CUMULATIVE ENVIRONMENTAL ASSESSMENT

BayWa r.e Solar Projects, LLC
Bluebird Solar Project
Harrison County, Kentucky

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1.0 INTRODUCTION

KRS 224.10-280 conveys that no person shall begin to construct a facility to be used for generating electricity prior to submitting a Cumulative Environmental Assessment with the application to the Kentucky Energy and Environment Cabinet. On behalf of BayWa r.e. Solar Projects, LLC (BayWa), Jackson Group has prepared the following cumulative environmental assessment for the proposed Bluebird Solar Project in Harrison County, Kentucky to comply with Kentucky Revised Statute (KRS) 224.10-280.

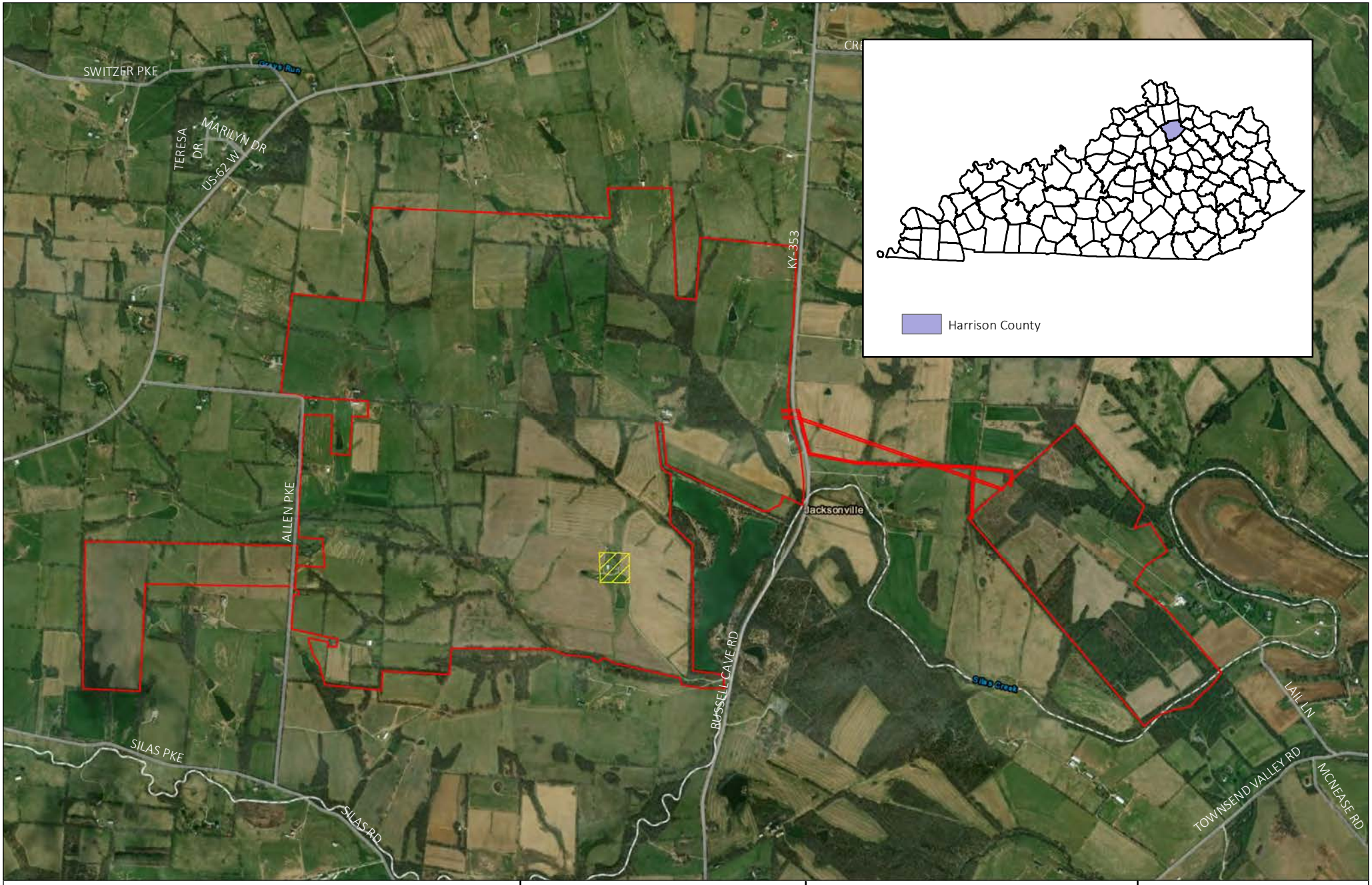
1.1 Project Description

BayWa is developing utility-scale, ground-mounted Solar Photovoltaic (PV) projects throughout the United States. Bluebird Solar is a proposed 1,368.4-acre ground-mounted Solar PV project (Project) that will generate electricity within the territory of Eastern Kentucky Power Cooperative, Inc. (EKPC). The Project will interconnect with an EKPC Substation due north of the Project area, near the community of Broadwell in Harrison County, Kentucky (Figure 1).

1.2 Kentucky Revised Statute 224.10-280

To comply with KRS 224.10-280, the cumulative environmental assessment shall contain an evaluation of:

1. Air Pollutants
2. Water Pollutants
3. Wastes
4. Water Withdrawal



Legend

- Project Area
- No Survey Area

0 900 1,800 3,600 Feet

BayWa r.e.

Bluebird Solar

Harrison County, Kentucky

TITLE

VICINITY MAP

FIGURE

1

JACKSON GROUP

SCALE

1:24,000

2.0 AIR POLLUTANTS

The Clean Air Act (CAA) is the comprehensive federal law that regulates the emission of air pollutants from stationary and mobile sources. The CAA authorizes the Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards (NAAQS) for emissions of "criteria" pollutants that are considered harmful to public health and the environment. The criteria pollutants are ozone, carbon monoxide (CO), particulate matter (PM), sulfur dioxide (SO2), nitrous oxides (NOx), and lead.

Air quality in geographic areas is designated as attainment, nonattainment, and unclassified based on the NAAQS. Areas with ambient concentrations of criteria pollutants that exceed the NAAQS are designated as nonattainment areas and certain emissions sources within nonattainment areas are subject to more stringent air permitting requirements.

Harrison County and all surrounding counties (Pendleton, Bracken, Robertson, Bourbon, Nicholas, Scott, and Grant) are currently in attainment for all criteria pollutants (EPA 2020).

