AIRPORT LAND USE COMMISSION
RIVERSIDE COUNTY
AGENDA

Riverside County Administrative Center
4080 Lemon Street, 1st Floor Board Chambers
Riverside, California

Thursday 9:30 A.M., December 12, 2019

County Administrative Center
4080 Lemon St, 14th Floor
Riverside, CA 92501
(951) 955-5132

www.rcaluc.org

NOTE: If you wish to speak, please complete a "SPEAKER IDENTIFICATION FORM" and give it to the Secretary. The purpose of the public hearing is to allow interested parties to express their concerns. Comments shall be limited to 5 minutes and to matters relevant to the item under consideration. Please do not repeat information already given. If you have no additional information, but wish to be on record, simply give your name and address and state that you agree with the previous speaker(s). Also please be aware that the indicated staff recommendation shown below may differ from that presented to the Commission during the public hearing.

The staff report and related documentation for each agenda item are available online at our website at www.rcaluc.org. Non-exempt materials related to an item on this agenda submitted to the Airport Land Use Commission or its staff after distribution of the agenda packet are available for public inspection in the Airport Land Use Commission's office located at 4080 Lemon Street, 14th Floor, Riverside, CA 92501 during normal business hours.

Live Streaming of the meeting will be available during the meeting on our website at www.rcaluc.org.

In compliance with the Americans with Disabilities Act, if any accommodations are needed, please contact Barbara Santos at (951) 955-5132 or E-mail at basantos@rivco.org. Request should be made at least 48 hours or as soon as possible prior to the scheduled meeting.

1.0 INTRODUCTIONS

1.1 CALL TO ORDER

1.2 SALUTE TO FLAG

1.3 ROLL CALL

2.0 PUBLIC HEARING: CONTINUED ITEMS

MARCH AIR RESERVE BASE

2.1 ZAP1386MA19 – Core 5 Industrial Partners (Representative: EPD Solutions) – County of Riverside Case No. PPT190028 (Plot Plan). A proposal to construct a 197,856 square foot industrial manufacturing building with mezzanines on 10.96 acres located easterly of Harvill Avenue, northerly of Daytona Cove, westerly of 215 freeway, and southerly of Orange Avenue. The applicant also proposes rooftop solar panels totaling 164,300 square feet (Airport Compatibility Zone C2 of the March Air Reserve Base/Inland Port Airport Influence Area). Continued from 11-14-19. Staff Planner: Paul Rull at (951) 955-6893, or e-mail at prull@rivco.org

Staff Recommendation: CONTINUE to 1-9-20

BERMUDA DUNES AIRPORT

2.2 ZAP1080BD19 – Michael Griswold (Representative: Egan Civil, Inc.) – County of Riverside Case No. PPT190025 (Plot Plan), TPM37675 (Tentative Parcel Map). A proposal to establish a 5-unit 6,748 square foot vehicle and RV/boat storage building with a condominium parcel map for each of the units on 0.70 acres located southerly of Country Club Drive and Interstate 10 freeway, westerly of Jefferson Street, easterly of Adams Street, and northerly of the Bermuda Dunes Airport (Airport Compatibility Zones A and B2 of the Bermuda Dunes Airport Influence Area). Continued from 11-14-19. Staff Planner: Paul Rull at (951) 955-6893, or e-mail at prull@rivco.org

Staff Recommendation: CONTINUE to 1-9-20

3.0 PUBLIC HEARING: NEW ITEMS

BANNING AIRPORT

3.1 ZAP1037BA19 – Bremco Construction, Inc., (Representative: William Lewis) – City of Banning Case Nos. CUP19-8005 (Conditional Use Permit), DR19-7013 (Design Review). A proposal to establish a truck terminal facility which includes a 11,670 square foot office building with mezzanine, a 63,360 square foot cross loading dock terminal, a 1,042 square foot line-haul building, a 14,232 square foot maintenance building, two above ground diesel fuel storage tanks totaling 40 gallons, and a 80 square foot security guard building on 39.07 acres located northerly of Westward Avenue, easterly of Hathaway Street, and southerly of Banning Municipal Airport (Airport Compatibility Zones B2 & D of the Banning Municipal Airport Influence Area). Staff Planner: Paul Rull at (951) 955-6893, or e-mail at prull@rivco.org

Staff Recommendation: CONDITIONALLY CONSISTENT

MARCH AIR RESERVE BASE

3.2 ZAP1388MA19 – REC Solar (Representative: Tomas Mendez) – City of Moreno Valley Case No. PEN19-0200 (Plot Plan). A proposal for the installation of a 2,804 kilowatt solar roof top panel system (ONT 6) on the existing 1,173,709 square foot Amazon warehouse/distribution center on a 35.4 acre parcel located at 24208 San Michele Road. (A previous proposal to establish a 4014.36 kilowatt solar rooftop panel system on the same building had been found consistent by the ALUC, and was approved by the City's Planning Commission, but is set to expire) (Airport Compatibility Zone C1 of the March Air Reserve Base/Inland Port Airport Influence Area). Staff Planner: Paul Rull at (951) 955-6893, or e-mail at prull@rivco.org

Staff Recommendation: CONTINUE to 1-9-20

4.0 ADMINISTRATIVE ITEMS

4.1 Director's Approvals

4.2 Federal Aviation Administration Determination for ZAP1092FV19

4.3 Commissioner Public Contact Information

5.0 APPROVAL OF MINUTES

November 14, 2019

6.0 ORAL COMMUNICATION ON ANY MATTER NOT ON THE AGENDA

7.0 COMMISSIONER'S COMMENTS

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COUNTY OF RIVERSIDE
AIRPORT LAND USE COMMISSION

STAFF REPORT

AGENDA ITEM:	~~3.2~~ **2.1**
HEARING DATE:	~~November 14~~ **December 12**, 2019
CASE NUMBER:	ZAP1386MA19 – Core 5 Industrial Partners (Representative: EPD Solutions)
APPROVING JURISDICTION:	County of Riverside
JURISDICTION CASE NO:	PPT190028 (Plot Plan)
LAND USE PLAN:	2014 March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan
Airport Influence Area:	March Air Reserve Base
Land Use Policy:	Zone C2
Noise Levels:	Below 60 CNEL from aircraft

MAJOR ISSUES: The County of Riverside Climate Action Plan requires nonresidential development to utilize on-site renewable energy production (usually from photovoltaic solar panels) to meet 20 percent of total energy demand, as a means to offset greenhouse gas emissions, unless infeasible. (A determination that a project would be hazardous to air traffic in conjunction with an Airport Land Use Commission review is acknowledged as a factor that may result in infeasibility. In that case, the applicant is nevertheless required to install on-site renewable energy production to the greatest extent feasible.) The applicant has identified a solar panel configuration that provides for renewable energy production to the greatest feasible extent consistent with maintaining glare at the acceptable "green" level. The proposal provides for 164,300 square feet of solar panels on the buildings with anti-reflective coating, a fixed tilt of 10 degrees with no rotation, and an orientation of 180 degrees. This proposal would result in "green" level glare (low potential for temporary after-image) within the Air Force traffic patterns and no glare within the 2 mile approach to runways. "Green" level glare complies with the Federal Aviation Administration Interim Policy pertaining to acceptable levels of glare.

~~**At the time this staff report was written, the Air Force has not completed its review of the solar glare study and has not given their acceptance.**~~ ***On November 7, 2019, the Air Force consultant advised that the airport management operations group of the Base had reviewed the solar glare study and had no objections. On November 13, 2019, the consultant had indicated that the pilot***

squadron wing of the Base had not yet completed its review of the glare study, which is the reason why the item was continued to the December hearing.

RECOMMENDATION: Staff recommends that the Commission CONTINUE the matter to the January 9, 2020 meeting, pending completion of the Air Force solar glare study review.

PROJECT DESCRIPTION: The applicant proposes to construct a 197,856 square foot industrial manufacturing building with mezzanines on 10.96 acres. Also proposed are rooftop solar panels totaling 164,300 square feet.

PROJECT LOCATION: The site is easterly of Harvill Avenue, northerly of Daytona Cove, westerly of the 215 freeway, and southerly of Orange Avenue, in the unincorporated community of Mead Valley, approximately 18,740 feet southwesterly of the southerly end of Runway 14-32 at March Air Reserve Base.

BACKGROUND:

Non-Residential Average Land Use Intensity: Pursuant to the Airport Land Use Compatibility Plan for the March Air Reserve Base/Inland Port Airport, the site is located within Compatibility Zone C2. Zone C2 limits average intensity to 200 people per acre.

Pursuant to Appendix C, Table C-1, of the Riverside County Airport Land Use Compatibility Plan, and the March Air Reserve Base/Inland Port Airport Compatibility Plan, the following rates were used to calculate potential occupancy for the proposed building in Compatibility Zone C2:

- Office – 1 person per 200 square feet (with 50% reduction),
- Manufacturing – 1 person per 200 square feet.

The project proposes a 197,856 square foot industrial manufacturing building with mezzanines, accommodating 989 people, resulting in an average intensity of 90 people per acre, which is consistent with the Compatibility Zone C2 criterion of 200.

A second method for determining total occupancy involves multiplying the number of parking spaces provided or required (whichever is greater) by average vehicle occupancy (assumed to be 1.5 persons per vehicle and 1.0 persons per truck trailer parking/dock space in the absence of more precise data). Based on the number of parking spaces (174 spaces) and truck trailer spaces (33 spaces) provided, the total occupancy would be estimated at 294 people for an average intensity of 27 people per acre, which is consistent with the Compatibility Zone C2 average criterion of 200.

Non-Residential Single-Acre Land Use Intensity: Compatibility Zone C2 limits maximum single-acre intensity to 500 people. There are no risk-reduction design bonuses available, as March Air Reserve Base/Inland Port Airport is primarily utilized by large aircraft weighing more than 12,500 pounds.

pounds.

Based on the site plan provided and the occupancies as previously noted, the maximum single-acre area would consist of 43,560 square feet of manufacturing area and 6,480 square feet of second floor office mezzanine area, resulting in a single acre occupancy of 250 people, which is consistent with the Compatibility Zone C2 single acre criterion of 500.

March Air Reserve Base/United States Air Force Input: Given that the project site is located in Zone C2 southwesterly of the southerly runway at March Air Reserve Base, the March Air Reserve Base staff was notified of the project, specifically the rooftop solar panels, and sent a solar glare hazard analysis study for their review. As of the time this staff report was prepared, we were still awaiting **complete** comments from the Air Force regarding this project.

Renewable Energy and Flight Hazards: The applicant proposes that photovoltaic (PV) panel structures totaling 164,300 square feet be located on the rooftop of the industrial buildings within Compatibility Zone C2.

The County of Riverside Climate Action Plan requires nonresidential development to utilize on-site renewable energy production (usually from photovoltaic solar panels) to meet 20 percent of total energy demand, as a means to offset greenhouse gas emissions, unless infeasible. (A determination that a project would be hazardous to air traffic in conjunction with an Airport Land Use Commission review is acknowledged as a factor that may result in infeasibility. In that case, the applicant is nevertheless required to install on-site renewable energy production to the greatest extent feasible.)

Glint and Glare/Reflectivity

Based on the Federal Aviation Administration's Interim Policy for Review of Solar Energy System Projects on Federally Obligated Airports, no glare potential or low potential for temporary after-image ("green" level) are acceptable levels of glare on final approach (within 2 miles from end of runway) for solar facilities located on airport property. However, potential for temporary after-image" ("yellow" level) is not an acceptable level of glare on final approach. No glare is permitted at air traffic control towers.

The project proposes 164,300 square feet of solar panels on the building rooftop with anti-reflective coating, a fixed tilt of 10 degrees with no rotation, and an orientation of 180 degrees. The applicant has submitted a glare analysis utilizing the web- based Forge Solar, a copy of which is attached hereto. The analysis was based on a 2 mile straight in approach (as per FAA Interim Policy standards) to runway 32, and also based on the traffic patterns as identified by March Air Reserve Base staff (Runway 12/30 General Aviation, Runway 14/32 General Aviation, Runway 14/32 C-17/KC-135, Runway 14/32 Overhead). The analysis utilized a glide slope approach of 5.0 degrees for the approach. No glare would affect the Air Traffic Control Tower.

The analysis concluded that no glare would occur on the 2 mile approach to runways 14 and 32. However, some potential for glare was identified within the Air Force traffic pattern. Evaluation of the Air Force traffic patterns indicates that the panels would result in low potential for temporary after-image ("green" level glare) in the C-17/KC-135 runway 14 downwind traffic pattern, totaling annually 1,026 minutes of "green" level glare, and would last up to 15 minutes a day from November to February between 2:30 p.m. to 3:30 p.m. (standard time).

Electrical and Communication Interference

The applicant has indicated that they do not plan to utilize equipment that would interfere with aircraft communications. The PV panels themselves present little risk of interfering with radar transmission due to their low profiles. In addition, solar panels do not emit electromagnetic waves over distances that could interfere with radar signal transmissions, and any electrical facilities that do carry concentrated current will be buried beneath the ground and away from any signal transmission. There is no radar transmission or receiving facilities within the site.

Prohibited and Discouraged Uses: The applicant does not propose any uses prohibited or discouraged in Compatibility Zone C2.

Noise: The March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan depicts the site as being outside the 60 CNEL range from aircraft noise. Therefore, no special mitigation for aircraft-generated noise exposure is required.

Part 77: The site is located approximately 18,740 feet from the southerly terminus of Runway 14-32 at March, but the closest public use airport is Perris Valley Airport, with its Runway 15-33 having an elevation of 1,413 feet above mean sea level (AMSL). The site is located 15,000 feet from the runway, so Federal Aviation Administration Obstruction Evaluation Service (FAA OES) notice and review would be required for any structures with top of roof exceeding 1,563 feet AMSL. The site's finished floor elevation is 1,510 feet AMSL and the proposed building height is 45 feet, for a top point elevation of 1,555 feet AMSL. Therefore, review by the FAA Obstruction Evaluation Service (FAA OES) is not required.

Open Area: None of the Compatibility Zones for the March Air Reserve Base/Inland Port ALUCP require open area specifically.

CONDITIONS:

1. Any outdoor lighting installed shall be hooded or shielded so as to prevent either the spillage of lumens or reflection into the sky. Outdoor lighting shall be downward facing.

2. The following uses/activities are not included in the proposed project and shall be prohibited at this site, in accordance with Note A on Table 4 of the Mead Valley Area Plan.

(a) Any use which would direct a steady light or flashing light of red, white, green, or amber colors associated with airport operations toward an aircraft engaged in an initial straight climb following takeoff or toward an aircraft engaged in a straight final approach toward a landing at an airport, other than an FAA-approved navigational signal light or visual approach slope indicator.

(b) Any use which would cause sunlight to be reflected towards an aircraft engaged in an initial straight climb following takeoff or towards an aircraft engaged in a straight final approach towards a landing at an airport.

(c) Any use which would generate smoke or water vapor or which would attract large concentrations of birds, or which may otherwise affect safe air navigation within the area.

(d) Any use which would generate electrical interference that may be detrimental to the operation of aircraft and/or aircraft instrumentation.

3. The following uses/activities are specifically prohibited at this location: trash transfer stations that are open on one or more sides; recycling centers containing putrescible wastes; construction and demolition debris facilities; wastewater management facilities; incinerators; noise-sensitive outdoor nonresidential uses; and hazards to flight. Children's schools are discouraged.

4. The following uses/activities are not included in the proposed project, but, if they were to be proposed through a subsequent use permit or plot plan, would require subsequent Airport Land Use Commission review:

   Restaurants and other eating establishments; day care centers; health and exercise centers; churches, temples, or other uses primarily for religious worship; theaters.

5. The attached notice shall be given to all prospective purchasers of the property and lessees/tenants of the building, and shall be recorded as a deed notice.

6. Any detention basins on the site (including water quality management basins) shall be designed so as to provide for a maximum 48-hour detention period following the conclusion of the storm event for the design storm (may be less, but not more), and to remain totally dry between rainfalls. Vegetation in and around the detention basins that would provide food or cover for bird species that would be incompatible with airport operations shall not be utilized in project landscaping.

7. March Air Reserve Base must be notified of any land use having an electromagnetic radiation component to assess whether a potential conflict with Air Base radio communications could result. Sources of electromagnetic radiation include radio wave

transmission in conjunction with remote equipment inclusive of irrigation controllers, access gates, etc.

8. This project has been evaluated for a total of 197,856 square feet of manufacturing area. Any increase in building area or change in use other than for warehouse, office and manufacturing uses will require an amended review by the Airport Land Use Commission.
9. Solar panels shall incorporate anti-reflective coating and shall be fixed with no rotation. Panels shall have a tilt of 10 degrees and orientation of 180 degrees. Solar panel areas shall be limited to 164,300 square feet.

10. Any revisions to the solar panels will require a new solar glare analysis to ensure that the project does not create "yellow" level glare, and require ALUC review.

11. In the event that any incidence of glint, glare, or flash affecting the safety of air navigation occurs as a result of project operation, upon notification to the airport operator of an incidence, the airport operator shall notify the project operator in writing. Within 30 days of written notice, the project operator shall be required to promptly take all measures necessary to eliminate such glint, glare, or flash. An "incidence" includes any situation that results in an accident, incident, "near-miss," or specific safety complaint regarding an in-flight experience to the airport operator or to federal, state, or county authorities responsible for the safety of air navigation. The project operator shall work with the airport operator to prevent recurrence of the incidence. Suggested measures may include, but are not limited to, reprogramming the alignment of the panels, covering them at the time of day when incidences of glare occur, or wholly removing panels to diminish or eliminate the source of the glint, glare, or flash. For each such incidence made known to the project operator, the necessary remediation shall only be considered to have been fulfilled when the airport operator states in writing that the situation has been remediated to the airport operator's satisfaction.

12. In the event that any incidence of electrical interference affecting the safety of air navigation occurs as a result of project operation, upon notification to the airport operator of an incidence, the airport operator shall notify the project operator in writing. Within 30 days of written notice, the project operator shall be required to promptly take all measures necessary to eliminate such interference. An "incidence" includes any situation that results in an accident, incident, "near-miss," report by airport personnel, or specific safety complaint to the airport operator or to federal, state, or county authorities responsible for the safety of air navigation. The project operator shall work with the airport operator to prevent recurrence of the incidence. For each such incidence made known to the project operator, the necessary remediation shall only be considered to have been fulfilled when the airport operator states in writing that the situation has been remediated to the airport operator's satisfaction.

Rull, Paul

From: Pacino, Brian <Brian.Pacino@jacobs.com>
Sent: Thursday, November 7, 2019 8:19 AM
To: Rull, Paul; carlos.soto-lorenzo@us.af.mil
Subject: RE: ZAP1388MA19 solar glare study Amazon Bldg 24208 San Michele Rd

Paul,

Thanks for the quick turnaround on revised study. I will forward this over to March ARB Airfield Management for review/comment.

As to the ZAP1386MA19 solar hazard analysis reports for Harvill Daytona Business Park, March ARB Airfield Management staff have reviewed those impact studies and have no objections.

Brian J. Pacino, AICP | Jacobs | Buildings, Infrastructure & Advanced Facilities |
949.224.7635 office | 703.627.3010 mobile | brian.pacino@jacobs.com | www.jacobs.com

From: Rull, Paul <PRull@RIVCO.ORG>
Sent: Thursday, November 07, 2019 6:57 AM
To: Pacino, Brian <Brian.Pacino@jacobs.com>; carlos.soto-lorenzo@us.af.mil
Subject: [EXTERNAL] RE: ZAP1388MA19 solar glare study Amazon Bldg 24208 San Michele Rd
Importance: High

Good Morning Brian,

Please find the attached HMMH solar glare study that includes the ATCT in the analysis (see page 73 of pdf document), resulting in no glare.

If you have any questions, please feel free to contact me.

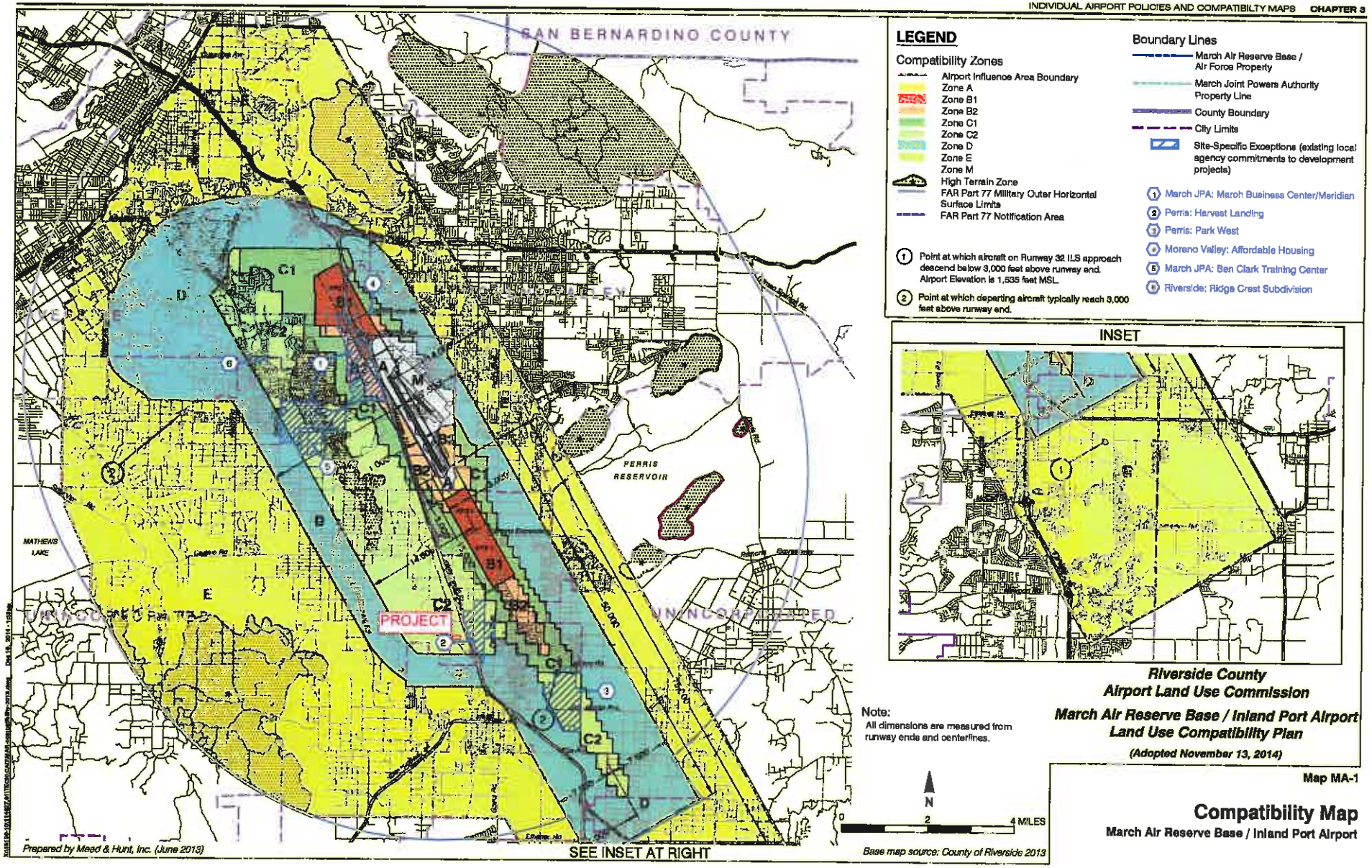
Paul Rull
ALUC Principal Planner

Riverside County Airport Land Use Commission
4080 Lemon Street 14th Floor
Riverside, Ca 92501
(951) 955-6893
(951) 955-5177 (fax)
PRULL@RIVCO.ORG
www.rcaluc.org

From: Pacino, Brian [mailto:Brian.Pacino@jacobs.com]
Sent: Tuesday, November 5, 2019 2:45 PM
To: Rull, Paul <PRull@RIVCO.ORG>; carlos.soto-lorenzo@us.af.mil
Subject: RE: ZAP1388MA19 solar glare study Amazon Bldg 24208 San Michele Rd

NOTICE OF AIRPORT IN VICINITY

This property is presently located in the vicinity of an airport, within what is known as an airport influence area. For that reason, the property may be subject to some of the annoyances or inconveniences associated with proximity to airport operations (for example: noise, vibration, or odors). Individual sensitivities to those annoyances [can vary from person to person. You may wish to consider what airport annoyances], if any, are associated with the property before you complete your purchase and determine whether they are acceptable to you. Business & Professions Code Section 11010 (b)(13)(A)



LEGEND

Compatibility Zones

- Airport Influence Area Boundary
- Zone A
- Zone B1
- Zone B2
- Zone C1
- Zone C2
- Zone D
- Zone E
- Zone M
- High Terrain Zone
- FAR Part 77 Military Outer Horizontal Surface Limits
- FAR Part 77 Notification Area

Boundary Lines

- March Air Reserve Base / Air Force Property
- March Joint Powers Authority Property Line
- County Boundary
- City Limits
- Site-Specific Exceptions (existing local agency commitments to development projects)

(1) Point at which aircraft on Runway 32 ILS approach descend below 3,000 feet above runway end. Airport Elevation is 1,535 feet MSL.

(2) Point at which departing aircraft typically reach 3,000 feet above runway end.

(1) March JPA: March Business Center/Meridian
(2) Perris: Harvest Landing
(3) Perris: Park West
(4) Moreno Valley: Affordable Housing
(5) March JPA: Ben Clark Training Center
(6) Riverside: Ridge Crest Subdivision

INSET

Note:
All dimensions are measured from runway ends and centerlines.

Riverside County
Airport Land Use Commission

March Air Reserve Base / Inland Port Airport
Land Use Compatibility Plan

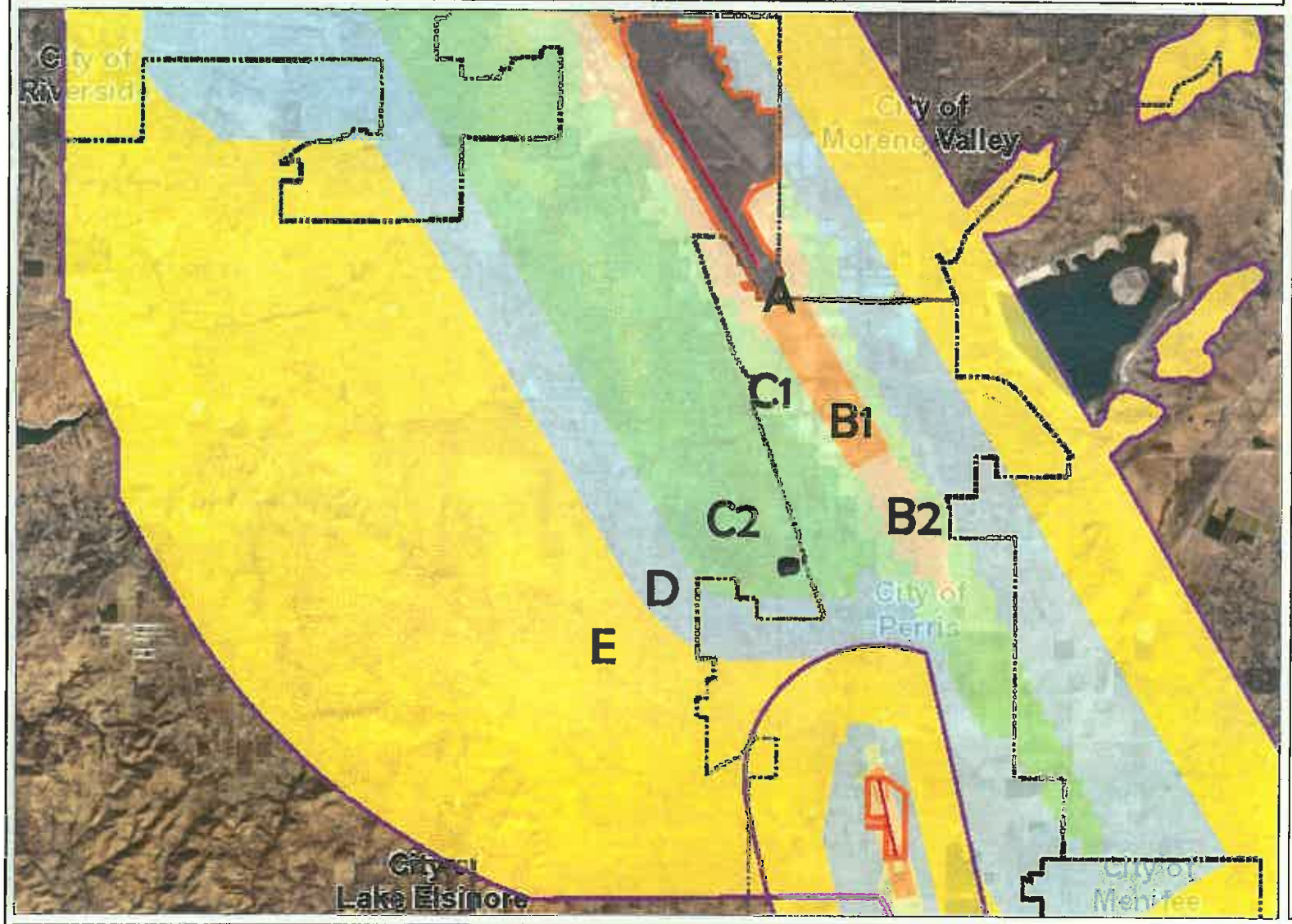
(Adopted November 13, 2014)

Map MA-1

Compatibility Map

March Air Reserve Base / Inland Port Airport

Map My County Map



Legend

- Runways
- Airports
- Airport Influence Areas
- Airport Compatibility Zones
  - OTHER COMPATIBILITY ZONE
  - A
  - A-EXC1
  - B1
  - B1-APZ I
  - B1-APZ I-EXC1
  - B1-APZ II
  - B1-APZ II-EXC1
  - B1-EXC1
  - B2
  - B2-EXC1
  - C
  - C1
  - C1-EXC1
  - C1-EXC3
  - C1-EXC4
  - C1-HIGHT
  - C2
  - C2-EXC1
  - C2-EXC2
  - C2-EXC3
  - C2-EXC5
  - C2-EXC6

0 12 24,254 Feet

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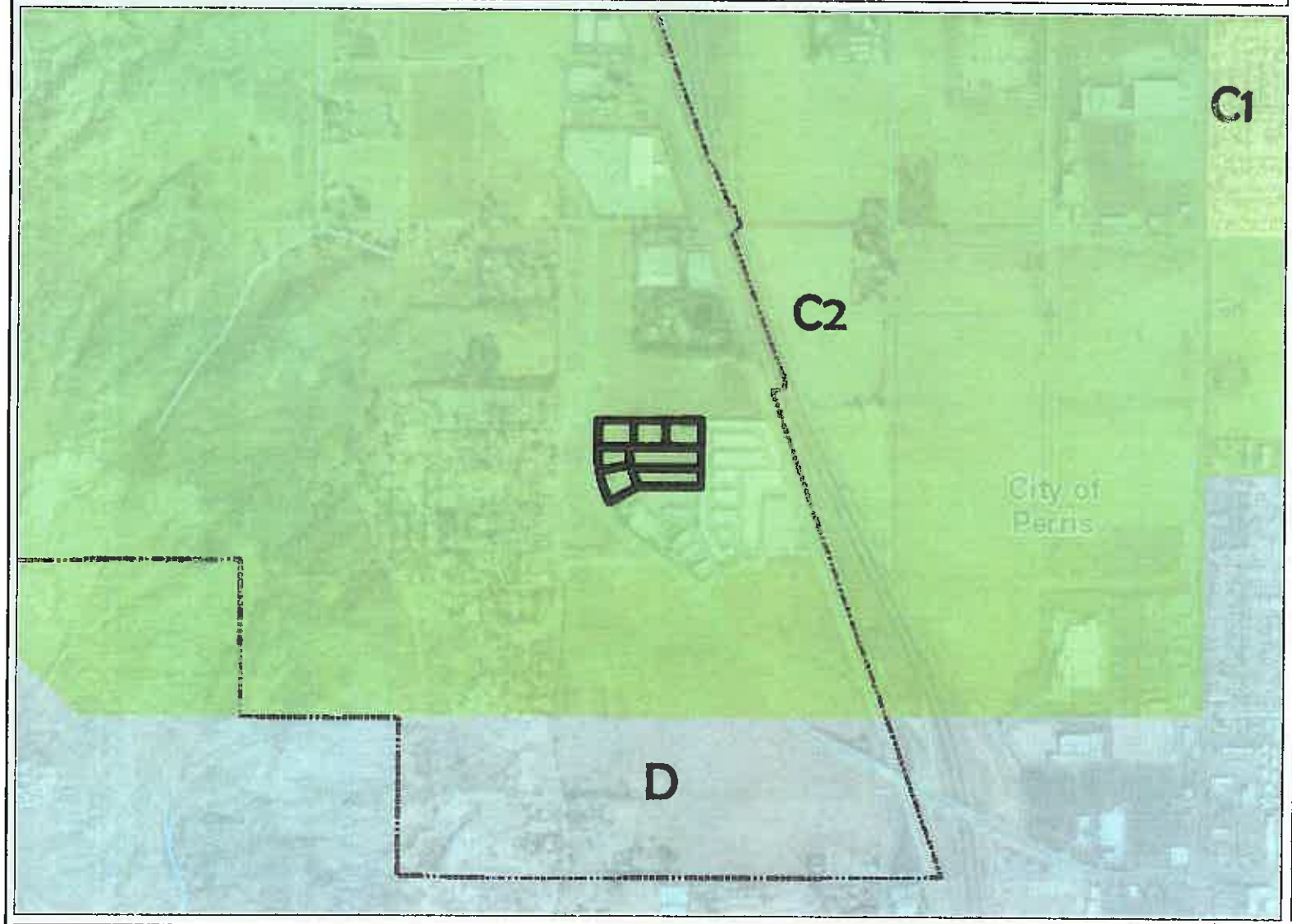
Map My County Map



Legend

- Runways
- Airports
- Airport Influence Areas
- Airport Compatibility Zones
  - OTHER COMPATIBILITY ZONE
  - A
  - A-EXC1
  - B1
  - B1-APZ I
  - B1-APZ I-EXC1
  - B1-APZ II
  - B1-APZ II-EXC1
  - B1-EXC1
  - B2
  - B2-EXC1
  - C
  - C1
  - C1-EXC1
  - C1-EXC3
  - C1-EXC4
  - C1-HIGHT
  - C2
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  - C2-EXC6

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Notes

Map My County Map

Legend

City Areas

World Street Map

Notes

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Map My County Map

Legend

- Blueline Streams
- City Areas
- World Street Map

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Notes

Map My County Map

Legend

- Blueline Streams
- City Areas
- World Street Map

0 1, 3,032 Feet
516

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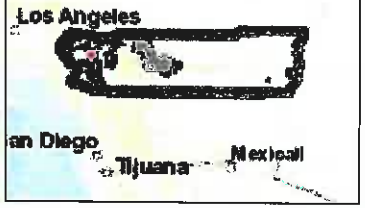

Legend

- Blueline Streams
- City Areas
- World Street Map

0 758 1,516 Feet

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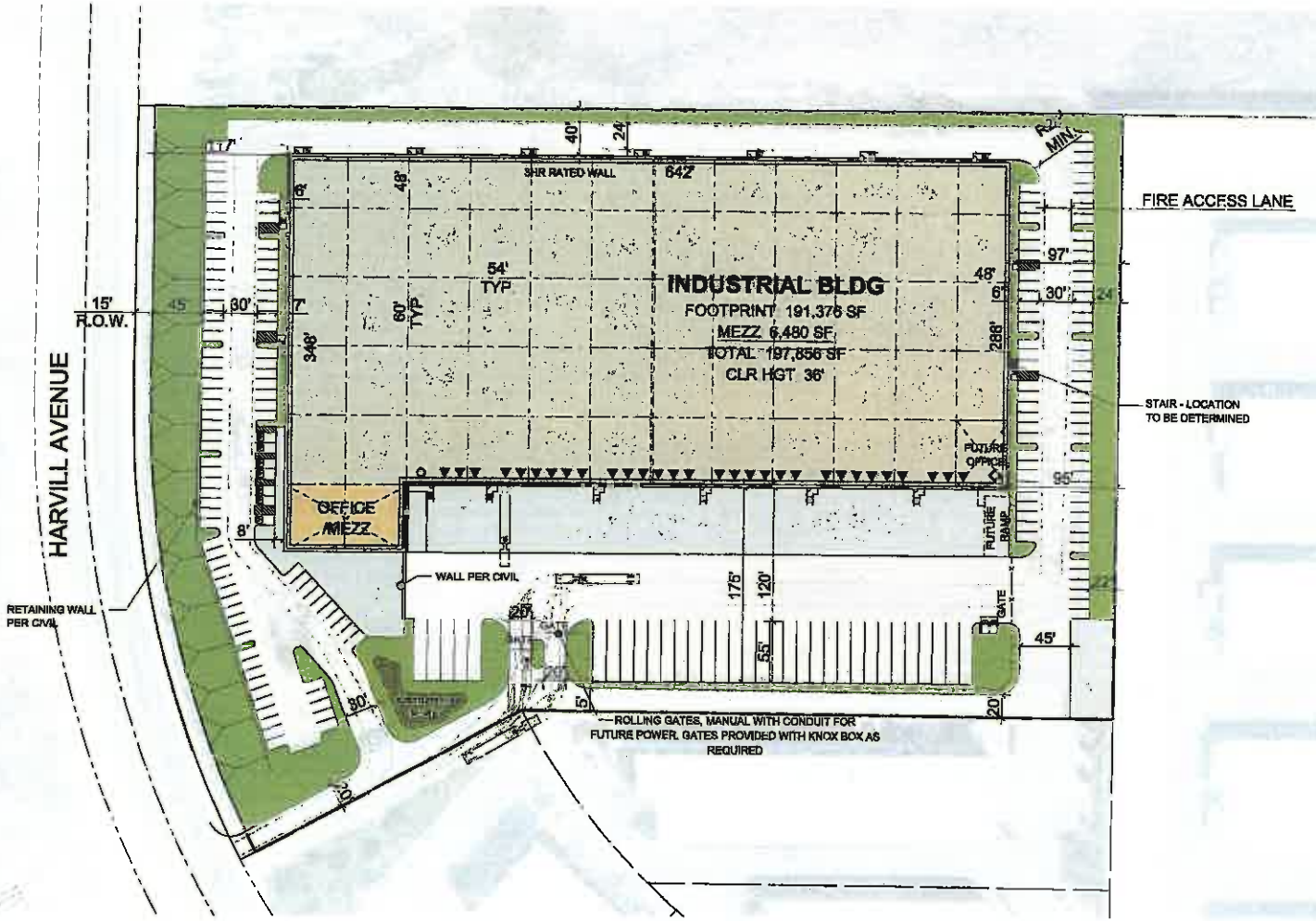


PROJECT DATA:

SITE AREA:		
GROSS:		10.96 AC
		477,382 SF
R.O.W		10,064 SF
NET:		10.79 AC
		467,318 SF
BUILDING AREA:		
FOOTPRINT:		191,376 SF
MEZZANINE:		6,480 SF
TOTAL BUILDING AREA:		197,856 SF
BUILDING USE:		
WAREHOUSE		184,896 SF
OFFICE		12,960 SF
FAR:		
GROSS:		0.41
NET:		0.43
PARKING REQUIRED:		
WAREHOUSE	1/2000 SF	92 STALLS
OFFICE	1/200 SF	65 STALLS
TOTAL		157 STALLS
PARKING PROVIDED:		
AUTO:		174 STALLS
		@1.76/2000 SF
REQ. ACCESSIBLE		*6 STALLS*
TRAILER:		33 STALLS
TRUCK DOCKS:		
▲ DOCK-HIGH DOORS		30
○ GRADE-LEVEL DOORS		1
◇ FUTURE GRADE-LEVEL DOORS		1
LANDSCAPE:	14%	68,834 SF

NOTES:
1 VEHICULAR AND PEDESTRIAN ACCESS AS PERMITTED UNDER THE CC & R'S NON-EXCLUSIVE COMMON AGGRESS ROADS.

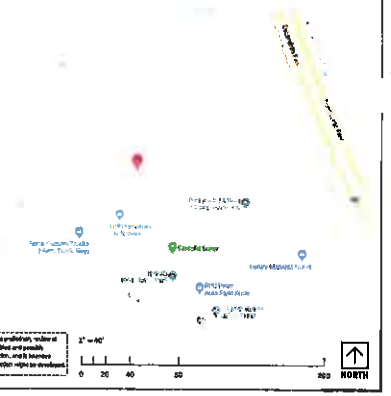
ASSESSOR'S PARCEL NUMBERS

305-170-041, 042, 043, 044, 047, 048

DEVELOPMENT STANDARDS:

ZONING:	M-H
MAX. F.A.R.:	N/A
MAX. COVERAGE:	N/A
MAX. HEIGHT:	40 FT
BUILDING SETBACKS:	
FRONT:	25 FT
SIDE:	0 FT
REAR:	0 FT
LANDSCAPE SETBACKS:	
FRONT:	10 FT
SIDE:	0 FT
REAR:	0 FT
LANDSCAPE REQ.:	10%
OFF-STREET PARKING:	
STANDARD:	9x18 [1]
COMPACT:	8.5x16
COMPACT %:	20%
DRIVE AISLE:	24 FT
FIRE LANE:	30 FT
OVERHANG:	0 FT
TREE WELL:	N/A [2]
REQ. PARKING RATIO BY USE:	
WAREHOUSE:	1/2000 SF
OFFICE:	1/200 SF

NOTES:
1 END STALL DIMENSION 11x18
2 SEE REQUIRED TREE DIAGRAM
3 UP TO 75 WITH CONDITIONAL USE PERMIT



DATE	REMARKS
09/24/2018	PLOT PLAN SUBMITTAL 1

CORE5 Industrial Partners

OWNER / APPLICANT
CORE5 Industrial Partners
300 Spectrum Center Drive Suite 880 Irvine, CA 92618
O 949.467.3290 C 949.232-4568
jkelly@c5ip.com
JON KELLY
Vice President Development

PLOT PLAN

Conceptual Site Plan

Harvill Daytona Business Park
Riverside County, CA

WARE MALCOMB

IRV19-0130-00
10.01.2019

SHEET 1

LOCATION MAP

	DATE	REMARKS
	09/24/2019	PLOT PLAN SUBMITTAL 1

CORE5

This conceptual design is based upon a preliminary review of entitlement requirements and on unverified and possibly incomplete site and/or building information, and is intended merely to assist in exploring how the project might be developed. Signage shown is for illustrative purposes only and does not necessarily reflect municipal code compliance.

PLOT PLAN

SITE PHOTOGRAPHS

HARVILL DAYTONA BUSINESS PARK
RIVERSIDE COUNTY, CA - IRV19-0130 -00

WARE MALCOMB

10.01.2019

	DATE	REMARKS
	08/24/2018	PLOT PLAN SUBMITTAL 1

CORE5

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PERSPECTIVE

PLOT PLAN

HARVILL DAYTONA BUSINESS PARK
RIVERSIDE COUNTY, CA - IRV19-0130 -00

WARE MALCOMB

10.01.2019

	DATE	REMARKS
	09/24/2019	PLOT PLAN SUBMITTAL 1

CORE5

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PERSPECTIVE

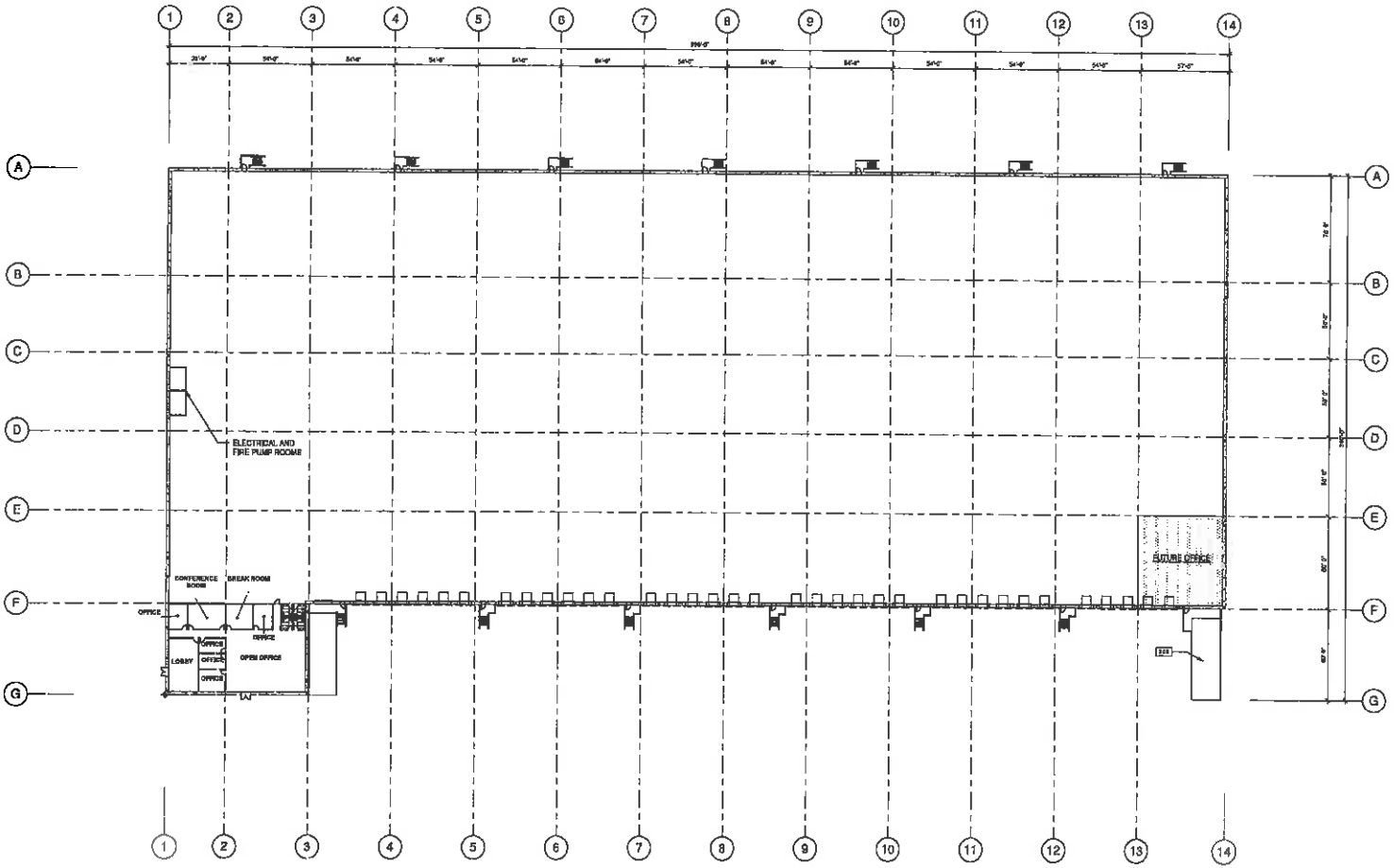
PLOT PLAN

HARVILL DAYTONA BUSINESS PARK
RIVERSIDE COUNTY, CA - IRV19-0130 -00

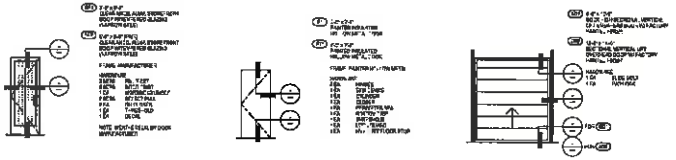
WARE MALCOMB

10.01.2019

NOTES:



FLOOR PLAN



WALL LEGEND

DATE	REMARKS
08/24/2019	PLOT PLAN SUBMITTAL 1

Conceptual Floor Plan

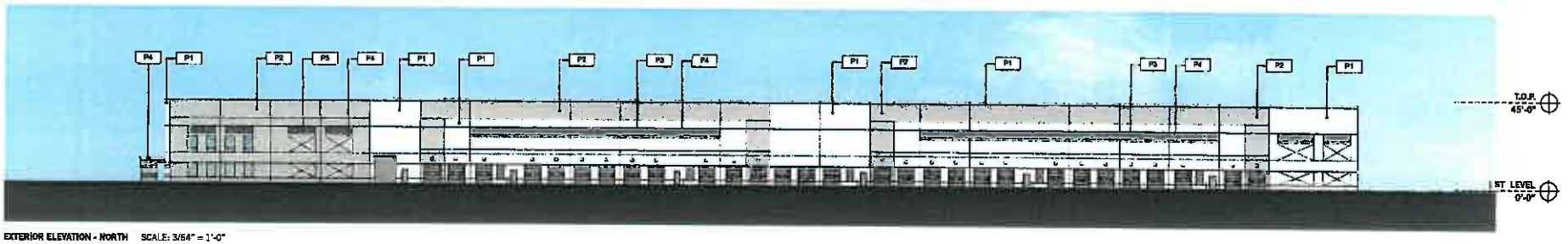
Harvill Daytona Bulsiness Parkk
Riverside County, CA

CORE5

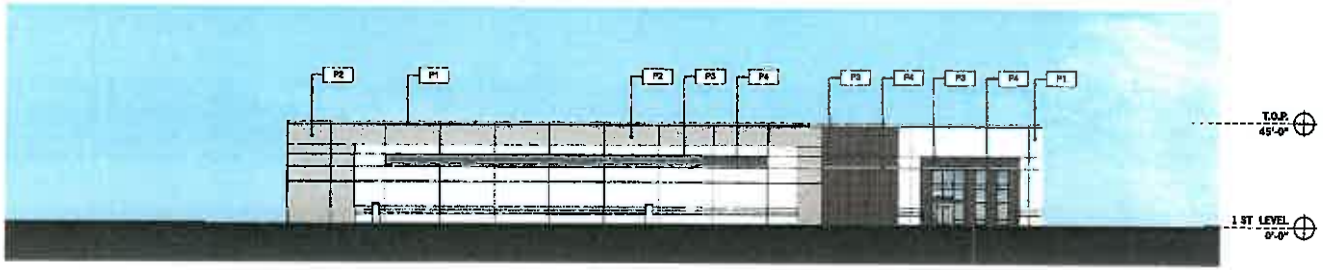
WARE MALCOMB

IRV19-0130-00
10.01.2019

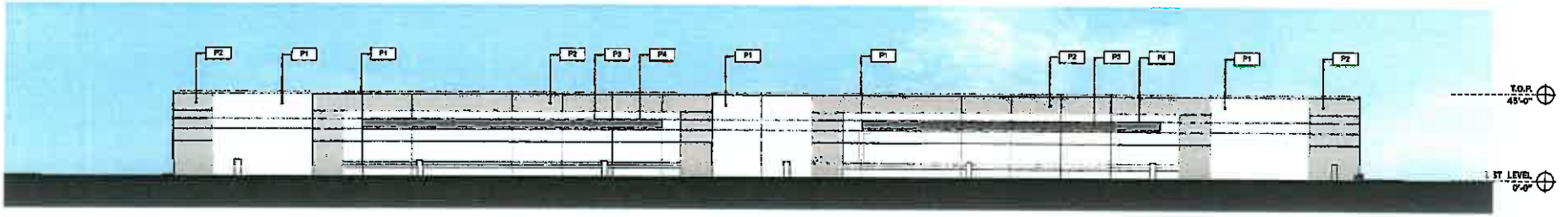
SHEET
5



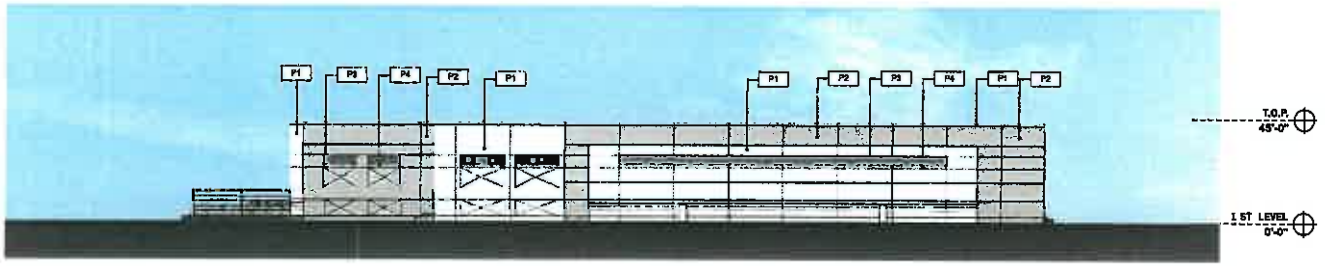
EXTERIOR ELEVATION - NORTH SCALE: 3/64" = 1'-0"



EXTERIOR ELEVATION - WEST SCALE: 3/64" = 1'-0"



EXTERIOR ELEVATION - SOUTH SCALE: 3/64" = 1'-0"



EXTERIOR ELEVATION - EAST SCALE: 3/64" = 1'-0"

PAINTS LEGEND

P1	SW 7006 EXTRA WHITE
P2	SW 9163 TIN LIZZIE
P3	SW 7068 GRIZZLE GRAY
P4	SW 9151 DAPHNE

DATE	REMARKS
09/24/2019	PLOT PLAN SUBMITTAL 1

CORE5

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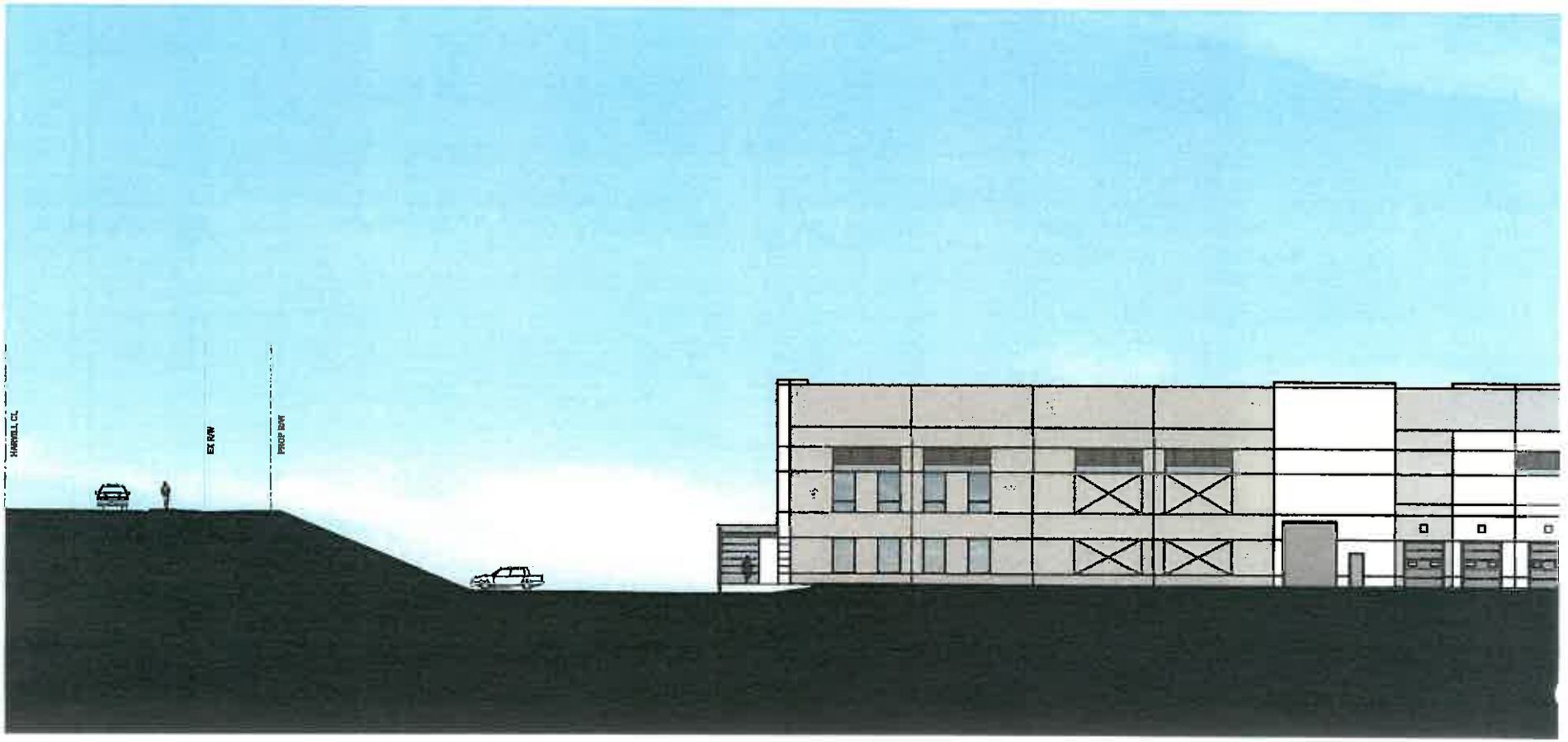
PLOT PLAN

ELEVATIONS

HARVILL DAYTONA BUSINESS PARK
RIVERSIDE COUNTY, CA - IRV19-0130 -00

WARE MALCOMB

10.01.2019



EAST / WEST SITE SECTION

	DATE	REMARKS
	09/24/2019	PLOT PLAN SUBMITTAL 1

CORE5

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Commercial Lighting Industries
81191 Indio Boulevard, Indio, CA 92201
Tel: 800-755-0155 | Fax: 760-262-2940

HARVILL DAYTONA
BUSINESS PARK

Title

LIGHTING &
PHOTOMETRIC PLAN

Scale	Date
1/32"=1'-0"	10.01.19
Drawn By	Checked By
FS	LD
Job No.	
Sheet No.	
LDE-1	

IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

HARVILL DAYTONA BUSINESS PARK - PLOT PLAN NO. ______

A CORE 5 INDUSTRIAL PARTNERS DEVELOPMENT

OWNER:
PERRIS CITRUS AVENUE STORAGE
211 N RINCON STREET, SUITE 109
CORONA, CA 92880

APPLICANT:
CORE 5 INDUSTRIAL PARTNERS
JON KELLY
500 SPECTRUM CENTER DRIVE, SUITE 580
IRVINE, CA 92618
PHONE: (949) 461-5290

ENGINEER:
ALBERT A. WEBB ASSOCIATES
DJ ARELLANO
3788 MCCRAY STREET
RIVERSIDE, CA 92506
PHONE: (951) 686-1070
FAX: (951) 788-1256

TOPOGRAPHY:
INLAND AERIAL SURVEYS, INC.
7117 ARLINGTON AVE, SUITE A
RIVERSIDE, CA 92503
TEL: 951-687-4252
DATED: JULY 1, 2011

PROJECT DATA

ACREAGE		
GROSS SITE AREA:	477,382 S.F.	10.96 AC
NET SITE AREA:	467,138 S.F.	10.73 AC
BUILDING AREA		
MEZZANINE		6,450 S.F.
FOOTPRINT		141,106 S.F.
TOTAL AREA		147,556 S.F.

LOT COVERAGE PROPOSED: 42% MAX. ALLOWED: N/A

PARKING REQUIREMENTS	
WAREHOUSE @ 1/2,000 S.F.	42 STALLS
OFFICE @ 1/200 S.F. (IF EXCEED 10% OF GFA)	65 STALLS
TOTAL PARKING REQUIRED	107 STALLS

*PARKING FOR OFFICE AREA COMPRISING LESS THAN 10% OF THE TOTAL GROSS SQUARE FOOTAGE OF THE BUILDING SHALL BE INCLUDED IN THIS CALCULATION.

PARKING PROVIDED	
AUTO	
STANDARD (9'X19')	137 STALLS
HANDICAP (9'X19')	7 STALLS
TRAILER (12'X55')	58 STALLS
TOTAL	201 STALLS

LANDSCAPED AREA	
LANDSCAPED AREA REQUIRED:	10%
LANDSCAPED AREA PROVIDED:	14%
LANDSCAPED AREA PROVIDED:	66,554 S.F.

ACREAGE:

GROSS AREA:	10.96 ACRES
HARVILL AVE DEDICATION:	0.23 ACRES
NET AREA:	10.73 ACRES

EARTHWORK ESTIMATE:

CUT:	5,165 CY
FILL:	34,060 CY
SHRINKAGE/SUBSIDENCE:	1,615 CY
NET:	29,710 CY (IMPORT)

SCHOOL DISTRICT:
VAL VERDE UNIFIED SCHOOL DISTRICT

UTILITY COMPANIES:

WATER:	EASTERN MUNICIPAL WATER DISTRICT
SEWER:	EASTERN MUNICIPAL WATER DISTRICT
ELECTRIC:	SOUTHERN CALIFORNIA EDISON
TELEPHONE:	FRONTIER COMMUNICATIONS
GAS:	SOUTHERN CALIFORNIA GAS COMPANY
CABLE:	CHARTER COMMUNICATIONS

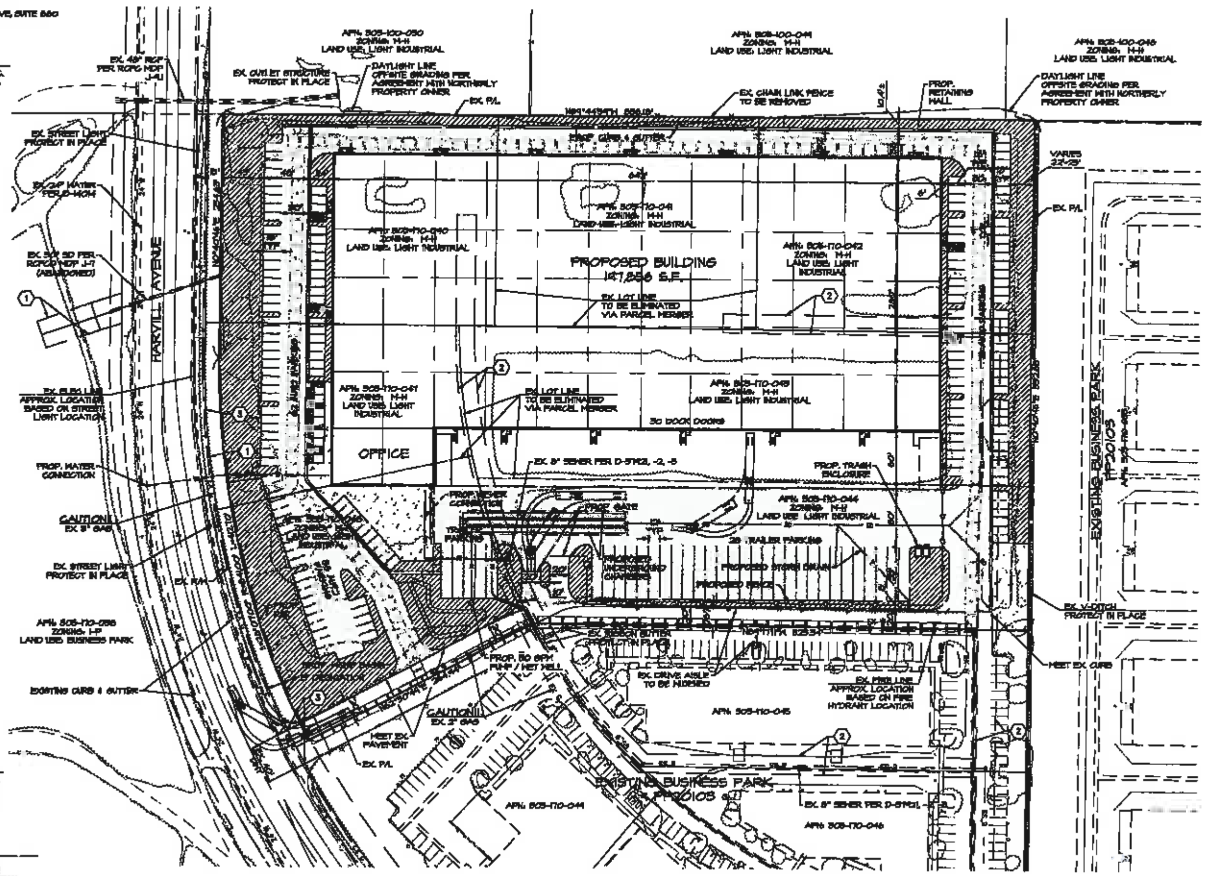
LAND USE/ZONING:

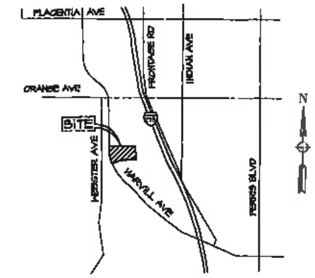
EXISTING LAND USE:	VACANT/COMMERCIAL
PROPOSED LAND USE:	WAREHOUSE FACILITY
EXISTING & PROPOSED ZONING:	M-H
EXISTING & PROPOSED GENERAL PLAN LAND USE:	LIGHT INDUSTRIAL (LI)
RIVERSIDE COUNTY SPECIFIC PLAN: "A" STREET	#100

LEGEND

PROPOSED CONCRETE PAVEMENT	
PROPOSED AC PAVEMENT	
PROPOSED LANDSCAPE AREA	
PROPOSED FIRE ACCESS	
PAINTED ARROWS	
PROPOSED ADA ACCESS	
EXISTING CHAINLINK FENCE	
PROPOSED STEEL FENCE	
EXISTING POWER POLE	
PROPOSED STORM DRAIN	
GRADEBREAK/RIDGELINE	
FLOWLINE	
EXISTING CONTOURS	
PROPOSED CONTOURS	
EXISTING WATER LINE	
EXISTING SEWER LINE	
EXISTING STORM DRAIN	
EXISTING GAS LINE	
EXISTING ELECTRICAL LINE	

FL	FLOW LINE
GB	GRADE BREAK
GRND	GROUND
INV	INVERT
LS	LANDSCAPE AREA
LP	LOW POINT
MAX	MAXIMUM
PL	PROPERTY LINE
RG	ROUGH GRADE
R/W	RIGHT OF WAY
TYP	TYPICAL
CL	CENTER LINE
EP	EDGE OF PAVEMENT
SL	STREET LIGHT
ELEC	ELECTRICAL





VICINITY MAP
NOT TO SCALE
T 4S, R 4W, S 15

ASSESSOR'S PARCEL NUMBER(S):
305-110-040-0, -041-1, -042-2, -043-3, -044-4, -047-7, -046-6

SITE ADDRESS:
EAST OF HARVILL AVENUE AND NORTH OF DAYTONA COVE

PROJECT DESCRIPTION:
THE PROJECT CONSISTS OF A 147,556 S.F. WAREHOUSE ON 10.73 ACRES ALONG HARVILL AVENUE AND ADJACENT TO AN EXISTING SHOPPING CENTER.

LEGAL DESCRIPTION:
THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA OF COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

PARCEL A:
PARCELS 1, 2, 3, 4, 5, 6 AND 7 OF PARCEL MAP NO. 34447, IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, RECORDED IN BOOK 208, PAGE 5 THROUGH 12, INCLUSIVE, OF MAPS, RECORDS OF SAID COUNTY.

PARCEL B:
NON-EXCLUSIVE RECIPROCAL ACCESS EASEMENTS AS CONTAINED IN THE DOCUMENT ENTITLED "DECLARATION OF COVENANTS, CONDITIONS, RESTRICTIONS AND RESERVATION OF EASEMENTS FOR DAYTONA BUSINESS PARK - PARCEL MAP NO. 34447" RECORDED OCTOBER 6, 2011, AS INSTRUMENT No. 2011-0442078 OF OFFICIAL RECORDS OF SAID COUNTY.

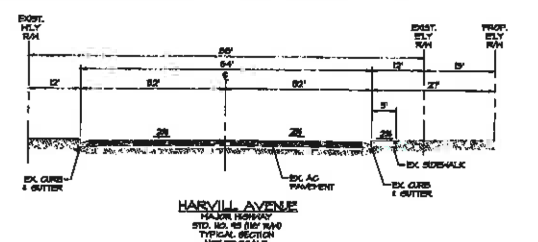
1" = 60'

EASEMENT NOTES:

1. AN EASEMENT FOR TEMPORARY CONSTRUCTION AND INCIDENTAL PURPOSES, RECORDED MAY 4, 1993 AS INSTRUMENT NO. 93-140848 OF OFFICIAL RECORDS, IN FAVOR OF COUNTY OF RIVERSIDE.
2. AN EASEMENT FOR PUBLIC UTILITIES, INGRESS AND EGRESS AND INCIDENTAL PURPOSES, RECORDED JANUARY 4, 2006 AS INSTRUMENT NO. 2006-0012143 OF OFFICIAL RECORDS, IN FAVOR OF EASTERN MUNICIPAL WATER DISTRICT.
3. ABUTTER'S RIGHTS OF INGRESS AND EGRESS TO OR FROM HARVILL AVENUE, EXCEPT THE GENERAL EASEMENT OF TRAVEL, ALSO EXCEPTING TWO ADJACENT (TWENTY-FOOT) ACCESS OPENINGS, HAVE BEEN DEDICATED OR RELINQUISHED ON THE MAP OF PARCEL MAP 34447 ON FILE IN BOOK 238, PAGE 5-12, OF PARCEL MAPS.

NOTES:

1. 2009 THOMAS BROS. MAP-PAGE 777, GRID E6.
2. THIS AREA IS SUBJECT TO LOW LIQUEFACTION POTENTIAL AND IS SUSCEPTIBLE TO SUBSIDENCE.
3. FEMA COMMUNITY PANEL NO. 06065C1440H, ZONE X, COUNTY OF RIVERSIDE
4. THIS PROJECT IS WITHIN A SPECIFIC PLAN ("A" STREET CORRIDOR #100).
5. THIS PROJECT IS LOCATED WITHIN ZONE C-2 OF THE MARCH AIR RESERVE BASE AIRPORT COMPATIBILITY ZONES AND WILL REQUIRE REVIEWS BY AIRPORT LAND USE COMMISSION (ALUC).
6. NO EXISTING POWER POLES ADJACENT TO SITE.



HARVILL AVENUE
MAJOR HIGHWAY
STD. NO. 93 (118' R/W)
TYPICAL SECTION
NOT TO SCALE

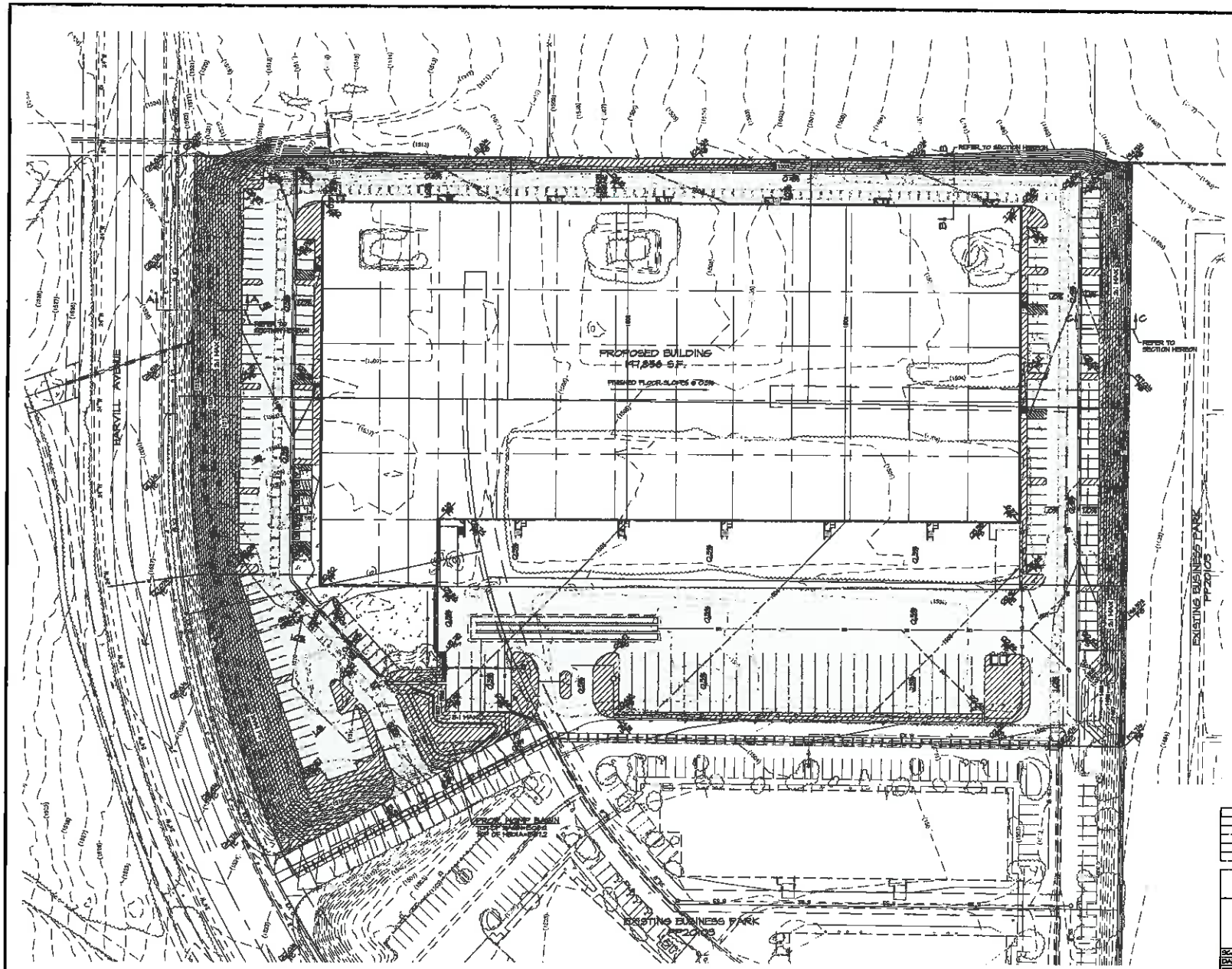
REVISIONS	DATE	BY

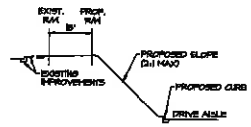
COUNTY OF RIVERSIDE

HARVILL DAYTONA BUSINESS PARK
PLOT PLAN NO. ______

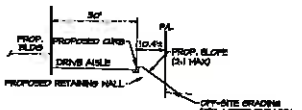
A CORE 5 INDUSTRIAL PARTNERS DEVELOPMENT

SCALE: 1"=60'	ALBERT A. WEBB ASSOCIATES	ENGINEERING CONSULTANTS 3788 McCRAY STREET RIVERSIDE, CA. 92506 PH. (951) 686-1070 FAX (951) 788-1256	W.O. 19-0131
DATE: 7/30/19			SHEET 1 OF 2 SHEETS
DESIGNED: EA			
CHECKED: DJA			
PLN. CK. REF.			DWG. NO.
F.B.			





SECTION A-A
NOT TO SCALE



SECTION B-B
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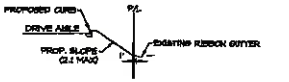


SECTION C-C
NOT TO SCALE

LEGEND

- PROPOSED CONCRETE PAVEMENT
- PROPOSED AC PAVEMENT
- PROPOSED LANDSCAPE AREA

REVISIONS	DATE	BY

COUNTY OF RIVERSIDE

HARVILL DAYTONA BUSINESS PARK
CONCEPTUAL GRADING PLAN

A CORE 5 INDUSTRIAL PARTNERS DEVELOPMENT

SCALE:	1"=60'	ALBERT A. WEBB ASSOCIATES	WESTERN OFFICE 3788 MCCRAY STREET RIVERSIDE, CA. 92506 PH. (951) 686-1070 FAX (951) 788-1256
DATE:	10/2019		
DESIGNED:	EA		
DRAWN:	EA		
CHECKED:	DJA		
PLN CK REF:			
FB:			

NO. H-CZ5
SHEET 2
OF 2 SHEETS
DWG. NO.

FORGESOLAR GLARE ANALYSIS

Project: **Test, Ver3**
Site configuration: **Harvill Daytona**
Analysis conducted by Mark Burton (Mark.Burton@Enertis.com) at 07:13 on 27 Sep, 2019.

U.S. FAA 2013 Policy Adherence

The following table summarizes the policy adherence of the glare analysis based on the 2013 U.S. Federal Aviation Administration Interim Policy 78 FR 63276. This policy requires the following criteria be met for solar energy systems on airport property:

- No "yellow" glare (potential for after-image) for any flight path from threshold to 2 miles
- No glare of any kind for Air Traffic Control Tower(s) ("ATCT") at cab height.
- Default analysis and observer characteristics (see list below)

ForgeSolar does not represent or speak officially for the FAA and cannot approve or deny projects. Results are informational only.

COMPONENT	STATUS	DESCRIPTION
Analysis parameters	PASS	Analysis time interval and eye characteristics used are acceptable
Flight path(s)	PASS	Flight path receptor(s) do not receive yellow glare
ATCT(s)	PASS	Receptor(s) marked as ATCT do not receive glare

Default glare analysis parameters and observer eye characteristics (for reference only):

- Analysis time interval: 1 minute
- Ocular transmission coefficient: 0.5
- Pupil diameter: 0.002 meters
- Eye focal length: 0.017 meters
- Sun subtended angle: 9.3 milliradians

FAA Policy 78 FR 63276 can be read at https://www.federalregister.gov/d/2013-24729

SITE CONFIGURATION

Analysis Parameters

DNI: peaks at 1,000.0 W/m^2
Time interval: 1 min
Ocular transmission coefficient: 0.5
Pupil diameter: 0.002 m
Eye focal length: 0.017 m
Sun subtended angle: 9.3 mrad
Site Config ID: 31544.5738

PV Array(s)

Name: Harvill Daytona Business Park PV
Axis tracking: Fixed (no rotation)
Tilt: 10.0°
Orientation: 180.0°
Rated power: 1600.0 kW
Panel material: Smooth glass without AR coating
Reflectivity: Vary with sun
Slope error: correlate with material

Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	33.811220	-117.242500	1506.47	20.00	1526.47
2	33.811224	-117.240400	1503.37	20.00	1523.37
3	33.810359	-117.240400	1502.47	20.00	1522.47
4	33.810360	-117.242500	1505.77	20.00	1525.77

Flight Path Receptor(s)

Name: C/KC, Rwy 14 Base
Description: None
Threshold height: 0 ft
Direction: 314.8°
Glide slope: 5.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.922394	-117.325047	1500.07	1500.07	3000.15
Two-mile	33.931244	-117.309014	1500.07	1500.07	3000.15

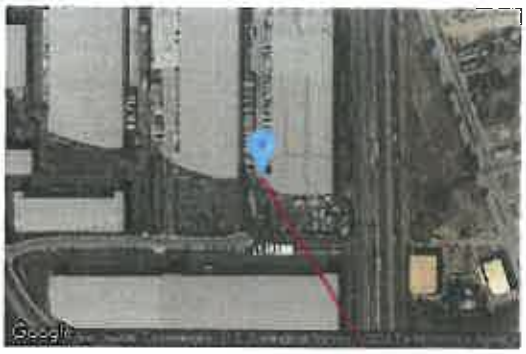
Name: C/KC, Rwy 14 Crosswind
Description: None
Threshold height: 0 ft
Direction: 314.8°
Glide slope: 5.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.821961	-117.228367	1500.07	1500.07	3000.15
Two-mile	33.813147	-117.244350	1500.07	1500.07	3000.15

Name: C/KC, Rwy 14 Downwind
Description: None
Threshold height: 0 ft
Direction: 314.8°
Glide slope: 5.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.819225	-117.262269	1500.07	1500.07	3000.15
Two-mile	33.908131	-117.325528	1500.07	1500.07	3000.15

Name: C/KC, Rwy 14 Final
Description: None
Threshold height: 0 ft
Direction: 314.8°
Glide slope: 5.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°



Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.925156	-117.291061	1500.07	1500.07	3000.15
Two-mile	33.896431	-117.270636	1500.07	0.00	1500.07

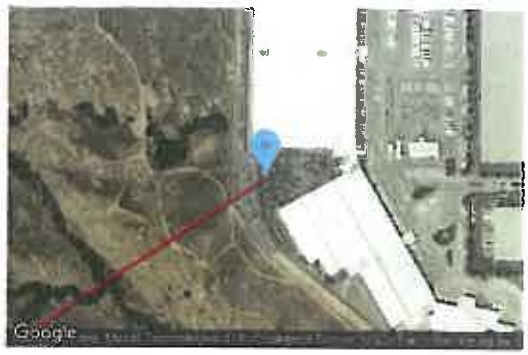
Name: C/KC, Rwy 14 Upwind
Description: None
Threshold height: 0 ft
Direction: 314.8°
Glide slope: 5.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.864994	-117.248281	1500.07	0.00	1500.07
Two-mile	33.836269	-117.227869	1500.07	1500.07	3000.15

Name: C/KC, Rwy 32 Base
Description: None
Threshold height: 0 ft
Direction: 314.8°
Glide slope: 5.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.813147	-117.244350	1500.07	1500.07	3000.15
Two-mile	33.821961	-117.228367	1500.07	1500.07	3000.15

Name: C/KC, Rwy 32 Crosswind
Description: None
Threshold height: 0 ft
Direction: 314.8°
Glide slope: 5.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°



Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.931244	-117.309014	1500.07	1500.07	3000.15
Two-mile	33.922394	-117.325047	1500.07	1500.07	3000.15

Name: C/KC, Rwy 32 Downwind
Description: None
Threshold height: 0 ft
Direction: 314.8°
Glide slope: 5.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.908131	-117.325528	1500.07	1500.07	3000.15
Two-mile	33.819225	-117.262269	1500.07	1500.07	3000.15

Name: C/KC, Rwy 32 Final
Description: None
Threshold height: 0 ft
Direction: 314.8°
Glide slope: 5.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.836269	-117.227869	1500.07	1500.07	3000.15
Two-mile	33.864994	-117.248281	1500.07	0.00	1500.07

Name: C/KC, Rwy 32 Upwind
Description: None
Threshold height: 0 ft
Direction: 314.8°
Glide slope: 5.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.896431	-117.270636	1500.07	0.00	1500.07
Two-mile	33.925156	-117.291061	1500.07	1500.07	3000.15

Name: GA, Rwy 12 Base
Description: None
Threshold height: 0 ft
Direction: 314.8°
Glide slope: 5.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.910322	-117.264967	1500.07	1300.06	2800.14
Two-mile	33.905592	-117.270622	1500.07	1300.06	2800.14

Name: GA, Rwy 12 Crosswind
Description: None
Threshold height: 0 ft
Direction: 314.8°
Glide slope: 5.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.876081	-117.235119	1500.07	1300.06	2800.14
Two-mile	33.880814	-117.229467	1500.07	1300.06	2800.14

Name: GA, Rwy 12 Downwind
Description: None
Threshold height: 0 ft
Direction: 314.8°
Glide slope: 5.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.887897	-117.229483	1500.07	1300.06	2800.14
Two-mile	33.910333	-117.256469	1500.07	1300.06	2800.14

Name: GA, Rwy 12 Final
Description: None
Threshold height: 0 ft
Direction: 314.8°
Glide slope: 5.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.898508	-117.270608	1500.07	1300.06	2800.14
Two-mile	33.890258	-117.260681	1500.07	0.00	1500.07

Name: GA, Rwy 14 Base
Description: None
Threshold height: 0 ft
Direction: 314.8°
Glide slope: 5.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.904833	-117.292903	1500.07	1500.07	3000.15
Two-mile	33.908242	-117.286017	1500.07	1500.07	3000.15

Name: GA, Rwy 14 Crosswind
Description: None
Threshold height: 0 ft
Direction: 314.8°
Glide slope: 5.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.848078	-117.243236	1500.07	1500.07	3000.15
Two-mile	33.844669	-117.250119	1500.07	1500.07	3000.15

Name: GA, Rwy 14 Downwind
Description: None
Threshold height: 0 ft
Direction: 314.8°
Glide slope: 5.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.846422	-117.258344	1500.07	1500.07	3000.15
Two-mile	33.897972	-117.295011	1500.07	1500.07	3000.15

Name: GA, Rwy 14 Final
Description: None
Threshold height: 0 ft
Direction: 314.8°
Glide slope: 5.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.906486	-117.277783	1500.07	1500.07	3000.15
Two-mile	33.896431	-117.270636	1500.07	0.00	1500.07

Name: GA, Rwy 14 Upwind
Description: None
Threshold height: 0 ft
Direction: 314.8°
Glide slope: 5.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.864994	-117.248281	1500.07	0.00	1500.07
Two-mile	33.854942	-117.241136	1500.07	1500.07	3000.15

Name: GA, Rwy 30 Base
Description: None
Threshold height: 0 ft
Direction: 314.8°
Glide slope: 5.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.880814	-117.229467	1500.07	1300.06	2800.14
Two-mile	33.876081	-117.235119	1500.07	1300.06	2800.14

Name: GA, Rwy 30 Crosswind
Description: None
Threshold height: 0 ft
Direction: 314.8°
Glide slope: 5.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.905592	-117.270622	1500.07	1300.06	2800.14
Two-mile	33.910322	-117.264967	1500.07	1300.06	2800.14

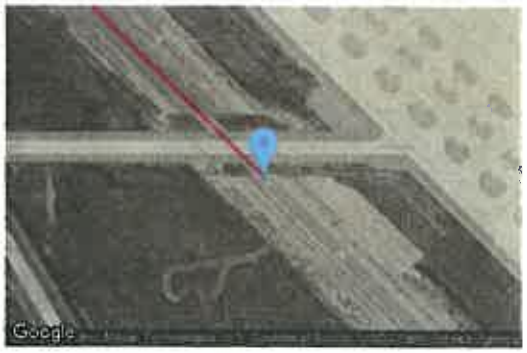
Name: GA, Rwy 30 Downwind
Description: None
Threshold height: 0 ft
Direction: 314.8°
Glide slope: 5.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.910333	-117.256469	1500.07	1300.06	2800.14
Two-mile	33.887897	-117.229483	1500.07	1300.06	2800.14

Name: GA, Rwy 30 Final
Description: None
Threshold height: 0 ft
Direction: 314.8°
Glide slope: 5.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.876069	-117.243611	1500.07	1300.06	2800.14
Two-mile	33.884319	-117.253536	1500.07	0.00	1500.07

Name: GA, Rwy 30 Upwind
Description: None
Threshold height: 0 ft
Direction: 314.8°
Glide slope: 5.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°

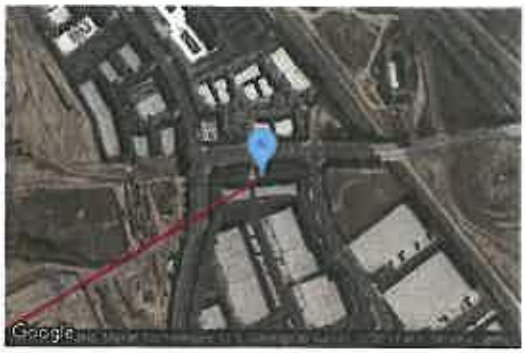


Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.890258	-117.260681	1500.07	0.00	1500.07
Two-mile	33.898508	-117.270608	1500.07	1300.06	2800.14

Name: GA, Rwy 32 Base
Description: None
Threshold height: 0 ft
Direction: 314.8°
Glide slope: 5.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.844669	-117.250119	1500.07	1500.07	3000.15
Two-mile	33.848078	-117.243236	1500.07	1500.07	3000.15

Name: GA, Rwy 32 Crosswind
Description: None
Threshold height: 0 ft
Direction: 314.8°
Glide slope: 5.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°



Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.908242	-117.286017	1500.07	1500.07	3000.15
Two-mile	33.904833	-117.292903	1500.07	1500.07	3000.15

Name: GA, Rwy 32 Downwind
Description: None
Threshold height: 0 ft
Direction: 314.8°
Glide slope: 5.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.897972	-117.295011	1500.07	1500.07	3000.15
Two-mile	33.846422	-117.258344	1500.07	1500.07	3000.15

Name: GA, Rwy 32 Final
Description: None
Threshold height: 0 ft
Direction: 314.8°
Glide slope: 5.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.854942	-117.241136	1500.07	1500.07	3000.15
Two-mile	33.864994	-117.248281	1500.07	0.00	1500.07

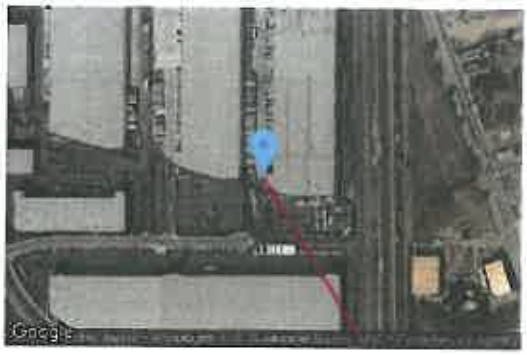
Name: GA, Rwy 32 Upwind
Description: None
Threshold height: 0 ft
Direction: 314.8°
Glide slope: 5.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.896431	-117.270636	1500.07	0.00	1500.07
Two-mile	33.906486	-117.277783	1500.07	1500.07	3000.15

Name: OHead, Rwy 14 Downwind
Description: None
Threshold height: 0 ft
Direction: 314.8°
Glide slope: 5.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.863564	-117.293808	1500.07	2000.10	3500.17
Two-mile	33.908131	-117.325528	1500.07	2000.10	3500.17

Name: OHead, Rwy 14 Final
Description: None
Threshold height: 0 ft
Direction: 314.8°
Glide slope: 5.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°



Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.925156	-117.291061	1500.07	2000.10	3500.17
Two-mile	33.896431	-117.270636	1500.07	0.00	1500.07

Name: OHead, Rwy 14 Initial
Description: None
Threshold height: 0 ft
Direction: 314.8°
Glide slope: 5.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.968036	-117.322128	1500.07	2000.10	3500.17
Two-mile	33.880706	-117.259453	1500.07	2000.10	3500.17

Name: OHead, Rwy 32 Downwind
Description: None
Threshold height: 0 ft
Direction: 314.8°
Glide slope: 5.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.863564	-117.293808	1500.07	2000.10	3500.17
Two-mile	33.819225	-117.262269	1500.07	2000.10	3500.17

Name: OHead, Rwy 32 Final
Description: None
Threshold height: 0 ft
Direction: 314.8°
Glide slope: 5.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.836269	-117.227869	1500.07	2000.10	3500.17
Two-mile	33.864994	-117.248281	1500.07	0.00	1500.07

Name: OHead, Rwy 32 Initial
Description: None
Threshold height: 0 ft
Direction: 314.8°
Glide slope: 5.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.793375	-117.196878	1500.07	2000.10	3500.17
Two-mile	33.880706	-117.259453	1500.07	2000.10	3500.17

Name: Rwy 12-Upwind
Description: None
Threshold height: 0 ft
Direction: 314.8°
Glide slope: 5.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.884319	-117.253536	1500.07	0.00	1500.07
Two-mile	33.876069	-117.243611	1500.07	1300.06	2800.14

Discrete Observation Receptors

Name	ID	Latitude (°)	Longitude (°)	Elevation (ft)	Height (ft)
1-ATCT	1	33.891572	-117.251203	1508.87	18.00

Map image of 1-ATCT

GLARE ANALYSIS RESULTS

Summary of Glare

PV Array Name	Tilt	Orient	"Green" Glare	"Yellow" Glare	Energy
	(°)	(°)	min	min	kWh
Harvill Daytona Business Park PV	10.0	180.0	1,026	0	3,406,000.0

Total annual glare received by each receptor

Receptor	Annual Green Glare (min)	Annual Yellow Glare (min)
C/KC, Rwy 14 Base	0	0
C/KC, Rwy 14 Crosswind	0	0
C/KC, Rwy 14 Downwind	1026	0
C/KC, Rwy 14 Final	0	0
C/KC, Rwy 14 Upwind	0	0
C/KC, Rwy 32 Base	0	0
C/KC, Rwy 32 Crosswind	0	0
C/KC, Rwy 32 Downwind	0	0
C/KC, Rwy 32 Final	0	0
C/KC, Rwy 32 Upwind	0	0
GA, Rwy 12 Base	0	0

Receptor	Annual Green Glare (min)	Annual Yellow Glare (min)
GA, Rwy 12 Crosswind	0	0
GA, Rwy 12 Downwind	0	0
GA, Rwy 12 Final	0	0
GA, Rwy 14 Base	0	0
GA, Rwy 14 Crosswind	0	0
GA, Rwy 14 Downwind	0	0
GA, Rwy 14 Final	0	0
GA, Rwy 14 Upwind	0	0
GA, Rwy 30 Base	0	0
GA, Rwy 30 Crosswind	0	0
GA, Rwy 30 Downwind	0	0
GA, Rwy 30 Final	0	0
GA, Rwy 30 Upwind	0	0
GA, Rwy 32 Base	0	0
GA, Rwy 32 Crosswind	0	0
GA, Rwy 32 Downwind	0	0
GA, Rwy 32 Final	0	0
GA, Rwy 32 Upwind	0	0
OHead, Rwy 14 Downwind	0	0
OHead, Rwy 14 Final	0	0
OHead, Rwy 14 Initial	0	0
OHead, Rwy 32 Downwind	0	0
OHead, Rwy 32 Final	0	0
OHead, Rwy 32 Initial	0	0
Rwy 12-Upwind	0	0
1-ATCT	0	0

Results for: Harvill Daytona Business Park PV

Receptor	Green Glare (min)	Yellow Glare (min)
C/KC, Rwy 14 Base	0	0
C/KC, Rwy 14 Crosswind	0	0
C/KC, Rwy 14 Downwind	1026	0
C/KC, Rwy 14 Final	0	0
C/KC, Rwy 14 Upwind	0	0
C/KC, Rwy 32 Base	0	0
C/KC, Rwy 32 Crosswind	0	0
C/KC, Rwy 32 Downwind	0	0
C/KC, Rwy 32 Final	0	0
C/KC, Rwy 32 Upwind	0	0

Receptor	Green Glare (min)	Yellow Glare (min)
GA, Rwy 12 Base	0	0
GA, Rwy 12 Crosswind	0	0
GA, Rwy 12 Downwind	0	0
GA, Rwy 12 Final	0	0
GA, Rwy 14 Base	0	0
GA, Rwy 14 Crosswind	0	0
GA, Rwy 14 Downwind	0	0
GA, Rwy 14 Final	0	0
GA, Rwy 14 Upwind	0	0
GA, Rwy 30 Base	0	0
GA, Rwy 30 Crosswind	0	0
GA, Rwy 30 Downwind	0	0
GA, Rwy 30 Final	0	0
GA, Rwy 30 Upwind	0	0
GA, Rwy 32 Base	0	0
GA, Rwy 32 Crosswind	0	0
GA, Rwy 32 Downwind	0	0
GA, Rwy 32 Final	0	0
GA, Rwy 32 Upwind	0	0
OHead, Rwy 14 Downwind	0	0
OHead, Rwy 14 Final	0	0
OHead, Rwy 14 Initial	0	0
OHead, Rwy 32 Downwind	0	0
OHead, Rwy 32 Final	0	0
OHead, Rwy 32 Initial	0	0
Rwy 12-Upwind	0	0
1-ATCT	0	0

Flight Path: C/KC, Rwy 14 Base

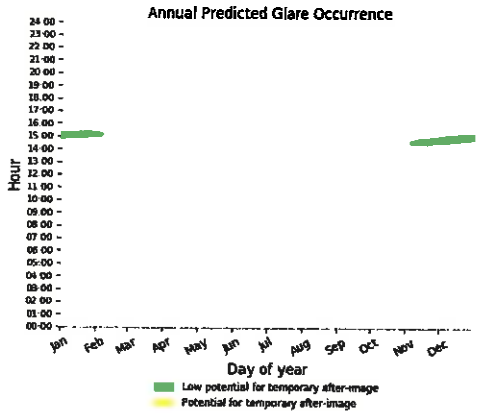
0 minutes of yellow glare
0 minutes of green glare

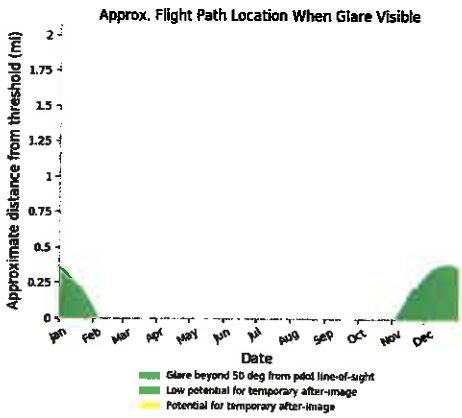
Flight Path: C/KC, Rwy 14 Crosswind

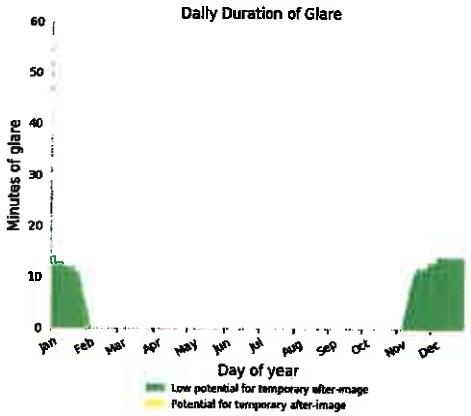
0 minutes of yellow glare
0 minutes of green glare

Flight Path: C/KC, Rwy 14 Downwind

0 minutes of yellow glare
1026 minutes of green glare







Flight Path: C/KC, Rwy 14 Final

0 minutes of yellow glare
0 minutes of green glare

Flight Path: C/KC, Rwy 14 Upwind

0 minutes of yellow glare
0 minutes of green glare

Flight Path: C/KC, Rwy 32 Base

0 minutes of yellow glare
0 minutes of green glare

Flight Path: C/KC, Rwy 32 Crosswind

0 minutes of yellow glare
0 minutes of green glare

Flight Path: C/KC, Rwy 32 Downwind

0 minutes of yellow glare
0 minutes of green glare

Flight Path: C/KC, Rwy 32 Final

0 minutes of yellow glare
0 minutes of green glare

Flight Path: C/KC, Rwy 32 Upwind

0 minutes of yellow glare
0 minutes of green glare

Flight Path: GA, Rwy 12 Base

0 minutes of yellow glare
0 minutes of green glare

Flight Path: GA, Rwy 12 Crosswind

0 minutes of yellow glare
0 minutes of green glare

Flight Path: GA, Rwy 12 Downwind

0 minutes of yellow glare
0 minutes of green glare

Flight Path: GA, Rwy 12 Final

0 minutes of yellow glare
0 minutes of green glare

Flight Path: GA, Rwy 14 Base

0 minutes of yellow glare
0 minutes of green glare

Flight Path: GA, Rwy 14 Crosswind

0 minutes of yellow glare
0 minutes of green glare

Flight Path: GA, Rwy 14 Downwind

0 minutes of yellow glare

0 minutes of green glare

Flight Path: GA, Rwy 14 Final

0 minutes of yellow glare
0 minutes of green glare

Flight Path: GA, Rwy 14 Upwind

0 minutes of yellow glare
0 minutes of green glare

Flight Path: GA, Rwy 30 Base

0 minutes of yellow glare
0 minutes of green glare

Flight Path: GA, Rwy 30 Crosswind

0 minutes of yellow glare
0 minutes of green glare

Flight Path: GA, Rwy 30 Downwind

0 minutes of yellow glare
0 minutes of green glare

Flight Path: GA, Rwy 30 Final

0 minutes of yellow glare
0 minutes of green glare

Flight Path: GA, Rwy 30 Upwind

0 minutes of yellow glare
0 minutes of green glare

Flight Path: GA, Rwy 32 Base

0 minutes of yellow glare
0 minutes of green glare

Flight Path: GA, Rwy 32 Crosswind

0 minutes of yellow glare
0 minutes of green glare

Flight Path: GA, Rwy 32 Downwind

0 minutes of yellow glare
0 minutes of green glare

Flight Path: GA, Rwy 32 Final

0 minutes of yellow glare
0 minutes of green glare

Flight Path: GA, Rwy 32 Upwind

0 minutes of yellow glare
0 minutes of green glare

Flight Path: OHead, Rwy 14 Downwind

0 minutes of yellow glare
0 minutes of green glare

Flight Path: OHead, Rwy 14 Final

0 minutes of yellow glare
0 minutes of green glare

Flight Path: OHead, Rwy 14 Initial

0 minutes of yellow glare
0 minutes of green glare

Flight Path: OHead, Rwy 32 Downwind

0 minutes of yellow glare
0 minutes of green glare

Flight Path: OHead, Rwy 32 Final

0 minutes of yellow glare
0 minutes of green glare

Flight Path: OHead, Rwy 32 Initial

0 minutes of yellow glare
0 minutes of green glare

Flight Path: Rwy 12-Upwind

0 minutes of yellow glare

0 minutes of green glare

Point Receptor: 1-ATCT

0 minutes of yellow glare
0 minutes of green glare

Assumptions

"Green" glare is glare with low potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
"Yellow" glare is glare with potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
Glare analyses do not account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.
Several calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results for large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare.
The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)
Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.
Glare vector plots are simplified representations of analysis data. Actual glare emanations and results may differ.
The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual results and glare occurrence may differ.
Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid based on aggregated research data. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.

