below:

7.1.1 Property owners and residents within the Project Boundary and a separate list of property owners and residents from the Project Boundary out to a distance of 1.0 mile. It is strongly recommended that applicants consult with PSC staff in order to ensure that the format and coverage are appropriate considering the project type, surrounding land use, etc.

A list of property owners within the Project Boundary and within a 1.0-mile buffer is submitted electronically in Appendix Q.

7.1.2 Public property, such as schools or other government land.

The Project Boundary abuts the Village of Brownsville and a small portion is located within the Village of Lomira. As shown on Figures 4.1.2 and 4.1.6.3 in Appendix A, there are no schools, government-owned buildings, or other government-owned lands within the Project Boundary. As detailed in sections 5.7.1 and 5.7.3, a total of four public properties, two WDNR-owned State Natural Areas ("SNA"), and four MFL areas are located within a two-mile buffer of the Project Boundary. There is also a public golf course listed in a Protected Areas Database ("PAD") search within the two-mile buffer of the Project Boundary.

7.1.3 Clerks of cities, villages, townships, counties, and Regional Planning Commissions (RPC) directly affected. Also include on this list the main public library in each county the proposed facilities would occupy.

The communities listed in the table below have lands within the Project Boundary or have certain rights of extraterritorial jurisdiction within the Project Boundary. A list of town and village clerks and public libraries in the vicinity of the Project are included in Appendix Q.

Municipality	Clerk Name	Phone Number
Town of Lomira	Sharon Belling	(920) 948-3493
Dodge County	Karen Gibson	(920) 386-3600
Village of Lomira	Jenna Rhein	(920) 269-4112
Village of Brownsville	Marilyn Halley	(920) 583-4087
Brownsville Public Library (Dodge County)	Kristen Meilke	(920) 583-4325

7.1.4 Local media for the project area, at least one print and one broadcast.

Print Media: Dodge County Pionier Newspaper

126 Bridge Street, P.O. Box 271

Mayville, WI 53050

Broadcast Media: WBAY TV

115 S. Jefferson St. Green Bay, WI 54301

7.2 Public Outreach and Communication

7.2.1 List and describe all attempts made to communicate with and provide information to the public. Describe efforts to date and any planned public information activities.

Springfield Solar has made a considerable effort to communicate with, and provide Project information to, the local community. Outreach efforts have been modified where appropriate and practical to a virtual setting to account for COVID-19 safety protocols and restrictions. Those efforts are summarized below.

Local Residents — Springfield Solar has regularly engaged with prospective landowners, their tenants, and nearby residents to determine local interest in the Project in order to secure land and to identify potential concerns that can be addressed during the development stage of the Project.

Local Units of Government – Springfield Solar has also met with local Town, Village, and County elected officials and staff to advise them of Project activities, understand potential permitting requirements and concerns, and/or introduced the concept of a JDA:

- Town of Lomira: Clerk, Chairperson, and other elected officials
- Village of Lomira: President, and other elected officials
- Village of Brownsville: Clerk and other elected officials
- Dodge County: Land Resource & Parks staff; Board of Supervisors elected official

State Elected Representatives and Regulatory Agencies

- Springfield Solar mailed letters on August 24, 2020 providing Project information to and requesting comments from Wisconsin Senator Scott Fitzgerald, Wisconsin Representative Mark Born, Senator Tammy Baldwin, Senator Ron Johnson, and Representative Glenn Grothman.
- Springfield Solar met virtually with staff from the PSCW and WDNR to discuss permitting and related topics on April 29, 2020 and June 16, 2020. It also has had regular communication with the two regulatory agencies in anticipation of filing this Application.

Community Outreach

• July 14, 2020: Springfield Solar mailed adjacent neighbors information introducing the Project and Geronimo Energy, resulting in numerous calls and emails from individuals

interested in the Project. Participating landowners were excluded from the mailing, with a total of 62 letters sent out.

- July 30, 2020: Springfield Solar mailed the adjacent neighbors an invitation to a virtual open house for the Project. Participating landowners were excluded from the mailing, with a total of 62 letters sent out.
- July 31, 2020 and September 1, 2020: Springfield Solar had a virtual teleconference with Thrive Economic Development's (ThriveED) Managing Director and President, and provided Project development information and estimated economic contributions to the local community.
- August 20, 2020: Springfield Solar hosted a virtual open house for adjacent neighbors, including a presentation on solar energy development, construction, key Project components, and specific information on Springfield Solar. Questions and answers followed the presentation. Sixty-two invites were sent and 21 registrations were received, with 17 ultimate attendees.
- August 26, 2020: Springfield Solar hosted a public information meeting at the Lomira Town Hall. Approximately 25 to 30 residents attended the interactive presentation that provided information and time for questions.
- August 26, 2020: A special meeting was held at the Village of Brownsville's Community Center to present information on the Project and answer questions. Fifteen to 20 residents attended the Special Meeting.
- September 9, 2020: Springfield Solar attended a public information meeting at the Lomira Village Offices with time for questions following an informational presentation. Approximately 20 to 25 residents attended in person. The Village of Lomira also provided a virtual option for the meeting. Springfield Solar does not have confirmed numbers for how many attended virtually.
- Project representatives have held multiple one-on-one communications with Project neighbors and community leaders.

