CONTRA COSTA COUNTY
DEPARTMENT OF CONSERVATION & DEVELOPMENT
30 Muir Road, 2nd Floor
Martinez, CA 94553
Telephone: (925) 655-2917 Fax: (925) 674-7258

TO: Adrian Veliz, Current Planning Section

FROM: Jamar Stamps, Transportation Planning Section, ALUC staff

DATE: September 30, 2025

SUBJECT: **Comments on proposed 6.6-megawatt solar generation facility County File #LP25-2033, APN: 002-210-021**

Thank you for the opportunity to comment on the subject project. The applicant is requesting a review and determination of consistency with the *Contra Costa Airport Land Use Compatibility Plan* ("Plan") for the proposed construction and operation of the Hubard Farming & Forestry Clean Power Project, a 6.6-megawatt solar generation facility with a battery storage system. The solar arrays will be ground mounted to a single axis tracker system. The subject site is located west of Byron Highway, approximately ¾-mile northeast of the closest Byron Airport Runway (Runway 12). The Airport Land Use Commission ("ALUC" or "Commission") relies on the Plan, as well as applicable state and federal regulations to review airport (non-aviation) and adjacent land use development proposals. After reviewing the information provided (proposed project plans referred to ALUC staff 9/5/25), ALUC staff finds the following:

<u>County File #LP20-2028 and LP20-2029 (Byron Solar Projects)</u>

In December 2020, the ALUC held a public hearing on two proposed commercial photovoltaic ("PV") solar facilities: 1) 6.5-acre PV facility on a 10-acre parcel (APN 002-210-019), and 2) 35-acre PV facility on a 126.48-acre parcel (APN 002-210-025). Both proposed solar facilities include the use of a single axis tracker system.

Glare impact studies were completed for each of the proposed solar facilities consistent with Federal Aviation Administration ("FAA") guidance and concluded neither proposed solar facility would result in hazardous glare (see attached 12/17/20 ALUC staff report, Section V). FAA Obstruction Evaluation/Airport Airspace Analysis' were also completed and determined marking and lighting for aviation safety was not necessary.

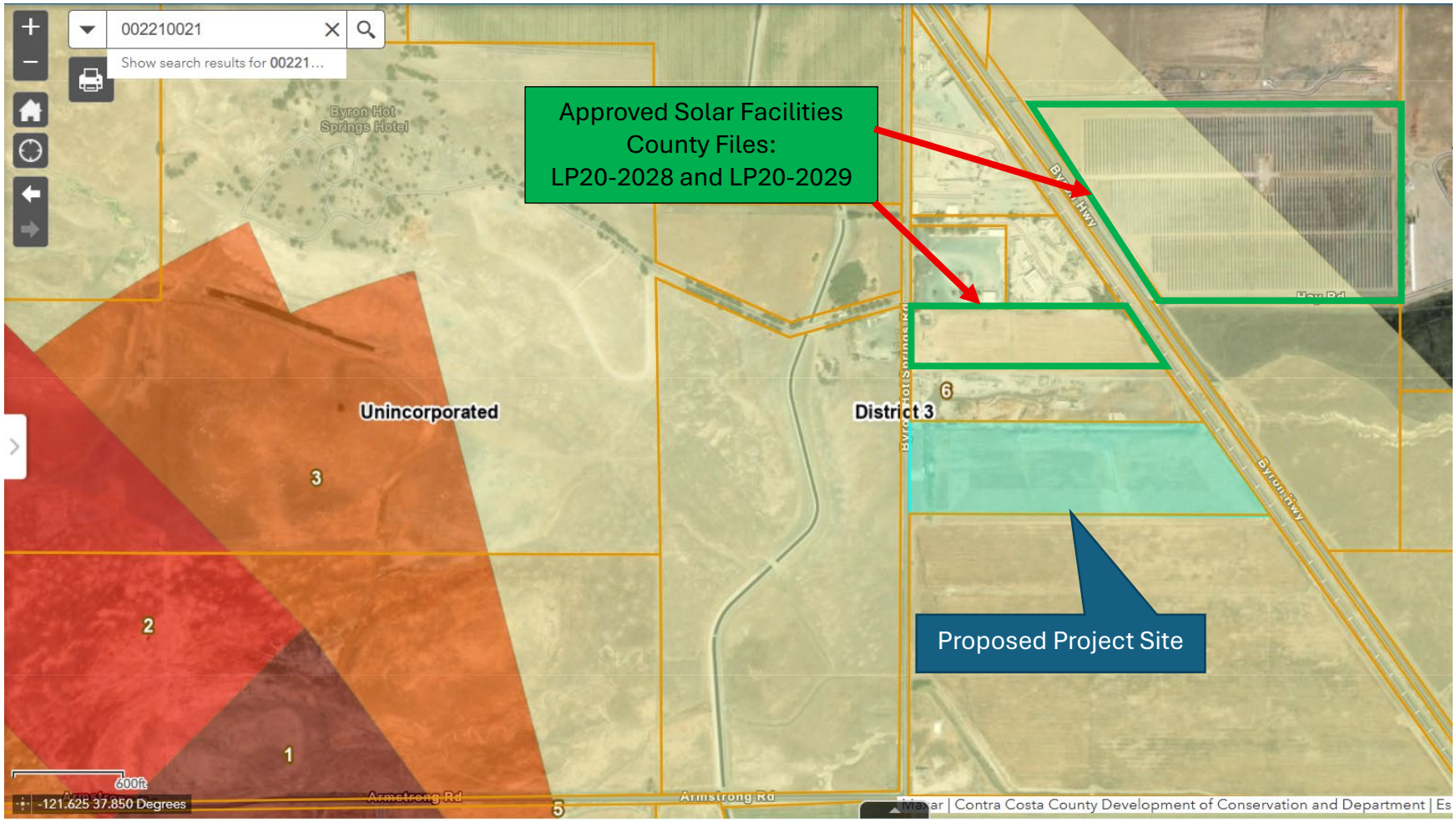
The Commission conditionally approved a motion (vote: 7-0) determining the subject projects are consistent with the *Contra Costa Airport Land Use Compatibility Plan* ("ALUCP"). The ALUC determination letter is attached for reference.