ENERT/S

Report prepared for:
EPD Solutions, Inc

Owner's Engineering Report for Solar Glare Hazard Analysis, Harvill Daytona Business Park PV System Perris, California

September 26, 2019

ENERTIS

TABLE OF CONTENTS

1. EXECUTIVE SUMMARY

EPD Solutions, Inc (hereinafter, EPD or the Client) is supporting development a property, entitled Harvill Daytona Business Park, and located near Perris, California (hereinafter, the Project). The project is planning to have roof-mounted photovoltaic modules and arrays mounted on building roof, and as the project is within range of nearby March Air Reserve Base (March AFB) the base and USAF request Solar Glare Hazard Analyses be complete in order to prove no excessive glint or glare will be created by the Project to interfere with pilots operating at this facility.

Enertis Solar, LLC (hereinafter, Enertis, Owner's Engineer or OE) has completed the required analysis using acceptable solar glare hazard (SGH) analysis software, and found the project to PASS analysis compliant with FAA and USAF regulations. Inputs, model parameters and results from this analysis program are documented and included in the Appendices.

Enertis also completed preliminary PV system designs and specifications, in order to most accurately model the proposed system. A summary of this design information is included in this report as well. Enertis Solar can provide more detailed project specifications, design service, energy production estimating, etc if and when the project may require such services.

Figure 1-1 Area Plan

SOLAR GLARE HAZARD ANALYSIS, METHOD and RESULTS

1.1. Solar Glare Analysis Tools and Standards

The potential impact of glint and glare from photovoltaic modules, concentrating solar collectors, receivers, and other components has received increased attention as a potential hazard or distraction for pilots, air-traffic control and other personnel. Hazards from reflected solar radiation include the potential for permanent eye injury (e.g., retinal burn from concentrated sunlight) and temporary disability or distractions (e.g., glint, glare, after-images).

Sandia National Laboratories (National Technology and Engineering Solutions of Sandia, LLC.) developed early Solar Glare Hazard Analysis Tools (SGHAT); programs for modeling and analyzing potential hazards from solar glare, which have been adopted as a standard for FAA and other airport / user reviews.

Due to new cybersecurity restrictions at Sandia, SGHAT is now available for internal Sandia use only. All external use of SGHAT is restricted, however the glare tool source code and algorithms were made available for licensing. The organization at Sims Industries (d/b/a ForgeSolar) pursued this option, is licensed for such IP sharing, and offers comparable tools for this FAA-certifiable glare analysis.

The firm at ForgeSolar offers **GlareGauge** a Solar Glare Hazard Analysis Tool technology based on the work and code at Sandia National Laboratories (www.ForgeSolar.com). Key aspects of GlareGauge include:

- No other tool uses the comprehensive SGHAT algorithms for analyzing entire flight paths and discrete receptor points.
- Analyze continuous flight paths, not just scattered points, for comprehensive and accurate results.
- Improved, updated glare-check algorithms, based on Sandia code, to provide repeatable, rigorous results.
- Cloud-based operation, for team collaboration and aiding in model tracking and configuration management

The GlareGauge program (version as available September 2019) was used for this successful evaluation.

1.2. Customer-provided Information

The following information was provided to Enertis, for review and inclusion in the final glare modeling and analysis. The accuracy of this report and analysis is dependent on this information, and the assumptions and methods documented or implied.

Customer-Supplied Information	
Item	**Description**
2019-09-03_Core 5_Harvill.pdf	Harvill Daytona Bus Park, by Ware Malcom and Core 5 Industrial Partners. 6-page summary, presentation and renderings. Exterior elevation information. Dated 09/03/2019.

Table 0-1 Summary of reference information provided to date

1.3. Preliminary Photovoltaic Array Design

Enertis Solar was requested and required to make initial selections around the Project, in order to allow modeling of the reflective surfaces and their potential for glare hazards.

Knowing that the Project is planned to be a fixed-tilt, roof-mounted modern photovoltaic project, Enertis applied best practices and selected likely product components, based on best practices and common project selections in our extensive portfolio.

The preliminary PV system capacity value (kWatts DCp) of the rooftop system is entered into GlareGauge. The program then uses an estimate of solar production for the specified system and azimuth, and is able to use the approximate resulting value of absorbed solar energy in its reflectivity calculations.

The PV system summary is included below:

Photovoltaic Design Parameters and Information	
Parameter	**Selection, Description or Information**
PV Modules	Canadian Solar, M#CS3U-375 (up to -395) or equal. High efficiency monosilicone PERC PV modules; 1000V / 1500V DC No Anti-Glare coating or treatment is assumed as coating and benefits may degrade with age
PV Racking Systems	1. Unirac, RM10 series; 2. Panel Claw, clawFR series; 3. or equal 10 Degree fixed tilt ballasted roof-top PV racking system Possible walkway widths (Row Gap), and resulting roof coverage ratio : • 11" Row Gap yields an 80% roof coverage ratio • 14" Row Gap, 75% roof coverage ratio • 17" Row Gap, 70% roof coverage ratio
Inverters, Balance of System	Likely 1000-volt DC-rated PV system (rated peak voltage); connected to string-level inverters, 60-120kW AC each;

	These sub-systems have no significant reflective surfaces or impact to the glare analysis. Electrical enclosures, less then 2 square feet roof area per unit, housed in finished, exterior-rated gray metal or fiberglass enclosures.
Assumed buildable PV array roof area, and resulting Approximate PV System Sizes	Gross rectangular is approximation of potential PV array area, based on Customer-supplied information. Area estimates do not include any significant space offsets for HVAC systems, vertical structures creating shading offset areas, etc. Roof coverage areas possible in PV areas are 70-80%, as noted above. Assumed available roof area is set at 65% in the following calculation, allowing some allowance for HVAC, fire department and other space offsets. PV Module power density is approximately 19 watts DCp per square foot of active PV area, based on the PV module class listed. Rooftop Arrangement: Approx 642' east-west x 280' north-south, with a protrusion to the south-west for building lobby. 180 deg (south facing) azimuth and front building façade; Allow for service and mechanical aisles, each 100-150', in each direction; Approx 620'x 265' PV array area, without lobby space; 65% Roof Coverage Ratio, for active PV area to total roof area; 19 watts DCp per square foot; Maximum PV system size approximately 2,000 kW DCp, without set-aside area for HVAC or other obstructions; A value of **1600kW DCp** (~1,200kW AC) was used in GlareGauge modeling, to accommodate potential compromises in project area or use of lower power class of module.

Table 0-2 Summary of Preliminary Photovoltaic Design

1.4. Air Force / Base Requirements

Enertis wishes to thank Paul Rull, Principal Planner at Riverside County Airport Land Use Commission (ALUC), who quickly and amicably provided the basic information, and the enhanced USAF requirements, as applies to Solar Glare Analysis and PV approvals near March AFB.

- The FAA Interim Policy for Solar Glare identifies only the 2-mile approach as the flight path that needs to be analyzed for glare impacts.
- However, for March Air Reserve Base, the Air Force has stated that they would like all of their active as well as their alternate and special-use flight paths be reviewed for glare impacts.
- The Riverside ALUC also provided the coordinate list for the Air Force flight paths (FP), to be input into solar glare model calculations for rectangular analysis

The coordinate list for USAF FPs is included in Appendix 2. Partial examples of Flight Paths are in the following figure.

Also shown is the FP, as translated into the GlareGauge program. Coordinate set had to be translated from simple text file to allocated text strings. The USAF coordinates also used a coordinate basis of degrees:minutes:seconds, but the analysis tool requires a decimal coordinate system. Values were individually translated and used in analysis programming.

	Threshold			2-mile point		
	Lat	Lon	Elev.	Lat	Lon	Elev
Rwy 12/30 GA Rectangular Analysis						
GA, Rwy 12 Upwind	N 33° 53' 03.55"	W 117° 15' 12.73"	1,500	N 33° 52' 33.85"	W 117° 14' 37.00"	2,800
	33.8843194	-117.2535361		33.8760694	-117.2436111	
GA, Rwy 30 Final	N 33° 52' 33.85"	W 117° 14' 37.00"	2,800	N 33° 53' 03.55"	W 117° 15' 12.73"	1,500
	33.8760694	-117.2436111		33.8843194	-117.2535361	
GA, Rwy 30 Base	N 33° 52' 50.93"	W 117° 13' 46.08"	2,800	N 33° 52' 33.89"	W 117° 14' 06.43"	2,800
	33.8808139	-117.2294667		33.8760806	-117.2351194	
GA, Rwy 12 Crosswind	N 33° 52' 33.89"	W 117° 14' 06.43"	2,800	N 33° 52' 50.93"	W 117° 13' 46.08"	2,800
	33.8760806	-117.2351194		33.8808139	-117.2294667	
GA, Rwy 12 Downwind	N 33° 53' 16.43"	W 117° 13' 46.14"	2,800	N 33° 54' 37.20"	W 117° 15' 23.29"	2,800
	33.8878972	-117.2294833		33.9103333	-117.2564694	
GA, Rwy 30 Downwind	N 33° 54' 37.20"	W 117° 15' 23.29"	2,800	N 33° 53' 16.43"	W 117° 13' 46.14"	2,800
	33.9103333	-117.2564694		33.8878972	-117.2294833	
GA, Rwy 12 Base	N 33° 54' 37.16"	W 117° 15' 53.88"	2,800	N 33° 54' 20.13"	W 117° 16' 14.24"	2,800
	33.9103222	-117.2649667		33.9055917	-117.2706222	
GA, Rwy 30 Crosswind	N 33° 54' 20.13"	W 117° 16' 14.24"	2,800	N 33° 54' 37.16"	W 117° 15' 53.88"	2,800
	33.9055917	-117.2706222		33.9103222	-117.2649667	
GA, Rwy 12 Final	N 33° 53' 54.63"	W 117° 16' 14.19"	2,800	N 33° 53' 24.93"	W 117° 15' 38.45"	1,500
	33.8985083	-117.2706083		33.8902583	-117.2606806	
GA, Rwy 30 Upwind	N 33° 53' 24.93"	W 117° 15' 38.45"	1,500	N 33° 53' 54.63"	W 117° 16' 14.19"	2,800
	33.890258	-117.2606806		33.8985083	-117.2706083	

Figure 0-1 Sample of USAF Flight Path (FP) Requirements for Glare Analysis, March ARB / AFB

Name: GA, Rwy 14 Upwind
Description: None
Threshold height: 0 ft
Direction: 314.8°
Glide slope: 5.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.864994	-117.248281	1500.07	0.00	1500.07
Two-mile	33.854942	-117.241136	1500.07	1500.07	3000.15

Name: GA, Rwy 30 Base
Description: None
Threshold height: 0 ft
Direction: 314.8°
Glide slope: 5.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.860814	-117.229467	1500.07	1300.06	2800.14
Two-mile	33.876081	-117.235119	1500.07	1300.06	2800.14

Figure 0-2 USAF FP requirements, as represented in GlareGauge modeling

1.5. Results

Enertis finds that the Project as modeled and specified will PASS glare hazard model criteria, with zero minutes per year outside the 'green zone' of acceptable reflected energy.

The complete glare report is submitted under a separate file.

FORGESOLAR GLARE ANALYSIS

Project: **EPD Solutions, March AFB**
3 sites, Riverside County March AFB

Site configuration: **Harville Daytona**
Analysis conducted by Mark Burton (Mark.Burton@Enertis.com) at 06:22 on 27 Sep, 2019.

U.S. FAA 2013 Policy Adherence

The following table summarizes the policy adherence of the glare analysis based on the 2013 U.S. Federal Aviation Administration Interim Policy 78 FR 63276. This policy requires the following criteria be met for solar energy systems on airport property:

- No "yellow" glare (potential for after-image) for any flight path from threshold to 2 miles
- No glare of any kind for Air Traffic Control Tower(s) ("ATCT") at cab height.
- Default analysis and observer characteristics (see list below)

ForgeSolar does not represent or speak officially for the FAA and cannot approve or deny projects. Results are informational only.

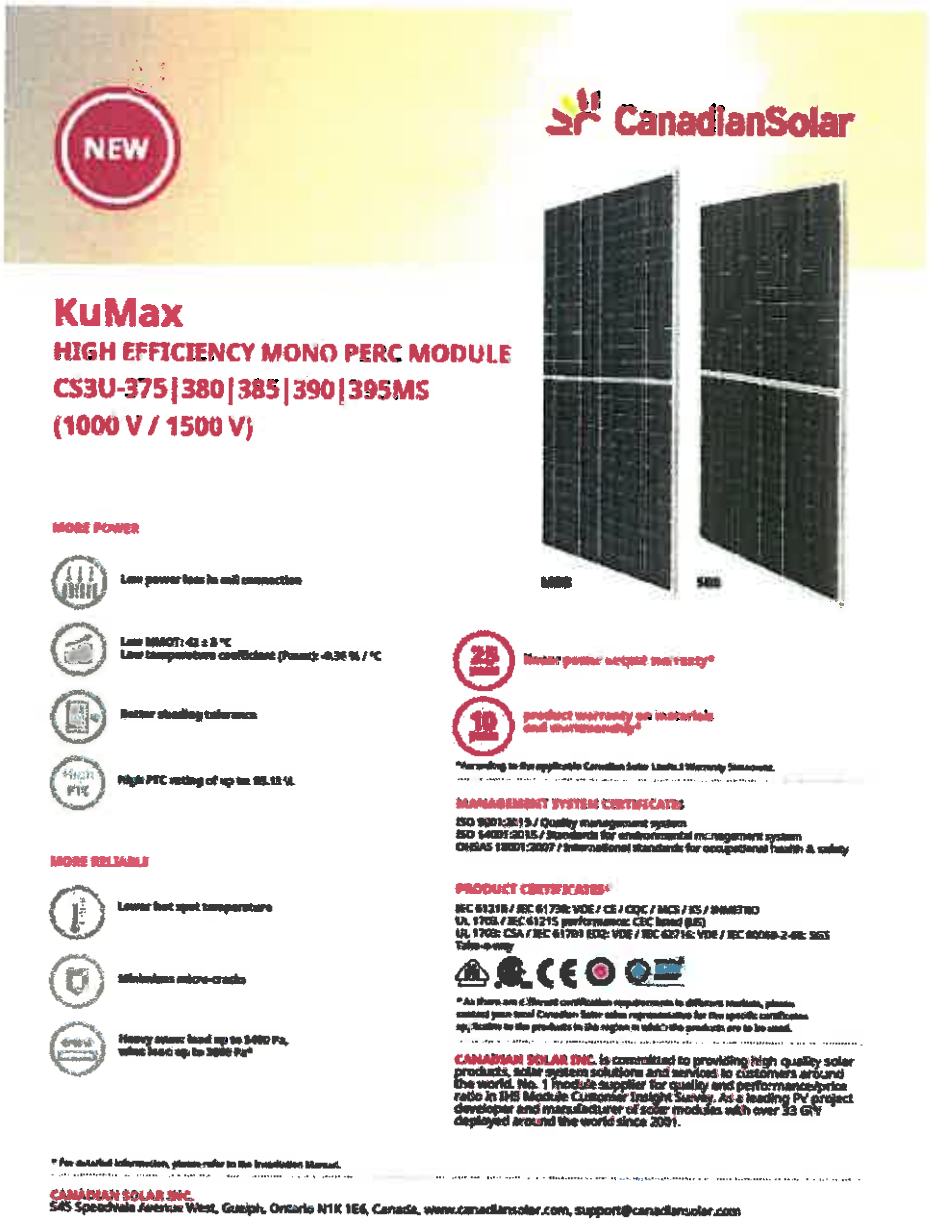
COMPONENT	STATUS	DESCRIPTION
Analysis parameters	PASS	Analysis time interval and eye characteristics used are acceptable
Flight path(s)	PASS	Flight path receptor(s) do not receive yellow glare
ATCT(s)	PASS	Receptor(s) marked as ATCT do not receive glare

Figure 0-3 Report and system summary, GlareGauge

2. APPENDICES

2.1. Appendix 1 – Technical Reference Sheets

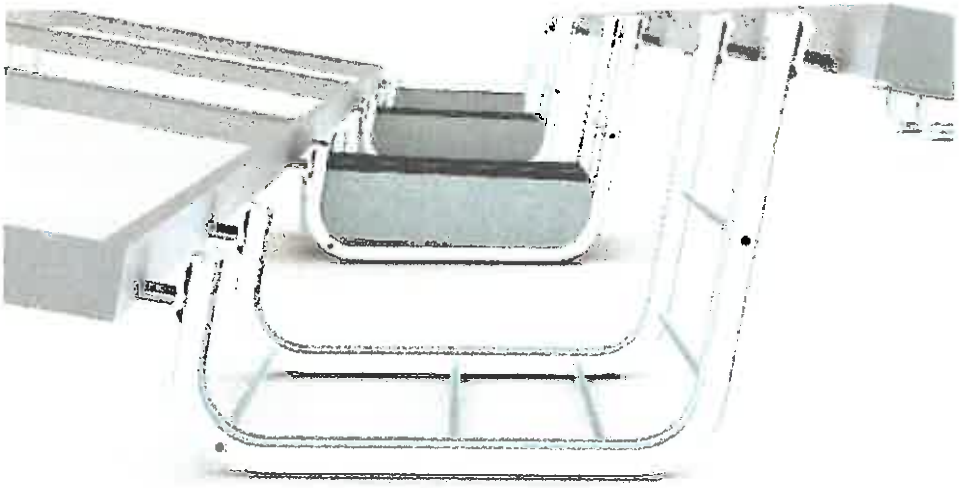
Canadian Solar, Monocrystalline, High efficiency PV modules



Unirac, Roof Mount RM10 series PV racking solution

ROOFMOUNT UNIRAC

ROOFMOUNT introduces the Power of Simplicity to the ballasted flat roof solar industry. The system consists of only two major components, minimizing preparation work and installation time. Seamlessly design around roof obstacles, support most framed modules and bond the system with just the turn of a wrench.



SIMPLE DESIGN • FAST INSTALLATION

SIMPLE DESIGN • AVAILABILITY • DESIGN TOOLS • QUALITY PROVIDER

2.2. Appendix 2 – USAF Flight Path Coordinate Requirements

As received from Riverside County Airport Land Use Commission representatives.

Location, Altitude and Requirements for Glare Analysis
March Air Force Base

The first set of text, as displayed in grayed italic font, is the text string coordinate file, as received from USAF and Riverside ALUC.

Rwy 12/30 GA Rectangular Analysis
Rwy 12 Upwind 1,500' MSL to 2,800' MSL N 33° 53' 03.55" W 117° 15' 12.73" to N 33° 52' 33.85" W 117° 14' 37.00"
Rwy 30 Final 2,800' MSL to 1,500' MSL N 33° 52' 33.85" W 117° 14' 37.00" to N 33° 53' 03.55" W 117° 15' 12.73"
Rwy 30 Base 2,800' MSL N 33° 52' 50.93" W 117° 13' 46.08" to N 33° 52' 33.89" W 117° 14' 06.43"
Rwy 12 Crosswind 2,800' MSL N 33° 52' 33.89" W 117° 14' 06.43" to N 33° 52' 50.93" W 117° 13' 46.08"
Rwy 12 Downwind 2,800' MSL N 33° 53' 16.43" W 117° 13' 46.14" to N 33° 54' 37.20" W 117° 15' 23.29"
Rwy 30 Downwind 2,800' MSL N 33° 54' 37.20" W 117° 15' 23.29" to N 33° 53' 16.43" W 117° 13' 46.14"
Rwy 12 Base 2,800' MSL N 33° 54' 37.16" W 117° 15' 53.88" to N 33° 54' 20.13" W 117° 16' 14.24"
Rwy 30 Crosswind 2,800' MSL N 33° 54' 20.13" W 117° 16' 14.24" to N 33° 54' 37.16" W 117° 15' 53.88"
Rwy 12 Final 2,800' MSL to 1,500' MSL N 33° 53' 54.63" W 117° 16' 14.19" to N 33° 53' 24.93" W 117° 15' 38.45"
Rwy 30 Upwind 1,500' MSL to 2,800' MSL N 33° 53' 24.93" W 117° 15' 38.45" to N 33° 53' 54.63" W 117° 16' 14.19"

Rwy 14/32 GA Rectangular Analysis
Rwy 14 Final 3,000' MSL to 1,500' MSL N 33° 54' 23.35" W 117° 16' 40.02" to N 33° 53' 47.15" W 117° 16' 14.29"
Rwy 32 Upwind 1,500' MSL to 3,000'MSL N 33° 53' 47.15" W 117° 16' 14.29" to N 33° 54' 23.35" W 117° 16' 40.02"
Rwy 14 Base 3,000' MSL N 33° 54' 17.40" W 117° 17' 34.45" to N 33° 54' 29.67" W 117° 17' 09.66"
Rwy 32 Crosswind 3,000' MSL N 33° 54' 29.67" W 117° 17' 09.66" to N 33° 54' 17.40" W 117° 17' 34.45"
Rwy 32 Downwind 3,000' MSL N 33° 53' 52.70" W 117° 17' 42.04" to N 33° 50' 47.12" W 117° 15' 30.04"
Rwy 14 Downwind 3,000' MSL N 33° 50' 47.12" W 117° 15' 30.04" to N 33° 53' 52.70" W 117° 17' 42.04"
Rwy 32 Base 3,000' MSL N 33° 50' 40.81" W 117° 15' 00.43" to N 33° 50' 53.08" W 117° 14' 35.65"
Rwy 14 Crosswind 3,000' MSL N 33° 50' 53.08" W 117° 14' 35.65" to N 33° 50' 40.81" W 117° 15' 00.43"
Rwy 32 Final 3,000' MSL to 1,500' MSL N 33° 51' 17.79" W 117° 14' 28.09" to N 33° 51' 53.98" W 117° 14' 53.81"
Rwy 14 Upwind 1,500' MSL to 3,000'MSL N 33° 51' 53.98" W 117° 14' 53.81" to N 33° 51' 17.79" W 117° 14' 28.09"

Rwy 14/32 C-17/KC-135 Rectangular Analysis
Rwy 14 Final 3,000' MSL to 1,500' MSL N 33° 55' 30.56" W 117° 17' 27.82" to N 33° 53' 47.15" W 117° 16' 14.29"
Rwy 32 Upwind 1,500' MSL to 3,000'MSL N 33° 53' 47.15" W 117° 16' 14.29" to N 33° 55' 30.56" W 117° 17' 27.82"
Rwy 14 Base 3,000' MSL N 33° 55' 20.62" W 117° 19' 30.17" to N 33° 55' 52.48" W 117° 18' 32.45"
Rwy 32 Crosswind 3,000' MSL N 33° 55' 52.48" W 117° 18' 32.45" to N 33° 55' 20.62" W 117° 19' 30.17"
Rwy 32 Downwind 3,000' MSL N 33° 54' 29.27" W 117° 19' 31.90" to N 33° 49' 09.21" W 117° 15' 44.17"
Rwy 14 Downwind 3,000' MSL N 33° 49' 09.21" W 117° 15' 44.17" to N 33° 54' 29.27" W 117° 19' 31.90"
Rwy 32 Base 3,000' MSL N 33° 48' 47.33" W 117° 14' 39.66" to N 33° 49' 19.06" W 117° 13' 42.12"
Rwy 14 Crosswind 3,000' MSL N 33° 49' 19.06" W 117° 13' 42.12" to N 33° 48' 47.33" W 117° 14' 39.66"
Rwy 32 Final 3,000' MSL to 1,500' MSL N 33° 50' 10.57" W 117° 13' 40.33" to N 33° 51' 53.98" W 117° 14' 53.81"
Rwy 14 Upwind 1,500' MSL to 3,000'MSL N 33° 51' 53.98" W 117° 14' 53.81" to N 33° 50' 10.57" W 117° 13' 40.33"

Overhead Analysis
Rwy 14 Initial 3,500' MSL N 33° 58' 04.93" W 117° 19' 19.66" to N 33° 52' 50.54" W 117° 15' 34.03"
Rwy 14 Downwind 3,500' MSL N 33° 51' 48.83" W 117° 17' 37.71" to N 33° 54' 29.27" W 117° 19' 31.90"
Rwy 14 Final 3,500' to 1,500' MSL to 1,500' MSL N 33° 55' 30.56" W 117° 17' 27.82" to N 33° 53' 47.15" W 117° 16' 14.29"
Rwy 32 Initial 3,500' MSL N 33° 47' 36.15" W 117° 11' 48.76" to N 33° 52' 50.54" W 117° 15' 34.03"
Rwy 32 Downwind 3,500' MSL N 33° 51' 48.83" W 117° 17' 37.71" to N 33° 49' 09.21" W 117° 15' 44.17"
Rwy 32 Final 3,500' MSL to 1,500' MSL N 33° 50' 10.57" W 117° 13' 40.33" to N 33° 51' 53.98" W 117° 14' 53.81"

Figure 2-1 USAF Flight Path (FP) Requirements for Glare Analysis, March ARB / AFB

The following table reflects allocated fields / values, coordinate system conversion, and the setting of initial and final altitudes to achieve the FP rectangle described.

	Threshold			2-mile point		
	Lat	Lon	Elev	Lat	Lon	Elev
Rwy 12/30 GA Rectangular Analysis						
GA, Rwy 12 Upwind	N 33° 53' 09.55"	W 117° 15' 12.73"	1,500	N 33° 52' 33.85"	W 117° 14' 57.00"	2,800
	33.8859320	-117.2535361		33.8760694	-117.2491111	
GA, Rwy 30 Final	N 33° 52' 33.85"	W 117° 14' 57.00"	2,800	N 33° 53' 09.55"	W 117° 15' 12.73"	1,500
	33.8760694	-117.2491111		33.8859320	-117.2535361	
GA, Rwy 30 Base	N 33° 52' 50.93"	W 117° 13' 46.08"	2,800	N 33° 52' 35.89"	W 117° 14' 05.43"	2,800
	33.8808139	-117.2294633		33.8766907	-117.2348194	
GA, Rwy 12 Crosswind	N 33° 52' 33.89"	W 117° 14' 06.49"	2,800	N 33° 52' 50.93"	W 117° 13' 46.08"	2,800
	33.8760907	-117.2351194		33.8808139	-117.2294633	
GA, Rwy 12 Downwind	N 33° 53' 16.43"	W 117° 13' 46.14"	2,800	N 33° 54' 37.20"	W 117° 15' 23.29"	2,800
	33.8878972	-117.2294833		33.9103333	-117.2564694	
GA, Rwy 30 Downwind	N 33° 54' 37.20"	W 117° 15' 23.29"	2,800	N 33° 53' 16.43"	W 117° 13' 46.14"	2,800
	33.9103333	-117.2564694		33.8878972	-117.2294833	
GA, Rwy 12 Base	N 33° 54' 37.16"	W 117° 15' 53.88"	2,800	N 33° 54' 20.13"	W 117° 16' 14.24"	2,800
	33.9103222	-117.2649667		33.9056917	-117.2706222	
GA, Rwy 30 Crosswind	N 33° 54' 20.13"	W 117° 16' 14.24"	2,600	N 33° 54' 37.16"	W 117° 15' 53.88"	2,800
	33.9056917	-117.2706222		33.9103222	-117.2649667	
GA, Rwy 12 Final	N 33° 53' 54.63"	W 117° 16' 14.19"	2,800	N 33° 53' 24.53"	W 117° 15' 38.45"	1,500
	33.8985063	-117.2705806		33.8902583	-117.2606806	
GA, Rwy 30 Upwind	N 33° 53' 24.93"	W 117° 15' 38.45"	1,500	N 33° 53' 54.63"	W 117° 16' 14.19"	2,800
	33.8902583	-117.2606806		33.8985063	-117.2705806	
Rwy 14/32 GA Rectangular Analysis						
GA, Rwy 14 Final	N 33° 54' 29.35"	W 117° 16' 40.62"	3,000	N 33° 53' 47.15"	W 117° 16' 14.29"	1,500
	33.9081486	-117.2779839		33.8964861	-117.2706361	
GA, Rwy 32 Upwind	N 33° 53' 47.15"	W 117° 16' 14.29"	1,500	N 33° 54' 29.35"	W 117° 16' 40.62"	3,000
	33.8964306	-117.2706361		33.9081486	-117.2779839	
GA, Rwy 14 Base	N 33° 54' 17.40"	W 117° 17' 54.45"	3,000	N 33° 54' 29.67"	W 117° 17' 09.66"	3,000
	33.9048333	-117.2959028		33.9082417	-117.2860167	
GA, Rwy 32 Crosswind	N 33° 54' 29.67"	W 117° 17' 09.66"	3,000	N 33° 54' 17.40"	W 117° 17' 54.45"	3,000
	33.9082417	-117.2860167		33.9048333	-117.2979028	
GA, Rwy 32 Downwind	N 33° 53' 52.79"	W 117° 17' 42.04"	3,000	N 33° 50' 47.12"	W 117° 15' 30.04"	3,000
	33.8979722	-117.2950111		33.8464222	-117.2583444	
GA, Rwy 14 Downwind	N 33° 50' 47.12"	W 117° 15' 30.04"	3,000	N 33° 53' 52.79"	W 117° 17' 42.04"	3,000
	33.8464222	-117.2583444		33.8979722	-117.2950111	
GA, Rwy 32 Base	N 33° 50' 40.61"	W 117° 15' 00.43"	3,000	N 33° 50' 53.08"	W 117° 14' 35.65"	3,000
	33.8446694	-117.2501194		33.8480778	-117.2432472	
GA, Rwy 14 Crosswind	N 33° 50' 53.08"	W 117° 14' 35.65"	3,000	N 33° 50' 40.81"	W 117° 15' 01.43"	3,000
	33.8480778	-117.2432472		33.8446694	-117.2501194	
GA, Rwy 32 Final	N 33° 51' 27.79"	W 117° 14' 28.09"	3,000	N 33° 51' 53.98"	W 117° 14' 53.81"	1,500
	33.8576617	-117.2411361		33.8649944	-117.2482806	
GA, Rwy 14 Upwind	N 33° 51' 53.98"	W 117° 14' 53.81"	1,500	N 33° 51' 27.79"	W 117° 14' 25.03"	3,000
	33.8649944	-117.2482806		33.8576617	-117.2411361	
Rwy 14/32 C-17/KC-135 Rectangular Analysis						
C/KC, Rwy 14 Final	N 33° 55' 30.56"	W 117° 17' 27.82"	3,000	N 33° 53' 47.15"	W 117° 16' 14.29"	1,500
	33.9251556	-117.2910611		33.8964306	-117.2706361	
C/KC, Rwy 32 Upwind	N 33° 53' 47.15"	W 117° 16' 14.29"	1,500	N 33° 55' 30.56"	W 117° 17' 27.82"	3,000
	33.8964306	-117.2706361		33.9251556	-117.2910611	
C/KC, Rwy 14 Base	N 33° 55' 20.62"	W 117° 18' 56.17"	3,000	N 33° 55' 52.48"	W 117° 18' 32.45"	3,000
	33.9223944	-117.3156472		33.9312444	-117.3090139	
C/KC, Rwy 32 Crosswind	N 33° 55' 52.48"	W 117° 18' 32.45"	3,000	N 33° 55' 20.62"	W 117° 19' 31.17"	3,000
	33.9312444	-117.3090139		33.9223944	-117.3253472	
C/KC, Rwy 32 Downwind	N 33° 54' 29.27"	W 117° 19' 31.90"	3,000	N 33° 49' 09.21"	W 117° 15' 44.17"	3,000
	33.9081306	-117.3255278		33.8192250	-117.2622694	
C/KC, Rwy 14 Downwind	N 33° 49' 09.21"	W 117° 15' 44.17"	3,000	N 33° 54' 29.27"	W 117° 19' 31.97"	3,000
	33.8192250	-117.2622694		33.9081306	-117.3255278	
C/KC, Rwy 32 Base	N 33° 49' 47.33"	W 117° 14' 39.66"	3,000	N 33° 49' 15.06"	W 117° 13' 42.12"	3,000
	33.8131472	-117.2443500		33.8219611	-117.2283667	
C/KC, Rwy 14 Crosswind	N 33° 49' 15.06"	W 117° 13' 42.12"	3,000	N 33° 48' 47.33"	W 117° 14' 39.66"	3,000
	33.8219611	-117.2283667		33.8131472	-117.2443500	
C/KC, Rwy 32 Final	N 33° 50' 10.57"	W 117° 15' 40.33"	3,000	N 33° 51' 53.98"	W 117° 14' 53.81"	1,500
	33.8362694	-117.2778694		33.8649944	-117.2482806	
C/KC, Rwy 14 Upwind	N 33° 51' 53.98"	W 117° 14' 53.81"	1,500	N 33° 50' 10.57"	W 117° 13' 40.33"	3,000
	33.8649944	-117.2482806		33.8362694	-117.2278694	
Overhead Analysis						
OHead, Rwy 14 Initial	N 33° 58' 04.93"	W 117° 19' 19.66"	3,500	N 33° 52' 50.54"	W 117° 15' 34.03"	3,500
	33.9680381	-117.3221278		33.8807056	-117.2594528	
OHead, Rwy 14 Downwind	N 33° 51' 48.63"	W 117° 17' 37.71"	3,500	N 33° 54' 29.27"	W 117° 19' 31.90"	3,500
	33.8635639	-117.2938083		33.9081306	-117.3255278	
OHead, Rwy 14 Final	N 33° 55' 30.56"	W 117° 17' 27.82"	3,500	N 33° 53' 47.15"	W 117° 16' 14.29"	1,500
	33.9251556	-117.2910611		33.8964306	-117.2706361	
OHead, Rwy 32 Initial	N 33° 47' 36.15"	W 117° 11' 48.76"	3,500	N 33° 52' 50.54"	W 117° 15' 34.03"	3,500
	33.7933750	-117.1968778		33.8807056	-117.2594528	
OHead, Rwy 32 Downwind	N 33° 51' 48.63"	W 117° 17' 37.71"	3,500	N 33° 49' 09.21"	W 117° 15' 44.17"	3,500
	33.8635639	-117.2938083		33.8192250	-117.2622694	
OHead, Rwy 32 Final	N 33° 50' 10.57"	W 117° 15' 40.33"	3,500	N 33° 51' 53.98"	W 117° 14' 53.81"	1,500
	33.8362694	-117.2778694		33.8649944	-117.2482806	

Figure 2-2 USAF Flight Path (FP) Requirements for Glare Analysis, March ARB / AFB; Translated

2.3. Appendix 3 – GlareGauge Report Document

(See file, submitted separately)

ENERTIS

NOTICE OF PUBLIC HEARING
RIVERSIDE COUNTY AIRPORT LAND USE COMMISSION

A PUBLIC HEARING has been scheduled before the Riverside County Airport Land Use Commission (ALUC) to consider the application described below.

Any person may submit written comments to the ALUC before the hearing or may appear and be heard in support of or opposition to the project at the time of hearing. For more information please contact **ALUC Planner Paul Rull at (951) 955-6893**. The ALUC holds hearings for local discretionary permits within the Airport Influence Area, reviewing for aeronautical safety, noise and obstructions. ALUC reviews a proposed plan or project solely to determine whether it is consistent with the applicable Airport Land Use Compatibility Plan.

The County of Riverside Planning Department may hold hearings on this item and should be contacted on non-ALUC issues. For more information please contact County of Riverside Planner Mr. Fernando Solis at (951) 955-8254.

The proposed project application may be viewed and written comments may be submitted at the Riverside County Administrative Center, 4080 Lemon Street, 14th Floor, Riverside, California 92501, Monday through Thursday from 8:00 a.m. to 5:00 p.m., except Monday November 11 (Veterans Day), and by prescheduled appointment on Friday, from 9:00 a.m. to 5:00 p.m.

PLACE OF HEARING: Riverside County Administration Center
4080 Lemon Street, 1st Floor Board Chambers
Riverside California

DATE OF HEARING: November 14, 2019

TIME OF HEARING: 9:30 A.M.

CASE DESCRIPTION:

ZAP1386MA19 – Core 5 Industrial Partners (Representative: EPD Solutions) – County of Riverside Case No. PPT190028 (Plot Plan). A proposal to construct a 197,856 square foot industrial manufacturing building with mezzanines on 10.96 acres located easterly of Harvill Avenue, northerly of Daytona Cove, westerly of 215 freeway, and southerly of Orange Avenue. The applicant also proposes rooftop solar panels totaling ##### square feet (Airport Compatibility Zone C2 of the March Air Reserve Base/Inland Port Airport Influence Area).

RIVERSIDE COUNTY
AIRPORT LAND USE COMMISSION

March C2

APPLICATION FOR MAJOR LAND USE ACTION REVIEW

ALUC CASE NUMBER: ZAP1386MA19 DATE SUBMITTED: October 2, 2019

APPLICANT / REPRESENTATIVE / PROPERTY OWNER CONTACT INFORMATION

Applicant	Core 5 Industrial Partners	Phone Number	
Mailing Address	300 Spectrum Center Dr Suite 880	Email	jkelly@c5ip.com
	Irvine CA 92618		
Representative	EPD Solutions	Phone Number	949-226-1854
Mailing Address	2 Park Plaza Suite 1120	Email	norah@epdsolution.com
	Irvine CA 92614		
Property Owner	Perris Citrus Avenue Land LP	Phone Number	
Mailing Address	6741 Gemende Dr Unite A	Email	
	Riverside CA 92504		

LOCAL JURISDICTION AGENCY

Local Agency Name	County of Riverside	Phone Number	951-955-8254
Staff Contact	Fernando Solis	Email	fersolis@rivco.org
Mailing Address	4080 Lemon St 12th Floor	Case Type	Plot Plan
	Riverside CA 92501	☐ General Plan / Specific Plan Amendment	
		☐ Zoning Ordinance Amendment	
		☐ Subdivision Parcel Map / Tentative Tract	
Local Agency Project No	PPT190028	☐ Use Permit	
		☒ Site Plan Review/Plot Plan	
		☐ Other	

PROJECT LOCATION

Attach an accurately scaled map showing the relationship of the project site to the airport boundary and runways

Street Address			
Assessor's Parcel No.	305-170-040, 041, 042, 043, 044, 047, 048	Gross Parcel Size	11 acres
Subdivision Name		Nearest Airport and distance from Airport	
Lot Number			

PROJECT DESCRIPTION

If applicable, attach a detailed site plan showing ground elevations, the location of structures, open spaces and water bodies, and the heights of structures and trees; include additional project description data as needed

Existing Land Use (describe)	Site is currently vacant

COUNTY OF RIVERSIDE
AIRPORT LAND USE COMMISSION

STAFF REPORT

AGENDA ITEM:	~~3.5~~ **2.2**
HEARING DATE:	~~November 14~~ **December 12**, 2019
CASE NUMBER:	ZAP1080BD19 – Michael Griswold (Representative: Egan Civil, Inc.)
APPROVING JURISDICTION:	County of Riverside
JURISDICTION CASE NO:	PPT190025 (Plot Plan), TPM 37675 (Tentative Parcel Map)
LAND USE PLAN:	2004 Bermuda Dunes Airport Land Use Compatibility Plan
Airport Influence Area:	Bermuda Dunes Airport
Land Use Policy:	Compatibility Zones A, B2
Noise Levels:	Above 65 dB CNEL

MAJOR ISSUES: The project proposes several objects and structures within Zone A which are identified as prohibited uses: 6 foot tall security fence, handicap parking and loading stall, and a 3,500 square foot detention basin. These structures can also be considered a hazard to flight.

~~**At the time this staff report was written, the applicant has not submitted for Federal Aviation Administration obstacle obstruction review.**~~ ***The applicant has submitted Form 7460-1 with the FAA and its review status is currently a "work in progress". Therefore, the project was continued to the December hearing agenda pending completion of the FAA review. As of the date of preparation of this staff report, FAA review is still in progress.***

RECOMMENDATION: Staff recommends that the Commission CONTINUE the matter to the January 9, 2020 meeting, pending completion of the Federal Aviation Administration obstacle obstruction review.

PROJECT DESCRIPTION: The applicant proposes to establish a 5-unit 6,748 square foot vehicle and RV/boat storage building with a condominium parcel map for each of the units on 0.70 acres.

PROJECT LOCATION: The site is located southerly of Country Club Drive and Interstate 10 freeway, westerly of Jefferson Street, easterly of Adams Street, approximately 100 feet northerly of Runway 10-28 at Bermuda Dunes Airport.

BACKGROUND:

Non-Residential Average Intensity: Pursuant to the 2004 Bermuda Dunes Airport Land Use Compatibility Plan, the project site is located within Compatibility Zones A and B2. Zone B2 restricts average intensity to 100 people per acre. Zone A prohibits all structures, assemblages of uses, and hazards to flight. Approximately 0.41 acres of the project is located within Zone A, and 0.29 acres is located within Zone B2.

Pursuant to Appendix C, Table C-1, of the Riverside County Airport Land Use Compatibility Plan, the following rate could potentially be used to calculate the occupancy for the proposed building in Compatibility Zone B2:

- Storage – 1 person per 300 square feet.

The project proposes a total of 6,748 square feet of building area (located entirely within Compatibility Zone B2), accommodating 23 people, resulting in an average intensity of 79 people per acre (for Zone B2 portion only), which is consistent with the Compatibility Zone B2 criterion of 100.

This number is artificially high in this situation, since it is unlikely that all units would be open simultaneously. The Building Code 1 person per 300 square feet storage standard is meant to be applied to storage areas within a commercial or industrial business, and a storage facility generates significantly far less occupancy than calculated using the Building Code.

A second method for determining total occupancy involves multiplying the number of parking spaces provided or required (whichever is greater) by average vehicle occupancy (assumed to be 1.5 persons per vehicle). Based on the number of parking spaces (1 space) provided, the total occupancy would be estimated at 2 people for an average intensity of 7 persons per acre, which is consistent with the Compatibility Zone B2 average criterion of 100.

Non-Residential Single-Acre Intensity: As previously noted, the proposed building is located within Compatibility Zone B2 which restricts non-residential intensity to 200 people in any given single acre.

Based on the site plan provided and the occupancies as previously noted, the maximum single-acre area would include 6,748 square feet of vehicle and RV/boat storage area, resulting in a single acre occupancy of 23 people, which is consistent with the Compatibility Zone C single acre criterion of 200.

Prohibited and Discouraged Uses: The applicant does not propose any land uses specifically prohibited or discouraged in the Compatibility Zone B2 portion of the site. However, the applicant is proposing several non-aeronautical features including a 6 foot tall perimeter security fence, a handicap parking and loading stall, and a 3,500 square foot detention basin within the Zone A

portion of the site. Zone A prohibits hazards to flight and all structures "except ones with location set by aeronautical function."

Noise: The site is located inside the 65 CNEL aircraft noise contour and is subject to extremely high noise levels from aircraft operations due to its proximity to the runway. Noise levels are projected to exceed 65 CNEL at ultimate traffic levels, so this site would not be suitable for noise-sensitive uses. The project proposes 5 units for vehicle and RV/boat storage. The project does not propose any uses that would be sensitive to noise, and, therefore, would not require special measures to mitigate aircraft-generated noise.

Part 77: The elevation of Runway 10-28 at its easterly terminus is approximately 49 feet above mean sea level (AMSL). At a distance of approximately 100 feet from the runway, FAA review would be required for any structures with top of roof exceeding 50 feet AMSL. The project's site elevation is 53 feet AMSL, and the maximum height of the proposed building is 24 feet, for a maximum top point elevation of 77 feet AMSL. Therefore, Federal Aviation Administration (FAA) obstruction evaluation review for height/elevation reasons is required.

~~At the time this staff report was written, the applicant has not submitted for Federal Aviation Administration obstacle obstruction review.~~ **The applicant has submitted Form 7460-1 with the FAA and its review status is currently a "work in progress".**

Open Area: The site is located within Compatibility Zones A and B2 of the Bermuda Dunes Airport Influence Area, which requires projects 10 acres or larger to set aside a certain amount of project area as ALUC qualifying open area that could potentially serve as emergency landing areas. Since the overall project size is less than 10 acres, and Compatibility Zones A and B2 does not require any open area, the open area requirement is not applicable to this project.

Zone A: Pursuant to the Bermuda Dunes Land Use Compatibility Plan, Compatibility Zone A prohibits all structures, assemblages of people and hazards to flight. The site plan depicts a 6 foot tall perimeter security fence, a handicap parking and loading stall, and a 3,500 square foot detention basin located within Zone A portion of the site. The proposed fence presents a hazard to flight if an aircraft were to lose control and run into these structures. The proposed parking area will generate assemblage of people and the vehicle that is parked would be considered a hazard to flight if an aircraft ran into it. The proposed detention basin is a hazard to flight due to the bird attractant and bird strike potential immediately adjacent to the runway.

In order to try and make the project more consistent with the compatibility plan, the applicant has provided the following:

- The applicant removed a 6 foot tall trash enclosure that was originally proposed located within Zone A. In lieu of a trash enclosure, wheelie bins will be proposed and stored within the building (which is located outside of Zone A). Removal of the original trash enclosure reduces significantly the potential for hazards to flight.

- The applicant replaced a 6 foot tall perimeter block wall that was originally proposed located within Zone A, with a 6 foot tall tube steel fence that would incorporate "break-away" design that would collapse upon impact, so that in the event of an aircraft coming into contact with the fence, the damage would be limited, reducing the potential hazards to flight.
- The proposed handicap parking stall and loading zone contains no permanent objects or structures and is viewed as a striped paved surface. The parking stall will most likely remain empty as users will be parking their vehicles in their individual garages.
- The proposed detention basin in Zone A will not have any landscaping, which will help reduce the potential for bird attractants and bird strikes. The basin will also drain within a maximum 48-hour detention period after the design storm and remain totally dry between rainfalls, consistent with ALUC standards.

The Commission has previously reviewed two projects split between Compatibility Zones A and B2 located along Country Club Drive, BD-06-103 and ZAP1002BD06.

Both BD-06-103 and ZAP1002BD06 were found consistent on November 9, 2006, pursuant to special conditions policies Section 3.3.6 of the County Policies of the 2004 Riverside County Airport Land Use Compatibility Plan. BD-06-103 was a proposal to establish a 7,530 square foot industrial building on 0.76 acres, with the proposed warehouse building encroaching 69 feet into Zone A, a carport and trash enclosure encroaching 114 feet into Zone A, and a rear site wall encroaching 120 feet into Zone A. ZAP1002BD06 was a proposal to establish a 7,650 square foot office building with attached 6,139 square foot airplane hangar/warehouse (including a 525 square foot pilot lounge) on 0.75 acres, with the hangar/pilot lounge encroaching 100 feet into Zone A, and the office structure encroaching two feet into Zone A. Both of these projects were on parcels that were bordered to the east and west by developed parcels.

ZAP1022BD07 was heard by the Commission on April 10, 2008, but no final determination was ever made.) In contrast, ZAP1022BD07, a proposal to establish a 19,388 square foot industrial/office building on 0.66 acres, with the proposed building encroaching 102 feet into Zone A, was located easterly of the developed area and would have extended the land use pattern. This project was continued off-calendar and never returned to the Commission.

For the completed 2006 cases, the following special findings were made by the Commission:

1. The State Airport Permit for Bermuda Dunes Airport, a.k.a. Bermuda Dunes Executive Airport (UDD), includes a variance for the existing Federal Aviation Regulations Part 77 imaginary surface penetrations in the 7:1 Transitional Surface on the north side of the runway, with a 25 foot height restriction. These penetrations are the tree line, which is located at the edge of the Primary Surface and is marked in several locations with lighted obstruction poles. Objects north of the tree line, such as buildings in the industrial park, are acceptable as long as they do not exceed the 25 foot height restriction, since they are, in effect, shadowed by the tree line. In light of this variance, consideration may be given in the future to amending the boundaries of Zone A as depicted in the maps of the Bermuda Dunes

Airport Land Use Compatibility Plan to exclude the developed area of this industrial park.

2. The mass and setback of the proposed structure are consistent with similar development in this industrial park at a similar distance from, and parallel to, the runway.

3. The Federal Aviation Administration has completed aeronautical studies for each point of the building and has issued a "Determination of No Hazard to Air Navigation" on April 25, 2006. The FAA determination states that "the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities." [This finding only applied to case BD-06-103]

4. The portion of the structure extending into Airport Zone A will be used for storage or warehousing of goods and supplies. The proposed office and reception areas will be located in Airport Zone B2.

5. The proposed project as submitted will not create an undue safety hazard to people on the ground or aircraft in flight.

6. The land use intensity for the entire site does not exceed the allowable land use intensity for the portion of the site in Airport Zone B2 (32 persons).

7. The land use will not result in excessive noise exposure because, in accordance with criteria for Airport Zone B2, the structure will be required to be designed to provide a minimum noise level reduction of 25dB for the office and reception areas of the building.

8. The airport manager has expressed support for the project after consultation with the applicant.

The airport manager at the time of these projects, Mike Smith, provided an opinion that the boundary of Airport Zone A should have reflected the variance in the State Airport Permit whereby the primary surface extends to a distance of 125 feet from the runway centerline, and objects beyond this limit may be up to 25 feet in height. It was his contention that the variance was applicable to all lots in the industrial park, including vacant lots. The Compatibility Zone A boundary extends 250 feet from the runway centerline since 2004.

It is the applicant's contention that the proposed project should be found consistent, in light of these previous consistency determinations for other projects in this corridor and the variance included in the State's Airport Permit. The variance in the airport permit is for "existing...imaginary surface penetrations." Staff has been in contact with airport owner Michael Dunlevie, who does not oppose the project and favors a solid fence along the property line.

The Commission may consider whether the consistency determinations of similar cases along Country Club Drive constitute meriting consideration through Policy 3.3.6 for this project.

Countywide Policy 3.3.6 Other Special Conditions: While the project does not strictly comply with Zone A requirements, the Commission may choose to consider whether to find the proposed project compatible pursuant to Countywide Policy 3.3.6 if the above facts are determined to represent "other extraordinary factors or circumstances" based on the following findings:

- The State Airport Permit for Bermuda Dunes Airport, a.k.a. Bermuda Dunes Executive Airport (UDD), includes a variance for the existing Federal Aviation Regulations Part 77 imaginary surface penetrations in the 7:1 Transitional Surface on the north side of the runway, with a 25 foot height restriction. These penetrations are the tree line, which is located at the edge of the Primary Surface and is marked in several locations with lighted obstruction poles. Objects north of the tree line, such as buildings in the industrial park, are acceptable as long as they do not exceed the 25 foot height restriction, since they are, in effect, shadowed by the tree line.
- The mass and setback of the proposed structures are consistent with similar developments along Country Club Drive at a similar distance from, and parallel to, the runway.
- Under the assumption that an application is submitted to the Federal Aviation Administration for review, and that the FAA issues a "Determination of No Hazard to Air Navigation" letter, "the structures would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities."
- The proposed project as submitted will not create an undue safety hazard to people on the ground or aircraft in flight.
- The proposed building is not located inside Zone A.
- The proposed drainage basin contains no landscaping that could attract birds and is conditioned to drain within 48 hours of a storm event, which would reduce the potential for bird attractant and bird strike.
- Use of the handicapped parking stall is expected to be rare and for limited time periods, as users will be parking their recreational vehicles in their individual garages within the building.
- The land use intensity for the site does not exceed the allowable land use intensity for the portion of the site in Zone B2.
- The land use will not result in excessive noise exposure because the storage use is not considered noise-sensitive.
- The airport owner has expressed support for the solid fence along the property line.
- The conditional use permit for the airport issued by the County will expire in 2027 if not renewed.

CONDITIONS:

1. Any outdoor lighting that is installed shall be hooded or shielded so as to prevent either the spillage of lumens or reflection into the sky.

2. The following uses/activities are not included in the proposed project and shall be prohibited at this site:

   (a) Any use or activity which would direct a steady light or flashing light of red, white, green, or amber colors associated with airport operations toward an aircraft engaged in an initial straight climb following takeoff or toward an aircraft engaged in a straight final approach toward a landing at an airport, other than an FAA-approved navigational signal light or visual approach slope indicator.

   (b) Any use or activity which would cause sunlight to be reflected towards an aircraft engaged in an initial straight climb following takeoff or towards an aircraft engaged in a straight final approach towards a landing at an airport.

   (c) Any use or activity which would generate smoke or water vapor or which would attract large concentrations of birds, or which may otherwise affect safe air navigation within the area.

   (d) Any use which would generate electrical interference that may be detrimental to the operation of aircraft and/or aircraft instrumentation.

3. The following uses/activities are specifically prohibited at this location: trash transfer stations that are open on one or more sides; recycling centers containing putrescible wastes; construction and demolition debris facilities; wastewater management facilities; incinerators; children's schools; day care centers; libraries; hospitals; nursing homes and other skilled nursing and care facilities; places of worship or assemblies of people; noise-sensitive outdoor nonresidential uses; and hazards to flight.

4. The attached notice shall be provided to all prospective purchasers of the property and tenants of the building.

5. Prior to issuance of a building permit, the property owner shall convey an avigation easement to Bermuda Dunes Airport. Copies of the recorded avigation easement shall be forwarded to the Airport Land Use Commission and to the County of Riverside.

6. Any ground-level or aboveground water detention basin or facilities shall be designed and maintained for a maximum 48-hour detention period after the design storm and remain totally dry between rainfalls. Vegetation around such facilities that would provide food or cover for birds would be incompatible with airport operations and shall not be utilized in project landscaping. Trees shall be spaced to prevent large expanses of contiguous canopy, when mature. Trees and bushes shall not produce fruit, seeds, or berries.

   No landscaping is proposed or permitted in the detention basin.

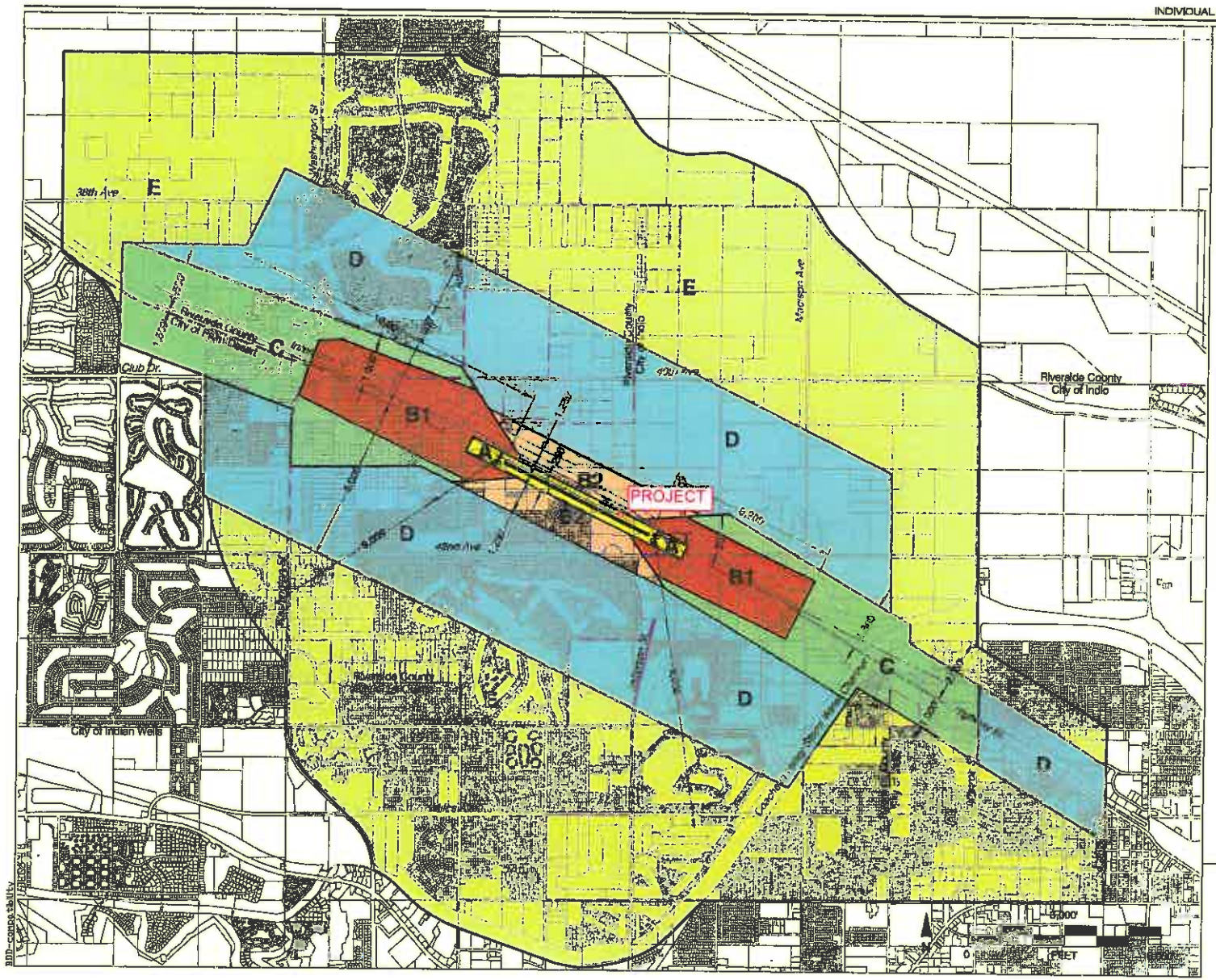
7. The project has been evaluated as 6,748 square feet of vehicle and RV/boat garage storage area. Any increase in building area or conversion to any use other than storage or warehousing will require review by the Airport Land Use Commission.

8. The project does not propose rooftop solar panels at this time. However, if the project were to propose solar rooftop panels in the future, the applicant/developer shall prepare a solar glare study that analyzes glare impacts, and this study shall be reviewed by the Airport Land Use Commission and Bermuda Dunes Airport Manager.

Y:\AIRPORT CASE FILES\Bermuda Dunes\ZAP1080BD19\ZAP1080BD19sr.doc

NOTICE OF AIRPORT IN VICINITY

This property is presently located in the vicinity of an airport, within what is known as an airport influence area. For that reason, the property may be subject to some of the annoyances or inconveniences associated with proximity to airport operations (for example: noise, vibration, or odors). Individual sensitivities to those annoyances [can vary from person to person. You may wish to consider what airport annoyances], if any, are associated with the property before you complete your purchase and determine whether they are acceptable to you. Business & Professions Code Section 11010 (b)(13)(A)



Legend

Compatibility Zones

- Airport Influence Area Boundary
- Zone A
- Zone B1
- Zone B2
- Zone C
- Zone D
- Zone E

Boundary Lines

- Airport Property Line
- City Limits

Note

Southwestern edge of Airport Influence Area boundary measured from a point 200 feet beyond runway ends in accordance with FAA airspace protection criteria (FAR Part 77). All other dimensions measured from runway ends and centerlines.

See Chapter 2, Table 2A for compatibility criteria associated with this map.

Riverside County
Airport Land Use Commission

Riverside County
Airport Land Use Compatibility Plan
Policy Document

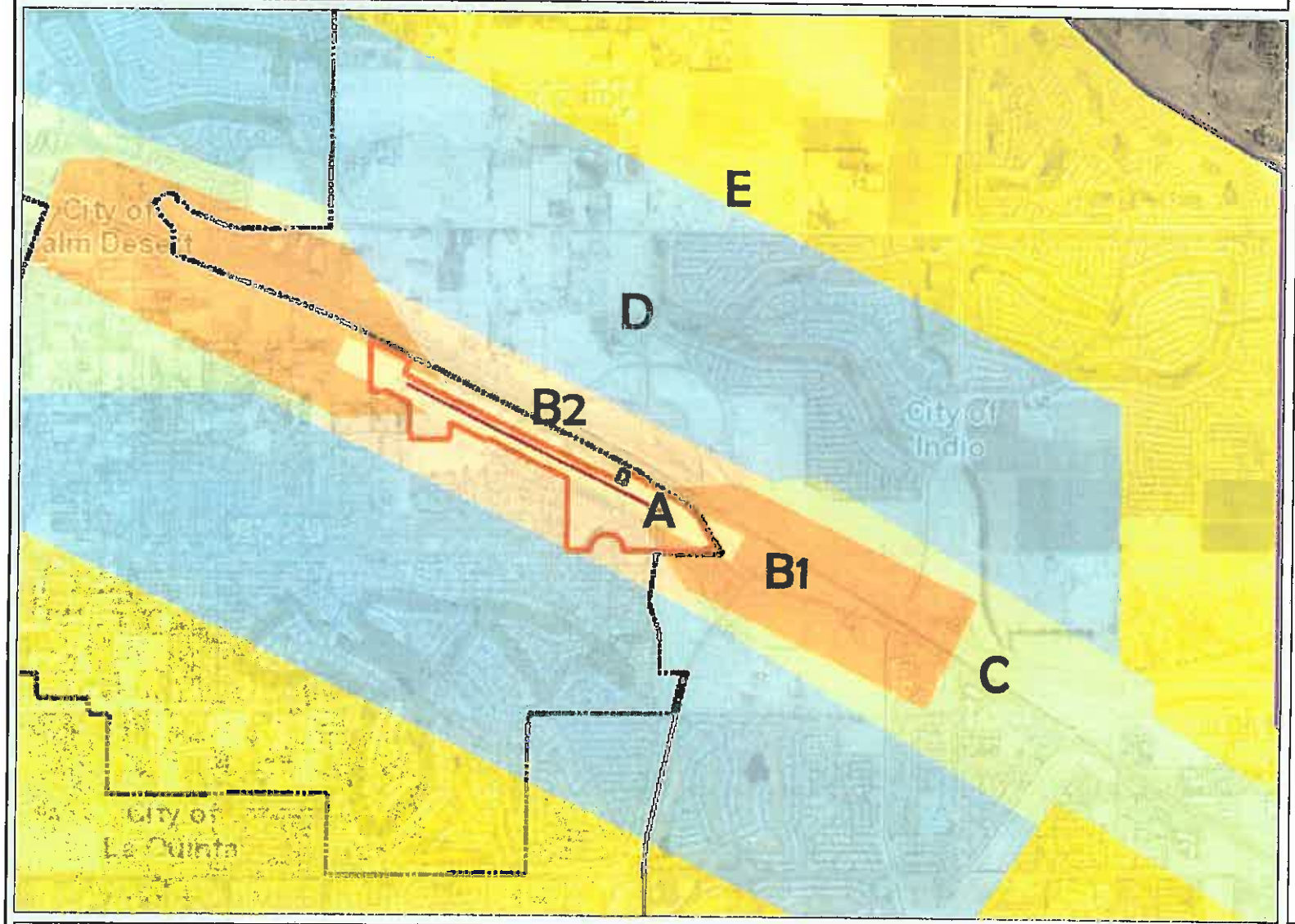
(Adopted December 2004)

Map BD-1

Compatibility Map

Bermuda Dunes Airport

Map My County Map



Legend

- Runways
- Airports
- Airport Influence Areas
- Airport Compatibility Zones
  - OTHER COMPATIBILITY ZONE
  - A
  - A-EXC1
  - B1
  - B1-APZ I
  - B1-APZ I-EXC1
  - B1-APZ II
  - B1-APZ II-EXC1
  - B1-EXC1
  - B2
  - B2-EXC1
  - C
  - C1
  - C1-EXC1
  - C1-EXC3
  - C1-EXC4
  - C1-HIGHT
  - C2
  - C2-EXC1
  - C2-EXC2
  - C2-EXC3
  - C2-EXC5
  - C2-EXC6

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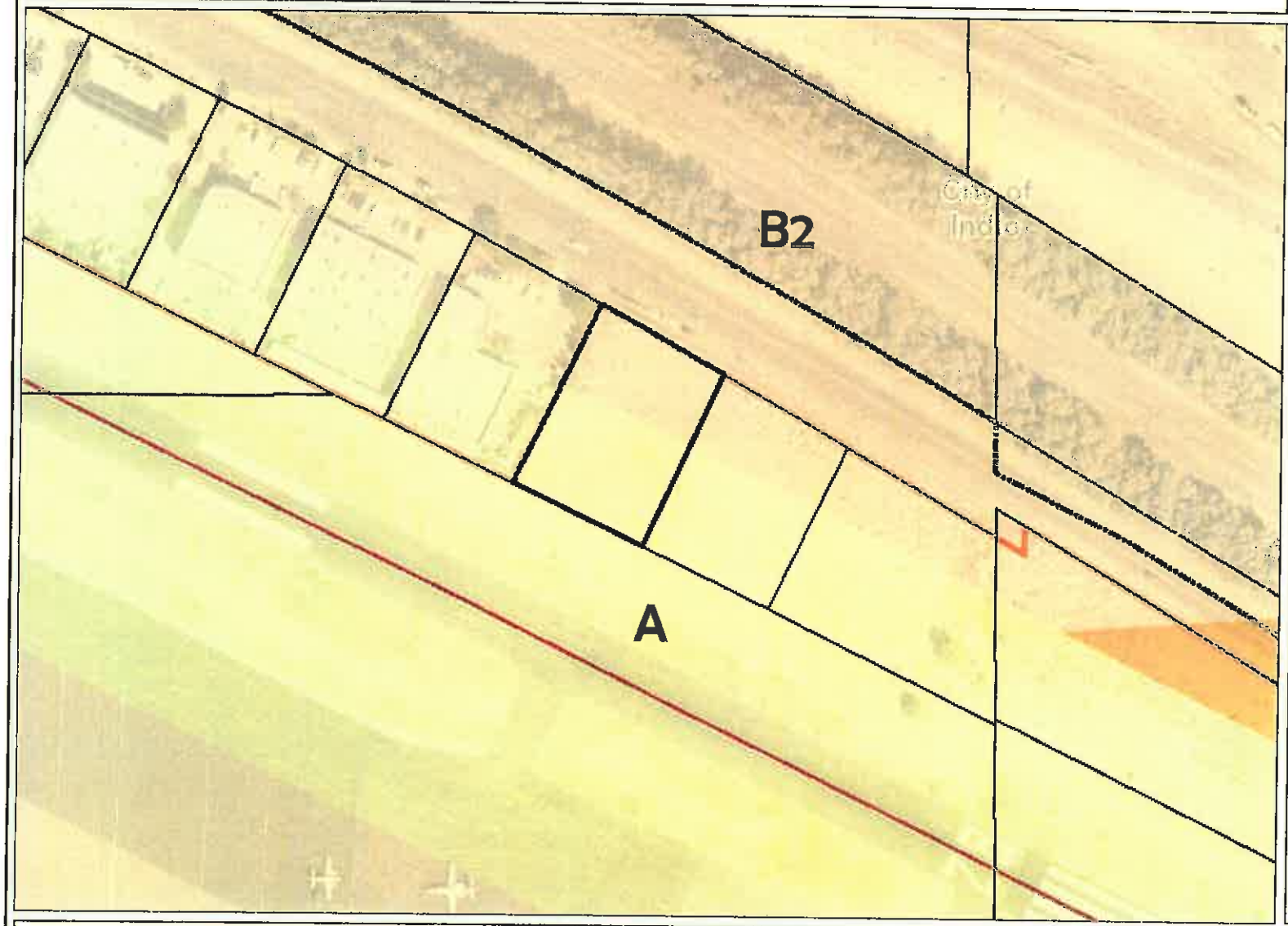
Notes

Map My County Map



Legend

- Parcels
- Runways
- Airports
- Airport Influence Areas
- Airport Compatibility Zones
  - OTHER COMPATIBILITY ZONE
  - A
  - A-EXC1
  - B1
  - B1-APZ I
  - B1-APZ I-EXC1
  - B1-APZ II
  - B1-APZ II-EXC1
  - B1-EXC1
  - B2
  - B2-EXC1
  - C
  - C1
  - C1-EXC1
  - C1-EXC3
  - C1-EXC4
  - C1-HIGHT
  - C2
  - C2-EXC1
  - C2-EXC2
  - C2-EXC3
  - C2-EXC5

0 189 379 Feet

IMPORTANT Maps and data are to be used for reference purposes only. Map features are approximate, and are not necessarily accurate to surveying or engineering standards. The County of Riverside makes no warranty or guarantee as to the content (the source is often third party), accuracy, timeliness, or completeness of any of the data provided, and assumes no legal responsibility for the information contained on this map. Any use of this product with respect to accuracy and precision shall be the sole responsibility of the user.

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Notes

Map My County Map

Legend

- Blueline Streams
- City Areas
- World Street Map

Notes

0 1,516 3,032 Feet

IMPORTANT Maps and data are to be used for reference purposes only. Map features are approximate, and are not necessarily accurate to surveying or engineering standards. The County of Riverside makes no warranty or guarantee as to the content (the source is often third party), accuracy, timeliness, or completeness of any of the data provided, and assumes no legal responsibility for the information contained on this map. Any use of this product with respect to accuracy and precision shall be the sole responsibility of the user.

REPORT PRINTED ON... 10/4/2019 12:51:37 PM

Map My County Map

Legend

- Blueline Streams
- City Areas
- World Street Map

Notes

0 758 1,516 Feet

IMPORTANT Maps and data are to be used for reference purposes only. Map features are approximate, and are not necessarily accurate to surveying or engineering standards. The County of Riverside makes no warranty or guarantee as to the content (the source is often third party), accuracy, timeliness, or completeness of any of the data provided, and assumes no legal responsibility for the information contained on this map. Any use of this product with respect to accuracy and precision shall be the sole responsibility of the user.

REPORT PRINTED ON... 10/4/2019 12:51:57 PM

Map My County Map

Legend

- Parcels
- Blueline Streams
- City Areas
- World Street Map

Notes

0 189 379 Feet

IMPORTANT Maps and data are to be used for reference purposes only. Map features are approximate, and are not necessarily accurate to surveying or engineering standards. The County of Riverside makes no warranty or guarantee as to the content (the source is often third party), accuracy, timeliness, or completeness of any of the data provided, and assumes no legal responsibility for the information contained on this map. Any use of this product with respect to accuracy and precision shall be the sole responsibility of the user.

REPORT PRINTED ON... 10/4/2019 12:52:31 PM

Map My County Map

Legend

- Parcels
- Blueline Streams
- City Areas
- World Street Map

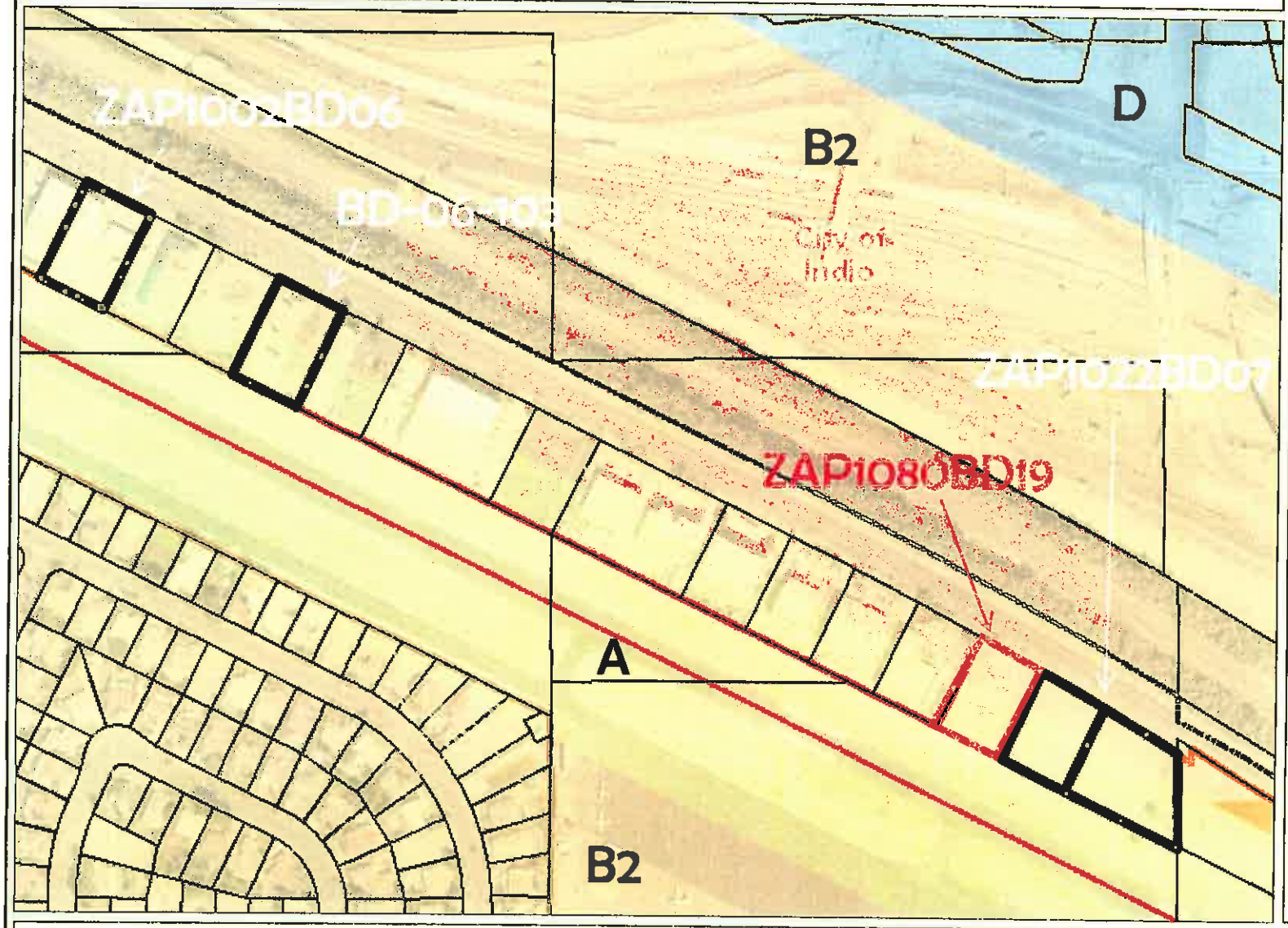
0 379 758 Feet

IMPORTANT Maps and data are to be used for reference purposes only. Map features are approximate, and are not necessarily accurate to surveying or engineering standards. The County of Riverside makes no warranty or guarantee as to the content (the source is often third party), accuracy, timeliness, or completeness of any of the data provided, and assumes no legal responsibility for the information contained on this map. Any use of this product with respect to accuracy and precision shall be the sole responsibility of the user.

REPORT PRINTED ON... 10/7/2019 2:17:18 PM

Notes

Map My County Map



Legend

- Parcels
- Runways
- Airports
- Airport Influence Areas
- Airport Compatibility Zones
  - OTHER COMPATIBILITY ZONE
  - A
  - A-EXC1
  - B1
  - B1-APZ I
  - B1-APZ I-EXC1
  - B1-APZ II
  - B1-APZ II-EXC1
  - B1-EXC1
  - B2
  - B2-EXC1
  - C
  - C1
  - C1-EXC1
  - C1-EXC3
  - C1-EXC4
  - C1-HIGHT
  - C2
  - C2-EXC1
  - C2-EXC2
  - C2-EXC3
  - C2-EXC5

0 379 758 Feet

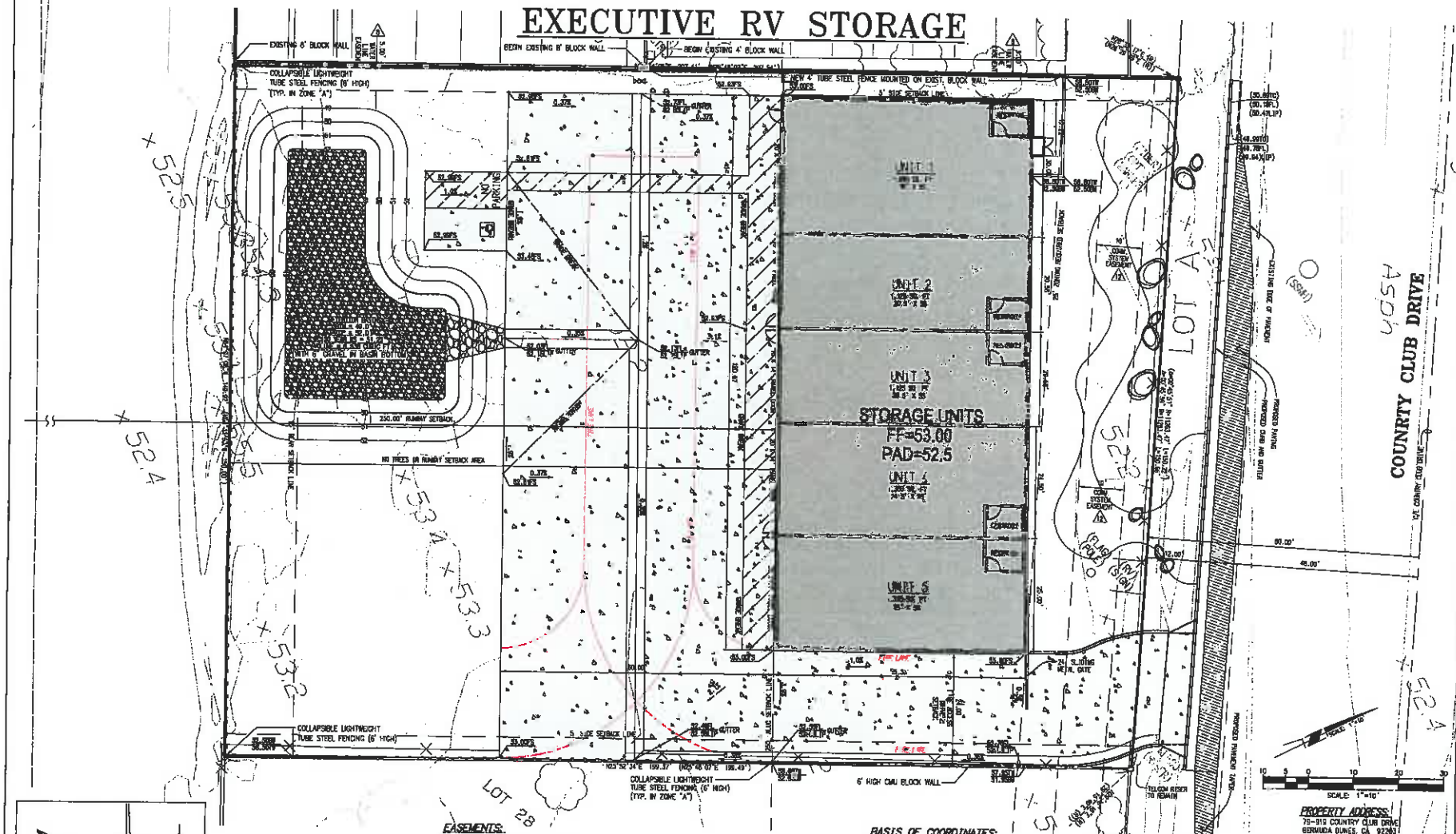
IMPORTANT Maps and data are to be used for reference purposes only. Map features are approximate, and are not necessarily accurate to surveying or engineering standards. The County of Riverside makes no warranty or guarantee as to the content (the source is often third party), accuracy, timeliness, or completeness of any of the data provided, and assumes no legal responsibility for the information contained on this map. Any use of this product with respect to accuracy and precision shall be the sole responsibility of the user.