Project representatives have continued to offer to attend regularly scheduled local government meetings to present/discuss the Project, with the understanding that due to COVID-19 this may not be the preference or may be challenging to facilitate.

7.2.2 Provide copies of public outreach mailings or website addresses for project pages.

Development of the Springfield Solar Farm LLC webpage is not complete as of the filing of this application. Once the webpage is complete and active, Springfield Solar will forward the web address to agency personnel upon request. Mailings sent to relevant state congresspeople are included in Appendix C.

7.2.3 Describe plans and schedules for maintaining communication with the public (e.g. public advisory board, open houses, suggestion boxes, and newsletters).

Project representatives have made themselves available and will continue to do so for phone calls, virtual conferences, in-person meetings, and open houses.

7.2.4 Identify all local media that have been informed about the project.

A local newspaper, the Fond du Lac reporter, wrote an article about the Project on August 10, 2020.

7.2.5 Describe the ongoing ways that the public would be able to communicate with plant operators or the company. Describe any internal process for addressing queries or complaints.

Springfield Solar will keep up-to-date contact information on file with host municipalities in case a complaint is placed directly with the Town, Villages, or County. Springfield Solar will also develop a system for logging and investigating complaints related to Project operation, in consultation with local municipalities.

8 Waterway/Wetland Permitting Activities

Springfield Solar retained Stantec to identify wetlands and waterways within the 935-acre Project Study Area. Wetland delineations were completed during the spring and summer of 2020 in accordance with the criteria and methods outlined in the USACE Wetlands Delineation Manual, Technical Report Y-87-1 (1987) and subsequent guidance documents, and applicable Regional Supplements to the Corps of Engineers Wetland Delineation Manual. The extent of the Project Study Area, detailed information on wetland and waterways, and the methodology used is provided in the Wetland Delineation Report, included in Appendix I.

8.1 Waterway Permitting Activities

The Project was designed to avoid waterways to the extent practicable. No waterway impacts are anticipated from Project construction. The WDNR Wetland/Waterway Impact Location Table and Environmental Inventory Table (Tables 1 and 2, respectively) are provided in Appendix U.

8.1.1 Identify the number of waterways present, including all DNR mapped waterways and field identified waterways, assuming all waterways are navigable until a navigability determination is conducted (if requested). Provide an overall project total, as well as broken down by the proposed site and the alternate site and their associated facilities.

One waterway, Kiefer (Kummel) Creek (WBIC 863500), was identified within the Project Boundary. Kiefer (Kummel) Creek is identified on the WDNR 24K hydrography GIS data layer as a perennial stream. No open water features were identified within the Project Study Area.

A total of three WDNR 24K-listed intermittent waterways were field-verified as "not present." Stantec prepared and sent a navigability determination request to WDNR on July 1, 2020. WDNR concurred with the "waterway not present" field assessments via a navigability determination email submitted to Stantec on July 14 and 20, 2020. These correspondences are included in Appendix C.

8.1.2 Identify any waterways in the project area that are classified as Outstanding or Exceptional Resource Waters, Trout Streams, Wild Rice Waters, and Wild or Scenic Rivers.

No waterways within the Project Study Area are classified as Outstanding or Exceptional Resource Waters, Trout Streams, Wild Rice Waters, and/or Wild or Scenic Rivers.

- 8.1.3 State if you are requesting DNR staff perform a navigability determination on any of the DNR mapped waterways and/or field identified waterways that would be impacted and/or crossed by project activities. If a navigability determination is requested, provide the following information in a separate appendix with the application:
 - A table with columns for:
 - o The crossing unique ID,
 - Waterbody Identification Code ("WBIC") for each waterway (found in the Surface Water Data Viewer or in the GIS data for the DNR mapped waterways),
 - o Latitude and longitude for each crossing,
 - o Waterway name,
 - o Waterway characteristics from field investigation, and;
 - o Any other pertinent information or comments.
 - Site photographs, clearly labeled with the photo number, direction, date photo was taken, and crossing unique ID. A short description of what the photo is showing, and any field observation must also be included in the caption.
 - Project map showing the following:
 - Aerial imagery (leaf-off, color imagery is preferred),
 - o WDNR mapped waterways (labeled with their unique ID),
 - o Field identified waterways (labeled with their unique ID),
 - o the location of each site photograph taken (labeled with the photo number),
 - the project area, and;
 - o Call out box/symbol for each WDNR mapped waterway crossing where the navigability determination is requested (labeled with their unique ID).

Springfield Solar is not requesting a WDNR navigability determination. WDNR provided navigability determinations for field-verified waterways and "waterway not present" areas on July 14 and 20, 2020. The WDNR navigability determination correspondence is provided in Appendix C.