Conclusion

Based on the proximity of the proposed project site relative to previously studied solar facilities of a similar scale, ALUC staff finds that the proposed project does not contain characteristics likely to result in inconsistencies with ALUCP compatibility criteria.

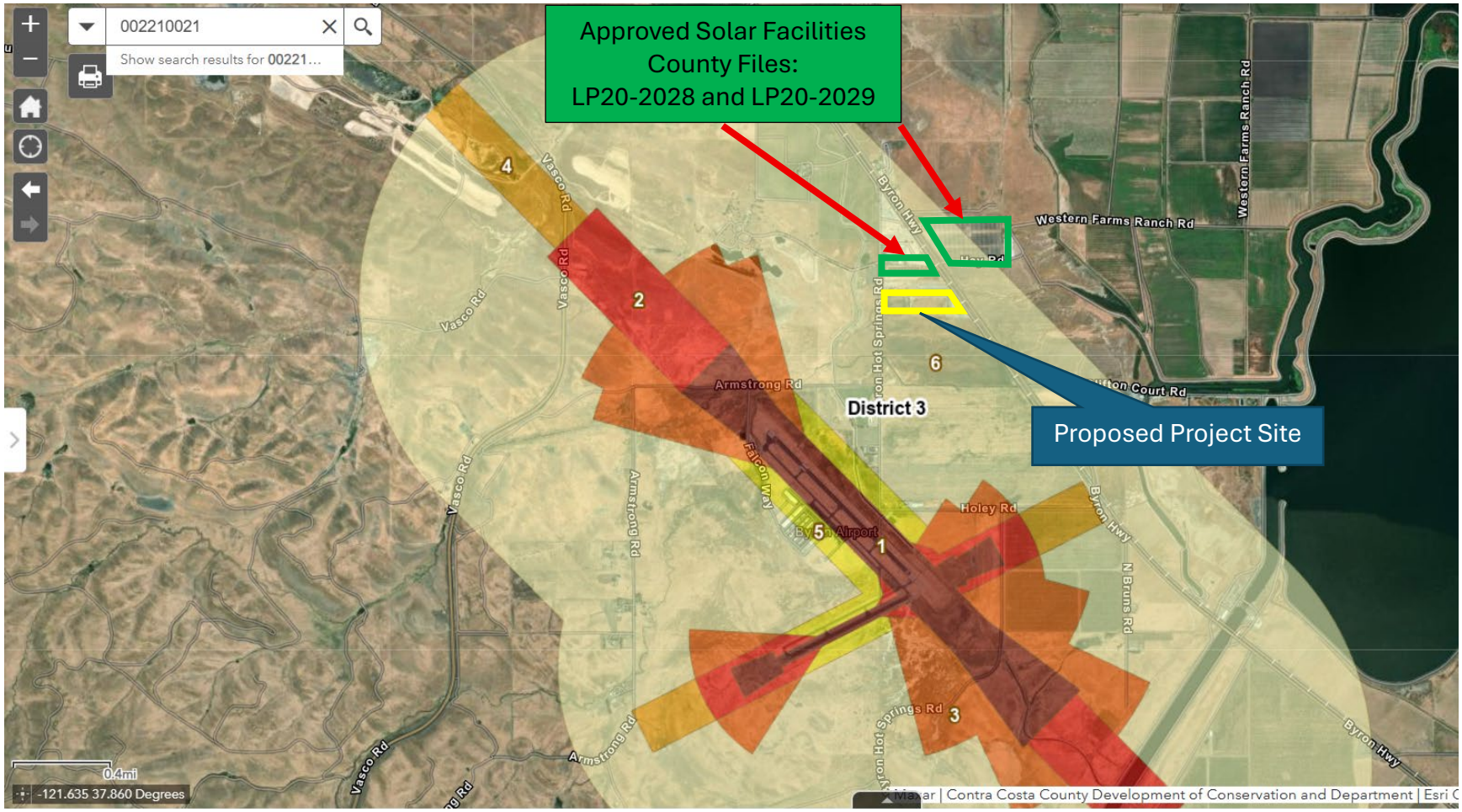
att: a) Aerial Site Map
b) 12/17/20 ALUC Staff Report w/out exhibits (exhibits available upon request)
c) 12/17/20 ALUC Determination Letter

