

Planning Commission Staff Report

File #: P-21-4
Applicant: Borrego Solar Systems, Inc., authorized representative of Borrego, Alexander Deuson, P.E. and their agent, AES Consulting Engineers (contact, John Bennett, P.E.)
Rezoning Request: A-2, Agricultural, General to SED, Utility Scale Solar Energy District
Property Location: West side of Boydton Plank Road (Route 1) approximately 1.2 miles north of the Dinwiddie and Brunswick County line and approximately 0.64 miles north of the intersection of Boydton Plank Road (Route 1) and Cutbank Church Road (Route 713)
Property Size: Approximately 52.50 +/- acres
Tax Map Parcel: 80-40
Magisterial District: Sapony District
Planning Commission Mtg.: August 11, 2021

CASE AND PROJECT OVERVIEW

The applicant, Borrego Solar Systems, Inc., authorized representative of Borrego, Alexander Deuson, P.E. and their agent, AES Consulting Engineers (contact, John Bennett, P.E.) are requesting to rezone property containing approximately 52.50 +/- acres from A-2, Agricultural General, to SED, Utility Scale Solar Energy District. The SED, Utility Scale Solar Energy District, zoning classification allows for solar energy projects pursuant to the Zoning Ordinance allowed density. The property is generally located in the area on the west side of Boydton Plank Road (Route 1) approximately 1.2 miles north of the Dinwiddie and Brunswick County line and approximately 0.64 miles north of the intersection of Boydton Plank Road (Route 1) and Cutbank Church Road (Route 713). The property is further defined as Tax Map Parcel No. 80-40. As indicated in the Dinwiddie County Comprehensive Land Use Plan, the subject property is located within the Rural Conservation Area, which allows limited industrial, service, and utility uses for this general area.

Borrego Solar Systems, Inc., is proposing to design, construct and operate an 2.5-megawatt alternating current solar photovoltaic (PV) ground mounted electric generation project located on approximately 52.5 +/- acres. The applicant is seeking a rezoning approval from A-2, Agricultural, General, to Utility Scale Solar Energy District (SED), which allows for a utility scale solar energy projects upon receiving a conditional use permit.

The proposed project is a 2.5 mega-watt solar facility which will be composed of approximately 7,155 photo-voltaic (PV) single axis tracking solar panels. The facility will connect to the Dominion Energy power grid. The proposed solar facility will encompass approximately 13 acres. The site is located on the southern end of the county. The perimeter of the solar panels will be fenced and there is a proposed 14-foot gravel access road proposed connecting with Boydton Plank Road. The overall slopes on the site range from 3-20%. The majority of the site has been cleared with few wooded areas remaining.

All parcels surrounding the subject property are zoned A-2 within Dinwiddie County. Brunswick County borders the property to the west and the adjacent properties are zoned agricultural.

The project sponsor and applicant is Boydton Plank Solar 1, LLC c/o Borrego. Borrego proposes to lease land owned by Keith B. and Stephanie S. Freeman for the temporary installation of the facilities, targeting a lifespan of approximately 20 years with the option to extend the lease to 40 years. At the conclusion of the projects' lifecycle the facilities will be decommissioned, removed, and the land use, cover types, lines and grades, and character of the leased area restored to pre-project condition.

One major goal of this development is to minimize the visual impacts the solar panels may pose on the community. In order to minimize the visual impact, buffering is proposed. A landscape plan and color perspective rendering are provided with the application to represent the existing and proposed views from Boydton Plank Road adjacent to the site. The proposed plan will incorporate proposed buffer plantings as well as providing natural buffer areas, which will provide effective visual mitigation. There is no anticipated detriment to the adjacent properties or the county. Public utilities such as water and sewer will not be necessary for the development.

Upon operation of the proposed project there will be no personnel on-site aside from occasional maintenance. Landscape maintenance would be required several times a year. The site is generally self-sufficient and unless the components or any of the panels are malfunctioning, personnel will not be on-site. Hence, there will be virtually no traffic impact due to the development outside of the construction phase. Construction traffic will adhere to state and local regulations. It is expected that the plant (solar facility) will operate 24 hours a days and 7 days a week. Neither smoke, noise, or dust will be produced from the operation of the facility. There are no outside storage areas or hazardous materials associated with the development.