8.1.4 For both the proposed and alternate sites and their associated facilities, provide the following:

- 8.1.4.1 The number of waterways that would be crossed by collection lines and specify the installation method (e.g. X waterways would be bored, Y waterways would be trenched, etc.).
 - Primary Array: No waterways are proposed to be crossed by collection lines or other primary Project facilities. No waterways will be crossed by open trenching during the construction of the Primary Array.
 - Alternate Array: One waterway (Kiefer (Kummel) Creek) is proposed to be crossed by an Alternate Array collection line via horizontal directional bore ("HDD") method. The HDD bore will be approximately 60 feet long and will incorporate two bore pits (on east and west side of the channel). No waterways will be crossed by open trenching within the Alternate Array.
- 8.1.4.2 The number of waterways that would be traversed with equipment for temporary access roads, and how that crossing would be accomplished (e.g. temporary clear span bridges ("TCSB"), use of existing bridge or culvert, etc.).
 - Primary Array: No waterways are proposed to be traversed during construction.
 - Alternate Array: No waterways are proposed to be traversed during construction. Access to directional bore-pit locations will be attained from upland areas.
- 8.1.4.3 The number of waterways that would be impacted for permanent access roads, and how that crossing would be accomplished (e.g. placement of culvert, ford, permanent bridge, etc.).
 - Primary Array: No waterway impacts are anticipated for permanent access roads.
 - Alternate Array: No waterway impacts are anticipated for permanent access roads.
- 8.1.4.4 The number of waterways that would be impacted and/or crossed by fence installation and footings.
 - Primary Array: No fence installations or footings are proposed to cross waterways associated with the Project.
 - Alternate Array: No fence installations or footings are proposed to cross waterways associated with the Project.
- 8.1.4.5 The number of waterways that would be impacted and/or crossed by other construction activities or facilities (e.g. placement of a stormwater pond within 500 feet of a waterway, stream relocation, staging areas, etc.).
 - Primary Array: No waterway impacts are anticipated by other construction activities or facilities.
 - Alternate Array: No waterway impacts are anticipated by other construction activities or facilities.

8.1.5 Provide the methods to be used for avoiding, minimizing, and mitigation construction impacts in and near waterways. This discussion should include, but not be limited to, avoiding waterways, installation methods (i.e. directional bore versus open-cut trenching or plowing), equipment crossing methods (i.e. for temporary access, the use of TCSB versus temporary culvert; for permanent access, the use of permanent bridge versus permanent culvert), sediment and erosion controls, invasive species protocols for equipment, etc.

Springfield Solar does not anticipate impacts to waterways. HDD boring methods will be utilized to cross Kiefer (Kummel) Creek within Alternate Array A1 to avoid waterway and wetland impacts. Proper sediment, erosion control, and invasive species control BMPs will be installed/utilized adjacent to Kiefer (Kummel) Creek prior to construction activities.

The Project civil design set that includes the proposed erosion control plan and BMP utilization near waterways is included in Appendix M.

- 8.1.6 Describe fence crossings of waterways, including the location of support pilings (i.e. in waterway channel, at the top of the waterway banks) and the amount of clearance between the bottom of the fence and the ordinary high-water mark. Also describe any existing public use of the waterway and how this public use may be impacted by the fence crossing.
 - Primary Array: No fence installations or footings are proposed to cross waterways associated with the Project.
 - Alternate Array: No fence installations or footings are proposed to cross waterways associated with the Project.
- 8.1.7 For waterways that would be open-cut trenched, provide the following:

No waterways will be open-cut trenched or impacted by the Project.

- 8.1.8 For waterways that would be directionally bored, provide the following:
- 8.1.8.1 Where the equipment would operate from (e.g. from upland banks, from wetland banks, etc.) and if a TCSB is needed to access both banks.

The HDD boring method is anticipated to be utilized to cross Kiefer (Kummel) Creek within Alternate Array A1 to avoid waterway and wetland impacts. HDD boring equipment will operate only within the upland agricultural fields located on either side of Kiefer (Kummel) Creek. No TCSB will be needed for the Project.

8.1.8.2 The location and size of any temporary staging and equipment storage.

HDD boring equipment will be stored either in the Project laydown yard or near the location of the proposed boring under Kiefer (Kummel) Creek. If the boring cannot be completed in one day, overnight storage of equipment will be in upland agricultural areas within 50 feet of the bore pits. Appropriate BMPs and contaminant management (oil absorbent booms, etc.) materials will be put in place prior to leaving the boring area for the day.

8.1.8.3 The location and size of bore pits.

A typical bore pit is approximately 10 feet by 20 feet by 6 feet deep. Approximately 1,200 cubic feet (45 cubic yards) of material may be excavated for each pit. The boring of Kiefer (Kummel) Creek will require two bore pits, one on each side of the stream channel.

All materials removed from bore pits will be stored adjacent to the boring with appropriate BMPs installed. Once the boring is completed, the excavated material will be reused as backfill of the pit. Once a final grade is reached, the area will be seeded with a cover crop and permanent seed mixture with appropriate erosion control devices installed (silt fence, erosion matting, etc.), if necessary.

8.1.8.4 Provide a contingency plan for bore refusal and a plan for the containment and clean-up of any inadvertent releases of drilling fluid (e.g. a frac-out).