Byron Airport Safety Zone 6



Project Title, File:	**6.6-Megawatt Solar Generation Facility, County File# LP25-2033**
Project Site Address:	**5675 Hope Way, Byron, CA 94514**
Assessor's Parcel Number ("APN"):	**002-210-021**
Byron Airport Influence Area:	**Proposed Project Site located west of Byron Highway, approximately ¾-mile northeast of Byron Airport Runway 12**

Byron Airport Safety Zone 6



Department of Conservation and Development

Airport Land Use Commission

Thursday, December 17, 2020 – 7:00 P.M.

STAFF REPORT

Agenda Item # 4.a.

Project Title:	Renewable Properties, LLC Byron Solar Project
ALUC File #:	County Files #LP20-2028 and #LP20-2029
Lead Agency:	Contra Costa County
Applicant/Owner:	RPCA Solar 2, LLC and RPCA Solar 3, LLC
Site Address/Location:	10-acre site (6.5-acre Solar Project) 5525 Hope Way, Byron, CA Assessor's Parcel Number: 002-210-019 126.48-acre site (35-acre Solar Project) Byron Highway/Rankin Road, Byron, CA Assessor's Parcel Number: 002-210-025
Staff Recommendation(s):	APPROVE with condition(s).
List of Exhibits:	Exhibit A: Proposed Project Plans Exhibit B: ALUC Comment Letter (7/26/18) Exhibit C: Byron Airport Compatibility Zones Exhibit D: Glare Impact Studies Exhibit E: FAA Aeronautical Studies
Staff Contact:	Jamar Stamps, AICP, (925) 674-7832

I. PROJECT SUMMARY

The applicant requests approval of Land Use Permits for the installation of two proposed commercial photovoltaic ("PV") solar facilities:

A. 6.5-acre PV facility on a 10-acre parcel.
B. 35-acre PV facility on a 126.48-acre parcel.

Proposed improvements also consist of new ancillary infrastructure (i.e., meters, transformers, etc.), fencing, and new paved private access roads. The projects will connect to existing utility poles. The two project sites are located along Byron

Highway near the intersection of Rankin Road in the Byron area of unincorporated Contra Costa County ("County"). Proposed project plans are provided in Exhibit A.

II. RECOMMENDATION

APPROVE the proposed projects per the following condition:

A. Glare or distracting lights, which could be mistaken for airport lights, could pose a flight hazard and shall be shielded downward to ensure they do not aim above the horizon.