The point of interconnection with the existing electric power transmission system along Route 1 will be located at the southeastern portion of the site near the proposed entrance. The solar photovoltaic electricity generation system consists of the photovoltaic panels, racking systems supporting the panels, inverters, breakers, switches, cabling, power transformers, and generator tie-line and associated materials and equipment will be installed on portions of 13.0 +/- acres of the site (see Attachment, the Layout and Materials Plan).

ATTACHMENTS

P-21-4 Application and Application Package

LAND USE AND ZONING ANALYSIS

The area is generally rural and used for silviculture and agricultural purposes interspersed with rural residential lots. The site includes forested land and wetland/floodplain systems associated with the Nottoway River on the rear portion of the subject property. The properties in the immediate area surrounding the subject land parcels include agricultural and forested land, and low-density single-family residential land uses. The properties to the north, east, south and west are zoned A-2, Agricultural General.

The Site ultimately drains into the Nottoway River. The soils in the general area are Cecil sandy loam and Roanoke loam for the portion of the property located in the floodplain. The western end of the parcel is in Flood Zone A per the Federal Emergency Management Agency (FEMA). The project will sit on the east side of the parcel and is completely outside of the determined floodplain.

A primary purpose of the SED zoning district is to outline the process and requirements for the construction, installation, and operation of solar energy projects in Dinwiddie County in a manner that promotes economic development and ensures the protection of health, safety, and welfare while also avoiding adverse impacts to agricultural lands, endangered species habitats, conservation lands, and other sensitive lands.

COMPREHENSIVE PLAN CITATIONS

The subject property is located within the Rural Conservation Area as defined by the Comprehensive Land Use Plan. The subject property is located within the Rural Conservation Area as defined by the Comprehensive Land Use Plan. While the Comprehensive Plan does not specifically address renewable energy i.e. solar energy generation, it does account for future utility growth and expansion in accordance with the Comprehensive Plan.

Chapter X Future Land Use includes the following relevant special planning considerations, battlefield preservation, and planning guidelines:

B. Special Planning Considerations: includes the following relevant sections:

11. Prime Agricultural Land: (1) Identify the large parcel land areas containing the best agricultural soils, high historic yields, and high probability of continuing in agricultural use. (3) Encourage the location and continuation of agriculture related industrial and commercial uses which support the agricultural community (4) Make regulations sufficiently flexible to permit site locations, where development occurs in identified prime agricultural land areas, that minimize interference with agricultural operations, that use marginally productive land and that cause a minimal loss of productive agricultural acreage.

C. Planning Guidelines:

2. Rural Conservation Land: The Rural Conservation Area includes existing large-lot, low density, single-family subdivisions with lot sizes averaging five (5) acres or greater with limited commercial and industrial development. The above existing areas uses are compatible with the uses permitted in the A-1 and A-2 zoning classifications.

Chapter XI Policies, Goals and Objectives includes the following relevant Policy statements: (1) Preserve the rural character of Dinwiddie County which includes agriculture, open space, clean environment, low taxes, quality education, safe environs, and a strong sense of community. (2) Conserve and protect the County's natural and historic resources and environmentally sensitive areas. (3) Maintain and enhance the County's ability to coordinate a balanced land use program among various types of residential, commercial, and industrial interest by encouraging development within areas defined as growth centers and/or growth corridors. (4) Preserve productive agricultural and timber lands from premature conversion to urban uses by discouraging urban development patterns throughout the County. (5) Provide and maintain needed community facilities and services in a cost-efficient manner. An impact analysis will be required for all major development so that public, health, safety, and welfare are protected.

In addition to the relevant Policy statements, there are additional relevant goals and objectives for each element of the Comprehensive Plan as set forth below:

Agricultural and Timber Lands: Goal: Preserve a significant portion of the County’s productive agricultural and timberlands. Objectives: (b) Protect existing agricultural operations from conflicts with other land uses. (c) Establish a pattern of residential and commercial development that causes minimal conversion of agricultural land or disruption to agricultural areas. (f) Identify and designate prime agricultural land.

Public Facilities and Services: Goal: Provide County facilities and services necessary to promote a safe, healthful, and desirable community in which to live. Objectives: (a) ensure that the intensity, timing, and implementation of future development is subject to the provision of adequate and coordinated public facilities and services. (d) Recognize the need for continued planning in order to maintain adequate and efficient public facilities and services for existing and future residents.