Contingency plans for bore refusal and frac-outs will be developed by the construction contractor prior to construction start by the HDD contractor. The plans are expected to include the following:

Prior to construction:

- The drilling entry and exit areas, surrounding work areas, and the drilling route (to the extent accessible) will be surveyed to ensure there are no protected resources on the surface;
- Any sensitive cultural or environmental resources will be flagged for avoidance or construction limits will be clearly marked;
- Barriers will be placed between the bore site and any nearby sensitive resources;
- Field personnel will be briefed on monitoring and timely reporting of frac-outs; and
- Necessary response equipment will be maintained on-site or at a readily accessible location.

Contingency response:

- Once a frac-out is identified, all drilling activities will be stopped, and the location and extent of the frac-out will be determined;
- All necessary notifications will be made to the proper authorities;
- Appropriate mitigations will be taken based on the nature of the frac-out; and
- After the frac-out is stabilized and any required removal is complete, post-clean-up conditions will be documented and reported as required.

While not anticipated, if there is general bore refusal, the proposed HDD alignment will be modified using the same general location with drilling reattempted. If the HDD bore cannot be advanced and abandonment is required, the bore hole will be grouted with an approved material.

8.1.9 For waterways that would have a TCSB installed across them, provide the following:

Section 8.1.9 is not applicable as no TCSB will be needed for the Project.

8.1.10 Describe the proposed area of land disturbance and vegetation removal at waterway crossings. Include a description of the type of vegetation to be removed, and if this vegetation removal would be temporary (allowed to regrow) or permanent (maintained as cleared).

Springfield Solar anticipates utilizing the HDD boring method to cross Kiefer (Kummel) Creek within Alternate Array A1 to avoid waterway and wetland impacts. Bore pits will be located in upland areas (upland agricultural fields) and vegetation removal will be temporary. Access for directional boring of Kiefer (Kummel) Creek within the array will be from an existing field access from County Highway AY on the southern boundary of the array.

The approximate land disturbance caused by the HDD boring pits constructed to bore under Kiefer (Kummel) Creek will be 200 square feet per boring pit (400 total square feet). An additional 500 square feet may be disturbed by activities associated with the HDD boring. All impacts will be temporary in nature and will be confined to upland agricultural land.

8.1.11 If any of the following activities are proposed, provide the information as detailed on the applicable permit checklist:

New culvert placement:
 https://dnr.wi.gov/topic/waterways/documents/PermitDocs/GPs/GP <u>CulvertWPEDesign.pdf</u> (General Permit) or
 https://dnr.wi.gov/topic/Waterways/documents/PermitDocs/IPs/IP-culvert.pdf
 (Individual Permit).

No new culverts are anticipated for this Project.

New permanent bridge placement:
 https://dnr.wi.gov/topic/waterways/documents/PermitDocs/GPs/GP-ClearSpanBridge.pdf
 (General Permit, no in-stream supports) or
 https://dnr.wi.gov/topic/Waterways/documents/PermitDocs/IPs/IP-bridgeTempCross.pdf (Individual Permit, in-stream supports).

No permanent bridge placement is anticipated for the Project.

 New stormwater pond placed within 500 feet of a waterway: https://dnr.wi.gov/topic/waterways/documents/PermitDocs/GPs/GP-StormwaterPond.pdf.

See section 2.4.6 describing permanent stormwater management facilities. No new stormwater facilities are proposed within 500 feet of a waterway.

8.2 Wetland Permitting Activities

The Project was designed to avoid wetlands to the extent practicable. No wetland impacts are anticipated from Project construction. The WDNR Wetland/Waterway Impact Location Table and Environmental Inventory Table (Tables 1 and 2, respectively) are provided in Appendix U.

8.2.1 Describe the method used to identify wetland presence and boundaries within the project area (i.e. wetland delineation, wetland determination, review of desktop resources only, etc.). If a combination of methods were used, describe which project areas utilized which method. The associated delineation report and/or desktop review documentation should be uploaded to the PSC's website as part of the application filing. State if wetlands mapped via desktop resources would be field confirmed, and when (if known).

Wetland determinations were based on the criteria and methods outlined in the USACE Wetlands Delineation Manual, Technical Report Y-87-1 (USACE 1987) and subsequent guidance documents, and applicable Regional Supplements to the Corps of Engineers Wetland Delineation Manual. The wetland determination involved a desktop review that included the use of available resources such as USGS topographic maps, USDA NRCS soil survey, WDNR Wisconsin Wetland Inventory (WWI) mapping, and aerial photography. Additionally, antecedent precipitation in the three months leading up to the field investigation was reviewed. The current year's precipitation data were compared to long-term (30-year) precipitation averages and standard deviation to determine if precipitation was normal, wet, or dry for the area using the Climate Analysis for Wetlands Tables (also known as a WETS analysis) as developed by the NRCS. Finally, a review of four years (2013, 2015, 2017, and 2018) of USDA National Agriculture Imagery Program (NAIP) aerial imagery was conducted for the Project Study Area. The aerial imagery review assists in the wetland determination due to the presence of farmed areas with mapped "poorly drained" or "somewhat poorly drained" soils within the Project Study Area. The aerial imagery was reviewed for the appearance of wetland signatures.