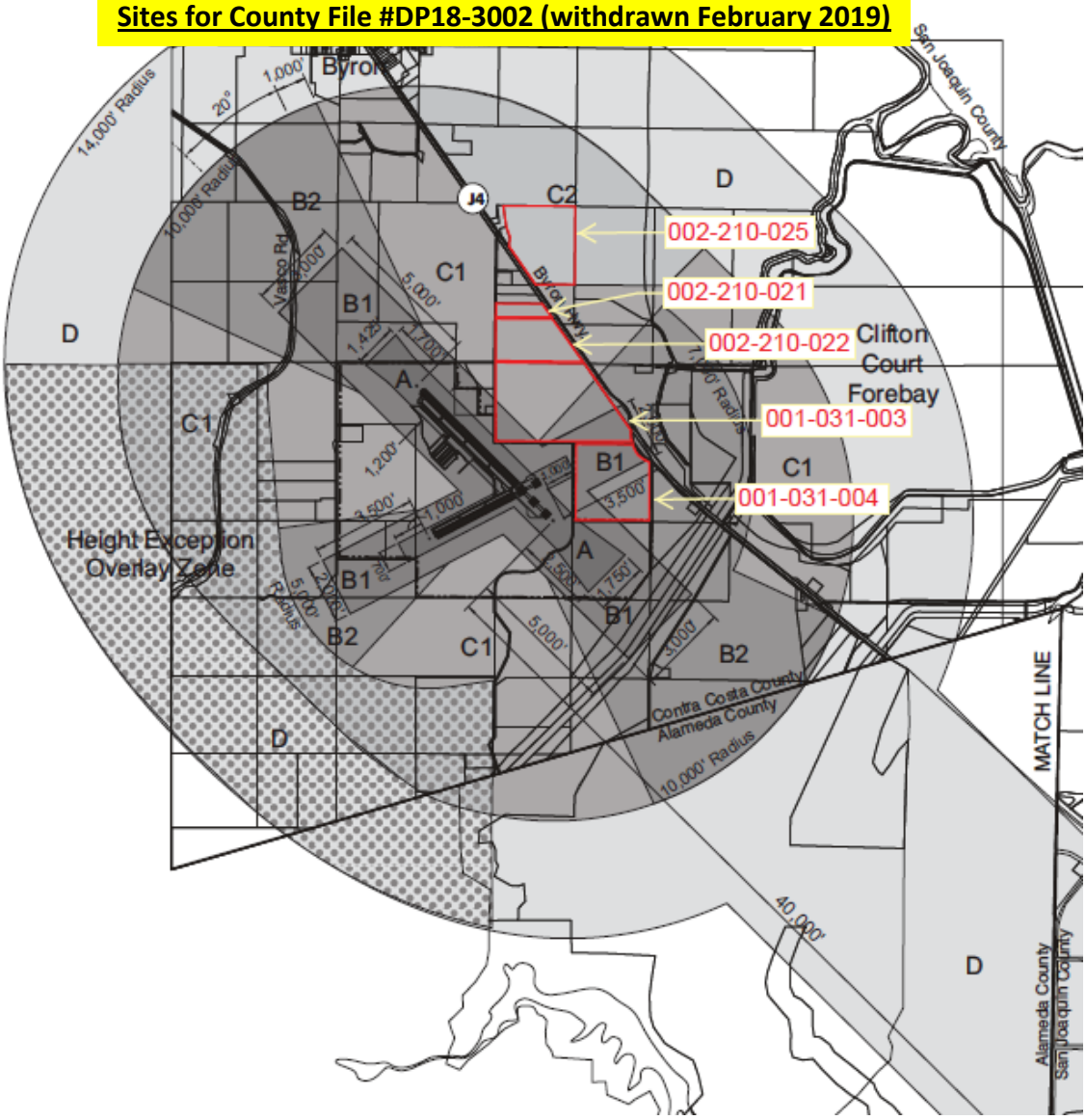
III. BACKGROUND

County File #DP18-3002 (withdrawn)

In 2018, the County received a Development Plan application for a proposed outdoor solar power generation facility with other agricultural uses including grazing, honeybee foraging, habitat conservation, as well as a rezone from General and Heavy Agricultural to Planned Unit District over approximately 621 acres encompassing five parcels (Figure 1). Contra Costa Airport Land Use Commission ("ALUC" or "Commission") staff received a project referral in July 2018 and sent a comment letter to the project planner dated July 26, 2018 (Exhibit B).

It is important to note the previous proposal (DP18-3002) was a separate PV project with different project sponsors. The previously withdrawn project was not resubmitted in any form and is not affiliated with the proposed project currently under consideration.

Figure 1
Sites for County File #DP18-3002 (withdrawn February 2019)



Due to the project including a rezoning, a public hearing to determine consistency with the Contra Costa Airport Land Use Compatibility Plan ("ALUCP" or "Plan") would be required[1]. The scale of the project and partial location within Byron Airport's Compatibility Zone 'A' would also have necessitated an ALUC public hearing and consistency determination. In February 2019, the project application was withdrawn due to several issues including impacts to sensitive habitat and biological resources and conflicts with the future Vasco Road/Byron Highway Connector. The ALUC did not convene to act on this project.

[1] Contra Costa Airport Land Use Compatibility Plan, Countywide Policy 1.5.1.

County File #LP20-2028 and #LP20-2029 (current proposed projects)