Open Space, Recreation, and Historic Preservation: Goal 3: Preserve “open space” areas throughout the County such that these areas will become an integral part of the community as the growth corridors and centers expand. Objectives: (a) Protect and conserve natural features of the environment, i.e., wetlands, floodplains, etc., from improper development. Goal 4: Preserve and protect historic sites and buildings in Dinwiddie County. (h) Preserve and protect the County’s historic sites and cultural heritage.

Environment: Goal: Protect the county’s high level of environmental quality.

Objectives: (a) Protect the environment and conserve resources for future uses. (b) Assure that new development minimizes adverse impacts on the natural land and/or built environment. (c) Preserve the County’s scenic, cultural, and historic resources as being essential to both the County’s rural and historic character and the overall quality of life. (d) Protect and preserve the County’s agricultural and timber lands and activities. (f) Maintain and enhance the agricultural and farming resources as an integral sector in the County. (g) Protect and preserve the natural and physical environment.

Land Use and Development: Goal: Ensure that sound practices are employed and guide future development in an efficient and serviceable manner, which is protective of the County’s predominately-rural character and concentrates development in designated areas.

Objectives: (f) Encourage development which is compatible with anticipated rates of growth, available resources, and available or planned utilities, schools, and other community facilities and services. (g) Emphasize community planning and industrial development that is designed to economize the costs of roads, utilities, and land use. (h) Make planning and industrial development that is designed to economize the costs of roads, utilities, and land use.

OVERVIEW OF IMPACTS

In the application request for rezoning and a conditional use permit, the applicant submitted a Waters of the U.S. Study, Phase 1 Environmental Site Assessment, Threatened and Endangered Species database review, Conceptual Landscape Plan and Viewshed Analysis, and a Traffic Summary. The proposed Project will be required to obtain additional permits from the U.S. Army Corps of Engineers (USACE). In addition, the construction will take place in accordance with the Virginia Department of Environmental Quality (VDEQ) and the Virginia Department of Transportation (VDOT).

Fiscal Impact

In consultation with the Commissioner of the Revenue the tax liability for this project will be \$15,000 per acre with a one-time \$6,953 land use rollback. The applicant is offering the County a one time upfront payment of \$40,000 for the project, which has a future value of \$68,500 over the 20 years of the project. The applicant is suggesting applying the payment to a new County park, maintenance of roads, or possibly an emergency services project.

Cultural and Environmental Impacts

The applicant commissioned the attached Cultural Resources Survey and the Comprehensive Natural Resources Studies Report. A “Waters of the U.S. Study” (WOUS) was performed by ECS Mid-Atlantic, LLC dated October 5, 2020. The study has been included in this application package for your reference. Streams on the property will not be impacted by the project. The wetlands are delineated on the Conditional Use Permit Site Plan, which has also been submitted for review. Wetland impact has been avoided and minimized. At this time, a small finger of wetland (approximately 0.21 acres) is proposed to be impacted. Appropriate wetland permitting from state and federal jurisdictions will be applied for during the site plan permitting phase.

A Preliminary Cultural Resources Assessment was performed dated July 31, 2020 by The James River Institute for Archaeology, Inc. The study concluded that no archaeological sites exist on the property.

The western end of the parcel is in Flood Zone A per the Federal Emergency Management Agency (FEMA). The development will sit on the east side of the parcel and is completely outside of the determined floodplain.

Additionally, a “Phase I Environmental Site Assessment” was performed ECS Mid-Atlantic, LLC dated August 24, 2020. The assessment concluded that there is no evidence of recognized conditions for the subject parcel, hence, no further action is necessary.

ECS Mid-Atlantic, LLC also performed a Threatened and Endangered (T&E) Species database review for the site dated September 29, 2020. The review included conducting a search of the Virginia Department of Wildlife Resources (VDWR), Fish and Wildlife Information Services (FWIS) threatened and endangered species within a two-mile radius of the site. There were several species listed in the review. However, the habitat for most of the species does not appear to be present on the site and the development doesn’t appear to pose adverse effects on any of the species. The review also included a U.S. Fish and Wildlife Services (USFWS) review which listed the Federally threatened northern long-eared bat. It is not anticipated that the development will pose adverse effects on the species. It will critical to adhere to the local erosion and sediment control regulations due to the species that may be on or near the site.

The Conceptual Landscape Plan and Viewshed Analysis indicate that the applicant plans to utilize the existing vegetation and trees to screen the northern, western and southern portions of the Project from view while planting new evergreen vegetation to screen the Project from the Route 1 viewshed.

The aforementioned studies are included with the application package. Development will be done in accordance with state and local regulations.