8.2.2 Identify the number of wetlands present and by wetland type, using the Eggers and Reed classification. Provide as an overall project total, as well as broken down by the proposed site and the alternate site and their associated facilities.

The wetlands delineated within the Project Study Area are further summarized in the Wetland Delineation Report in Appendix I. A summary of the wetland communities are included in WDNR Tables 1 and 2.

A total of 13 separate wetlands were identified within the Project Study Area. Delineated wetlands W01 through W08 are located within the Alternate Facility Area and wetlands W09 through W13 are located within the southern ROW of STH 49 at the intersection with STH 175.

Delineated wetlands W01, W02, W04, W05, and W06 are all part of a farmed wetland, fresh (wet) meadow, and hardwood swamp wetland complex within the floodplain of Kiefer (Kummel) Creek. As described in Section 1.1.1.2, the Project Boundary (area that houses the Primary and Alternate Facility Area and ancillary facilities) is located within the Project Study Area. The entire field-verified boundary of W05 and the majority of W06 are not within the Project Boundary; W06 continues to the south outside the Project Boundary. The portion of W06 within the Project Boundary is farmed wetland. No hardwood swamp wetland type is located within the Project Boundary.

Wetlands W03, W07, and W08 are low quality farmed, fresh (wet) meadow wetlands located within active agricultural fields. Wetlands W09, W10, W11, W12, and W13 are roadside (southern

road ROW at intersection of STH 49 and STH 175) ditch wetlands. These wetlands are considered to be isolated fresh (wet) meadow wetlands with no surface hydrology connection. The wetlands are further described in the Wetland Delineation Report in Appendix I. A summary of the wetland communities is listed below and included in WDNR Tables 1 and 2.

Typical fresh (wet) meadow vegetation includes reed canary grass (Phalaris arundinacea), various sedges (Carex, spp.), orange jewelweed (Impatiens capensis), and narrowleaf cattail (Typha angustifolia). Fresh (wet) meadow wetlands located within the roadside ditch are considered degraded due to past grading/construction practices and the presence of invasive plant species.

Typical farmed wetland vegetation includes varying degrees of herbaceous agricultural weed coverage and stunted crops depending on degree of ponded conditions. Common herbaceous species includes field nut sedge (Cyperus esculentus), redtop (Agrostis gigantea), lady's thumb smartweed (Persicaria maculosa), barnyard grass (Echinochloa crus-galli), and giant ragweed (Ambrosia trifida). Farmed wetlands are considered degraded due to historic agricultural practices.

Dominant species included in the hardwood swamp areas delineated within the Project Study Area include green ash (Fraxinus pennsylvanica), swamp white oak (Quercus bicolor), box elder maple (Acer negundo), garlic mustard (Alliaria petiolate), and orange jewelweed (Impatiens capensis). No hardwood swamp wetland type is located within the Project Boundary.

8.2.3 Wetland functional values:

Section 8.2.3 is not applicable as no wetland impacts are anticipated for the Project.

8.2.3.1 Discuss the existing functional values of the wetland present. Functional values include but are not limited to floristic diversity, fish and wildlife habitat, flood storage, water quality, groundwater discharge and recharge, public use, etc.

No wetlands will be impacted by the Project; therefore, no Wisconsin Rapid Assessment Methodology (WRAM) form was completed.

8.2.3.2 Discuss how the project may impact existing functional values of wetlands.

No wetlands will be impacted by the Project; therefore, no WRAM form was completed.

8.2.3.3 Provide Wisconsin Rapid Assessment Methodology (WRAM) forms, or other assessment methodology documentation, if completed.

No wetlands will be impacted by the Project; therefore, no WRAM form was completed.

- 8.2.4 Identify the any wetlands in the project area that are considered sensitive and/or high-quality wetlands, including, but not limited to:⁴
- 8.2.4.1 Any wetlands in or adjacent to an area of special natural resource interest (Wis. Admin. Code NR 103.04).

The nearest Area of Special Natural Resource Interest (ASNRI) is located approximately 4.5 miles northwest of the Project Area.

⁴ The AFR numbering repeats Section 8.2.3. The Applicant has continued with correct numbering in Section 8.2.

8.2.4.2 Any of the following types: deep marsh, northern or southern sedge meadow not dominated by reed canary grass, wet or wet-mesic prairie not dominated by reed canary grass, fresh wet meadows not dominated by reed canary grass, coastal marsh, interdunal or ridge and swale complex, wild rice-dominated emergent aquatic, open bog, bog relict, muskeg, floodplain forest, and ephemeral ponds in wooded settings.

No wetland impacts are anticipated for the Project; therefore, impacts to the wetland communities listed above are not anticipated.

8.2.4.3 Any wetlands with high functional values based on factors such as abundance of native species and/or rare species, wildlife habitat, hydrology functions, etc.

Wetlands located with the Project Area are considered farmed wetlands except for W1, which is a riparian wetland to Kiefer (Kummel) Creek. This wetland is low quality and dominated by invasive species. No wetland impacts are anticipated for the Project.

- 8.2.5 For both the proposed and alternate sites and their associated facilities, provide the following:
- 8.2.5.1 How many wetlands would be crossed by collection lines and specify the installation method (i.e. X wetlands would be bored, Y wetlands would be trenched).