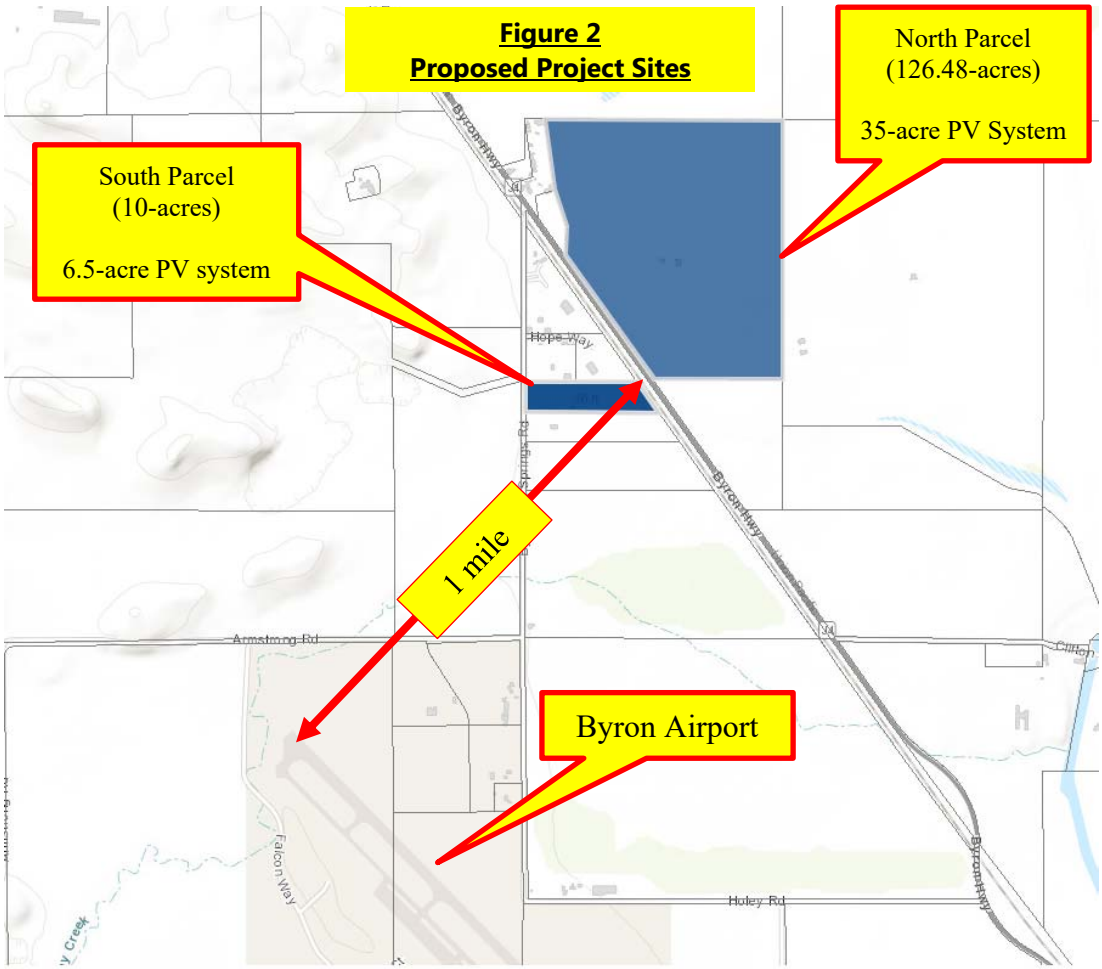
November 18, 2020, ALUC staff received a Notice of Intent to Adopt a Mitigated Negative Declaration from the County which included the California Environmental Quality Act ("CEQA") Initial Study/Mitigated Negative Declaration ("IS/MND") document and full set of project plans. At the November 2020 public meeting, the Commission instructed ALUC staff to bring the projects before the full Commission for a consistency determination on December 17, 2020. The IS/MND comment deadline is December 18, 2020.

The subject sites include (Figure 2):

A. 10-acre site (APN 002-210-019, herein referred to as "South Parcel"), and

B. 126.48-acre site (APN 002-210-025, herein referred to as "North Parcel").

Figure 2
Proposed Project Sites



IV. AIRPORT LAND USE COMPATIBILITY PLAN ANALYSIS

Byron Airport is southwest of the project area, approximately one mile from the end of Runway 12. Both parcels are adjacent to Byron Highway/State Route 4 ("SR-4"). The South Parcel is west of Byron Highway/SR-4 and the North Parcel is east of SR-4. Both parcels are mostly vacant except the northwest corner (approximately 800 square feet) of the South Parcel contains an existing approved (2011) telecommunications site with a 100-foot antenna tower. Land uses in the area are mainly agricultural, and light and heavy industrial. Byron Hot Springs is immediately west of the project area. The sites are accessed via Byron Hot Springs Road (South Parcel) and Rankin Road (North Parcel).