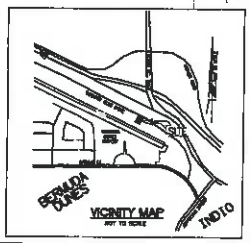
REPORT PRINTED ON... 10/7/2019 2:16:40 PM

Notes

PRELIMINARY SITE PLAN & GRADING PLAN

EXECUTIVE RV STORAGE





EASEMENTS:

1. AN EASEMENT SHOWN OR DEDICATED ON TRACT NO. 2642 AS REFERRED TO IN THE LEGAL DESCRIPTION / FOR WATER LINES AND INCIDENTAL PURPOSES.
2. AN EASEMENT FOR UNDERGROUND ELECTRICAL SUPPLY AND COMMUNICATION SYSTEMS AND INCIDENTAL PURPOSES, RECORDED MARCH 28, 2000 AS INSTRUMENT NO. 00-113084 OF OFFICIAL RECORDS. / IN FAVOR OF: WILLIAMS COMMUNICATIONS, INC. DBA YYVX, INC., A DELAWARE CORPORATION / AFFECTS: AS DESCRIBED THEREIN / THE ABOVE REFERENCED DOCUMENT WAS RE-RECORDED JANUARY 8, 2001 AS INSTRUMENT NO. 01-7561 OF OFFICIAL RECORDS.

BENCHMARK:

CITY OF PALM DESERT BM#140 ELEV. = 110.639' DATUM = NAVD83

CITY OF PALM DESERT BENCHMARK #140, BEING A 2" BRASS DISK, STAMPED "CITY OF PALM DESERT BM 140", SET IN TOP OF CATCH BASIN 4.25 FEET WEST OF THE CURB FACE 17.6 FEET NORTHERLY OF THE NORTHERLY OF THE BOX OF THE NORTH-WEST CORNER OF COUNTRY CLUB DRIVE AND DESERT COUNTRY CIRCLE.

BASIS OF COORDINATES:

NORTHING AND EASTING COORDINATES ON THIS SURVEY ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM OF 1983, ZONE 6, (CCS83-VI) AND ARE DERIVED FROM NGS CONTINUOUSLY OPERATING REFERENCE STATIONS "P481" AND "P241", AS PUBLISHED BY THE SCRIPPS ORBIT AND PERMANENT ARRAY CENTER (SOPAC), EPOCH 2017.50, PUBLISHED AS FOLLOWS:

STATION	NORTHING	EASTING	ELEVATION
P481	2,152,720.752	6,768,720.532	124.373
P241	2,166,429.728	6,498,263.642	4227.092

TOPOGRAPHIC SURVEY POINT COORDINATES ARE IN GROUND. GRID TO GROUND ADJUSTMENT WAS MADE A POINT 201, WITH THE FOLLOWING OBSERVED GRID COORDINATE DATA:

STATION	NORTHING	EASTING	ELEVATION
123	2,214,248.685	6,350,818.783	49.926

ADJUSTED GROUND VALUES WERE DERIVED BY DIVIDING GRID COORDINATES BY A COMBINED SCALE AND ELEVATION FACTOR OF 0.999882454.

BASIS OF BEARINGS:

BEARING SHOWN HEREON ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM OF 1983, ZONE 6, (CCS-VI) GRID LINE BETWEEN NGS CONTINUOUSLY OPERATING REFERENCE STATIONS "P481" AND "P241", AS PUBLISHED BY THE SCRIPPS ORBIT AND PERMANENT ARRAY CENTER (SOPAC), EPOCH 2017.50, BEING: NORTH 78°59'35.48" WEST.

REVISED: 10/23/2019

SCALE: 1"=10'

PROPERTY ADDRESS:

75-913 COUNTRY CLUB DRIVE
BERMUDA DUNES, CA. 92203

APN

607-400-002

LEGAL DESCRIPTION

LOT 27 TRACT 2642
MB (049/026-029)

RECORD DATA:

(__) DENOTES RECORD DATA PER TRACT 2642 (MB 049/026-029)

SURVEY NOTES:

● DENOTES FOUND MONUMENT PER MB 049/026-029

EGAN CIVIL, INC.
PO BOX 5382 LA QUINTA, CA 92248-5382
(760) 404-7985 WWW.EGANCIVIL.COM

BENJAMIN DANIEL EGAN

EXPIRES 06/30/2020

REVISIONS

BY	DESCRIPTION	DATE	APP'D

MICHAEL GARWOOD
75-913 COUNTRY CLUB DRIVE UNIT 518
BERMUDA DUNES, CA. 92203
(760)574-4191

UNINCORPORATED COUNTY OF RIVERSIDE, STATE OF CALIFORNIA
COUNTRY CLUB DRIVE
BERMUDA DUNES, CA. 92203

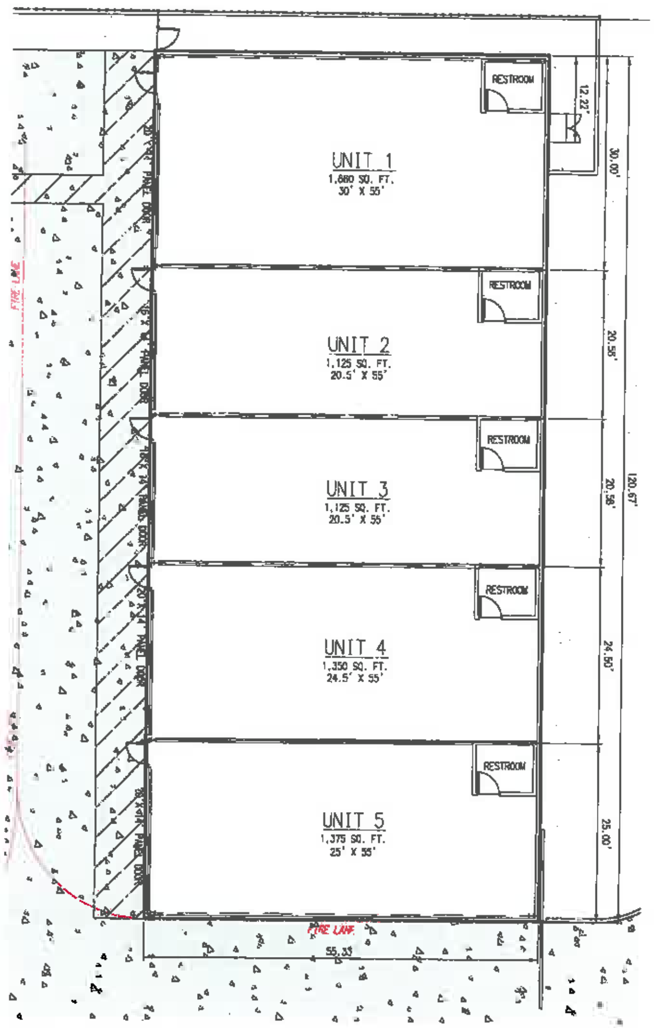
PRELIMINARY SITE PLAN
TENTATIVE PARCEL MAP 37675

DRAWN BY	BMD
CHECKED BY	MGR
SCALE	AS NOTED
JOB NUMBER	2018022.25
DATE	SEPTEMBER 17, 2019

SHEET 1 OF 4

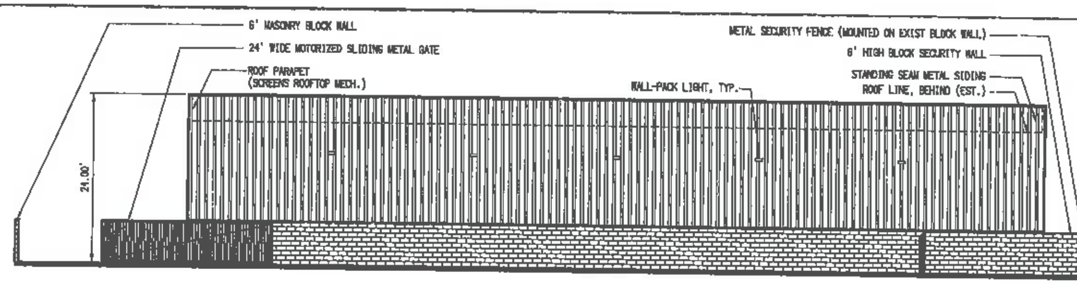
FILE NO. 2018022.25

RV CONDO PROJECT



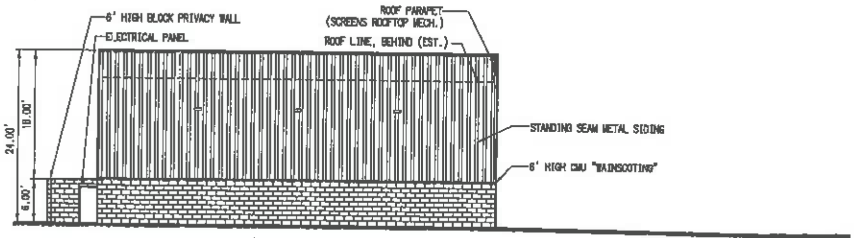
BUILDING FLOOR PLAN

SCALE: 1/8"=1'-0"



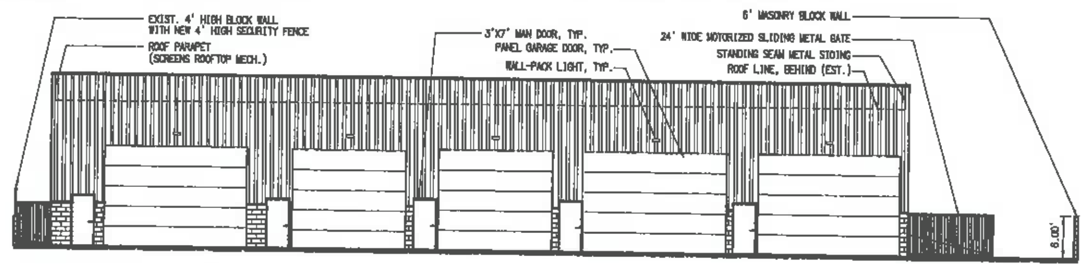
NORTH ELEVATION (LOOKING FROM COUNTRY CLUB DRIVE)

SCALE: 1/8"=1'-0"



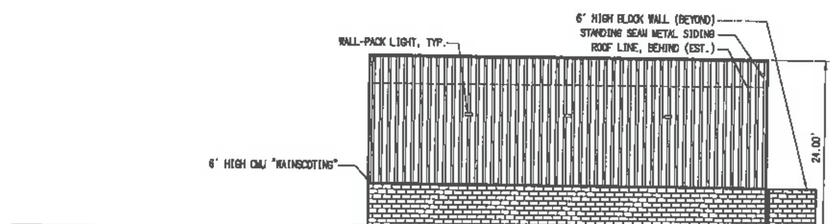
WEST ELEVATION (LOOKING TOWARDS ENTRY DRIVE)

SCALE: 1/8"=1'-0"



SOUTH ELEVATION (LOOKING TOWARDS COUNTRY CLUB DRIVE)

SCALE: 1/8"=1'-0"



EAST ELEVATION (LOOKING FROM ENTRY DRIVE)

SCALE: 1/8"=1'-0"

BUILDING FLOOR PLAN AND ELEVATIONS

SCALE: 1/8"=1'-0"

REVISED: 10/23/2019

EGAN CIVIL, INC.
PO BOX 5382 LA QUINTA CA 92248-5382
(760) 404-7683 WWW.EGANCIVIL.COM

MICHAEL GRISWOLD
BERMUDA DUNES, CA 92203

UNINCORPORATED COUNTY OF RIVERSIDE STATE OF CALIFORNIA
COUNTRY CLUB DRIVE
BERMUDA DUNES, CA 92203
FLOOR PLAN & ELEVATIONS
TENTATIVE PARCEL MAP 37675
VACANT LAND
MICHAEL GRISWOLD

SCALE: AS NOTED
JOB NUMBER: 20180235
DATE: SEPTEMBER 17, 2019

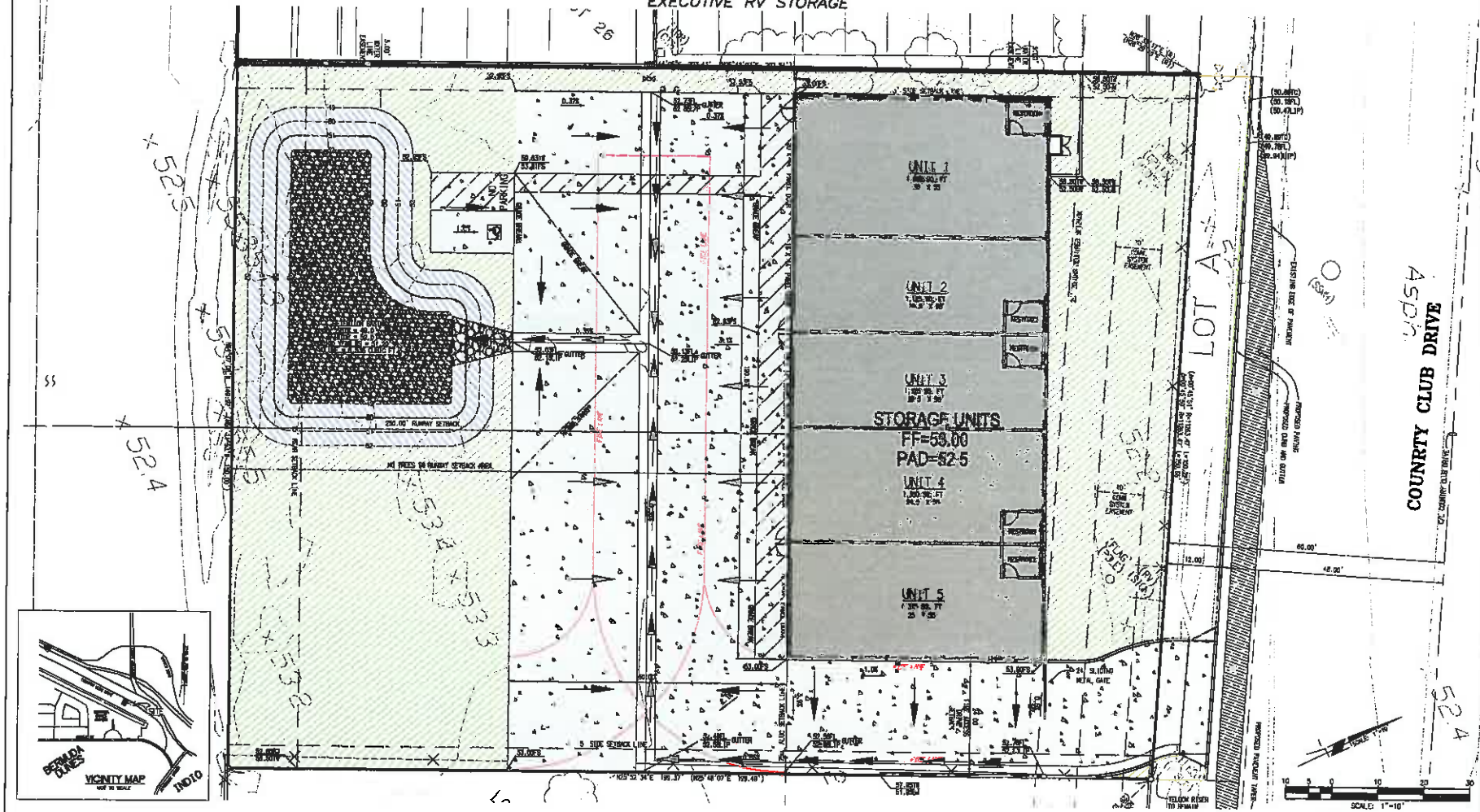
SHEET 2 OF 4

FILE NO. 20180235

IN THE UNINCORPORATED TERRITORY OF RIVERSIDE COUNTY

HYDROLOGY MAP AND WQMP SITE PLAN

EXECUTIVE RV STORAGE



LEGEND

- RETENTION BASIN – (3,115 SQ.FT.)
- LANDSCAPE AREA – (9,600 SQ.FT.)
- CONCRETE PAVING – (12,265 SQ.FT.)
- BUILDING AREA – (6,720 SQ.FT.)
- FLOW PATH

BASIS OF COORDINATES:

NORTHING AND EASTING COORDINATES ON THIS SURVEY ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM OF 1983, ZONE 6, (CCS83-V1) AND ARE DERIVED FROM NGS CONTINUOUSLY OPERATING REFERENCE STATIONS "P491" AND "P241", AS PUBLISHED BY THE SCRIPPS ORBIT AND PERMANENT ARRAY CENTER (SOPAC), EPOCH 2017.50, PUBLISHED AS FOLLOWS:

STATION	NORTHING	EASTING	ELEVATION
P491	2,132,728.752	6,668,729.532	124.273
P241	2,166,429.728	6,498,293.942	4227.672

TOPOGRAPHIC SURVEY POINT COORDINATES ARE IN GROUND. GRID TO GROUND ADJUSTMENT WAS MADE A POINT 201, WITH THE FOLLOWING DERIVED GRID COORDINATE DATA:

STATION	NORTHING	EASTING	ELEVATION
123	2,214,248.855	6,525,916.783	48.808

ADJUSTED GROUND VALUES WERE DERIVED BY DIVIDING GRID COORDINATES BY A COMBINED SCALE AND ELEVATION FACTOR OF 0.9999824854.

BENCHMARK:

CITY OF PALM DESERT BM#140 ELEV. = 110.835' DATUM = NAVD88

CITY OF PALM DESERT BENCHMARK #140, BEING A 2" BRASS DISK, STAMPED "CITY OF PALM DESERT BM 140", SET IN TOP OF CATCH BASIN 4.25 FEET WEST OF THE CURB FACE 17.6 FEET NORTHERLY OF THE NORTHERLY OF THE BCR OF THE NORTHWEST CORNER OF COUNTRY CLUB DRIVE AND DESERT COUNTRY CIRCLE.

BASIS OF BEARINGS:

BEARING SHOWN HEREON ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM OF 1983, ZONE 6, (CCS-V1) GRID LINE BETWEEN NGS CONTINUOUSLY OPERATING REFERENCE STATIONS "P491" AND "P241", AS PUBLISHED BY THE SCRIPPS ORBIT AND PERMANENT ARRAY CENTER (SOPAC), EPOCH 2017.50, BEING NORTH 78°59'35.48" WEST.

PROPERTY ADDRESS:
79-919 COUNTRY CLUB DRIVE
BERMUDA DUNES, CA 92203

APN
607-400-002

LEGAL DESCRIPTION
LOT 27 TRACT 2642
MB (049/086-089)

RECORD DATA:
(___) DENOTES RECORD DATA PER TRACT 2642 (MB 049/066-069)

LAND AREA
30.5884 SQUARE FEET
0.70± ACRES

RIVISED: 10/22/2019

EGAN CIVIL, INC.
PO BOX 5267 LA QUINTA, CA 92248-5267
(760) 406-7662 WWW.EGANCIVIL.COM

REVISIONS

DESCRIPTION	BY	DATE	APPD

DATE: 05/17/2019
PC 73070

BENJAMIN DANIEL EGAN

NO. 73070 CIVIL STATE OF CALIFORNIA

MICHAEL GRANVOLD
79-919 COUNTRY CLUB DRIVE, UNIT 510
BERMUDA DUNES, CA 92203
(760)578-6295

UNINCORPORATED COUNTY OF RIVERSIDE, STATE OF CALIFORNIA
COUNTRY CLUB DRIVE
BERMUDA DUNES, CA 92203

HYDROLOGY MAP & WQMP PLAN
TENTATIVE PARCEL MAP 37675
VACANT LAND

MICHAEL GRANVOLD

DRAWN BY	TGR
CHECKED BY	BDE
SCALE	AS NOTED
JOB NUMBER	2018022.5
DATE	SEPTEMBER 17, 2019

SHEET 3 OF 4

FILE NO. 20180225

PRELIMINARY LANDSCAPE PLAN

EXECUTIVE RV STORAGE

LANDSCAPE SUMMARY

TOTAL SITE AREA: 30,570 SQ. FT. (APPROX. .70 ACRES)

TOTAL LANDSCAPED AREA: 12,615 SQ. FT. (INCLUDING 3,115 SQ. FT. RETENTION BASIN AND UNDEVELOPED UN PAVED AREAS). PERVIOUS SITE AREA = 41.3% OF TOTAL LOT AREA.

SUMMARY OF LANDSCAPE INTENT:
LOW AND MEDIUM WATER USE LANDSCAPE MATERIALS ARE PROPOSED PRIMARILY ALONG THE COUNTRY CLUB DRIVE STREET FRONTAGE. CANOPY TREES ARE SITED TO SHADE THE STREET FACADE OF THE BUILDING FROM AFTERNOON SUN. MEXICAN RIVER ROCK IS USED TO SUGGEST A DRY RIVERBED WITH MINIMAL WATER CONSUMPTION. VINES AND FOUNDATION SHRUBS ARE PROPOSED ON PRIVACY WALL IN NORTHWEST CORNER OF THE SITE TO PROVIDE A NATURAL GREEN SCREEN. FAN PALMS ARE PROVIDED TO CREATE AN OASIS LIKE EFFECT BY GROUPING THEM INTO HYDROZONES WITH OTHER PLANTINGS WITH SIMILAR WATER REQUIREMENTS.

THE BOTTOM OF THE RETENTION BASIN WILL BE LINED WITH GRAVEL. NO PLANTING IS PROPOSED ON UNDEVELOPED PORTIONS OF THE SITE, NOR IN THE AIRPORT RUNWAY SETBACK AREA.

PLANT MATERIAL LEGEND

TREES

SYM.	NAME	SIZE	COMMENTS	QUANTITY	WATER USAGE
	Chitalpa tashkentensis Chitalpa	24" Box	Standard	1	M .5
	Prosopis chilensis Chilean Mesquite	24" Box	Multi	1	L .2

PALMS

SYM.	NAME	SIZE	COMMENTS	QUANTITY	WATER USAGE
	Chamaerops humilis Mediterranean Fan Palm	24" Box	Multi Low Branch	3	M .5
	Washingtonia hybrid robusta Mexican Fan Palm	14'-20' BTH	Skinned	7	M .5

SHRUBS

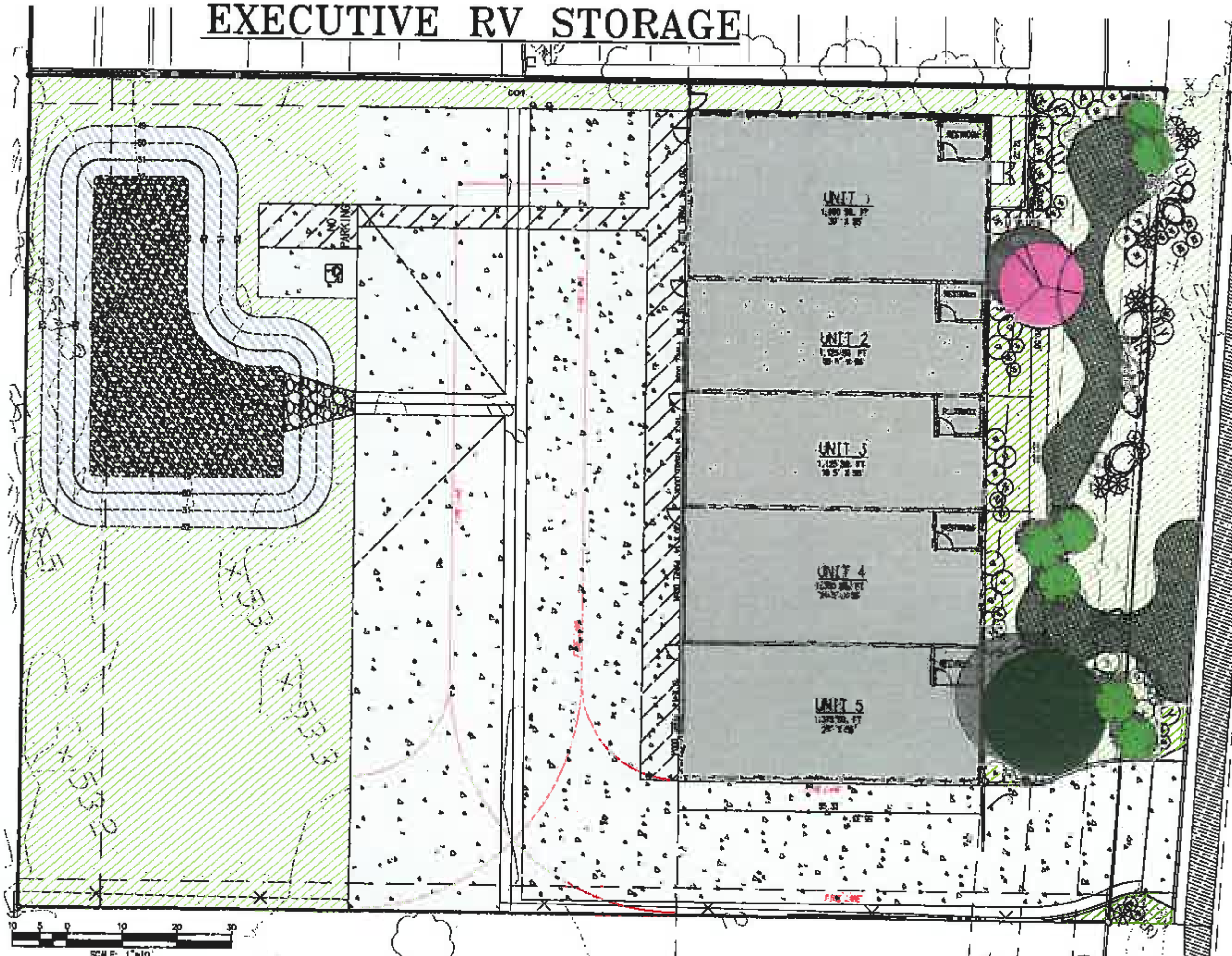
SYM.	NAME	SIZE	QUANTITY	WATER USAGE
BO	Bougainvillea 'Oh La La' Oh La La Bougainvillea	5 gal.	TBD	M .5
CP	Caesalpinia pulcherrima Red Bird of Paradise	5 gal.	TBD	M .5
LY	Lantana x. 'New Gold' New Gold Lantana	1 gal.	TBD	M .5
LHC	Leucophyllum x. 'Heavenly Cloud' Heavenly Cloud Sage	5 gal.	TBD	L .2
SN	Senna nemophila Green Senna	5 gal.	TBD	L .2

TREES

SYM.	NAME	SIZE	QUANTITY	WATER USAGE
	Bougainvillea 'Barbara Karst' Barbara Karst Bougainvillea (South & West Exposures)	5 gal.	2	M .5
	Dasylirion wheeleri Desert Spoon	5 gal.	TBD	L .2
HP	Hesperaloe parviflora Red Yucca	5 gal.	TBD	L .2

INERT MATERIALS

SYM.	DESCRIPTION
	UNLESS OTHERWISE NOTED, ALL PLANTING AREAS TO RECEIVE 'DESERT GOLD' SAND WITH A MAXIMUM PARTICLE SIZE OF ONE EIGHTH INCH TO A DEPTH OF 3". AVAILABLE FROM SOUTHWEST BOULDER AND STONE (760)342-5522
	DECORATIVE COBBLE: SANTA FE SMOOTH COBBLE 1"-2". AVAILABLE FROM SOUTHWEST BOULDER AND STONE(760)342-5522
	BOULDERS: "DESERT GOLD". AVAILABLE FROM SOUTHWEST BOULDER AND STONE(760)342-5522



BASIS OF BEARINGS:

BEARING SHOWN HEREON ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM OF 1983, ZONE 6, (CCS-VI) GRID LINE BETWEEN NGS CONTINUOUSLY OPERATING REFERENCE STATIONS "P491" AND "PIN1", AS PUBLISHED BY THE SCRIPPS ORBIT AND PERMANENT ARRAY CENTER (SOPAC), EPOCH 2017.50, BEING: NORTH 78°58'35.49" WEST.

BASIS OF COORDINATES:

NORTHING AND EASTING COORDINATES IN THIS SURVEY ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM OF 1983, ZONE 6, (CCS83-VI) AND ARE DERIVED FROM NGS CONTINUOUSLY OPERATING REFERENCE STATIONS "P491" AND "PIN1", AS PUBLISHED BY THE SCRIPPS ORBIT AND PERMANENT ARRAY CENTER (SOPAC), EPOCH 2017.50. PUBLISHED AS FOLLOWS:

STATION	NORTHING	EASTING	ELEVATION
P491	2,152,729.732	6,588,729.532	124.273
PIN1	2,166,429.728	6,498,283.942	4227.072

TOPOGRAPHIC SURVEY POINT COORDINATES ARE IN GROUND. GRID TO GROUND ADJUSTMENT WAS MADE A POINT 201, WITH THE FOLLOWING DERIVED GRID COORDINATE DATA:

STATION	NORTHING	EASTING	ELEVATION
123	2,214,248.655	6,555,816.783	49.806

ADJUSTED GROUND VALUES WERE DERIVED BY DIVIDING GRID COORDINATES BY A COMBINED SCALE AND ELEVATION FACTOR OF 0.9999824594.

BENCHMARK:

CITY OF PALM DESERT BM#140 ELEV. = 110.839' DATUM = NAVD88

CITY OF PALM DESERT BENCHMARK #140, BEING A 2" BRASS DISK, STAMPED "CITY OF PALM DESERT BM 140", SET IN TOP OF CATCH BASIN 4.25 FEET WEST OF THE CURB FACE 17.6 FEET NORTHERLY OF THE NORTHERLY OF THE BCR OF THE NORTHWEST CORNER OF COUNTRY CLUB DRIVE AND DESERT COUNTRY CIRCLE.

PROPERTY ADDRESS:

79-919 COUNTRY CLUB DRIVE
BERMUDA DUNES, CA 92203

APN

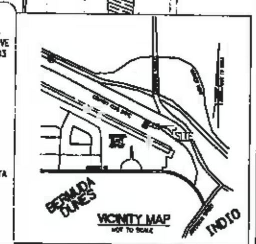
607-400-002

LEGAL DESCRIPTION

LOT 27 TRACT 2642
MB (049/098-099)

RECORD DATA:

(__) DENOTES RECORD DATA PER TRACT 2642 (MB 049/098-099)



REVISED: 10/22/2019

EGAN CIVIL, INC.
PO BOX 5282, LA QUINTA, CA 92248-5282
(760) 404-7658 WWW.EGANCIVIL.COM

MICHAEL GRISWOLD
78650 42ND AVENUE, UNIT 318
BERMUDA DUNES, CA 92203
(760)578-0381

UNINCORPORATED COUNTY OF RIVERSIDE, STATE OF CALIFORNIA
COUNTRY CLUB DRIVE
BERMUDA DUNES, CA 92203

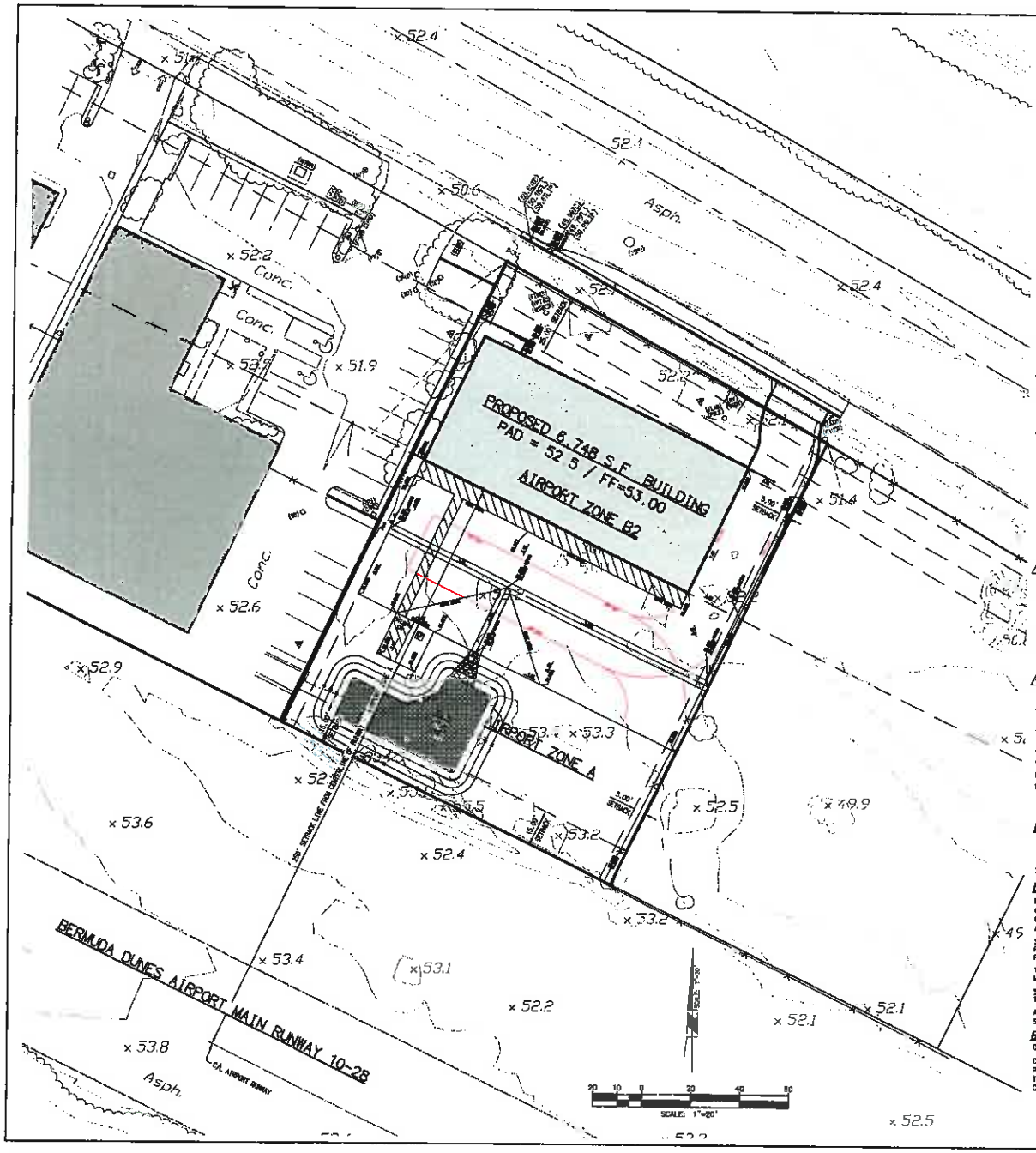
PRELIMINARY LANDSCAPE PLAN
TENTATIVE PARCEL MAP 37675
VACANT LAND

FOR: MICHAEL GRISWOLD

DRAWN BY	WMC
CHECKED BY	BDC
SCALE	AS NOTED
JOB NUMBER	20180235
DATE	SEPTEMBER 17, 2019

SHEET 4 OF 4

FILE NO. 20180235



IN THE UNINCORPORATED TERRITORY OF THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

TENTATIVE PARCEL MAP 37675
FOR CONDOMINIUM PURPOSES

A PROPOSED COMMERCIAL CONDOMINIUM DIVISION OF LOT 27 OF TRACT NO. 2842, AS SHOWN BY A MAP ON FILE IN BOOK 49, PAGES 98 AND 99 OF MAPS, RECORDS OF SAID COUNTY.

APPLICANT/SUBDIVIDER:
MICHAEL GRISWOLD
78650 42ND AVENUE, UNIT 510
BERMUDA DUNES, CA 92203
(760) 578-0385 (MGGRISWOLD@YAHOO.COM)

OWNER:
MICHAEL GRISWOLD
78650 42ND AVENUE, UNIT 510
BERMUDA DUNES, CA 92203
(760) 578-0385 (MGGRISWOLD@YAHOO.COM)

PROJECT ADDRESS:
COUNTRY CLUB DRIVE
BERMUDA DUNES, CA 92203

RELATED CASE NUMBERS:
NONE

UTILITY COMPANIES:

GAS COMPANY	SOUTHERN CALIFORNIA GAS
POWER COMPANY	IMPERIAL IRRIGATION DISTRICT
WATER COMPANY	MYOMA DUNES WATER COMPANY
SEWER COMPANY	COACHELLA VALLEY WATER
SCHOOL DISTRICT	DESERT SANDS UNIFIED SCHOOL DISTRICT

LEGAL DESCRIPTION:
THAT CERTAIN PARCEL OF LAND LOCATED IN THE UNINCORPORATED TERRITORY OF THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, BEING LOT 27 OF TRACT NO. 2842, AS SHOWN BY A MAP ON FILE IN BOOK 49, PAGES 98 AND 99 OF MAPS, RECORDS OF SAID COUNTY.

ASSESSOR'S PARCEL NO.'S:
607-400-002

FEMA FLOOD ZONE INFORMATION:
FEMA MAP PANEL ORIENTE 2932 G – EFFECTIVE AUGUST 28, 2008 – ZONE X – AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.

GENERAL PLAN DESIGNATION:
GENERAL PLAN DESIGNATION: LI – LIGHT INDUSTRIAL
THE PROJECT IS NOT WITHIN A SPECIFIC PLAN OR GENERAL PLAN POLICY AREA BUT IS IN THE BERMUDA DUNES AIRPORT LAND USE PLAN.

ZONING:
ZONING: I-P – INDUSTRIAL PARK

CURRENT LAND USE:
VACANT AND UNDEVELOPED

PROPOSED LAND USE:
COMMERCIAL, INDUSTRIAL CONDOMINIUMS,
AUTOMOBILE/RV/BOAT STORAGE GARAGES
(PERMITTED USE WITH INDUSTRIAL PARK PILOT PLAN PER ORDINANCE NO. 348 ARTICLE X SECTION 10.1.B.1.E.1)

LAND TABULATION:
GROSS PROPERTY AREA: 0.70± ACRES. 30,586± S.F.

TOPOGRAPHY:
TOPOGRAPHY PREPARED BY EGAN CIVIL, INC. ON 11/06/2018.

EASEMENTS AND ENCUMBRANCES:

1. GENERAL AND SPECIAL TAXES AND ASSESSMENTS FOR THE FISCAL YEAR 2018-2019. (FIRST INSTALLMENT: $1,154.04, PAID | PENALTY: $0.00 SECOND INSTALLMENT: $1,154.04, PAID | PENALTY: $0.00 | TAX RATE AREA: 075-010 | A. P. NO.: 607-400-002-3)
2. THE LIEN OF SUPPLEMENTAL TAXES, IF ANY, ASSESSED PURSUANT TO CHAPTER 3.5 COMMENCING WITH SECTION 75 OF THE CALIFORNIA REVENUE AND TAXATION CODE.
3. ASSESSMENTS UNDER THE 1915 BOND ACT, COLLECTED WITH THE PROPERTY TAXES .
4. ASSESSMENTS OF THE COACHELLA VALLEY RECREATION & PARK DISTRICT NO. 92, ASSESSMENT NO. 2-005.
5. AN EASEMENT FOR PIPE LINE AND INCIDENTAL PURPOSES, RECORDED JULY 20, 1938 AS BOOK 1765, PAGE 532 OF OFFICIAL RECORDS. | IN FAVOR OF: SOUTHERN PACIFIC PIPELINES, INC. | AFFECTS: AS DESCRIBED THEREIN | THE LOCATION OF THE EASEMENT CANNOT BE DETERMINED FROM RECORD INFORMATION.
6. AN EASEMENT FOR PIPE LINE AND INCIDENTAL PURPOSES, RECORDED NOVEMBER 29, 1955 AS AS INSTRUMENT NO. 75549 IN BOOK 1895, PAGE 405 OF OFFICIAL RECORDS. | IN FAVOR OF: SOUTHERN PACIFIC PIPELINES, INC. | AFFECTS: AS DESCRIBED THEREIN | THE LOCATION OF THE EASEMENT CANNOT BE DETERMINED FROM RECORD INFORMATION.
7. A WAIVER OF ANY CLAIMS FOR DAMAGES BY REASON OF THE LOCATION, CONSTRUCTION, LANDSCAPING OR MAINTENANCE OF A CONTIGUOUS FREEWAY, HIGHWAY, ROADWAY OR TRANSIT FACILITY AS CONTAINED IN THE DOCUMENT RECORDED DECEMBER 8, 1955 AS INSTRUMENT NO. 77732 IN BOOK 1931, PAGE 145 OF OFFICIAL RECORDS.
8. AN EASEMENT SHOWN OR DEDICATED ON TRACT NO. 2842 AS REFERRED TO IN THE LEGAL DESCRIPTION | FOR: WATER LINES AND INCIDENTAL PURPOSES.
9. COVENANTS, CONDITIONS, RESTRICTIONS AND EASEMENTS IN THE DOCUMENT RECORDED APRIL 16, 1964 AS INSTRUMENT NO. 47338 OF OFFICIAL RECORDS, WHICH PROVIDE THAT A VIOLATION THEREOF SHALL NOT DEFEAT OR RENDER INVALID THE LIEN OF ANY FIRST MORTGAGE OR DEED OF TRUST MADE IN GOOD FAITH AND FOR VALUE, BUT DELETING ANY COVENANT, CONDITION OR RESTRICTION INDICATING A PREFERENCE, LIMITATION OR DISCRIMINATION BASED ON RACE, COLOR, RELIGION, SEX, HANDICAP, FAMILIAL STATUS, NATIONAL ORIGIN, SEXUAL ORIENTATION, MARITAL STATUS, ANCESTRY, SOURCE OF INCOME OR DISABILITY, TO THE EXTENT SUCH COVENANTS, CONDITIONS OR RESTRICTIONS VIOLATE TITLE 42, SECTION 3604(C), OF THE UNITED STATES CODES OR SECTION 12955 OF THE CALIFORNIA GOVERNMENT CODE. LAWFUL RESTRICTIONS UNDER STATE AND FEDERAL LAW ON THE AGE OF OCCUPANTS IN SENIOR HOUSING OR HOUSING FOR OLDER PERSONS SHALL NOT BE CONSTRUED AS RESTRICTIONS BASED ON FAMILIAL STATUS.
10. AN EASEMENT FOR PUBLIC UTILITIES AND INCIDENTAL PURPOSES, RECORDED AUGUST 2, 1965 AS INSTRUMENT NO. 78826 OF OFFICIAL RECORDS | IN FAVOR OF: THE COUNTY OF RIVERSIDE | AFFECTS: AS DESCRIBED THEREIN | THE LOCATION OF THE EASEMENT CANNOT BE DETERMINED FROM RECORD INFORMATION.
11. THIS ITEM HAS BEEN INTENTIONALLY DELETED.
12. AN EASEMENT FOR UNDERGROUND ELECTRICAL SUPPLY AND COMMUNICATION SYSTEMS AND INCIDENTAL PURPOSES, RECORDED MARCH 28, 2000 AS INSTRUMENT NO. 00-113204 OF OFFICIAL RECORDS. | IN FAVOR OF: WILLIAMS COMMUNICATIONS, INC. DBA WYVN, INC., A DELAWARE CORPORATION | AFFECTS: AS DESCRIBED THEREIN | THE ABOVE-RECORDED DOCUMENT WAS RE-RECORDED JANUARY 9, 2001 AS INSTRUMENT NO. 01-7561 OF OFFICIAL RECORDS.
13. THE TERMS AND PROVISIONS CONTAINED IN THE DOCUMENT ENTITLED "RESOLUTION OF THE BOARD OF DIRECTORS OF COACHELLA VALLEY WATER DISTRICT" RECORDED AUGUST 8, 2003 AS INSTRUMENT NO. 2003-597480 OF OFFICIAL RECORDS.
14. THE TERMS AND PROVISIONS CONTAINED IN THE DOCUMENT ENTITLED "NOTICE OF NONCOMPLIANCE" RECORDED APRIL 1, 2008 AS INSTRUMENT NO. 2008-0160106 OF OFFICIAL RECORDS.
15. WATER RIGHTS, CLAIMS OR TITLE TO WATER, WHETHER OR NOT SHOWN BY THE PUBLIC RECORDS.
16. RIGHTS OF THE PUBLIC IN AND TO THAT PORTION OF THE LAND LYING WITHIN ANY STREETS, ROADS OR HIGHWAYS.
17. RIGHTS OF PARTIES IN POSSESSION.
18. THIS REPORT IS PREPARATORY TO THE ISSUANCE OF A SUBDIVISION GUARANTEE AND IS INTENDED SOLELY FOR THE USE OF THOSE PARTIES DIRECTLY INVOLVED IN THE PREPARATION AND CHECKING OF SAID MAP. NOTE: PRIOR TO ISSUING A SUBDIVISION GUARANTEE, WE REQUIRE THAT A COPY OF THE FINAL MAP BE PROVIDED TO OUR OFFICE FOR REVIEW AT LEAST ONE MONTH PRIOR TO SCHEDULED APPROVAL BY THE GOVERNING BODY.

BASIS OF BEARINGS:
BEARINGS SHOWN HEREON ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM OF 1983, ZONE 6, (CCS-VI) GRID LINE BETWEEN NGS CONTINUOUSLY OPERATING REFERENCE STATIONS "P491" AND "P041", AS PUBLISHED BY THE SCRIPPS ORBIT AND PERMANENT ARRAY CENTER (SOPAC), EPOCH 2017.50. BEING: NORTH 76°59'35.49" WEST.

BASIS OF COORDINATES:
NORTHING AND EASTING COORDINATES IN THIS SURVEY ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM OF 1983, ZONE 6, (CCS83-VI) AND ARE DERIVED FROM NGS CONTINUOUSLY OPERATING REFERENCE STATIONS "P491" AND "P041", AS PUBLISHED BY THE SCRIPPS ORBIT AND PERMANENT ARRAY CENTER (SOPAC), EPOCH 2017.50, PUBLISHED AS FOLLOWS:

STATION	NORTHING	EASTING	ELEVATION
P491	2,152,729.752	5,308,729.532	124.273
P041	2,166,429.738	5,498,233.942	4227.072

TOPOGRAPHIC SURVEY POINT COORDINATES ARE IN GROUND. GRID TO GROUND ADJUSTMENT WAS MADE A POINT 201, WITH THE FOLLOWING DERIVED GRID COORDINATE DATA:

STATION	NORTHING	EASTING	ELEVATION
201	2,214,349.655	5,355,976.763	48.606

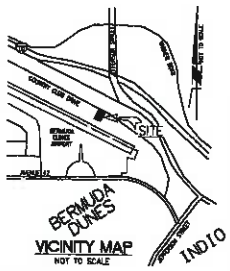
ADJUSTED GROUND VALUES WERE DERIVED BY DIVIDING GRID COORDINATES BY A COMBINED SCALE AND ELEVATION FACTOR OF 0.9999824654.

BENCHMARK:
CITY OF PALM DESERT BM#140 ELEV. = 190.839' DATUM = NAVD88

CITY OF PALM DESERT BENCHMARK #140, BEING A 2" BRASS DISK, STAMPED "CITY OF PALM DESERT BM 140", SET IN TOP OF CATCH BASIN 4.25 FEET WEST OF THE CURB FACE 17.8 FEET NORTHERLY OF THE NORTHERLY OF THE BOX OF THE NORTHWEST CORNER OF COUNTRY CLUB DRIVE AND DESERT COUNTRY CIRCLE.

SURVEY NOTES:
● DENOTES FOUND MONUMENT PER AS DAB/SSB-086

RECORD DATA:
(_) DENOTES RECORD DATA PER TRACT 2842 (BB 49/98-99)



REVISIONS			
DESCRIPTION	BY	DATE	APP'D
COLLECTED TRASH ENCLOSURE	WMC	10/23/18	

EGAN CIVIL, INC.
PO BOX 5767 LA QUINTA, CA 92248-5767
(760) 404-1685 WWW.EGANCIVIL.COM
BENJAMIN DANIEL EGAN — DATE: 06/08/2019 — EXP. DATE: PE 7/30/19

REGISTERED PROFESSIONAL ENGINEER — BENJAMIN DANIEL EGAN — No. 75070 — CIVIL — STATE OF CALIFORNIA

MICHAEL GRISWOLD
78650 42ND AVENUE, UNIT 510
BERMUDA DUNES, CA 92203
(760)578-0385

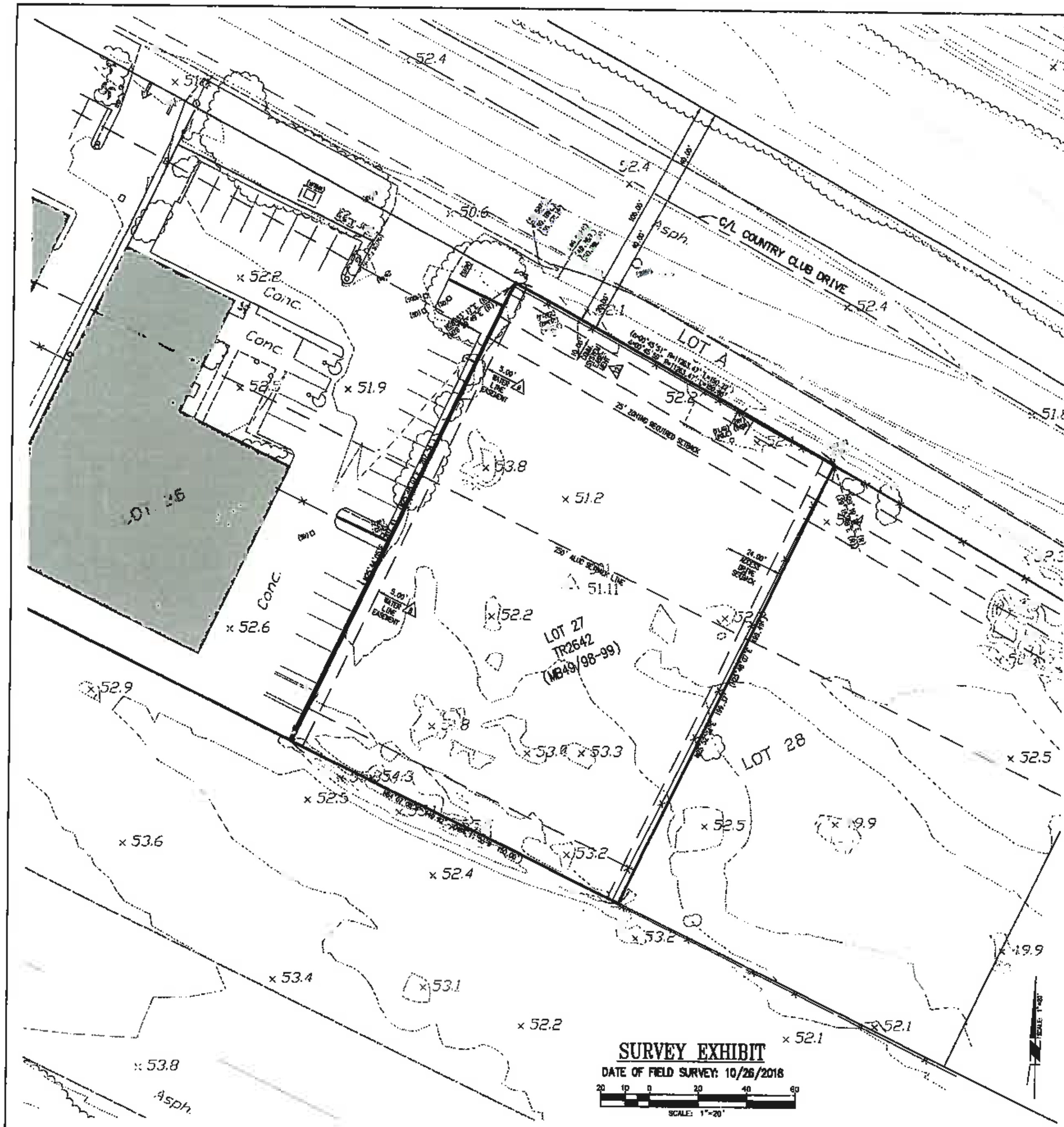
UNINCORPORATED COUNTY OF RIVERSIDE, STATE OF CALIFORNIA
COUNTRY CLUB DRIVE
BERMUDA DUNES, CA 92203

TENTATIVE PARCEL MAP 37675
FOR CONDOMINIUM PURPOSES
VACANT LAND
MICHAEL GRISWOLD

DRAWN BY	BCK
CHECKED BY	BDE
SCALE	NO SCALE
JOB NUMBER	20180235
DATE	SEPTEMBER 12, 2019

SHEET 1 OF 1
FILE NO. 20190235

UNINCORPORATED TERRITORY
COUNTY OF RIVERSIDE, STATE OF CALIFORNIA
BOUNDARY AND TOPOGRAPHIC SURVEY EXHIBIT
LOT 27 TRACT 2642 (MB 049/098-099)



SURVEY EXHIBIT

DATE OF FIELD SURVEY: 10/26/2018

SCALE: 1"=20'

PROPERTY ADDRESS:
_____ COUNTRY CLUB ROAD
BERMUDA DUNES, CA 92203

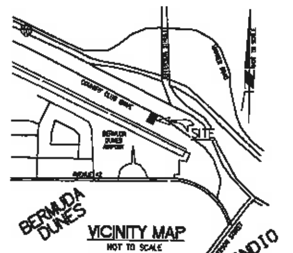
APN
607-400-002

PREPARED FOR:
MICHAEL GRISWOLD
78650 42ND AVENUE, UNIT 510
BERMUDA DUNES, CA 92203

LEGAL DESCRIPTION
LOT 27 TRACT 2642
MB (049/098-099)

SURVEY NOTES:
● DENOTES FOUND MONUMENT PER MB 049/098-099

RECORD DATA:
(__) DENOTES RECORD DATA PER TRACT 2642 (MB 049/098-099)



BASIS OF BEARINGS:

BEARING SHOWN HEREON ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM OF 1983, ZONE 6, (CCS-VI) GRID LINE BETWEEN NGS CONTINUOUSLY OPERATING REFERENCE STATIONS "P491" AND "PINT", AS PUBLISHED BY THE SCRIPPS ORBIT AND PERMANENT ARRAY CENTER (SOPAC), EPOCH 2017.50. BEING: NORTH 78°58'35.49" WEST.

BASIS OF COORDINATES:

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STATION	NORTHING	EASTING	ELEVATION
P491	2,152,729.752	6,568,728.532	124.273
PINI	2,166,429.728	6,498,293.942	4227.072

TOPOGRAPHIC SURVEY POINT COORDINATES ARE IN GROUND. GRID TO GROUND ADJUSTMENT WAS MADE A POINT 201, WITH THE FOLLOWING DERIVED GRID COORDINATE DATA:

STATION	NORTHING	EASTING	ELEVATION
123	2,214,248.695	6,555,916.783	49.606

ADJUSTED GROUND VALUES WERE DERIVED BY DIVIDING GRID COORDINATES BY A COMBINED SCALE AND ELEVATION FACTOR OF 0.9999924554.

BENCHMARK:

CITY OF PALM DESERT BM#140   ELEV. = 110.839'   DATUM = NAVD83

CITY OF PALM DESERT BENCHMARK #140, BEING A 2" BRASS DISK, STAMPED "CITY OF PALM DESERT BM 140", SET IN TOP OF CATCH BASIN 4.25 FEET WEST OF THE CURB FACE 17.5 FEET NORTHERLY OF THE NORTHERLY OF THE BCR OF THE NORTHWEST CORNER OF COUNTRY CLUB DRIVE AND DESERT COUNTRY CIRCLE.

EASEMENTS:

1. GENERAL AND SPECIAL TAXES AND ASSESSMENTS FOR THE FISCAL YEAR 2018-2019. (FIRST INSTALLMENT: $1,154.04, PAID | PENALTY: $0.00
SECOND INSTALLMENT: $1,154.04, PAID | PENALTY: $0.00 |TAX RATE AREA: 075-010 | A. P. NO.: 607-400-002-3)
2. THE LIEN OF SUPPLEMENTAL TAXES, IF ANY, ASSESSED PURSUANT TO CHAPTER 3.5 COMMENCING WITH SECTION 75 OF THE CALIFORNIA REVENUE AND TAXATION CODE.
3. ASSESSMENTS UNDER THE 1915 BOND ACT. COLLECTED WITH THE PROPERTY TAXES .
4. ASSESSMENTS OF THE COACHELLA VALLEY RECREATION & PARK DISTRICT NO. 92, ASSESSMENT NO. 2-008.
5. AN EASEMENT FOR PIPE LINE AND INCIDENTAL PURPOSES, RECORDED JULY 20, 1955 AS BOOK 1768, PAGE 552 OF OFFICIAL RECORDS. | IN FAVOR OF: SOUTHERN PACIFIC PIPELINES, INC. | AFFECTS: AS DESCRIBED THEREIN | THE LOCATION OF THE EASEMENT CANNOT BE DETERMINED FROM RECORD INFORMATION.
6. AN EASEMENT FOR PIPE LINE AND INCIDENTAL PURPOSES, RECORDED NOVEMBER 29, 1955 AS AS INSTRUMENT NO. 73548 IN BOOK 1826, PAGE 405 OF OFFICIAL RECORDS, | IN FAVOR OF: SOUTHERN PACIFIC PIPELINES, INC. | AFFECTS: AS DESCRIBED THEREIN | THE LOCATION OF THE EASEMENT CANNOT BE DETERMINED FROM RECORD INFORMATION.
7. A WAIVER OF ANY CLAIMS FOR DAMAGES BY REASON OF THE LOCATION, CONSTRUCTION, LANDSCAPING OR MAINTENANCE OF A CONTIGUOUS FREEWAY, HIGHWAY, ROADWAY OR TRANSIT FACILITY AS CONTAINED IN THE DOCUMENT RECORDED DECEMBER 8, 1955 AS INSTRUMENT NO. 77732 IN BOOK 1831, PAGE 149 OF OFFICIAL RECORDS.
8. AN EASEMENT SHOWN OR DEDICATED ON TRACT NO. 2642 AS REFERRED TO IN THE LEGAL DESCRIPTION | FOR: WATER LINES AND INCIDENTAL PURPOSES.
9. COVENANTS, CONDITIONS, RESTRICTIONS AND EASEMENTS IN THE DOCUMENT RECORDED APRIL 16, 1964 AS INSTRUMENT NO. 47338 OF OFFICIAL RECORDS, WHICH PROVIDE THAT A VIOLATION THEREOF SHALL NOT DEFEAT OR RENDER INVALID THE LIEN OF ANY FIRST MORTGAGE OR DEED OF TRUST MADE IN GOOD FAITH AND FOR VALUE, BUT DELETING ANY COVENANT, CONDITION OR RESTRICTION INDICATING A PREFERENCE, LIMITATION OR DISCRIMINATION BASED ON RACE, COLOR, RELIGION, SEX, HANDICAP, FAMILIAL STATUS, NATIONAL ORIGIN, SEXUAL ORIENTATION, MARITAL STATUS, ANCESTRY, SOURCE OF INCOME OR DISABILITY, TO THE EXTENT SUCH COVENANTS, CONDITIONS OR RESTRICTIONS VIOLATE TITLE 42, SECTION 3604(C), OF THE UNITED STATES CODES OR SECTION 12955 OF THE CALIFORNIA GOVERNMENT CODE. LAWFUL RESTRICTIONS UNDER STATE AND FEDERAL LAW ON THE AGE OF OCCUPANTS IN SENIOR HOUSING OR HOUSING FOR OLDER PERSONS SHALL NOT BE CONSTRUED AS RESTRICTIONS BASED ON FAMILIAL STATUS.
10. AN EASEMENT FOR PUBLIC UTILITIES AND INCIDENTAL PURPOSES, RECORDED AUGUST 2, 1968 AS INSTRUMENT NO. 75338 OF OFFICIAL RECORDS | IN FAVOR OF: THE COUNTY OF RIVERSIDE | AFFECTS: AS DESCRIBED THEREIN | THE LOCATION OF THE EASEMENT CANNOT BE DETERMINED FROM RECORD INFORMATION.
11. THIS ITEM HAS BEEN INTENTIONALLY DELETED.
12. AN EASEMENT FOR UNDERGROUND ELECTRICAL SUPPLY AND COMMUNICATION SYSTEMS AND INCIDENTAL PURPOSES, RECORDED MARCH 28, 2000 AS INSTRUMENT NO. 00-113094 OF OFFICIAL RECORDS. | IN FAVOR OF: WILLIAMS COMMUNICATIONS, INC. DBA VYVX, INC., A DELAWARE CORPORATION | AFFECTS: AS DESCRIBED THEREIN | THE ABOVE REFERENCED DOCUMENT WAS RE-RECORDED JANUARY 8, 2001 AS INSTRUMENT NO. 01-7561 OF OFFICIAL RECORDS.
13. THE TERMS AND PROVISIONS CONTAINED IN THE DOCUMENT ENTITLED "RESOLUTION OF THE BOARD OF DIRECTORS OF COACHELLA VALLEY WATER DISTRICT" RECORDED AUGUST 6, 2003 AS INSTRUMENT NO. 2003-597460 OF OFFICIAL RECORDS.
14. THE TERMS AND PROVISIONS CONTAINED IN THE DOCUMENT ENTITLED "NOTICE OF NONCOMPLIANCE" RECORDED APRIL 1, 2008 AS INSTRUMENT NO. 2008-0160106 OF OFFICIAL RECORDS.
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EXHIBIT UPDATED: 09/09/2019

EGAN CIVIL, INC.

SHEET 1 OF 1 SHEETS

Rull, Paul

From: Michael Dunlevie <mdunlevie@bermudadunesairport.org>
Sent: Thursday, October 17, 2019 9:29 AM
To: Rull, Paul
Subject: RE: FW: ZAP1080BD19 Zone A

Paul:

The position of the Airport ownership on the Griswold proposed project is that we do not oppose the project, neutral as you put it. We do not support the construction in the "A" zone however from our prior discussions with Mr. Griswold on potential aviation uses and limitations on the Airport we do understand why he is doing a storage project and we support that Mr. Griswold has put as much of his project as he can outside the "A" zone. Because we have no license agreement for direct access from the Griswold parcel to the Airport parcel we require a solid fence (no gate) at the property line.

I hope this provides what you need.

Michael Dunlevie
Bermuda Dunes Airport

From: Rull, Paul <PRull@RIVCO.ORG>
Sent: October 17, 2019 10:03
To: Michael Dunlevie <mdunlevie@bermudadunesairport.org>
Subject: RE: FW: ZAP1080BD19 Zone A
Importance: High

As a follow up to my previous email, I did speak with Simon just now, and we are awaiting the airport manager's position on the project (positive or negative or neutural) in writing (email). If we can get those comments before my staff report deadline of next Monday that would be appreciated.

If you have any questions, please feel free to contact me.

Paul Rull
ALUC Principal Planner

Riverside County Airport Land Use Commission
4080 Lemon Street, 14th Floor
Riverside, Ca 92501
(951) 955-6893
(951) 955-5177 (fax)
PRULL@RIVCO.ORG
www.rcaluc.org

From: Rull, Paul
Sent: Thursday, October 17, 2019 7:10 AM
To: Michael Dunlevie <mdunlevie@bermudadunesairport.org>
Subject: RE: FW: ZAP1080BD19 Zone A

Riverside Airport Land Use Commission (ALUC)
C/O Paul Rull
4080 Lemon Street 14th floor
Riverside, CA 92501

Michael F Griswold
78650 Avenue 42nd Unit #510
Bermuda Dunes, CA 92203

October 16, 2019

Gentlemen,

I am a former military officer who retired in California in 1996. To augment my retirement I invested in this barren property in hopes of appreciation in the future. It was purchased just after the ACUC made changes to zoning around the airport, which these changes were not disclosed in my closing documents. Because I am not a businessman nor a developer, I was encouraged to invest in a fraudulent plan to build a complex that would have incorporated my property. As you know no complex was ever proposed to the County nor built, but I bought the property and paid well over twice the actually value of the property.

I live and accept my lack of due diligence in the purchase of this property. But now I am trying to recover from my ill-fated decision. For well over 18 months I have been trying to try recover some of my losses. I have invested my entire life savings into this project. For the last 12 months, after finding out that there were restrictions to what kind of structure could be placed in this zone, I sought help from a civil engineer. With the help of my Mr Egan, we have identified a project that works within the type structure requirements acceptable to the County/ALUC.

We come to this Commission to request building considerations evaluated by your oversight. Because of the changes in the zoning restrictions, only 22% of the surface property can occupy a permanent structure. Of the 30,554 sq ft of the property, ALUC requirements eliminates approximately 18,000 sq ft from use and the County requirements further eliminates an additional 5,800 sq ft from building any permanent structure. All 22 neighboring building structures along the Country Club Drive corridor do not meet the requirements set forth in what is placed on this development.

We have made concerted/painstaking efforts to meet the requirements of both ALUC and the County to make a viable project for this property. The project is one of low density and low occupancy with its relationship to the proximity to airport operations. The proposed permanent structure is within the confines of both regulatory agencies boundary requirements. However, there are still some ALUC concerns posed for the project in which we are requesting considerations for placement into Zone A:

1) Security Fence - There is an absolute necessity for a 6 foot security fence around the property (for both the airport and storage units) that would come within 110 feet of the runway along the same boundary line of all other neighboring businesses. Fence design would incorporate a "break-away" type perimeter fence similarly used at other airports and authorized in FAA Advisory Circular 150/5220-23 dtd 04/27/09.

2) ADA Parking – The project is not for public storage rather, it will be individually purchased storage units. The County still requires ADA parking and passageway even though it will be privately owned. We are requesting that this parking space be placed in Zone A. It is expected this space would not to be used as there is ample parking within each of the individual storage units for vehicles and no real need for the parking space.

3) Trash Receptacle – Again this is not a public storage area, but the County requires a trash receptacle. Each owner would contain their own trash and individually pack it out of their individual units. Because of County requires the structure, a small 5'x3'x6' structure would be placed against the neighboring existing 6' block wall along the western side of the property approximately 240' from runway center line.

4) Retention Basin – County requires rain water be retained on the property. We would like to place the retention basin within Zone A. The retention basin will not be landscaped. It will percolate any storm within 48 hours, and the basin will incorporate a gravel bottom to further eliminate standing water. All efforts will be made to maintain the basin so it does not attract avian creatures into the airport runway zone.

We are requesting these considerations to be approved. If any or all of these requests require them to be moved into Zone B2, it would make this project nonviable due to the loss of buildable structure needed to pencil a viable project. Further, it would not make any other project on this property equally a nonviable outcome. If the interest is for the property to remain barren because of it proximity to the airport, it would therefore make it unusable and result in the condemnation of the land.

We look forward to your consideration.

Sincerely,

Michael F. Griswold
Owner, APN 607-400-002

NOTICE OF PUBLIC HEARING
RIVERSIDE COUNTY AIRPORT LAND USE COMMISSION

A PUBLIC HEARING has been scheduled before the Riverside County Airport Land Use Commission (ALUC) to consider the application described below.

Any person may submit written comments to the ALUC before the hearing or may appear and be heard in support of or opposition to the project at the time of hearing. For more information please contact **ALUC Planner Paul Rull at (951) 955-6893**. The ALUC holds hearings for local discretionary permits within the Airport Influence Area, reviewing for aeronautical safety, noise and obstructions. ALUC reviews a proposed plan or project solely to determine whether it is consistent with the applicable Airport Land Use Compatibility Plan.

The County of Riverside Planning Department will hold hearings on this item and should be contacted on non-ALUC issues. For more information please contact County of Riverside Planner Mr. Jay Olivas at (760) 863-7050.

The proposed project application may be viewed and written comments may be submitted at the Riverside County Administrative Center, 4080 Lemon Street, 14th Floor, Riverside, California 92501, Monday through Thursday from 8:00 a.m. to 5:00 p.m., except November 11 (Veterans Day), and by prescheduled appointment on Fridays from 9:00 a.m. to 5:00 p.m.

PLACE OF HEARING: Riverside County Administration Center
4080 Lemon Street, 1st Floor Board Chambers
Riverside California

DATE OF HEARING: November 14, 2019

TIME OF HEARING: 9:30 A.M.

CASE DESCRIPTION:

ZAP1080BD19 – Michael Griswold (Representative: Egan Civil, Inc.) – County of Riverside Case No. PPT190025 (Plot Plan), TPM37675 (Tentative Parcel Map). A proposal to establish a 5-unit 6,748 square foot vehicle and RV/boat storage building with a condominium parcel map for each of the units on 0.70 acres located southerly of Country Club Drive and Interstate 10 freeway, westerly of Jefferson Street, easterly of Adams Street, and northerly of the Bermuda Dunes Airport (Airport Compatibility Zones A and B2 of the Bermuda Dunes Airport Influence Area).

RIVERSIDE COUNTY
AIRPORT LAND USE COMMISSION

APPLICATION FOR MAJOR LAND USE ACTION REVIEW

ALUC CASE NUMBER: ZAP1080BD19 DATE SUBMITTED: 10/1/19

8.D
ZONE A
+B2

APPLICANT / REPRESENTATIVE / PROPERTY OWNER CONTACT INFORMATION

Applicant	Michael Griswold	Phone Number	(760) 578-0385
Mailing Address		Email	mcgris@yahoo.com
Representative	Michael Griswold	Phone Number	(760) 578-0385
Mailing Address		Email	
Property Owner	Michael Griswold	Phone Number	(760) 578-0385
Mailing Address	78650 Avenue 42, Unit 510	Email	mcgris@yahoo.com
	Bermuda Dunes, CA 92203		

LOCAL JURISDICTION AGENCY

Local Agency Name	County of Riverside	Phone Number	(760) 863-7050
Staff Contact	Jay Olivas / Ken Baez	Email	jolivas@rivco.org
Mailing Address	77-588 El Duna Court, Suite H	Case Type	Tentative Parcel Map/Plot Plan
	Palm Desert, CA 92211	☐ General Plan / Specific Plan Amendment	
		☐ Zoning Ordinance Amendment	
		■ Subdivision Parcel Map / Tentative Tract	
Local Agency Project No	Tentative Tract 37675 / PPT190025	☐ Use Permit	
		■ Site Plan Review/Plot Plan	
		☐ Other	

PROJECT LOCATION

Attach an accurately scaled map showing the relationship of the project site to the airport boundary and runways

Street Address	79919 Country Club Drive		
	Bermuda Dunes, CA 92203		
Assessor's Parcel No.	607-400-002	Gross Parcel Size	
Subdivision Name	Tract 2642	Nearest Airport and distance from Air-port	0.70 Acres Bermuda Dunes (UDD) - 100 feet
Lot Number	Lot 27		

PROJECT DESCRIPTION

If applicable, attach a detailed site plan showing ground elevations, the location of structures, open spaces and water bodies, and the heights of structures and trees; include additional project description data as needed

Existing Land Use (describe)	Vacant Undeveloped Property

Proposed Land Use (describe)	6,748 Square Foot Storage Building for RV/Boat/Trailer/Car Storage	
For Residential Uses	Number of Parcels or Units on Site (exclude secondary units)	(5) Storage Units in a Single Building
For Other Land Uses (See Appendix C)	Hours of Operation	Self - Service Access to Storage, 24/7
	Number of People on Site 0	Maximum Number 10
	Method of Calculation	RV Storage, only pickup and dropoff storage
Height Data	Site Elevation (above mean sea level)	53.0 ft.
	Height of buildings or structures (from the ground)	24 ft.
Flight Hazards	Does the project involve any characteristics which could create electrical interference, confusing lights, glare, smoke, or other electrical or visual hazards to aircraft flight?	☐ Yes ■ No
	If yes, describe	None

A. **NOTICE:** Failure of an applicant to submit complete or adequate information pursuant to Sections 65940 to 65948 inclusive, of the California Government Code, MAY constitute grounds for disapproval of actions, regulations, or permits.

B. **REVIEW TIME:** Estimated time for "staff level review" is approximately 30 days from date of submittal. Estimated time for "commission level review" is approximately 45 days from date of submittal to the next available commission hearing meeting.

C. **SUBMISSION PACKAGE:**

1. . . . . Completed ALUC Application Form
1. . . . . ALUC fee payment
1. . . . . Plans Package (24x36 folded) (site plans, floor plans, building elevations, grading plans, subdivision maps)
1. . . . . Plans Package (8.5x11) (site plans, floor plans, building elevations, grading plans, subdivision maps, zoning ordinance/GPA/SPA text/map amendments)
1. . . . . CD with digital files of the plans (pdf)
1. . . . . Vicinity Map (8.5x11)
1. . . . . Detailed project description
1. . . . . Local jurisdiction project transmittal
3. . . . . Gummed address labels for applicant/representative/property owner/local jurisdiction planner
3. . . . . Gummed address labels of all surrounding property owners within a 300 foot radius of the project site. **(Only required if the project is scheduled for a public hearing Commission meeting)**

COUNTY OF RIVERSIDE
AIRPORT LAND USE COMMISSION

STAFF REPORT

AGENDA ITEM:	3.1
HEARING DATE:	December 12, 2019
CASE NUMBER:	ZAP1037BA19 – Bremco Construction, Inc. (Representative: William Lewis)
APPROVING JURISDICTION:	City of Banning
JURISDICTION CASE NO:	CUP19-8005 (Conditional Use Permit), DR19-7013 (Design Review)
LAND USE PLAN:	2004 Banning Airport Land Use Compatibility Plan as amended in 2016
Airport Influence Area:	Banning Municipal Airport
Land Use Policy:	Airport Compatibility Zones B2, D
Noise Levels:	A portion of the site is located within the 55-60 and 60-65 CNEL contour range, with the rest of the site located outside the 55 CNEL contour
MAJOR ISSUES:	**None**

RECOMMENDATION: Staff recommends that the Conditional Use Permit and Design Review be found CONDITIONALLY CONSISTENT, subject to the conditions included herein, and such additional conditions as may be required by the Federal Aviation Administration Obstruction Evaluation Service.

PROJECT DESCRIPTION: The applicant proposes to establish a truck terminal facility which includes an 11,670 square foot office building with mezzanine, a 63,360 square foot cross loading dock terminal, a 1,042 square foot line-haul building, a 14,232 square foot maintenance building, two above ground diesel fuel storage tanks totaling 40 gallons, and a 80 square foot security guard building on 39.07 acres.

PROJECT LOCATION: The site is located northerly of Westward Avenue, easterly of Hathaway Street, and southerly of Banning Municipal Airport, in the City of Banning, approximately 260 feet southerly of Runway 8-26 at Banning Municipal Airport.

BACKGROUND:

Non-Residential Average Intensity: Pursuant to the Banning Municipal Airport Land Use Compatibility Plan, the project site is located within Compatibility Zones B2 and D. Zone B2 restricts average intensity to 100 people per acre, and Zone D restricts average intensity to 200 people per acre through Banning Municipal Airport Compatibility Plan Policy 2.1. (Approximately 12.95 acres of the site are located in Zone B2 and 26.15 acres are located in Zone D.)

The "Building Code Method" for calculating intensity utilizes "minimum floor area per occupant" criteria from the Building Code as a factor in projecting intensity. Pursuant to Appendix C, Table C-1, of the Riverside County Airport Land Use Compatibility Plan, the following intensities were utilized for the project:

- office/manufacturing area – 1 person per 200 square feet,
- storage area – 1 person per 300 square feet.

The proposed project includes an 11,670 square foot office building with mezzanine, a 63,360 square foot cross loading dock terminal, a 1,042 square foot line-haul building, a 14,232 square foot maintenance building, and an 80 square foot security guard building on 39.07 acres, which would be expected to accommodate a total occupancy of 346 people, resulting in an average intensity of 9 people per acre for the entire site. This would be consistent with the Zone B2 criterion of 100 people and the Zone D criterion of 200 people.

A breakdown of use by Compatibility Zone indicates that Zone B2 (office building with mezzanine, cross loading dock terminal, line-haul building) would accommodate 274 people, resulting in an average intensity of 21 people per acre for the portion of the site located in Zone B2, which would be consistent with the Compatibility Zone B2 average acre intensity criterion of 100. Zone D (maintenance building, security guard building) would accommodate 72 people, resulting in an average intensity of 3 people per acre for the portion of the site located in Zone D, which would be consistent with the Compatibility Zone D average acre intensity criterion of 200.

A second method for determining total occupancy involves multiplying the number of parking spaces provided or required (whichever is greater) by average vehicle occupancy (assumed to be 1.5 persons per standard vehicle and 1.0 persons per truck trailer parking/dock space in the absence of more precise data). Based on the number of standard parking spaces required of 213, and the number of truck trailer spaces of 511, the total occupancy would be estimated at 831 people, resulting in an average intensity of 21 people per acre, which is consistent with the Zone B2 criterion of 100 people and the Zone D criterion of 200 people.

Non-Residential Single-Acre Intensity: Pursuant to the Banning Municipal Airport Land Use Compatibility Plan, the project site is located within Compatibility Zones B2 and D. Zone B2 restricts single acre intensity to 200 people, and Zone D restricts single acre intensity to 800 people (through Banning Municipal Airport Compatibility Plan Policy 2.1) in the most intensely utilized

acre.

Based on the site plan provided and the occupancies as previously noted, the maximum single-acre area located in Zone B2 includes 11,670 square feet of office with mezzanine, 16,800 square feet of storage area, and 1,042 square feet of manufacturing area, accommodating a single-acre occupancy of 120 people, which is consistent with the Compatibility Zone B2 criterion of 200. The maximum single-acre area located in Zone D includes 14,232 square feet of manufacturing area and 80 square feet of office area, accommodating a single-acre occupancy of 72 people, which is consistent with the Compatibility Zone D criterion of 800.

Prohibited and Discouraged Uses: The applicant does not propose any uses prohibited or discouraged in Compatibility Zones B2 or D (children's schools, day care centers, libraries, hospitals, nursing homes, places of worship, highly noise-sensitive outdoor non-residential uses, hazardous materials and hazards to flight). The proposed above ground diesel fuel storage tanks totaling 40 gallons are not prohibited, as storage of up to 6,000 gallons of non-aviation flammable materials is exempted from the prohibition.

Noise: A portion of the site is located within the 55-60 and 60-65 CNEL noise contour range from aircraft noise, with the rest of the site located outside the 55 CNEL contour. As a primary industrial use not sensitive to noise (and considering typical anticipated building construction noise attenuation of approximately 20 dBA), the cross dock loading areas, maintenance building and line-haul building would not require special measures to mitigate aircraft-generated noise. However, a condition is included to provide for adequate noise attenuation within the office building and security guard building.

Part 77: The elevation of Runway 8-26 is approximately 2,160 feet above mean sea level (AMSL). At a distance of approximately 260 feet from the runway, FAA review would be required for any structures with peak elevations exceeding 2,162 feet AMSL. The project finished floor elevation is 2,169 feet AMSL, and the proposed maximum building height is 34.5 feet, resulting in a maximum height elevation of 2,203 feet AMSL. Therefore, review of buildings by the FAA Obstruction Evaluation Service (FAAOES) is required. Submittal to the FAAOES was made and Aeronautical Study Number 2019-AWP-13081-OE was assigned to the project. At the time of writing of this staff report, no determination has been made, but the study is in a "Work in Progress" status.

Open Area: The site is located within Airport Compatibility Zones B2 and D of the Banning Municipal Airport Influence Area, which requires projects 10 acres or larger to designate 10% (in Zone D) of project area as ALUC-qualifying open area that could potentially serve as emergency landing areas (Zone B2 does not require any open area). Based on the project size located within these Compatibility Zones, the project is required to provide a minimum of 2.6 acres of open area consistent with ALUC open area criteria. The applicant has provided 2.6 acres of open area in total within the drive aisles and parking areas. These areas are conditioned to maintain a minimum shape of 75 feet in width and 300 feet in length, and shall be kept obstacle and obstruction free per ALUC open area definition (no objects greater than four feet in height with a diameter of four inches or

greater).

CONDITIONS:

1. Any outdoor lighting installed shall be hooded or shielded to prevent either the spillage of lumens or reflection into the sky. Outdoor lighting shall be downward facing.

2. The following uses shall be prohibited:

   (a) Any use which would direct a steady light or flashing light of red, white, green, or amber colors associated with airport operations toward an aircraft engaged in an initial straight climb following takeoff or toward an aircraft engaged in a straight final approach toward a landing at an airport, other than an FAA-approved navigational signal light or visual approach slope indicator.

   (b) Any use which would cause sunlight to be reflected towards an aircraft engaged in an initial straight climb following takeoff or towards an aircraft engaged in a straight final approach towards a landing at an airport.

   (c) Any use which would generate smoke or water vapor or which would attract large concentrations of birds, or which may otherwise affect safe air navigation within the area. (Such uses include landscaping utilizing water features, aquaculture, production of cereal grains, sunflower, and row crops, artificial marshes, wastewater management facilities, composting operations, trash transfer stations that are open on one or more sides, recycling centers containing putrescible wastes, construction and demolition debris facilities, fly ash disposal, and incinerators.)

   (d) Any use which would generate electrical interference that may be detrimental to the operation of aircraft and/or aircraft instrumentation.

   (e) Children's schools, day care centers, libraries, hospitals, nursing homes, highly noise-sensitive outdoor nonresidential uses, and hazards to flight.

3. Prior to issuance of a building permit, the property owner shall convey an avigation easement to Banning Municipal Airport. Copies of the recorded avigation easement shall be forwarded to the Airport Land Use Commission and to the City of Banning.

4. The attached notice shall be given to all prospective purchasers and/or tenants of the property.

5. Any ground-level or aboveground water detention basin or facilities shall be designed and maintained for a maximum 48-hour detention period after the design storm and remain totally dry between rainfalls. Vegetation around such facilities that would provide food or

cover for birds would be incompatible with airport operations and shall not be utilized in project landscaping. Trees shall be spaced to prevent large expanses of contiguous canopy, when mature. Trees and bushes shall not produce fruit, seeds, or berries.

Landscaping in the detention basin, if not rip-rap, should be in accordance with the guidance provided in ALUC "LANDSCAPING NEAR AIRPORTS" brochure, and the "AIRPORTS, WILDLIFE AND STORM WATER MANAGEMENT" brochure available at the RCALUC.ORG which list acceptable plants from Riverside County Landscaping Guide or other alternative landscaping as may be recommended by a qualified wildlife hazard biologist.

6. The evaluated project consists of a 11,670 square foot office building with mezzanine, a 63,360 square foot cross loading dock terminal, a 1,042 square foot line-haul building, a 14,232 square foot maintenance building, two above ground diesel fuel storage tanks totaling 40 gallons, and a 80 square foot security guard building. Any proposal to use any of these buildings for retail or assembly occupancies will require an amended review by the Airport Land Use Commission.

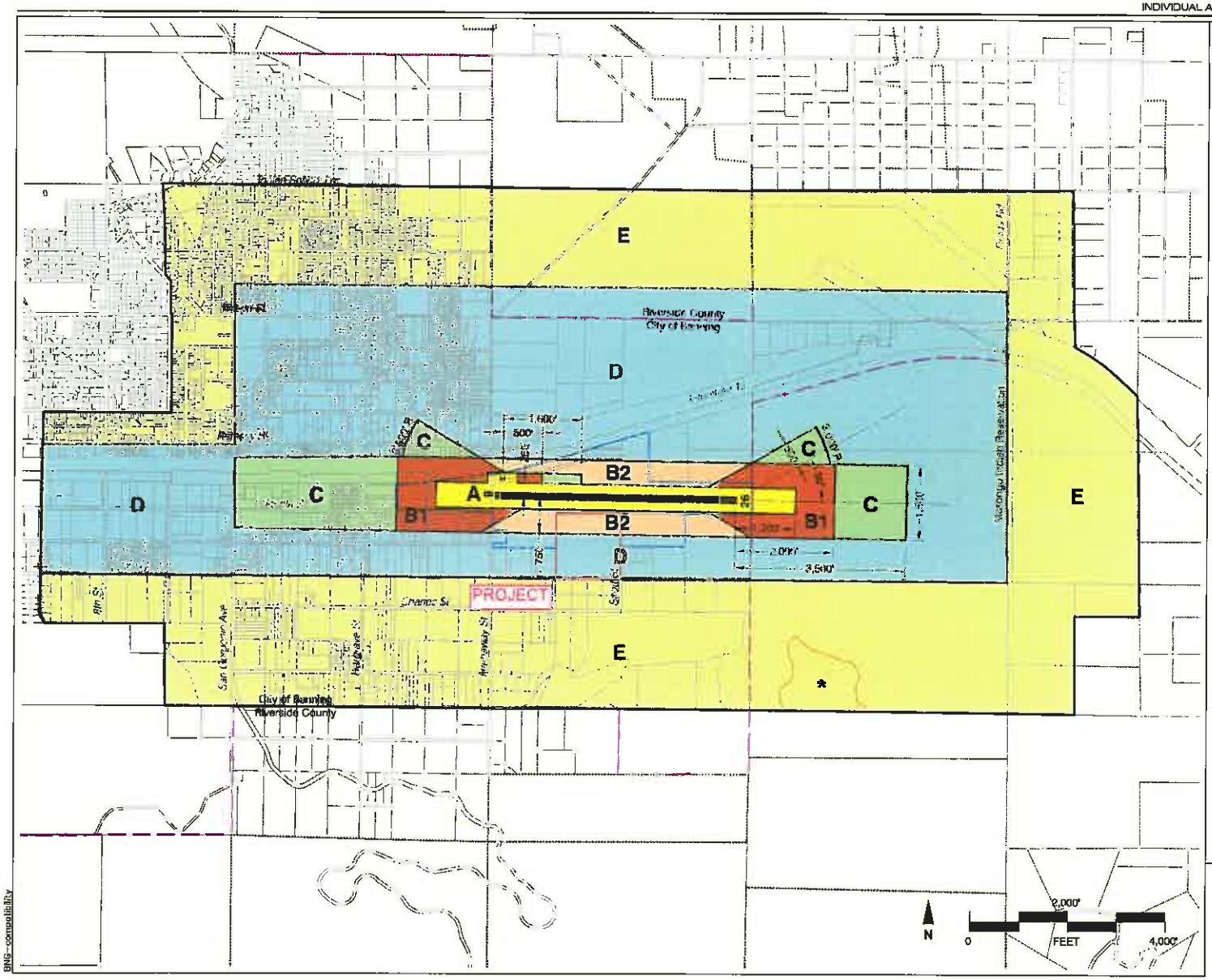
7. Noise attenuation measures shall be incorporated into the design of the office building and security guard building, to the extent such measures are necessary to ensure that interior noise levels from aircraft operations are at or below 45 CNEL.

8. The ALUC open areas as shown on the site plan shall be devoid of obstacles/obstructions greater than 4 feet in height that are at least 4 inches in diameter, which includes parking light poles, walls, trash enclosures, and tall landscaping.

9. The project does not propose rooftop solar panels at this time. However, if the project were to propose solar rooftop panels in the future, the applicant/developer shall prepare a solar glare study that analyzes glare impacts, and this study shall be reviewed by the Airport Land Use Commission and Banning Airport Manager. In the event of any reasonable complaint about glare related to aircraft operations, the applicant shall agree to such specific mitigation measures as determined or requested by Banning Airport Manager.

NOTICE OF AIRPORT IN VICINITY

This property is presently located in the vicinity of an airport, within what is known as an airport influence area. For that reason, the property may be subject to some of the annoyances or inconveniences associated with proximity to airport operations (for example: noise, vibration, or odors). Individual sensitivities to those annoyances [can vary from person to person. You may wish to consider what airport annoyances], if any, are associated with the property before you complete your purchase and determine whether they are acceptable to you. Business & Professions Code Section 11010 (b)(13)(A)



Legend

Compatibility Zones

- Airport Influence Area Boundary
- Zone A
- Zone B1
- Zone B2
- Zone C
- Zone D
- Zone E
- * Height Review Overlay Zone

Boundary Lines

- Airport Property Line
- City Limits
- Morongo Indian Reservation

Note

Dimensions measured from runway ends and centerlines.

See Chapter 2, Table 2A for compatibility criteria associated with this map.

Riverside County
Airport Land Use Commission

Riverside County
Airport Land Use Compatibility Plan
Policy Document

(Adopted October 2004)

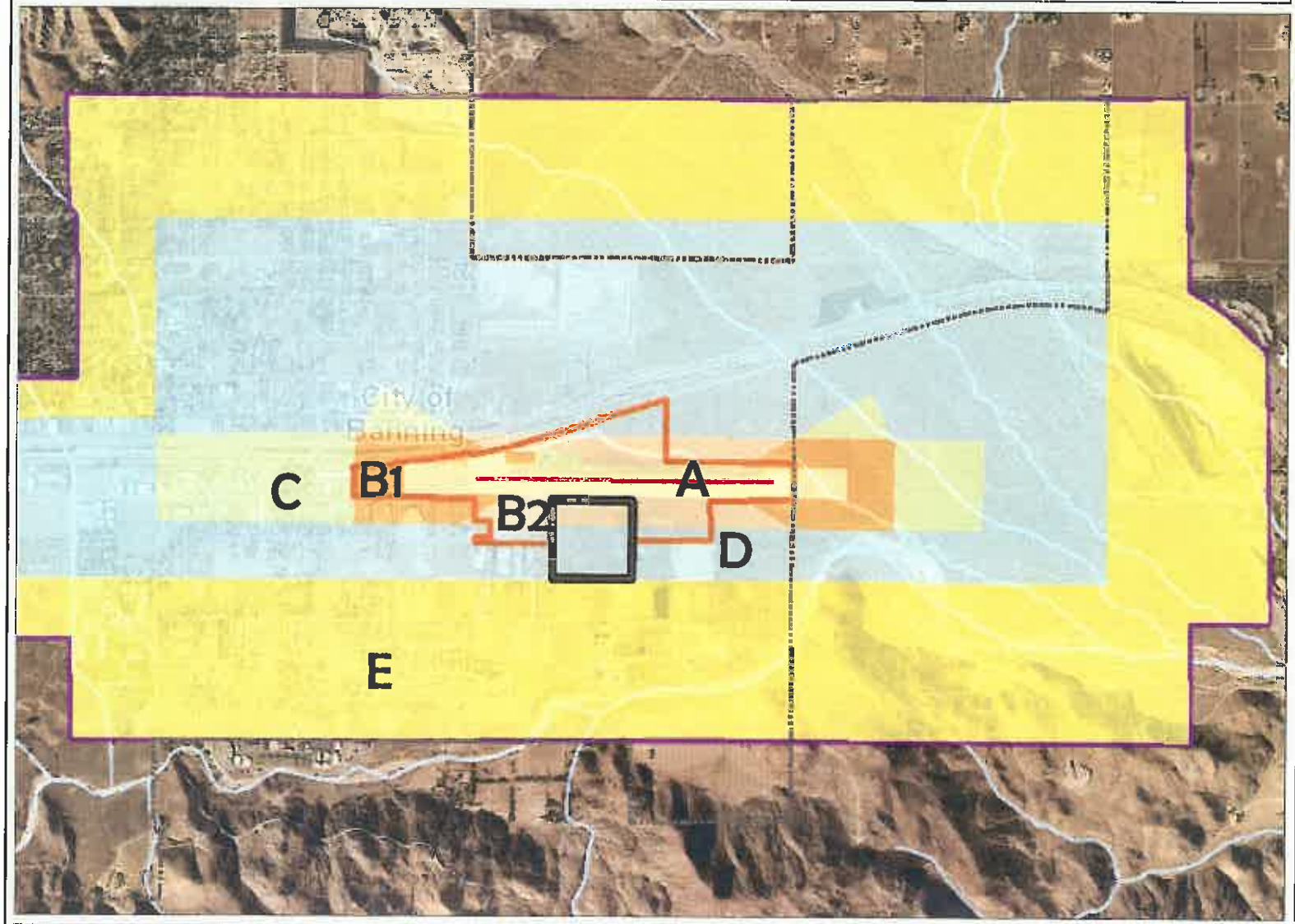
Map BN-1

Compatibility Map

Banning Municipal Airport

BNG-compatibility

Map My County Map



Legend

- Runways
- Airports
- Airport Influence Areas
- Airport Compatibility Zones
  - OTHER COMPATIBILITY ZONE
  - A
  - A-EXC1
  - B1
  - B1-APZ I
  - B1-APZ I-EXC1
  - B1-APZ II
  - B1-APZ II-EXC1
  - B1-EXC1
  - B2
  - B2-EXC1
  - C
  - C1
  - C1-EXC1
  - C1-EXC3
  - C1-EXC4
  - C1-HIGHT
  - C2
  - C2-EXC1
  - C2-EXC2
  - C2-EXC3
  - C2-EXC5
  - C2-EXC6

RCIT

0 3,032 6,064 Feet

IMPORTANT Maps and data are to be used for reference purposes only. Map features are approximate, and are not necessarily accurate to surveying or engineering standards. The County of Riverside makes no warranty or guarantee as to the content (the source is often third party), accuracy, timeliness, or completeness of any of the data provided, and assumes no legal responsibility for the information contained on this map. Any use of this product with respect to accuracy and precision shall be the sole responsibility of the user.