Project construction and operation will produce transient air pollutant emissions. Air quality impacts are expected to primarily result from the operation and staging of personnel vehicles, delivery trucks, equipment, and machinery. Construction vehicles and equipment may include, but not limited to, pile drivers, augers, tractors, forklifts, flatbed semi-trucks, concrete trucks, backhoes, personnel vehicles, skid steers, and bulldozers. Combustion of gasoline and diesel fuels during Project construction will generate local emissions of PM, NOx, CO, volatile organic compounds (VOCs), and SO2. Emissions associated with the vehicles and equipment are expected to be minor. Personnel onsite will vary depending on specific construction activities occurring on an individual day(s). It is estimated that the Project will take approximately 12 months to complete with a workforce comprised of up to 300 workers.

Vegetation removal and tree clearing is expected to be minimal as most of the Project area consists of open land used primarily for cattle grazing, agricultural crops, and pasture/hay fields. Tree clearing or vegetative debris will either be chipped, ground, and composted on-site or managed at an offsite facility. No open burning of any materials, including tree clearing debris, is proposed.

Construction activities may result in temporary fugitive dust emission. Driving Project roads comprised of compacted gravel may result in fugitive dust emission resulting from the disturbance and release of airborne dust particles, especially during dry conditions. To minimize air impacts, the contractor(s) will be required to implement best management practices (BMPs), such as properly cleaning and maintaining construction equipment, revegetating disturbed areas, covering spoil piles and open truck loads, and wet dust-suppression techniques.

Air quality impacts resulting from Project construction activities will be temporary and localized. The severity of air quality impacts may be naturally mitigated by environmental conditions such as wind speed and direction, soil moisture, and other factors. Even under unusually unfavorable environmental conditions, Project construction emissions would be well below the applicable ambient air quality standard. Potential impacts to air quality from construction-related activities for the Project would be minor.

The Project will only generate air emissions resulting from the occasional presence of maintenance and inspection vehicles and equipment, such as mid- to full-size trucks or all-terrain vehicles during routine inspections, and mowers or trimmers during vegetation maintenance. Because solar panels produce zero emissions while generating electricity and will reduce the demand for electricity produced by high-emission sources, there would be local and regional air quality benefits over the life of the Project. No air quality permit will be needed for activities associated with construction or operation of the Project.