One riparian wetland (W01) contiguous with Kiefer (Kummel) Creek within Alternate Array A1 is proposed to be crossed by the HDD method. No wetland impacts are anticipated for construction of collection lines associated with the Project.

8.2.5.2 How many wetlands would have construction matting placed within them to facilitate vehicle access and operation and material storage. Also provide the total amount of wetland matting, in square feet.

No wetland impacts are anticipated from construction matting during the construction of the Project.

8.2.5.3 How many wetlands would be impacted for permanent access roads and indicate if culverts would be installed under the roads to maintain wetland hydrology.

No wetland impacts are anticipated for construction of permanent access roads.

8.2.5.4 How many wetlands would be impacted and/or crossed by fence installation and footings.

No wetland impacts are anticipated for construction of fence installation.

8.2.6 Describe if wetlands would be disturbed for site preparation activities (e.g. grading, leveling, etc.) in the array areas, and for the installation of the arrays and associated supports.

No wetland impacts are anticipated for construction-preparation activities.

8.2.7 Describe if wetlands will be disturbed for site preparation activities:

No wetland impacts are anticipated for site-preparation activities.

8.2.7.1 Grading, leveling, etc. in the array areas, and for the installation of the arrays and

associated supports.

No wetland impacts are anticipated for the installation of arrays or associated supports.

8.2.7.2 If vegetation removal will be conducted in wetlands, describe how woody debris (i.e. brush piles, wood chips, etc.) would be handled and disposed of when clearing shrub and forested wetlands.

No vegetation removal/tree clearing is anticipated within wetlands for the Project.

8.2.8 Describe the sequencing of matting placement in wetlands and the anticipated duration of matting placement in wetlands. For matting placed in any wetland for longer than 60 consecutive days during the growing season, prepare and submit a wetland matting restoration plan with the application filing.

No wetland impacts are anticipated for the Project; therefore, construction matting in wetlands is not anticipated.

- 8.2.9 For wetlands that would be open-cut trenched, provide the following:
- 8.2.9.1 Provide details on the total disturbance area in wetland, including how total wetland disturbance was calculated. Include the size of the trench (length, width, and depth), where stockpiled soils would be placed (i.e. in upland, in wetlands on construction mats, etc.), and where equipment would operate.

No wetland impacts are anticipated from open-cut trenching for construction of the Project.

8.2.9.2 Details on the proposed trench dewatering, including how discharge would be treated and where the dewatering structure would be located.

No wetland impacts are anticipated from open-cut trenching for construction of the Project. Dewatering activities may be necessary during the excavation of directional drill bore pits and trenching. Water pumped during these activities will be discharged into upland vegetated areas or into a constructed dewatering basin. The contractor awarded the construction contract will comply with the standards and methodologies as presented in the WDNR Technical Standard 1061.

8.2.9.3 Duration and timing of the work in wetland.

No wetland impacts are anticipated during construction of the Project.

8.2.9.4 How the wetland would be restored to pre-existing conditions.

No wetland impacts are anticipated during construction of the Project.

- 8.2.10 For wetlands that would be directionally bored, provide the following:
 - Primary Array: No wetlands are proposed to be crossed by directional bore method.
 - Alternate Array: One wetland (associated with Kiefer (Kummel) Creek) is proposed to be crossed by directional bore method.
- 8.2.10.1 How bored wetlands and associated bore pits would be accessed.

One HDD bore is required to cross Kiefer (Kummel) Creek within Alternate Array A1. Access will be

attained from upland areas (upland agricultural fields) utilizing existing public roads and an existing farm access point on the southern end of the array (off County Highway AY). Proper sediment, erosion control, and invasive species control BMPs will be installed/utilized adjacent to the bore pit prior to construction activities beginning to prevent sediment from leaving the workspace and entering any nearby wetlands.

No construction equipment will cross field-delineated wetland W01 during the HDD boring process.

8.2.10.2 The location and size of any temporary staging and equipment storage.

HDD boring equipment will be stored either in the Project laydown yard or near the location of the proposed boring. If the boring cannot be completed in one day, overnight storage of equipment will be in upland agricultural areas within 50 feet of the bore pits. Appropriate BMPs and contaminant management (oil absorbent booms, etc.) materials will be put in place prior to leaving the boring area for the day.

8.2.10.3 The location and size of bore pits.

A typical bore pit is approximately 10 feet by 20 feet by 6 feet. Approximately 1,200 cubic feet (45 cubic yards) of material may be excavated for each pit. The boring of Kiefer (Kummel) Creek will require two bore pits, one on each side of the stream channel.

All materials removed from bore pits will be stored adjacent to the boring with appropriate BMPs installed. Once the boring is completed, the excavated material will be reused as backfill of the pit. Once a final grade is reached, the area will be seeded with a cover crop and permanent seed mixture with appropriate erosion control devices installed (silt fence, erosion matting, etc.), if necessary.

8.2.10.4 Provide a contingency plan for bore refusal and a plan for the containment and clean-up of any inadvertent releases of drilling fluid (e.g. a frac-out).