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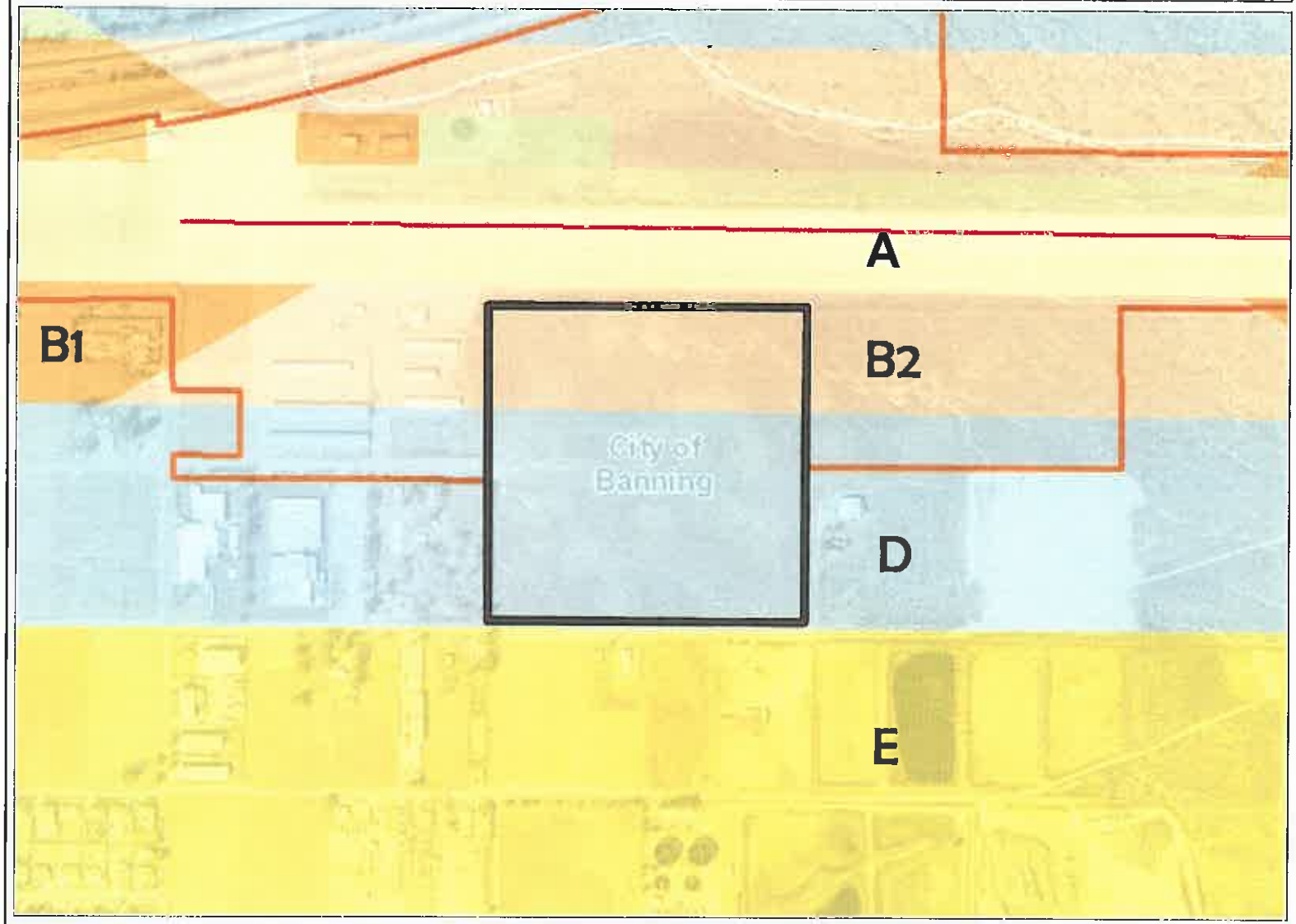
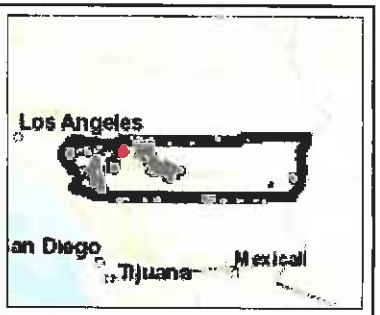
Notes

Map My County Map





Legend

- Runways
- Airports
- Airport Influence Areas
- Airport Compatibility Zones
  - OTHER COMPATIBILITY ZONE
  - A
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  - B1
  - B1-APZ I
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  - B1-APZ II-EXC1
  - B1-EXC1
  - B2
  - B2-EXC1
  - C
  - C1
  - C1-EXC1
  - C1-EXC3
  - C1-EXC4
  - C1-HIGHT
  - C2
  - C2-EXC1
  - C2-EXC2
  - C2-EXC3
  - C2-EXC5
  - C2-EXC6

RCIT

0 758 1,516 Feet

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Notes

Map My County Map

Legend

- Blueline Streams
- City Areas
- World Street Map

RCIT

0 1, 3,032 Feet
516

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REPORT PRINTED ON... 10/31/2019 7:32:10 AM

Notes

Map My County Map

Legend

- Blueline Streams
- City Areas
- World Street Map

RCIT

0 758 1,516 Feet

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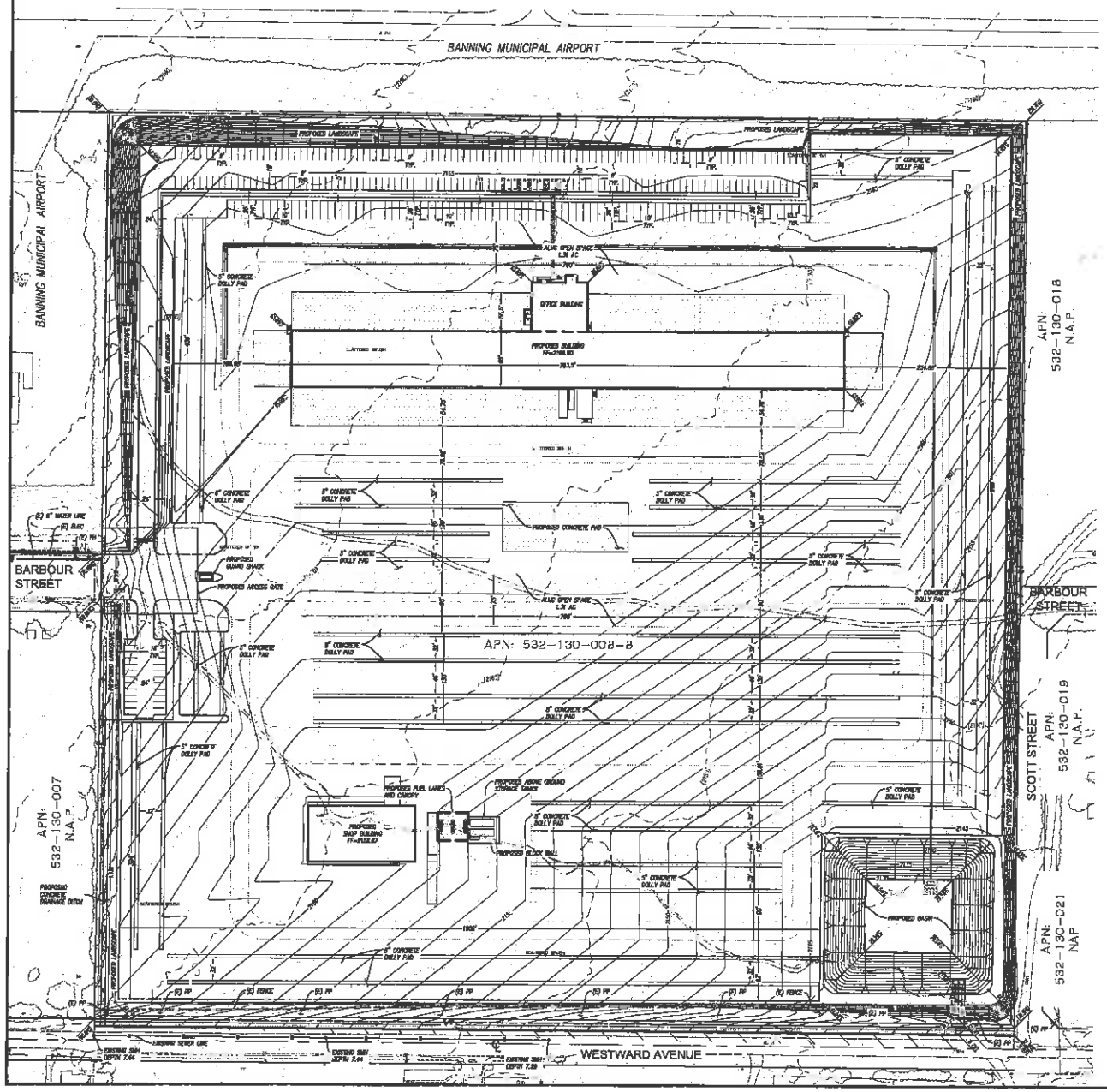
REPORT PRINTED ON... 10/31/2019 7:28:54 AM

Notes

PRELIMINARY SITE/GRADING PLAN

ESTES BANNING TRUCK TERMINAL

IN THE CITY OF BANNING, CALIFORNIA



PROJECT INFORMATION

DEVELOPMENT NAME:	ESTES BANNING TRUCK TERMINAL
GROSS ACREAGE:	1,701,981 SF/39.07 AC.
NET ACREAGE:	1,701,981 SF/39.07 AC.
AREA TO BE DEVELOPED:	1,701,981 SF/39.07 AC.
EXISTING ZONING:	INDUSTRIAL
PROPOSED ZONING:	INDUSTRIAL
EXISTING LAND USE CATEGORY:	VACANT
PROPOSED LAND USE:	TRUCKING FACILITY
FEMA DESIGNATION:	ZONE X

OWNER/DEVELOPER

ESTES TERMINALS OF CALIFORNIA, LLC
ADDRESS:
24-HOUR LOCAL CONTACT: T.B.D.

ENGINEER

JOSEPH E. BONADIMAN AND ASSOCIATES INC.
234 N. ARROWHEAD
SAN BERNARDINO, CA 92408

CONTACT:
ED BONADIMAN
TEL: (909) 885-3836
FAX: (909) 381-1721

ARCHITECT

THE AUSTIN COMPANY
6410 OAK CANYON
(949) 461-9000

SOURCE OF TOPOGRAPHY:

SOURCE:	DIGITAL MAPPING, INC. (DMI) 21062 BROOKHURST ST. STE. 101 HUNTINGTON BEACH, CA 92646
DATE OF SURVEY:	MARCH 2018
CONTOUR INFORMATION:	5' MAJOR CONTOURS, 1' MINOR CONTOURS

ABBREVIATIONS/LEGEND

AC ASPHALTIC CONCRETE SURFACE
DI STORM DRAIN CATCH BASIN
CMU CONCRETE MASONRY UNIT
(E) EXISTING
FF FINISHED FLOOR
FH FIRE HYDRANT
NAP NOT A PART
P/L PROPERTY LINE
R/W RIGHT OF WAY
SF SQUARE FEET
SMH SEWER MAN HOLE

STRUCTURE
PROPOSED 5' SIDEWALK
PROPOSED AC PAVING
EXISTING CONCRETE
ALMC OPEN SPACE

EARTHWORK ESTIMATE QUANTITIES:

CONSTRUCTION ANY UNIT.

CUT 121,500 CUBIC YARDS
FILL 121,500 CUBIC YARDS

EARTH WORK QUANTITIES NOTE: THE ABOVE LISTED QUANTITIES REFLECT THE ENGINEER'S ESTIMATE OF THE BANK VOLUMES OF MATERIAL CUT AND FILLED. THESE QUANTITIES ARE FOR ESTIMATING AND BONDING PURPOSE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR COMPUTING HIS OWN QUANTITIES FOR CONTRACT PURPOSES.

LEGAL DESCRIPTION

THE LAND REFERRED TO IN THIS POLICY IS DESCRIBED AS FOLLOWS:

REAL PROPERTY IN THE CITY OF RIVERSIDE, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 11, TOWNSHIP 3 SOUTH, RANGE 1 EAST, SAN BERNARDINO BASE AND MERIDIAN, ACCORDING TO THE OFFICIAL PLAT THEREOF.

APN: 532-130-008-8

CONSTRUCTION NOTES

1.) CONTRACTOR SHALL CONTACT THE INSPECTION DIVISION OF THE PUBLIC WORKS DEPARTMENT AT LEAST 48 HOURS PRIOR TO STARTING WORK ON THE PROJECT.

2.) A PRECONSTRUCTION CONFERENCE SHALL BE HELD WITH THE CITY ENGINEER OR HIS DESIGNATED REPRESENTATIVE PRIOR TO BEGINNING CONSTRUCTION. THIS MEETING SHALL BE SCHEDULED WITH THE DEPARTMENT OF PUBLIC WORKS AT THE TIME THE NOTIFICATION OF WORK COMMENCEMENT IS GIVEN.

OWNER STATEMENT

"I AM THE OWNER OF THE PROPERTY AFFECTED BY THIS SITE PLAN. PRIOR TO REQUESTING A CERTIFICATE OF OCCUPANCY, I WILL SUBMIT A NOTARIZED STATEMENT AS FOLLOWS: 'I CERTIFY THAT THE SITE IMPROVEMENTS ARE COMPLETE AND IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS.' THIS CERTIFICATION WILL BE BASED ON OBSERVATIONS OF AND SUPERVISION OF CONSTRUCTION BY MY REPRESENTATIVE OR ME. I UNDERSTAND THAT THE CERTIFICATE OF OCCUPANCY WILL NOT BE APPROVED UNTIL THIS CERTIFICATION HAS BEEN MADE."

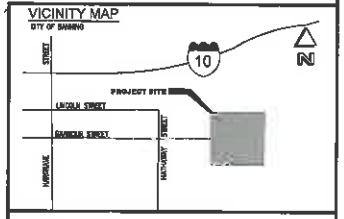
DRAINAGE NOTES

REFER TO THE PRELIMINARY HYDROLOGY & HYDRAULICS REPORT PREPARED BY JOSEPH E. BONADIMAN & ASSOCIATES, INC. (JUNE, 2018) FOR LOCATION OF OFFSITE AND ONSITE DRAINAGE AREAS, PRELIMINARY SIZING OF DRAINAGE FACILITIES, AND AN OVERLAY OF THE PROJECT SITE ON APPLICABLE FEMA FLOOD MAP(S).

SCALE: 1"=60'

VICINITY MAP

CITY OF BANNING



BONADIMAN
JOSEPH E. BONADIMAN & ASSOCIATES, INC.
CIVIL ENGINEERS • L.S. • SURVEYORS • PLANNERS
TEL. (909) 885-3836
FAX (909) 381-1721

PRELIMINARY SITE/GRADING PLAN
ESTES BANNING TRUCK TERMINAL
CITY OF BANNING, CA 92220
A.P.N. 532-130-008

REVISIONS

NO	DESCRIPTION	BY	APPROVED	DATE

PREPARED FOR: BREMCO CONSTRUCTION

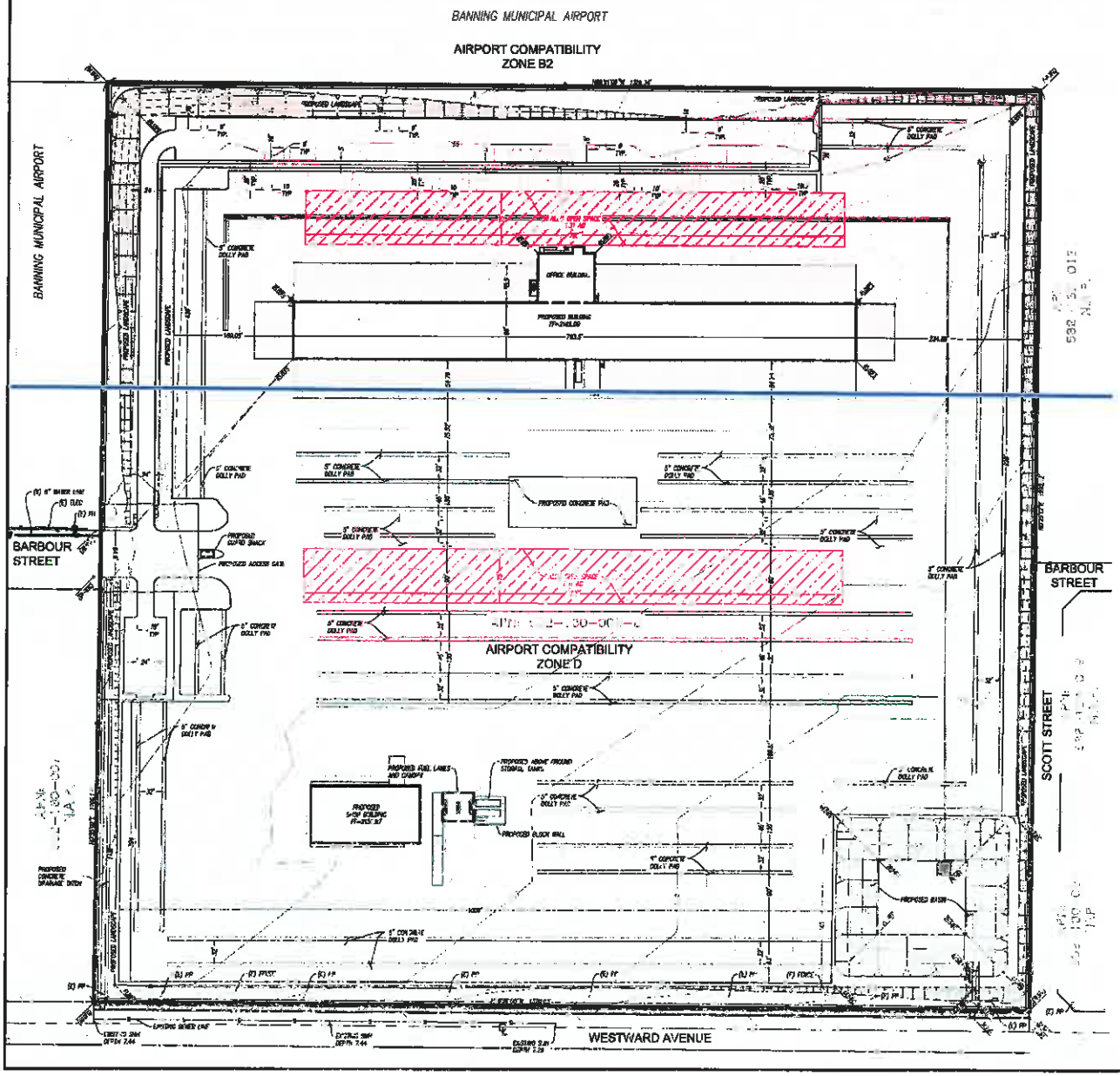
DRAWN BY:	FA	SCALE:	1" = 60'
CHECKED BY:	JTE	JOB NO:	184617
SIGNED PRELIMINARY GRADING REVISION DATE		11-07-19	

SHEET: 1 OF 1

PRELIMINARY SITE/GRADING PLAN

ESTES BANNING TRUCK TERMINAL

IN THE CITY OF BANNING, CALIFORNIA



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NET ACREAGE:	1,701,961 SF/39.07 AC.
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PROPOSED ZONING:	INDUSTRIAL
EXISTING LAND USE CATEGORY:	VACANT
PROPOSED LAND USE:	TRUCKING FACILITY
FEMA DESIGNATION:	ZONE X

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SOURCE OF TOPOGRAPHY:

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DATE OF SURVEY:	MARCH 2019
CONTOUR INFORMATION:	5' MAJOR CONTOURS, 1' MINOR CONTOURS

ABBREVIATIONS/LEGEND

AC ASPHALTIC CONCRETE SURFACE
CB STORM DRAIN CATCH BASIN
CMU CONCRETE MASONRY UNIT
(E) EXISTING
FF FINISHED FLOOR
FH FIRE HYDRANT
MAP NOT A PART
P/L PROPERTY LINE
R/W RIGHT OF WAY
SF SQUARE FEET
SMH SEWER MAN HOLE

STRUCTURE
PROPOSED 5' SIDEWALK
PROPOSED AC PAVING
EXISTING CONCRETE
ALUC OPEN SPACE

AIRPORT COMPATIBILITY ZONES

ZONE B2
ZONE D

EARTHWORK ESTIMATE QUANTITIES:

CONSTRUCTION MAY VARY:

CUT 157,541 CUBIC YARDS
FILL 157,541 CUBIC YARDS

EARTH WORK QUANTITIES NOTE: THE ABOVE LISTED QUANTITIES REFLECT THE ENGINEER'S ESTIMATE OF THE RAW VOLUMES OF MATERIAL CUT AND FILLED. THESE QUANTITIES ARE FOR PLANNING AND BONDING PURPOSE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR COMPUTING HIS OWN QUANTITIES FOR CONTRACT PURPOSES.

LEGAL DESCRIPTION

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REAL PROPERTY IN THE CITY OF RIVERSIDE, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 11, TOWNSHIP 3 SOUTH, RANGE 1 EAST, SAN BERNARDINO BASE AND MERIDIAN, ACCORDING TO THE OFFICIAL PLAT THEREOF.

APN: 532-130-009-8

CONSTRUCTION NOTES

1.) CONTRACTOR SHALL CONTACT THE INSPECTION DIVISION OF THE PUBLIC WORKS DEPARTMENT AT LEAST 48 HOURS PRIOR TO STARTING WORK ON THE PROJECT.

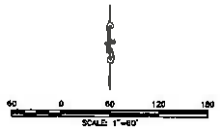
2.) A PRECONSTRUCTION CONFERENCE SHALL BE HELD WITH THE CITY ENGINEER OR HIS DESIGNATED REPRESENTATIVE, PRIOR TO BEGINNING CONSTRUCTION. THIS MEETING SHALL BE SCHEDULED WITH THE DEPARTMENT OF PUBLIC WORKS AT THE TIME THE NOTIFICATION OF WORK COMMENCEMENT IS GIVEN.

OWNER STATEMENT

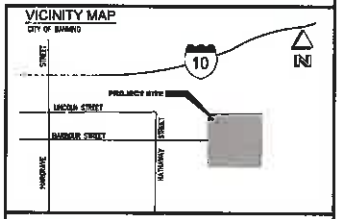
"I AM THE OWNER OF THE PROPERTY AFFECTED BY THIS SITE PLAN. PRIOR TO REQUESTING A CERTIFICATE OF OCCUPANCY, I SHALL SUBMIT A NOTARIZED STATEMENT AS FOLLOWS: 'I CONSTRUCTED THE SITE IMPROVEMENTS, LIKE CONCRETE, AND IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS.' THIS CERTIFICATION SHALL BE BASED ON OBSERVATIONS OF AND SUPERVISION OF CONSTRUCTION BY MY REPRESENTATIVE OR INC. I UNDERSTAND THAT THE CERTIFICATE OF OCCUPANCY SHALL NOT BE APPROVED UNTIL THIS CERTIFICATION HAS BEEN MADE."

DRAINAGE NOTES

REFER TO THE PRELIMINARY HYDROLOGY & HYDRAULICS REPORT PREPARED BY JOSEPH E. BONADIMAN & ASSOCIATES, INC. (JUNE 2019) FOR LOCATION OF OFF-SITE AND ONSITE DRAINAGE AREAS, PRELIMINARY SIZING OF DRAINAGE FACILITIES, AND AN OVERLAY OF THE PROJECT SITE ON APPLICABLE FEMA FLOOD MAPS).



VICINITY MAP



BONADIMAN
JOSEPH E. BONADIMAN & ASSOCIATES, INC
ENGINEERS • SURVEYORS • PLANNERS
TEL: (909) 885-3806

PRELIMINARY SITE/GRADING PLAN

ESTES BANNING TRUCK TERMINAL
CITY OF BANNING, CA 92220
A.P.N. 532-130-009

REVISIONS

NO	DESCRIPTION	BY	APPROVED	DATE

PREPARED FOR:	BREMCO CONSTRUCTION		
DRAWN BY:	FA	SCALE:	1" = 60'
CHECKED BY:	JES	JOB NO.	184617
			11-07-19

SHEET: 1 OF 1

ESTES EXPRESS LINES

BANNING, CALIFORNIA

TRUCK TERMINAL

PARKING ANALYSIS

PARKING CALCULATIONS:

PER 2018 BANNING, CALIFORNIA CODE OF ORDINANCES			
USE	AREA (GROSS SF)	PARKING RATIO	PARKING REQUIRED
OFFICE	12,712	FOR UP TO 2,000 S.F. OF GROSS FLOOR AREA, ONE SPACE EACH 200 S.F. FOR 2001 TO 7500 S.F. OF GROSS FLOOR AREA, ONE SPACE FOR EACH 250 S.F. FOR OVER 7500 S.F. OF GROSS FLOOR AREA , ONE SPACE FOR EACH 300 S.F.	51
INDUSTRIAL/ WAREHOUSING	69,858	OVER 20,000 S.F. - 22 SPACES PLUS 1 SPACE PER 2,000 S.F FOR PORTION OVER 20,000 S.F.	46
VEHICLE / REPAIR	10,783	FIVE SPACES PLUS ONE SPACE FOR EACH 200 S.F. OF GROSS FLOOR AREA.	59
TOTAL	93,354		156

PER 2018 BANNING, CALIFORNIA CODE OF ORDINANCES			
USE	TRUCK POSITION	PARKING RATIO	PARKING REQUIRED
TRUCKS	133	ONE TRACTOR TRAILER SPACE PER # HIGH TRUCK POSITIONS	133
TOTAL	133		133

TOTAL PARKING REQUIRED 156

TOTAL PARKING PROVIDED 218

REQUIRED ACCESSIBLE STALLS 7

ACCESSIBLE STALLS PROVIDED 7

TRACTORS 80

TRAILERS 311

VANS 51

BUILDING INFORMATION

MAIN BUILDING:

OFFICE BUILDING
FIRST FLOOR ..... 6,507 S.F.
SECOND FLOOR ..... 5,063 S.F.
TOTAL 11,570 S.F.

TERMINAL BUILDING ..... 69,360 S.F.

LINE HAUL ..... 1,043 S.F.

TYPE OF CONSTRUCTION ..... III-B

STORIES 2

HEIGHT ..... 34'-3"

OCCUPANCY ..... S-1 WAREHOUSE
B OFFICE

MAINTENANCE:

BUILDING
GROUND FLOOR ..... 12,537 S.F.
MEZZANINE ..... 1,675 S.F.
TOTAL 14,232 S.F.

TYPE OF CONSTRUCTION ..... III-B

STORIES ..... 1 WITH MEZZANINE

HEIGHT ..... 27'-3"

OCCUPANCY ..... S-1 WAREHOUSE / VEHICLE REPAIR
B OFFICE

PROJECT INFORMATION

PROJECT OWNER: ESTES EXPRESS LINES

PROJECT ADDRESS: BANNING, CALIFORNIA

LEGAL DESCRIPTION: THE LAND REFERRED TO IN THIS COMMITMENT IS SITUATED IN THE CITY OF BANNING, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA AND IS DESCRIBED AS FOLLOWS:
THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 11, TOWNSHIP 3 SOUTH, RANGE 1 EAST, SAN BERNARDINO BASE AND MERIDIAN ACCORDING TO THE OFFICIAL PLAT THEREOF.

APN: 532-130-058-8

ZONING: I (INDUSTRIAL)

SITE SIZE: 39.67 ACRES (1,701,361 S.F.)

BUILDING FOOTPRINT: 84,486 S.F.

HARDSCAPE: 1,350,985 S.F.

LANDSCAPE: 257,741 S.F.

THE AUSTIN COMPANY
8410 OAK CANYON
IRVINE, CA 92618
949.491.8000
www.theaustin.com

CONSULTANTS:

OWNER:

ESTES EXPRESS LINES
BANNING, CALIFORNIA

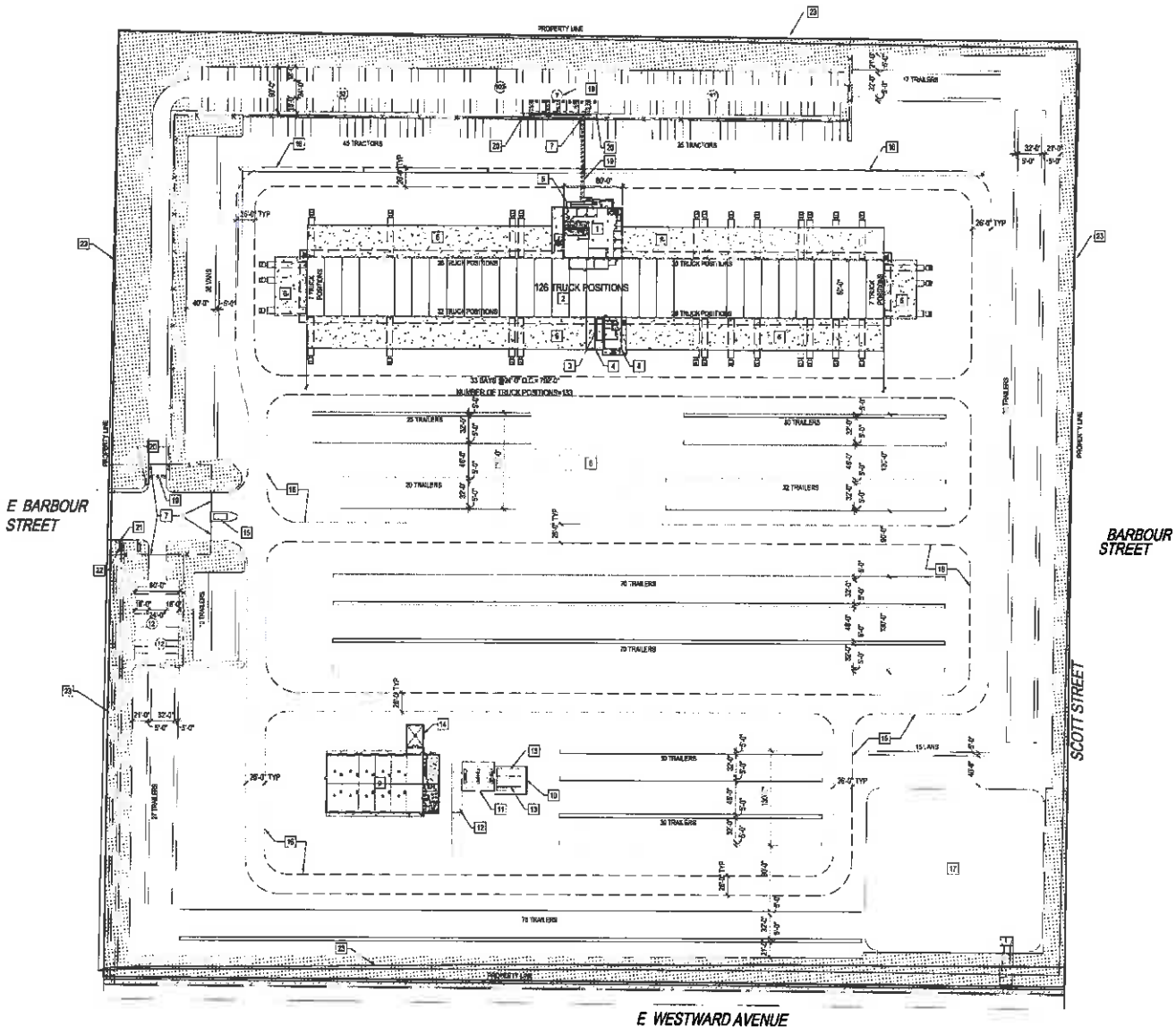
MARK	DATE	IDEN	DESCRIPTION
	01/19/19		ISSUED TO PLANNING DEPARTMENT
	Copyright		THE AUSTIN COMPANY 2019

ISSUE: -
PROJECT NO: 19-0471000.00
CAD DWG FILE: 19-0471000
DRAWN BY: RVM
CHECKED BY: TCU
SHEET TITLE:

COVER

SHEET NUMBER:

A-0



KEYNOTES:

1. 2-STORY OFFICE BUILDING
2. MAIN BUILDING (133 TRUCK POSITIONS)
3. TRASH COMPACTOR
4. FORKLIFT RAMP
5. [illegible]
6. [illegible]
7. CONTROLLED ACCESS GATE
8. LINE-HAUL BUILDING
9. SHOP BUILDING WITH THREE (6) SERVICE BAYS AND ONE (1) OFFICE / PARTS BAY
10. CMU SCREEN WALL
11. FUEL LANES WITH CANOPY
12. AXLE SCALE
13. ABOVE GROUND STORAGE TANK (DIESEL FUEL TANK)
14. [illegible]
15. GUARD HOUSE WITH TOILET
16. FIRE LANE
17. RETENTION POND
18. ACCESSIBLE PARKING STALLS
19. CROSS WALK
20. CURB RAMP 8.33% MAXIMUM SLOPE
21. "UNAUTHORIZED VEHICLE" WARNING SIGN
22. ESTES MONUMENT SIGN
23. CHAIN LINK FENCE

LEGEND:

(P) REGULAR AND ACCESSIBLE CAR PARKING SPACES

GRAPHIC SCALE
60' 30' 0' 60' 120'
1"
SCALE: 1"=60'-0"

THE AUSTIN COMPANY
8415 OAK CANYON
IRVINE, CA 92618
949.481.9000
www.theaustin.com

CONSULTANTS:

OWNER:

ESTES EXPRESS LINES
BANNING, CALIFORNIA

MARK	DATE	DES	DESCRIPTION
	07/29/19		SUBMITTED TO PLANNING DEPARTMENT

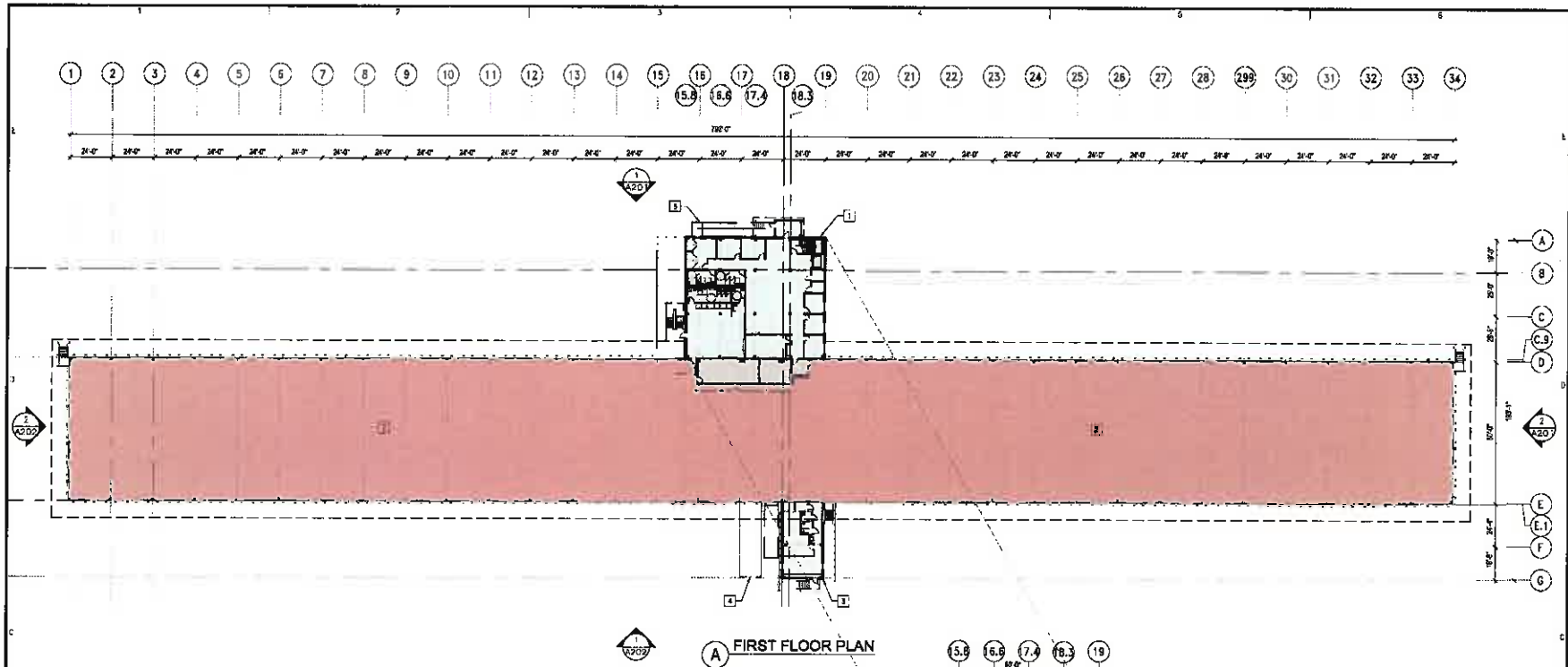
ISSUE:
PROJECT NO: 19-[illegible]
CAD DWG FILE: 19-[illegible].DWG
DRAWN BY: KW
CHECKED BY: CM

SHEET TITLE:
SITE PLAN

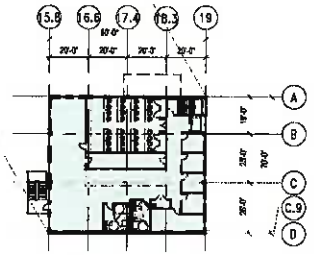
SHEET NUMBER:
A-1

SITE PLAN

SCALE: 1"=60'-0"



A FIRST FLOOR PLAN



B SECOND FLOOR PLAN

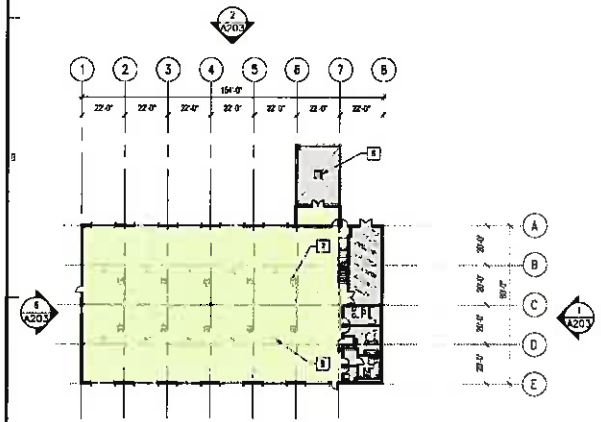
Terminal Building

Office

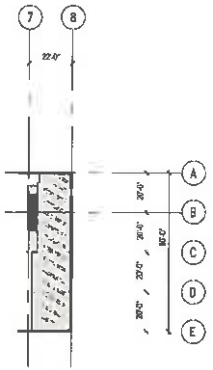
Maintenance

Support

MAIN TERMINAL BUILDING

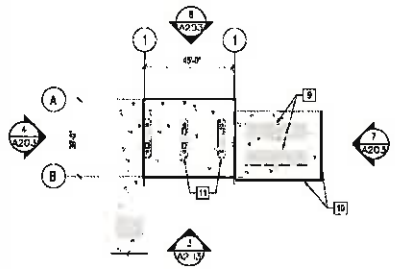


A FIRST FLOOR PLAN



B MEZZANINE LEVEL FLOOR PLAN

MAINTENANCE BUILDING



FUELING STATION

KEYNOTES:

1. 2-STORY OFFICE BUILDING
2. MAIN TERMINAL BUILDING (136 DOCK DOORS)
3. LINE-HAUL BUILDING
4. FORKLIFT RAMP
5. ACCESSIBLE RAMP
6. TRACTOR WASH
7. VEHICLE EXHAUST REEL (TYP. OF 10)
8. CEILING FANS (TYP. OF 10)
9. ABOVE GROUND STORAGE TANK (TYP. OF 2)
10. CMU SCREEN WALL
11. FUEL ISLAND

GRAPHIC SCALE
25' 12.5' 0' 25' 50'
SCALE: 1"=25'-0"

THE AUSTIN COMPANY
6410 OAK CANYON
IRVINE, CA 92618
949.451.9200

CONSULTANTS:

OWNER:

ESTES EXPRESS LINES

BANNING, CALIFORNIA

MARK	DATE	DES	DESCRIPTION
			ISSUED TO PLANNING DEPARTMENT

ISSUE:

PROJECT NO: 1940600.00

CAD DWG FILE: 1940600.DWG

DRAWN BY: RLL

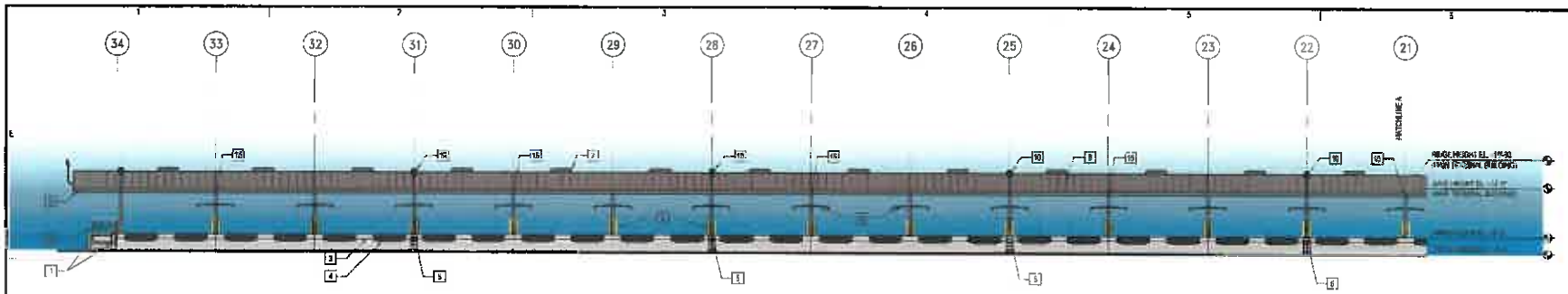
CHECKED BY: ECM

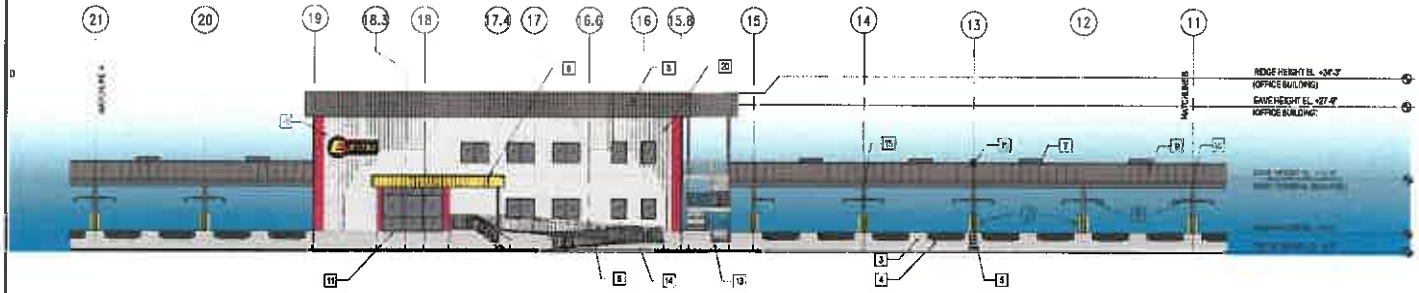
SHEET TITLE:

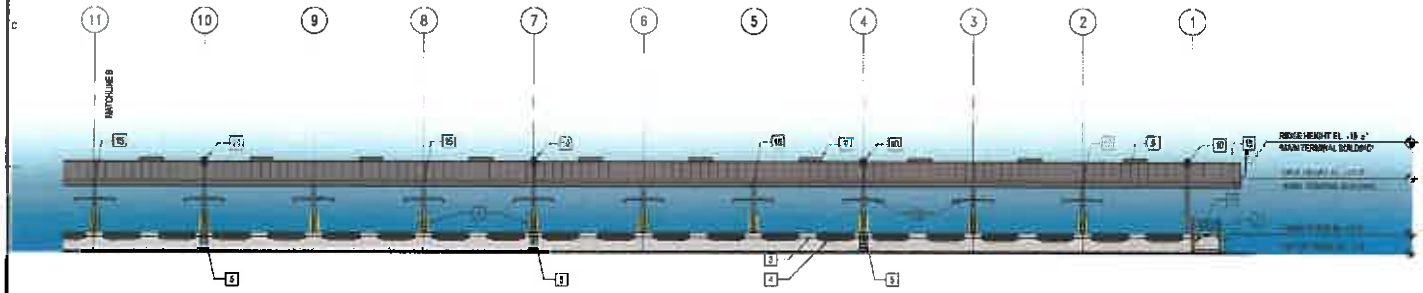
OVERALL FLOOR PLANS

SHEET NUMBER:

A-2

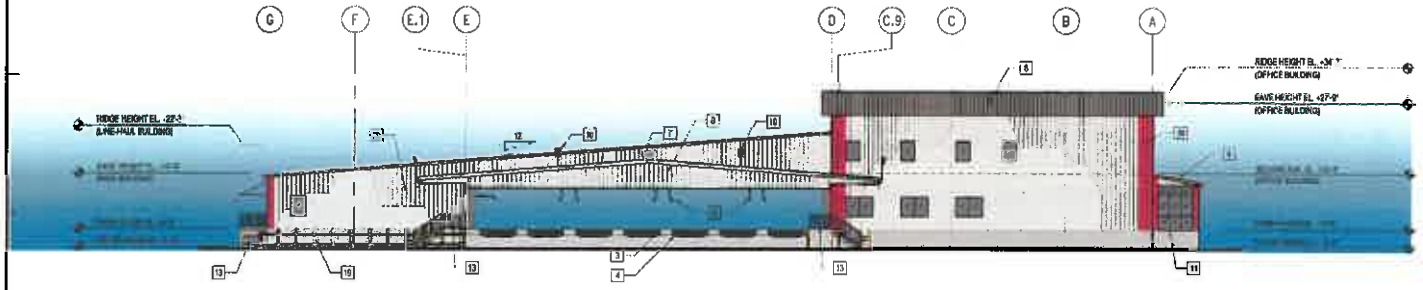






NORTH ELEVATIONS

SCALE: 3/32"=1'-0"



EAST ELEVATION

SCALE: 3/32"=1'-0"

KEYNOTES

1. 5" DIA. SCHED. 40 PIPE BOLLARD FILLED WITH CONCRETE
2. 5" DIA. SCHED. 40 PIPE BOLLARD FILLED WITH CONCRETE
3. CONTINUOUS STEEL CHANNEL DOCK EDGE
4. DOCK LEVELER / BUMPER
5. STEEL DOCK LADDER WITH GRAB BAR
6. 1 ½" DIA. STEEL PIPE GUARDRAIL / HANDRAIL
7. LOW PROFILE RIDGE VENT (BY P.E.M.B.M.)
8. PRE-FINISHED METAL FASCIA (BY P.E.M.B.M.)
9. METAL ROOF PANEL (BY P.E.M.B.M.)
10. MAST LIGHT
11. ALUMINUM STOREFRONT SYSTEM
12. BACKLIT EXTERIOR SIGN (64 S.F.)
13. STEEL STAIR
14. ACCESSIBLE CONCRETE RAMP (1:12 MAX SLOPE)
15. 45° ELBOW DOWNSPOUT
16. SWING ARM DOCK LOADING LIGHT
17. OUTLINE OF TRASH COMPACTOR
18. FORKLIFT CONCRETE RAMP
19. BOLLARD AND GUARDRAIL SYSTEM
20. PRE-FINISHED METAL SIDING (BY P.E.M.B.M.)

GRAPHIC SCALE

0 8' 16' 24' 32'

SCALE: 3/32"=1'-0"

THE AUSTIN COMPANY
6410 OAK CANYON
IRVINE, CA 92618
949.451.9800
www.theaustin.com

CONSULTANTS:

OWNER:

ESTES EXPRESS LINES

BANNING, CALIFORNIA

MARK	DATE	DES	DESCRIPTION
			ISSUED TO PLANNING DEPARTMENT

ISSUE:

PROJECT NO: 1946800.00

CAD DWG FILE:

DRAWN BY:

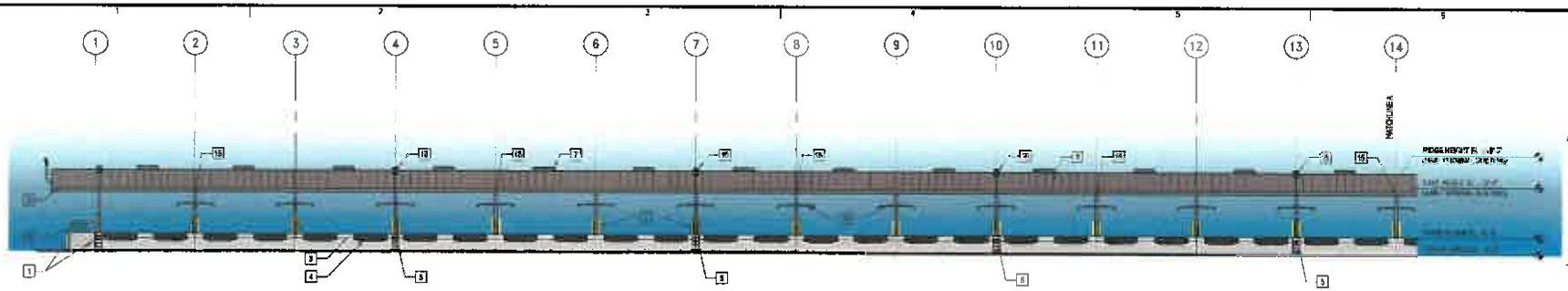
CHECKED BY:

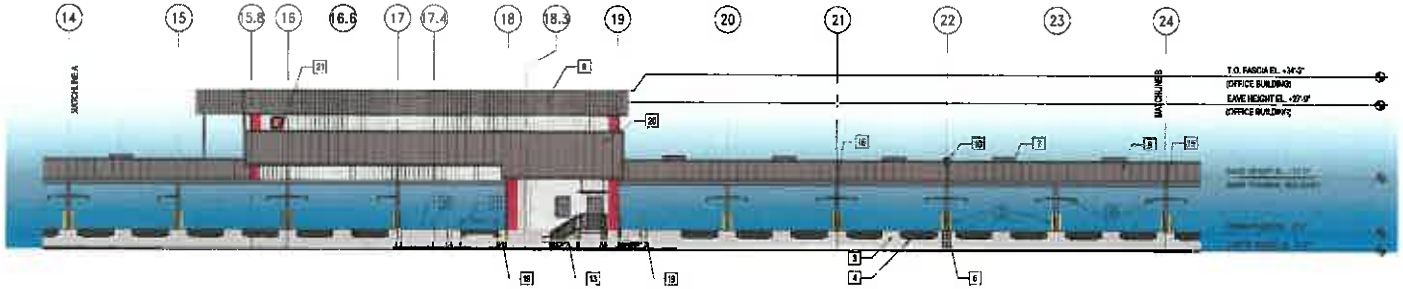
SHEET TITLE:

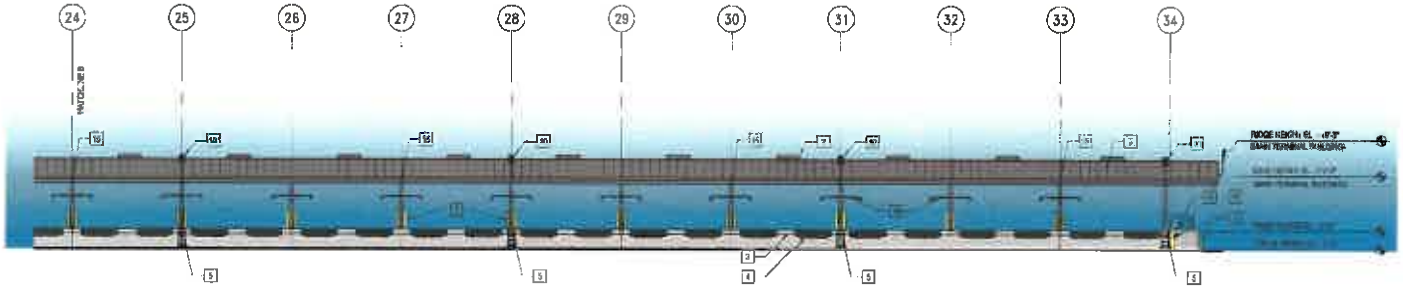
BUILDING ELEVATIONS

SHEET NUMBER:

A-3

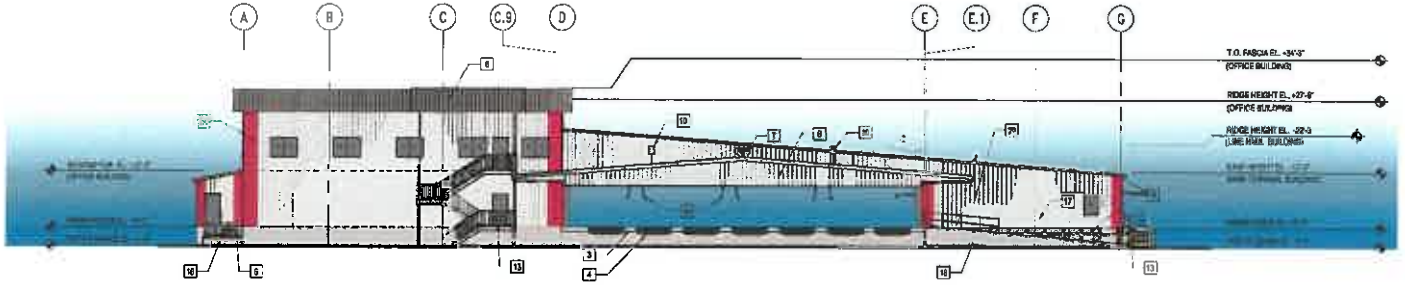






SOUTH ELEVATION

SCALE: 3/32"=1'-0"



WEST ELEVATION

SCALE: 3/32"=1'-0"

KEYNOTES

1. 8" DIA. SCHED. 40 PIPE BOLLARD FILLED WITH CONCRETE
2. 5" DIA. SCHED. 40 PIPE BOLLARD FILLED WITH CONCRETE
3. CONTINUOUS STEEL CHANNEL DOCK EDGE
4. DOCK LEVELER / BUMPER
5. STEEL DOCK LADDER WITH GRAB BAR
6. 1½" DIA. STEEL PIPE GUARDRAIL / HANDRAIL
7. LOW PROFILE RIDGE VENT (BY P.E.M.B.M.)
8. PRE-FINISHED METAL FASCIA (BY P.E.M.B.M.)
9. METAL ROOF PANEL (BY P.E.M.B.M.)
10. MAST LIGHT
11. ALUMINUM STOREFRONT SYSTEM
12. BACKLIGHT EXTERIOR SIGN
13. STEEL STAIR
14. ACCESSIBLE CONCRETE RAMP (1:12 MAX SLOPE)
15. 45° ELBOW DOWNSPOUT
16. SWING ARM DOCK LOADING LIGHT
17. OUTLINE OF TRASH COMPACTOR
18. FORKLIFT CONCRETE RAMP
19. BOLLARD AND GUARDRAIL SYSTEM
20. PRE-FINISHED METAL SIDING (BY P.E.M.B.M.)
21. BACKLIGHT EXTERIOR SIGN

GRAPHIC SCALE

0 8 16 24 32

SCALE: 3/32"=1'-0"

THE AUSTIN COMPANY

8410 OAK CANYON
IRVINE, CA 92618
949.451.9000

CONSULTANTS:

OWNER:

ESTES EXPRESS LINES

BANNING, CALIFORNIA

MARK	DATE	DESCRIPTION

ISSUE: –

PROJECT NO: 19406D0.00

CAD DWG FILE:

DRAWN BY:

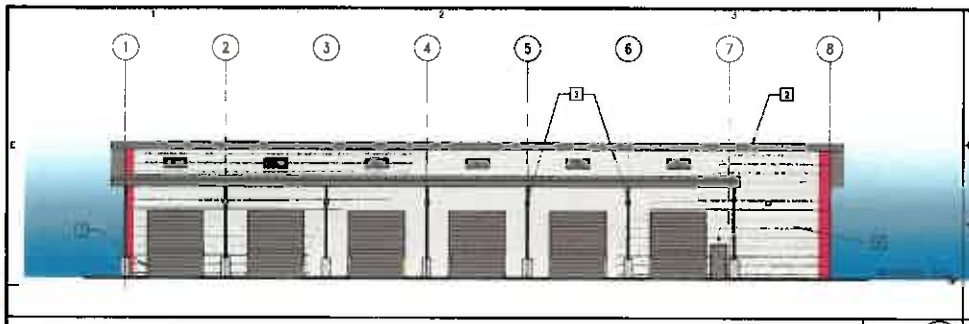
CHECKED BY:

SHEET TITLE:

BUILDING ELEVATIONS

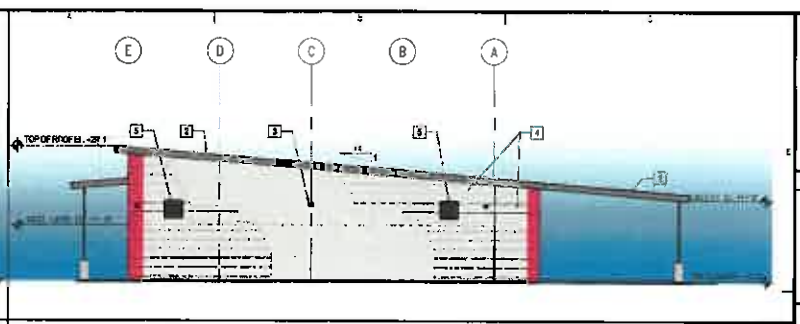
SHEET NUMBER:

A-4



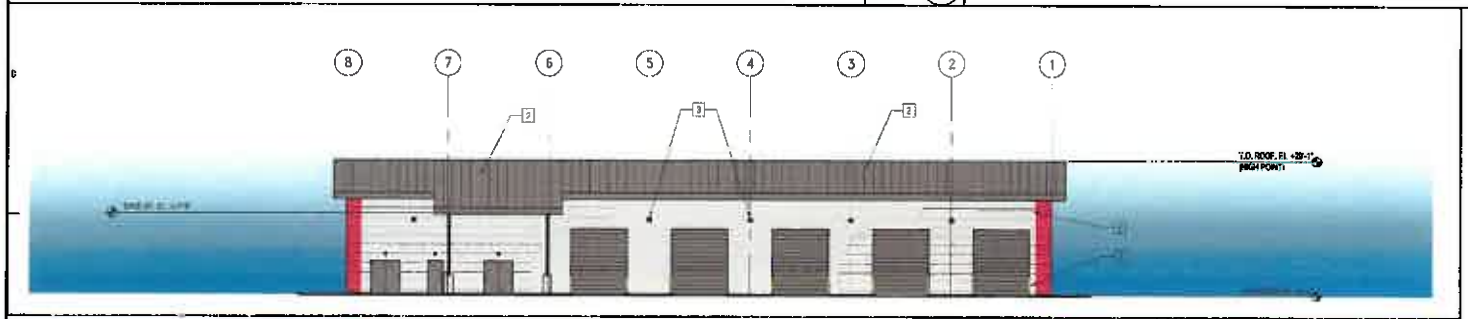
SOUTH ELEVATION

SCALE: 3/32"=1'-0"



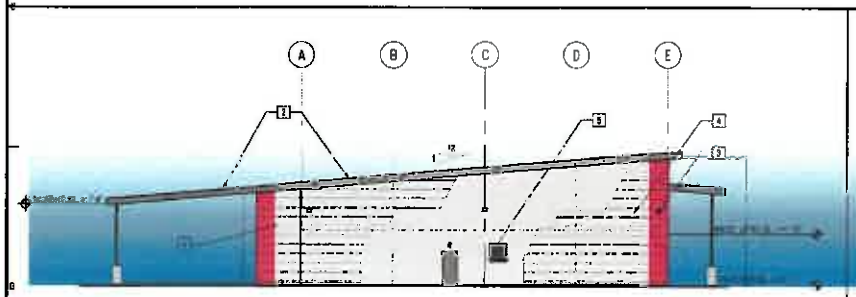
EAST ELEVATION

SCALE: 3/32"=1'-0"



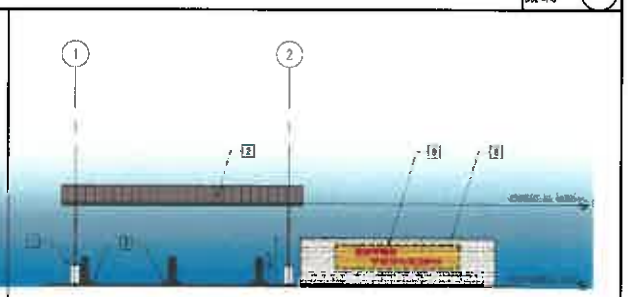
NORTH ELEVATION

SCALE: 3/32"=1'-0"



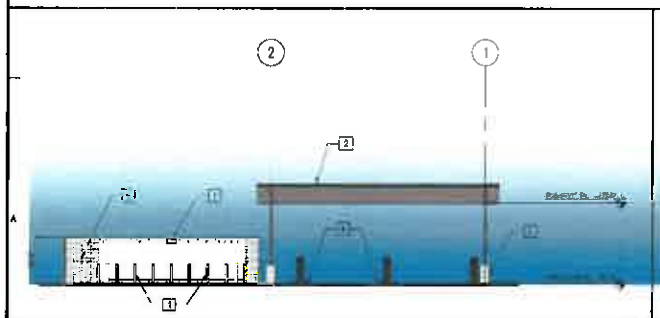
WEST ELEVATION

SCALE: 3/32"=1'-0"



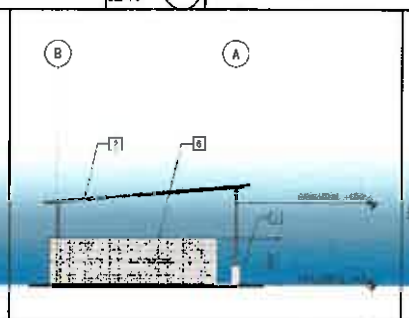
SOUTH ELEVATION

SCALE: 3/32"=1'-0"



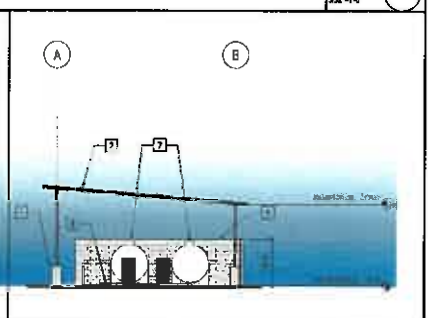
NORTH ELEVATION

SCALE: 3/32"=1'-0"



EAST ELEVATION

SCALE: 3/32"=1'-0"



WEST ELEVATION

SCALE: 3/32"=1'-0"

KEYNOTES

1. 8" DIA. SCHED. 40 PIPE BOLLARD FILLED WITH CONCRETE
2. METAL ROOF PANEL (BY P.E.M.B.M.)
3. EXTERIOR LIGHT FIXTURE
4. PRE FINISHED METAL SIDING (BY P.E.M.B.M.)
5. FIXED METAL LOUVER
6. CMU SCREEN WALL
7. ABOVE GROUND STORAGE TANK (DIESEL FUEL TANK)
8. FUEL ISLAND
9. PAINTED COMPANY SIGN ON CMU (144 S.F.)

GRAPHIC SCALE

0 8' 16' 24' 32'

SCALE: 3/32"=1'-0"

THE AUSTIN COMPANY
84-90 OAK CANYON
IRVINE, CA 92618
949.454.8000
www.theaustin.com

CONSULTANTS

OWNER:

ESTES EXPRESS LINES

BANNING, CALIFORNIA

MARK	DATE	IDEN	DESCRIPTION

ISSUE:

PROJECT No.:

CAD DWG FILE:

DRAWN BY:

CHECKED BY:

SHEET TITLE:

BUILDING ELEVATIONS

SHEET NUMBER:

A-5

Overall Site

Overall Site

Site Entry at East Barbour Street

View from East Westward Ave

View from Airport

View of Maintenance Building

THE AUSTIN COMPANY
8410 OAK CANYON
IRVINE, CA 92618
949.451.8000
www.theaustin.com

CONSULTANTS:

OWNER:

ESTES EXPRESS LINES
BANNING, CALIFORNIA

MARK	DATE	IDENT	DESCRIPTION
		Copyright	THE AUSTIN COMPANY 2010

ISSUE: -
PROJECT NO: 1940500.00
CAD DWG FILE: 19405002.DWG
DRAWN BY: RMM
CHECKED BY: CCM

SHEET TITLE:

RENDERINGS

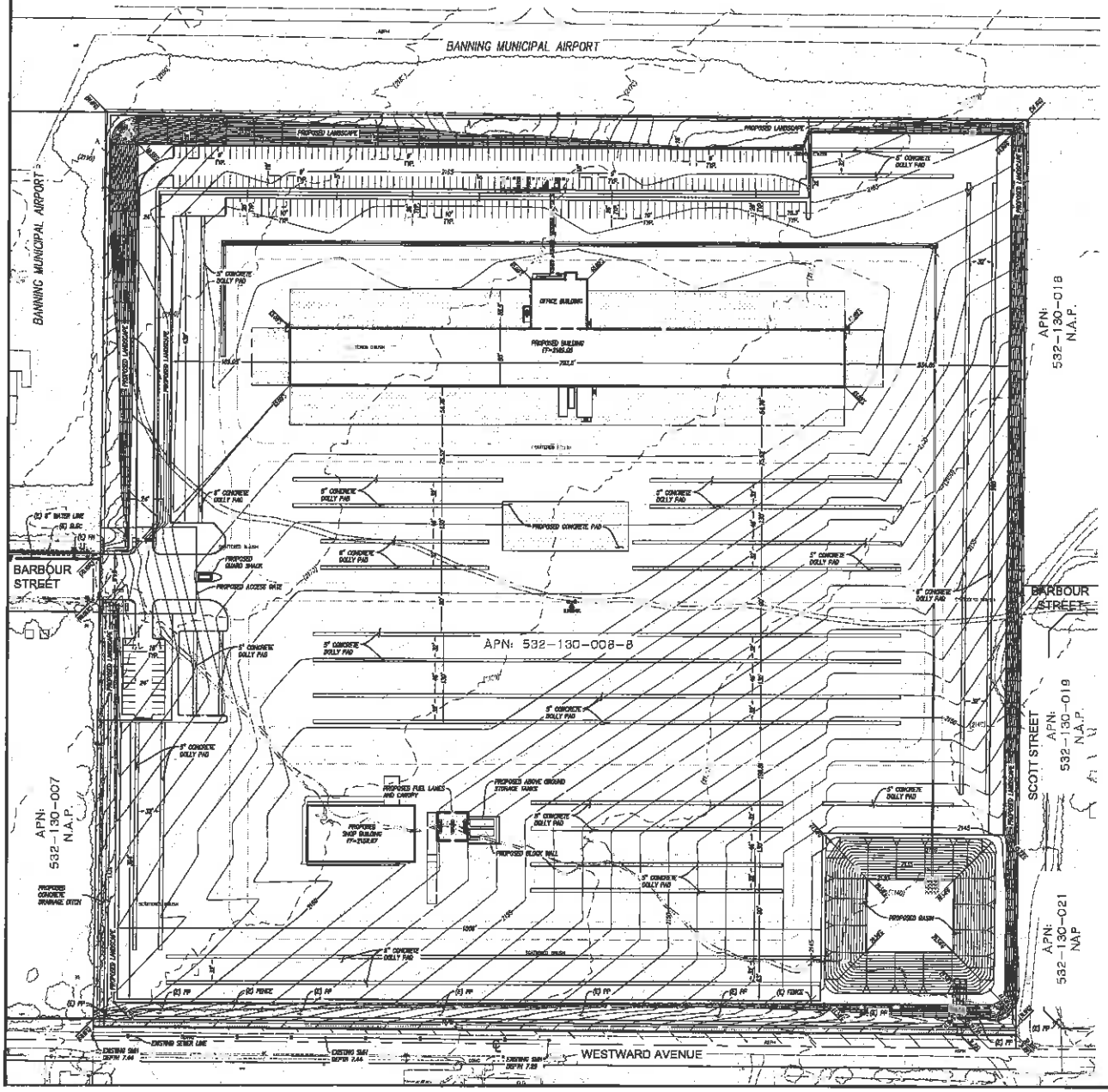
SHEET NUMBER:

A-6

PRELIMINARY SITE/GRADING PLAN

ESTES BANNING TRUCK TERMINAL

IN THE CITY OF BANNING, CALIFORNIA



PROJECT INFORMATION

DEVELOPMENT NAME:	ESTES BANNING TRUCK TERMINAL
GROSS ACREAGE:	1,701,981 SF/39.07 AC.
NET ACREAGE:	1,701,981 SF/39.07 AC.
AREA TO BE DEVELOPED:	1,701,981 SF/39.07 AC.
EXISTING ZONING:	INDUSTRIAL
PROPOSED ZONING:	INDUSTRIAL
EXISTING LAND USE CATEGORY:	VACANT
PROPOSED LAND USE:	TRUCKING FACILITY
FEMA DESIGNATION:	ZONE X

OWNER/DEVELOPER

ESTES TERMINALS OF CALIFORNIA, LLC
ADDRESS
24-HOUR LOCAL CONTACT: T.B.D.

ENGINEER

JOSEPH E. BONADIMAN AND ASSOCIATES INC.
334 N. ARROWHEAD
SAN BERNARDINO, CA 92408

CONTACT:
ED BONADIMAN
TEL: (909) 885-3806
FAX: (909) 381-1721

ARCHITECT

THE AUSTIN COMPANY
9410 OAK CANYON
(949) 481-9000

SOURCE OF TOPOGRAPHY:

SOURCE:	DIGITAL MAPPING, INC. (DMI) 21062 BROOKHURST ST. STE 101 HUNTINGTON BEACH, CA 92646
DATE OF SURVEY:	MARCH 2018
CONTOUR INFORMATION:	5' MAJOR CONTOURS, 1' MINOR CONTOURS

ABBREVIATIONS/LEGEND

AC ASPHALTIC CONCRETE SURFACE
CB STORM DRAIN CATCH BASIN
CMU CONCRETE MASONRY UNIT
(E) EXISTING
FF FINISHED FLOOR
FH FIRE HYDRANT
MAP ONTO A PRINT
P/L PROPERTY LINE
R/W RIGHT OF WAY
SF SQUARE FEET
SMH SEWER MAN HOLE

PROPOSED 6" SIDEWALK
PROPOSED AC PAVING
EXISTING CONCRETE

EARTHWORK ESTIMATE QUANTITIES:

CONSTRUCTION MAY VARY.

CUT 20,000 CUBIC YARDS
FILL 20,000 CUBIC YARDS

EARTH WORK QUANTITIES NOTE: THE ABOVE LISTED QUANTITIES REFLECT THE ENGINEER'S ESTIMATE OF THE RAW VOLUMES OF MATERIAL CUT AND FILLED. THESE QUANTITIES ARE FOR ESTIMATING AND BONDING PURPOSE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR COMPUTING HIS OWN QUANTITIES FOR CONTRACT PURPOSES.

LEGAL DESCRIPTION

THE LAND REFERRED TO IN THIS POLICY IS DESCRIBED AS FOLLOWS:

REAL PROPERTY IN THE CITY OF RIVERSIDE, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 11, TOWNSHIP 3 SOUTH, RANGE 1 EAST, SAN BERNARDINO BASE AND MERIDIAN, ACCORDING TO THE OFFICIAL PLAT THEREOF.

APN: 532-130-008-8

CONSTRUCTION NOTES

1.) CONTRACTOR SHALL CONTACT THE INSPECTION DIVISION OF THE PUBLIC WORKS DEPARTMENT AT LEAST 48 HOURS PRIOR TO STARTING WORK ON THE PROJECT.

2.) A PRECONSTRUCTION CONFERENCE SHALL BE HELD WITH THE CITY ENGINEER OR HIS DESIGNATED REPRESENTATIVE PRIOR TO BEGINNING CONSTRUCTION. THIS MEETING SHALL BE SCHEDULED WITH THE DEPARTMENT OF PUBLIC WORKS AT THE TIME THE NOTIFICATION OF WORK COMMENCEMENT IS GIVEN.

OWNER STATEMENT

"I AM THE OWNER OF THE PROPERTY AFFECTED BY THIS SITE PLAN. PRIOR TO REQUESTING A CERTIFICATE OF OCCUPANCY, I WILL SUBMIT A NOTARIZED STATEMENT AS FOLLOWS: 'I CONFIRM THAT THE SITE IMPROVEMENTS ARE COMPLETE AND IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS. THIS CERTIFICATION WILL BE BASED ON OBSERVATIONS OF AND SUPERVISION OF CONSTRUCTION BY MY REPRESENTATIVE OR ME. I UNDERSTAND THAT THE CERTIFICATE OF OCCUPANCY WILL NOT BE APPROVED UNTIL THIS CONFIRMATION HAS BEEN MADE."

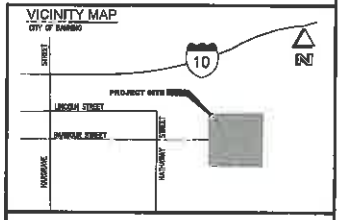
DRAINAGE NOTES

REFER TO THE PRELIMINARY HYDROLOGY & HYDRAULICS REPORT PREPARED BY JOSEPH E. BONADIMAN & ASSOCIATES, INC. (JANE 2019) FOR LOCATION OF OFFSITE AND ONSITE DRAINAGE AREAS, PRELIMINARY SIZING OF DRAINAGE FACILITIES, AND AN OVERLAY OF THE PROJECT SITE ON APPLICABLE FEMA FLOOD MAP(S).

SCALE: 1"=60'

VICINITY MAP

CITY OF BANNING



BONADIMAN
TEL: (909) 885-3806
JOSEPH E. BONADIMAN & ASSOCIATES, INC.
CIVIL ENGINEERS • L.A.N.D. SURVEYORS • PLANNERS

PRELIMINARY SITE/GRADING PLAN

ESTES BANNING TRUCK TERMINAL
CITY OF BANNING, CA 92220
A.P.N. 532-130-008

REVISIONS

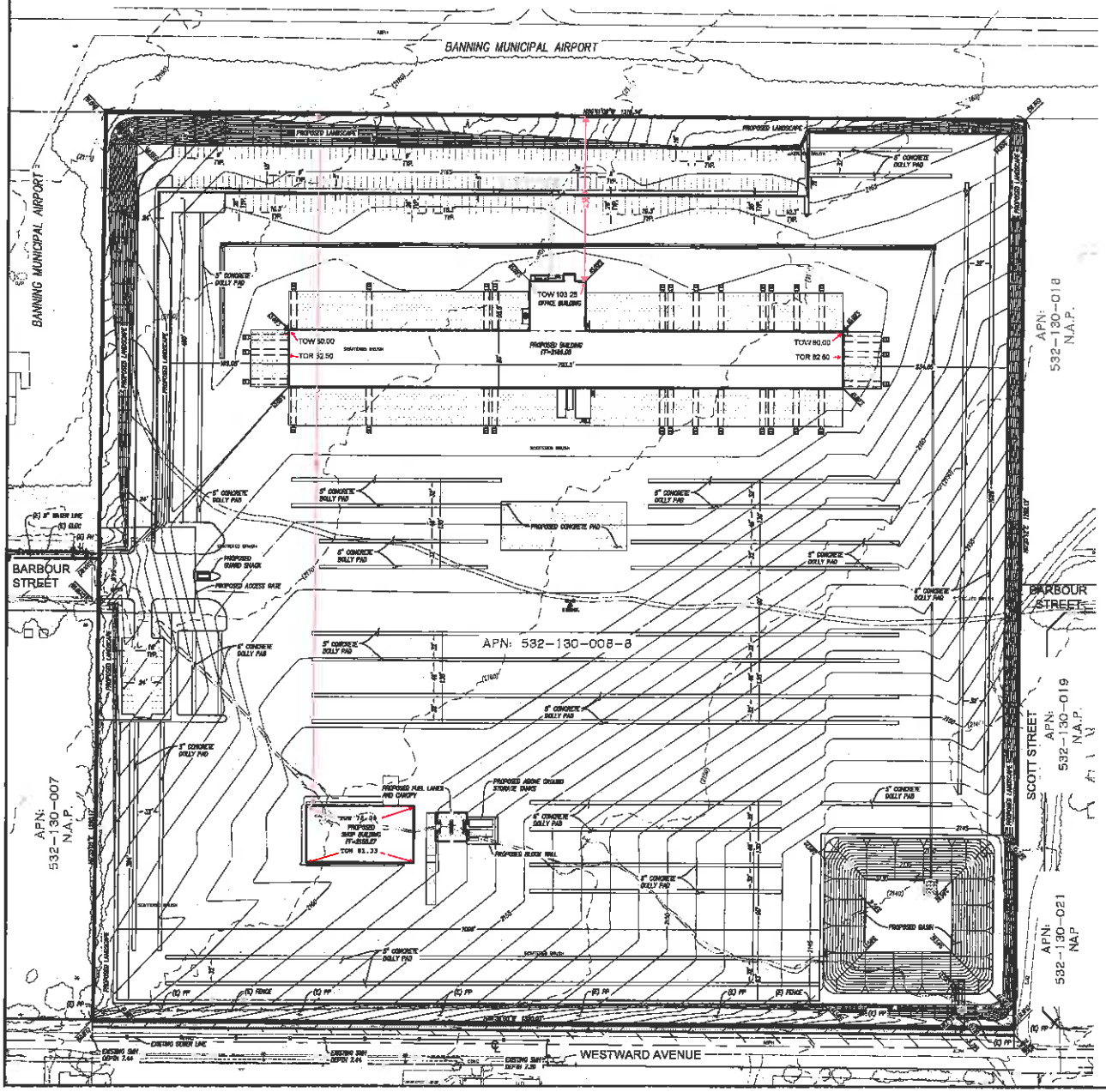
NO	DESCRIPTION	BY	APPROVED	DATE

PREPARED FOR:	BREMCO CONSTRUCTION		
DRAWN BY: FA	SCALE: 1" = 60'	SHEET: 1 OF 1	
CHECKED BY: JTB	JOB NO: 196617		
CONCEPTUAL GRADING PLAN PER PRELIMINARY HYDROLOGY REPORT	09-09-19		

PRELIMINARY SITE/GRADING PLAN

ESTES BANNING TRUCK TERMINAL

IN THE CITY OF BANNING, CALIFORNIA



PROJECT INFORMATION

DEVELOPMENT NAME:	ESTES BANNING TRUCK TERMINAL
GROSS ACREAGE:	1,701,961 SF/39.07 AC.
NET ACREAGE:	1,701,961 SF/39.07 AC.
AREA TO BE DEVELOPED:	1,701,961 SF/39.07 AC.
EXISTING ZONING:	INDUSTRIAL
PROPOSED ZONING:	INDUSTRIAL
EXISTING LAND USE CATEGORY:	VACANT
PROPOSED LAND USE:	TRUCKING FACILITY
FEMA DESIGNATION:	ZONE X

OWNER/DEVELOPER

ESTES TERMINALS OF CALIFORNIA, LLC
ADDRESS
24-HOUR LOCAL CONTACT: T.B.D.

ENGINEER

JOSEPH E. BONADIMAN AND ASSOCIATES INC.
234 N. ARROWHEAD
SAN BERNARDINO, CA 92408

CONTACT:
ED BONADIMAN
TEL: (909) 885-3806
FAX: (909) 381-1721

ARCHITECT

THE AUSTIN COMPANY
6410 OAK CANYON
(949) 451-9000

SOURCE OF TOPOGRAPHY:

SOURCE:	DIGITAL MAPPING, INC. (DMI) 21062 BROOKHURST ST. STE 101 HUNTINGTON BEACH, CA 92648
DATE OF SURVEY:	MARCH 2019
CONTOUR INFORMATION:	5' MAJOR CONTOURS, 1' MINOR CONTOURS

ABBREVIATIONS/LEGEND

AC ASPHALTIC CONCRETE SURFACE
CB STORM DRAIN CATCH BASIN
CMU CONCRETE MASONRY UNIT
(E) EXISTING
FF FINISHED FLOOR
FH FIRE HYDRANT
NAP NOT A PART
P/L PROPERTY LINE
R/W RIGHT OF WAY
SF SQUARE FEET
SSMH SEWER MAIN HOLE

STRUCTURE
PROPOSED 5' SIDEWALK
PROPOSED AC PAVING
EXISTING CONCRETE

EARTHWORK ESTIMATE QUANTITIES:

CONSTRUCTION MAY VARY.

CUT 257,511 CUBIC YARDS
FILL 257,552 CUBIC YARDS

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APN: 532-130-008-8

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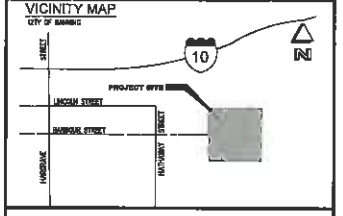
SCALE: 1"=90'

VICINITY MAP

CITY OF BANNING



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JOSEPH E. BONADIMAN & ASSOCIATES, INC.
ENGINEERING • G.I.S. • SURVEYING • PLANNING

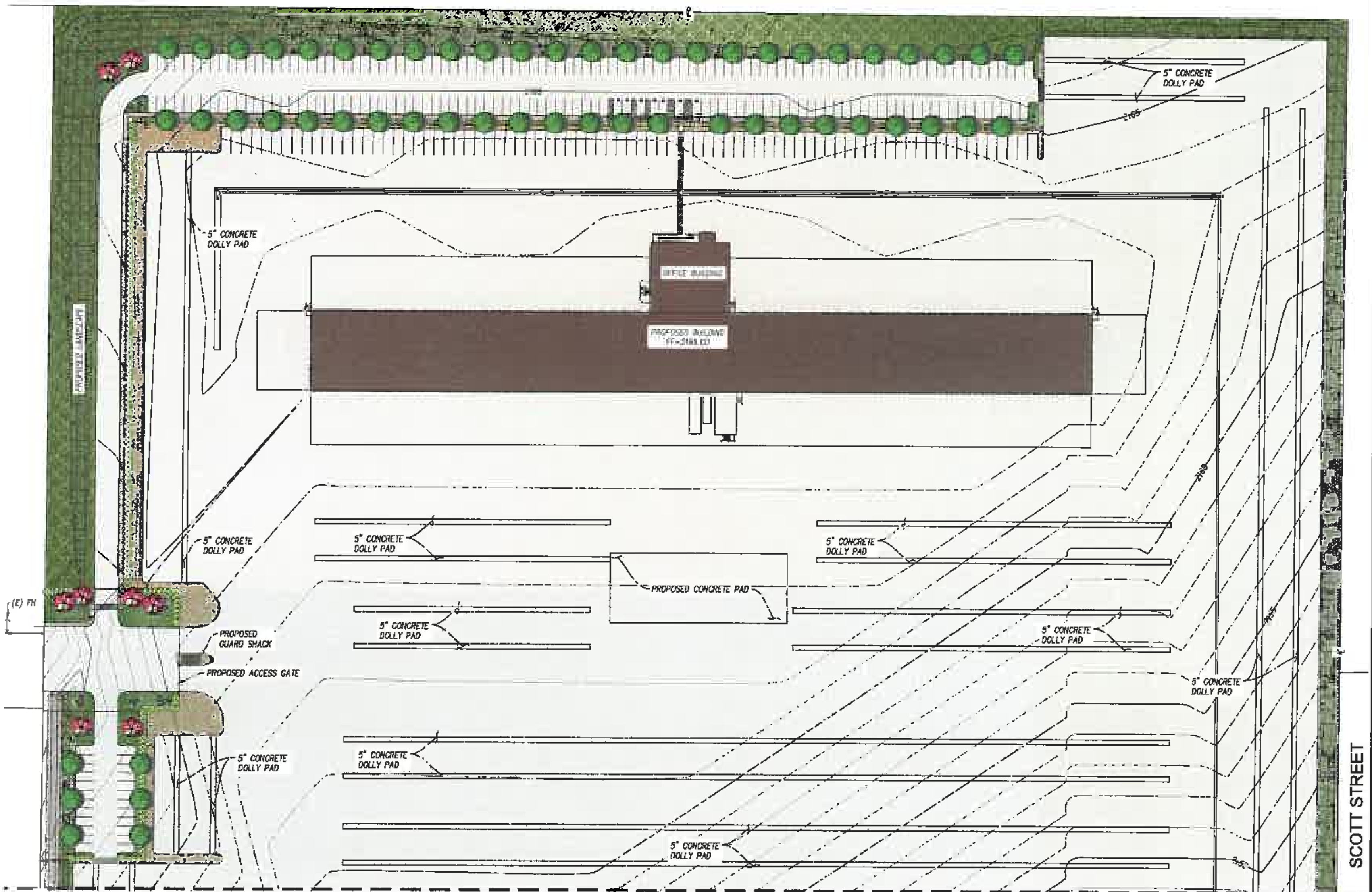
PRELIMINARY SITE/GRADING PLAN

ESTES BANNING TRUCK TERMINAL
CITY OF BANNING, CA 92220
A.P.N. 532-130-008

REVISIONS

NO	DESCRIPTION	BY	APPROVED	DATE

PREPARED FOR:	BREMCO CONSTRUCTION		
DRAWN BY:	FA	SCALE:	1"=60'
CHECKED BY:	JTS	JOB NO:	19017
DIRECTORED PHOTOGRAPHIC AERIAL REVISION DATE:	07-01-19	SHEET:	1 OF 1



CONCEPTUAL PLANT LEGEND

PARKING LOT TREES
Quercus agrifolia / Coast Live Oak
Ulmus parvifolia 'True Green' / True Green Elm

STREET TREE
Acacia stenophylla / Shoestring Acacia
Chilopsis linearis / Desert Willow
Quercus agrifolia / Coast Live Oak
Quercus ilex / Holly Oak
Ulmus parvifolia 'True Green' / True Green Elm

ON SITE ACCENT TREE
Chilopsis linearis 'Burgundy' / Desert Willow
Parkinsonia x 'Desert Museum' / Desert Museum Palo Verde
x Chitalpa tashkentensis / Chitalpa

TALL SCREEN SHRUB
Callistemon citrinus 'Jeffersii' / Bottlebrush
Rhus ovata / Sugar Bush
Westringia fruticosa 'Wynyabbie Gem' / Wynyabbie Gem Coast Rosemary

STREET SCREEN SHRUB
Rhus ovata / Sugar Bush
Tecoma x 'Crimson Flare' / Red Yellow Bells

MEDIUM SCREEN SHRUB
Grevillea x 'Noellii' / Grevillea
Leptospermum scoparium 'Ruby Glow' / Red New Zealand Tea Tree
Leucophyllum frutescens 'Compacta' / Compact Texas Ranger

LOW HEDGE SHRUB
Callistemon viminalis 'Little John' / Dwarf Weeping Bottlebrush
Correa x 'Dusky Bells' / Australian Fuchsia

LARGE ACCENT SHRUB
Agave americana / Century Plant
Caesalpinia gilliesii / Yellow Bird of Paradise
Caesalpinia mexicana / Mexican Bird of Paradise
Thevetia peruviana / Yellow Oleander

SLOPE GROUND COVER
Acacia redolens 'Desert Carpet' TM / Bank Catclaw
Baccharis x 'Centennial' / Centennial Coyote Brush

GROUND COVER
Dalea greggii / Trailing Indigo Bush
Lonicera japonica 'Halliana' / Halls Honeysuckle Flowering Vine
Myoporum parvifolium / Trailing Myoporum
Rosmarinus officinalis 'Huntington Carpet' / Huntington Carpet Rosemary

LANDSCAPE TABULATIONS:

Total irrigated landscape area: 212,371 sf (4.9 AC.)