The proposed projects are generally consistent with the ALUCP and do not contain characteristics likely to result in inconsistencies with the Plan's compatibility criteria. Plan policies that affect the proposed projects are provided as follows:

A. Airport Influence Area ("AIA"): The project sites are within the Airport Influence Area ("AIA") of the Byron Airport.

B. Noise Compatibility Criteria: The project sites are not within any of the Byron Airport noise contours.

C. Safety Compatibility Criteria: The project sites are within two of Byron Airport's Compatibility Zones ("CZ") – as defined in the Plan (Figure 4B) – CZ-C1 and CZ-C2 (Exhibit C). Compatibility criteria for both CZs include the following:

6.5 Compatibility Zone 'C1' Criteria

6.5.2. Nonresidential Development

(a) Except as indicated in Byron Airport Policy 6.9.1, nonresidential uses within Compatibility Zone C1 shall be limited to:

(1) An average intensity of no more than 100 people per gross acre on the site at any time.
(2) A maximum intensity on any single acre (measured as a square) of no more than 300 people at any time.
(3) In no case shall a proposed development be designed to accommodate more than the average number of people per acre indicated in Paragraph (1) above times the gross acreage of the

project site. A project site may include multiple parcels.

(b) Large shopping centers (500,000 or more square feet), theaters, stadiums, multistory motels or hotels with conference centers, and similar uses typically do not comply with these intensity criteria, but are acceptable if the usage is limited through building design, use permit, and/or other mechanisms.

6.5.3. Uses Specifically Prohibited — The following uses are prohibited regardless of their usage intensity:

(a) Children's schools.

(b) Hospitals and nursing homes.

6.5.4. Height Limitations — Unless a specific exemption is granted (see Countywide Policy 4.3.2.), the height of objects within Compatibility Zone C1 shall be limited in accordance with the Byron Airport Airspace Protection Surfaces drawing (Figure 4A).

(a) Generally, there is no concern with regard to any object up to 100 feet tall unless it is located on high ground or it is a solitary object (e.g., an antenna) more than 35 feet taller than other nearby objects.

(b) ALUC review is required for any proposed object taller than 100 feet.

6.5.5. Other Development Conditions — Proposed development within Compatibility Zone C1 shall meet the following additional conditions:

(a) Open land characteristics as described in Byron Airport Policy 6.9.4 shall be provided on at least 10% of the land within Compatibility Zone C1.

(b) A deed notice shall be required as a condition for approval of any new residential development in this zone. See Countywide Policy 4.4.3.(b).

6.6 Compatibility Zone 'C2' Criteria

6.6.2. Nonresidential Development — See criteria for Compatibility Zone C1.

6.6.3. Uses Specifically Prohibited — See criteria for Compatibility Zone C1.

6.6.4. Height Limitations — See criteria for Compatibility Zone C1.

6.6.5. Other Development Conditions — See criteria for Compatibility Zone C1.

D. Airspace Protection Criteria: The project sites are within Byron Airport Horizontal Surface 226' M.S.L. ("mean sea level") (150' above airport elevation of 76' M.S.L.), as shown on Figure 4A of the Plan. Proposed object heights are no higher than 8 to 10 feet (which approximates the height of the top of a PV array tilted at 0 degrees), and the PV systems will utilize existing utility poles. Based on the project area's distance from the end of the nearest Byron Airport runway (Runway 12) and elevation above mean sea level, the proposed project would not obstruct Byron Airport's protected airspace.

E. Overflight: The project sites are located near Byron Airport's flight paths where the presence of frequent aircraft overflights could potentially be annoying to people on the ground. Annoyance from the presence of frequent aircraft overflights and perceived safety could be factors for concern but vary depending on the individual and therefore tend to be subjective. However, the characteristic of overflight concerns typically affect residential development, or development intending to host sensitive receptors (e.g. schools, hospitals, etc.). Therefore, based on the nature of the proposed land use, overflight should not be a compatibly concern.