3.0 WATER POLLUTTANTS

3.1 Surface Water

The Project area is located within the Silas Creek Watershed (14-digit HUC 05100102050020) which drains into the South Fork of the Licking River (8-digit HUC 05100102). No waterways within or adjacent to the Project are designated as Outstanding State Resource Waters or other Special Use Waters as defined by KDOW.

BayWa has conducted a Waters of the United States (WOTUS) investigation to identify and describe aquatic resources (i.e., wetlands and streams) within the Project area relevant to and in support of a preliminary jurisdictional determination (PJD). BayWa has requested an PJD from the U.S. Army Corps of Engineers (USACE) – Louisville District to determine the presence or absence of jurisdictional features. BayWa has designed the Project to avoid impacts to WOTUS, including wetlands, to the extent possible and if impacts to jurisdictional features are deemed unavoidable, BayWa will seek the appropriate permit(s) and authorizations from USACE and Kentucky DOW.

Ground disturbance associated with Project construction will result in stormwater runoff, erosion, and sedimentation that may affect receiving surface waters (i.e., streams and wetlands). Project construction will be designed based on existing site conditions such as slope, drainage, and soil types to minimize earthwork (e.g., grading) as much as possible.

Due to ground disturbance during construction, the Project is expected to result in the discharge of stormwater that may affect receiving surface waters. As such, BayWa intends to follow the Kentucky Division of Water (KDOW) General Permit for stormwater discharges associated with construction activities disturbing individually one acre or more. A Notice of Intent (NOI) will be completed by BayWa prior to the start of construction and a Notice of Termination (NOT) when final stabilization has been achieved on all portions of the site.

Stormwater discharge will be managed using BMPs that may include but are not limited to installation or use of silt fences, on-site temporary sediment basins or sediment traps, erosion control mats/blankets, mulch, straw, and buffer zones (e.g., 25 feet) surrounding aquatic resources (i.e., streams and wetlands). BayWa will develop a Stormwater Pollution Prevention Plan (SWPPP) and implement the SWPPP at the commencement of the construction disturbance. The SWPPP will include erosion prevention measures, sediment controls measures, and other site management practices necessary to prevent the discharge of sediment and other pollutants into waters of the Commonwealth that would result in those waters being degraded or non-supportive of their designated uses.

Disturbed areas will be revegetated and stabilized using a mixture of certified weed-free, low-growing native and/or noninvasive grass and herbaceous plant seed. All areas where erosion control BMPs are used will be inspected and maintained regularly until disturbed areas are determined to be permanently stabilized.

To minimize potential stormwater contamination resulting from application, only EPA-registered and approved herbicides will be used. Use of fertilizers and/or herbicides will be minimized to the extent possible near aquatic resources. All herbicides will be applied by Kentucky-licensed and certified commercial pesticide applicators and all applications will occur per label directions.

Effects to surface water resulting from Project construction are expected to be negligible due to the development and implementation of the BMPs as described above. Operation and maintenance of the solar facility would have

little impact on surface water due to the implementation of BMPs that would be used during and prior maintenance activities that have the potential to cause runoff of sediment and pollutants. Further, the conversion of existing crop and pastureland to presence of solar panels will eliminate animal wastes and high-intensity fertilizer and/or herbicide use commonly associated with crop production and livestock management.

3.2 Groundwater

Groundwater is water that exists underground in saturated zones beneath the land surface that fills the pores and fractures in underground materials such as sand, gravel, and other rock. Nonpoint source pollution containing fertilizers, herbicides, pesticides, bacteria, petroleum products, and other contaminants poses a potential risk to groundwater quality in the area. The main sources of these contaminants within the watershed are agricultural operations.

Hazardous materials that could potentially impact groundwater may be stored on-site during construction. Petroleum fuels, lubricants, and hydraulic fluids use and storage during construction, operation, and maintenance will be minimized to the extent possible. BMPs employed to properly maintain vehicles to avoid leaks and spills and procedures to immediately address any spills that did occur would minimize the potential for adverse impacts to groundwater. BMPs will include spill control kits to be carried on all refueling vehicles for activities such as refueling, vehicle or equipment maintenance procedures, waste removal, and tank clean-out.