Parking lot tree requirements:
- # of spaces: 210
- # of trees required (1 per 4 spcs): 55
- total provided: 55

North

Scale: 1" = 40'

REVISIONS	BY

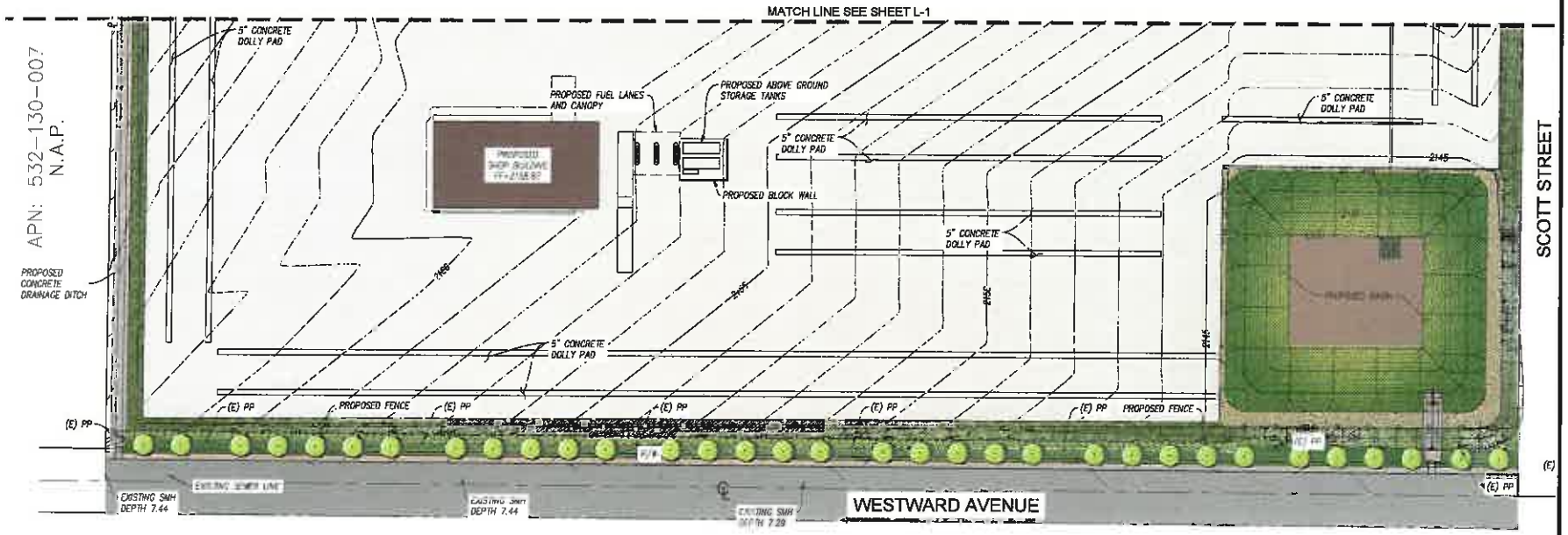
ROYAL OAK DESIGN
Sylvia E. Lyons, Landscape Architect #1549
2456 Hummingbird Way
La Verne, CA 91750-2351
Telephone: (909)593-4158
Email: royaloakdesign@verizon.net

CONCEPTUAL LANDSCAPE PLAN

ESTES BANNING TRUCK TERMINAL
NW CORNER OF E. WESTWARD AVE., SCOTT ST., AND BARBOUR ST.
BANNING, CA

J.S./S.L.
09/06/2019
1" = 40'
5325

L-1



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x Chitalpa tashkentensis / Chitalpa

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Westringia fruticosa 'Wynabbie Gem' / Wynabbie Gem Coast Rosemary

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Rosmarinus officinalis 'Huntington Carpet' / Huntington Carpet Rosemary

North

40 0 40 80 120
Scale: 1" = 40'

REVISIONS | BY

ROYAL OAK DESIGN
Sylvia E. Lyons, Landscape Architect #1549
2456 Hummingbird Way
La Verne, CA 91750-4351
(909) 596-2351
Email: royaloakdesign@verizon.net

CONCEPTUAL LANDSCAPE PLAN

ESTES BANNING TRUCK TERMINAL
NW CORNER OF E. WESTWARD AVE., SCOTT ST., AND BARBOUR ST.
BANNING, CA

DRAWN: J.S./S.L.
DATE: 09/06/2019
SCALE: 1" = 40'
JOB NO.: 5325
SHEET: L-2

NOTICE OF PUBLIC HEARING
RIVERSIDE COUNTY AIRPORT LAND USE COMMISSION

A PUBLIC HEARING has been scheduled before the Riverside County Airport Land Use Commission (ALUC) to consider the application described below.

Any person may submit written comments to the ALUC before the hearing or may appear and be heard in support of or opposition to the project at the time of hearing. For more information please contact **ALUC Planner Paul Rull at (951) 955-6893**. The ALUC holds hearings for local discretionary permits within the Airport Influence Area, reviewing for aeronautical safety, noise and obstructions. ALUC reviews a proposed plan or project solely to determine whether it is consistent with the applicable Airport Land Use Compatibility Plan.

The City of Banning Planning Department will hold hearings on this item and should be contacted on non-ALUC issues. For more information please contact City of Banning Planner Ms. Sonia Pierce at (951) 922-3152.

The proposed project application may be viewed and written comments may be submitted at the Riverside County Administrative Center, 4080 Lemon Street, 14th Floor, Riverside, California 92501, Monday through Thursday from 8:00 a.m. to 5:00 p.m., except Thursday and Friday November 28 and 29 (Thanksgiving), and by prescheduled appointment on Fridays from 9:00 a.m. to 5:00 p.m.

PLACE OF HEARING: Riverside County Administration Center
4080 Lemon Street, 1st Floor Board Chambers
Riverside California

DATE OF HEARING: December 12, 2019

TIME OF HEARING: 9:30 A.M.

CASE DESCRIPTION:

ZAP1037BA19 – Bremco Construction, Inc., (Representative: William Lewis) – City of Banning Case Nos. CUP19-8005 (Conditional Use Permit), DR19-7013 (Design Review). A proposal to establish a truck terminal facility which includes a 11,670 square foot office building with mezzanine, a 63,360 square foot cross loading dock terminal, a 1,042 square foot line-haul building, a 14,232 square foot maintenance building, two above ground diesel fuel storage tanks totaling 40 gallons, and a 80 square foot security guard building on 39.07 acres located northerly of Westward Avenue, easterly of Hathaway Street, and southerly of Banning Municipal Airport (Airport Compatibility Zones B2 & D of the Banning Municipal Airport Influence Area).

RIVERSIDE COUNTY
AIRPORT LAND USE COMMISSION

Bann B2+D

APPLICATION FOR MAJOR LAND USE ACTION REVIEW

ALUC CASE NUMBER: ZAP1037BA19 DATE SUBMITTED: October 24, 2019

APPLICANT / REPRESENTATIVE / PROPERTY OWNER CONTACT INFORMATION

Applicant	William Lewis	Phone Number	562-595-4687
Mailing Address	3470 E Spring St Long Beach, CA 90806	Email	Bill@Bremcoconstruction.com
Representative	Same as above	Phone Number	
Mailing Address		Email	
Property Owner	Estes Freight Lines - Kevin Fitz	Phone Number	(804) 353-1900 x2325
Mailing Address	3901 W. Broad St. Richmond, VA 23230	Email	kfitz@estes-express.com

LOCAL JURISDICTION AGENCY

Local Agency Name	City of Banning - Community Development Dept Planning Division	Phone Number	951-922-3152
Staff Contact	Sonia Pierce	Email	spierce@banningca.gov
Mailing Address	99 E. Ramsey Street Banning, CA 92220	Case Type	
Local Agency Project No	CUP 19-8005, DR 19-7013	☐ General Plan / Specific Plan Amendment ☐ Zoning Ordinance Amendment ☐ Subdivision Parcel Map / Tentative Tract ■ Use Permit ☐ Site Plan Review/Plot Plan ☐ Other	

PROJECT LOCATION

Attach an accurately scaled map showing the relationship of the project site to the airport boundary and runways

Street Address	Bourbon St and Westward Avenue Banning, CA		
Assessor's Parcel No.	APN: 532-130-008-8	Gross Parcel Size	39.07 Acres
Subdivision Name	Southeast quarter of southwest quarter of sec 11, township 3 south, range 1 east	Nearest Airport and distance from Airport	Banning Municipal 0 ft
Lot Number	San Bernardino base and meridian		

PROJECT DESCRIPTION

If applicable, attach a detailed site plan showing ground elevations, the location of structures, open spaces and water bodies, and the heights of structures and trees; include additional project description data as needed

Existing Land Use (describe)	Existing land is fallow, vacant and has never been developed. Set slopes from south west to south east. Land is generally rocky.

Proposed Land Use (describe)	Proposed project is a new truck terminal for Estes Freight Lines consisting of a 135 door cross dock, 2 story office building, truck maintenance building and fueling capabilities from above ground fuel tanks. The site is planned to be fully developed and paved for truck and trailer staging.	
For Residential Uses	**Number of Parcels or Units on Site (exclude secondary units)**	n/a
For Other Land Uses (See Appendix C)	**Hours of Operation** 24/6	
	Number of People on Site 41 **Maximum Number**	1st shift 31, 2nd shift 41, 3rd shift 41
	Method of Calculation	Based on similar operations around the country, including a nearly identical Estes in Rialto, CA.
Height Data	**Site Elevation (above mean sea level)**	2191 NW corner to 2131.9 SE corner ft.
	Height of buildings or structures (from the ground)	Highest Building 38.3' ft.
Flight Hazards	Does the project involve any characteristics which could create electrical interference, confusing lights, glare, smoke, or other electrical or visual hazards to aircraft flight?	☐ Yes ■ No
	If yes, describe	

A. **NOTICE:** Failure of an applicant to submit complete or adequate information pursuant to Sections 65940 to 65948 inclusive, of the California Government Code, MAY constitute grounds for disapproval of actions, regulations, or permits.

B. **REVIEW TIME:** Estimated time for "staff level review" is approximately 30 days from date of submittal. Estimated time for "commission level review" is approximately 45 days from date of submittal to the next available commission hearing meeting.

C. **SUBMISSION PACKAGE:**

1. . . . . Completed ALUC Application Form
1. . . . . ALUC fee payment
1. . . . . Plans Package (24x36 folded) (site plans, floor plans, building elevations, grading plans, subdivision maps)
1. . . . . Plans Package (8.5x11) (site plans, floor plans, building elevations, grading plans, subdivision maps, zoning ordinance/GPA/SPA text/map amendments)
1. . . . . CD with digital files of the plans (pdf)
1. . . . . Vicinity Map (8.5x11)
1. . . . . Detailed project description
1. . . . . Local jurisdiction project transmittal
3. . . . . Gummed address labels for applicant/representative/property owner/local jurisdiction planner
3. . . . . Gummed address labels of all surrounding property owners within a 300 foot radius of the project site. **(Only required if the project is scheduled for a public hearing Commission meeting)**

COUNTY OF RIVERSIDE
AIRPORT LAND USE COMMISSION

STAFF REPORT

AGENDA ITEM:	3.2
HEARING DATE:	December 12, 2019
CASE NUMBER:	ZAP1388MA19 – REC Solar (Representative: Tomas Mendez)
APPROVING JURISDICTION:	City of Moreno Valley
JURISDICTION CASE NO:	PEN19-0200 (Plot Plan)
LAND USE PLAN:	2014 March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan
Airport Influence Area:	March Air Reserve Base
Land Use Policy:	Zone C1
Noise Levels:	60-65 CNEL from aircraft

MAJOR ISSUES: The proposal provides for 235,547 square feet of solar panels on the buildings with anti-reflective coating, a fixed tilt of 10 degrees with no rotation, and an orientation of 180 degrees. ALUC review was required because the tilt and orientation of the proposed panels are different from the original proposal. Analysis of the new proposal indicates that the project would result in "green" level glare (low potential for temporary after-image) within the Air Force traffic patterns and no glare within the 2 mile approach to runways. "Green" level glare complies with the Federal Aviation Administration Interim Policy pertaining to acceptable levels of glare.

At the time this staff report was written, the Air Force has not completed its review of the solar glare study and has not given their acceptance.

RECOMMENDATION: Staff recommends that the Commission CONTINUE the matter to the January 9, 2020 meeting, pending completion of the Air Force solar glare study review.

PROJECT DESCRIPTION: A proposal for the installation of a 2,804 kilowatt solar rooftop panel system (ONT6) on the existing 1,173,709 square foot Amazon warehouse/distribution center on a 35.4 acre parcel.

The Commission had previously determined ZAP1215MA16 consistent at its November 2016 hearing, for a proposal for the installation of a 4,014.36 kilowatt solar rooftop panel system (ONT6) on the same site. The City approved the project with the entitlement set to expire on November 23, 2019. A new application was required because of a change in solar company, and ALUC review was required due to the change in panel tilt and orientation.

PROJECT LOCATION: The site is located at 24208 San Michele Road (on the northwest corner of San Michele Road and Indian Avenue), within the City of Moreno Valley, approximately 2,900 feet northeasterly of the southerly end of Runway 14-32 at March Air Reserve Base.

BACKGROUND:

Non-Residential Land Use Intensity: Pursuant to the Airport Land Use Compatibility Plan for the March Air Reserve Base/Inland Port Airport, the site is located within Compatibility Zone C1, which limits average intensity to 100 people per acre and 250 people per single acre. The proposed rooftop solar panels will not generate any occupancy.

March Air Reserve Base/United States Air Force Input: Given that the project site is located in Zone C1 easterly of the southerly runway at March Air Reserve Base, the March Air Reserve Base staff was notified of the project, specifically the rooftop solar panels, and sent a solar glare hazard analysis study for their review. As of the time this staff report was prepared, we were still awaiting comments from the Air Force regarding this project.

Flight Hazard Issues: Structure height, electrical interference, and reflectivity/glare are among the issues that solar panels in the airport influence area must address. The project's photovoltaic (PV) panel structures would be located on the rooftop of the existing 1,173,709 square foot Amazon warehouse/distribution building within Compatibility Zone C1.

Glint and Glare/Reflectivity

Based on the Federal Aviation Administration's Interim Policy for Review of Solar Energy System Projects on Federally Obligated Airports, no glare potential or low potential for temporary after-image ("green" level) are acceptable levels of glare on final approach (within 2 miles from end of runway) for solar facilities located on airport property. However, potential for temporary after-image" ("yellow" level) and potential for permanent eye damage ("red" level) are not acceptable levels of glare on final approach. No glare is permitted at air traffic control towers.

The project proposes 235,547 square feet of solar panels on the building rooftop with anti-reflective coating, a fixed tilt of 10 degrees with no rotation, and an orientation of 180 degrees. (The original solar panel project proposed a fixed tilt of 8 degrees and an orientation of 270 degrees located on the 1,173,709 square foot building rooftop.) The applicant has submitted a glare analysis utilizing the web-based Forge Solar, a copy of which is attached hereto. The analysis was based on a 2 mile straight in approach (as per FAA Interim Policy standards) to runways 14 and 32, and also based on the traffic patterns as identified by March Air Reserve Base staff (Runway 12/30 General Aviation,

Runway 14/32 General Aviation, Runway 14/32 C-17/KC-135, Runway 14/32 Overhead). The analysis utilized a glide slope approach of 3.0 degrees for the approach. No glare would affect the Air Traffic Control Tower.

The analysis concluded that no glare would occur on the 2 mile approach to runways 14 and 32. However, some potential for glare was identified within the Air Force traffic pattern. Evaluation indicates that the panels would result in low potential for temporary after-image ("green" level glare) within each of the Air Force traffic patterns, during early mornings and mid-afternoons throughout the year.

The total amount of glare time experienced annually is 37,295 minutes for "green" level glare (all within the Air Force traffic patterns).

- A total of 3,621 minutes (annually) of low potential "green" glare is projected to occur within the Runway 12/30 General Aviation traffic pattern, and would last up to 60 minutes a day from November through February between 7:00 a.m. to 3:30 p.m. (standard time).

- A total of 8,279 minutes (annually) of low potential "green" glare is projected to occur within the Runway 14/32 General Aviation traffic pattern, and would last up to 10 minutes a day throughout the year between 6:00 a.m. to 7:00 a.m. (standard and daylight savings time).

- A total of 3,874 minutes (annually) of low potential "green" glare is projected to occur within the Runway 14/32 C-17/KC-135 traffic pattern, and would last up to 5 minutes a day throughout the year between 6:00 a.m. to 7:00 a.m. (standard and daylight savings time).

- A total of 21,521 minutes (annually) of low potential "green" glare is projected to occur within the Runway 14/32 Overhead traffic pattern, and would last up to 30 minutes a day throughout the year between 6:00 a.m. to 8:00 a.m. (standard and daylight savings time).

Electrical and Communication Interference

The applicant has indicated that they do not plan to utilize equipment that would interfere with aircraft communications. The PV panels themselves present little risk of interfering with radar transmission due to their low profiles. In addition, solar panels do not emit electromagnetic waves over distances that could interfere with radar signal transmissions, and any electrical facilities that do carry concentrated current will be buried beneath the ground and away from any signal transmission. There are no radar transmission or receiving facilities within the site.

Prohibited and Discouraged Uses: Glare from solar panels could potentially constitute a hazard to flight. However, based on the solar glare hazard analysis provided, the glare experienced would result in a low potential for temporary after-image ("green" level) which has been determined by the Federal Aviation Administration (FAA) to be an acceptable level for solar facilities on airports. Therefore, the hazard potential is low. Staff has included conditions to remedy unanticipated

situations.

Noise: The March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan depicts the site as being in an area between 60-65 CNEL range from aircraft noise. As a non-noise sensitive use, no mitigation measures are necessary.

Part 77: The elevation of Runway 14-32 at its southerly terminus is 1,488 feet above mean sea level (AMSL). At a distance of approximately 2,900 feet from the runway to the closest parcel within the site, Federal Aviation Administration (FAA) review would be required for any structures with top of roof exceeding 1517 feet AMSL. The maximum finished floor elevation is 1,480 feet AMSL. The existing building height is 40 feet, and the original height of the invertor rack solar panels is 3.5 feet (solar panels are 9.8 inches in height), resulting in a top point elevation of 1523.5 feet AMSL. Therefore, review by the Federal Aviation Administration Obstruction Evaluation Service (FAA OES) is required.

Determination of No Hazard letters (2016-AWP-3704-OE, 2016-AWP-3705-OE, 2016-AWP-3706-OE, 2016-AWP-3707-OE, 2016-AWP-3708-OE, 2016-AWP-3709-OE, 2016-AWP-3710-OE, 2016-AWP-3711-OE) dated May 3, 2016 were issued by the FAA OES for the original rooftop solar panel project. The FAA OES concluded that the project's structures would not be a hazard to air navigation, provided conditions are met.

The proposed rooftop solar panel project is not increasing the height of structures beyond what was originally reviewed and approved by the Commission and the FAA OES. Therefore, the original FAA OES conditions are still appropriate.

Open Area: None of the Compatibility Zones for the March Air Reserve Base/Inland Port ALUCP require open area specifically.

CONDITIONS:

1. Any outdoor lighting installed shall be hooded or shielded to prevent either the spillage of lumens or reflection into the sky. Outdoor lighting shall be downward facing.

2. The following uses/activities are not included in the proposed project and shall be prohibited at this site:

    (a) Any use which would direct a steady light or flashing light of red, white, green, or amber colors associated with airport operations toward an aircraft engaged in an initial straight climb following takeoff or toward an aircraft engaged in a straight final approach toward a landing at an airport, other than an FAA-approved navigational signal light or visual approach slope indicator.

(b) Any use which would cause sunlight to be reflected towards an aircraft engaged in an initial straight climb following takeoff or towards an aircraft engaged in a straight final approach towards a landing at an airport to the extent as to result in a potential for temporary after-image greater than the low ("green") level.

(c) Any use which would generate smoke or water vapor or which would attract large concentrations of birds, or which may otherwise affect safe air navigation within the area. (Such uses include landscaping utilizing water features, aquaculture, production of cereal grains, sunflower, and row crops, composting operations, trash transfer stations that are open on one or more sides, recycling centers containing putrescible wastes, construction and demolition debris facilities, fly ash disposal, and incinerators.)

(d) Any use which would generate electrical interference that may be detrimental to the operation of aircraft and/or aircraft instrumentation.

(e) Children's schools, day care centers, libraries, hospitals, skilled nursing and care facilities, congregate care facilities, places of assembly (including churches and theaters), noise sensitive outdoor nonresidential uses, and hazards to flight.

3. The attached notice shall be given to all prospective purchasers of the property and tenants of the building, and shall be recorded as a deed notice.

4. If the panels are mounted on a framework, said framework shall have a flat or matte finish so as to minimize reflection of sunlight.

5. All photovoltaic panels installed on the project site shall have received an anti-reflective coating to minimize the potential for hazardous glare to occur to aircraft.

6. In the event that any incidence of glint, glare, or flash affecting the safety of air navigation occurs as a result of project operation, upon notification to the airport operator of an incidence, the airport operator shall notify the project operator in writing. Within 30 days of written notice, the project operator shall be required to promptly take all measures necessary to eliminate such glint, glare, or flash. An "incidence" includes any situation that results in an accident, incident, "near-miss," or specific safety complaint regarding an in-flight experience to the airport operator or to federal, state, or county authorities responsible for the safety of air navigation. The project operator shall work with the airport operator to prevent recurrence of the incidence. Suggested measures may include, but are not limited to, reprogramming the alignment of the panels, covering them at the time of day when incidences of glare occur, or wholly removing panels to diminish or eliminate the source of the glint, glare, or flash. For each such incidence made known to the project operator, the necessary remediation shall only be considered to have been fulfilled when the airport operator states in writing that the situation has been remediated to the airport operator's

satisfaction.

7. In the event that any incidence of electrical interference affecting the safety of air navigation occurs as a result of project operation, upon notification to the airport operator of an incidence, the airport operator shall notify the project operator in writing. Within 30 days of written notice, the project operator shall be required to promptly take all measures necessary to eliminate such interference. An "incidence" includes any situation that results in an accident, incident, "near-miss," report by airport personnel, or specific safety complaint to the airport operator or to federal, state, or county authorities responsible for the safety of air navigation. The project operator shall work with the airport operator to prevent recurrence of the incidence. For each such incidence made known to the project operator, the necessary remediation shall only be considered to have been fulfilled when the airport operator states in writing that the situation has been remediated to the airport operator's satisfaction.

8. March Air Reserve Base must be notified of any land use having an electromagnetic radiation component to assess whether a potential conflict with Air Base radio communications could result. Sources of electromagnetic radiation include radio wave transmission in conjunction with remote equipment inclusive of irrigation controllers, access gates, etc.

9. The Federal Aviation Administration has conducted aeronautical studies of the proposed structure (Aeronautical Study Nos. 2016-AWP-3704-OE, 2016-AWP-3705-OE, 2016-AWP-3706-OE, 2016-AWP-3707-OE, 2016-AWP-3708-OE, 2016-AWP-3709-OE, 2016-AWP-3710-OE, and 2016-AWP-3711-OE) and has determined that neither marking nor lighting of the structure is necessary for aviation safety. However, if marking and/or lighting for aviation safety are accomplished on a voluntary basis, such marking and/or lighting (if any) shall be installed in accordance with FAA Advisory Circular 70/7460-1 L and shall be maintained in accordance therewith for the life of the project.

10. The specific coordinates, height, and top point elevation of the proposed structure shall not be amended without further review by the Airport Land Use Commission and the Federal Aviation Administration; provided, however, that reduction in structure height or elevation shall not require further review by the Airport Land Use Commission.

11. Temporary construction equipment used during actual construction of the structure shall not exceed the height of the structure, unless separate notice is provided to the Federal Aviation Administration through the Form 7460-1 process.

12. Within five (5) days after construction of the structure reaches its greatest height, FAA Form 7460-2 (Part II), Notice of Actual Construction or Alteration, shall be completed by the project proponent or his/her designee and e-filed with the Federal Aviation Administration. (Go to https://oeaaa.faa.gov for instructions.) This requirement is also applicable in the event the project is abandoned or a decision is made not to construct the structure.

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NOTICE OF AIRPORT IN VICINITY

This property is presently located in the vicinity of an airport, within what is known as an airport influence area. For that reason, the property may be subject to some of the annoyances or inconveniences associated with proximity to airport operations (for example: noise, vibration, or odors). Individual sensitivities to those annoyances [can vary from person to person. You may wish to consider what airport annoyances], if any, are associated with the property before you complete your purchase and determine whether they are acceptable to you. Business & Professions Code Section 11010 (b)(13)(A)

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10101 Hillwood Parkway
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Aeronautical Study No.
2016-AWP-3704-OE

Issued Date: 05/03/2016

Jessica Sager - Permitting Manager
SolarCity
955 W Carrillo Street
Santa Barbara, CA 93101

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Solar Panel Amazon ONT6-East Moreno Valley Solar Project
Location:	Moreno Valley, CA
Latitude:	33-52-21.15N NAD 83
Longitude:	117-14-13.76W
Heights:	1471 feet site elevation (SE)
	41 feet above ground level (AGL)
	1512 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

_____ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed and maintained in accordance with FAA Advisory circular 70/7460-1 L.

This determination expires on 11/03/2017 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates , heights, frequency(ies) and power . Any changes in coordinates , heights, and frequencies or use of greater power will void this determination. Any future construction or alteration , including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

A copy of this determination will be forwarded to the Federal Communications Commission (FCC) because the structure is subject to their licensing authority.

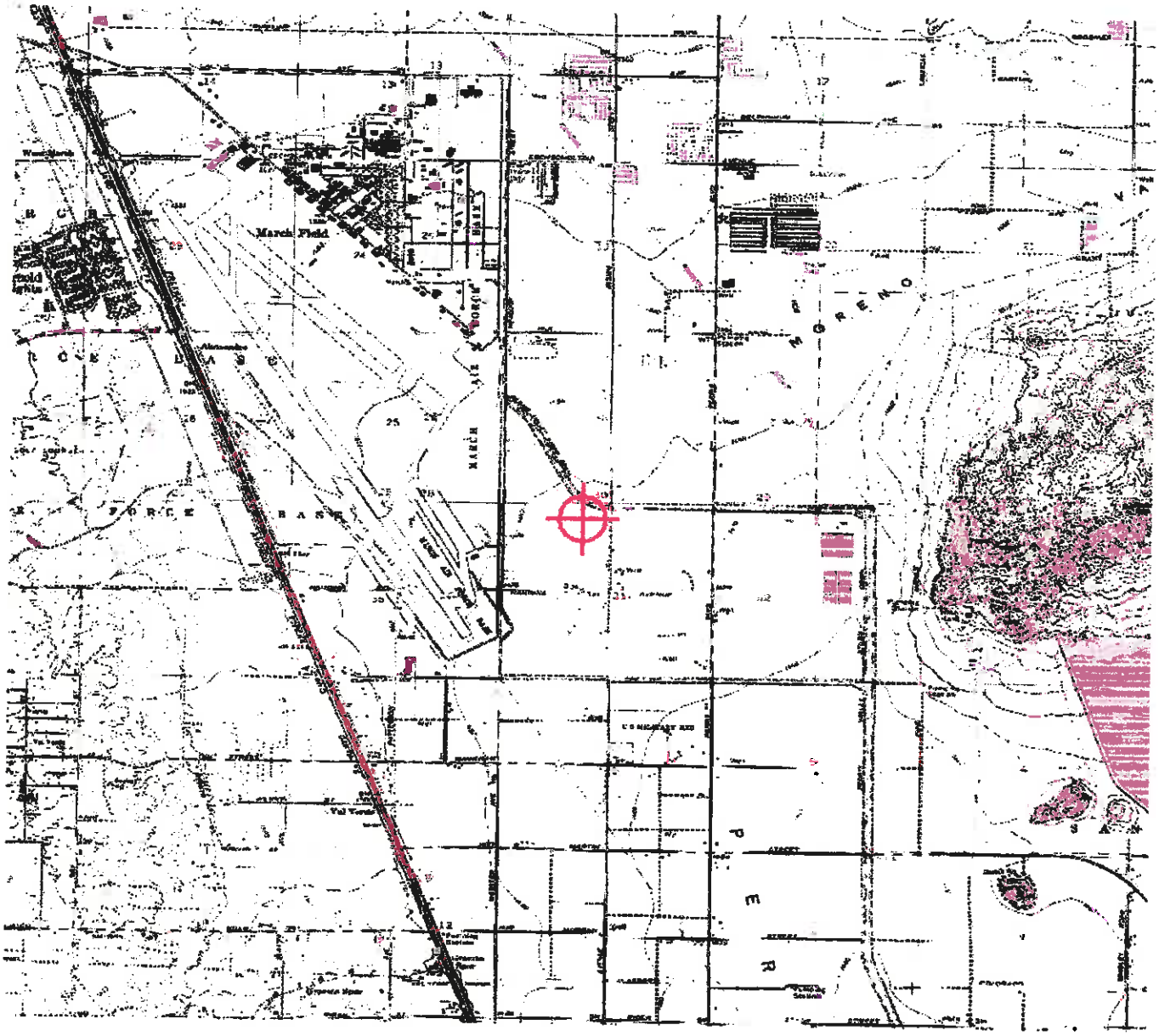
If we can be of further assistance, please contact our office at (310) 725-6557. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-AWP-3704-OE.

Signature Control No: 289099471-290848213 (DNE)
Karen McDonald
Specialist

Attachment(s)
Map(s)

cc: FCC

TOPO Map for ASN 2016-AWP-3704-OE



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Aeronautical Study No.
2016-AWP-3705-OE

Issued Date: 05/03/2016

Jessica Sager - Permitting Manager
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955 W Carrillo Street
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**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Solar Panel Amazon ONT6-East Moreno Valley Solar Project
Location:	Moreno Valley, CA
Latitude:	33-52-21.15N NAD 83
Longitude:	117-14-07.44W
Heights:	1475 feet site elevation (SE) 41 feet above ground level (AGL) 1516 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

_____ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed and maintained in accordance with FAA Advisory circular 70/7460-1 L.

This determination expires on 11/03/2017 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates , heights, frequency(ies) and power . Any changes in coordinates , heights, and frequencies or use of greater power will void this determination. Any future construction or alteration , including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

A copy of this determination will be forwarded to the Federal Communications Commission (FCC) because the structure is subject to their licensing authority.

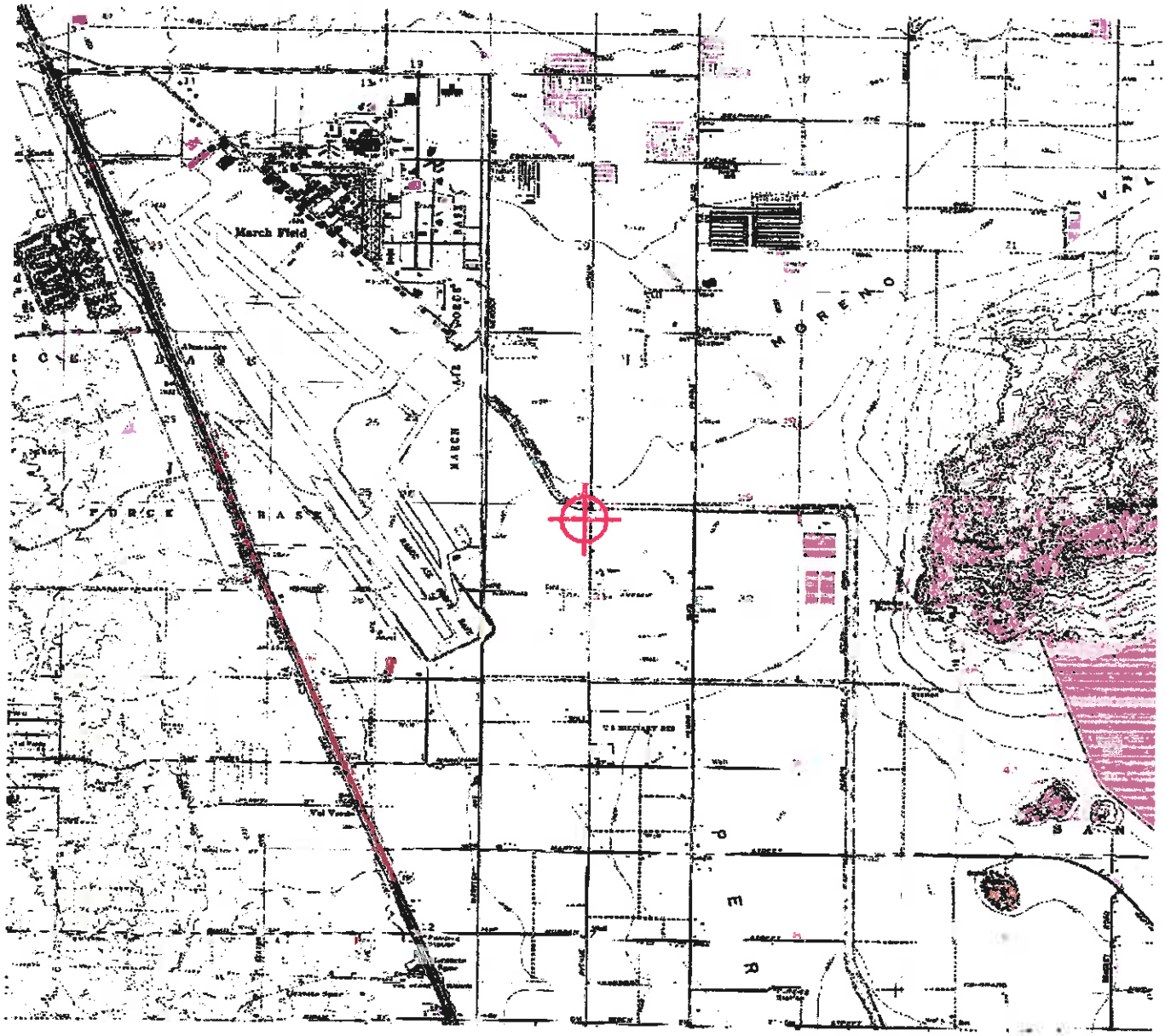
If we can be of further assistance, please contact our office at (310) 725-6557. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-AWP-3705-OE.

Signature Control No: 289099472-290848215 (DNE)
Karen McDonald
Specialist

Attachment(s)
Map(s)

cc: FCC

TOPO Map for ASN 2016-AWP-3705-OE



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Aeronautical Study No.
2016-AWP-3706-OE

Issued Date: 05/03/2016

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955 W Carrillo Street
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**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Solar Panel Amazon ONT6-East Moreno Valley Solar Project
Location:	Moreno Valley, CA
Latitude:	33-52-16.33N NAD 83
Longitude:	117-14-07.44W
Heights:	1480 feet site elevation (SE)
	41 feet above ground level (AGL)
	1521 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

_____ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed and maintained in accordance with FAA Advisory circular 70/7460-1 L.

This determination expires on 11/03/2017 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates , heights, frequency(ies) and power . Any changes in coordinates , heights, and frequencies or use of greater power will void this determination. Any future construction or alteration , including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

A copy of this determination will be forwarded to the Federal Communications Commission (FCC) because the structure is subject to their licensing authority.

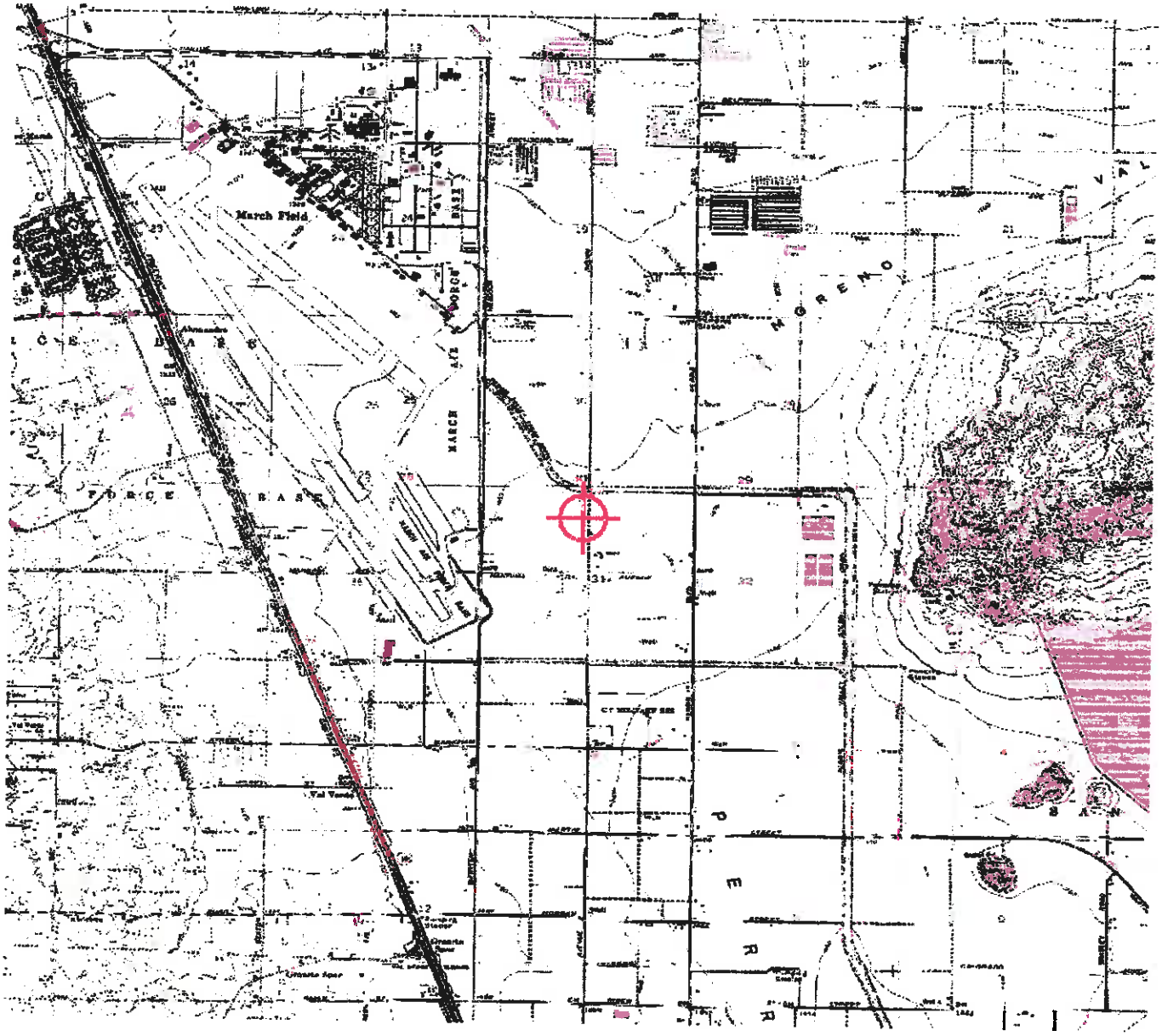
If we can be of further assistance, please contact our office at (310) 725-6557. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-AWP-3706-OE.

Signature Control No: 289099473-290848216 (DNE)
Karen McDonald
Specialist

Attachment(s)
Map(s)

cc: FCC

TOPO Map for ASN 2016-AWP-3706-OE



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Aeronautical Study No.
2016-AWP-3707-OE

Issued Date: 05/03/2016

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955 W Carrillo Street
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**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Solar Panel Amazon ONT6-East Moreno Valley Solar Project
Location:	Moreno Valley, CA
Latitude:	33-52-16.33N NAD 83
Longitude:	117-14-13.76W
Heights:	1475 feet site elevation (SE) 41 feet above ground level (AGL) 1516 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

_____ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed and maintained in accordance with FAA Advisory circular 70/7460-1 L.

This determination expires on 11/03/2017 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates , heights, frequency(ies) and power . Any changes in coordinates , heights, and frequencies or use of greater power will void this determination. Any future construction or alteration , including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

A copy of this determination will be forwarded to the Federal Communications Commission (FCC) because the structure is subject to their licensing authority.

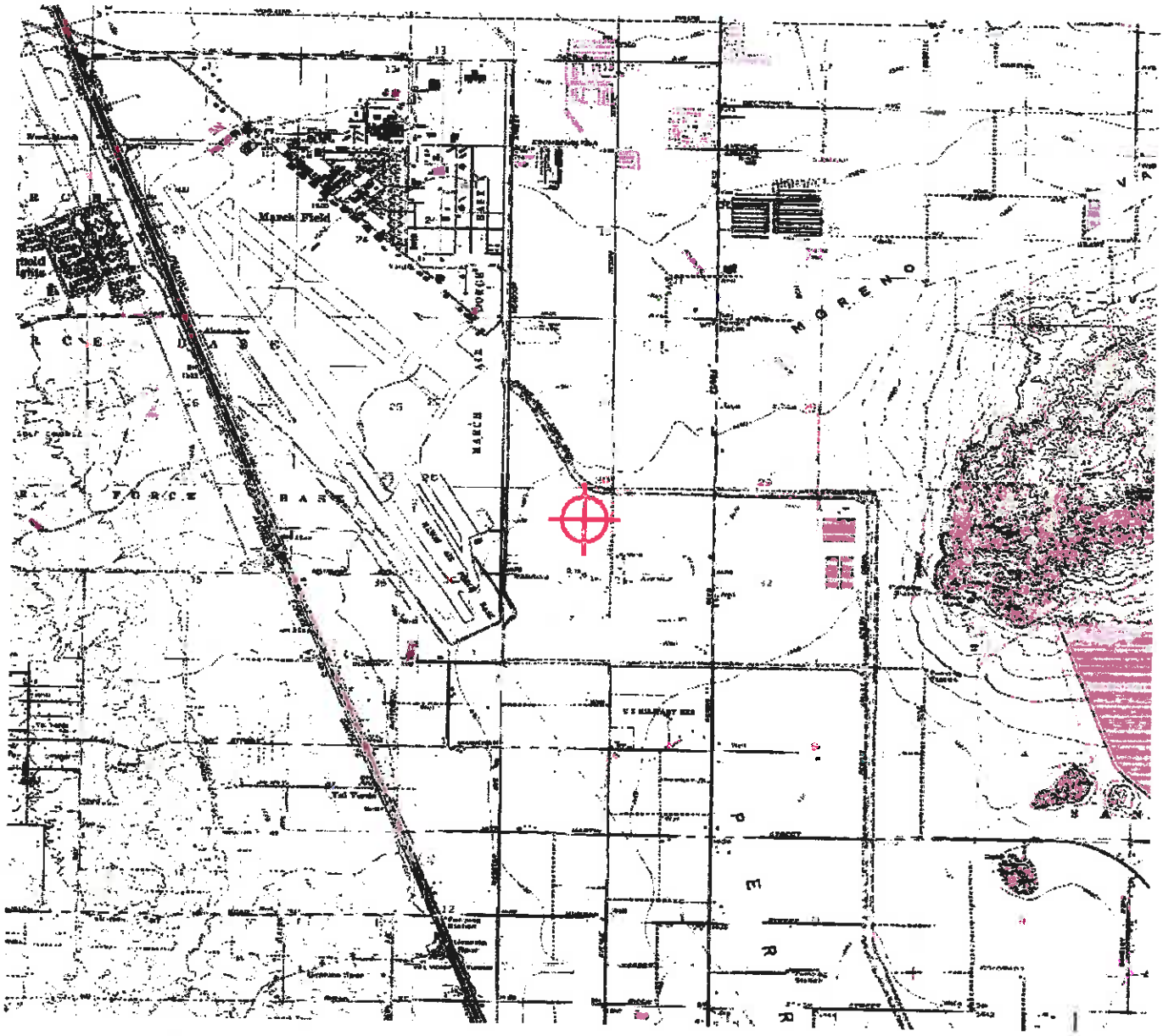
If we can be of further assistance, please contact our office at (310) 725-6557. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-AWP-3707-OE.

Signature Control No: 289099474-290848214 (DNE)
Karen McDonald
Specialist

Attachment(s)
Map(s)

cc: FCC

TOPO Map for ASN 2016-AWP-3707-OE



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Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2016-AWP-3708-OE

Issued Date: 05/03/2016

Jessica Sager - Permitting Manager
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955 W Carrillo Street
Santa Barbara, CA 93101

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Solar Panel Amazon ONT6-West Moreno Valley Solar Project
Location:	Moreno Valley, CA
Latitude:	33-52-21.30N NAD 83
Longitude:	117-14-27.43W
Heights:	1473 feet site elevation (SE)
	41 feet above ground level (AGL)
	1514 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

_____ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed and maintained in accordance with FAA Advisory circular 70/7460-1 L.

This determination expires on 11/03/2017 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates , heights, frequency(ies) and power . Any changes in coordinates , heights, and frequencies or use of greater power will void this determination. Any future construction or alteration , including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

A copy of this determination will be forwarded to the Federal Communications Commission (FCC) because the structure is subject to their licensing authority.

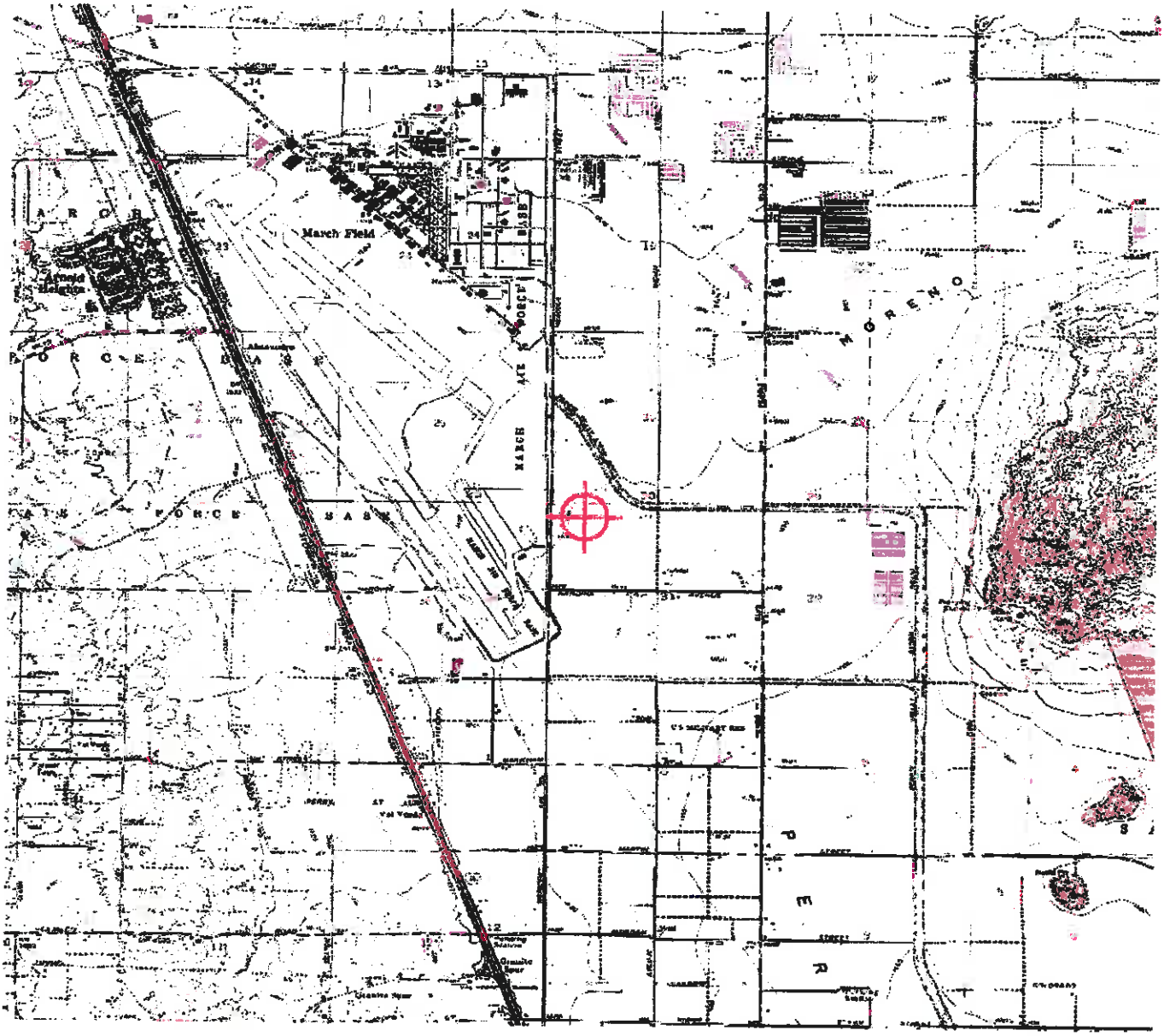
If we can be of further assistance, please contact our office at (310) 725-6557. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-AWP-3708-OE.

Signature Control No: 289099506-290849465 (DNE)
Karen McDonald
Specialist

Attachment(s)
Map(s)

cc: FCC

TOPO Map for ASN 2016-AWP-3708-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2016-AWP-3709-OE

Issued Date: 05/03/2016

Jessica Sager - Permitting Manager
SolarCity
955 W Carrillo Street
Santa Barbara, CA 93101

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Solar Panel Amazon ONT6-West Moreno Valley Solar Project
Location:	Moreno Valley, CA
Latitude:	33-52-21.30N NAD 83
Longitude:	117-14-20.95W
Heights:	1471 feet site elevation (SE) 41 feet above ground level (AGL) 1512 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

_____ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed and maintained in accordance with FAA Advisory circular 70/7460-1 L.

This determination expires on 11/03/2017 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates , heights, frequency(ies) and power . Any changes in coordinates , heights, and frequencies or use of greater power will void this determination. Any future construction or alteration , including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

A copy of this determination will be forwarded to the Federal Communications Commission (FCC) because the structure is subject to their licensing authority.

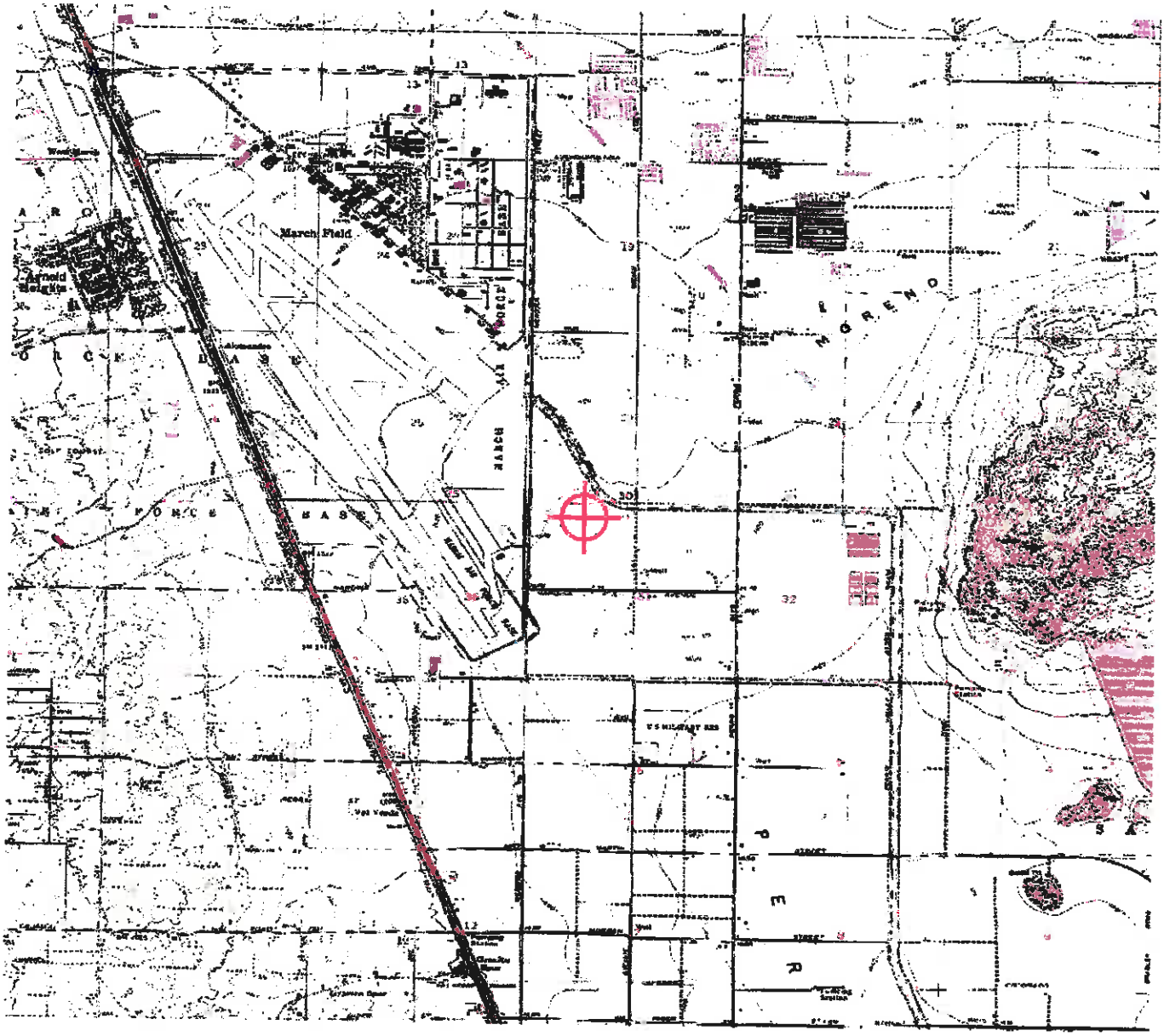
If we can be of further assistance, please contact our office at (310) 725-6557. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-AWP-3709-OE.

Signature Control No: 289099507-290849462 (DNE)
Karen McDonald
Specialist

Attachment(s)
Map(s)

cc: FCC

TOPO Map for ASN 2016-AWP-3709-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2016-AWP-3710-OE

Issued Date: 05/03/2016

Jessica Sager - Permitting Manager
SolarCity
955 W Carrillo Street
Santa Barbara, CA 93101

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Solar Panel Amazon ONT6-West Moreno Valley Solar Project
Location:	Moreno Valley, CA
Latitude:	33-52-16.61N NAD 83
Longitude:	117-14-20.95W
Heights:	1475 feet site elevation (SE) 41 feet above ground level (AGL) 1516 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

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A copy of this determination will be forwarded to the Federal Communications Commission (FCC) because the structure is subject to their licensing authority.

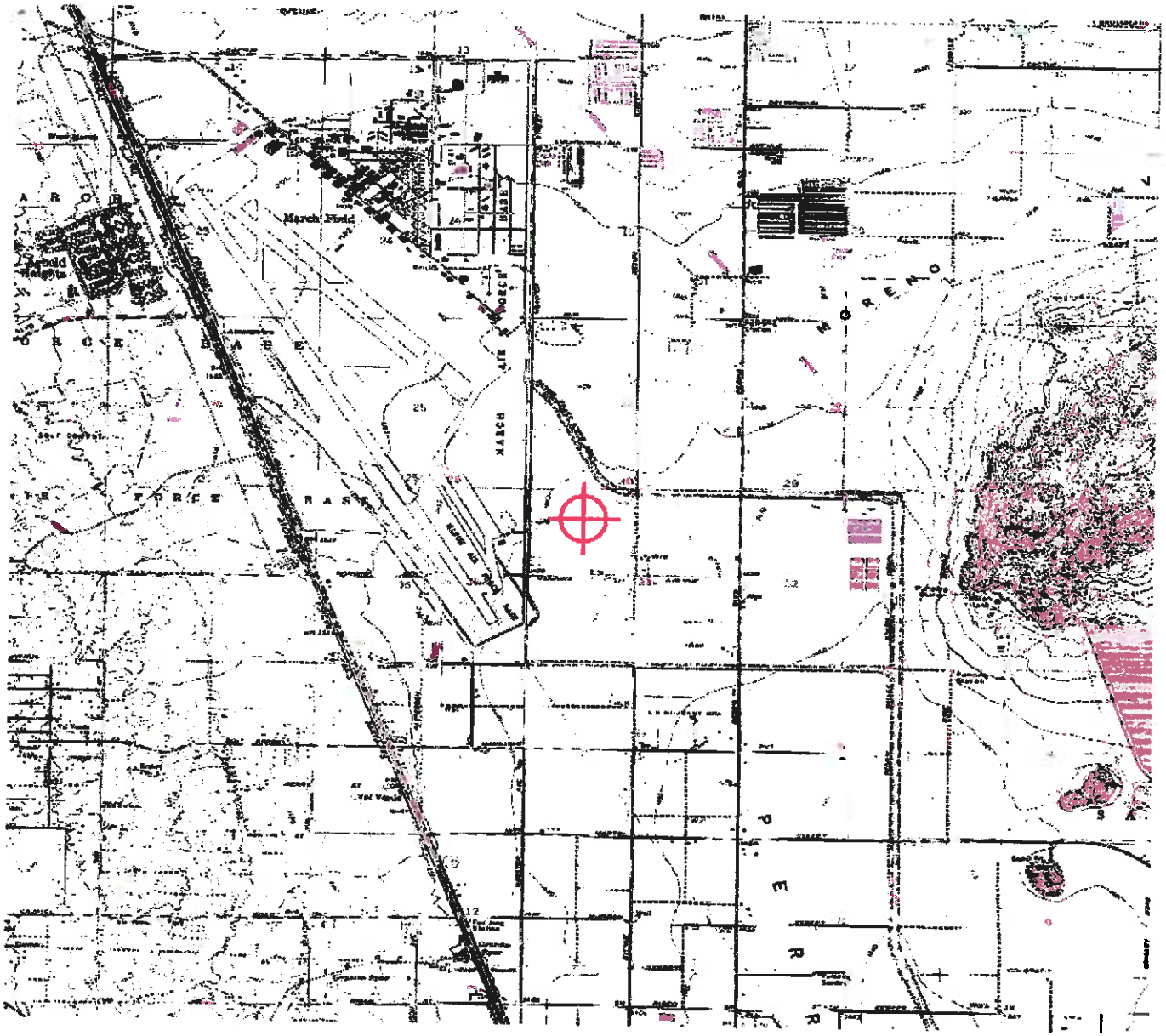
If we can be of further assistance, please contact our office at (310) 725-6557. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-AWP-3710-OE.

Signature Control No: 289099508-290849464 (DNE)
Karen McDonald
Specialist

Attachment(s)
Map(s)

cc: FCC

TOPO Map for ASN 2016-AWP-3710-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2016-AWP-3711-OE

Issued Date: 05/03/2016

Jessica Sager - Permitting Manager
SolarCity
955 W Carrillo Street
Santa Barbara, CA 93101

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Solar Panel Amazon ONT6-West Moreno Valley Solar Project
Location:	Moreno Valley, CA
Latitude:	33-52-16.61N NAD 83
Longitude:	117-14-27.43W
Heights:	1476 feet site elevation (SE) 41 feet above ground level (AGL) 1517 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

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A copy of this determination will be forwarded to the Federal Communications Commission (FCC) because the structure is subject to their licensing authority.

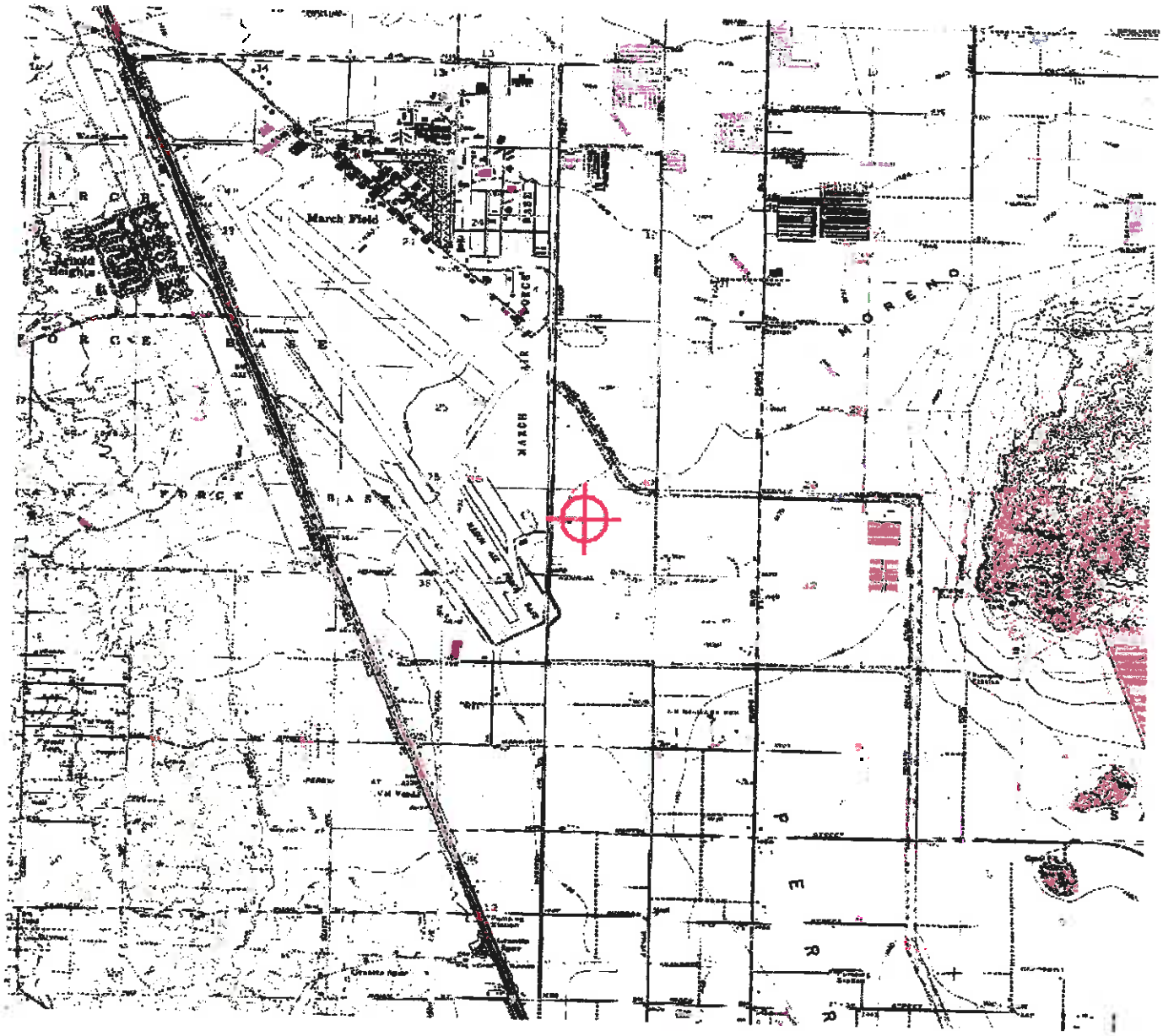
If we can be of further assistance, please contact our office at (310) 725-6557. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-AWP-3711-OE.

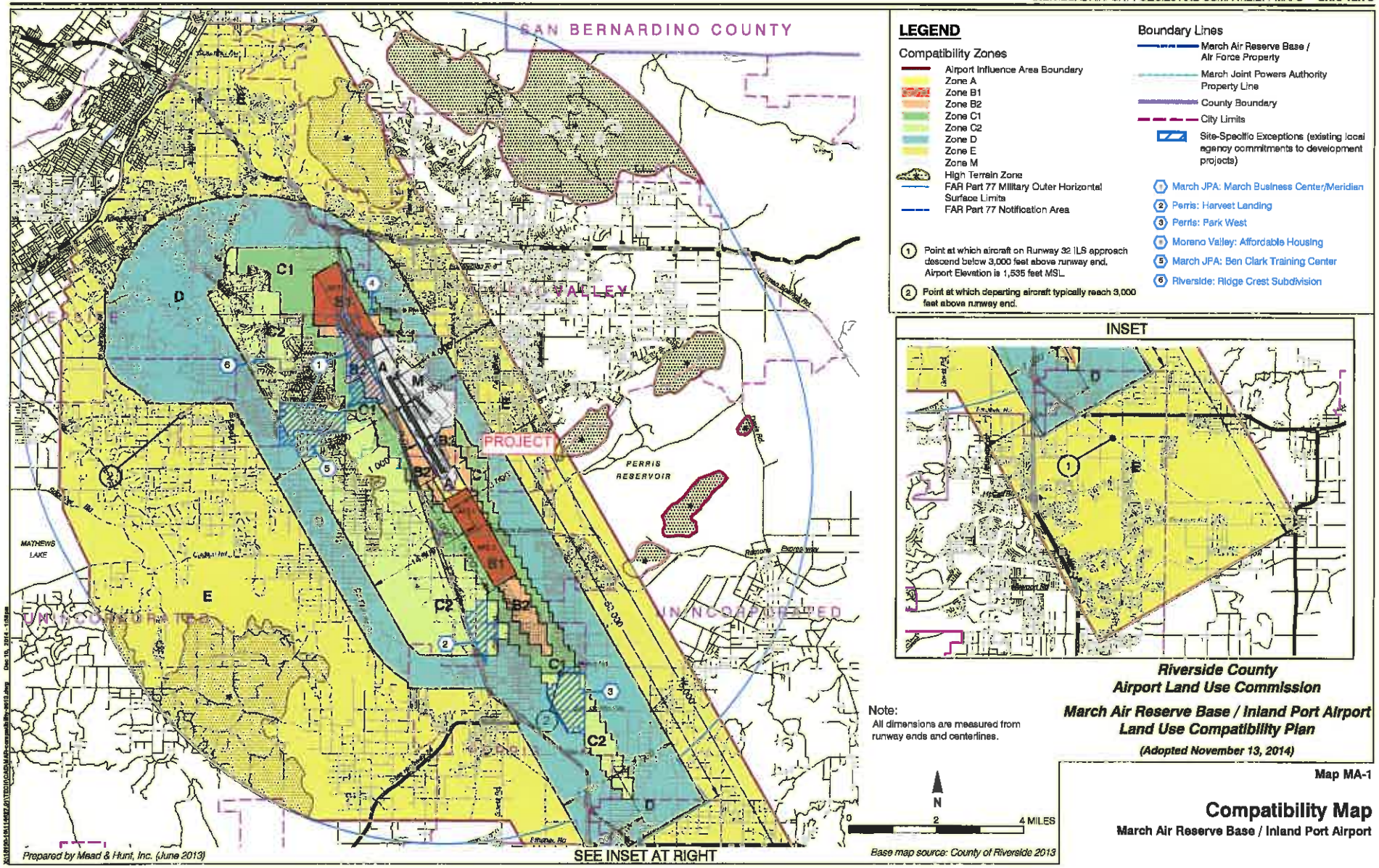
Signature Control No: 289099509-290849463 (DNE)
Karen McDonald
Specialist

Attachment(s)
Map(s)

cc: FCC

TOPO Map for ASN 2016-AWP-3711-OE





Riverside County
Airport Land Use Commission

March Air Reserve Base / Inland Port Airport
Land Use Compatibility Plan

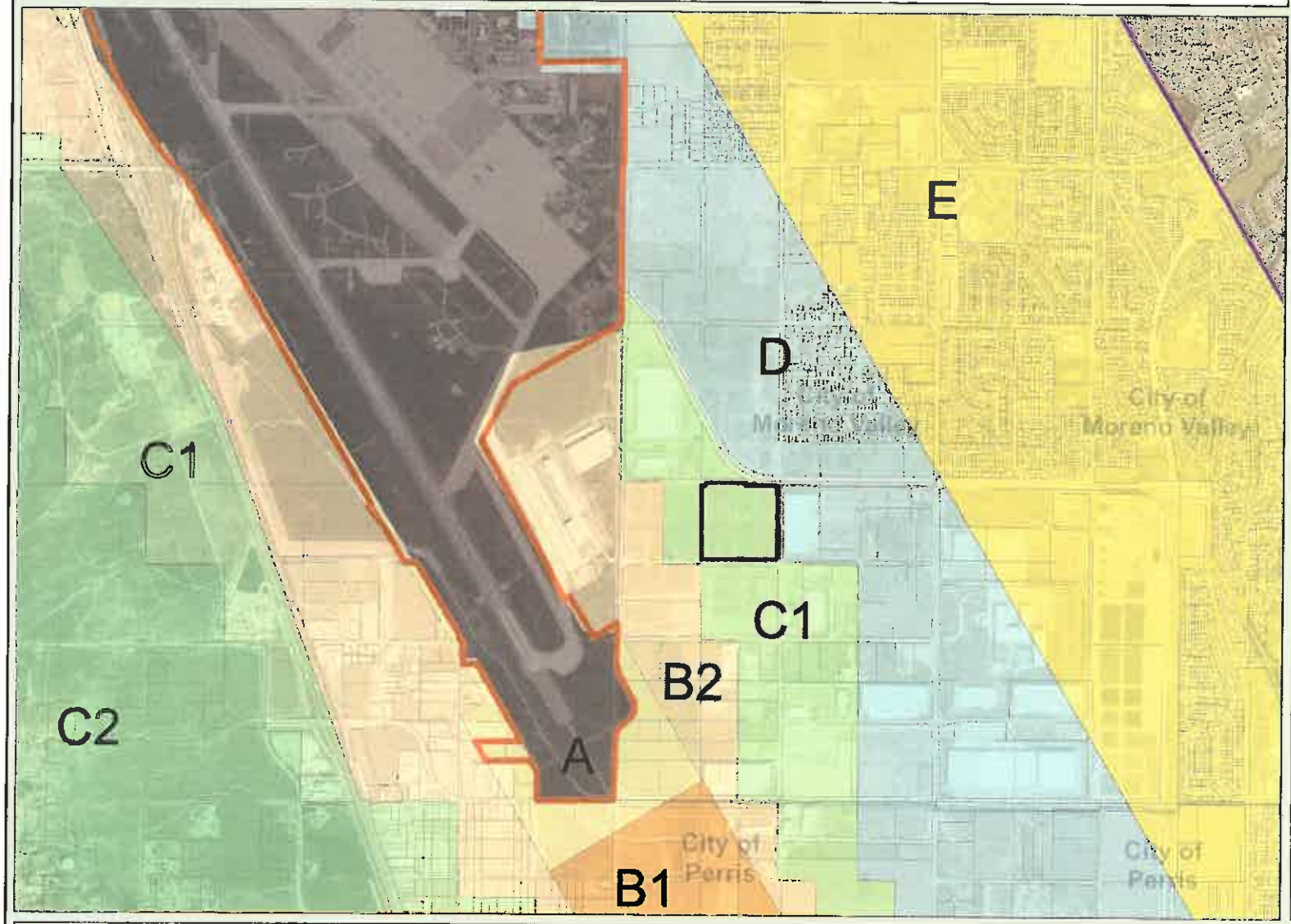
(Adopted November 13, 2014)

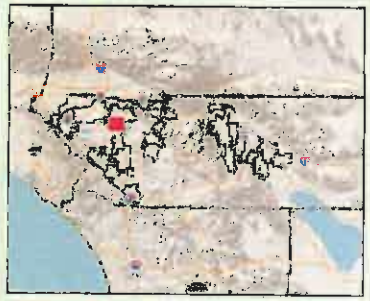
Map MA-1

Compatibility Map

March Air Reserve Base / Inland Port Airport

My Map





Legend

- Airports
- AIA
- Airport Compatibility
  - OTHER ZONE
  - A
  - A-EXC1
  - B1
  - B1-APZ I
  - B1-APZ I-EXC1
  - B1-APZ II
  - B1-APZ II-EXC1
  - B1-EXC1
  - B2
  - B2-EXC1
  - C
  - C1
  - C1-EXC1
  - C1-EXC3
  - C1-EXC4
  - C1-HIGHT
  - C2
  - C2-EXC1
  - C2-EXC2
  - C2-EXC3
  - C2-EXC5
  - C2-EXC6
  - C2-HIGHT

0 3,067 6,133 Feet

IMPORTANT Maps and data are to be used for reference purposes only. Map features are approximate, and are not necessarily accurate to surveying or engineering standards. The County of Riverside makes no warranty or guarantee as to the content (the source is often third party), accuracy, timeliness, or completeness of any of the data provided, and assumes no legal responsibility for the information contained on this map. Any use of this product with respect to accuracy and precision shall be the sole responsibility of the user.

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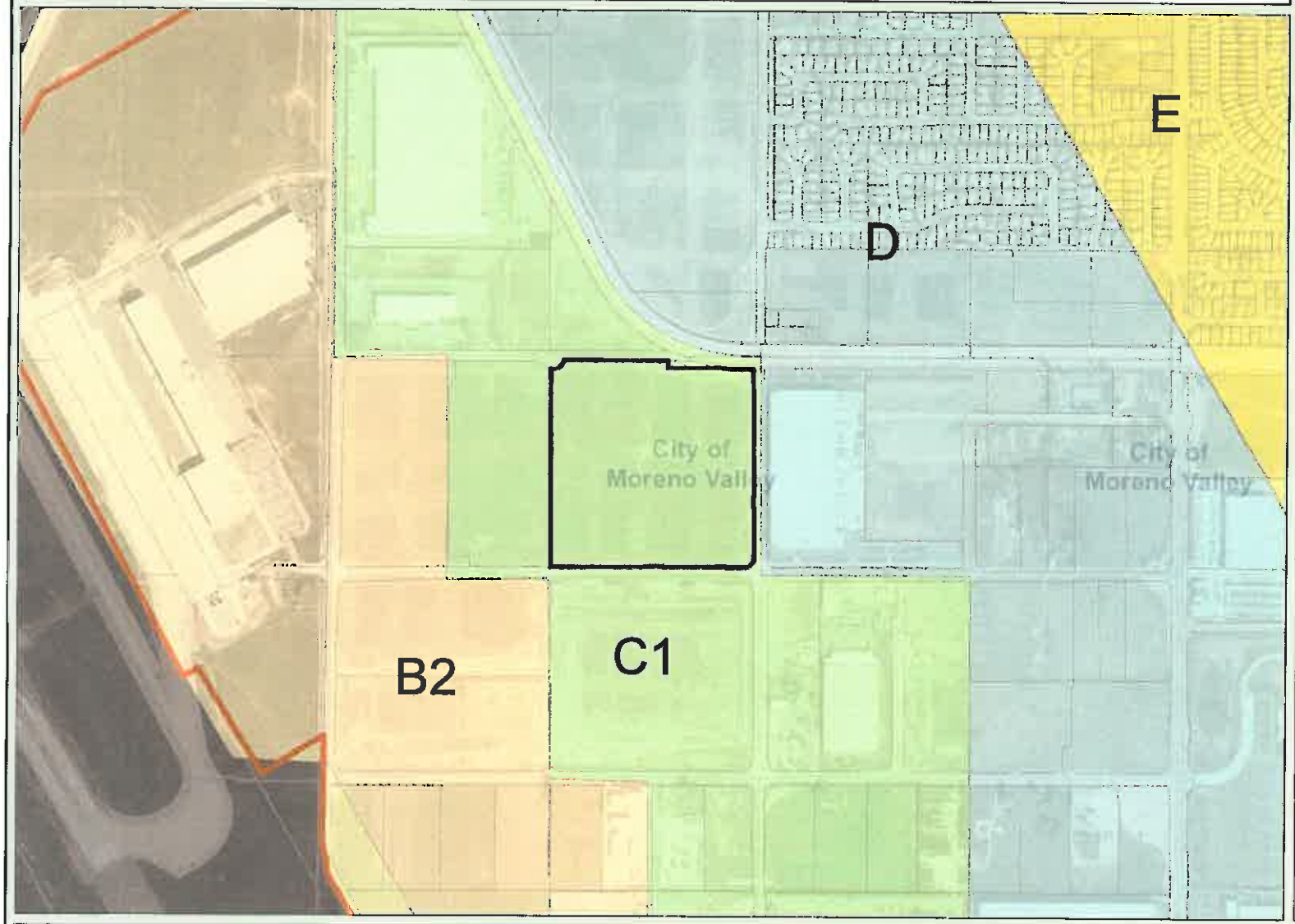
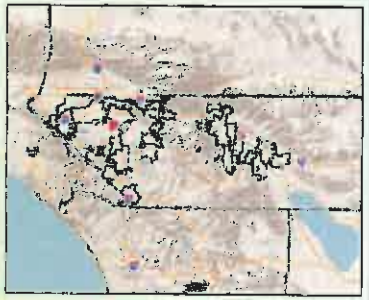
Notes

My Map





Legend

- Display Parcels
- Airports
- AIA

Airport Compatibility

- OTHER ZONE
- A
- A-EXC1
- B1
- B1-APZ I
- B1-APZ I-EXC1
- B1-APZ II
- B1-APZ II-EXC1
- B1-EXC1
- B2
- B2-EXC1
- C
- C1
- C1-EXC1
- C1-EXC3
- C1-EXC4
- C1-HIGHT
- C2
- C2-EXC1
- C2-EXC2
- C2-EXC3
- C2-EXC5
- C2-EXC6

RCIT

0 1,146 2,292 Feet

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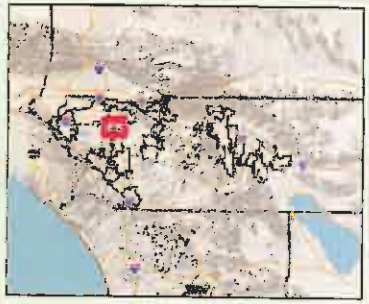
Notes

My Map



Legend

- City Boundaries
- Cities
- highways_large
  - HWY
  - INTERCHANGE
  - INTERSTATE
  - USHWY
- majorroads
- counties
- cities
- hydrographylines
- waterbodies
  - Lakes
  - Rivers

0 6,133 12,266 Feet

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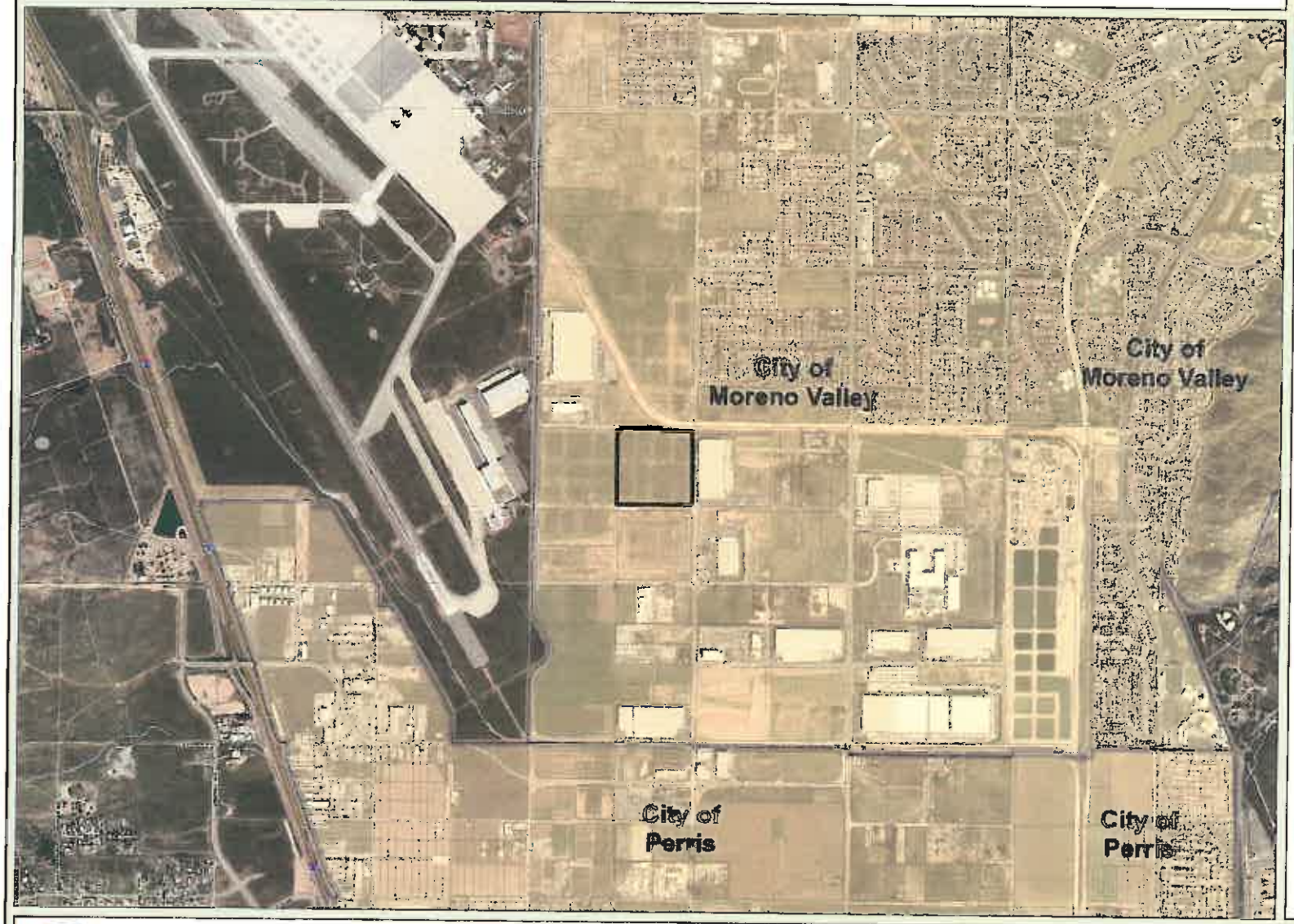
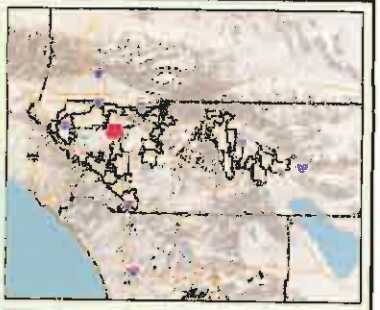
REPORT PRINTED ON... 9/27/2016 3:19:02 PM

Notes

My Map





Legend

- City Boundaries
- Cities
- roadsanno
- highways
  - HWY
  - INTERCHANGE
  - INTERSTATE
  - OFFRAMP
  - ONRAMP
  - USHWY
- roads
  - Major Roads
  - Arterial
  - Collector
  - Residential
- counties
- cities
- hydrographylines
- waterbodies
  - Lakes
  - Rivers

0 3,067 6,133 Feet

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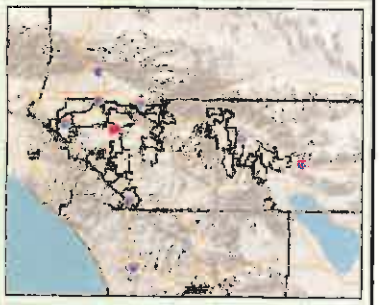
REPORT PRINTED ON... 9/27/2016 3:29:03 PM

Notes

My Map



Legend

- Display Parcels
- City Boundaries
- Cities
- roadsanno
- highways
  - HWY
  - INTERCHANGE
  - INTERSTATE
  - OFFRAMP
  - ONRAMP
  - USHWY
- counties
- cities
- hydrographylines
- waterbodies
  - Lakes
  - Rivers

0 1,533 3,067 Feet

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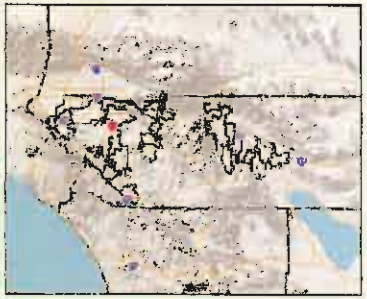
Notes

My Map



Legend

- Display Parcels
- City Boundaries
- Cities
- roadsanno
- highways
  - HWY
  - INTERCHANGE
  - INTERSTATE
  - OFFRAMP
  - ONRAMP
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RCIT

0 1,146 2,292 Feet

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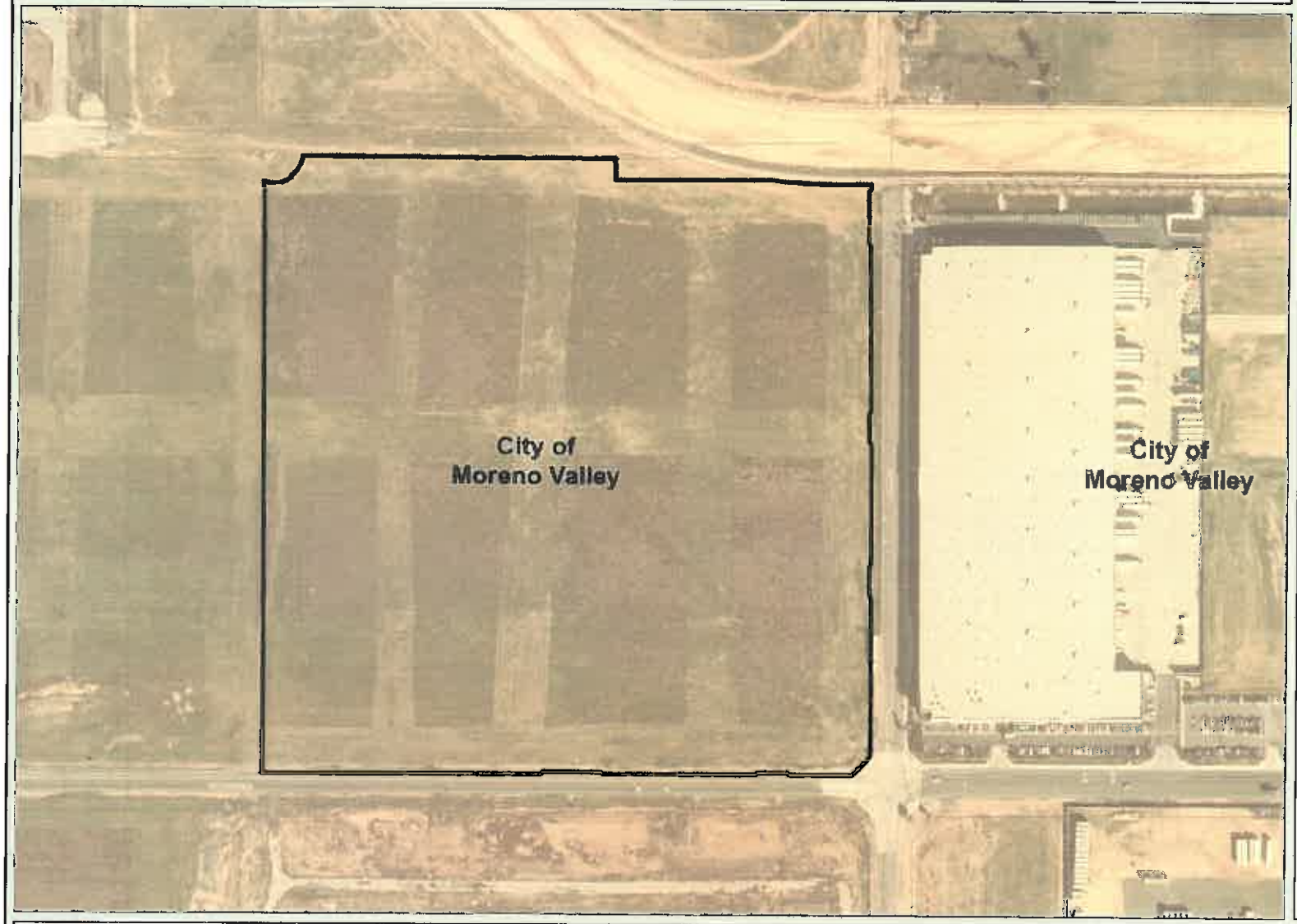
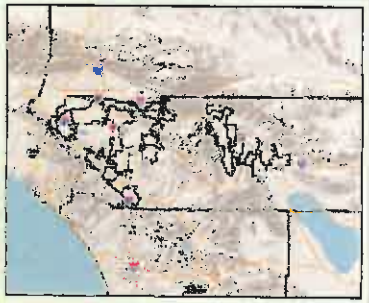
REPORT PRINTED ON... 9/27/2016 3:05:54 PM

Notes

My Map





Legend

- Display Parcels
- City Boundaries
- Cities
- roadsanno
- highways
  - HWY
  - INTERCHANGE
  - INTERSTATE
  - OFFRAMP
  - ONRAMP
  - USHWY
- counties
- cities
- hydrographylines
- waterbodies
  - Lakes
  - Rivers

0 383 767 Feet

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REPORT PRINTED ON... 9/27/2016 3:30:05 PM

Notes

REC SOLAR

AMAZON - ONT6 ROOFTOP SOLAR ARRAY - REVISION 1

IFP SET - AUGUST 2, 2019

INDEX OF DRAWINGS

CODE INFORMATION

BUILDING CODES: 2016 CALIFORNIA BUILDING STANDARD CODE (BASED ON THE 2015 INTERNATIONAL BUILDING CODE SERIES)

ELECTRICAL CODE: 2016 CALIFORNIA ELECTRICAL CODE (BASED ON THE 2014 NATIONAL ELECTRICAL CODE)

ENERGY CODE: 2016 CALIFORNIA ENERGY CODE

PROJECT DESCRIPTION

THIS PROJECT WILL CONSTRUCT A NEW ROOFTOP SOLAR SYSTEM AT THE AMAZON ONT6 FULFILLMENT CENTER IN MORENO VALLEY, CA

THE ROOFTOP SYSTEM WILL BE MOUNTED ON A HYBRID BALLASTED/MECHANICALLY ATTACHED ROOFTOP RACKING SYSTEM.

PROJECT SCOPE WILL INCLUDE THE NECESSARY ELECTRICAL AND STRUCTURAL WORK TO PROVIDE FOR A COMPLETE SYSTEM.