Contingency plans for bore refusal and frac-outs will be developed by the construction contractor prior to construction start by the HDD contractor. The plans are expected to include the following:

Prior to Construction:

- The drilling entry and exit areas, surrounding work areas, and the drilling route (to the
 extent accessible) will be surveyed to ensure there are no protected resources on the
 surface;
- Any sensitive cultural or environmental resources will be flagged for avoidance or construction limits will be clearly marked;
- Barriers will be placed between the bore site and any nearby sensitive resources;
- Field personnel will be briefed on monitoring and timely reporting of frac-outs; and
- Necessary response equipment will be maintained on-site or at a readily accessible location.

Contingency Response:

- Once a frac-out is identified, all drilling activities will be stopped and the location and extent of the frac-out is determined;
- All necessary notifications will be made to the proper authorities;
- Appropriate mitigations will be taken based on the nature of the frac-out; and
- After the frac-out is stabilized and any required removal is complete, post clean up conditions will be documented and reported as required.

While not anticipated, if there is general bore refusal, the proposed HDD alignment will be modified using the same general location with drilling reattempted. If the HDD bore cannot be advanced and abandonment is required, the bore hole will be grouted with an approved material.

8.2.11 Describe how fence installation would occur in wetlands, including the footing types (e.g. direct imbed, concrete, etc.), any associated wetland impact such as vegetation clearing, operation of equipment, etc.

No fence installation/footings will be installed within wetlands. Fence installation and equipment operation will be conducted in upland areas.

8.2.12 For wetland vegetation that would be cleared or cut, provide the following:

No vegetation removal/tree clearing is anticipated within wetlands for the Project.

8.2.12.1 The justification for why wetland trees and shrubs are proposed to be cleared, and what construction activity the clearing is associated with.

No vegetation removal/tree clearing is anticipated within wetlands for the Project.

8.2.12.2 The timing and duration of vegetation removal.

No vegetation removal/tree clearing is anticipated within wetlands for the Project.

8.2.12.3 Describe the type of equipment that would be used, and if the vegetation removal would result in soil disturbance, including rutting and soil mixing.

No vegetation removal/tree clearing is anticipated within wetlands for the Project.

8.2.12.4 The type of wetland and type of vegetation to be cleared.

No vegetation removal/tree clearing is anticipated within wetlands for the Project.

8.2.12.5 If tree and shrubs removed would be allowed to regrow or be replanted, or if cleared areas would be kept free of trees and shrubs long-term.

No vegetation removal/tree clearing is anticipated within wetlands for the Project.

8.2.12.6 Indicate the plan for removal and disposal of brush and wood chips.

No vegetation removal/tree clearing is anticipated within wetlands for the Project.

8.2.13 Indicate if any permanent wetland fill is proposed, such as for substation placement, permanent roads, fence or array footings, pole locations, etc. and provide the amount of permanent wetland fill.

No permanent or temporary wetland impacts are anticipated for the construction of the Project.

8.2.14 Provide the methods to be used for avoiding, minimizing, and mitigation construction impacts in and near wetlands. This discussion should include, but not limited to, avoiding wetlands, installation methods (i.e. directional bore versus open-cut trenching, soil segregation during trenching, etc.), equipment crossing methods (i.e. use of construction matting, frozen ground conditions, etc.), sediment and erosion controls, invasive species protocols for equipment, etc. Additional guidance to prepare this discussion can be found here: https://dnr.wi.gov/topic/Sectors/documents/PAAsupp3Utility.pdf.

No permanent or temporary wetland impacts are anticipated for the construction of the Project. Proper erosion control BMPs will be installed to prevent sediment from reaching any nearby wetlands and/or waterways.

8.2.15 Indicate if an environmental monitor would be employed during project construction and restoration activities. If so, describe the monitors roles and responsibilities, frequency of visits, etc.

Springfield Solar will utilize an internal environmental CCP that ensures compliance with all applicable environmental permits, plans, and regulations. An environmental monitor will conduct ongoing on-site inspections during construction to ensure all employees are environmentally aware and ensuring compliance throughout construction.

The environmental monitor will be responsible for implementing the CCP, which will consist of environmental training, regularly scheduled inspections, and tools such as permit matrices and inspection summary logs to ensure all environmental laws and conditions are met. Under the CCP, the environmental monitor will provide environmental training to all construction managers, foreman, and operators prior to construction.

Springfield Solar and the environmental monitor will ensure any employee who works at the Project is trained in accordance with the CCP and applicable environmental permitting. During construction, the environmental monitor will attend weekly meetings at the site and provide feedback to construction crews on issued previously identified.

8.2.16 Describe how all wetlands within the project area would be restored. This includes wetlands that would be encompassed within the arrays even if not directly impacted by project construction. This discussion should include details on the seeding plan, maintenance and monitoring, restoring elevations and soil profiles, restoring wetland hydrology, etc.

All field-verified wetlands will be avoided on this Project. Wetlands will be marked in the field and have silt fence installed around their perimeter to prevent disturbance.