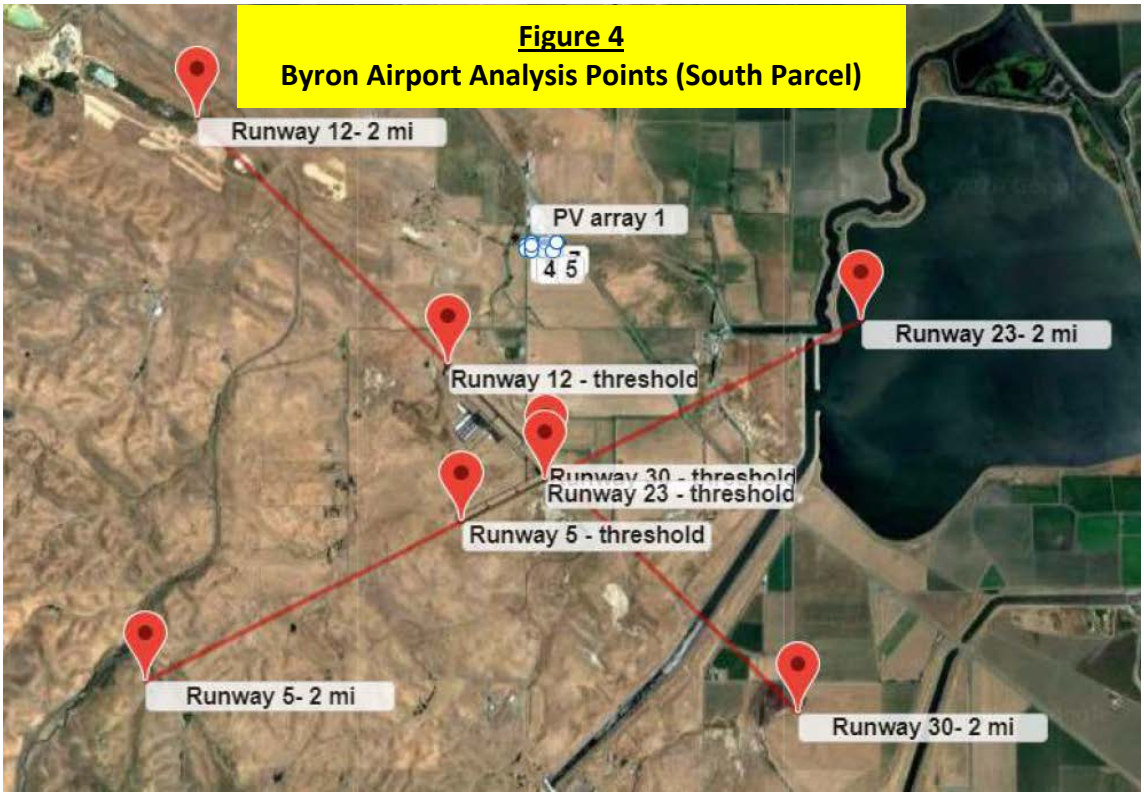
V. DISCUSSION

Glare Impact Study (September 2020)

September 2020, glare impact studies were completed for both projects (Exhibit D). To calculate the potential for aviation hazards from glare, the projects were modeled in a glare impact analysis software program originally developed by the Federal Aviation Administration ("FAA") and United States Department of Energy ("USDOE") (Solar Glare Hazard Analysis Tool or "SGHAT"), which was later improved by a private company (ForgeSolar) and accepted by the FAA. This model uses various inputs including project and site-specific attribute data to analyze the potential for solar glare of any intensity for every minute of the year at several user-defined observation points and/or routes (Figures 3 and 4). Specifically, the analysis of the Byron Highway Solar projects assessed the final approach flight paths for the four runways at Byron Airport from 16 project site observation points.

Figure 3
Byron Airport Analysis Points (North Parcel)

Figure 4
Byron Airport Analysis Points (South Parcel)



FAA Review of Solar Energy System Projects

October 2018, the FAA and USDOE developed policy guidance for review of solar energy projects on federally obligated airports. This guidance assists local agencies in evaluating solar energy projects to ensure safety by eliminating the potential for ocular impact[2] to pilots and/or air traffic control facilities due to glare from such projects. For a proposed solar energy project to be deemed to have no ocular impact it must meet the following standards:

A. No potential for glint or glare in the existing or planned Airport Traffic Control Tower ("ATCT") cab, and

B. No potential for glare or ''low potential for after-image'' along the final approach path for any existing landing threshold or future landing thresholds (including any planned interim phases of the landing thresholds) as shown on the current FAA-approved Airport Layout Plan ("ALP"). The final approach path is defined as two (2) miles from fifty (50) feet above the landing threshold using a standard three (3) degree glidepath.

Per FAA guidance, ocular impact must be analyzed over the entire calendar year in one (1) minute intervals from when the sun rises above the horizon until the sun sets below the horizon[3].

The analysis concluded neither project would create glare that would result in a hazard to air navigation. Also, Byron Airport does not have an existing or planned ATCT, thus resulting in no impact. The SGHAT results indicated no glare of any intensity during any minute of the year for any of the flight paths when the single-axis tracker is operating traditionally and not backtracking[4]. However, if trackers automatically backtrack to a zero-degree angle (parallel with the ground) near sunrise and sunset, then there is the possibility that during a 5-minute period near sunrise in February, March, September, and October pilots landing on Runway 12 could experience low-intensity (green) glare[5]. Similarly, there is the possibility that during a 5-minute period near sunset in part of April, May, July, and August pilots