CONTACT INFORMATION

CUSTOMER
AMAZON
GREG MICHELSON
237 BOREN AVE N, 4TH FLOOR
SEATTLE, WA 98109
(206) [illegible]

ELECTRICAL ENGINEER
DLR GROUP
ERIC LOOS, PE
#17382
7290 W 133RD ST
OVERLAND PARK, KS [illegible]
[illegible]

DEVELOPER
REC SOLAR
MIKE SYMONS
3450 BROAD STREET, SUITE 105
SAN LUIS OBISPO, CA [illegible]
[illegible]

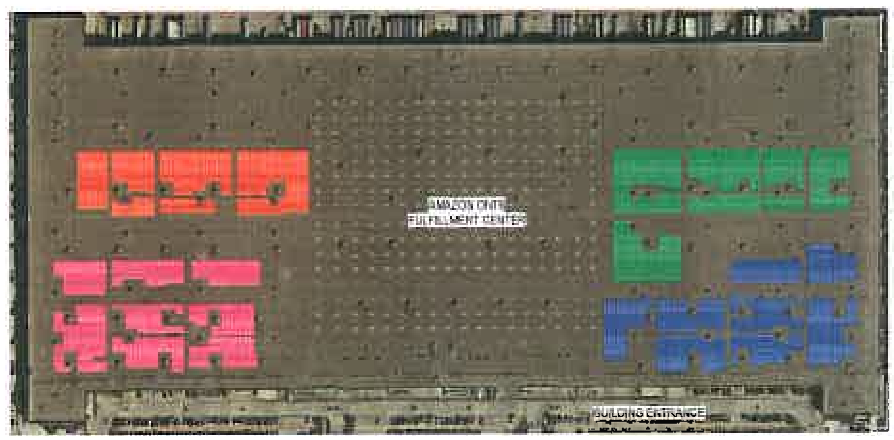
STRUCTURAL ENGINEER
DLR GROUP
KIRK FORLINI
#77622
[illegible] 5TH ST SUITE [illegible]
PHOENIX, AZ [illegible]
(602) 381-8580

PV SYSTEM INFORMATION												
ARRAY	MODULE	MODULE WATTS (@ STC)	MODULE QUANTITY	MODULES PER STRING	STRINGS PER INVERTER	NO OF STRINGS	SYSTEM SIZE (kW)	INVERTER	INVERTER AC NAMEPLATE RATING (kW) @ PF=1	INVERTER QUANTITY	SYSTEM AC NAMEPLATE RATING (kW) @ PF=1	DC/AC RATIO
A	REC SOLAR REC370TP2 72XV	37[illegible]	1500	18	11 & 12	136	[illegible]	SOLECTRIA PVI60TL	60	9	540	1.3
B	REC SOLAR REC370TP2 72XV	375	1566	18	10, 11 & 12	87	587.[illegible]	SOLECTRIA PVI60TL	[illegible]	8	480	1.21
C	REC SOLAR REC370TP2 72XV	375	2052	18	11 & 12	114	769.2	SOLECTRIA PVI60TL	60	10	600	1.27
D	REC SOLAR REC370TP2 72XV	375	2052	18	11 & 12	114	769.2	SOLECTRIA PVI60TL	60	10	600	1.27
	SITE TOTALS		7,170			451	2,604			37	2,220	1.21

SYSTEM AZIMUTH: 180
SYSTEM TILT: [illegible]
INTERCONNECTION VOLTAGE: 480Y/277VAC 3PH 4W
MAX SYSTEM FAULT CONTRIBUTION (AMPS): ARRAY A = 495A, ARRAY B = [illegible]A, ARRAY C = 550A, ARRAY D = 550A
UTILITY: MORENO VALLEY ELECTRIC (MVU)

24208 SAN MICHELE RD
MORENO VALLEY, CA 92551

AREA MAP
SCALE: NTS



ARRAY LEGEND	
ARRAY A	(pink)
ARRAY B	(orange)
ARRAY C	(green)
ARRAY D	(blue)

SYSTEM LAYOUT PLAN - OVERALL
SCALE: 1" = 100'-0"

Engineer:
DLR Group
Architecture Engineering Planning Interiors

Developer:
REC SOLAR
3450 BROAD STREET, SUITE 105
SAN LUIS OBISPO, CA 93401

Client:
amazon
237 BOREN AVE N, 4TH FLOOR
SEATTLE, WA 98109

Seal:

REV	DESCRIPTION	DATE
A	INTERCONNECTION APPLICATION	11-30-18
B	50% PROGRESS SET	12-7-18
C	90% PROGRESS SET	1-18-19
0	IFP SET	[illegible]
1	INTERCONNECTION APPLICATION REV1	[illegible]
2	90% PROGRESS SET REV1	[illegible]
3	IFP SET REV1	[illegible]

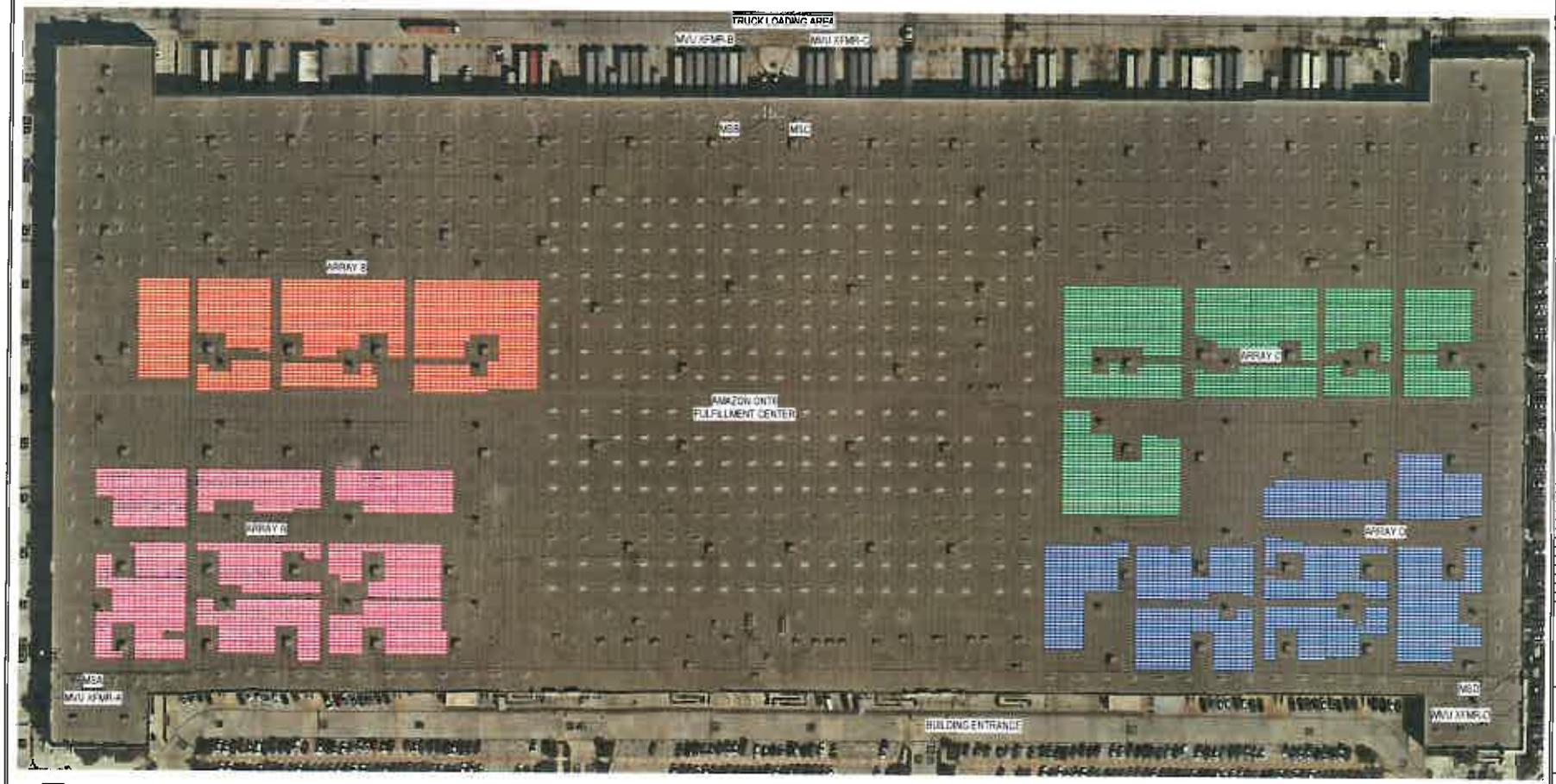
Project Name:
AMAZON - ONT6 SOLAR ARRAY

Project Address:
24208 SAN MICHELE RD,
MORENO VALLEY, CA 92551

Sheet Name:
COVER SHEET & AREA MAP

Project No: 75-19909-00
Sheet No: G0.1

SOLAR ARRAY SCHEDULE									
Array ID	MODULE MANUFACTURER	MODULE MODEL	TOTAL # OF MODULES	NOMINAL MODULE POWER (Wp)	SYSTEM SIZE (kWp)	AZIMUTH	TILT (DEGREES)	MODULES PER STRING	# OF STRINGS
ARRAY A	REC SOLAR	REC370TP2SB72XV	1998	370 W	739.6 kW	180°	10°	18	109
ARRAY B	REC SOLAR	REC370TP2SB72XV	1998	370 W	679.4 kW	180°	10°	18	97
ARRAY C	REC SOLAR	REC370TP2S72XV	2052	370 W	759.2 kW	180°	10°	18	114
ARRAY D	REC SOLAR	REC370TP2S72XV	2052	370 W	759.2 kW	180°	10°	18	114
			7578		2803.9 kW				421



OVERALL SITE PLAN
1/16" = 1'-0"

NORTH

ARRAY LEGEND
- ARRAY A
- ARRAY B
- ARRAY C
- ARRAY D

Engineer:
DLR Group
Architecture Engineering Planning Interiors

Developer:
REC SOLAR

Client:
amazon

Seal:

REV	DESCRIPTION	DATE
A	ENERGY PENETRATION APPLICATION	11-20-19
B	SOLAR PROGRESS SET	12-7-19
C	SOLAR PROGRESS SET	1-16-19
4	DP SET	2-4-19
1	SUBMITTAL / PERMIT APPLICATION REVISION	2-5-19
2	FINAL PROGRESS SET REVISION	2-15-19
3	DP SET REVISION	2-27-19

Project Name:
AMAZON - ONT6
SOLAR ARRAY

Project Address:
24208 SAN MICHELE RD,
MORENO VALLEY, CA 92551

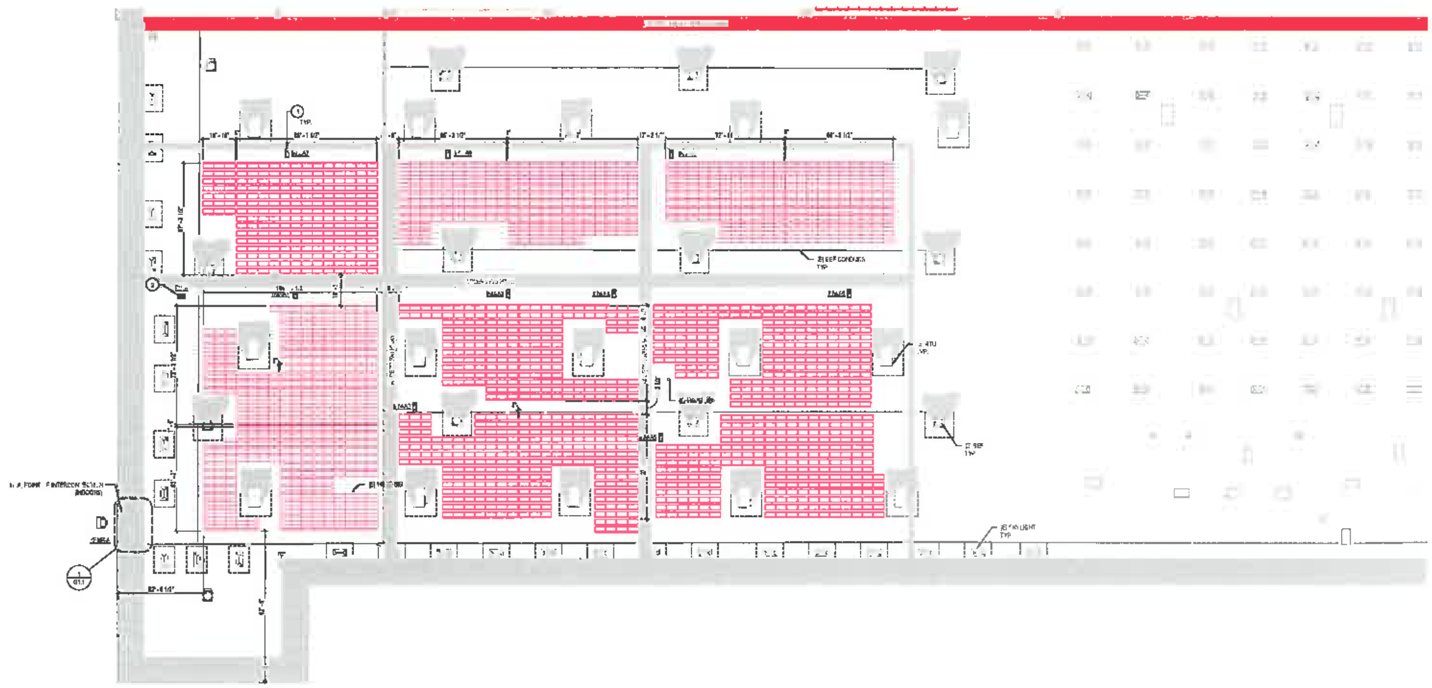
Sheet Name:
OVERALL SITE PLAN

Project No: 75-19909-00

Sheet No:
G1.0

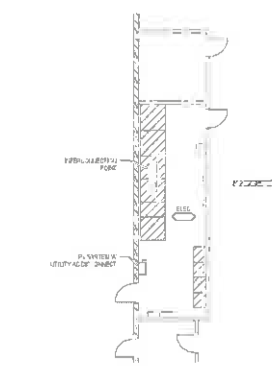
LEGEND NOTES

1. [illegible]
2. [illegible]



ROOF PLAN - ARRAY A

SCALE: 1" = 30'-0"



1 ENLARGED ELECTRICAL ROOM AREA 'A'

SCALE: 1/8" = 1'-0"

PV SYSTEM INFORMATION - ARRAY A													
ARRAY	MODULE	MODULE WATTS (@ STC)	MODULE QUANTITY	MODULES PER STRING	STRINGS PER INVERTER	NO OF STRINGS	SYSTEM SIZE (kWp)	INVERTER	INVERTER AC NAMEPLATE RATING (kW) @ PF=1	INVERTER QUANTITY	SYSTEM AC NAMEPLATE RATING (kW) @ PF=1	DC/AC RATIO
A	REC SOLAR [illegible]	[illegible]	[illegible]	[illegible]	11 & 12	[illegible]	[illegible]	SOLECTRIA [illegible]	[illegible]	[illegible]	[illegible]	[illegible]

SYSTEM AZIMUTH: [illegible]
SYSTEM TILT: 10°
INTERCONNECTION VOLTAGE: 480Y/277V, 3PH, 4W
MAX SYSTEM FAULT CONTRIBUTION (AMPS): [illegible]
UTILITY: MORENO VALLEY ELECTRIC [illegible]

ARRAY LEGEND	
ARRAY A	
ARRAY B	
ARRAY C	
ARRAY D	

GENERAL NOTES

A. UNLESS SHOWN OTHERWISE, MODULES SHALL COMPLY WITH THE FOLLOWING SETBACK REQUIREMENTS
   a. ROOF EDGE [illegible]
   b. SKYLIGHTS 4'-0"
   c. [illegible] 4'-0"
   d. HVAC UNITS [illegible]
   e. [illegible]

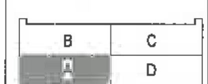
B. FIELD VERIFY ALL EXISTING EQUIPMENT LOCATED ON THE ROOF PRIOR TO LAYOUT OF ANY EQUIPMENT

C. PROVIDE [illegible] ALL ROOF-MOUNTED EQUIPMENT [illegible]

D. PROVIDE WITNESS MARKERS AT FOUR CORNERS OF EACH [illegible]

E. CONTRACTOR SHALL PROVIDE A SACRIFICIAL MATERIAL [illegible]

KEY PLAN



Engineer:
DLR Group
Architecture Engineering Planning Interiors

Developer:
REC SOLAR

Client:
amazon

Seal:

REV	DESCRIPTION	DATE
A	[illegible]	[illegible]
B	[illegible]	[illegible]
C	[illegible]	[illegible]
0	[illegible]	[illegible]
1	[illegible]	[illegible]
2	[illegible]	[illegible]
3	IFP SET [illegible]	[illegible]

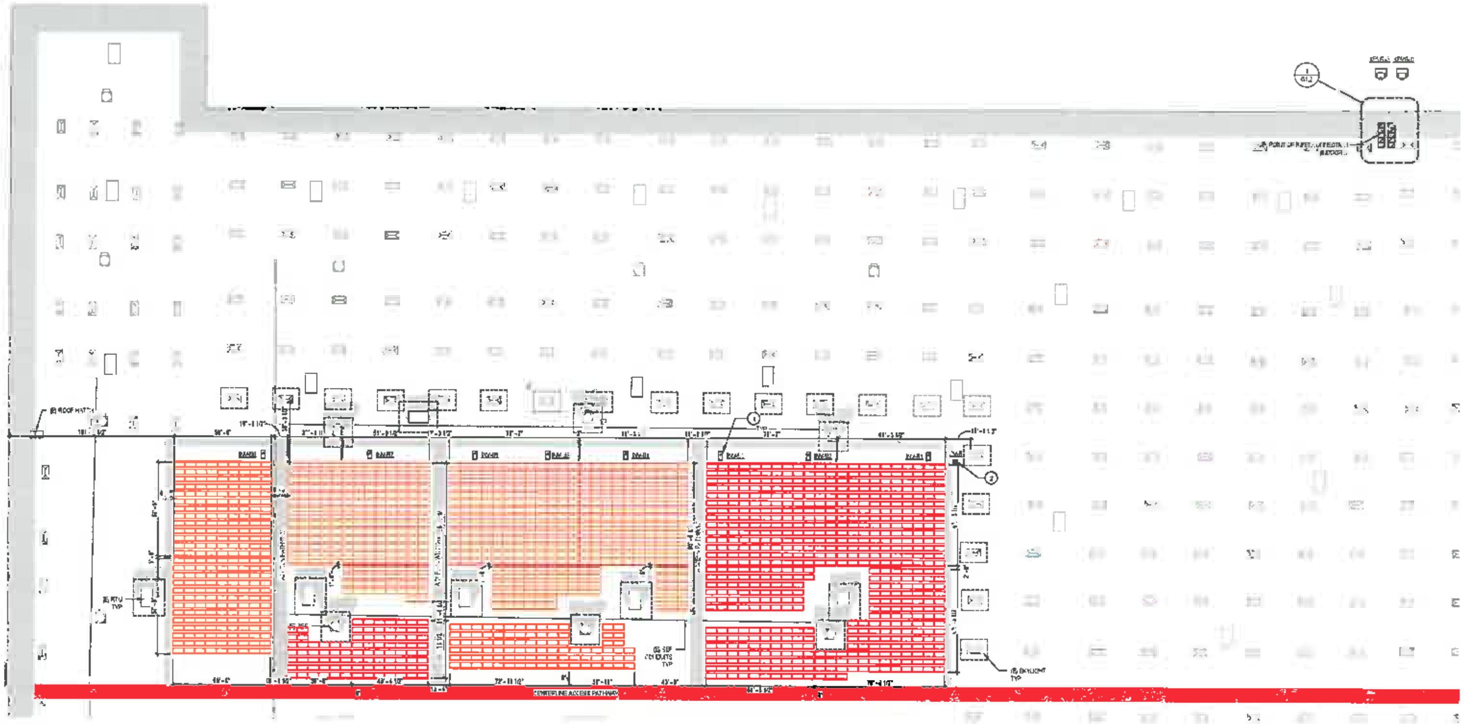
Project Name:
AMAZON - ONT6
SOLAR ARRAY

Project Address:
24208 SAN MICHELE RD,
MORENO VALLEY, CA 92551

Sheet Name:
ROOF PLAN - ARRAY A

Project No: 75-19909-00

Sheet No:
G1.1



ROOF PLAN - ARRAY B
SCALE: 1" = 16'-0"

ENLARGED ELECTRICAL ROOM AREAS 'B' & 'C'
SCALE: 1/8" = 1'-0"

PV SYSTEM INFORMATION - ARRAY B												
ARRAY	MODULE	MODULE WATTS @ STC	MODULE QUANTITY	MODULES PER STRING	STRINGS PER INVERTER	NO OF STRINGS	SYSTEM SIZE (kWp)	INVERTER	INVERTER AC NAMEPLATE RATING (kW) @ PF=1	INVERTER QUANTITY	SYSTEM AC NAMEPLATE RATING (kW) @ PF=1	DC/AC RATIO
B	REC SOLAR [illegible]	[illegible]	[illegible]	16	[illegible]	[illegible]	578.4	SOLECTRIA PVI-60TL	[illegible]	8	480	1.21

SYSTEM AZIMUTH: 180°
SYSTEM TILT: 10
INTERCONNECTION VOLTAGE: 480V, [illegible]
MAX SYSTEM FAULT CONTRIBUTION (AMPS): [illegible]
UTILITY: MORENO VALLEY ELECTRIC [illegible]

ARRAY LEGEND	
ARRAY A	(red)
ARRAY B	(orange)
ARRAY C	(green)
ARRAY D	(blue)

LEGEND NOTES

1. SOLAR INVERTER MOUNTED ON [illegible] MANUFACTURED INVERTER MOUNTING RACK [illegible] TO BE PROVIDED WITH [illegible] SUNSHIELD. MOUNT AT [illegible] DEGREES AND FACE INVERTER [illegible] THAT THE BACKSIDE OF THE UNIT IS WITHIN [illegible] OF [illegible] ARRAY BOUNDARY.
2. [illegible] COMBINER PANELS [illegible] MOUNTED [illegible] REFER TO DETAIL [illegible].
3. RELOCATE EXISTING [illegible] TO ACCOMMODATE AC DISCONNECT.
4. DISCONNECT TO BE INSTALLED SUCH THAT PROPER CLEARANCE IS PROVIDED PER NEC 110.26.
5. RELOCATE LOCATION OF PANELBOARD [illegible] FOR [illegible] SYSTEM [illegible]. REFER TO SHEET E2.2 FOR ADDITIONAL INFORMATION.

GENERAL NOTES

A. UNLESS [illegible] OTHERWISE, MODULES SHALL COMPLY WITH THE FOLLOWING SETBACK REQUIREMENTS:
 a. ROOF EDGE [illegible]
 b. SKYLIGHTS [illegible]
 c. ROOF DRAINS [illegible]
 d. HVAC UNITS [illegible]
 e. ROOF HATCH [illegible]

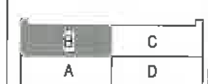
B. FIELD VERIFY ALL EXISTING EQUIPMENT LOCATED ON THE ROOF PRIOR TO LAYOUT OF ANY EQUIPMENT.

C. PROVIDE PROTECTIVE [illegible] ALL PROTECTIVE WALK PADS SHALL BE LOCATED AROUND ALL ROOF-MOUNTED EQUIPMENT (EXCLUDING [illegible] RACKING, MODULES, AND [illegible] SOLAR EQUIPMENT INCLUDING COMBINERS, STRING INVERTERS, PANELBOARDS, [illegible] AND METER [illegible] EQUIPMENT, ETC.) PADS SHALL RUN THE FULL WIDTH OF THE EQUIPMENT AND EXTEND A MINIMUM OF [illegible] FROM THE EQUIPMENT FACE. PADS SHALL [illegible] INTERFERE WITH [illegible] OR CREATE LOCATIONS OF PONDING.

D. PROVIDE WITNESS MARKS AT [illegible] CORNERS OF EACH [illegible] ARRAY AND AT [illegible] ALONG ANY PERIMETER SIDE EXCEEDING [illegible] IN LENGTH [illegible] AT EACH [illegible] POINT [illegible] LINES INDICATING [illegible] OF FOOT AND DATE OF [illegible].

E. [illegible] SHALL PROVIDE A SACRIFICIAL MATERIAL [illegible] ACCEPTABLE [illegible] THE ROOFING MANUFACTURER [illegible] BALLAST PANS AND ANY OTHER EQUIPMENT THAT CONTACTS THE ROOF. COORDINATE MATERIAL AND ADHESIVE [illegible] THE ROOF [illegible] MANUFACTURER.

KEY PLAN



Engineer:
DLR Group
Architecture Engineering Planning Interiors

Developer:
REC SOLAR
[illegible] STREET, SUITE [illegible]
SAN LUIS OBISPO, CA [illegible]

Client:
amazon
[illegible] SEATTLE, WA [illegible]

Seal:
9/30/20

REV	DESCRIPTION	DATE
A	INTERCONNECTION APPLICATION	11-30-18
B	50% PROGRESS SET	12-3-18
C	90% PROGRESS SET	1-18-19
0	IFP SET	2-4-19
1	INTERCONNECTION APPLICATION REV	7-5-19
2	90% PROGRESS SET REV 1	7-18-19
3	IFP SET REV 1	8-2-19
4	[illegible] COMMENTS	8-14-19
5	OWNER COMMENTS	8-28-19

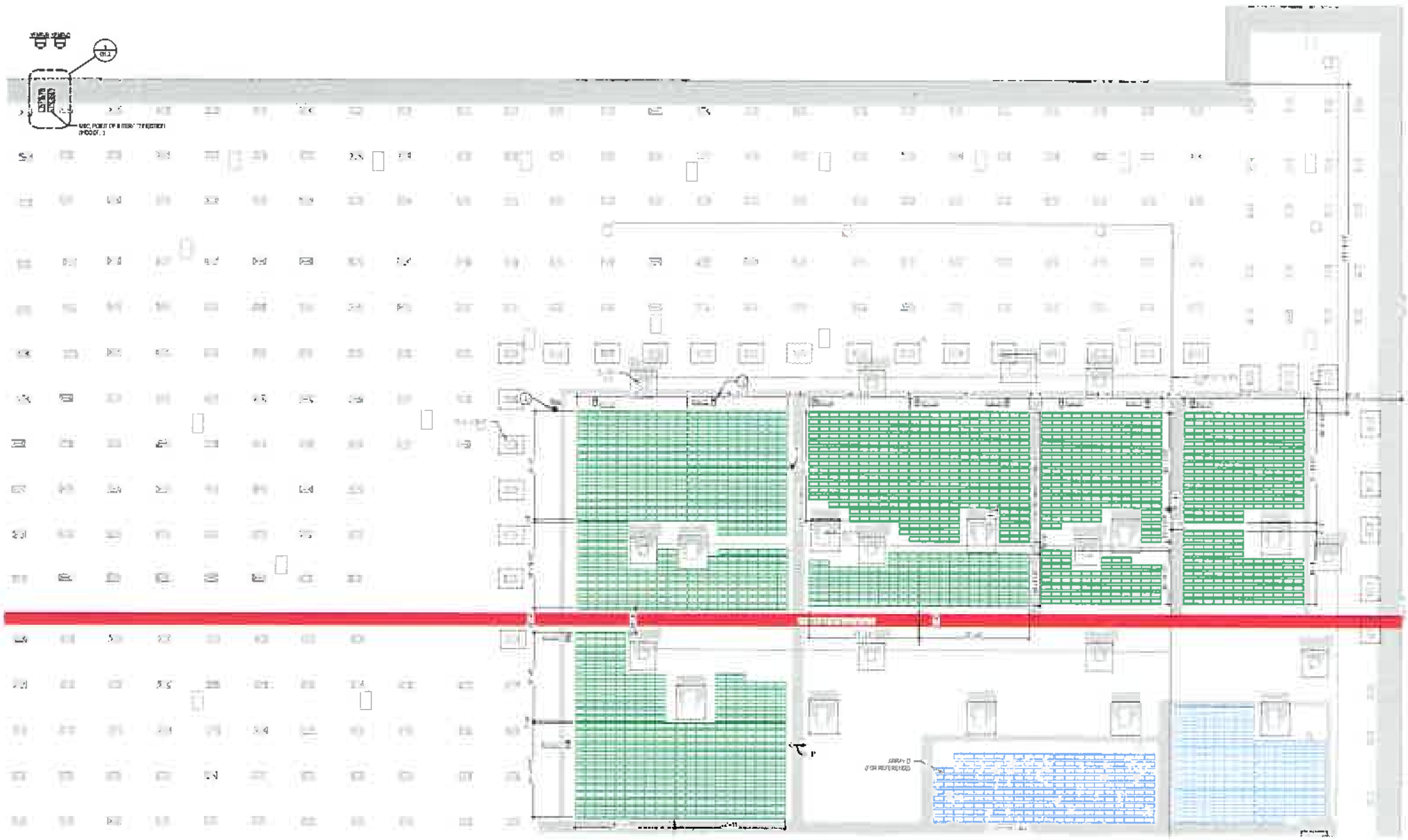
Project Name:
AMAZON - ONT6
SOLAR ARRAY

Project Address:
24208 SAN MICHELE RD,
MORENO VALLEY, CA 92551

Sheet Name:
ROOF PLAN - ARRAY B

Project No: 75-19808-00

Sheet No: G1.2



ROOF PLAN - ARRAY C

SCALE: 1" = 30'-0"

NORTH

PV SYSTEM INFORMATION - ARRAY C												
ARRAY	MODULE	MODULE WATTS (@ STC)	MODULE QUANTITY	MODULES PER STRING	STRINGS PER INVERTER	NO OF STRINGS	SYSTEM SIZE (kWp)	INVERTER	INVERTER AC NAMEPLATE RATING (kW) @ PF=1	INVERTER QUANTITY	SYSTEM AC NAMEPLATE RATING (kW) @ PF=1	DC/AC RATIO
C	REC SOLAR REC370TP72XV	370	2052	18	11 & 12	114	[illegible]	SOLECTRIA PVI60TL	[illegible]	10	600	1.27

SYSTEM AZIMUTH: 180°
SYSTEM TILT: 10°
INTERCONNECTION VOLTAGE: 480Y/277V, 3PH-4W
MAX SYSTEM FAULT CONTRIBUTION (AMPS): 880A
UTILITY: MORENO VALLEY ELECTRIC (MVU)

ARRAY LEGEND
ARRAY A
ARRAY B
ARRAY C
ARRAY D

LEGEND NOTES

1. SOLAR INVERTER MOUNTED ON PRE-MANUFACTURED INVERTER MOUNTING RACK. [illegible] INVERTERS TO BE PROVIDED WITH INTEGRAL SUN SHIELD. [illegible] INVERTER LENGTH. INSTALL INVERTER [illegible] THAT THE BACK SIDE OF THE UNIT IS WITHIN [illegible] RACKING SYSTEM [illegible] (ARRAY BOUNDARY).

AC COMBINER PANELBOARD MOUNTED ON DURABLOCK ROOF STANDOFFS FACING UP. [illegible]

GENERAL NOTES

[illegible]

KEY PLAN

B	C
A	D

Engineer:
DLR Group
Architecture Engineering Planning Interiors

Developer:
REC SOLAR

Client:
amazon

Seal:

REV	DESCRIPTION	DATE
[illegible]	[illegible]	[illegible]

Project Name:
AMAZON - ONT6 SOLAR ARRAY

Project Address:
24208 SAN MICHELE RD, MORENO VALLEY, CA 92551

Sheet Name:
ROOF PLAN - ARRAY C

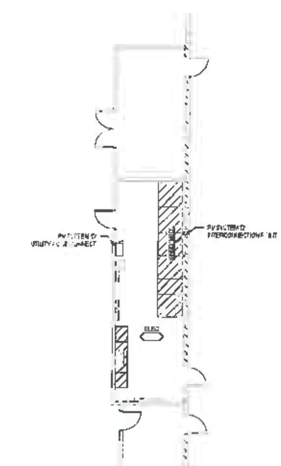
Project No: 75-19909-00

Sheet No:
G1.3

LEGEND NOTES

ROOF PLAN - ARRAY D

NORTH SCALE: 1" = 30'-0"



ENLARGED ELECTRICAL ROOM AREA 'D'

SCALE: 1/8" = 1'-0"

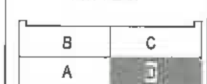
PV SYSTEM INFORMATION - ARRAY D												
ARRAY	MODULE	MODULE WATTS @ STC	MODULE QUANTITY	MODULES PER STRING	STRINGS PER INVERTER	NO OF STRINGS	SYSTEM SIZE (kW)	INVERTER	INVERTER AC NAMEPLATE RATING (kW) @ PF=1	INVERTER QUANTITY	SYSTEM AC NAMEPLATE RATING (kW) @ PF=1	DC/AC RATIO
D	REC SOLAR [illegible]	[illegible]	[illegible]	18	11 & 12	[illegible]	[illegible]	[illegible] PVI-50TL	60	10	[illegible]	1.27

SYSTEM AZIMUTH: 180°
SYSTEM TILT: 10°
INTERCONNECTION VOLTAGE: [illegible]
MAX SYSTEM FAULT CONTRIBUTION (AMPS): [illegible]
UTILITY: MORENO VALLEY ELECTRIC [illegible]

ARRAY LEGEND	
ARRAY A	
ARRAY B	
ARRAY C	
ARRAY D	

GENERAL NOTES

KEY PLAN



Engineer:

DLR Group

Architecture Engineering Planning Interiors

Developer:

REC SOLAR

Client:

amazon

Seal:

REV	DESCRIPTION	DATE
A	INTERCONNECTION APPLICATION	[illegible]
B	30% PROGRESS SET	[illegible]
C	90% PROGRESS SET	[illegible]
0	IFP SET	[illegible]
1	INTERCONNECTION APPLICATION REV1	[illegible]
2	90% PROGRESS SET REV1	7-19-19
3	IFP SET REV1	8-3-19

Project Name:

AMAZON - ONT6 SOLAR ARRAY

Project Address:

24208 SAN MICHELE RD, MORENO VALLEY, CA 92551

Sheet Name:

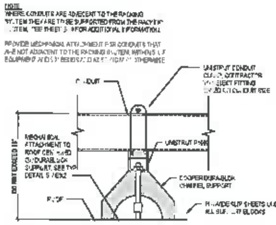
ROOF PLAN - ARRAY D

Project No: 75-19909-00

Sheet No: G1.4

NOTE:
WHERE CONDUITS ARE ADJACENT TO THE RACKING SYSTEM THEY ARE TO BE SUPPORTED FROM THE RACKING SYSTEM. SEE SHEET [illegible] FOR ADDITIONAL INFORMATION.

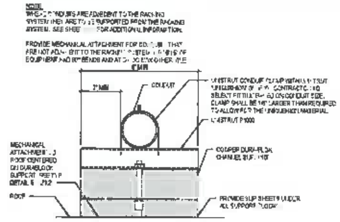
PROVIDE MECHANICAL ATTACHMENT FOR CONDUITS THAT ARE NOT ADJACENT TO THE RACKING SYSTEM [illegible]



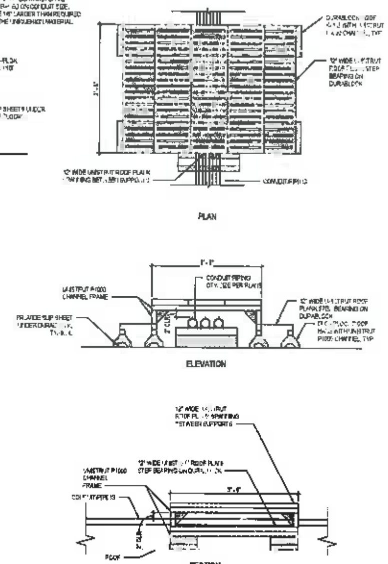
1 / E3.1 CONDUIT SUPPORT DETAIL
NO SCALE

NOTE:
WHERE CONDUITS ARE ADJACENT TO THE RACKING SYSTEM THEY ARE TO BE SUPPORTED FROM THE RACKING SYSTEM. SEE SHEET [illegible] FOR ADDITIONAL INFORMATION.

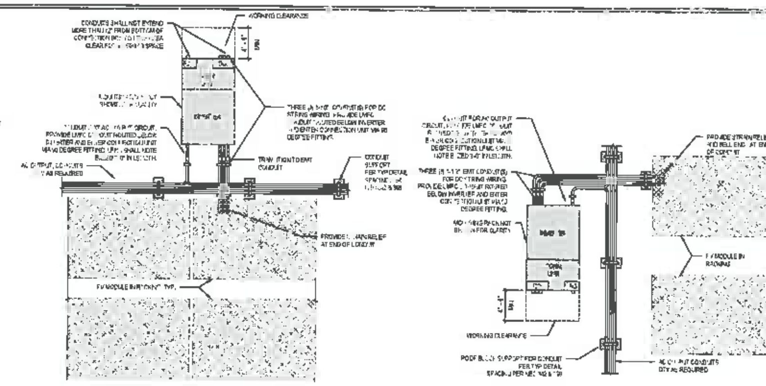
PROVIDE MECHANICAL ATTACHMENT FOR CONDUITS THAT ARE NOT ADJACENT TO THE RACKING SYSTEM [illegible]



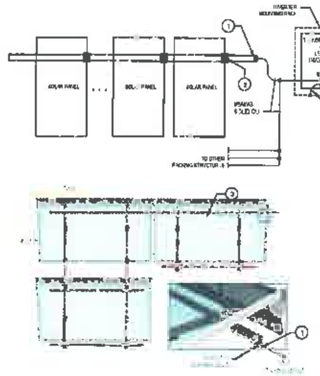
2 / E3.1 CONDUIT SUPPORT SECTION
NO SCALE



3 / E3.1 ROOFTOP CONDUIT/PIPING CROSSOVER STAIR
NO SCALE



4 / E3.1 TYPICAL INVERTER AND FEEDER LAYOUT
NO SCALE



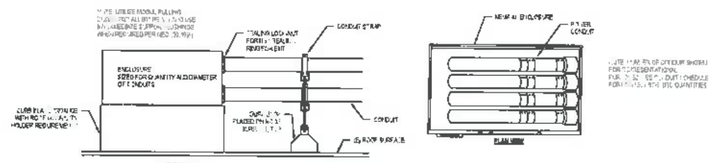
KEY NOTES

1. CONNECT EQUIPMENT GROUNDING CONDUCTOR TO PANEL CLAW RACKING SYSTEM AT BALLAST TRAY PER MANUFACTURER [illegible]
2. PANELS ARE GROUNDED VIA PANEL CLAW MOUNTING CLIP.
3. GROUNDING PATH THROUGH RACKING PER MANUFACTURER.
4. PROVIDE [illegible] SOLID GROUNDING CONNECTION TO INVERTER EQUIPMENT RACK.

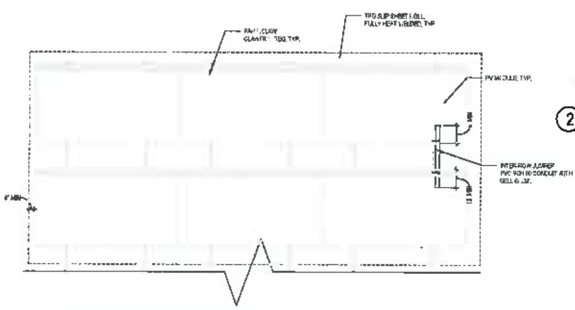
GENERAL NOTES

A. INSTALL GROUNDING COMPONENTS IN ACCORDANCE WITH THE RACKING SYSTEM INSTALLATION INSTRUCTIONS.
B. RACKING [illegible] ITEM IS UL LISTED TO UL 2703 [illegible] EQUIPMENT GROUNDING CONDUCTOR.

5 / E3.1 PANELCLAW GROUNDING ONE-LINE
NO SCALE



9 / E3.1 CONDUIT THRU ROOF - ENCLOSURE
NO SCALE

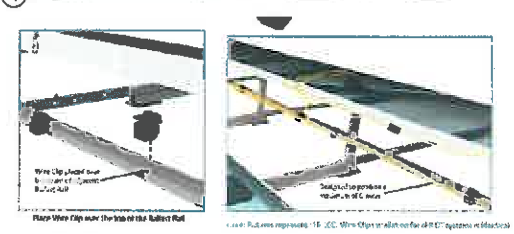


1 PANEL CLAW INTER-ROW CONDUIT PLAN

2 PANEL CLAW INTER-ROW CONDUIT SECTION

NOTES

1. CONDUIT CHASE MUST SUPPORTED AND [illegible] IN TWO LOCATIONS TO THE BOTTOM [illegible] EQUAL.
2. SEE REC QUALITY NOTES FOR [illegible]
3. CONDUIT CHASE SHALL EXTEND FAR ENOUGH UNDER [illegible] SO THAT THE WIRE IS NOT EXPOSED TO DIRECT SUNLIGHT [illegible]
4. CONDUIT CHASE MUST BE LOCATED [illegible] FROM THE OUTSIDE EDGE OF THE ARRAY.
5. DO NOT DRILL HOLES IN PANEL CLAW [illegible]
6. UTILIZE PANEL CLAW CABLE CLIPS [illegible] FOR IN-ROW WIRE MANAGEMENT.
7. REFER TO PANEL CLAW MANUFACTURER'S INSTALLATION AND WIRE MANAGEMENT DOCUMENTATION [illegible]
8. COORDINATE [illegible] WITH RACKING MANUFACTURER.



3 PANEL CLAW IN-ROW WIRE MANAGEMENT

7 / E3.1 PANELCLAW WIRE MANAGEMENT DETAILS
NO SCALE

GENERAL NOTES

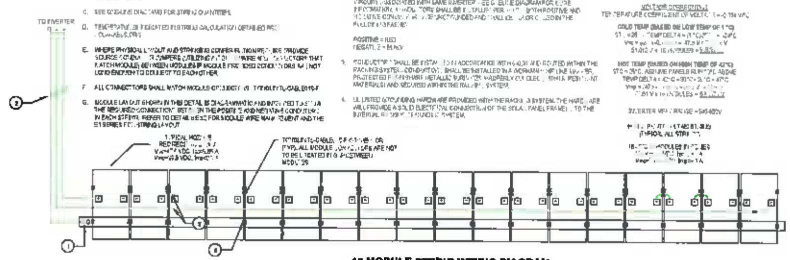
A. EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE NEC AND ALL APPLICABLE REQUIREMENTS OF THE SERVING ELECTRIC UTILITY COMPANY AND THE LOCAL AUTHORITY HAVING JURISDICTION.
B. FOLLOW MANUFACTURER'S RECOMMENDED INSTALLATION PRACTICES AND WIRING SPECIFICATIONS.
C. SEE ONE-LINE DIAGRAMS FOR STRING QUANTITIES.
D. TEMPERATURES INDICATED IN STRING CALCULATION DETAILED [illegible]
E. WHERE PHYSICAL LAYOUT AND STRINGING CONFIGURATION REQUIRE, PROVIDE SOURCE CIRCUIT JUMPERS UTILIZING [illegible] WIRE AND CONNECTORS THAT MATCH MODULE BETWEEN MODULES IF MODULE PROVIDED CONDUCTORS ARE NOT LONG ENOUGH TO CONNECT TO EACH OTHER.
F. ALL CONNECTORS SHALL MATCH MODULE CONNECTORS [illegible]
G. MODULE LAYOUT SHOWN IN THIS DETAIL IS DIAGRAMMATIC AND INTENDED TO SHOW THE REQUIRED CONNECTIONS BETWEEN THE POSITIVE AND NEGATIVE CONDUCTORS IN EACH STRING. REFER TO DETAIL [illegible] FOR MODULE WIRE MANAGEMENT AND THE [illegible] STRING LAYOUT.

KEY NOTES

1. PROVIDE GROUND CONNECTION TO RACKING SYSTEM. SEE DETAIL 4 ON THIS SHEET FOR GROUNDING INFORMATION.
2. ALL WIRING, EXCEPT FOR EQUIPMENT GROUNDING CONDUCTOR, SHALL BE [illegible] PV WIRE [illegible]

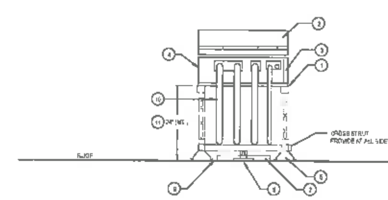
POSITIVE = RED
NEGATIVE = BLACK

3. CONDUCTORS SHALL BE INSTALLED IN ACCORDANCE WITH [illegible] AND ROUTED WITHIN THE RACKING SYSTEM [illegible]
4. UL LISTED GROUNDING HARDWARE PROVIDED WITH THE RACKING SYSTEM. THE HARDWARE WILL PROVIDE A SOLID ELECTRICAL CONNECTION OF THE SOLAR PANEL FRAMES TO THE [illegible] SYSTEM.



18 MODULE STRING WIRING DIAGRAM

8 / E3.1 STRING WIRING DIAGRAM
NO SCALE



KEY NOTES

1. PROVIDE ROOFTOP MOUNTING STRUCTURE FOR [illegible] INVERTER [illegible] DEGREES FROM HORIZONTAL PER MANUFACTURER'S INSTRUCTIONS. COORDINATE WITH MANUFACTURER FOR EXACT MOUNTING [illegible] INVERTER.
2. INSTALL INVERTER SHADING [illegible] SHADING ACCESSORY FURNISHED WITH INVERTER. INVERTER [illegible]
3. INTEGRAL DC DISCONNECT LOCATED ON SIDE OF UNIT.
4. INTEGRAL AC DISCONNECT LOCATED ON SIDE OF UNIT.
5. MECHANICALLY FASTENED DURABLOCK AT EACH CORNER, TYPICAL [illegible] ANCHORAGE (SEE DETAIL [illegible])
6. PROVIDE A SACRIFICIAL PROTECTIVE MATERIAL PER ROOFING MANUFACTURER UNDER ENTIRE FOOTPRINT OF THE INVERTER.
7. PROVIDE [illegible] OF ROOF PAVERS UNDER INVERTER FOR [illegible] COMPATIBLE WITH ROOFING MATERIAL. PAVERS SHALL BE FIRE RATED AND FROST RESISTANT.
8. MAINTAIN WORKING CLEARANCE IN FRONT OF INVERTER RACK. REFER TO DETAIL 4 THIS SHEET.
9. MECHANICALLY FASTEN TO ROOF, TYPICAL MECHANICAL ANCHORAGE (SEE DETAIL 5 / E6.2) WITH [illegible] STAINLESS STEEL FLAT WASHER.
10. INVERTER CONDUITS, SECURE TO STRUT [illegible]
11. ELEVATE INVERTER MOUNTING RACK 24" ABOVE ROOF PER [illegible] REQUIREMENTS [illegible]

GENERAL NOTES

A. COMPLY WITH THE MANUFACTURER'S WARRANTY REQUIREMENTS FOR PROTECTION OF THE ROOF MEMBRANE.

6 / E3.1 INVERTER MOUNTING
NO SCALE

Engineer:
DLR Group
Architecture Engineering Planning Interiors

Developer:
REC SOLAR
3450 BROAD STREET, SUITE 105
SAN LUIS OBISPO, CA 93401

Client:
amazon
[illegible] FLOOR
SEATTLE WA [illegible]

Seal

REV	DESCRIPTION	DATE
A	INTERCONNECTION APPLICATION	11-26-18
B	30% PROGRESS SET	12-7-18
C	60% PROGRESS SET	1-18-19
0	IFP SET	3-4-19
1	[illegible] APPLICATION [illegible]	7-5-19
2	[illegible]	7-19-19
3	IFP SET REV1	8-2-19

Project Name:
AMAZON - ONT6
SOLAR ARRAY

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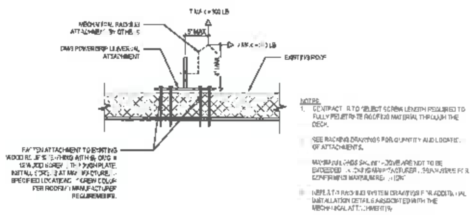
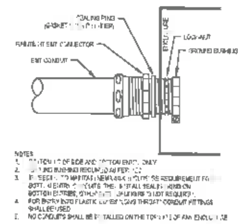
24208 SAN MICHELE RD.
MORENO VALLEY, CA 92551

Sheet Name:
DETAILS

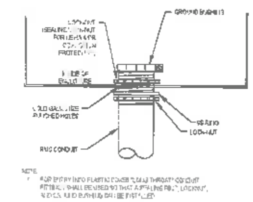
Project No: 75-19909-00
Sheet No:
E3.1



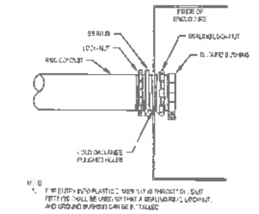
1 E3.2 TYP RACKING ATTACHMENT TO ROOF
NO SCALE



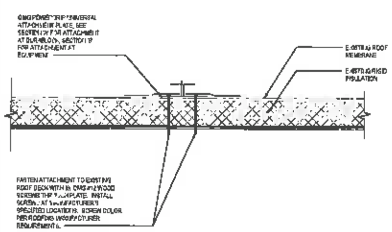
2 E3.2 EMT INTO SIDE OR BOTTOM
NO SCALE

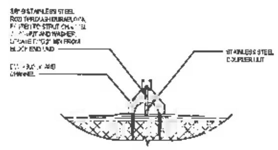


3 E3.2 RMC INTO BOTTOM
NO SCALE

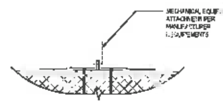


4 E3.2 RMC INTO SIDE - EXTERIOR
NO SCALE



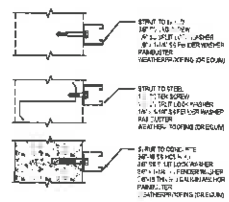


A DURABLOCK ATTACHMENT

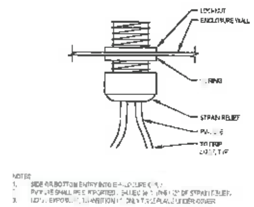


B EQUIPMENT ATTACHMENT

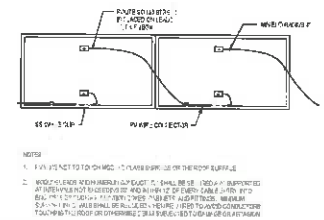
5 E3.2 TYP MECHANICAL ATTACHMENT TO ROOF
NO SCALE



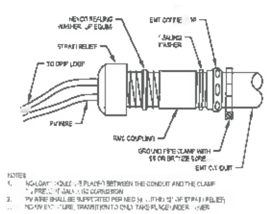
6 E3.2 STRUT TO WALL
NO SCALE



7 E3.2 WIRE TO ENCLOSURE
NO SCALE



8 E3.2 PV MODULE WIRE MANAGEMENT
NO SCALE



9 E3.2 PV WIRE TO EMT
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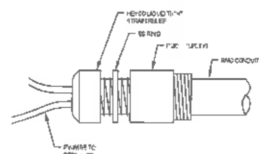

10 E3.2 PV WIRE TO RMC
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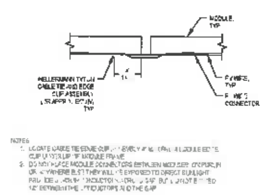
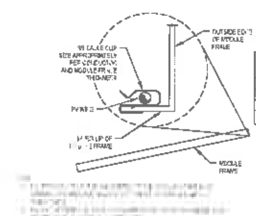
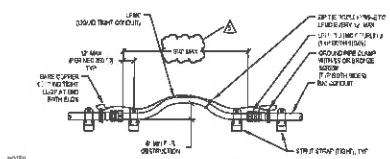


11 E3.2 MODULE CABLE ACROSS GAP
NO SCALE



[illegible]	PART NO.	HEIGHT (IN)	WIDTH (IN)	CLIP DEPTH (IN) RAIL	CLIP DEPTH (IN) CABLES	MATERIAL
NINE FASTENER	[illegible]	[illegible]	0.88	[illegible]	[illegible]	[illegible]
NINE FASTENER	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
NINE FASTENER	[illegible]	0.73	[illegible]	[illegible]	[illegible]	[illegible]
NINE FASTENER	[illegible]	[illegible]	0.39	[illegible]	[illegible]	[illegible]

12 E3.2 MODULE CABLE CLIP
NO SCALE



13 E3.2 CONDUIT EXPANSION JOINT DETAIL
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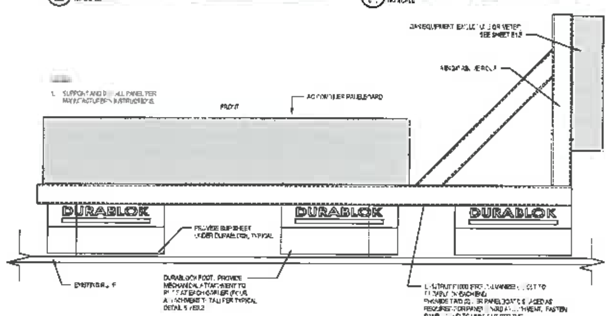

14 E3.2 AC COMBINER PANEL SUPPORT DETAIL
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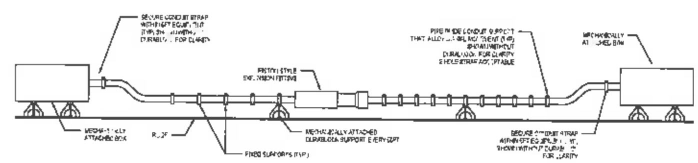

15 E3.2 TYPICAL CONDUIT SUPPORT
NO SCALE

Engineer:

DLR Group
Architecture Engineering Planning Interiors

Developer:

REC SOLAR

Client:

amazon

Seal:

9/30/20

REV	DESCRIPTION	DATE
A	INTERCONNECTION APPLICATION	[illegible]
B	[illegible] PROGRESS SET	[illegible]
C	60% PROGRESS SET	[illegible]
[illegible]	IFP SET	[illegible]
[illegible]	INTERCONNECTION APPLICATION REV1	7-5-19
2	90% PROGRESS SET REV1	[illegible]
[illegible]	IFP SET REV1	[illegible]
4	[illegible] COMMENTS	[illegible]
5	OWNER COMMENTS	[illegible]

Project Name:
AMAZON - ONT6
SOLAR ARRAY

Project Address:
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MORENO VALLEY, CA 92551

Sheet Name:
DETAILS CONT.

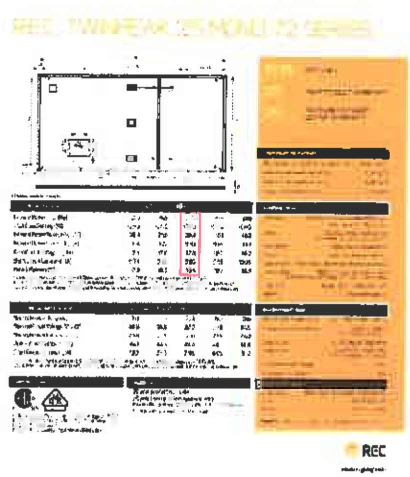
Project No: 75-19909-00

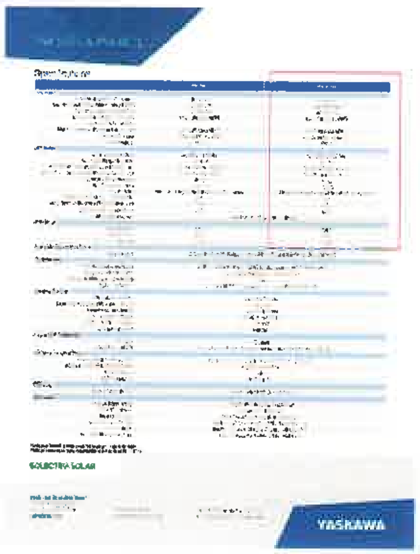
Sheet No:
E3.2

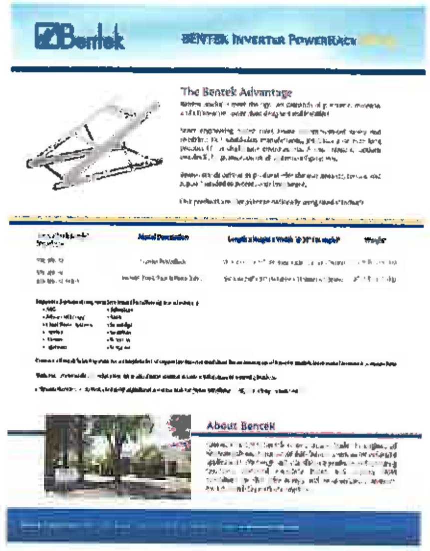
PV MODULE

INVERTER

INVERTER RACK







Engineer:
DLR Group
Architecture Engineering Planning Interiors

Developer:
REC SOLAR

Client:
amazon

Seal:

Project Name:
AMAZON - ONT6 SOLAR ARRAY

Project Address:
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Sheet Name:
EQUIPMENT CUT SHEETS

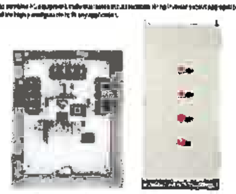
Project No: 75-19909-00

Sheet No: E5.1

AC COMBINER

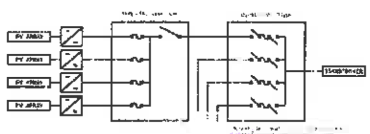
AC Combiners

SOLAR BOS



AC Combiners

SOLAR BOS



ACC 400 - 6 - 60 L - N4

MODULE RACKING

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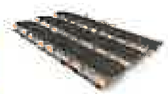
10 Degree Flat Roof Mounting System

Flat roof racking that delivers cost savings and peace of mind



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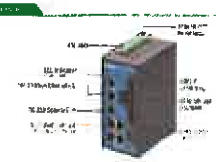
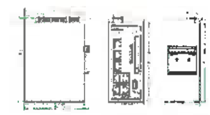
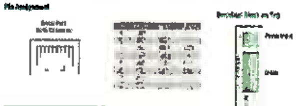


MOXA





MOXA

Engineer:

DLR Group

Architecture Engineering Planning Interiors

Developer:

REC SOLAR

Client:

amazon

Seal:

Project Name:

AMAZON - ONT6 SOLAR ARRAY

Project Address:

24208 SAN MICHELE RD.
MORENO VALLEY, CA 92551

Sheet Name:

EQUIPMENT CUT SHEETS

Project No: 75-19909-00

Sheet No:

E5.2

HMMH
77 South Bedford Street
Burlington, Massachusetts 01803
781.229.0707
www.hmmh.com

MEMORANDUM

To:	REC Solar - c/o Tomas Mendez, P.E.
From:	Philip DeVita, HMMH
Date:	November 7, 2019
Subject:	Amazon Ontario ONT 6 Solar Glare Analysis-Revision 1
Reference:	HMMH Job No.311130

Introduction

Harris Miller Miller & Hanson Inc. (HMMH) evaluated potential glare at nearby March Air Reserve Base sensitive observer locations from the proposed Amazon Fulfillment Center Ontario ONT 6 solar project. The proposed project would be located on the roof of the Amazon Fulfillment Center ONT6 Building just east of the March Air Reserve Base. The project will be a fixed-tilt system and is an update to a previous study dated November 4, 2016 which included the ONT6 and ONT8 PV systems. **Figure 1** shows the project location relative to the airport and its runways.

Source: Google Earth

Figure 1. Locus Map of Amazon Ontario Building ONT 6 Solar Project Relative to March Air Reserve Base

HMMH used the latest version of the GlareGauge solar glare tool, formerly known as the Solar Glare Hazard Analysis Tool (SGHAT) developed by Sandia National Laboratories to analyze potential glare at sensitive airport receptor locations and reviewed the model results relative to the Federal Aviation Administration's (FAA) Interim Policy of Solar Projects at Airports.

In deploying the model, we selected the footprint of the solar project area along with the revised ONT 6 array on the GlareGauge google map interface and input the revised project design parameters as provided by REC Solar as shown in **Table 1.**

Table 1. ONT 6 Proposed Project Design Parameter Alternatives

Solar System	System	Orientation	Tilt Angle	Panel Height (AGL)[1]
ONT 6-1 Array	Fixed-Tilt	180°	10°	42 feet
ONT 6-2 Array	Fixed-Tilt	180°	10°	42 feet

1. Denotes panel height on top of the ONT6 building.

REC Solar is proposing a fixed-tilt system with an orientation to the south at 180° and tilt angle of 10°. The project will be located on the roof of the ONT 6 building at a height of 42 feet above ground level.

To assess airport sensitive receptors, the FAA requires an evaluation of potential glare for pilots on final approach and at the air traffic control tower (ATCT). For the ATCT assessment, we used the coordinates and viewing height as provided by the Riverside County Airport Land Use Commission (ALUC). For the pilot analysis, HMMH evaluated the non-standard approach points as provided by the ALUC consistent with the previous solar glare analysis conducted for the ONT6 and ONT8 buildings dated November 4, 2016 for 36 flight paths. This analysis is an update to the previous analysis and includes a revised layout and orientation/tilt angle for Building ONT6 only for the same flight paths provided by the ALUC for comparison to the FAA ocular standards. The analysis also includes evaluation of potential glare at the ATCT for comparison to FAA ocular standards.

FAA and DOD Jurisdiction and Standards for Measuring Ocular Impact

The FAA published an Interim Policy for Solar Projects at Airports on October 23, 2013. The policy clarifies the FAA's jurisdiction in reviewing solar projects and the standards it uses to determine if a project will result in a negative glare impact to airspace safety.

Relative to its jurisdiction, the FAA affirmed that it has jurisdiction to regulate potential glare impacts as part of its responsibilities under Federal Aviation Regulations (FAR) Part 77 to any solar project proposed on the property of a Federally-obligated airport, which includes most airports in the U.S. The FAA also clarified that it does not have jurisdiction to regulate potential glare from projects located on non-airport land. However, as stated in the Policy, "the FAA urges proponents of off-airport solar installations to voluntarily implement the provisions in this policy." Similarly, the Department of Defense (DOD) has prepared "Procedures Memo#4: Glint/Glare Issues on or near Department of Defense Aviation Operations"[1] dated June 13, 2014. The memorandum outlines the use of the FAA's interim procedures as discussed in the Federal Register including the use of SGHAT to evaluate acceptable glint and glare impacts at DOD airports.

The Policy also describes the standards for measuring ocular impact:

To obtain FAA approval and a "no objection" to a Notice of Proposed Construction Form 7460-1, the airport sponsor will be required to demonstrate that the proposed solar energy system meets the following standards: (1) no potential for glint or glare in the existing or planned Air Traffic Control Tower cab, and (2) no potential for glare or "low potential for after-image" (shown in green) along the final approach path.

Table 2 presents the airport sensitive receptors that must be evaluated, the potential results presented by the model and whether the result complies with the FAA ocular hazard standard presented in the Policy.

1 http://www.acq.osd.mil/dodsc/library/Procedures_Memo_4_Glint%20Glare%20Issues%20on%20or%20near%20DoD%20Aviation%20Operations.pdf

Table 2. Levels of Glare and Compliance with FAA Policy

Airport Sensitive Receptor	Level of Glare	Color Result	Compliance with FAA Policy
ATCT Cab	No glare	None	Yes
	Low Potential for After-Image	Green	No
	Potential for After-Image	Yellow	No
	Potential for Permanent Eye Damage	Red	No
Aircraft along final approach path	No glare	None	Yes
	Low Potential for After-Image	Green	Yes
	Potential for After-Image	Yellow	No
	Potential for Permanent Eye Damage	Red	No

Any glare recorded on the ATCT is not compliant with FAA policy and will not receive a "no objection" determination from the FAA. Measurement of *low potential for after-image* or "Green" is acceptable for aircraft on final approach but greater levels (indicated in yellow and red) are not allowed.

Summary of Results – Approach Flight Paths and ATCT as Provided by the ALUC

At the request of REC Solar, HMMH analyzed the potential for the ONT6 PV site to produce glare at the ATCT and to pilots at selected observation locations associated with non- standard approach and other flight patterns specific to the airbase as provided by the ALUC. The analysis was conducted consistent with the November 2016 report and was updated to reflect the revised ONT6 layout and design at the same observation locations along with the ATCT. Based on the design and layout, GlareGauge modeling showed:

- Runway 12/30 GA Rectangular: No glare or green glare detected at all observation points as supplied by ALUC and REC Solar for the various flight patterns affiliated with each runway. Proposed design meets the FAA Standard for aircraft on final approach.
- Runway 14/32 GA Rectangular: No glare or green glare detected at all observation points as supplied by ALUC and REC Solar for the various flight patterns affiliated with each runway. Proposed design meets the FAA Standard for aircraft on final approach.
- Runway 14/32/KC-135 Rectangular Analysis: No glare or green glare detected at all observation points as supplied by ALUC and REC Solar for the various flight patterns affiliated with each runway. Proposed design meets the FAA Standard.
- RWY 14/32 Overhead Analysis: No glare or green glare detected at all observation points as supplied by ALUC and REC Solar for the various flight patterns affiliated with each runway. Proposed design meets the FAA Standard.
- ATCT: No glare detected, proposed design meets the FAA Standard for ATCT.

Results in Detail

To accurately model the proposed project, HMMH outlined the ONT6 project array's on the model's interactive google map, and the GlareGauge tool analyzed the potential glare impact from the project site. **Figure 2** shows the layout of the revised project while **Figure 3** shows the layout of the project area as input into the model.

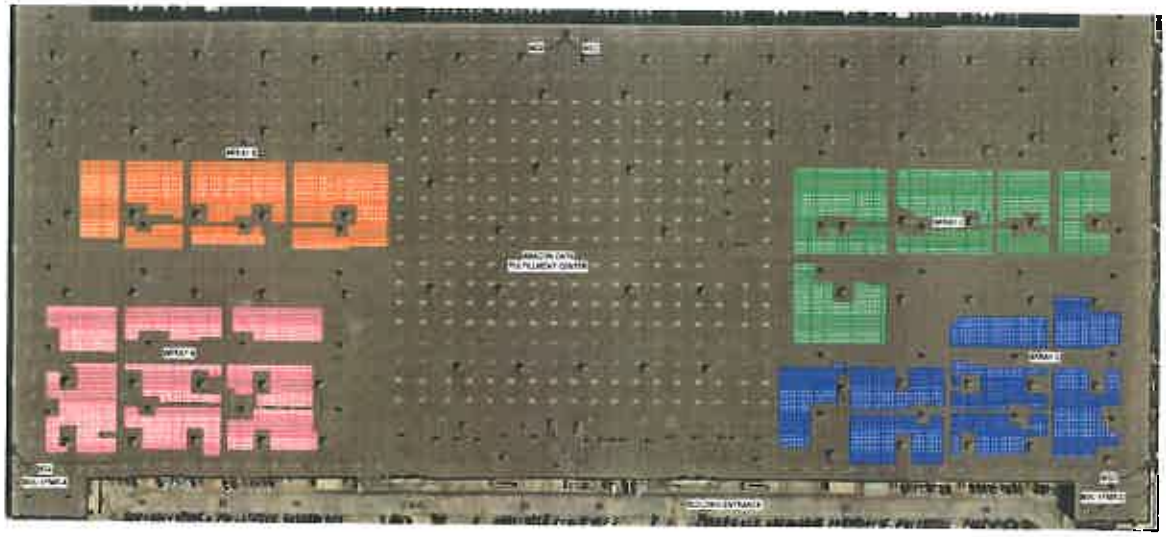


Figure 2. ONT 6 Revised Array Layout

Figure 3. ONT 6 Array as Input into the GlareGauge Model

We input the specifications of the array's including a fixed-tilt system with an orientation of 180°, a tilt angle of 10° and a panel height of 42 feet above ground level (i.e. on roof of the building). We also assumed the default smooth panel surface without any anti-reflective coating to provide maximum flexibility in module selection. This is a conservative assumption as the 2016 analysis included anti reflective coating in the analysis. Modeling was then undertaken for the applicable sensitive receptors as supplied by the ALUC consistent with the November 2016 report. For each flight path receptor, the same direction, glide slope, threshold heights were used consistent with the 2016 report. In the model's flight path window, we checked the "consider pilot visibility from cockpit" box and kept the same 180° pilot viewing angle (for note, current

model default azimuth-viewing angle is 50°) so that the model would not register glare that the pilot would not see from behind the aircraft. We also kept the default downward viewing angle of 30° to eliminate false glare results from below the aircraft.

Modeling was also conducted for the ATCT location as provided by the ALUC and input into the model. **Figure 4** shows the location of the ATCT as input into GlareGauge. The cab eye-level height is 118 feet above ground level (agl). The GlareGauge results, a summarized in **Table 3**, show that no glare was detected at the ATCT from the arrays located on the ONT 6 building and is compatible with the FAA Standards.

Figure 4. ATCT location as input into GlareGauge

Table 3 – GlareGauge Results (in minutes per year) for the Revised ONT 6 Project near March Air Reserve at the ATCT

Site	Fixed/Tracker System	(orientation/tilt)	ATCT	Comply with FAA Thresholds
ONT 6-1	Fixed-Tilt	180°/10°	0	Yes
ONT 6-2	Fixed-Tilt	180°/10°	0	Yes

Notes:

G (Green) = Low Potential for Temporary After-Image
Y (Yellow) = Potential for Temporary After-Image
R (Red) = Potential for Permanent Eye-Damage

The latest version of the model shows component results in time for the aircraft along a continuous route. **Table 4** presents the GlareGauge modeling results for each runway/pattern in terms of predicted minutes of green, yellow, or red glare for both combined array impacts.

As shown in **Table 4**, no glare or green glare was detected by the model for any of the runway/pattern locations for the fixed-tilt systems. The no glare or low potential for after image(i.e. green) result on aircraft to each runway/pattern comply with the FAA's ocular impact standard as published in the Federal Register on October 23, 2013 and shown in **Table 2** for aircraft along final approach path. It should be noted, there were locations not modeled in the analysis where there were no potential for glare (denoted in the table as NP) as the arrays would be beyond the 180 degree pilot line of site as noted in the November 2016 analysis.

Table 4 – GlareGauge Results (in minutes per year) for the Revised ONT 6 Project near March Air Reserve

Runway 12/30 GA Rectangular Analysis

Runway / Pattern	Elevation/Change	Coordinates	Green Glare (min)	Yellow Glare (min)	Red Glare (min)	Comply with FAA Thresholds
RWY 12 Upwind	1500 MSL to 2800 MSL	N 33° 53' 03.55" W 117° 15' 12.73" to N 33° 52' 33.85" W 117° 14' 37.00"	NP	NP	NP	Yes
RWY 30 Final	2800 MSL to 1500' MSL (1300' change; 30.5% slope)	N 33° 52' 33.85" W 117° 14' 37.00" to N 33° 53' 03.55" W 117° 15' 12.73"	3178	0	0	Yes
RWY 30 Base	2800' MSL (level; 0% slope)	N 33° 52' 50.93" W 117° 13' 46.08" to N 33° 52' 33.89" W 117° 14' 06.43"	443	0	0	Yes
RWY 12 Crosswind	2800' MSL (level; 0% slope)	N 33° 52' 33.89" W 117° 14' 06.43" to N 33° 52' 60.93" W 117° 13' 46.08"	NP	NP	NP	Yes
RWY 12 Downwind	2800 MSL (level; 0% slope)	N 33° 53' 16.43" W 117° 13' 46.14" to N 33° 54' 37.20" W 117° 15' 23.29"	NP	NP	NP	Yes
RWY 30 Downwind	2800 MSL (level; 0% slope)	N 33° 54' 37.20" W 117° 15' 23.29" to N 33° 53' 16.43" W 117° 13' 46.14"	0	0	0	Yes
RWY 12 Base	2800 MSL (level; 0% slope)	N 33° 54' 37.16" W 117° 15' 53.88" to N 33° 54' 20.13" W 117° 16' 14.24"	0	0	0	Yes
RWY 30 Crosswind	2800 MSL (level; 0% slope)	N 33° 54' 20.13" W 117° 16' 14.24" to N 33° 54' 37.16" W 117° 15' 53.58"	NP	NP	NP	Yes
RWY 12 Final	2800' MSL to 1500' MSL (1300' change; 30.5% slope)	N 33° 53' 54.63" W 117° 16' 14.19" to N 33° 53' 24.93" W 117° 15' 38.45"	0	0	0	Yes
RWY 30 Upwind	1500' MSL to 2800' MSL	N 33° 53' 24.93" W 117° 15' 38.45" to N 33° 53' 54.63" W 117° 16' 14.19"	NP	NP	NP	Yes

Table 4 – GlareGauge Results (in minutes per year) for the Revised ONT 6 Project near March Air Reserve (cont.)

Runway 14/32 GA Rectangular Analysis

Runway / Pattern	Elevation/Change	Coordinates	Green Glare (min)	Yellow Glare (min)	Red Glare (min)	Comply with FAA Thresholds
RWY 14 Final	3000' MSL to 1500' MSL (1500' change; 35.2% slope)	N 33° 54' 23.35" W 117° 16' 40.02" to N 33° 53' 47.15" W 117° 16' 14.29"	0	0	0	Yes
RWY 32 Upwind	1500' MSL to 3000' MSL (1500' change; 35.2% slope)	N 33° 53' 47.15" W 117° 16' 14.29" to N 33° 54' 23.35" W 117° 16' 40.02"	NP	NP	NP	
RWY 14 Base	3000' MSL (level; 0% slope)	N 33° 54' 17.40" W 117° 17' 34.45" to N 33° 54' 29.67" W 117° 17' 09.66"	0	0	0	Yes
RWY 32 Crosswind	3000' MSL (level; 0% slope)	N 33° 54' 29.67" W 117° 17' 09.66" to N 33° 54' 17.40" W 117° 17' 34.45"	0	0	0	Yes
RWY 32 Downwind	3000 MSL (level; 0% slope)	N 33° 53' 52.70" W 117° 17' 42.04" to N 33° 50' 47.12" W 117° 15' 30.04"	P1 1057 P2 2937	P1 0 P2 0	P1 0 P2 0	Yes
RWY 14 Downwind	3000 MSL (level; 0% slope)	N 33° 50' 47.12" W 117° 15' 30.04" to N 33° 53' 52.70" W 117° 17' 42.04"	P1 1161 P2 3124	P1 0 P2 0	P1 0 P2 0	Yes
RWY 32 Base	3000 MSL (level; 0% slope)	N 33° 50' 40.81" W 117° 15' 00.43" to N 33° 50' 53.08" W 117° 14' 35.65"	0	0	0	Yes
RWY 14 Crosswind	3000 MSL (level; 0% slope)	N 33° 50' 53.08" W 117° 14' 35.65" to N 33° 50' 40.81" W 117° 15' 00.43"	NP	NP	NP	
RWY 32 Final	3000' MSL to 1500' MSL (1300' change; 35.2%)	N 33° 51' 17.79" W 117° 14' 28.09" to N 33° 51' 53.98" W 117° 14' 53.81"	0	0	0	Yes
RWY 14 Upwind	1500' MSL to 3000' MSL (1500' change; 35.2% slope)	N 33° 51' 53.98" W 117° 14' 53.81" to N 33° 51' 17.79" W 117° 14' 28.09"	NP	NP	NP	

Table 4 – GlareGauge Results (in minutes per year) for the Revised ONT 6 Project near March Air Reserve (cont.)

Runway 14/32 C-17/KC-135 Rectangular Analysis

Runway / Pattern	Elevation/Change	Coordinates	Green Glare (min)	Yellow Glare (min)	Red Glare (min)	Comply with FAA Thresholds
RWY 14 Final	3000' MSL to 1500' MSL (1500' change; 35.2% slope)	N 33° 55' 30.56" W 117° 17' 27.82" to N 33° 53' 47.15" W 117° 16' 14.29"	0	0	0	Yes
RWY 32 Upwind	1500' MSL to 3000' MSL (1500' change; 35.2% slope)	N 33° 53' 47.15" W 117° 16' 14.29" to N 33° 55' 30.56" W 117° 17' 27.82"	NP	NP	NP	
RWY 14 Base	3000' MSL (level; 0% slope)	N 33° 55' 20.62" W 117° 19' 30.17" to N 33° 55' 52.48" W 117° 18' 32.45"	0	0	0	Yes
RWY 32 Crosswind	3000' MSL (level; 0% slope)	N 33° 55' 52.48" W 117° 18' 32.45" to N 33° 55' 20.62" W 117° 19' 30.17"	0	0	0	Yes
RWY 32 Downwind	3000 MSL (level; 0% slope)	N 33° 54' 29.27" W 117° 19' 31.90" to N 33° 49' 09.21" W 117° 15' 44.17"	P1 0 P2 1629 P3 558	P1 0 P2 0 P3 0	P1 0 P2 0 P3 0	Yes
RWY 14 Downwind	3000 MSL (level; 0% slope)	N 33° 49' 09.21" W 117° 15' 44.17" to N 33° 54' 29.27" W 117° 19' 31.90"	P1 1687 P2 0 P3 0	P1 0 P2 0 P3 0	P1 0 P2 0 P3 0	Yes
RWY 32 Base	3000 MSL (level; 0% slope)	N 33° 48' 47.33" W 117° 14' 39.66" to N 33° 49' 19.06" W 117° 13' 42.12"	0	0	0	Yes
RWY 14 Crosswind	3000 MSL (level; 0% slope)	N 33° 49' 19.06" W 117° 13' 42.12" to N 33° 48' 47.33" W 117° 14' 39.66"	NP	NP	NP	
RWY 32 Final	3000' MSL to 1500' MSL (1300' change; 35.2%)	N 33° 50' 10.57" W 117° 13' 40.33" to N 33° 51' 53.98" W 117° 14' 53.81"	0	0	0	Yes
RWY 14 Upwind	1500' MSL to 3000' MSL (1500' change; 35.2% slope)	N 33° 51' 53.98" W 117° 14' 53.81" to N 33° 50' 10.57" W 117° 13' 40.33"	NP	NP	NP	

Table 4 – GlareGauge Results (in minutes per year) for the Revised ONT 6 Project near March Air Reserve (cont.)

Overhead Analysis

Runway / Pattern	Elevation/Change	Coordinates	Green Glare (min)	Yellow Glare (min)	Red Glare (min)	Comply with FAA Thresholds
RWY 14 Initial	3500' MSL (level; 0 % slope)	N 33° 58' 04.93" W 117° 19' 19.66" to N 33° 52' 50.54" W 117° 15' 34.03"	P1 0 P2 0 P3 3104	P1 0 P2 0 P3 0	P1 0 P2 0 P3 0	Yes
RWY 14 Downwind	3500' MSL (level; 0 % slope)	N 33° 51' 48.83" W 117° 17' 37.71" to N 33° 54' 29.27" W 117° 19' 31.90"	NP	NP	NP	
RWY 14 Final	3500' MSL to 1500' MSL (2000' change; 16.5% slope)	N 33° 55' 30.56" W 117° 17' 27.82" to N 33° 53' 47.15" W 117° 16' 14.29"	0	0	0	Yes
RWY 32 Initial	3500' MSL (level; 0 % slope)	N 33° 47' 36.15" W 117° 11' 48.76" to N 33° 52' 50.54" W 117° 15' 34.03"	P1 0 P2 0 P3 16283	P1 0 P2 0 P3 0	P1 0 P2 0 P3 0	Yes
RWY 32 Downwind	3500' MSL (level; 0 % slope)	N 33° 51' 48.83" W 117° 17' 37.71" to N 33° 49' 09.21" W 117° 15' 44.17"	P1 0 P2 2134	P1 0 P2 0	P1 0 P2 0	Yes
RWY 32 Final	3500' MSL to 1500' MSL (2000' change; 16.5% slope)	N 33° 50' 10.57" W 117° 13' 40.33" to N 33° 51' 53.98" W 117° 14' 53.81"	0	0	0	Yes

Notes:

G (Green) = Low Potential for Temporary After-Image
Y (Yellow) = Potential for Temporary After-Image
R (Red) = Potential for Permanent Eye-Damage

NP = Zero potential for glare, downwind (parallel) leg, the project area and arrays would be beyond the 180 deg pilot line of site, no analysis conducted consistent with November 2016 report.

Conclusions

HMMH utilized the GlareGauge model developed by the Department of Energy's Sandia National Laboratories to evaluate potential glare from the revised project design for ONT 6 fixed-tilt PV arrays located east of the March Air Reserve Base. The analysis focused on potential glare effects at the ATCT and on aircraft flight paths for RWY 12/30 GA Rectangular, RWY 14/32 C-17/KC-135 Rectangular, RWY 14/32 GA Rectangular, and Overhead as provided by the ALUC consistent with the November 2016 report.

While the project is not located on airport property and therefore not subject to FAA jurisdiction under Federal Aviation Regulations Part 77 to protect airspace safety; the proponents have sought to voluntarily comply with FAA ocular hazard standards published in the FAA's Interim Solar Policy in the Federal Register on of October 23, 2013 subsequently adopted by the DoD in 2014.

GlareGauge model results were compared to the FAA's ocular hazard standard. The model results provided in **Attachment A** show that for aircraft flight paths evaluated, GlareGauge model results for the revised project design at ONT6 result in no glare or low potential for after image (i.e. green) detected at all observer locations. In addition, the results show that no glare is detected at the ATCT. Therefore, based on our understanding of flight patterns at the airbase as input into the model, these results *comply* with the FAA standards described in the Interim Solar Policy for both pilots and at the ATCT. It should be noted, there were locations not modeled in the analysis where there were no potential for glare as the arrays would be beyond the 180 degree pilot line of site as noted in the November 2016 analysis.

Attachment A

GlareGauge Modeling Results –ONT6 GlareGauge Output Fixed-Tilt

FORGESOLAR GLARE ANALYSIS

Project: **RecSolar**
Near March Air Reserve

Site configuration: **RecSolar 1-6**
Analysis conducted by Phil DeVita (pdevita@hmmh.com) at 20:30 on 25 Oct, 2019.

U.S. FAA 2013 Policy Adherence

The following table summarizes the policy adherence of the glare analysis based on the 2013 U.S. Federal Aviation Administration Interim Policy 78 FR 63276. This policy requires the following criteria be met for solar energy systems on airport property:

- No "yellow" glare (potential for after-image) for any flight path from threshold to 2 miles
- No glare of any kind for Air Traffic Control Tower(s) ("ATCT") at cab height.
- Default analysis and observer characteristics (see list below)

ForgeSolar does not represent or speak officially for the FAA and cannot approve or deny projects. Results are informational only.

COMPONENT	STATUS	DESCRIPTION
Analysis parameters	PASS	Analysis time interval and eye characteristics used are acceptable
Flight path(s)	PASS	Flight path receptor(s) do not receive yellow glare
ATCT(s)	N/A	No ATCT receptors designated

Default glare analysis parameters and observer eye characteristics (for reference only):

- Analysis time interval: 1 minute
- Ocular transmission coefficient: 0.5
- Pupil diameter: 0.002 meters
- Eye focal length: 0.017 meters
- Sun subtended angle: 9.3 milliradians

FAA Policy 78 FR 63276 can be read at https://www.federalregister.gov/d/2013-24729

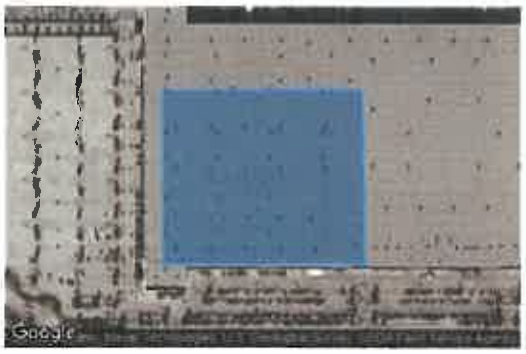
SITE CONFIGURATION

Analysis Parameters

DNI: peaks at 1,000.0 W/m^2
Time interval: 1 min
Ocular transmission coefficient: 0.5
Pupil diameter: 0.002 m
Eye focal length: 0.017 m
Sun subtended angle: 9.3 mrad
Site Config ID: 32298.5914

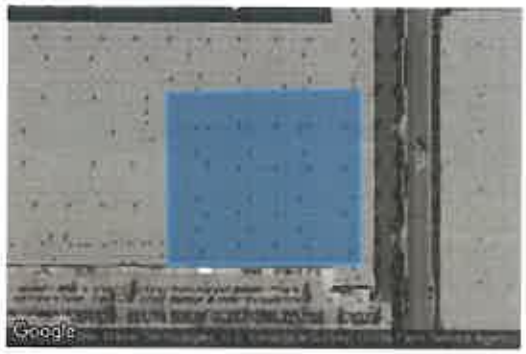
PV Array(s)

Name: ONT 6-1
Axis tracking: Fixed (no rotation)
Tilt: 10.0°
Orientation: 180.0°
Rated power: -
Panel material: Smooth glass without AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	33.872522	-117.240892	1472.07	42.00	1514.07
2	33.872531	-117.239001	1470.07	42.00	1512.07
3	33.871157	-117.238981	1474.07	42.00	1516.07
4	33.871148	-117.240882	1476.07	42.00	1518.07

Name: ONT 6-2
Axis tracking: Fixed (no rotation)
Tilt: 10.0°
Orientation: 180.0°
Rated power: -
Panel material: Smooth glass without AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	33.872521	-117.235407	1476.07	42.00	1518.07
2	33.871147	-117.235397	1480.07	42.00	1522.07
3	33.871138	-117.237195	1475.07	42.00	1517.07
4	33.872487	-117.237216	1471.07	42.00	1513.07

Flight Path Receptor(s)

Name: GA REC R12 Base
Description:
Threshold height: 1250 ft
Direction: 224.9°
Glide slope: 0.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 180.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.905607	-117.270656	1552.08	1250.06	2802.14
Two-mile	33.926084	-117.246033	1604.08	1198.06	2802.14

Name: GA Rec R12 Final
Description:
Threshold height: 0 ft
Direction: 134.8°
Glide slope: 30.5°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 180.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.890316	-117.260706	1523.07	0.00	1523.07
Two-mile	33.910703	-117.285433	1542.02	6201.70	7743.72

Name: GA REC R14 Final
Description:
Threshold height: 0 ft
Direction: 149.5°
Glide slope: 35.2°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 180.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.896491	-117.270704	1537.08	0.00	1537.08
Two-mile	33.921409	-117.288393	1524.07	7462.65	8986.73

Name: GA REC R30 Base
Description:
Threshold height: 1300 ft
Direction: 224.7°
Glide slope: 0.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 180.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.876107	-117.235215	1471.07	1300.06	2771.14
Two-mile	33.896661	-117.210695	1512.07	1259.06	2771.14

Name: GA REC R30 Downwind
Description:
Threshold height: 1300 ft
Direction: 136.3°
Glide slope: 0.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 180.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.887942	-117.229501	1501.07	1300.06	2801.14
Two-mile	33.908848	-117.253588	1548.08	1253.06	2801.14

Name: GA Rec R30 Final
Description:
Threshold height: 0 ft
Direction: 315.3°
Glide slope: 30.5°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 180.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.884414	-117.253582	1506.07	0.00	1506.07
Two-mile	33.863877	-117.229039	1468.07	6258.64	7726.72

GLARE ANALYSIS RESULTS

Summary of Glare

PV Array Name	Tilt	Orient	"Green" Glare	"Yellow" Glare	Energy
	(°)	(°)	min	min	kWh
ONT 6-1	10.0	180.0	443	0	-
ONT 6-2	10.0	180.0	3,178	0	-

Total annual glare received by each receptor

Receptor	Annual Green Glare (min)	Annual Yellow Glare (min)
GA REC R12 Base	0	0
GA Rec R12 Final	0	0
GA REC R14 Final	0	0
GA REC R30 Base	443	0
GA REC R30 Downwind	0	0
GA Rec R30 Final	3178	0

Results for: ONT 6-1

Receptor	Green Glare (min)	Yellow Glare (min)
GA REC R12 Base	0	0
GA Rec R12 Final	0	0
GA REC R14 Final	0	0
GA REC R30 Base	443	0
GA REC R30 Downwind	0	0
GA Rec R30 Final	0	0

Flight Path: GA REC R12 Base

0 minutes of yellow glare
0 minutes of green glare

Flight Path: GA Rec R12 Final

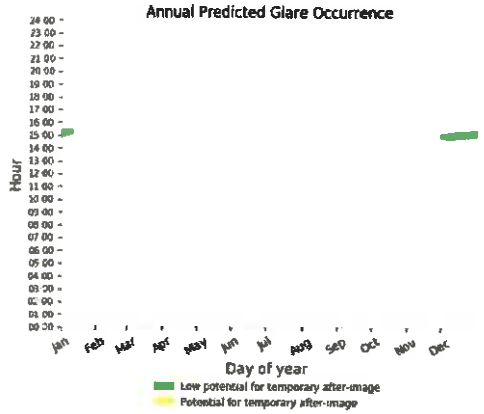
0 minutes of yellow glare
0 minutes of green glare

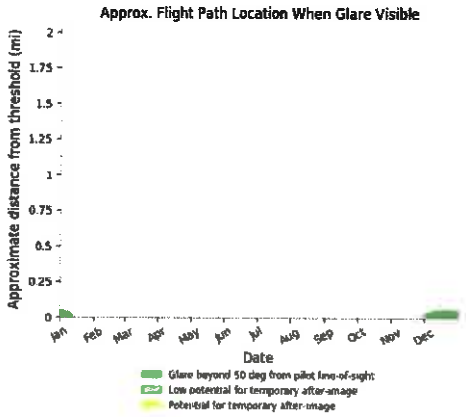
Flight Path: GA REC R14 Final

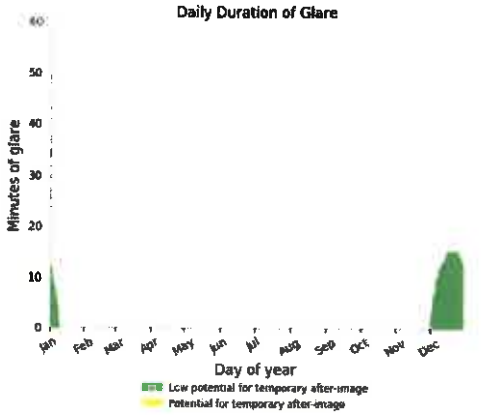
0 minutes of yellow glare
0 minutes of green glare

Flight Path: GA REC R30 Base

0 minutes of yellow glare
443 minutes of green glare







Flight Path: GA REC R30 Downwind

0 minutes of yellow glare

0 minutes of green glare

Flight Path: GA Rec R30 Final

0 minutes of yellow glare

0 minutes of green glare

Results for: ONT 6-2

Receptor	Green Glare (min)	Yellow Glare (min)
GA REC R12 Base	0	0
GA Rec R12 Final	0	0
GA REC R14 Final	0	0
GA REC R30 Base	0	0
GA REC R30 Downwind	0	0

Receptor	Green Glare (min)	Yellow Glare (min)
GA Rec R30 Final	3178	0

Flight Path: GA REC R12 Base

0 minutes of yellow glare
0 minutes of green glare

Flight Path: GA Rec R12 Final

0 minutes of yellow glare
0 minutes of green glare

Flight Path: GA REC R14 Final

0 minutes of yellow glare
0 minutes of green glare

Flight Path: GA REC R30 Base

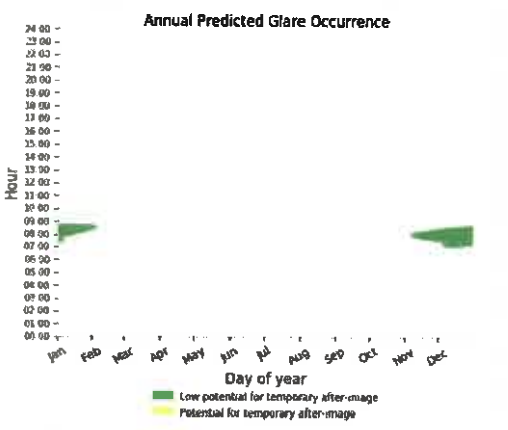
0 minutes of yellow glare
0 minutes of green glare

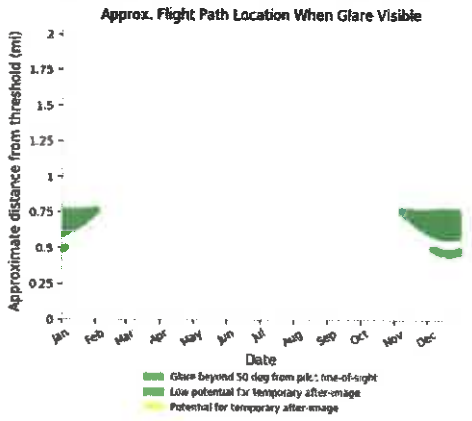
Flight Path: GA REC R30 Downwind

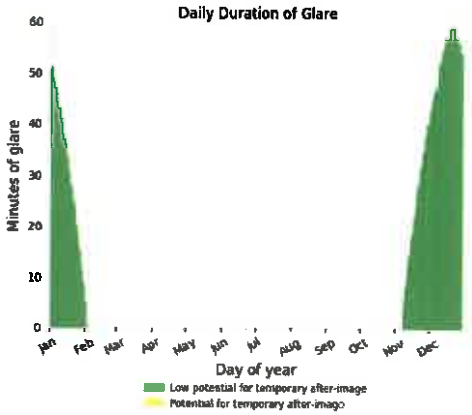
0 minutes of yellow glare
0 minutes of green glare

Flight Path: GA Rec R30 Final

0 minutes of yellow glare
3178 minutes of green glare







Assumptions

"Green" glare is glare with low potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
"Yellow" glare is glare with potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
Glare analyses do not account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.
Several calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results for large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare.
The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)
Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.
Glare vector plots are simplified representations of analysis data. Actual glare emanations and results may differ.
The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual results and glare occurrence may differ.
Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid based on aggregated research data. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.