No direct adverse impacts to groundwater are expected because of the Project. The PV panels would have a relatively minor effect on groundwater infiltration and recharge because the panels will not include a runoff collection system, allowing precipitation to drain off the panels to the adjacent vegetated ground.

4.0 WASTES

All waste generated during the construction and operation of the solar facility and would be managed and disposed of in accordance with local, state, and federal regulations. Construction activities will intermittently generate Construction and Demolition Debris (CDD) and general trash, including but not limited to wooden crates, pallets, flattened cardboard module boxes, plastic packaging, excess electrical wiring, and trees/vegetation from limited clearing. To the extent possible and practical, CDD waste will be recycled and material that cannot be recycled will be disposed offsite at a permitted facility to be decided by the designated contractor(s), by applicable laws and regulations. No waste will be disposed of within the Project area. All vegetative debris will be chipped, ground, and either composted on-site or managed offsite at a permitted facility. Designated contractor(s) and subcontractor(s) personnel will oversee daily inspection, cleanup, and proper labeling, storage, and disposal of all refuse and debris produced during Project construction, operations, and maintenance. Disposal containers such as dumpsters or roll-off containers will be obtained from a proper waste disposal contractor and will be located on-site. The designated contractor(s) will oversee keeping records of all wastes by either weight or volume as applicable.

On-site materials and wastes will be stored in storage tanks, vessels, or other proper containers specifically designed for management of such materials. The storage facilities would include secondary containment in case of tank or vessel failure. Construction-related materials stored on site would primarily be liquids such as used oil, diesel fuel, gasoline, hydraulic fluid, and other lubricants associated with construction equipment.

Construction activities would involve use of machinery (e.g., semi-trucks, field trucks, tractors) fueled by petroleum products. BayWa will implement a Spill Prevention Containment Countermeasures (SPCC) plan to minimize the potential for fuel spills. Construction contractors will manage preventing spills by implementing proper storage and handling procedures. Special procedures will be identified in the SPCC to minimize the potential for fuel spills, and

spill control kits will be carried on all refueling vehicles for activities such as refueling, vehicle or equipment maintenance procedures, waste removal, and tank clean-out.

Materials stored within the Project area may include oil, diesel fuel, gasoline, hydraulic fluid, and other lubricants associated with construction vehicles. Small quantities (less than 55 gallons, 500 pounds or 200 cubic feet) of janitorial supplies, paint, degreasers, herbicides, pesticides, air conditioning fluids (chlorofluorocarbons [CFC]), gasoline, hydraulic fluid, propane, and welding rods typical of those purchased from retail outlets may also be used and stored at the Project area.

BayWa will develop and implement various plans and procedures ensure safe handling, storage, and use of hazardous materials (e.g., Hazardous Materials Plan). Facility personnel will be trained in the handling, use, and cleanup of hazardous materials used at the Project, and procedures to be followed if a leak or spill. Adequate supplies of proper cleanup materials will be stored at the Project area.

Portable chemical toilets would be supplied for construction workers during Project development. Sewage will be pumped out by a licensed contractor and the sewage waste will be disposed of at the Cynthiana Wastewater Treatment Plant. No adverse effects are expected from wastewater treatment and disposal.

Waste generation during operation would be minimal and would mainly result from the maintenance and/or replacement of worn or broken equipment and defective or broken electrical materials.

No adverse effects from waste are expected related to Project activities due to the implementation of BMPs, HMP, and SPCC plan.

5.0 WATER WITHDRAWAL

Water service in the Project area is provided by The Harrison County Water Association. Private groundwater wells are not used for drinking water; however, they are used for agriculture purposes (i.e., livestock watering and crop irrigation) in the Project area.

Water use related to Project construction will be needed primarily in support of site preparation. During earthwork for the grading of access roads, foundations, equipment pads, and other components, the primary use of water would be for compaction and dust control. The expected water volume needed during construction activities is not expected to exceed the ability of the local water supply.

Water use will be minimal and infrequent during Project operations and maintenance. Any vehicle washing or potential dust control discharges during operations and maintenance will be implemented per BMPs described in the SWPPP for water-only cleaning.

Operation of solar photovoltaic systems are not water intensive. Precipitation amounts for the region is expected to be adequate to prevent excessive buildup of dust and debris on solar panels; therefore, no regular rinsing or washing of panels is proposed. Water may be needed to support screening vegetation during drought periods. Water for dust control is not expected to be necessary due to the infrequent vehicle use proposed.