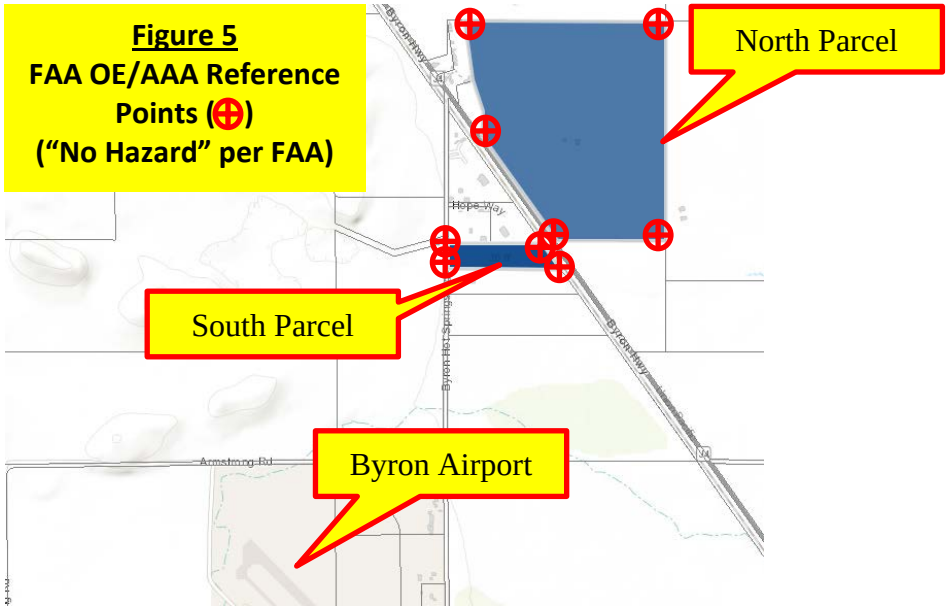
[2] Ocular impact is generally defined on a plot (function of retinal irradiance and the subtended angle of the glare source) of potential hazard from solar glare ranging from "low potential" to "retinal burn/permanent eye damage."
[3] U.S. Department of Transportation, FAA Review of Solar Energy System Projects on Federally Obligated Airports, Federal Register / Vol. 78, No. 205 (2013)
[4] Solar backtracking is an automated tilt-control procedure to minimize PV panel-on-panel shading and thus maximize electricity production.
[5] SGHAT software classifies solar glare in terms of ocular impact. The categories of impact are: Green Glare = low impact/low potential for after image; Yellow Glare = potential for temporary after image; Red Glare = potential to cause retinal burn (permanent eye damage).

landing on Runway 23 could experience low-intensity (green) glare during their final landing approach. It is important to note during these times of glare, the sun is close to the horizon and causing much more glare than the reflections from the PV projects. The FAA considers an unlimited amount of green glare during the final landing approach as non-hazardous.

Federal Aviation Administration Obstruction Evaluation / Airport Airspace Analysis ("OE/AAA")

October 2019, the FAA completed the OE/AAA (Exhibit E) for the proposed projects. The FAA OE/AAA used multiple reference points (corners of each parcel) for both the North Parcel (5) and South Parcel (4), thus resulting in nine total no hazard determinations (Figure 5). The determinations also did not deem marking and lighting necessary for aviation safety.

Figure 5
FAA OE/AAA Reference Points (⊕)
("No Hazard" per FAA)



VI. CONCLUSION

The proposed project does not contain characteristics that result in inconsistencies with ALUCP compatibility criteria. Glare impact studies prepared in accordance with FAA guidance resulted in less than significant ocular hazards. Additionally, FAA OE/AAA determined the proposed projects result in no hazard to air navigation. Therefore, ALUC staff recommends the Commission find the proposed projects consistent with the Plan and approve the projects.

Airport Land Use Commission

c/o Department of Conservation & Development

30 Muir Road
Martinez, CA 94553

Phone: 1-855-323-2626

Contra Costa County

December 18, 2020

Joseph Lawlor Jr, AICP, Project Planner
Contra Costa County
Conservation and Development Department – Current Planning Section
30 Muir Rd
Martinez, CA 94553

RE: Application Review – Renewable Properties, LLC Byron Solar Projects
County Files #LP20-2028 and #LP20-2029
Assessor Parcel Numbers 002-210-019 and 002-210-025

Dear Mr. Lawlor:

At the December 17, 2020 meeting of the Contra Costa Airport Land Use Commission ("ALUC" or "Commission"), the Commission unanimously approved a motion (vote: 7-0) determining the subject project is consistent with the *Contra Costa Airport Land Use Compatibility Plan* ("ALUCP").

The project was approved subject to the following condition:

1. Glare or distracting lights, which could be mistaken for airport lights, could pose a flight hazard and shall be shielded downward to ensure they do not aim above the horizon.

If you have any questions regarding the above comments, please do not hesitate to contact me at (925) 674-7832 or e-mail at jamar.stamps@dcd.cccounty.us. Thank you for the opportunity to review the proposed project.

Sincerely,

Jamar Stamps, AICP
ALUC staff

cc: ALUC Commissioners
Halimi, Aaron (RPCA Solar, LLC)