FORGESOLAR GLARE ANALYSIS

Project: **RecSolar**
Near March Air Reserve

Site configuration: **RecSolar 7-12**
Analysis conducted by Phil DeVita (pdevita@hmmh.com) at 20:33 on 25 Oct, 2019.

U.S. FAA 2013 Policy Adherence

The following table summarizes the policy adherence of the glare analysis based on the 2013 U.S. Federal Aviation Administration Interim Policy 78 FR 63276. This policy requires the following criteria be met for solar energy systems on airport property:

- No "yellow" glare (potential for after-image) for any flight path from threshold to 2 miles
- No glare of any kind for Air Traffic Control Tower(s) ("ATCT") at cab height.
- Default analysis and observer characteristics (see list below)

ForgeSolar does not represent or speak officially for the FAA and cannot approve or deny projects. Results are informational only.

COMPONENT	STATUS	DESCRIPTION
Analysis parameters	PASS	Analysis time interval and eye characteristics used are acceptable
Flight path(s)	PASS	Flight path receptor(s) do not receive yellow glare
ATCT(s)	N/A	No ATCT receptors designated

Default glare analysis parameters and observer eye characteristics (for reference only):

- Analysis time interval: 1 minute
- Ocular transmission coefficient: 0.5
- Pupil diameter: 0.002 meters
- Eye focal length: 0.017 meters
- Sun subtended angle: 9.3 milliradians

FAA Policy 78 FR 63276 can be read at https://www.federalregister.gov/d/2013-24729

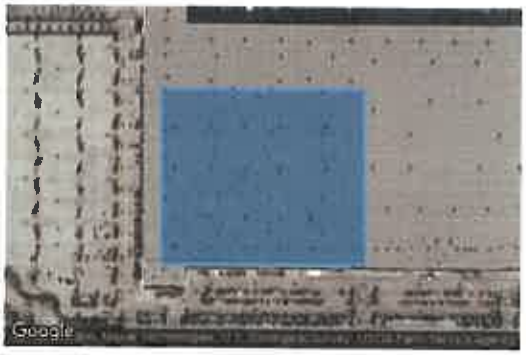
SITE CONFIGURATION

Analysis Parameters

DNI: peaks at 1,000.0 W/m^2
Time interval: 1 min
Ocular transmission coefficient: 0.5
Pupil diameter: 0.002 m
Eye focal length: 0.017 m
Sun subtended angle: 9.3 mrad
Site Config ID: 32303.5914

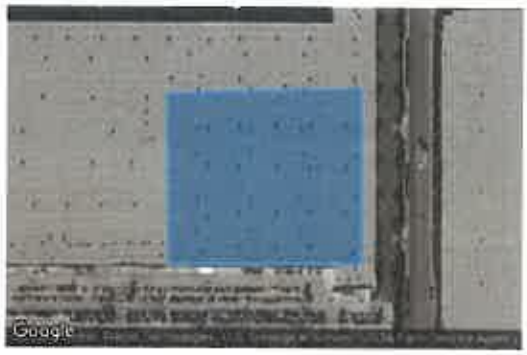
PV Array(s)

Name: ONT 6-1
Axis tracking: Fixed (no rotation)
Tilt: 10.0°
Orientation: 180.0°
Rated power: -
Panel material: Smooth glass without AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	33.872522	-117.240892	1472.07	42.00	1514.07
2	33.872531	-117.239001	1470.07	42.00	1512.07
3	33.871157	-117.238981	1474.07	42.00	1516.07
4	33.871148	-117.240882	1476.07	42.00	1518.07

Name: ONT 6-2
Axis tracking: Fixed (no rotation)
Tilt: 10.0°
Orientation: 180.0°
Rated power: -
Panel material: Smooth glass without AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



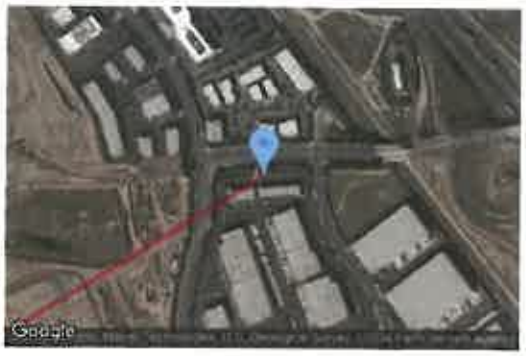
Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	33.872521	-117.235407	1476.07	42.00	1518.07
2	33.871147	-117.235397	1480.07	42.00	1522.07
3	33.871138	-117.237195	1475.07	42.00	1517.07
4	33.872487	-117.237216	1471.07	42.00	1513.07

Flight Path Receptor(s)

Name: GA REC 32 Downwind P1
Description:
Threshold height: 1400 ft
Direction: 150.0°
Glide slope: 0.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 180.0°

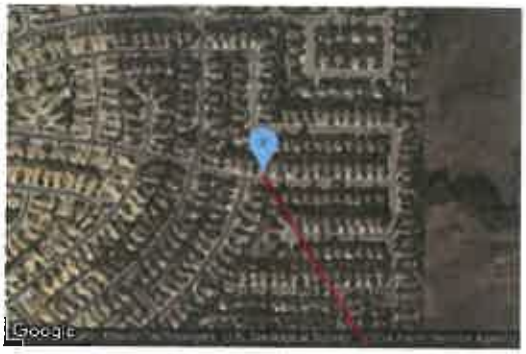
Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.873000	-117.277272	1583.08	1400.07	2983.15
Two-mile	33.898051	-117.294678	1655.08	1328.06	2983.15

Name: GA REC R14 Base
Description:
Threshold height: 1500 ft
Direction: 58.1°
Glide slope: 0.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 180.0°



Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.908267	-117.286060	1567.08	1500.07	3067.15
Two-mile	33.892993	-117.315674	1749.09	1318.06	3067.15

Name: GA REC R14 Downwind P1
Description:
Threshold height: 1400 ft
Direction: 328.9°
Glide slope: 0.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 180.0°



Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.897942	-117.295108	1659.08	1400.07	3059.15
Two-mile	33.873180	-117.277105	1581.08	1478.07	3059.15

Name: GA REC R32 Base
Description:
Threshold height: 1500 ft
Direction: 58.5°
Glide slope: 0.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 180.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.848230	-117.243280	1480.07	1500.07	2980.15
Two-mile	33.833115	-117.272991	1664.08	1316.06	2980.15

Name: GA REC R32 Crosswind
Description:
Threshold height: 1400 ft
Direction: 238.8°
Glide slope: 0.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 180.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.904846	-117.292929	1623.08	1400.07	3023.15
Two-mile	33.919811	-117.263087	1574.08	1449.07	3023.15

Name: GA REC R32 Final
Description:
Threshold height: 0 ft
Direction: 329.3°
Glide slope: 35.2°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 180.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.865034	-117.248416	1493.07	0.00	1493.07
Two-mile	33.840171	-117.230624	1458.07	7484.65	8942.72

GLARE ANALYSIS RESULTS

Summary of Glare

PV Array Name	Tilt	Orient	"Green" Glare	"Yellow" Glare	Energy
	(°)	(°)	min	min	kWh
ONT 6-1	10.0	180.0	1,201	0	-
ONT 6-2	10.0	180.0	1,011	0	-

Total annual glare received by each receptor

Receptor	Annual Green Glare (min)	Annual Yellow Glare (min)
GA REC 32 Downwind P1	1051	0
GA REC R14 Base	0	0
GA REC R14 Downwind P1	1161	0
GA REC R32 Base	0	0
GA REC R32 Crosswind	0	0
GA REC R32 Final	0	0

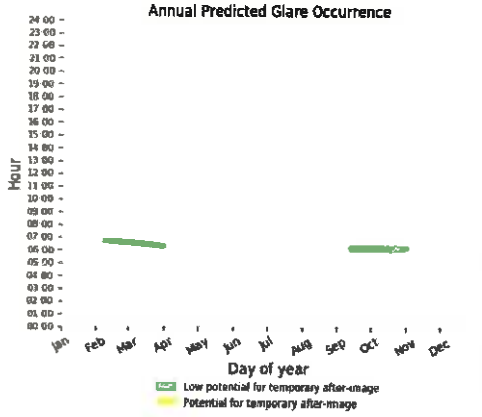
Results for: ONT 6-1

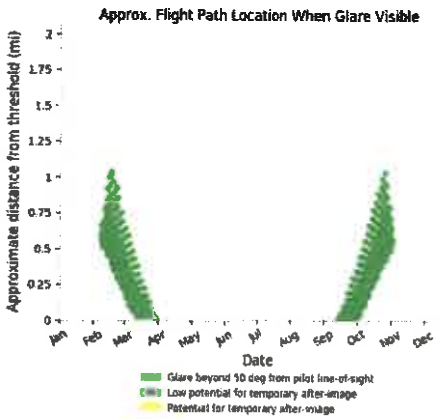
Receptor	Green Glare (min)	Yellow Glare (min)
GA REC 32 Downwind P1	570	0
GA REC R14 Base	0	0
GA REC R14 Downwind P1	631	0
GA REC R32 Base	0	0
GA REC R32 Crosswind	0	0
GA REC R32 Final	0	0

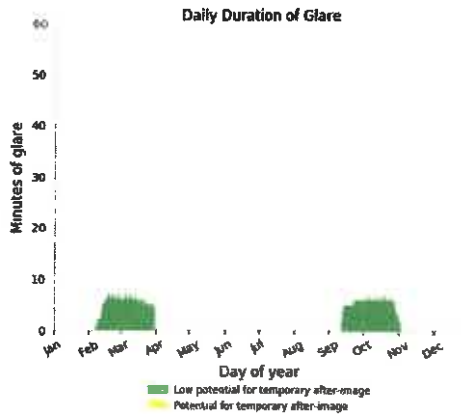
Flight Path: GA REC 32 Downwind P1

0 minutes of yellow glare

570 minutes of green glare







Flight Path: GA REC R14 Base

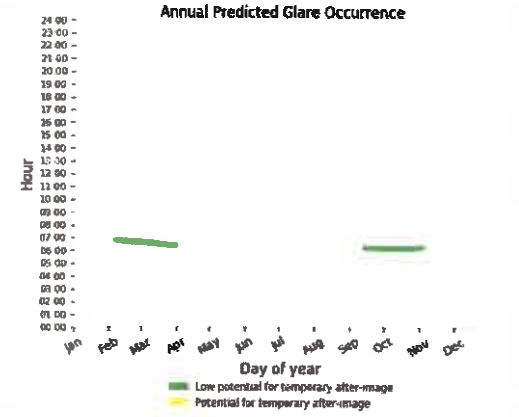
0 minutes of yellow glare

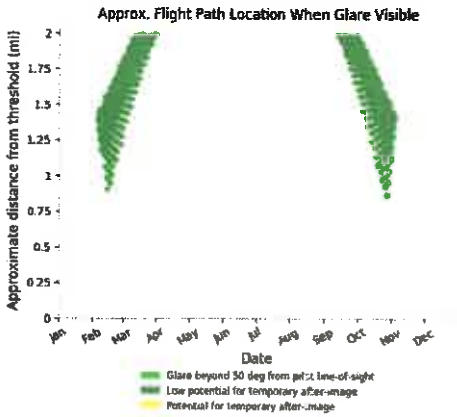
0 minutes of green glare

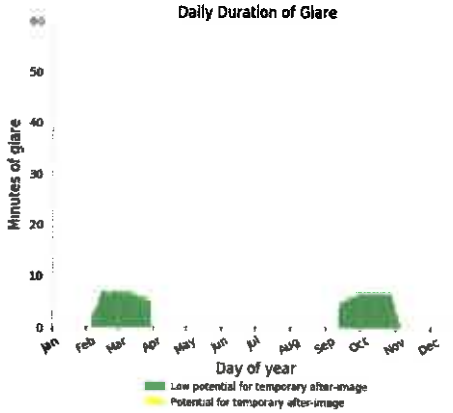
Flight Path: GA REC R14 Downwind P1

0 minutes of yellow glare

631 minutes of green glare







Flight Path: GA REC R32 Base

0 minutes of yellow glare
0 minutes of green glare

Flight Path: GA REC R32 Crosswind

0 minutes of yellow glare
0 minutes of green glare

Flight Path: GA REC R32 Final

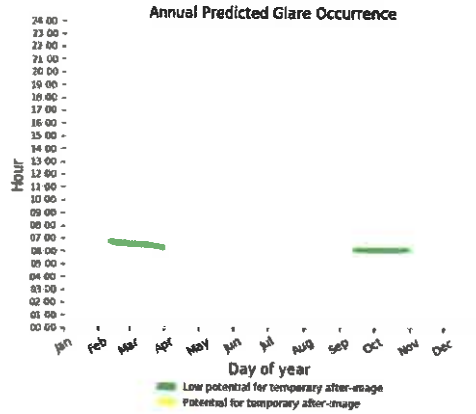
0 minutes of yellow glare
0 minutes of green glare

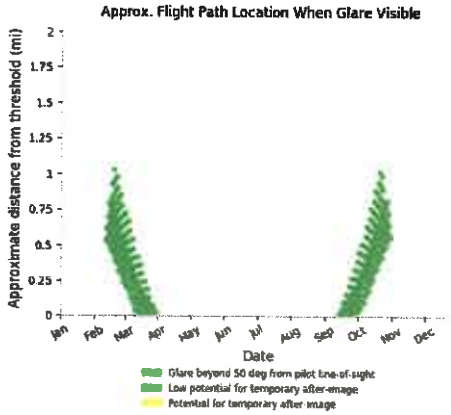
Results for: ONT 6-2

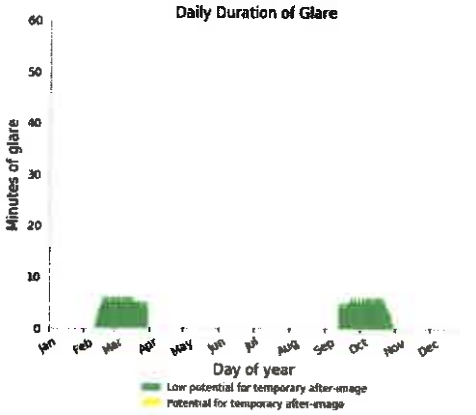
Receptor	Green Glare (min)	Yellow Glare (min)
GA REC 32 Downwind P1	481	0
GA REC R14 Base	0	0
GA REC R14 Downwind P1	530	0
GA REC R32 Base	0	0
GA REC R32 Crosswind	0	0
GA REC R32 Final	0	0

Flight Path: GA REC 32 Downwind P1

0 minutes of yellow glare
481 minutes of green glare







Flight Path: GA REC R14 Base

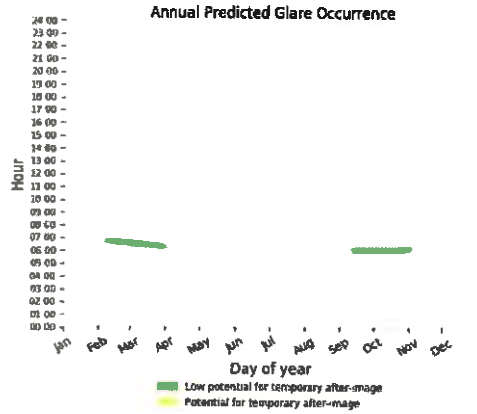
0 minutes of yellow glare

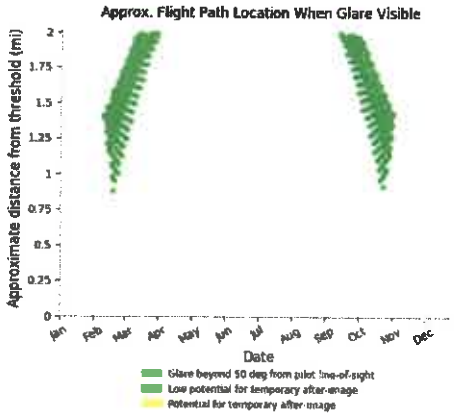
0 minutes of green glare

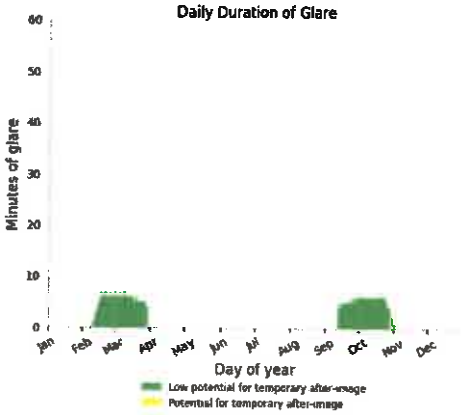
Flight Path: GA REC R14 Downwind P1

0 minutes of yellow glare

530 minutes of green glare







Flight Path: GA REC R32 Base

0 minutes of yellow glare

0 minutes of green glare

Flight Path: GA REC R32 Crosswind

0 minutes of yellow glare

0 minutes of green glare

Flight Path: GA REC R32 Final

0 minutes of yellow glare

0 minutes of green glare

Assumptions

"Green" glare is glare with low potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
"Yellow" glare is glare with potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
Glare analyses do not account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.
Several calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results for large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare.
The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)
Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.
Glare vector plots are simplified representations of analysis data. Actual glare emanations and results may differ.
The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual results and glare occurrence may differ.
Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid based on aggregated research data. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.

FORGESOLAR GLARE ANALYSIS

Project: **RecSolar**
Near March Air Reserve

Site configuration: **RecSolar 13-18**
Analysis conducted by Phil DeVita (pdevita@hmmh.com) at 20:37 on 25 Oct, 2019.

U.S. FAA 2013 Policy Adherence

The following table summarizes the policy adherence of the glare analysis based on the 2013 U.S. Federal Aviation Administration Interim Policy 78 FR 63276. This policy requires the following criteria be met for solar energy systems on airport property:

- No "yellow" glare (potential for after-image) for any flight path from threshold to 2 miles
- No glare of any kind for Air Traffic Control Tower(s) ("ATCT") at cab height.
- Default analysis and observer characteristics (see list below)

ForgeSolar does not represent or speak officially for the FAA and cannot approve or deny projects. Results are informational only.

COMPONENT	STATUS	DESCRIPTION
Analysis parameters	PASS	Analysis time interval and eye characteristics used are acceptable
Flight path(s)	PASS	Flight path receptor(s) do not receive yellow glare
ATCT(s)	N/A	No ATCT receptors designated

Default glare analysis parameters and observer eye characteristics (for reference only):

- Analysis time interval: 1 minute
- Ocular transmission coefficient: 0.5
- Pupil diameter: 0.002 meters
- Eye focal length: 0.017 meters
- Sun subtended angle: 9.3 milliradians

FAA Policy 78 FR 63276 can be read at https://www.federalregister.gov/d/2013-24729

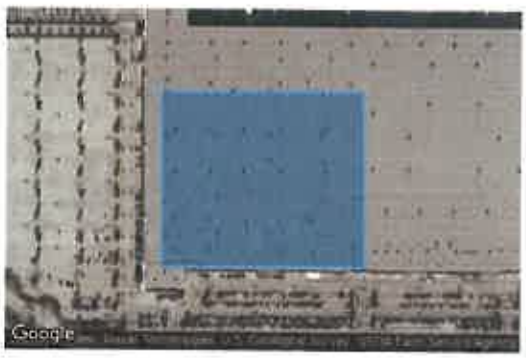
SITE CONFIGURATION

Analysis Parameters

DNI: peaks at 1,000.0 W/m^2
Time interval: 1 min
Ocular transmission coefficient: 0.5
Pupil diameter: 0.002 m
Eye focal length: 0.017 m
Sun subtended angle: 9.3 mrad
Site Config ID: 32311.5914

PV Array(s)

Name: ONT 6-1
Axis tracking: Fixed (no rotation)
Tilt: 10.0°
Orientation: 180.0°
Rated power: -
Panel material: Smooth glass without AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	33.872522	-117.240892	1472.07	42.00	1514.07
2	33.872531	-117.239001	1470.07	42.00	1512.07
3	33.871157	-117.238981	1474.07	42.00	1516.07
4	33.871148	-117.240882	1476.07	42.00	1518.07

Name: ONT6-2
Axis tracking: Fixed (no rotation)
Tilt: 10.0°
Orientation: 180.0°
Rated power: -
Panel material: Smooth glass without AR coating
Reflectivity: Vary with sun
Slope error: correlate with material

Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	33.872521	-117.235407	1476.07	42.00	1518.07
2	33.871147	-117.235397	1480.07	42.00	1522.07
3	33.871138	-117.237195	1475.07	42.00	1517.07
4	33.872487	-117.237216	1471.07	42.00	1513.07

Flight Path Receptor(s)

Name: C17-K135 Rec R14 D1
Description:
Threshold height: 1300 ft
Direction: 328.4°
Glide slope: 0.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 180.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.870118	-117.298157	1694.08	1300.06	2994.15
Two-mile	33.845479	-117.279916	1712.08	1282.06	2994.15

Name: C17-K135 Rec R14 Final
Description:
Threshold height: 0 ft
Direction: 149.2°
Glide slope: 35.2°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 180.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.896425	-117.270678	1537.08	0.00	1537.08
Two-mile	33.921273	-117.288508	1523.07	7463.65	8986.73

Name: C17-K135 Rec R32
Description:
Threshold height: 1500 ft
Direction: 236.3°
Glide slope: 0.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 180.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.922512	-117.325137	1629.08	1500.07	3129.15
Two-mile	33.938542	-117.296105	1537.08	1592.08	3129.15

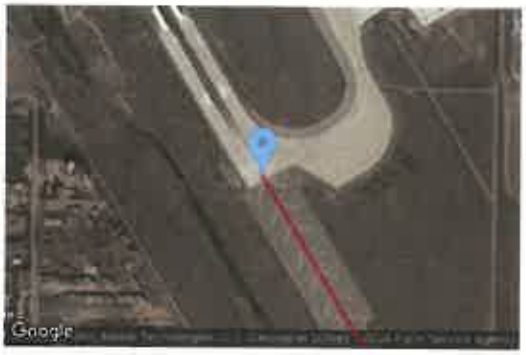
Name: C17-K135 Rec R32B
Description:
Threshold height: 1500 ft
Direction: 57.1°
Glide slope: 0.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 180.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.821976	-117.228472	1438.07	1500.07	2938.14
Two-mile	33.806280	-117.257733	1839.09	1099.05	2938.14

Name: C17-K135 Rec R32 D1
Description:
Threshold height: 1300 ft
Direction: 149.2°
Glide slope: 0.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 180.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.819253	-117.262432	1773.09	1300.06	3073.15
Two-mile	33.844093	-117.280262	1721.08	1352.07	3073.15

Name: C17-K135 Rec R32F
Description:
Threshold height: 0 ft
Direction: 329.5°
Glide slope: 35.2°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 180.0°



Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.865058	-117.248331	1493.07	0.00	1493.07
Two-mile	33.840154	-117.230622	1458.07	7484.65	8942.72

Name: Runway 14 Base
Description:
Threshold height: 1500 ft
Direction: 56.8°
Glide slope: 0.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 180.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.931410	-117.309157	1524.07	1500.07	3024.15
Two-mile	33.915592	-117.338360	1569.08	1455.07	3024.15

GLARE ANALYSIS RESULTS

Summary of Glare

PV Array Name	Tilt	Orient	"Green" Glare	"Yellow" Glare	Energy
	(°)	(°)	min	min	kWh
ONT 6-1	10.0	180.0	846	0	-
ONT6-2	10.0	180.0	841	0	-

Total annual glare received by each receptor

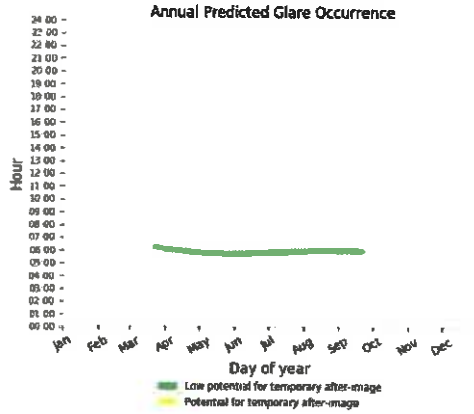
Receptor	Annual Green Glare (min)	Annual Yellow Glare (min)
C17-K135 Rec R14 D1	1687	0
C17-K135 Rec R14 Final	0	0
C17-K135 Rec R32	0	0
C17-K135 Rec R32B	0	0
C17-K135 Rec R32 D1	0	0
C17-K135 Rec R32F	0	0
Runway 14 Base	0	0

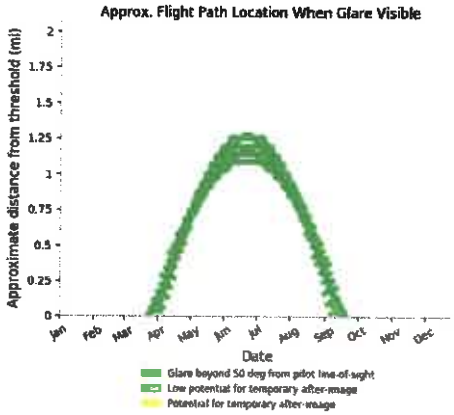
Results for: ONT 6-1

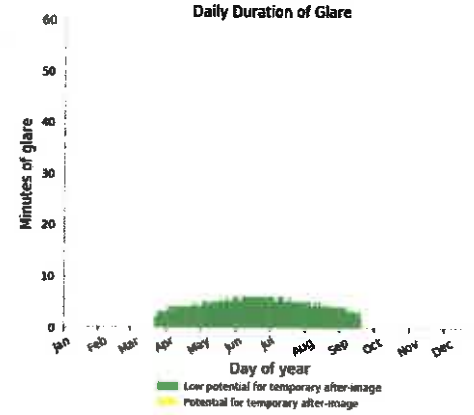
Receptor	Green Glare (min)	Yellow Glare (min)
C17-K135 Rec R14 D1	846	0
C17-K135 Rec R14 Final	0	0
C17-K135 Rec R32	0	0
C17-K135 Rec R32B	0	0
C17-K135 Rec R32 D1	0	0
C17-K135 Rec R32F	0	0
Runway 14 Base	0	0

Flight Path: C17-K135 Rec R14 D1

0 minutes of yellow glare
846 minutes of green glare







Flight Path: C17-K135 Rec R14 Final

0 minutes of yellow glare

0 minutes of green glare

Flight Path: C17-K135 Rec R32

0 minutes of yellow glare

0 minutes of green glare

Flight Path: C17-K135 Rec R32B

0 minutes of yellow glare

0 minutes of green glare

Flight Path: C17-K135 Rec R32 D1

0 minutes of yellow glare

0 minutes of green glare

Flight Path: C17-K135 Rec R32F

0 minutes of yellow glare
0 minutes of green glare

Flight Path: Runway 14 Base

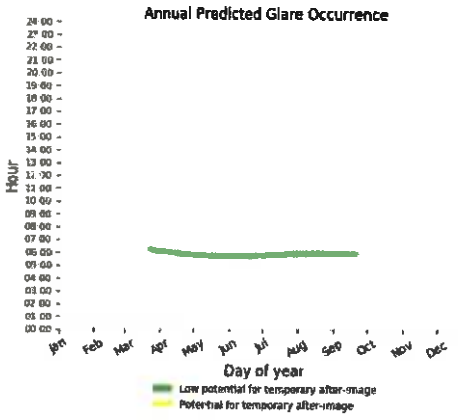
0 minutes of yellow glare
0 minutes of green glare

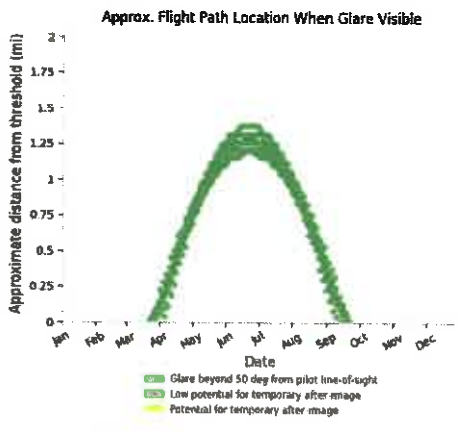
Results for: ONT6-2

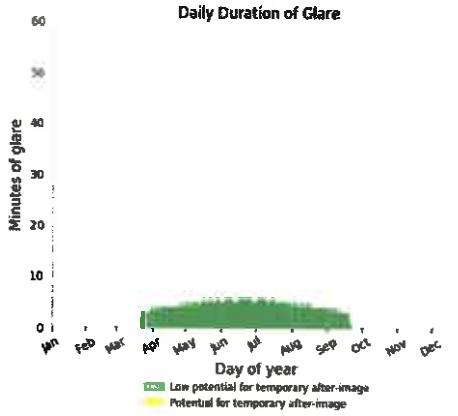
Receptor	Green Glare (min)	Yellow Glare (min)
C17-K135 Rec R14 D1	841	0
C17-K135 Rec R14 Final	0	0
C17-K135 Rec R32	0	0
C17-K135 Rec R32B	0	0
C17-K135 Rec R32 D1	0	0
C17-K135 Rec R32F	0	0
Runway 14 Base	0	0

Flight Path: C17-K135 Rec R14 D1

0 minutes of yellow glare
841 minutes of green glare







Flight Path: C17-K135 Rec R14 Final

0 minutes of yellow glare
0 minutes of green glare

Flight Path: C17-K135 Rec R32

0 minutes of yellow glare
0 minutes of green glare

Flight Path: C17-K135 Rec R32B

0 minutes of yellow glare
0 minutes of green glare

Flight Path: C17-K135 Rec R32 D1

0 minutes of yellow glare
0 minutes of green glare

Flight Path: C17-K135 Rec R32F

0 minutes of yellow glare
0 minutes of green glare

Flight Path: Runway 14 Base

0 minutes of yellow glare
0 minutes of green glare

Assumptions

"Green" glare is glare with low potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
"Yellow" glare is glare with potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
Glare analyses do not account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.
Several calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results for large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare.
The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)
Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.
Glare vector plots are simplified representations of analysis data. Actual glare emanations and results may differ.
The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual results and glare occurrence may differ.
Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid based on aggregated research data. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.

FORGESOLAR GLARE ANALYSIS

Project: **RecSolar**
Near March Air Reserve

Site configuration: **RecSolar 19-23**
Analysis conducted by Phil DeVita (pdevita@hmmh.com) at 20:41 on 25 Oct, 2019.

U.S. FAA 2013 Policy Adherence

The following table summarizes the policy adherence of the glare analysis based on the 2013 U.S. Federal Aviation Administration Interim Policy 78 FR 63276. This policy requires the following criteria be met for solar energy systems on airport property:

- No "yellow" glare (potential for after-image) for any flight path from threshold to 2 miles
- No glare of any kind for Air Traffic Control Tower(s) ("ATCT") at cab height.
- Default analysis and observer characteristics (see list below)

ForgeSolar does not represent or speak officially for the FAA and cannot approve or deny projects. Results are informational only.

COMPONENT	STATUS	DESCRIPTION
Analysis parameters	PASS	Analysis time interval and eye characteristics used are acceptable
Flight path(s)	PASS	Flight path receptor(s) do not receive yellow glare
ATCT(s)	N/A	No ATCT receptors designated

Default glare analysis parameters and observer eye characteristics (for reference only):

- Analysis time interval: 1 minute
- Ocular transmission coefficient: 0.5
- Pupil diameter: 0.002 meters
- Eye focal length: 0.017 meters
- Sun subtended angle: 9.3 milliradians

FAA Policy 78 FR 63276 can be read at https://www.federalregister.gov/d/2013-24729

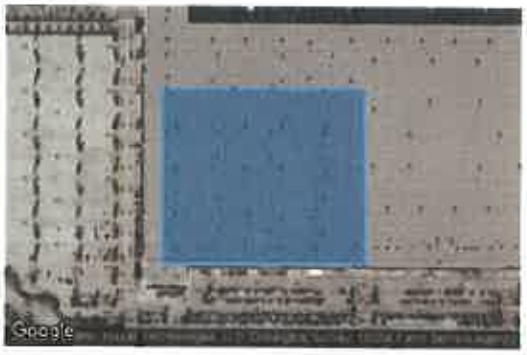
SITE CONFIGURATION

Analysis Parameters

DNI: peaks at 1,000.0 W/m^2
Time interval: 1 min
Ocular transmission coefficient: 0.5
Pupil diameter: 0.002 m
Eye focal length: 0.017 m
Sun subtended angle: 9.3 mrad
Site Config ID: 32352.5914

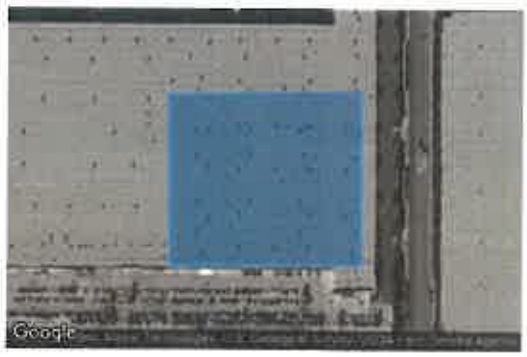
PV Array(s)

Name: ONT 6-1
Axis tracking: Fixed (no rotation)
Tilt: 10.0°
Orientation: 180.0°
Rated power: -
Panel material: Smooth glass without AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	33.872522	-117.240892	1472.07	42.00	1514.07
2	33.872531	-117.239001	1470.07	42.00	1512.07
3	33.871157	-117.238981	1474.07	42.00	1516.07
4	33.871148	-117.240882	1476.07	42.00	1518.07

Name: ONT 6-2
Axis tracking: Fixed (no rotation)
Tilt: 10.0°
Orientation: 180.0°
Rated power: -
Panel material: Smooth glass without AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	33.872521	-117.235407	1476.07	42.00	1518.07
2	33.871147	-117.235397	1480.07	42.00	1522.07
3	33.871138	-117.237195	1475.07	42.00	1517.07
4	33.872487	-117.237216	1471.07	42.00	1513.07

Flight Path Receptor(s)

Name: Overhead 14 - Final
Description:
Threshold height: 0 ft
Direction: 149.3°
Glide slope: 16.5°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 180.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.896782	-117.270834	1537.08	0.00	1537.08
Two-mile	33.921633	-117.288660	1523.07	3142.18	4665.25

Name: Overhead 14 - Initial P1
Description:
Threshold height: 2000 ft
Direction: 149.1°
Glide slope: 0.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 180.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.930856	-117.295096	1527.07	2000.10	3527.17
Two-mile	33.955678	-117.312986	1389.07	2138.10	3527.17

Name: Overhead 32 Downwind P-1
Description:
Threshold height: 1800 ft
Direction: 149.5°
Glide slope: 0.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 180.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.819330	-117.262423	1776.09	1800.09	3576.17
Two-mile	33.844234	-117.280122	1721.08	1855.09	3576.17

Name: Overhead 32 Final
Description:
Threshold height: 0 ft
Direction: 329.4°
Glide slope: 16.5°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 180.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.865028	-117.248318	1493.07	0.00	1493.07
Two-mile	33.840139	-117.230578	1458.07	3163.18	4621.25

Name: Overhead 32 Initial P-1
Description:
Threshold height: 2050 ft
Direction: 328.8°
Glide slope: 0.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 180.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.831311	-117.224028	1455.07	2050.10	3505.17
Two-mile	33.806577	-117.205982	1422.07	2083.10	3505.17

GLARE ANALYSIS RESULTS

Summary of Glare

PV Array Name	Tilt (°)	Orient (°)	"Green" Glare min	"Yellow" Glare min	Energy kWh
ONT 6-1	10.0	180.0	0	0	-
ONT 6-2	10.0	180.0	0	0	-

Total annual glare received by each receptor

Receptor	Annual Green Glare (min)	Annual Yellow Glare (min)
Overhead 14 - Final	0	0
Overhead 14 - Initial P1	0	0
Overhead 32 Downwind P-1	0	0
Overhead 32 Final	0	0
Overhead 32 Initial P-1	0	0

Results for: ONT 6-1

Receptor	Green Glare (min)	Yellow Glare (min)
Overhead 14 - Final	0	0
Overhead 14 - Initial P1	0	0
Overhead 32 Downwind P-1	0	0
Overhead 32 Final	0	0
Overhead 32 Initial P-1	0	0

Flight Path: Overhead 14 - Final

0 minutes of yellow glare
0 minutes of green glare

Flight Path: Overhead 14 - Initial P1

0 minutes of yellow glare
0 minutes of green glare

Flight Path: Overhead 32 Downwind P-1

0 minutes of yellow glare
0 minutes of green glare

Flight Path: Overhead 32 Final

0 minutes of yellow glare
0 minutes of green glare

Flight Path: Overhead 32 Initial P-1

0 minutes of yellow glare
0 minutes of green glare

Results for: ONT 6-2

Receptor	Green Glare (min)	Yellow Glare (min)
Overhead 14 - Final	0	0
Overhead 14 - Initial P1	0	0
Overhead 32 Downwind P-1	0	0
Overhead 32 Final	0	0

Receptor	Green Glare (min)	Yellow Glare (min)
Overhead 32 Initial P-1	0	0

Flight Path: Overhead 14 - Final

0 minutes of yellow glare
0 minutes of green glare

Flight Path: Overhead 14 - Initial P1

0 minutes of yellow glare
0 minutes of green glare

Flight Path: Overhead 32 Downwind P-1

0 minutes of yellow glare
0 minutes of green glare

Flight Path: Overhead 32 Final

0 minutes of yellow glare
0 minutes of green glare

Flight Path: Overhead 32 Initial P-1

0 minutes of yellow glare
0 minutes of green glare

Assumptions

"Green" glare is glare with low potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
"Yellow" glare is glare with potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
Glare analyses do not account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.
Several calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results for large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare.
The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)
Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.
Glare vector plots are simplified representations of analysis data. Actual glare emanations and results may differ.
The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual results and glare occurrence may differ.
Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid based on aggregated research data. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.

FORGESOLAR GLARE ANALYSIS

Project: **RecSolar**
Near March Air Reserve

Site configuration: **RecSolar 24-28**
Analysis conducted by Phil DeVita (pdevita@hmmh.com) at 20:44 on 25 Oct, 2019.

U.S. FAA 2013 Policy Adherence

The following table summarizes the policy adherence of the glare analysis based on the 2013 U.S. Federal Aviation Administration Interim Policy 78 FR 63276. This policy requires the following criteria be met for solar energy systems on airport property:

- No "yellow" glare (potential for after-image) for any flight path from threshold to 2 miles
- No glare of any kind for Air Traffic Control Tower(s) ("ATCT") at cab height.
- Default analysis and observer characteristics (see list below)

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COMPONENT	STATUS	DESCRIPTION
Analysis parameters	PASS	Analysis time interval and eye characteristics used are acceptable
Flight path(s)	PASS	Flight path receptor(s) do not receive yellow glare
ATCT(s)	N/A	No ATCT receptors designated

Default glare analysis parameters and observer eye characteristics (for reference only):

- Analysis time interval: 1 minute
- Ocular transmission coefficient: 0.5
- Pupil diameter: 0.002 meters
- Eye focal length: 0.017 meters
- Sun subtended angle: 9.3 milliradians

FAA Policy 78 FR 63276 can be read at https://www.federalregister.gov/d/2013-24729

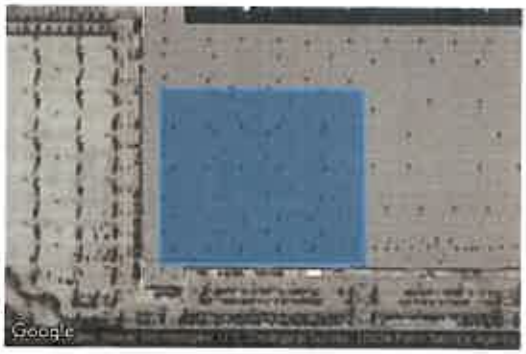
SITE CONFIGURATION

Analysis Parameters

DNI: peaks at 1,000.0 W/m^2
Time interval: 1 min
Ocular transmission coefficient: 0.5
Pupil diameter: 0.002 m
Eye focal length: 0.017 m
Sun subtended angle: 9.3 mrad
Site Config ID: 32365.5914

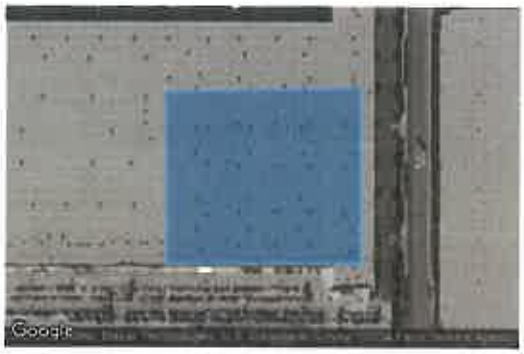
PV Array(s)

Name: ONT 6-1
Axis tracking: Fixed (no rotation)
Tilt: 10.0°
Orientation: 180.0°
Rated power: -
Panel material: Smooth glass without AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	33.872522	-117.240892	1472.07	42.00	1514.07
2	33.872531	-117.239001	1470.07	42.00	1512.07
3	33.871157	-117.238981	1474.07	42.00	1516.07
4	33.871148	-117.240882	1476.07	42.00	1518.07

Name: ONT 6-2
Axis tracking: Fixed (no rotation)
Tilt: 10.0°
Orientation: 180.0°
Rated power: -
Panel material: Smooth glass without AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	33.872521	-117.235407	1476.07	42.00	1518.07
2	33.871147	-117.235397	1480.07	42.00	1522.07
3	33.871138	-117.237195	1475.07	42.00	1517.07
4	33.872487	-117.237216	1471.07	42.00	1513.07

Flight Path Receptor(s)

Name: C17-K135 Rec R14 D2
Description:
Threshold height: 1300 ft
Direction: 329.5°
Glide slope: 0.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 180.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.845900	-117.280318	1710.08	1300.06	3010.15
Two-mile	33.820983	-117.262639	1767.09	1243.06	3010.15

Name: C17-K135 Rec R32 D2
Description:
Threshold height: 1300 ft
Direction: 148.6°
Glide slope: 0.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 180.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.844155	-117.279832	1718.08	1300.06	3018.15
Two-mile	33.868831	-117.297995	1691.08	1327.06	3018.15

Name: C17-K135 REc R32 D3
Description:
Threshold height: 1300 ft
Direction: 151.9°
Glide slope: 0.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 180.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.869037	-117.297620	1692.08	1300.06	2992.15
Two-mile	33.894532	-117.314062	1751.09	1241.06	2992.15

Name: GA REC R14 Downwind P2
Description:
Threshold height: 1400 ft
Direction: 329.2°
Glide slope: 0.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 180.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.873187	-117.277400	1582.08	1400.07	2982.15
Two-mile	33.848359	-117.259532	1527.07	1455.07	2982.15

Name: GA Rec R32 Downwind P2
Description:
Threshold height: 1450 ft
Direction: 149.6°
Glide slope: 0.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 180.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.846601	-117.258431	1528.07	1450.07	2978.15
Two-mile	33.871547	-117.276052	1594.08	1384.07	2978.15

GLARE ANALYSIS RESULTS

Summary of Glare

PV Array Name	Tilt	Orient	"Green" Glare	"Yellow" Glare	Energy
	(°)	(°)	min	min	kWh
ONT 6-1	10.0	180.0	4,265	0	-
ONT 6-2	10.0	180.0	3,983	0	-

Total annual glare received by each receptor

Receptor	Annual Green Glare (min)	Annual Yellow Glare (min)
C17-K135 Rec R14 D2	0	0
C17-K135 Rec R32 D2	1629	0
C17-K135 REc R32 D3	558	0
GA REC R14 Downwind P2	3124	0
GA Rec R32 Downwind P2	2937	0

Results for: ONT 6-1

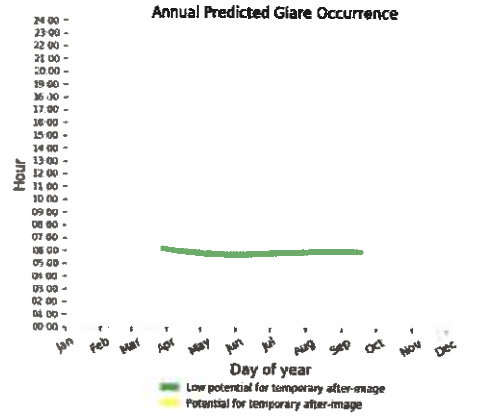
Receptor	Green Glare (min)	Yellow Glare (min)
C17-K135 Rec R14 D2	0	0
C17-K135 Rec R32 D2	816	0
C17-K135 REc R32 D3	288	0
GA REC R14 Downwind P2	1632	0
GA Rec R32 Downwind P2	1529	0

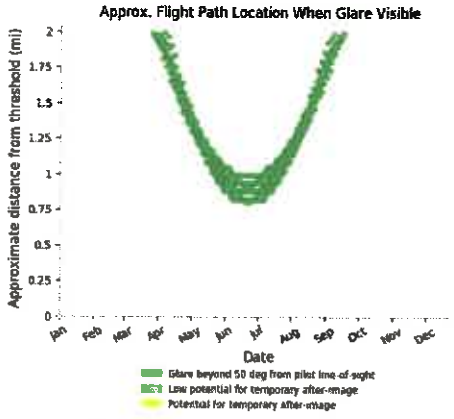
Flight Path: C17-K135 Rec R14 D2

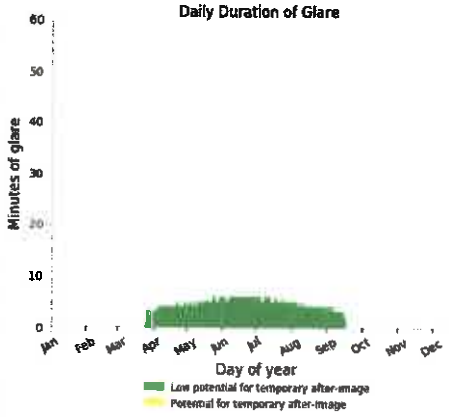
0 minutes of yellow glare
0 minutes of green glare

Flight Path: C17-K135 Rec R32 D2

0 minutes of yellow glare
816 minutes of green glare



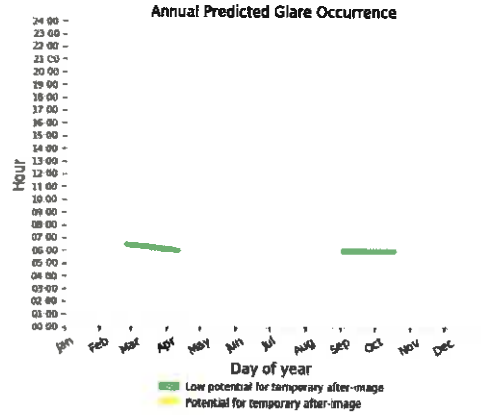


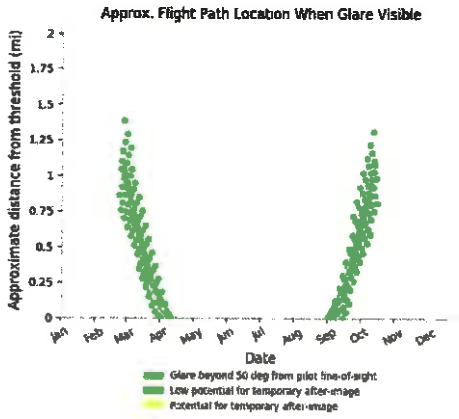


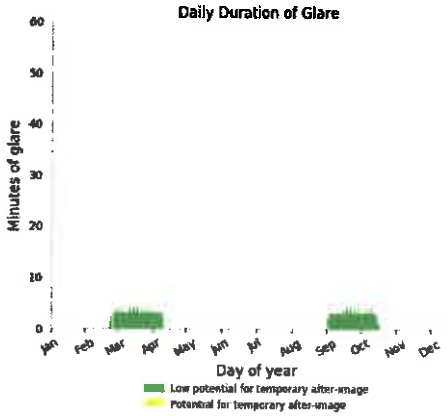
Flight Path: C17-K135 REc R32 D3

0 minutes of yellow glare

288 minutes of green glare



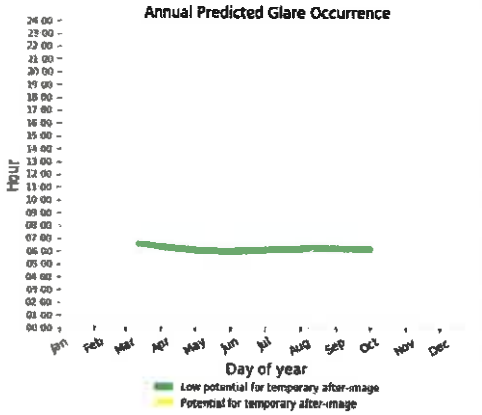


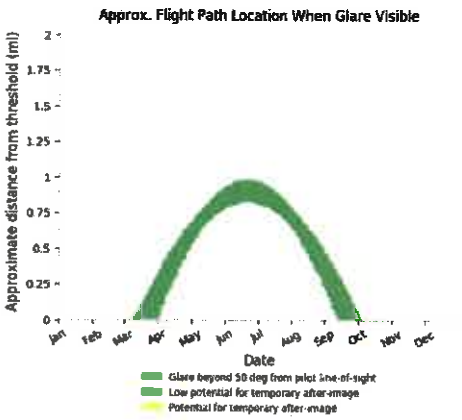


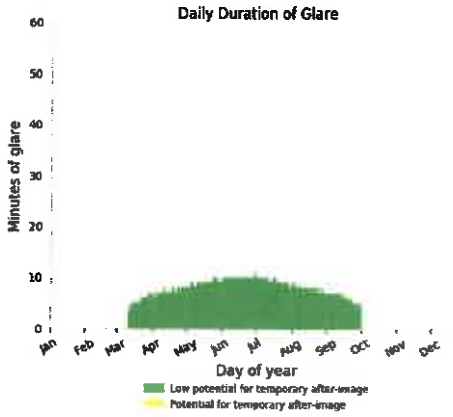
Flight Path: GA REC R14 Downwind P2

0 minutes of yellow glare

1632 minutes of green glare



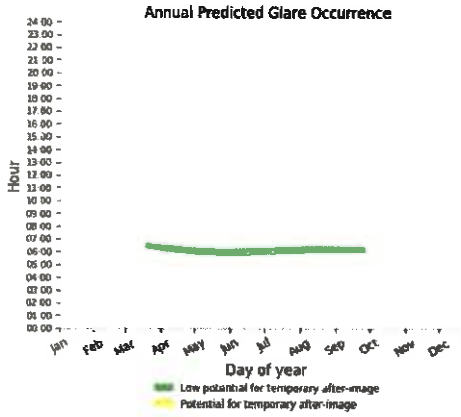


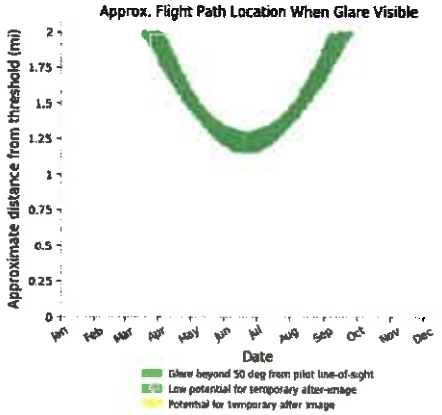


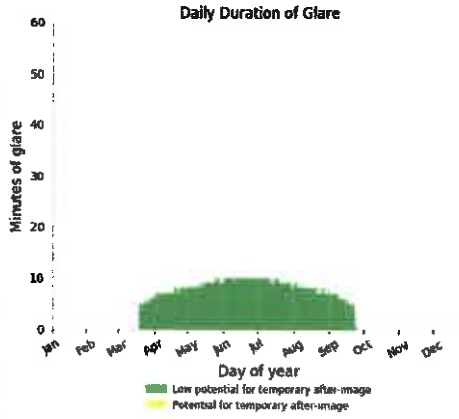
Flight Path: GA Rec R32 Downwind P2

0 minutes of yellow glare

1529 minutes of green glare







Results for: ONT 6-2

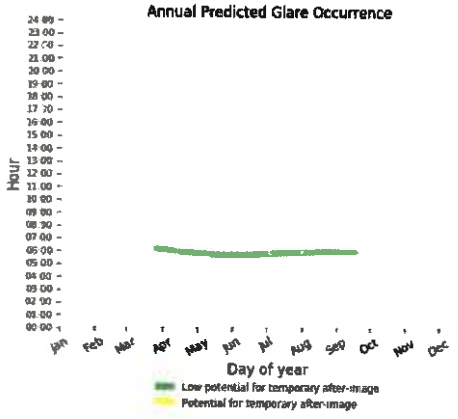
Receptor	Green Glare (min)	Yellow Glare (min)
C17-K135 Rec R14 D2	0	0
C17-K135 Rec R32 D2	813	0
C17-K135 REc R32 D3	270	0
GA REC R14 Downwind P2	1492	0
GA Rec R32 Downwind P2	1408	0

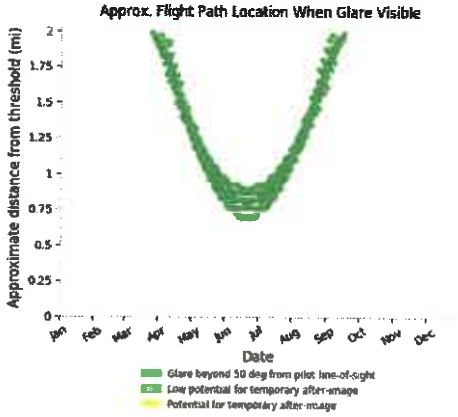
Flight Path: C17-K135 Rec R14 D2

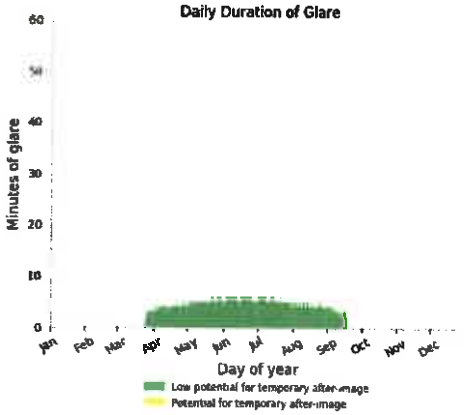
0 minutes of yellow glare
0 minutes of green glare

Flight Path: C17-K135 Rec R32 D2

0 minutes of yellow glare
813 minutes of green glare



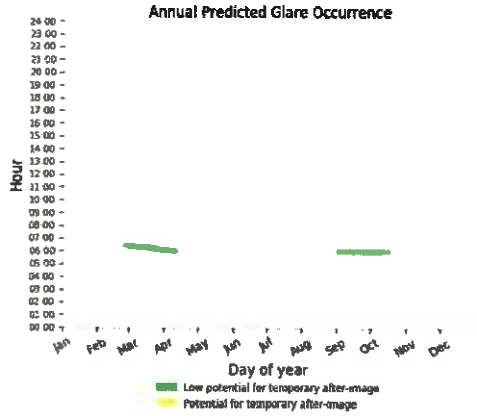


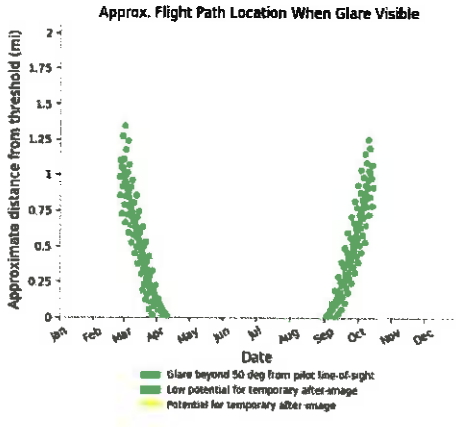


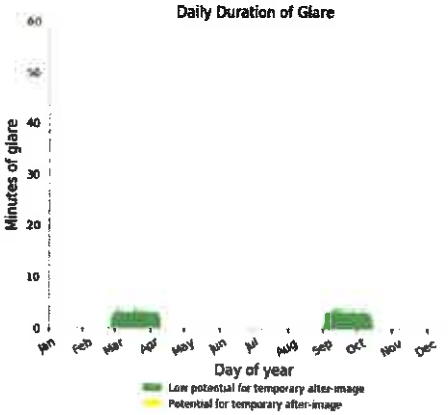
Flight Path: C17-K135 REc R32 D3

0 minutes of yellow glare

270 minutes of green glare



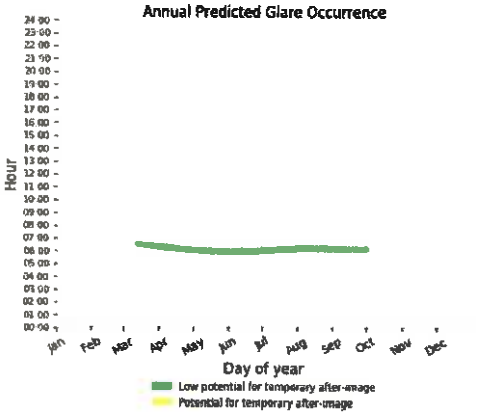


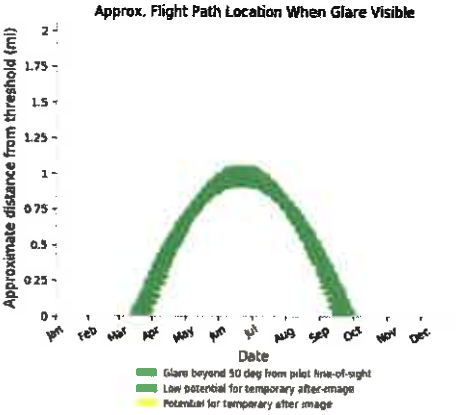


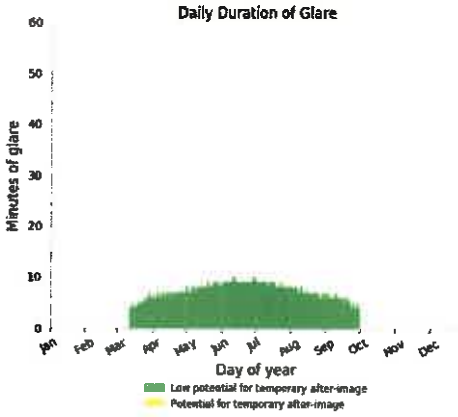
Flight Path: GA REC R14 Downwind P2

0 minutes of yellow glare

1492 minutes of green glare



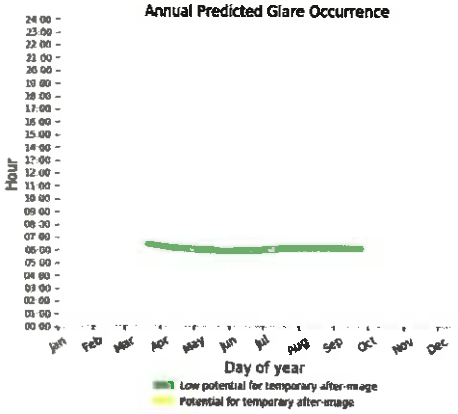


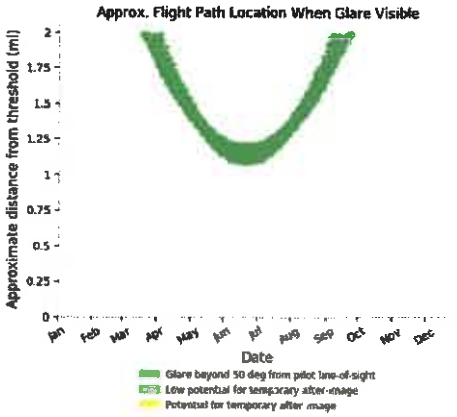


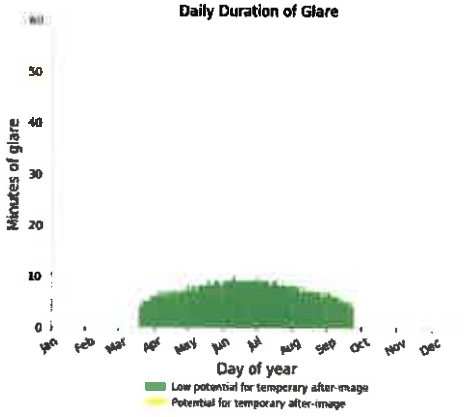
Flight Path: GA Rec R32 Downwind P2

0 minutes of yellow glare

1408 minutes of green glare







Assumptions

"Green" glare is glare with low potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
"Yellow" glare is glare with potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
Glare analyses do not account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.
Several calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results for large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare.
The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)
Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.
Glare vector plots are simplified representations of analysis data. Actual glare emanations and results may differ.
The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual results and glare occurrence may differ.
Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid based on aggregated research data. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.

FORGESOLAR GLARE ANALYSIS

Project: **RecSolar**
Near March Air Reserve

Site configuration: **RecSolar 29-33**
Analysis conducted by Phil DeVita (pdevita@hmmh.com) at 20:48 on 25 Oct, 2019.

U.S. FAA 2013 Policy Adherence

The following table summarizes the policy adherence of the glare analysis based on the 2013 U.S. Federal Aviation Administration Interim Policy 78 FR 63276. This policy requires the following criteria be met for solar energy systems on airport property:

- No "yellow" glare (potential for after-image) for any flight path from threshold to 2 miles
- No glare of any kind for Air Traffic Control Tower(s) ("ATCT") at cab height.
- Default analysis and observer characteristics (see list below)

ForgeSolar does not represent or speak officially for the FAA and cannot approve or deny projects. Results are informational only.

COMPONENT	STATUS	DESCRIPTION
Analysis parameters	PASS	Analysis time interval and eye characteristics used are acceptable
Flight path(s)	PASS	Flight path receptor(s) do not receive yellow glare
ATCT(s)	N/A	No ATCT receptors designated

Default glare analysis parameters and observer eye characteristics (for reference only):

- Analysis time interval: 1 minute
- Ocular transmission coefficient: 0.5
- Pupil diameter: 0.002 meters
- Eye focal length: 0.017 meters
- Sun subtended angle: 9.3 milliradians

FAA Policy 78 FR 63276 can be read at https://www.federalregister.gov/d/2013-24729

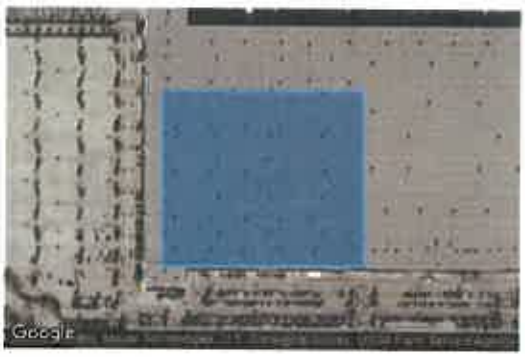
SITE CONFIGURATION

Analysis Parameters

DNI: peaks at 1,000.0 W/m^2
Time interval: 1 min
Ocular transmission coefficient: 0.5
Pupil diameter: 0.002 m
Eye focal length: 0.017 m
Sun subtended angle: 9.3 mrad
Site Config ID: 32371.5914

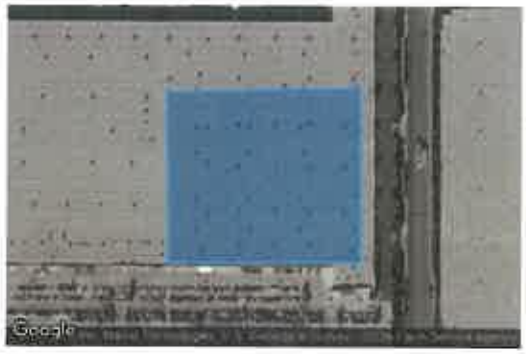
PV Array(s)

Name: ONT 6-1
Axis tracking: Fixed (no rotation)
Tilt: 10.0°
Orientation: 180.0°
Rated power: -
Panel material: Smooth glass without AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	33.872522	-117.240892	1472.07	42.00	1514.07
2	33.872531	-117.239001	1470.07	42.00	1512.07
3	33.871157	-117.238981	1474.07	42.00	1516.07
4	33.871148	-117.240882	1476.07	42.00	1518.07

Name: ONT 6-2
Axis tracking: Fixed (no rotation)
Tilt: 10.0°
Orientation: 180.0°
Rated power: -
Panel material: Smooth glass without AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	33.872521	-117.235407	1476.07	42.00	1518.07
2	33.871147	-117.235397	1480.07	42.00	1522.07
3	33.871138	-117.237195	1475.07	42.00	1517.07
4	33.872487	-117.237216	1471.07	42.00	1513.07

Flight Path Receptor(s)

Name: Overhead 14 Initial P2
Description:
Threshold height: 2000 ft
Direction: 150.4°
Glide slope: 0.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 180.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.905762	-117.277437	1546.08	2000.10	3546.17
Two-mile	33.930889	-117.294691	1529.07	2017.10	3546.17

Name: Overhead 14 Initial P3
Description:
Threshold height: 2000 ft
Direction: 149.5°
Glide slope: 0.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 180.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.880766	-117.259413	1520.07	2000.10	3520.17
Two-mile	33.905689	-117.277088	1545.08	1975.10	3520.17

Name: Overhead 32 Downwind P-2
Description:
Threshold height: 1800 ft
Direction: 149.1°
Glide slope: 0.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 180.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.844388	-117.280365	1719.08	1800.09	3519.17
Two-mile	33.869202	-117.298252	1692.08	1827.09	3519.17

Name: Overhead 32 Initial P-2
Description:
Threshold height: 2000 ft
Direction: 331.5°
Glide slope: 0.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 180.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.856221	-117.242084	1468.07	2000.10	3468.17
Two-mile	33.830807	-117.225463	1460.07	2008.10	3468.17

Name: Overhead 32 Initial P-3
Description:
Threshold height: 2000 ft
Direction: 329.4°
Glide slope: 0.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 180.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.880928	-117.259605	1517.07	2000.10	3517.17
Two-mile	33.856034	-117.241872	1468.07	2049.10	3517.17

GLARE ANALYSIS RESULTS

Summary of Glare

PV Array Name	Tilt	Orient	"Green" Glare	"Yellow" Glare	Energy
	(°)	(°)	min	min	kWh
ONT 6-1	10.0	180.0	10,311	0	-
ONT 6-2	10.0	180.0	11,210	0	-

Total annual glare received by each receptor

Receptor	Annual Green Glare (min)	Annual Yellow Glare (min)
Overhead 14 Initial P2	0	0
Overhead 14 Initial P3	3104	0
Overhead 32 Downwind P-2	2134	0
Overhead 32 Initial P-2	0	0
Overhead 32 Initial P-3	16283	0

Results for: ONT 6-1

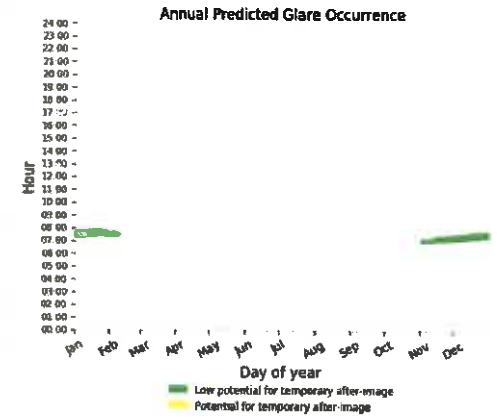
Receptor	Green Glare (min)	Yellow Glare (min)
Overhead 14 Initial P2	0	0
Overhead 14 Initial P3	1224	0
Overhead 32 Downwind P-2	1078	0
Overhead 32 Initial P-2	0	0
Overhead 32 Initial P-3	8009	0

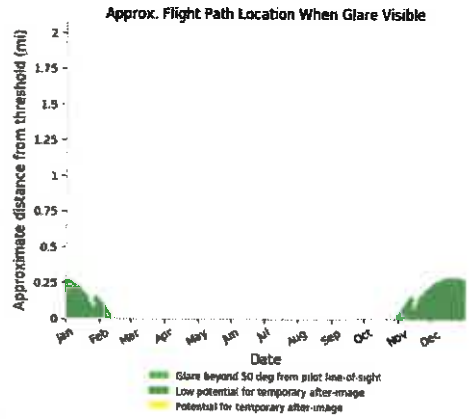
Flight Path: Overhead 14 Initial P2

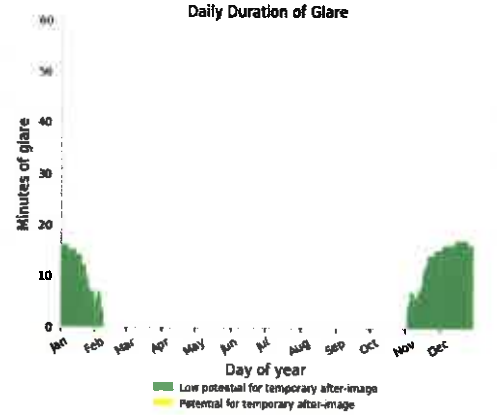
0 minutes of yellow glare
0 minutes of green glare

Flight Path: Overhead 14 Initial P3

0 minutes of yellow glare
1224 minutes of green glare



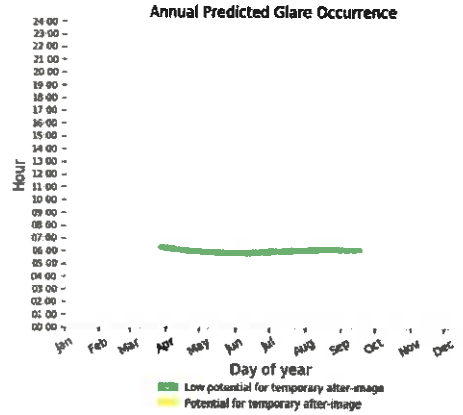


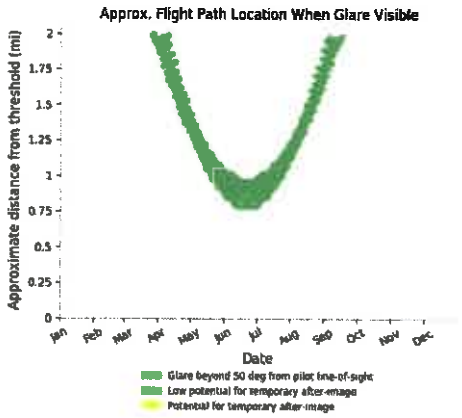


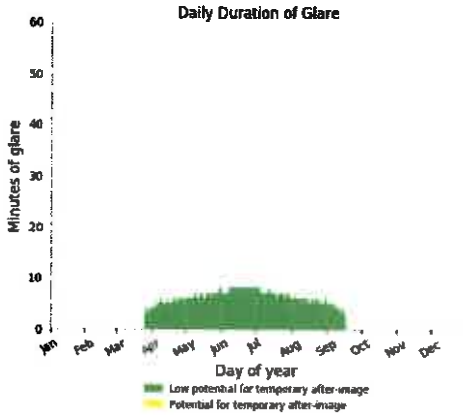
Flight Path: Overhead 32 Downwind P-2

0 minutes of yellow glare

1078 minutes of green glare







Flight Path: Overhead 32 Initial P-2

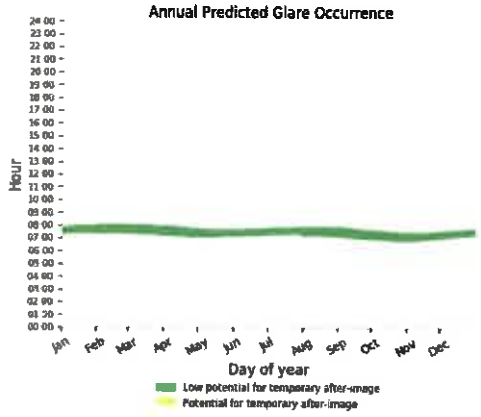
0 minutes of yellow glare

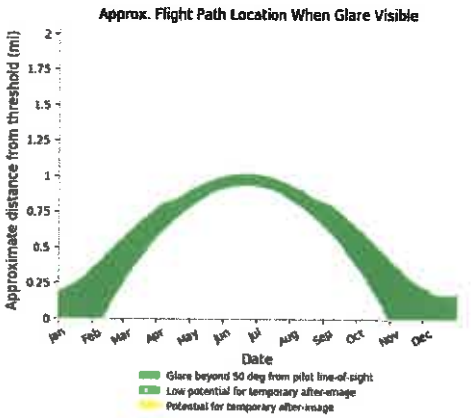
0 minutes of green glare

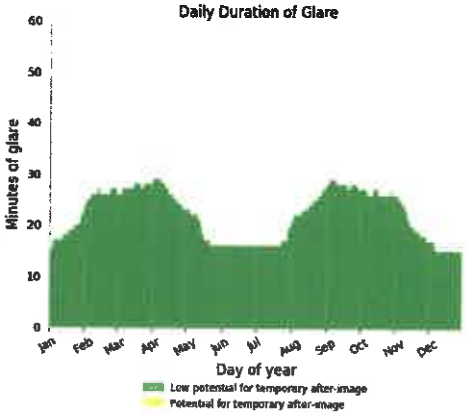
Flight Path: Overhead 32 Initial P-3

0 minutes of yellow glare

8009 minutes of green glare







Results for: ONT 6-2

Receptor	Green Glare (min)	Yellow Glare (min)
Overhead 14 Initial P2	0	0
Overhead 14 Initial P3	1880	0
Overhead 32 Downwind P-2	1056	0
Overhead 32 Initial P-2	0	0
Overhead 32 Initial P-3	8274	0

Flight Path: Overhead 14 Initial P2

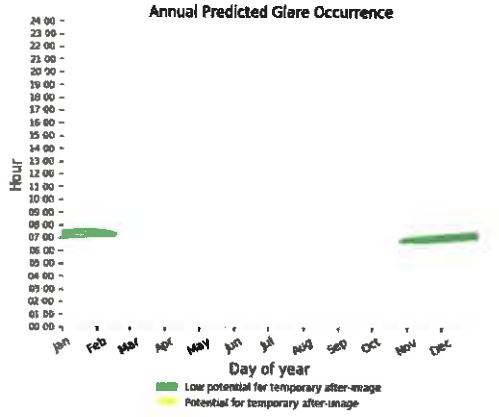
0 minutes of yellow glare

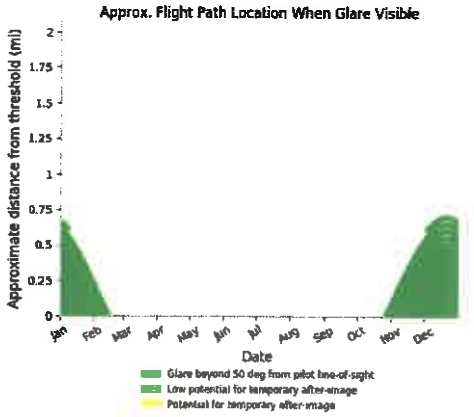
0 minutes of green glare

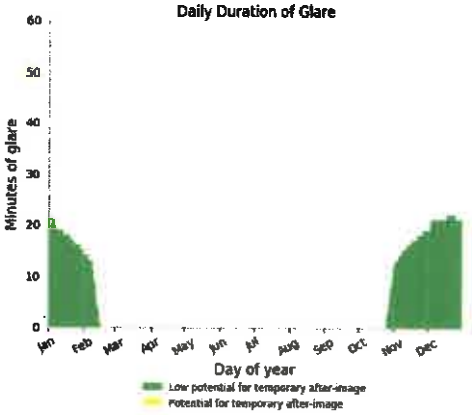
Flight Path: Overhead 14 Initial P3

0 minutes of yellow glare

1880 minutes of green glare



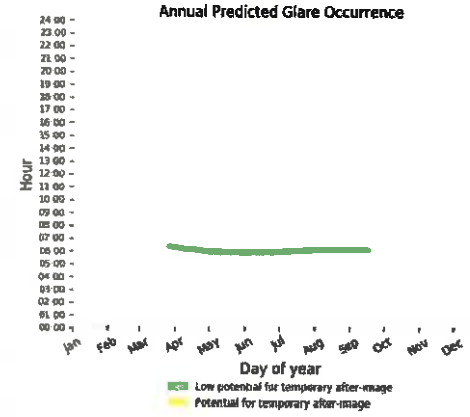


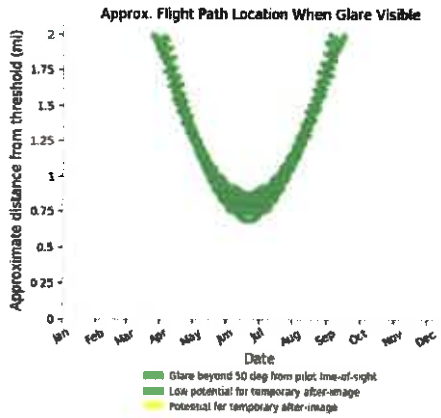


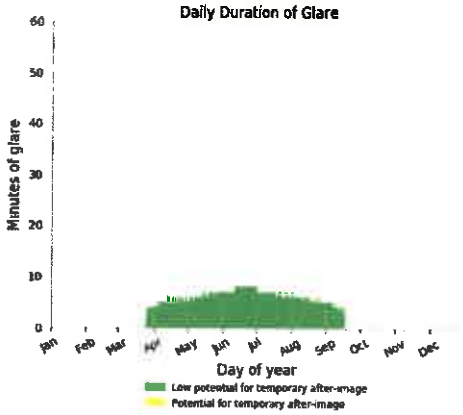
Flight Path: Overhead 32 Downwind P-2

0 minutes of yellow glare

1056 minutes of green glare







Flight Path: Overhead 32 Initial P-2

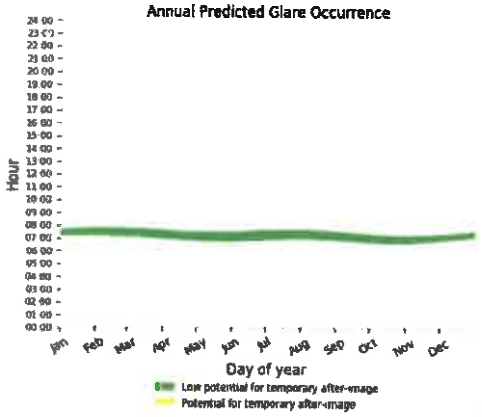
0 minutes of yellow glare

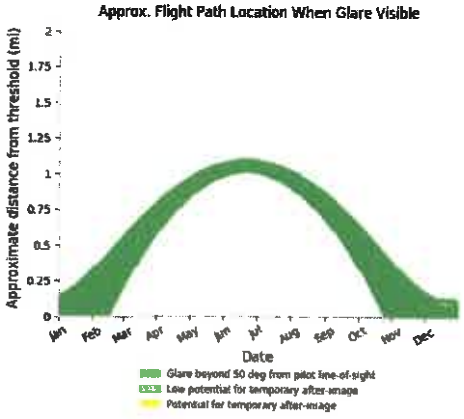
0 minutes of green glare

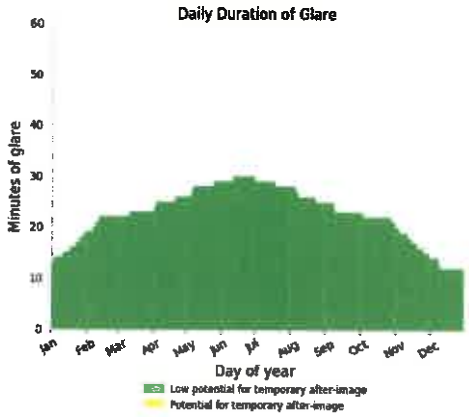
Flight Path: Overhead 32 Initial P-3

0 minutes of yellow glare

8274 minutes of green glare







Assumptions

"Green" glare is glare with low potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
"Yellow" glare is glare with potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
Glare analyses do not account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.
Several calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results for large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare.
The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)
Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.
Glare vector plots are simplified representations of analysis data. Actual glare emanations and results may differ.
The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual results and glare occurrence may differ.
Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid based on aggregated research data. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.

FORGESOLAR GLARE ANALYSIS

Project: **RecSolar**
Near March Air Reserve

Site configuration: **RecSolar ATCT**
Analysis conducted by Phil DeVita (pdevita@hmmh.com) at 17:04 on 06 Nov, 2019.

U.S. FAA 2013 Policy Adherence

The following table summarizes the policy adherence of the glare analysis based on the 2013 U.S. Federal Aviation Administration Interim Policy 78 FR 63276. This policy requires the following criteria be met for solar energy systems on airport property:

- No "yellow" glare (potential for after-image) for any flight path from threshold to 2 miles
- No glare of any kind for Air Traffic Control Tower(s) ("ATCT") at cab height.
- Default analysis and observer characteristics (see list below)

ForgeSolar does not represent or speak officially for the FAA and cannot approve or deny projects. Results are informational only.

COMPONENT	STATUS	DESCRIPTION
Analysis parameters	PASS	Analysis time interval and eye characteristics used are acceptable
Flight path(s)	N/A	No flight paths analyzed
ATCT(s)	PASS	Receptor(s) marked as ATCT do not receive glare

Default glare analysis parameters and observer eye characteristics (for reference only):

- Analysis time interval: 1 minute
- Ocular transmission coefficient: 0.5
- Pupil diameter: 0.002 meters
- Eye focal length: 0.017 meters
- Sun subtended angle: 9.3 milliradians

FAA Policy 78 FR 63276 can be read at https://www.federalregister.gov/d/2013-24729

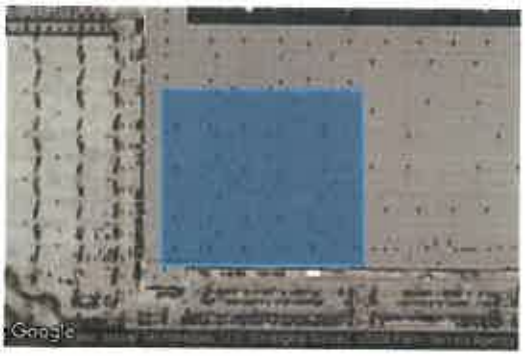
SITE CONFIGURATION

Analysis Parameters

DNI: peaks at 1,000.0 W/m^2
Time interval: 1 min
Ocular transmission coefficient: 0.5
Pupil diameter: 0.002 m
Eye focal length: 0.017 m
Sun subtended angle: 9.3 mrad
Site Config ID: 32937.5914

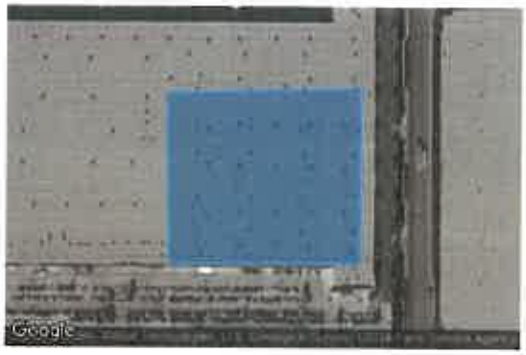
PV Array(s)

Name: ONT 6-1
Axis tracking: Fixed (no rotation)
Tilt: 10.0°
Orientation: 180.0°
Rated power: -
Panel material: Smooth glass without AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	33.872522	-117.240892	1472.07	42.00	1514.07
2	33.872531	-117.239001	1470.07	42.00	1512.07
3	33.871157	-117.238981	1474.07	42.00	1516.07
4	33.871148	-117.240882	1476.07	42.00	1518.07

Name: ONT 6-2
Axis tracking: Fixed (no rotation)
Tilt: 10.0°
Orientation: 180.0°
Rated power: -
Panel material: Smooth glass without AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	33.872521	-117.235407	1476.07	42.00	1518.07
2	33.871147	-117.235397	1480.07	42.00	1522.07
3	33.871138	-117.237195	1475.07	42.00	1517.07
4	33.872487	-117.237216	1471.07	42.00	1513.07

Discrete Observation Receptors

Name	ID	Latitude (°)	Longitude (°)	Elevation (ft)	Height (ft)
1-ATCT	1	33.891572	-117.251203	1509.01	118.01

Map image of 1-ATCT

GLARE ANALYSIS RESULTS

Summary of Glare

PV Array Name	Tilt	Orient	"Green" Glare	"Yellow" Glare	Energy
	(°)	(°)	min	min	kWh
ONT 6-1	10.0	180.0	0	0	-
ONT 6-2	10.0	180.0	0	0	-

Total annual glare received by each receptor

Receptor	Annual Green Glare (min)	Annual Yellow Glare (min)
1-ATCT	0	0

Results for: ONT 6-1

Receptor	Green Glare (min)	Yellow Glare (min)
1-ATCT	0	0

Point Receptor: 1-ATCT

0 minutes of yellow glare
0 minutes of green glare

Results for: ONT 6-2

Receptor	Green Glare (min)	Yellow Glare (min)
1-ATCT	0	0

Point Receptor: 1-ATCT

0 minutes of yellow glare
0 minutes of green glare

Assumptions

"Green" glare is glare with low potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
"Yellow" glare is glare with potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
Glare analyses do not account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.
Several calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results for large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare.
The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)
Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.
Glare vector plots are simplified representations of analysis data. Actual glare emanations and results may differ.
The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual results and glare occurrence may differ.
Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid based on aggregated research data. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.

NOTICE OF PUBLIC HEARING
RIVERSIDE COUNTY AIRPORT LAND USE COMMISSION

A PUBLIC HEARING has been scheduled before the Riverside County Airport Land Use Commission (ALUC) to consider the application described below.

Any person may submit written comments to the ALUC before the hearing or may appear and be heard in support of or opposition to the project at the time of hearing. For more information please contact **ALUC Planner Paul Rull at (951) 955-6893**. The ALUC holds hearings for local discretionary permits within the Airport Influence Area, reviewing for aeronautical safety, noise and obstructions. ALUC reviews a proposed plan or project solely to determine whether it is consistent with the applicable Airport Land Use Compatibility Plan.

The City of Moreno Valley Planning Department may hold hearings on this item and should be contacted on non-ALUC issues. For more information please contact City of Moreno Valley Planner Mr. Austin Dickinson at (951) 413-3233.

The proposed project application may be viewed and written comments may be submitted at the Riverside County Administrative Center, 4080 Lemon Street, 14th Floor, Riverside, California 92501, Monday through Thursday from 8:00 a.m. to 5:00 p.m., except Thursday and Friday November 28 and 29 (Thanksgiving), and by prescheduled appointment on Friday, from 9:00 a.m. to 5:00 p.m.

PLACE OF HEARING: Riverside County Administration Center
4080 Lemon Street, 1st Floor Board Chambers
Riverside California

DATE OF HEARING: December 12, 2019

TIME OF HEARING: 9:30 A.M.

CASE DESCRIPTION:

ZAP1388MA19 – REC Solar (Representative: Tomas Mendez) – City of Moreno Valley Case No. PEN19-0200 (Plot Plan). A proposal for the installation of a 2,804 kilowatt solar roof top panel system (ONT 6) on the existing 1,173,709 square foot Amazon warehouse/distribution center on a 35.4 acre parcel located at 24208 San Michele Road. (A previous proposal to establish a 4014.36 kilowatt solar rooftop panel system on the same building had been found consistent by the ALUC, and was approved by the City's Planning Commission, but is set to expire) (Airport Compatibility Zone C1 of the March Air Reserve Base/Inland Port Airport Influence Area).