After site grading is complete, a temporary cover crop will be planted to prevent soil erosion during construction. Upon completion of construction all disturbed areas will be seeded with a perennial seed mix that complies with Wis. Admin. Code ch. ATCP 20 regarding noxious weed seed content and labeling. Permanent seeding will comply with WDNR Conservation Practice Standard 1059 Seeding for Construction Site Erosion Control. If applied, mulch will comply with the WDNR Conservation Practice Standard 1058 Mulching for Construction Sites.

Revegetation of the site, including wetland specific seed mixes, is described further in Section 5.5 and included in the Vegetation Management Plan in Appendix J.

8.3 Mapping Wetland and Waterway Locations, Impacts, and Crossings

Provide the following map sets, as detailed below, for each proposed facility. Each map set should include an overview or index page that includes page extents for the corresponding smaller-scale map pages within the remainder of the map set. The smaller-scale map pages, to show the project and resources in greater detail, should include page numbers to reference to the overview page and have consistent scales throughout the smaller-scale pages.

Project maps depicting the information requested in Section 8.3.1 through 8.3.3 are provided as Figures 4.1.6.1 and 4.1.6.6 in Appendix A. These figures display recent aerial photography with Project facilities, delineated wetlands and waterways, WWI data, and soil survey data. Additionally, the wetland delineation report and associated figures are located in Appendix I. No waterway or wetland impacts are proposed as part of the Project.

8.3.1 Topographic map set showing the following:

- Solar arrays and all associated components, including but not limited to:
 - Permanent and temporary access roads;
 - Fence;
 - Collector circuits (labeled with the installation method, i.e. directional bore, plow, open-cut trench, etc.);
 - Staging areas (labeled with identifying name/number) and all temporary work spaces;
 - O&M building and associated driveways, stormwater management features, etc.;
 - New and existing substations;
 - Distribution or transmission interconnection, including pole locations and all access roads (including off-ROW access roads), include identifying labels for each facility; and
 - Generator tie line, including pole locations and all access roads, including off-ROW access.
- Delineated wetlands, labeled with the feature unique ID
- WWI and hydric soils, if a delineation was not conducted.
- WDNR mapped waterways, labeled with the feature unique ID.
- Field identified waterways, labeled with the feature unique ID.
- Locations of proposed stormwater features (i.e. ponds, swales, etc.).
- Vehicle crossing method of waterways for both permanent and temporary access, labeled by the crossing method (i.e. TCSB, installation of culvert, installation of bridge, installation of ford, use of existing culvert, use of existing bridge, use of existing ford, driving on the bed).

- Placement of construction matting in wetlands.
- Excavation areas in wetlands (i.e. bore pits, open-cut trench, etc.).

See figures located in Appendix A.

8.3.2 Aerial image map set showing the following:

- o Solar arrays and all associated components, including but not limited to:
 - Permanent and temporary access roads;
 - Fence;
 - Collector circuits (labeled with the installation method, i.e. directional bore, plow, open-cut trench, etc.);
 - Staging areas (labeled with identifying name/number) and all temporary work spaces;
 - O&M building and associated driveways, stormwater management features, etc.
 - New and existing substations;
 - Distribution or transmission interconnection, including pole locations and all access roads (including off-ROW access roads), include identifying labels for each facility; and
 - Generator tie line, including pole locations and all access roads, including off-ROW access.
- o Delineated wetlands, labeled with the feature unique ID
- o WWI and hydric soils, if a delineation was not conducted.
- o WDNR mapped waterways, labeled with the feature unique ID.
- o Field identified waterways, labeled with the feature unique ID.
- o Locations of proposed stormwater features (e.g. ponds, swales, etc.).
- O Vehicle crossing method of waterways for both permanent and temporary access (i.e. TCSB, installation of culvert, installation of bridge, installation of ford, use of existing culvert, use of existing bridge, use of existing ford, driving on the bed).
- o Placement of construction matting in wetlands.
- o Excavation areas in wetlands (i.e. bore pits, open-cut trench, etc.).

See figures located in Appendix A.

8.3.3 A map showing which method(s) were used to identify wetland presence and boundaries within the project area (i.e. wetland delineation, wetland determination, review of desktop resources only).

A desktop review of available wetland data and a field wetland delineation utilizing protocols in the USACE Wetlands Delineation Manual, Technical Report Y-87-1 was completed for all areas of the Project. The wetland delineation report and associated figures are located in Appendix I.

9 DNR Guidance Information regarding Erosion Control and Storm Water Management Plans (not PSC requirements)

A preliminary Project-specific SWPPP that includes procedures for materials management and dewatering protocols has been developed for the Project. The SWPPP is preliminary in nature and will be revised once the CPCN is granted by the PSCW, and Springfield Solar provides final Project engineering/design and contractor bidding documentation. Once finalized, a revised SWPPP and Notice of Intent (NOI) will be submitted to the WDNR. The preliminary SWPPP is included in Appendix M.

9.1 Erosion Control and Stormwater Management Plans

See Section 9.0 above for information on the SWPPP included in Appendix M.

9.2 Materials Management Plan

See Section 9.0 above for information on the SWPPP included in Appendix M.

9.3 Dewatering Plans

See Section 9.0 above for information on the SWPPP included in Appendix M.