School System, Public Safety, & Public Utilities Impacts

There are no impacts to the school system with the proposed rezoning allowing for construction of the solar energy generating facility. The potential impact on public safety with the rezoning of the subject property include the proposed solar arrays, inverter and transformers, and electric substation and generators having to address fire protections as required by the applicable National and local Fire Code and Building Code. The impact on public utilities involves the point of interconnection with the existing transmission line.

Transportation Impacts

The site is located on Boydton Plank Road (Route 1). It is a three-lane (two lanes northbound), undivided, asphalt surfaced roadway without shoulders. Ditches are located along both sides of Blue Star highway and the posted speed limit is 55 miles per hour. The closest intersecting roads are Westover Drive, approximately 4,000 feet northeast of the subject property, and Little Deer Road, approximately 2,000 feet south of the subject property. There are several residential drives that also connect to Boydton Plank Road.

The Average Daily Traffic Volume for this section of Boydton Plank Road is 1600 vehicles per day as determined by the Virginia Department of Transportation (VDOT) and published in their 2019 Annual Average Traffic Volume Estimates by Section of Route for Dinwiddie County.

The solar facility is unmanned and there are few regular daily vehicle trips to the site anticipated, the traffic impacts of the proposed solar facility once it is up and running is nearly zero. There would only be less than ten trips generated per month anticipated for maintenance of the site. The frequency and number of additional vehicle trips daily and at the peak hour are so low that the impact will be nearly imperceptible given the existing and anticipated traffic along this section of Boydton Plank Road.

There will be additional traffic anticipated, temporarily during construction, estimated to be 6 to 8 months, which will have a temporary impact on the daily traffic as well as the peak hour volumes. As such, the following items are anticipated immediately preceding and following the construction period: 1) 1000' feet in either direction from the access point, along Boydton Plank Road, on the site must be clearly marked as a Construction Zone using all appropriate signage in accordance with VDOT's construction zone guidelines; and 2) The roadway speed limit 1,000' feet in either direction from the access point on the site must be temporarily reduced to 40 mph (from the current 55 mph) for at least one month before the construction work begins, in order to help drivers acclimate to the reduced speed limit before the construction traffic begins to arrive at the site, until one month after the construction ends. The applicant will work closely with VDOT and County staff during the site planning and permitting stage to comply with necessary guidelines.

To ameliorate the impacts of the increased traffic on area roads VDOT is recommending that a Construction Traffic Management Plan (CTMP) be required to account for the transportation impacts related to the development of the property. The CTMP includes (1) a plan to show proposed construction access routes to the development site from the State primary routes; (2) a pre-construction assessment of the condition of the secondary roadways to be used as a haul route to the facility with a commitment from the applicant to repair any damage caused during construction and to restore the roadways to pre-construction conditions; and (3) a plan to identify on-site areas suitable for parking for the construction workers and areas exist on-site to allow trucks to be unloaded and to turn around without having to back onto State maintained roadways.

Additionally, VDOT anticipates that multiple low-volume commercial entrances are required to serve the proposed solar energy facility. The low volume commercial entrance has to demonstrate that stopping sight distance based on the posted speed limit is available at the proposed entrance location. All future transportation related improvements for the construction entrances and commercial entrances will have to meet VDOT design and construction requirements and standards and be permitted through VDOT.

PLANNING COMMISSION ACTION

The Planning staff has reviewed the request to rezone the property from A-2, Agricultural General to SED, Utility Scale Solar Energy District to allow for a solar energy generating project and with the subject request, there are impacts and the Planning Commission ultimately must weigh those impacts against the benefits of the rezoning request.

The Planning Commission should consider if the rezoning request is compatible and not a substantial detriment with the surrounding zoning pattern and surrounding property and that it conforms to the underlying uses outlined in the Rural Conservation Area in the Comprehensive Land Use Plan for this general area of the County.

PLANNING COMMISSION RECOMMENDATION

Since this is a zoning matter, the standard statement regarding the Planning Commission's recommendation on this zoning matter must be read. In order to assist, staff prepared the following statement:

BE IT RESOLVED, that in order to assure compliance with Virginia Code Section 15.2-2286(A) (7) it is stated that the public purpose for which this Resolution is initiated is to fulfill the requirements of public necessity, convenience, general welfare and good zoning practice, I move that rezoning request, P-21-4, as presented be recommended for (approval, or disapproval) to the Board of Supervisors.