RIVERSIDE COUNTY
AIRPORT LAND USE COMMISSION

APPLICATION FOR MAJOR LAND USE ACTION REVIEW

MECH
ZONE C1

ALUC CASE NUMBER: ZAP1388MA19 DATE SUBMITTED: 11/1/19

APPLICANT / REPRESENTATIVE / PROPERTY OWNER CONTACT INFORMATION

Applicant	REC Solar	Phone Number	513.638.0369
Mailing Address	3450 Broad St	Email	tmendez@recsolar.com
	Suite 105		
	San Luis Obispo, CA 93401		
Representative	Tomas Mendez	Phone Number	513.638.0369
Mailing Address	139 E 4th St	Email	tmendez@recsolar.com
	EM332		
	Cincinnati OH 45202		
Property Owner	Amazon, Greg Michaelson	Phone Number	206.413.4000
Mailing Address	207 Boren Ave. N. 4th Floor	Email	micgreg@amazon.com
	Seattle, WA 98109		

LOCAL JURISDICTION AGENCY

Local Agency Name	Moreno Valley Building Department, City of Moreno Valley	Phone Number	951-413-3233
Staff Contact	Austin Dickinson	Email	austind@moval.org
Mailing Address	14177 Frederick St	Case Type	
	Moreno Valley, CA 92553	☐ General Plan / Specific Plan Amendment ☐ Zoning Ordinance Amendment ☐ Subdivision Parcel Map / Tentative Tract	
Local Agency Project No	PEN19-0200	☐ Use Permit ☐ Site Plan Review/Plot Plan ☒ Other	

PROJECT LOCATION

Attach an accurately scaled map showing the relationship of the project site to the airport boundary and runways

Street Address	24208 San Michele Road		
	Moreno Valley, California 92551		
Assessor's Parcel No.	316-170-023	Gross Parcel Size	7,576 Modules
Subdivision Name		Nearest Airport and distance from Airport	March Air Reserve Base, less than 2 miles away
Lot Number			

PROJECT DESCRIPTION

If applicable, attach a detailed site plan showing ground elevations, the location of structures, open spaces and water bodies, and the heights of structures and trees; include additional project description data as needed

Existing Land Use (describe)	Current location has an existing Amazon Fulfillment Center

Proposed Land Use (describe)	We will be adding a solar photovoltaic system of 2,804 kW DC to the existing Amazon building. Roof top system will be installed on a hybrid ballasted and mechanically attached racking system.	
For Residential Uses	Number of Parcels or Units on Site (exclude secondary units)	1
For Other Land Uses (See Appendix C)	Hours of Operation: Photovoltaic operation from Sunrise to Sunset	
	Number of People on Site: N/A Maximum Number: N/A	
	Method of Calculation: N/A	
Height Data	Site Elevation (above mean sea level)	1517 ft.
	Height of buildings or structures (from the ground)	44 ft.
Flight Hazards	Does the project involve any characteristics which could create electrical interference, confusing lights, glare, smoke, or other electrical or visual hazards to aircraft flight?	■ Yes ☐ No
	If yes, describe: The solar panels are composed of non-reflective glass, which might have light to moderate impact on the flight paths. A glare study will be performed to assess.	

A. **NOTICE:** Failure of an applicant to submit complete or adequate information pursuant to Sections 65940 to 65948 inclusive, of the California Government Code, MAY constitute grounds for disapproval of actions, regulations, or permits.

B. **REVIEW TIME:** Estimated time for "staff level review" is approximately 30 days from date of submittal. Estimated time for "commission level review" is approximately 45 days from date of submittal to the next available commission hearing meeting.

C. **SUBMISSION PACKAGE:**

1. . . . . Completed ALUC Application Form
1. . . . . ALUC fee payment
1. . . . . Plans Package (24x36 folded) (site plans, floor plans, building elevations, grading plans, subdivision maps)
1. . . . . Plans Package (8.5x11) (site plans, floor plans, building elevations, grading plans, subdivision maps, zoning ordinance/GPA/SPA text/map amendments)
1. . . . . CD with digital files of the plans (pdf)
1. . . . . Vicinity Map (8.5x11)
1. . . . . Detailed project description
1. . . . . Local jurisdiction project transmittal
3. . . . . Gummed address labels for applicant/representative/property owner/local jurisdiction planner
3. . . . . Gummed address labels of all surrounding property owners within a 300 foot radius of the project site. **(Only required if the project is scheduled for a public hearing Commission meeting)**

RIVERSIDE COUNTY
AIRPORT LAND USE COMMISSION

STAFF REPORT

ADMINISTRATIVE ITEMS

4.1 Director's Approvals.

A. During the period of October 16, 2019 through November 15, 2019, as authorized pursuant to Section 1.5.2(d) of the 2004 Riverside County Airport Land Use Compatibility Plan, ALUC Director Simon Housman reviewed one non-legislative case within Zone E of the March Air Reserve Base/Inland Port Airport Influence Area and issued a determination of consistency.

ZAP1387MA19 (March Air Reserve Base/Inland Port, Zone E) pertains to City of Moreno Valley Case No. PEN19-0177 (Conditional Use Permit), a proposal to establish a cannabis micro business within an existing 26,678 square foot building, with a building addition of 665 square feet on a 2.06-acre parcel located at 24685 Alessandro Boulevard within a commercial center (northerly of Jenkins Drive and easterly of Indian Street). The site is located within Compatibility Zone E of the March Air Reserve Base/Inland Port Airport (MARB/IPA) Influence Area (AIA), where non-residential intensity is not restricted.

The elevation of Runway 14-32 at MARB/IPA at its northerly terminus is 1,535 feet above mean sea level (AMSL). At a distance of approximately 13,200 feet from the runway to the site, Federal Aviation Administration Obstruction Evaluation Service (FAA OES) review would be required for any structures with top of roof exceeding 1,667 feet AMSL. The site's existing elevation is 1,580 feet AMSL. With a maximum building height of 28.5 feet, the top point elevation would be 1,608.5 feet AMSL. Therefore, FAA OES review for height/elevation reasons was not required.

ALUC Director Simon Housman issued a determination of consistency for this project on October 31, 2019.

4.2 Federal Aviation Administration Determination for ZAP1092FV19

On October 10, 2019, ALUC found Riverside County Case No. PPT190020 (Plot Plan), a proposal to construct 55 industrial/manufacturing buildings totaling 404,325 square feet on 37.07 gross acres located southerly of Auld Road, westerly of Leon Road, and easterly of French Valley Airport, CONDITIONALLY CONSISTENT with the 2007 French Valley Airport Land Use Compatibility Plan, as amended in 2011, pending review by the Federal Aviation Administration Obstruction Evaluation Service (FAA OES).

The applicant team had made its submittal to the FAA for the four corners of the project. This is usually an appropriate way to deal with large projects such as residential subdivisions. The FAA OES issued Determinations of No Hazard to Air Navigation for each of the four points on November 12, 2019. However, while the northeast, southeast, and southwest corner letters were identical, the letter for the northwest corner indicated that the building at that location (Building 2) was determined to exceed the obstruction standards and would be required to be equipped with obstruction marking and lighting (red lights). The difficulty is that it is not clear how many buildings would be subject to the lighting requirement. ALUC Director Simon Housman will address the Commission in regard to this matter.

4.3 Commissioner Public Contact Information

ALUC Director Simon Housman will provide an oral briefing to the Commission.

AIRPORT LAND USE COMMISSION
RIVERSIDE COUNTY

4.1

October 31, 2019

Ms. Julia Descoteaux, Associate Planner
City of Moreno Valley Planning Department
14177 Frederick Street
Moreno Valley CA 92552

RE: AIRPORT LAND USE COMMISSION (ALUC) DEVELOPMENT REVIEW – DIRECTOR'S DETERMINATION

File No.:	ZAP1387MA19
Related File No.:	PEN19-0177 (Conditional Use Permit)
APN:	482-520-012

Dear Ms. Descoteaux:

Under the delegation of the Riverside County Airport Land Use Commission (ALUC) pursuant to Policy 1.5.2(d) of the Countywide Policies of the 2004 Riverside County Airport Land Use Compatibility Plan, staff reviewed City of Moreno Valley Case No. PEN19-0177 (Conditional Use Permit), a proposal to establish a cannabis micro business within an existing 26,678 square foot building with a building addition of 665 square feet on a 2.06-acre parcel located at 24685 Alessandro Boulevard.

The site is located within Airport Compatibility Zone E of the March Air Reserve Base/Inland Port Airport Influence Area (AIA). Within Compatibility Zone E, non-residential intensity is not restricted.

The elevation of Runway 14-32 at March Air Reserve Base/Inland Port Airport is approximately 1,535 feet above mean sea level (AMSL) at its northerly terminus. At a distance of 13,200 feet from the project to the nearest point on the runway, Federal Aviation Administration Obstruction Evaluation Service (FAA OES) review would be required for any structures with an elevation at top of roof exceeding 1,667 feet AMSL. The site's existing elevation is 1,580 feet AMSL, and the building height is 28.5 feet, resulting in a top point elevation of 1,608.5 feet AMSL. No changes in building height are proposed. Therefore, FAA OES review for height/elevation reasons was not required.

As ALUC Director, I hereby find the above-referenced project **CONSISTENT** with the 2014 March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan, provided that the City of Moreno Valley applies the following recommended conditions:

CONDITIONS:

1. Any new outdoor lighting that is installed shall be hooded or shielded so as to prevent either the spillage of lumens or reflection into the sky. Outdoor lighting shall be downward facing.

County Administrative Center
4080 Lemon St., 14th Floor
Riverside, CA 92501
(951) 955-5132

www.rcaluc.org

2. The following uses/activities are not included in the proposed project and shall be prohibited at this site.

   (a) Any use which would direct a steady light or flashing light of red, white, green, or amber colors associated with airport operations toward an aircraft engaged in an initial straight climb following takeoff or toward an aircraft engaged in a straight final approach toward a landing at an airport, other than an FAA-approved navigational signal light or visual approach slope indicator.

   (b) Any use which would cause sunlight to be reflected towards an aircraft engaged in an initial straight climb following takeoff or towards an aircraft engaged in a straight final approach towards a landing at an airport.

   (c) Any use which would generate smoke or water vapor or which would attract large concentrations of birds, or which may otherwise affect safe air navigation within the area. (Such uses include landscaping utilizing water features, aquaculture, production of cereal grains, sunflower, and row crops, composting operations, trash transfer stations that are open on one or more sides, recycling centers containing putrescible wastes, construction and demolition debris facilities, fly ash disposal, and incinerators.)

   (d) Any use which would generate electrical interference that may be detrimental to the operation of aircraft and/or aircraft instrumentation.

3. The attached notice shall be provided to all prospective purchasers of the property and tenants of the building.

4. No new detention basins are proposed by this project. Any new aboveground detention or water quality basins on the site shall be designed so as to provide for a maximum 48-hour detention period following the conclusion of the storm event for the design storm (may be less, but not more), and to remain totally dry between rainfalls. Vegetation in and around the detention basins that would provide food or cover for bird species that would be incompatible with airport operations shall not be utilized in project landscaping.

If you have any questions, please contact Paul Rull, ALUC Principal Planner, at (951) 955-6893.

Sincerely,
RIVERSIDE COUNTY AIRPORT LAND USE COMMISSION

Simon A. Housman, ALUC Director

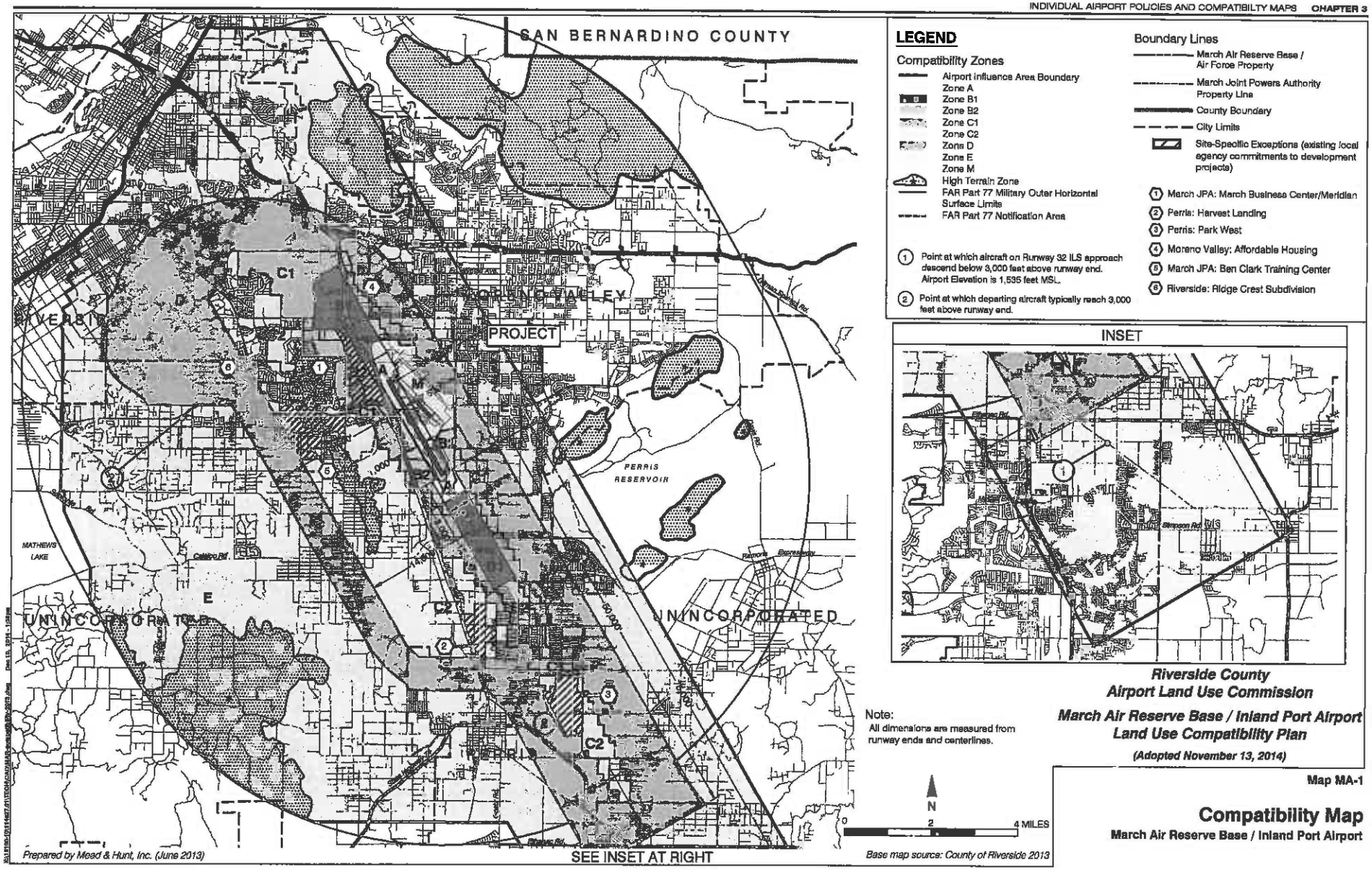
Attachments: Notice of Airport in Vicinity

cc: Andy Minor, Panacea Farms MV, LLC (applicant)
Thong Van Tran & Hai Kim Nguyen (property owner – San Jacinto address)
Thong Van Tran & Hai Kim Nguyen (property owner – Colton address)
HM Holland Development LLC (fee-payer – Canyon Lake address)
Gary Gosliga, Airport Manager, March Inland Port Airport Authority
Base Civil Engineer, March Air Reserve Base
ALUC Case File

Y:\AIRPORT CASE FILES\March\ZAP1387MA19\ZAP1387MA19.LTR.doc

NOTICE OF AIRPORT IN VICINITY

This property is presently located in the vicinity of an airport, within what is known as an airport influence area. For that reason, the property may be subject to some of the annoyances or inconveniences associated with proximity to airport operations (for example: noise, vibration, or odors). Individual sensitivities to those annoyances [can vary from person to person. You may wish to consider what airport annoyances], if any, are associated with the property before you complete your purchase and determine whether they are acceptable to you. Business & Professions Code Section 11010 (b)(13)(A)



LEGEND

Compatibility Zones

- Airport influence Area Boundary
- Zone A
- Zone B1
- Zone B2
- Zone C1
- Zone C2
- Zone D
- Zone E
- Zone M
- High Terrain Zone
- FAR Part 77 Military Outer Horizontal Surface Limits
- FAR Part 77 Notification Area

(1) Point at which aircraft on Runway 32 ILS approach descend below 3,000 feet above runway end. Airport Elevation is 1,535 feet MSL.

(2) Point at which departing aircraft typically reach 3,000 feet above runway end.

Boundary Lines

- March Air Reserve Base / Air Force Property
- March Joint Powers Authority Property Line
- County Boundary
- City Limits
- Site-Specific Exceptions (existing local agency commitments to development projects)

(1) March JPA: March Business Center/Meridian
(2) Perris: Harvest Landing
(3) Perris: Park West
(4) Moreno Valley: Affordable Housing
(5) March JPA: Ben Clark Training Center
(6) Riverside: Ridge Crest Subdivision

INSET

Note:
All dimensions are measured from runway ends and centerlines.

Riverside County
Airport Land Use Commission

March Air Reserve Base / Inland Port Airport
Land Use Compatibility Plan

(Adopted November 13, 2014)

Map MA-1

Compatibility Map

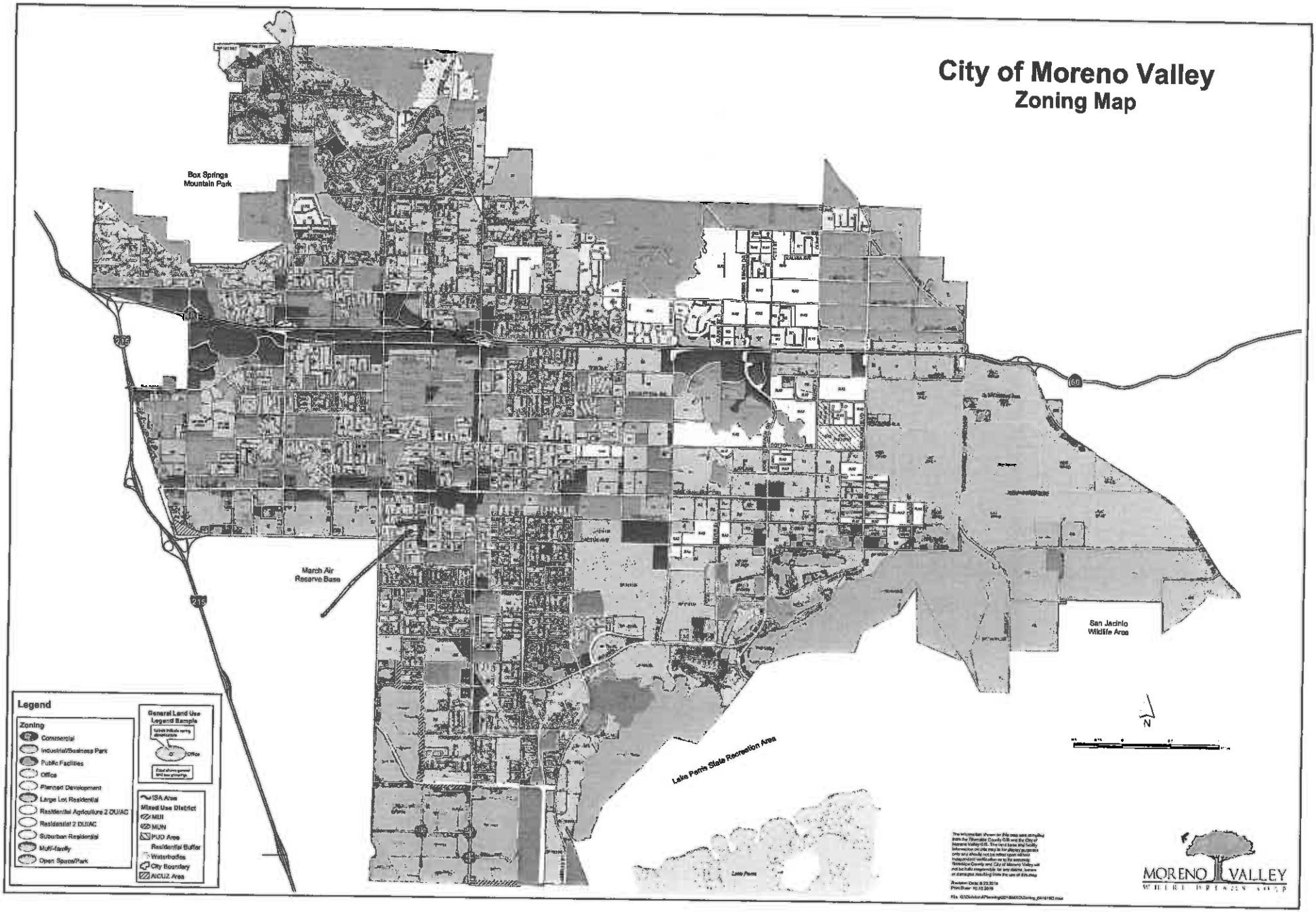
March Air Reserve Base / Inland Port Airport

Google Maps March Air Reserve Base, CA to 24685 Alessandro Blvd

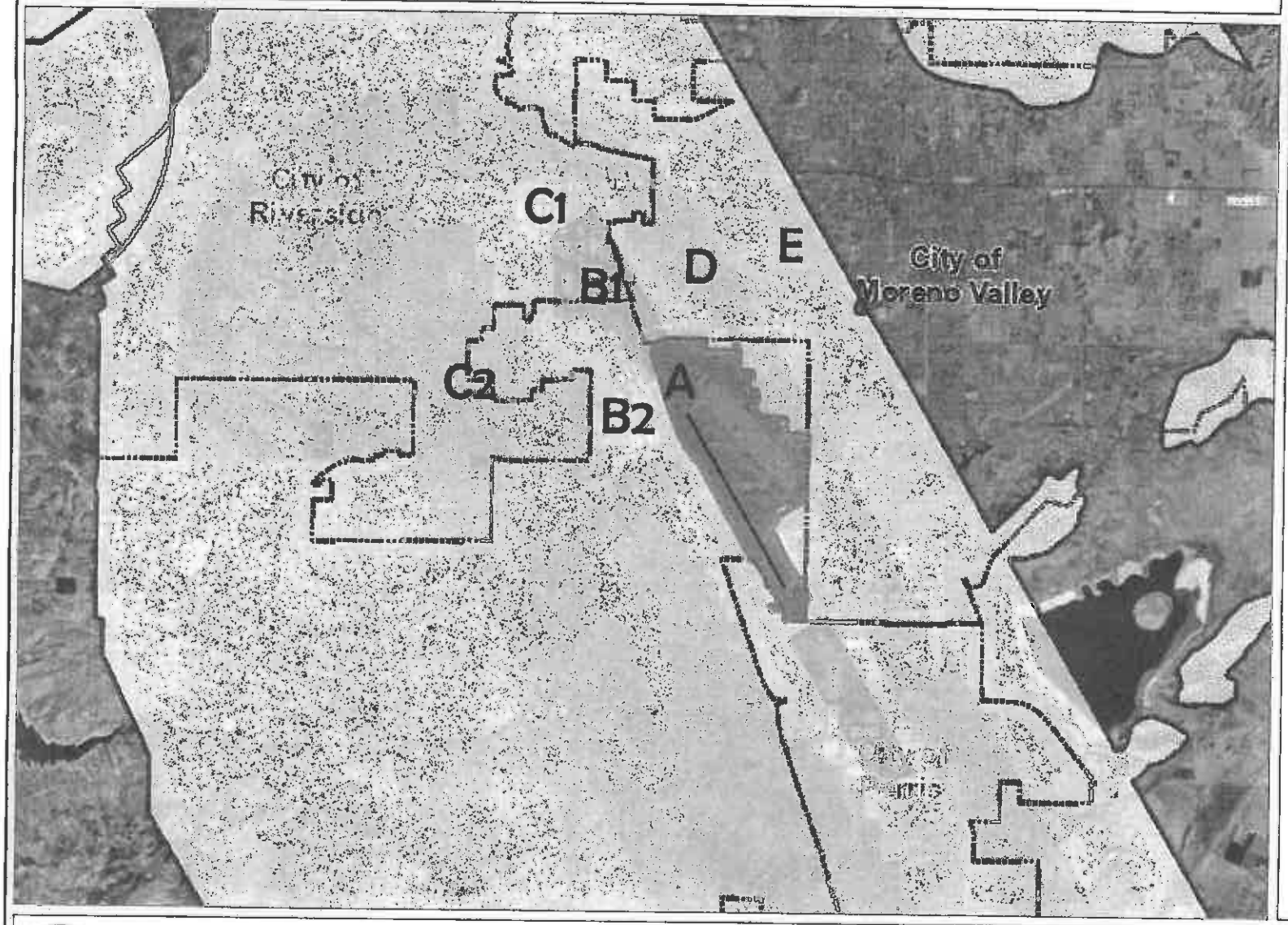
Drive 4.9 miles, 10 min

2000 ft

City of Moreno Valley
Zoning Map



Map My County Map



Legend

- Runways
- Airports
- Airport Influence Areas
- Airport Compatibility Zones
  - OTHER COMPATIBILITY ZONE
  - A
  - A-EXC1
  - B1
  - B1-APZ I
  - B1-APZ I-EXC1
  - B1-APZ II
  - B1-APZ II-EXC1
  - B1-EXC1
  - B2
  - B2-EXC1
  - C
  - C1
  - C1-EXC1
  - C1-EXC3
  - C1-EXC4
  - C1-HIGHT
  - C2
  - C2-EXC1
  - C2-EXC2
  - C2-EXC3
  - C2-EXC5
  - C2-EXC6

0 12,127 24,254 Feet

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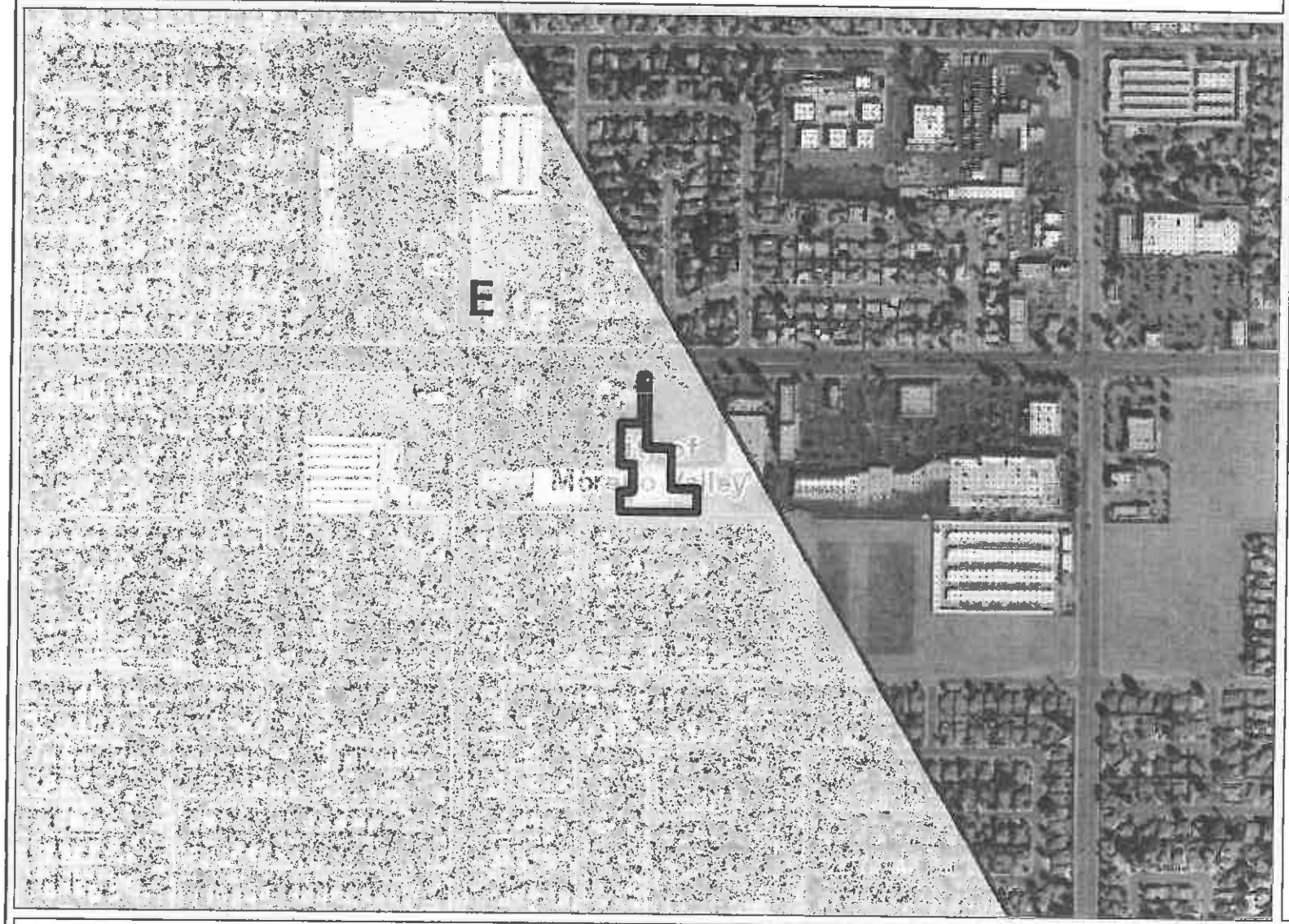
Notes

Map My County Map



Legend

- Runways
- Airports
- Airport Influence Areas
- Airport Compatibility Zones
  - OTHER COMPATIBILITY ZONE
  - A
  - A-EXC1
  - B1
  - B1-APZ I
  - B1-APZ I-EXC1
  - B1-APZ II
  - B1-APZ II-EXC1
  - B1-EXC1
  - B2
  - B2-EXC1
  - C
  - C1
  - C1-EXC1
  - C1-EXC3
  - C1-EXC4
  - C1-HIGHT
  - C2
  - C2-EXC1
  - C2-EXC2
  - C2-EXC3
  - C2-EXC5
  - C2-EXC6

0 758 1,516 Feet

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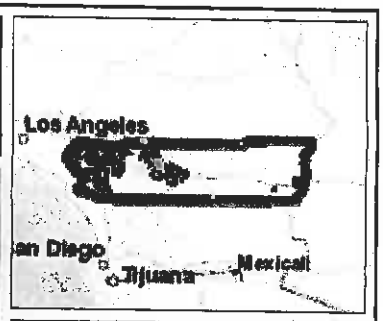

Legend

- City Areas
- World Street Map

Notes

0 12,127 24,254 Feet

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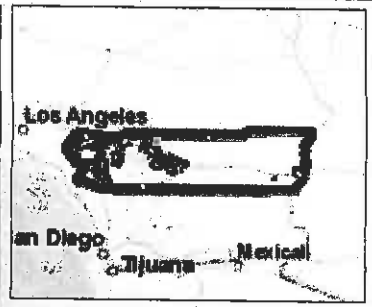

Legend

- Blueline Streams
- City Areas
- World Street Map

Notes

0 3,032 6,064 Feet

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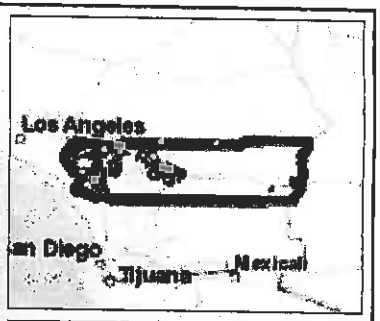
Map My County Map



Legend

- Blueline Streams
- City Areas
- World Street Map

0 758 1,516 Feet

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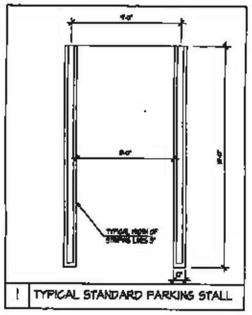
Notes

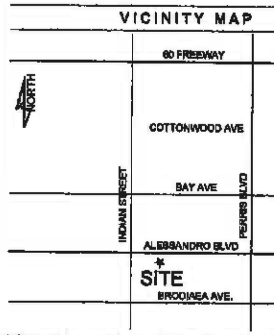


OCCUPANT LOAD

PER 2016 CBC

	OCCUPANCY TYPE	SQ.FT.		OCCUPANT LOAD
TOTAL	F-I	12,923		49.2
TOTAL	S	5,722		7.5
TOTAL	B	8,121		27.2
TOTAL	M	1,912		31.9
TOTAL (E) FOOTPRINT		26,678		
TOTAL FOOTPRINT		26,678		116
TOTAL SITE		84,158.6		

NOTE:
A RECIPROCAL ACCESS AGREEMENT EXIST FOR THE SHARED-USE DRIVEWAY(S)



NOTE:
THIS PROJECT SHALL COMPLY WITH THE LOCAL ORDINANCE AND
THE 2016 CALIFORNIA BUILDING CODE, PART 2;
THE 2016 CALIFORNIA RESIDENTIAL CODE, PART 2.5;
THE 2016 CALIFORNIA ELECTRICAL CODE, PART 3
THE 2016 CALIFORNIA MECHANICAL CODE, PART 4
THE 2016 CALIFORNIA PLUMBING CODE, PART 5;
THE 2016 CALIFORNIA ENERGY CODE, PART 6.
THE 2016 CALIFORNIA FIRE CODE, PART 9
THE 2016 CALIFORNIA EXISTING BUILDING CODE, PART 10
THE 2016 CALIFORNIA GREEN BUILDING STANDARDS CODE, PART 11;
THE 2016 CALIFORNIA REFERENCED STANDARDS CODE, PART 12

WORK SCOPE:
USE AN EXISTING 26,678 SQ. FT. BUILDING FOR A CANNABIS MICRO-BUSINESS

REQUIRED PARKING

RETAIL AREA	1,912 SQ. FT. @ 1:225	= 9
STORAGE/CULTIVATION/EXTRACTION	16,645 SQ. FT. @ 1:1,500	= 11
KITCHEN/OFFICE/BREAK ROOM/TRANSIT	8,121 SQ. FT. @ 1:250	= 33
TOTAL REQUIRED PARKING		= 51

PROVIDED PARKING
79 STANDARD SPACES PROVIDED
2 HANDICAP PROVIDED
81 SPACES PROVIDED

BUILDING INFORMATION:

DEVELOPMENT TYPE:	COMMERCIAL
CONSTRUCTION TYPE:	III-B FULLY SPRINKLERED
DESCRIPTION OF USE:	PROFESSIONAL RETAIL & OFFICE
OCCUPANCY:	B, M, S, F-1
# OF STORIES:	1
SPRINKLERS:	YES
ZONING:	C-1
YEAR BUILT:	1980

APPLICANT

REPRESENTATIVE

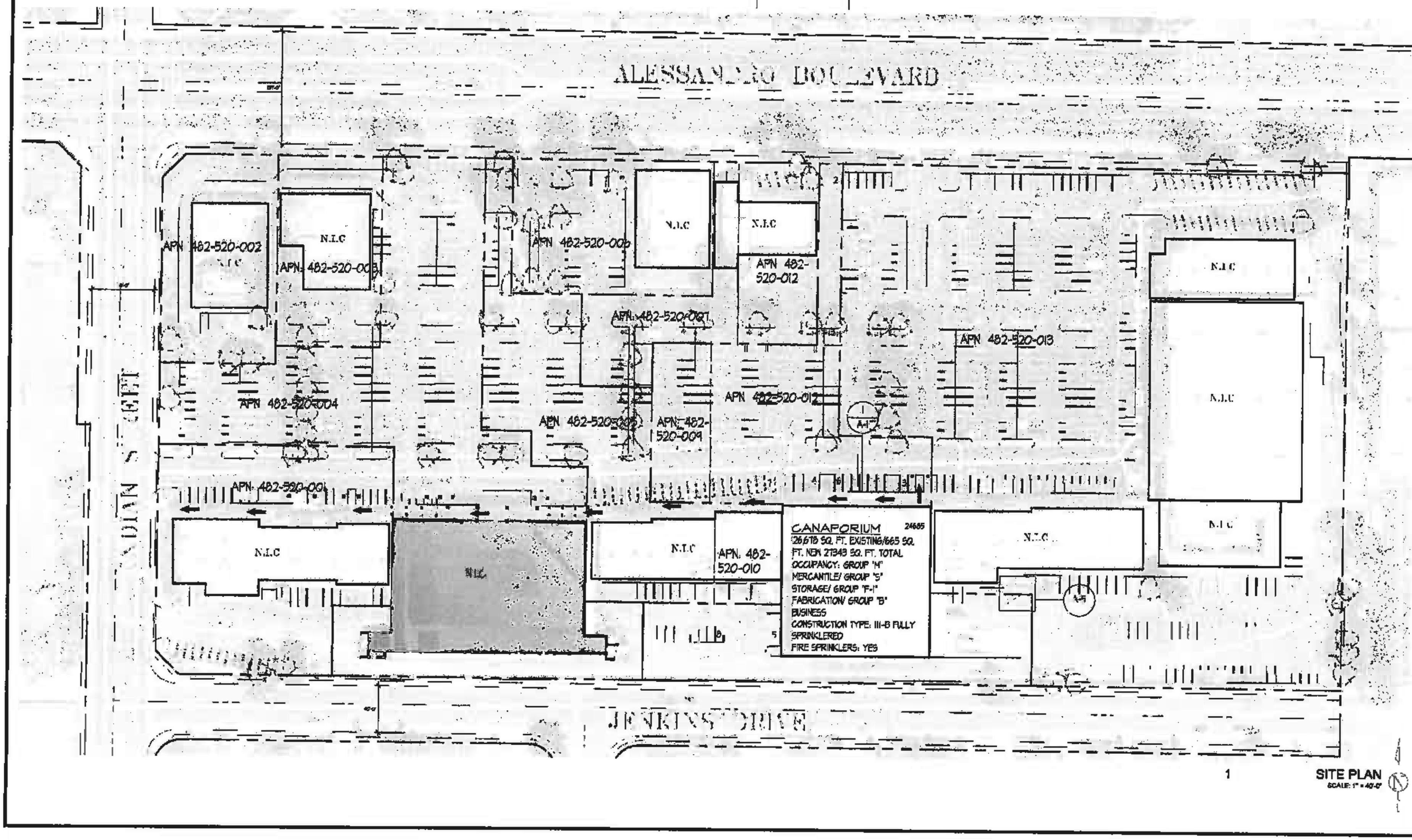
ARCHITECT
DMA

EMERGENCY CONTACT

LEGAL DESCRIPTION:
24685 ALESSANDRO BLVD.
MORENO VALLEY, RIVERSIDE COUNTY, CA

LEGEND:
ADA PATH OF TRAVEL FROM BUILDING TO PARKING TO PUBLIC RIGHT OF WAY WITH SLOPE AND CROSS SLOPE LESS THAN 2%

SHEET INDEX:
A-1 SITE PLAN
A-2 DEMO FLOOR PLAN
A-3 FLOOR PLAN
A-4 ELEVATIONS
A-5 TRASH ENCLOSURE



1 SITE PLAN
SCALE: 1" = 40'-0"

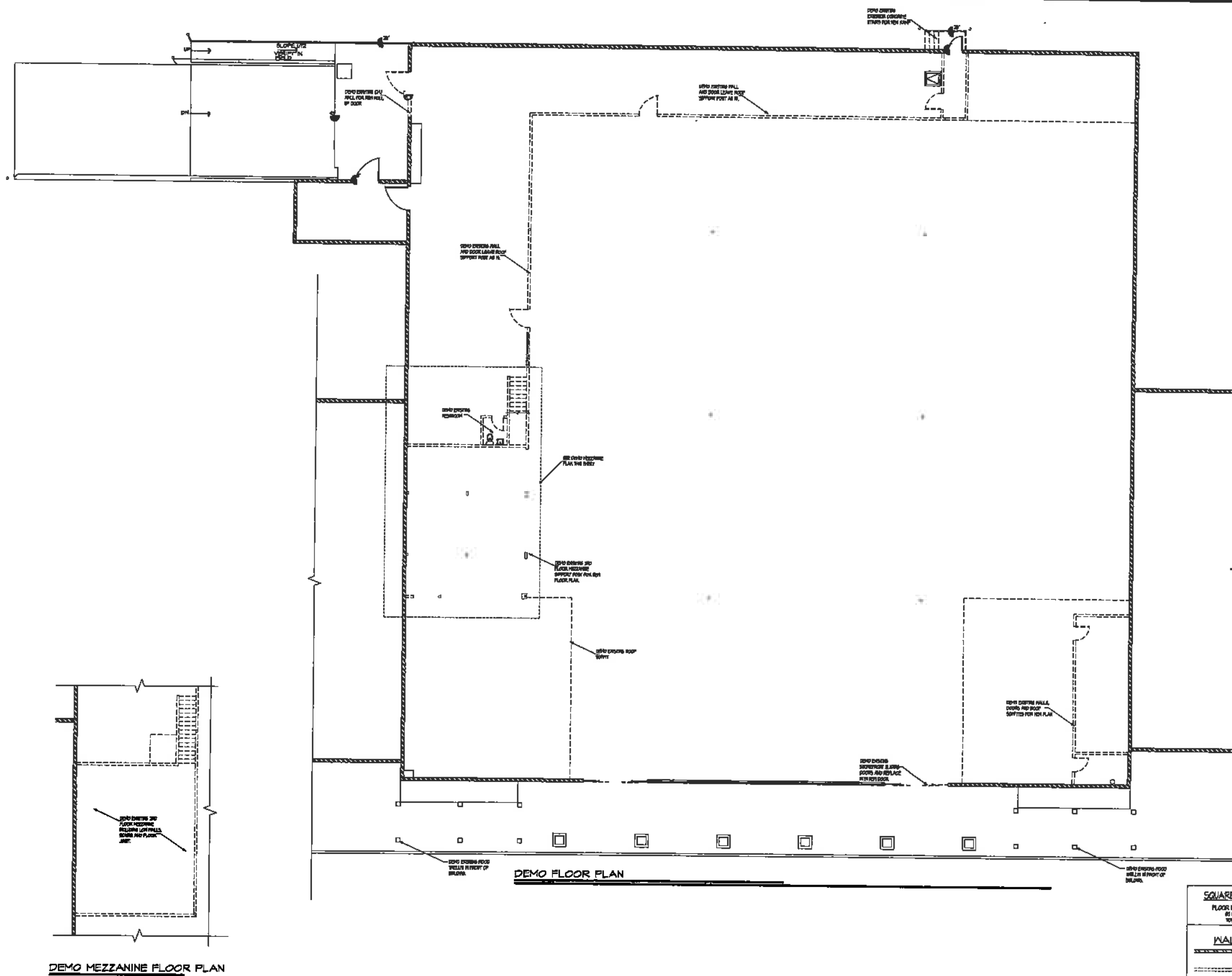
DMA
DAVE MADDEN ARCHITECT
Wildomar, California 92595

SITE PLAN

CANNAPORIUM T.I.
24685 ALESSANDRO BLVD.
MORENO VALLEY, CA 92553
CONDITIONAL USE PERMIT: PEN19-0117

1" = 40'-0"

A-1



SQUARE FOOTAGE:

FLOOR PLAN,
(E) BUILDING FOOTPRINT: 21,570 SQFT.
TOTAL: 21,570 SQFT.

WALL LEGEND

(hatched wall symbol)	EXISTING 8" CMU WALLS TO REMAIN
(dashed wall symbol)	EXISTING 2X WALLS TO BE REMOVED
(double line symbol)	NEW 2X WALLS

BUILDING INFORMATION:

DEVELOPMENT TYPE:	COMMERCIAL
CONSTRUCTION TYPE:	III-B FULLY SPRINKLERED
DESCRIPTION OF USE:	PROFESSIONAL, RETAIL & OFFICE
OCCUPANCY:	B S F-1
# OF STORIES:	1
SPRINKLERS:	YES
ZONING:	C-1
YEAR BUILT:	1960

Revisions
△ PLANNING DEPT. REV. LM

DMA
DAVE MADDEN ARCHITECT
35415 Veranda Circle, Wildomar, California 92595

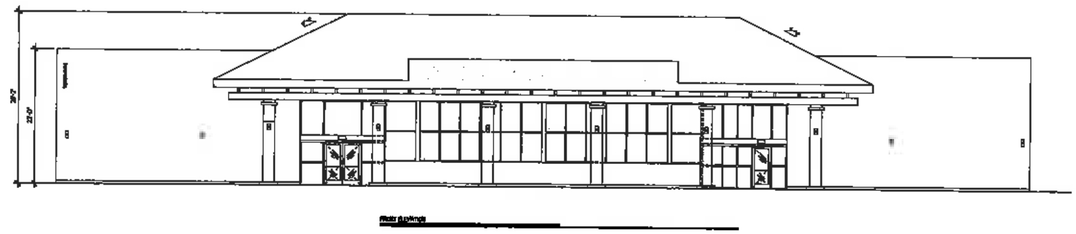
Title
DEMO FLOOR PLAN

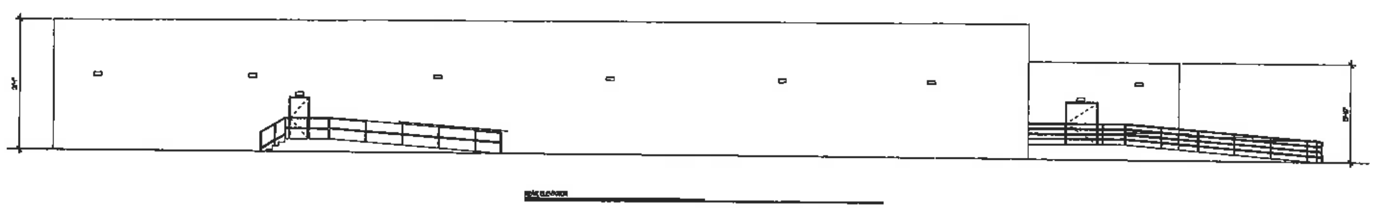
Project and Location
CANNAPORIUM T.I.
24685 ALESSANDRO BLVD.
MORENO VALLEY, CA 92553

Drawn by LM
Checked by
Date 05/16/14
Job No. 14-026

1/8" = 1'-0"

Sheet Number
A-2
of Sheets





DMA

DAVE MADDEN ARCHITECT

35493 Veranda Circle, Wildomar, California 92595

Title: ELEVATIONS

Project and Location:

CANNAPORIUM T.I.
24685 ALESSANDRO BLVD.
MORENO VALLEY, CA 92553

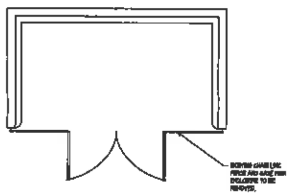
Drawn by: LH

Checked by

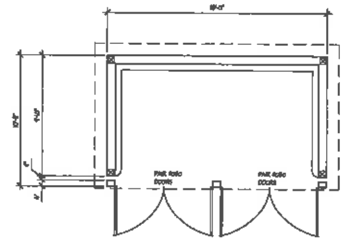
Job No. 19-0726

1/8" = 1'-0"

Sheet Number: A-4

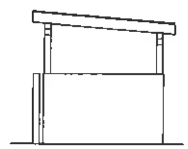


EXISTING TRASH ENCLOSURE

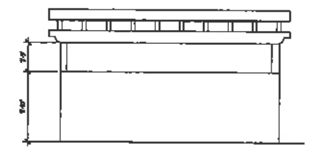


REMODELED TRASH ENCLOSURE

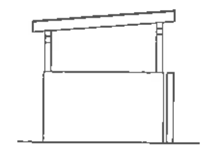
FRONT ELEVATION



RIGHT ELEVATION



REAR ELEVATION



LEFT ELEVATION

DMA

DAVE MADDEN ARCHITECT

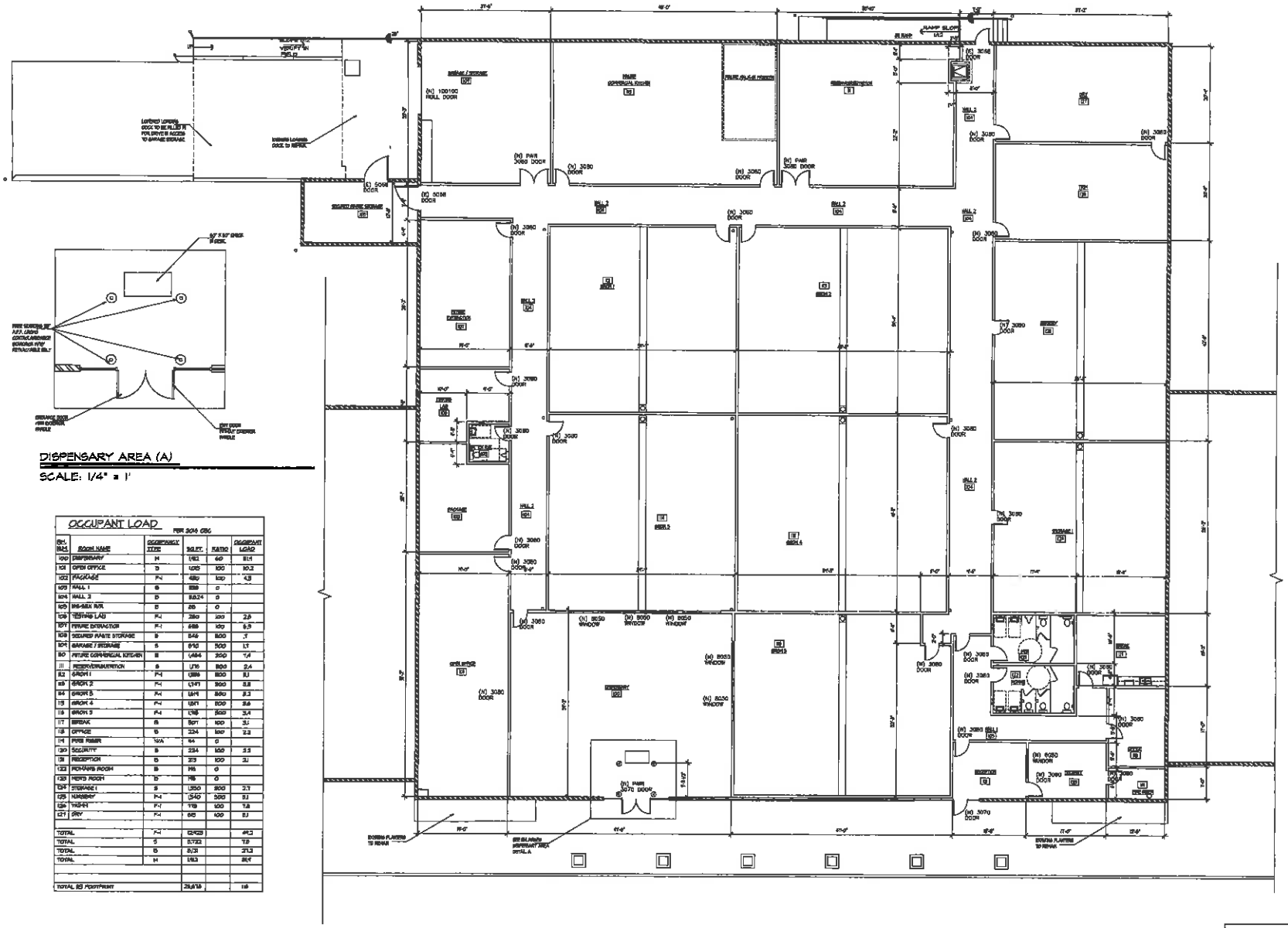
REMODELED TRASH
ENCLOSURE FLOOR PLAN

CANNAPORIUM T.I.
24685 ALESSANDRO BLVD.
MORENO VALLEY, CA 92553

Drawn by LH
Checked by
Job No. 14-026

1/4" = 1'-0"

Sheet Number
A-5



DISPENSARY AREA (A)

SCALE: 1/4" = 1'

OCCUPANT LOAD

PER 2016 CBC

RM. NUM.	ROOM NAME	OCCUPANCY TYPE	SQ.FT.	RATIO	OCCUPANT LOAD
100	DISPENSARY	M	1182	60	20.1
101	OPEN OFFICE	B	1025	100	10.2
102	PACKAGE	F-1	480	100	4.8
103	HALL 1	S	288	0	
104	HALL 2	S	2824	0	
105	UNI-SEX BTR	S	65	0	
106	TESTING LAB	F-1	280	100	2.8
107	FIXTURE EXTRACTION	F-1	688	100	6.9
108	SECURED WASTE STORAGE	S	546	500	1
109	GARAGE / STORAGE	S	970	500	1.7
110	FUTURE COMMERCIAL KITCHEN	M	1484	200	7.4
111	RECEIVING/NUTRITION	S	1170	500	2.4
112	GROW 1	F-1	1388	600	2.1
113	GROW 2	F-1	1347	600	2.2
114	GROW 3	F-1	1811	600	3.3
115	GROW 4	F-1	1811	600	3.6
116	GROW 5	F-1	1745	600	3.4
117	BREAK	B	1871	100	3.1
118	OFFICE	B	224	100	2.3
119	FIRE RISER	N/A	64	0	
120	SECURITY	B	234	100	2.3
121	RECEPTION	B	313	100	3.1
122	MOTHERS ROOM	B	98	0	
123	MEN'S ROOM	B	98	0	
124	STORAGE I	S	1350	500	2.7
125	NURSERY	F-1	1340	500	2.1
126	YARD	F-1	778	100	7.8
127	DRY	F-1	615	100	6.1
TOTAL		F-1	12423		69.1
TOTAL		S	5723		7.9
TOTAL		B	913		21.3
TOTAL		M	1183		26.7
TOTAL SQ FOOTPRINT			28,818		125

WALL LEGEND

- EXISTING 8" CMU WALLS TO REMAIN
- EXISTING 2X WALLS TO BE REMOVED
- NEW 2X WALLS

BUILDING INFORMATION:

DEVELOPMENT TYPE:	COMMERCIAL
CONSTRUCTION TYPE:	V-B (1 HR SPRINKLERED)
OCCUPANCY OF USE:	PROFESSIONAL RETAIL & OFFICE
OCCUPANCY:	B, M, S, F-1
# OF STORIES:	1
SPRINKLERS:	YES
TYPICAL:	ALL
YEAR BUILT:	1962

DMA

DAVE MADDEN ARCHITECT

Phone 951-654-7313 • E-Mail: dave@dmaarchitect.net

25240 Veranda Circle, Wildomar, California 92595

Title: FLOOR PLAN

Project and Location: CANNAFORIUM T.I. 24695 ALESSANDRO BLVD. MORENO VALLEY, CA 92553

Drawn by: LM

Checked by:

Date: 03/16/18

Job No. 17-026

1/8" = 1'-0"

Sheet Number: A-3

Of Sheets

PAGE BREAK

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2019-AWP-9488-OE

4.2

Issued Date: 11/12/2019

Joseph Poon
French Valley Airport Center, LLC
515 S. Figueroa Street
Suite 1028
Los Angeles, CA 90071

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Building 2; FVAC
Location:	Murrieta, CA
Latitude:	33-34-55.20N NAD 83
Longitude:	117-07-28.96W
Heights:	1354 feet site elevation (SE)
	24 feet above ground level (AGL)
	1378 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does exceed obstruction standards but would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 2, Obstruction Marking and Lighting, red lights - Chapters 4,5(Red),&12.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

__X__ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

The structure considered under this study lies in proximity to an airport and occupants may be subjected to noise from aircraft operating to and from the airport.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (424) 405-7643, or karen.mcdonald@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2019-AWP-9488-OE.

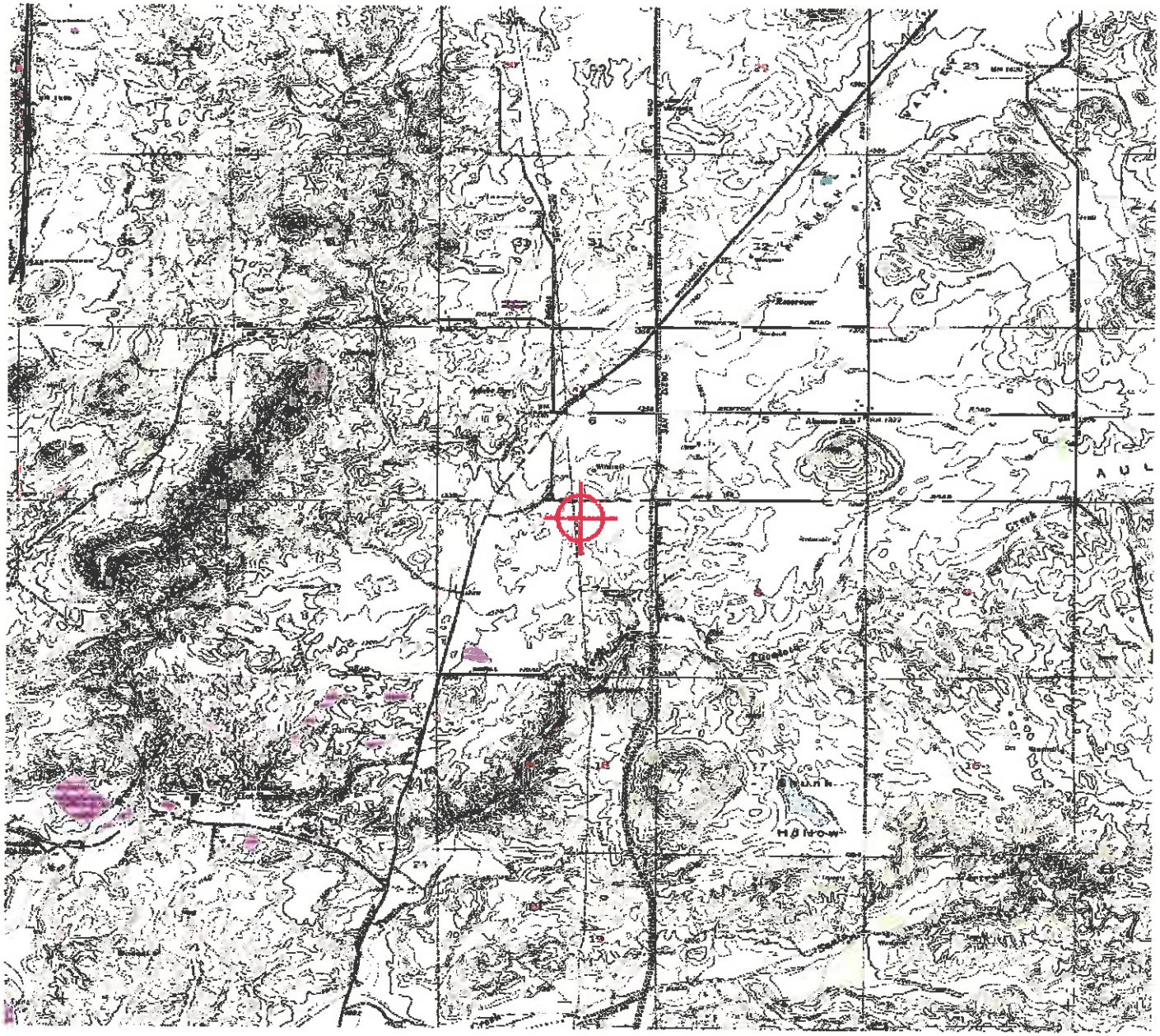
Signature Control No: 414423275-422535744 (EBO)
Karen McDonald
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2019-AWP-9488-OE

At 1378 AMSL 4D, French Valley (F70) Murrieta/Temecula, CA; Obstacle penetrates Rwy 36 40:1 departure surface 28 feet. Qualifies as low, close-in penetration with climb gradient termination altitude 200 feet or less above DER, requiring TAKE-OFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURE, NOTE: Rwy 36, building 26 feet from departure end of runway, 507 feet right of centerline, 24 AGL, 1378 AMSL

TOPO Map for ASN 2019-AWP-9488-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2019-AWP-9490-OE

Issued Date: 11/12/2019

Joseph Poon
French Valley Airport Center, LLC
515 S. Figueroa Street
Suite 1028
Los Angeles, CA 90071

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Building 10; FVAC
Location:	Murrieta, CA
Latitude:	33-34-48.50N NAD 83
Longitude:	117-07-29.63W
Heights:	1346 feet site elevation (SE)
	24 feet above ground level (AGL)
	1370 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

_____ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 L Change 2.

The structure considered under this study lies in proximity to an airport and occupants may be subjected to noise from aircraft operating to and from the airport.

This determination expires on 05/12/2021 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.

(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

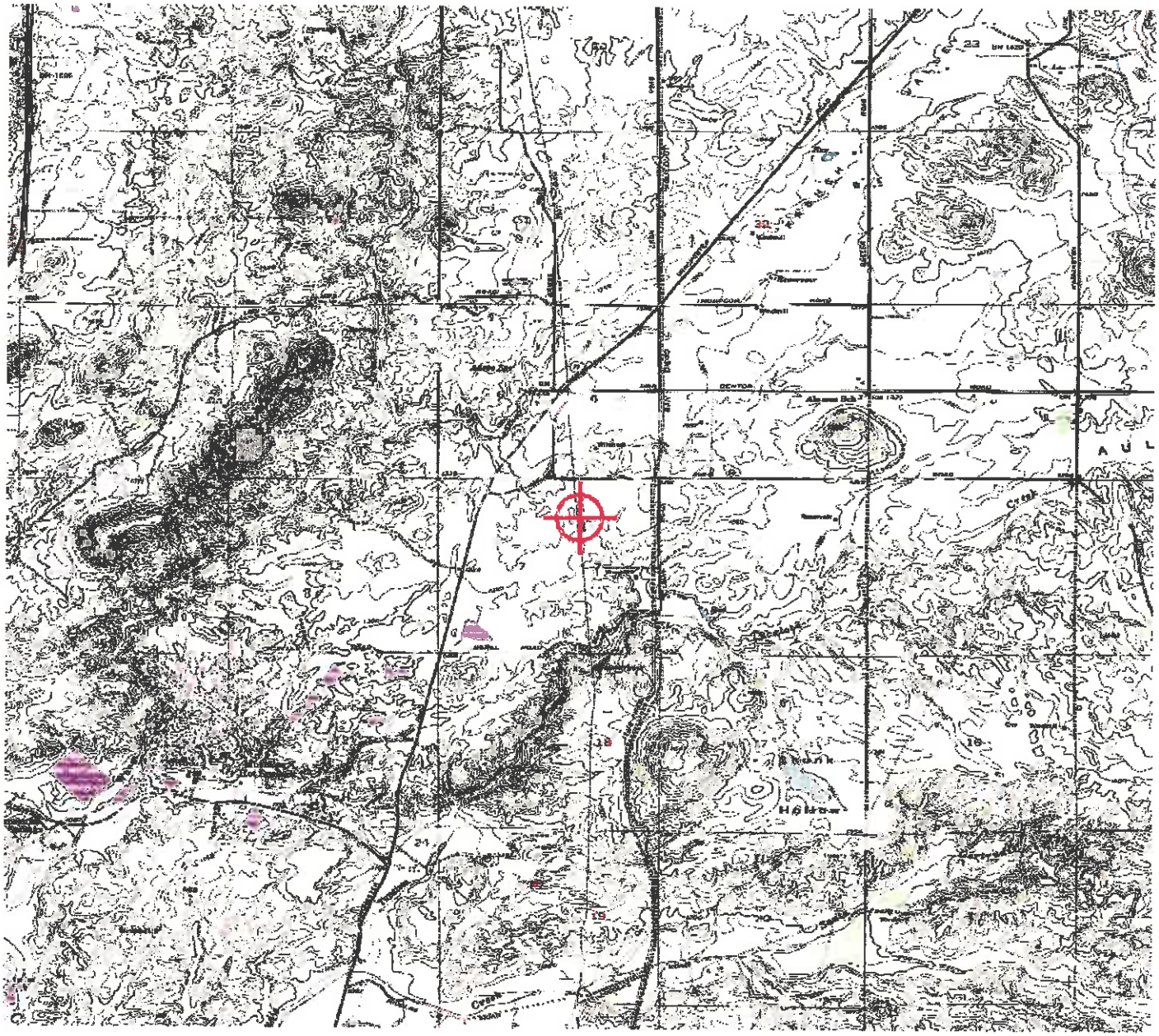
This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (424) 405-7643, or karen.mcdonald@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2019-AWP-9490-OE.

Signature Control No: 414424990-422535717 (DNE)
Karen McDonald
Specialist

Attachment(s)
Map(s)

TOPO Map for ASN 2019-AWP-9490-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2019-AWP-9487-OE

Issued Date: 11/12/2019

Joseph Poon
French Valley Airport Center, LLC
515 S. Figueroa Street
Suite 1028
Los Angeles, CA 90071

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Building 24; FVAC
Location:	Murrieta, CA
Latitude:	33-34-41.82N NAD 83
Longitude:	117-07-10.26W
Heights:	1333 feet site elevation (SE)
	24 feet above ground level (AGL)
	1357 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

_____ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 L Change 2.

The structure considered under this study lies in proximity to an airport and occupants may be subjected to noise from aircraft operating to and from the airport.

This determination expires on 05/12/2021 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.

(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

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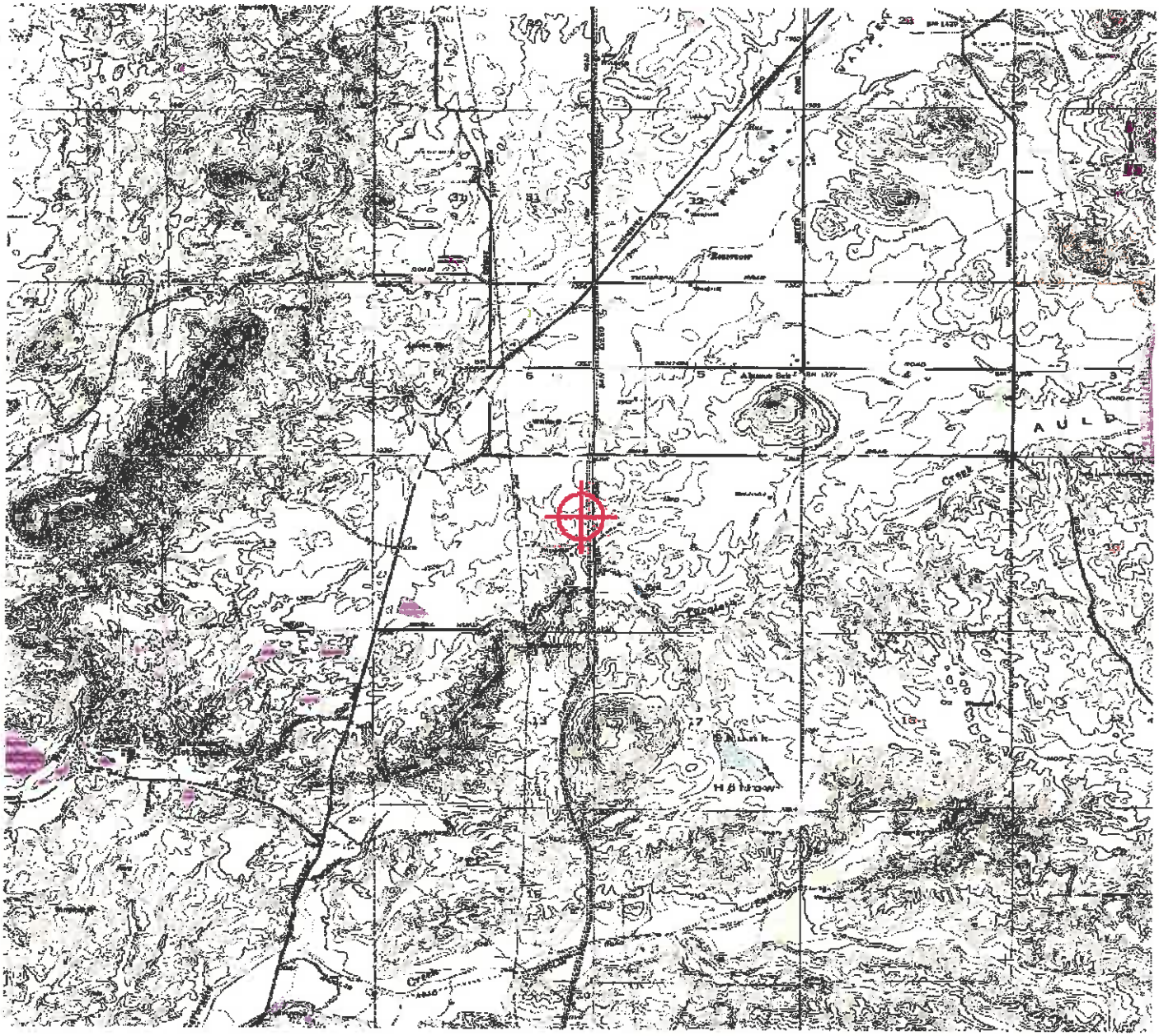
This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (424) 405-7643, or karen.mcdonald@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2019-AWP-9487-OE.

Signature Control No: 414422609-422535719 (DNE)
Karen McDonald
Specialist

Attachment(s)
Map(s)

TOPO Map for ASN 2019-AWP-9487-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2019-AWP-9491-OE

Issued Date: 11/12/2019

Joseph Poon
French Valley Airport Center, LLC
515 S. Figueroa Street
Suite 1028
Los Angeles, CA 90071

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Building 33; FVAC
Location:	Murrieta, CA
Latitude:	33-34-37.05N NAD 83
Longitude:	117-07-10.02W
Heights:	1326 feet site elevation (SE)
	24 feet above ground level (AGL)
	1350 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

_____ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 L Change 2.

The structure considered under this study lies in proximity to an airport and occupants may be subjected to noise from aircraft operating to and from the airport.

This determination expires on 05/12/2021 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.

(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

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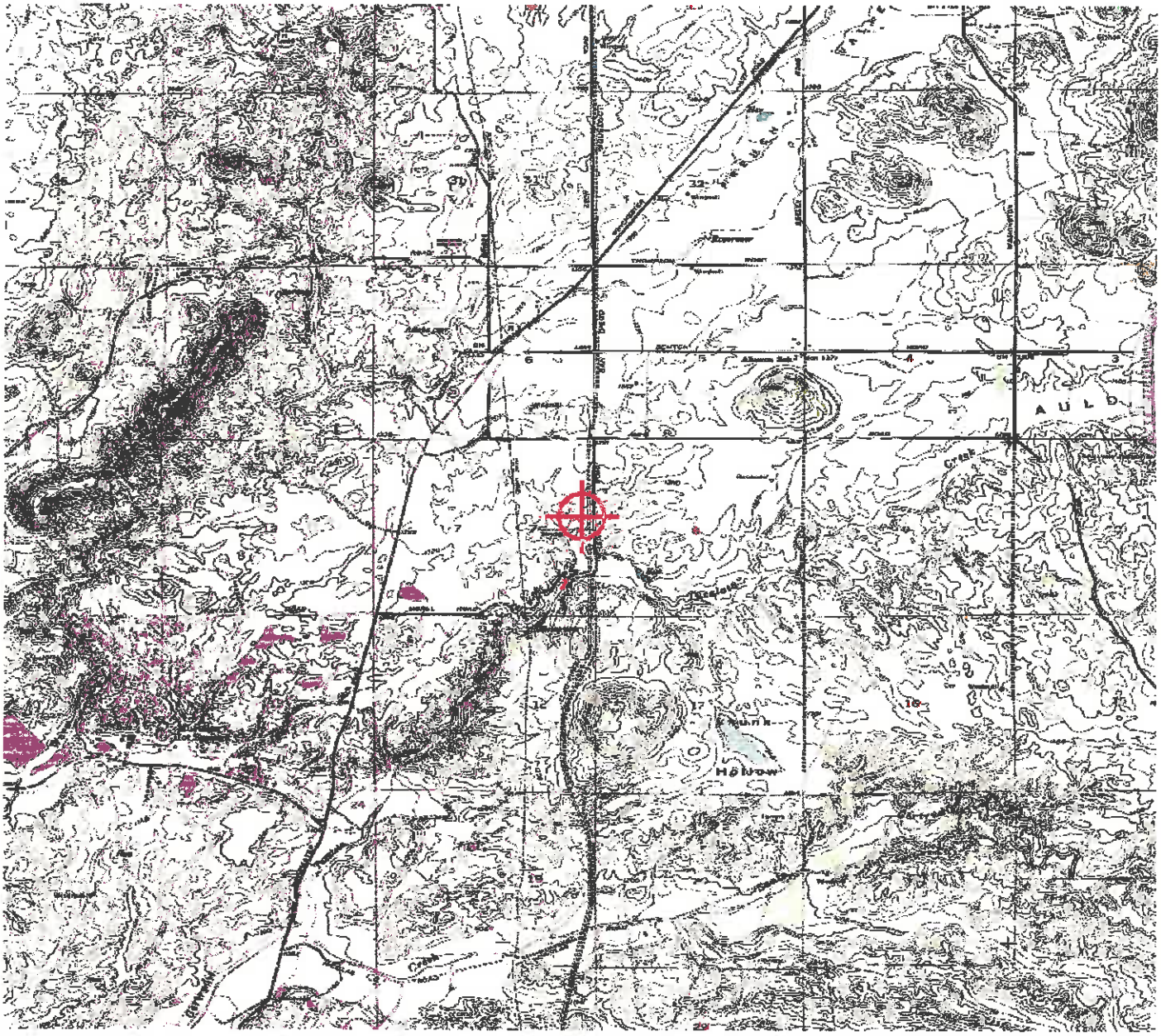
This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (424) 405-7643, or karen.mcdonald@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2019-AWP-9491-OE.

Signature Control No: 414425552-422535718 (DNE)
Karen McDonald
Specialist

Attachment(s)
Map(s)

TOPO Map for ASN 2019-AWP-9491-OE



AIRPORT LAND USE COMMISSION
MINUTE ORDER NOVEMBER 14, 2019
RIVERSIDE MEETING

DRAFT

A regular scheduled meeting of the Airport Land Use Commission was held on November 14, 2019 at the Riverside County Administrative Center, Board Chambers.

COMMISSIONERS PRESENT: Steve Manos, Chair
Russell Betts, Vice Chair
Arthur Butler
John Lyon
Steven Stewart
Richard Stewart

COMMISSIONERS ABSENT: Gary Youmans

STAFF PRESENT: Simon Housman, ALUC Director
John Guerin, Principal Planner
Paul Rull, Principal Planner
Barbara Santos, ALUC Commission Secretary
Raymond Mistica, ALUC Counsel

OTHERS PRESENT: Rafik Albert, EPD Solutions
John Criste, City of Cathedral City

I. **AGENDA ITEM 3.1**: ZAP1385MA19 – City of Perris Community Services (Representative: Nick Johnson) – City of Perris Case Nos. SPA19-05188 (Specific Plan Amendment), ADPR19-05189 (Amended Development Plan Review). A proposal to establish a 344' x 223' soccer field with spectator bleachers seating 264 people and a parking lot on 33.6 acres located southerly of Morgan Street, westerly of Churchill Lane, easterly of Redlands Avenue, and northerly of Rider Street. The applicant also proposes a Specific Plan Amendment to the New Horizons Specific Plan (Planning Area 1) to rezone the 33.6 acres from R-5,000 to OS/Greenbelt (Open Space/Greenbelt) (Airport Compatibility Zone D of the March Air Reserve Base/Inland Port Airport Influence Area).

II. **MAJOR ISSUES**
None

III. **STAFF RECOMMENDATION**
Staff recommends that the Commission find the proposed Specific Plan Amendment CONSISTENT with the 2014 March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan, and find the proposed Amended Development Plan Review CONSISTENT, subject to the conditions included herein.

IV. **PROJECT DESCRIPTION**

A proposal to establish a 344' x 223' soccer field with spectator bleachers seating 264 people and a parking lot on 33.6 acres. The applicant also proposes a Specific Plan Amendment to the New Horizons Specific Plan (Planning Area 1) to rezone the 33.6 acres from R-5,000 to OS/Greenbelt (Openspace/Greenbelt). No inhabitable buildings are proposed.

CONDITIONS:

1. Any outdoor lighting installed shall be hooded or shielded so as to prevent either the spillage of lumens or reflection into the sky. Outdoor lighting shall be downward facing.

2. The following uses/activities are not included in the proposed project and shall be prohibited at this site.

   (a) Any use which would direct a steady light or flashing light of red, white, green, or amber colors associated with airport operations toward an aircraft engaged in an initial straight climb following takeoff or toward an aircraft engaged in a straight final approach toward a landing at an airport, other than an FAA-approved navigational signal light or visual approach slope indicator.

   (b) Any use which would cause sunlight to be reflected towards an aircraft engaged in an initial straight climb following takeoff or towards an aircraft engaged in a straight final approach towards a landing at an airport.

   (c) Any use which would generate smoke or water vapor or which would attract large concentrations of birds, or which may otherwise affect safe air navigation within the area. (Such uses include landscaping utilizing water features, aquaculture, production of cereal grains, sunflower, and row crops, composting operations, trash transfer stations that are open on one or more sides, recycling centers containing putrescible wastes, construction and demolition debris facilities, fly ash disposal, and incinerators.)

   (d) Any use which would generate electrical interference that may be detrimental to the operation of aircraft and/or aircraft instrumentation.

3. The attached notice shall be given to all prospective purchasers of the property, and shall be recorded as a deed notice.

4. The proposed detention basins on the site (including water quality management basins) shall be designed so as to provide for a maximum 48-hour detention period following the conclusion of the storm event for the design storm (may be less, but not more), and to remain totally dry between rainfalls. Vegetation in and around the detention basins that would provide food or cover for bird species that would be incompatible with airport operations shall not be utilized in project landscaping.

5. March Air Reserve Base must be notified of any land use having an electromagnetic radiation component to assess whether a potential conflict with Air Base radio communications could result. Sources of electromagnetic radiation include radio wave transmission in conjunction with remote equipment inclusive of irrigation controllers, access gates, etc.

V. MEETING SUMMARY

The following staff presented the subject proposal:
Staff Planner: Paul Rull at (951) 955-6893, or e-mail at prull@rivco.org.

No one spoke in favor, neutral or opposition to the project.

VI. ALUC COMMISSION ACTION

The ALUC by a unanimous vote of 6-0 found the project **CONSISTENT**. Absent: Commissioner Youmans

VII. VIDEO

The entire discussion of this agenda item is on video and live streamed on the day of the meeting. If you have any questions please contact Barbara Santos, ALUC Commission Secretary, at (951) 955-5132 or e-mail at basantos@rivco.org.

ITEM 3.1: TIME: 9:36 A.M.

I. **AGENDA ITEM 3.2**: ZAP1386MA19 – Core 5 Industrial Partners (Representative: EPD Solutions) – County of Riverside Case No. PPT190028 (Plot Plan). A proposal to construct a 197,856 square foot industrial manufacturing building with mezzanines on 10.96 acres located easterly of Harvill Avenue, northerly of Daytona Cove, westerly of 215 freeway, and southerly of Orange Avenue. The applicant also proposes rooftop solar panels totaling 164,300 square feet (Airport Compatibility Zone C2 of the March Air Reserve Base/Inland Port Airport Influence Area).

II. **MAJOR ISSUES**

The County of Riverside Climate Action Plan requires nonresidential development to utilize on-site renewable energy production (usually from photovoltaic solar panels) to meet 20 percent of total energy demand, as a means to offset greenhouse gas emissions, unless infeasible. (A determination that a project would be hazardous to air traffic in conjunction with an Airport Land Use Commission review is acknowledged as a factor that may result in infeasibility. In that case, the applicant is nevertheless required to install on-site renewable energy production to the greatest extent feasible.) The applicant has identified a solar panel configuration that provides for renewable energy production to the greatest feasible extent consistent with maintaining glare at the acceptable "green" level. The proposal provides for 164,300 square feet of solar panels on the buildings with anti-reflective coating, a fixed tilt of 10 degrees with no rotation, and an orientation of 180 degrees. This proposal would result in "green" level glare (low potential for temporary after-image) within the Air Force traffic patterns and no glare within the 2 mile approach to runways. "Green" level glare complies with the Federal Aviation Administration Interim Policy pertaining to acceptable levels of glare.

At the time this staff report was written, the Air Force has not completed its review of the solar glare study and has not given their acceptance.

III. **STAFF RECOMMENDATION**

Staff recommends that the Commission CONTINUE the matter to the January 9, 2020 meeting, pending completion of the Air Force solar glare study review.

STAFF RECOMMENDED AT HEARING
CONTINUE to 12-12-19

IV. **PROJECT DESCRIPTION**

The applicant proposes to construct a 197,856 square foot industrial manufacturing building with mezzanines on 10.96 acres. Also proposed are rooftop solar panels totaling 164,300 square feet.

V. **MEETING SUMMARY**

The following staff presented the subject proposal:
Staff Planner: Paul Rull at (951) 955-6893, or e-mail at prull@rivco.org

The following spoke in favor of the project:
Rafik Albert, EPD Solutions, Inc. 2 Park Plaza, STE 1120, Irvine, CA 92614

No one spoke in neutral or opposition to the project.

VI. **ALUC COMMISSION ACTION**

The ALUC by a unanimous vote of 6-0 **CONTINUED the project to 12-12-19**. Absent: Commissioner Youmans

VII. **VIDEO**

The entire discussion of this agenda item is on video and live streamed on the day of the meeting. If you have any questions please contact Barbara Santos, ALUC Commission Secretary, at (951) 955-5132 or e-mail at basantos@rivco.org.

ITEM 3.2: TIME: 9:30 A.M.

I. **AGENDA ITEM 3.3**: ZAP1028CH19 – The Homestead, LLC (Representative: Raymond A. Polverini) – City of Eastvale Case No. PLN19-20026 (Change of Zone, Design Review, Tentative Parcel Map), a proposal to develop 7 industrial buildings with mezzanines totaling 1,004,608 square feet on 55.86 acres located westerly of Archibald Avenue, northerly of Providence Way, southerly of the Riverside County/San Bernardino County line and easterly of San Bernardino County Flood Control Channel. The applicant also proposes to change the site's zoning from Heavy Agricultural (A-2) to Industrial Park (I-P). Also proposed is a tentative parcel map to subdivide the site into 7 parcels (Airport Compatibility Zone C of the Chino Airport Influence Area).

II. **MAJOR ISSUES**

Compatibility Zone C requires 20% of the gross site area to be designated as ALUC-qualifying open area that could potentially serve as areas for emergency landings. Based on a gross area of 55.86 acres, the project would be required to provide 11.17 acres of open area consistent with the ALUC open area criteria. However, the project is significantly encumbered by the City's requirement for street dedication for Limonite Avenue, an Urban Arterial roadway, which bisects the site. If there were two separate parcels (one on each side of Limonite Avenue), and Limonite Avenue was already a full-width right-of-way, Limonite Avenue would be excluded from the total site acreage. With the exclusion of Limonite Avenue from the project's gross acreage, the project's net acreage is 45.47 acres, which requires 9.1 acres of open area. The applicant has provided 9.1 acres of open area.

III. **STAFF RECOMMENDATION**

Staff recommends that the Commission find the proposed Change of Zone CONSISTENT with the 2008 Chino Airport Land Use Compatibility Plan, and find the proposed Design Review and Tentative Parcel Map CONSISTENT, subject to the conditions included herein.

IV. **PROJECT DESCRIPTION**

A proposal to develop 7 industrial buildings with mezzanines totaling 1,004,608 square feet on 55.86 gross acres. The applicant also proposes to change the site's zoning from Heavy Agricultural (A-2) to Industrial Park (I-P). Also proposed is a tentative parcel map to subdivide the overall 55.86 gross acres into 7 parcels.

CONDITIONS:

1. Any outdoor lighting that is installed shall be hooded or shielded so as to prevent either the spillage of lumens or reflection into the sky.

2. The following uses shall be prohibited:

   (a) Any use which would direct a steady light or flashing light of red, white, green, or amber colors associated with airport operations toward an aircraft engaged in an initial straight climb following takeoff or toward an aircraft engaged in a straight final approach toward a landing at an airport, other than an FAA-approved navigational signal light or visual approach slope indicator.

   (b) Any use which would cause sunlight to be reflected towards an aircraft engaged in an initial straight climb following takeoff or towards an aircraft engaged in a straight final approach towards a landing at an airport.

   (c) Any use which would generate smoke or water vapor or which would attract large concentrations of birds, or which may otherwise affect safe air navigation within the area, including landscaping utilizing water features, trash transfer stations that are open on one or more sides, recycling centers containing putrescible wastes, construction and demolition debris facilities, and incinerators.

(d) Any use which would generate electrical interference that may be detrimental to the operation of aircraft and/or aircraft instrumentation.

(e) Children's schools, hospitals, nursing homes (skilled nursing facilities), day care centers (including children's nurseries), and libraries.

(f) Highly noise-sensitive outdoor nonresidential uses and hazards to flight.

3. The attached notice shall be provided to all prospective purchasers of the property and tenants or lessees of the buildings, and shall be recorded as a deed notice prior to or in conjunction with recordation of the final parcel map. In the event that the Office of Riverside County Assessor-Clerk-Recorder declines to record said notice, the text of the notice shall be included in the Environmental Constraint Sheet (ECS) of the final parcel map, if an ECS is otherwise required.

4. The proposed on-site detention basin shall be designed so as to provide for a maximum 48-hour detention period following the conclusion of the storm event for the design storm (may be less, but not more), and to remain totally dry between rainfalls. Vegetation in and around the detention basin that would provide food or cover for bird species that would be incompatible with airport operations shall not be utilized in project landscaping.

5. This project has been evaluated as consisting of 61,200 square feet of manufacturing area, 79,000 square feet of office area (which includes 39,500 square feet of second floor office mezzanine area), and 864,408 square feet of warehouse area. Any increase in building area, change in use to any use other than offices, manufacturing, storage, or warehousing or modification of the tentative parcel map lot lines and areas will require an amended review to evaluate consistency with the ALUCP compatibility criteria.

6. Noise attenuation measures shall be incorporated into the design of the buildings, to the extent such measures are necessary to ensure that interior noise levels from aircraft operations are at or below 45 CNEL.

7. The project does not propose rooftop solar panels at this time. However, if the project were to propose solar rooftop panels in the future, the applicant/developer shall prepare a solar glare study that analyzes glare impacts, and this study shall be reviewed by the Airport Land Use Commission.

8. At least 9.1 acres of ALUC-eligible open areas (at least 75 feet in width and 300 feet in length), as depicted on the Open Space exhibit, a copy of which is attached, shall be kept obstacle and obstruction free per ALUC open area definition (no objects greater than four feet in height with a diameter of four inches or greater).

9. Buildings shall be limited to a maximum height of 49 feet and a maximum top point elevation of 703.6 feet above mean sea level unless a "Determination of No Hazard to Air Navigation" letter authorizing a higher top point elevation has been issued by the Federal Aviation Administration Obstruction Evaluation Service.

V. MEETING SUMMARY

The following staff presented the subject proposal:
Staff Planner: Paul Rull at (951) 955-6893, or e-mail at prull@rivco.org

No one spoke in favor, neutral or opposition to the project.

VI. ALUC COMMISSION ACTION

The ALUC by a vote of unanimous vote of 6-0 found the project **CONSISTENT**. Absent: Commissioner Youmans

VII. **VIDEO**

The entire discussion of this agenda item is on video and live streamed on the day of the meeting. If you have any questions please contact Barbara Santos, ALUC Commission Secretary, at (951) 955-5132 or e-mail at basantos@rivco.org.

ITEM 3.3: TIME: 9:48 A.M.

I. **AGENDA ITEM 3.4**: ZAP1034BA19 – AT&T Wireless (Representative: Smartlink, LLC) – City of Banning Case Nos. CUP19-8004 (Conditional Use Permit), DR19-7005 (Design Review). A proposal to establish a 70 foot tall "monopine" wireless communications facility with a 960 square foot equipment shelter area on 2.18 acres located northerly of Ramsey Street, easterly of Phillips Street, southerly of Williams Street and westerly of Hathaway Street (A previous proposal to establish a 70 foot tall "monopine" facility at another location on this site had been found consistent by the ALUC, but no action was taken by the City's Planning Commission) (Airport Compatibility Zones C & D of the Banning Municipal Airport Influence Area).

II. **MAJOR ISSUES**
None

III. **STAFF RECOMMENDATION**
Staff recommends that the Conditional Use Permit and Design Review be found CONSISTENT, subject to the conditions included herein.

IV. **PROJECT DESCRIPTION**
The applicant proposes to establish a 70 foot tall monopine wireless communications facility with a 960 square foot equipment shelter on 2.18 acres.

The Commission had previously determined ZAP1034BA19 consistent at its August 2019 hearing, with the 70 foot tall monopine wireless facility located approximately 25 feet from Ramsey Street. The City has requested that the facility be sited 200 feet farther north on the same property, approximately 225 feet south of East Williams Street and approximately 225 feet north of Ramsey Street. The change in location coordinates and eight foot increase in top point elevation (due to topography difference) required a new review by the FAA OES.

CONDITIONS:

1. Any outdoor lighting that is installed shall be hooded or shielded so as to prevent either the spillage of lumens or reflection into the sky.

2. The following uses/activities are not included in the proposed project and shall be prohibited at this site:

   (a) Any use or activity which would direct a steady light or flashing light of red, white, green, or amber colors associated with airport operations toward an aircraft engaged in an initial straight climb following takeoff or toward an aircraft engaged in a straight final approach toward a landing at an airport, other than an FAA-approved navigational signal light or visual approach slope indicator.

   (b) Any use or activity which would cause sunlight to be reflected towards an aircraft engaged in an initial straight climb following takeoff or towards an aircraft engaged in a straight final approach towards a landing at an airport.

   (c) Any use or activity which would generate smoke or water vapor or which would attract large concentrations of birds, or which may otherwise affect safe air navigation within the area. (Such uses include landscaping utilizing water features, aquaculture, composting operations, production of cereal grains, sunflower, and row crops, trash transfer stations that are open on one or more sides, recycling centers containing putrescible wastes, construction and demolition debris facilities, fly ash disposal, and incinerators.)

   (d) Any use which would generate electrical interference that may be detrimental to the operation of aircraft and/or aircraft instrumentation.

(e) Children's schools, day care centers, libraries, hospitals, and nursing homes.

3. The attached notice shall be given to all prospective purchasers and/or tenants of the property, and shall be recorded as a deed notice.

4. The Federal Aviation Administration has conducted an aeronautical study of the proposed structure (Aeronautical Study No. 2018-AWP-10763-OE), and has determined that neither marking nor lighting of the structure is necessary for aviation safety. However, if marking and/or lighting for aviation safety are accomplished on a voluntary basis, such marking and/or lighting (if any) shall be installed in accordance with FAA Advisory Circular 70/7460-1 L Change 2 and shall be maintained in accordance therewith for the life of the project.

5. The proposed structure shall not exceed a height of 70 feet above ground level, and the maximum elevation at the top of the structure shall not exceed 2,359 feet above mean sea level.

6. The maximum height and top point elevation specified above shall not be amended without further review by the Airport Land Use Commission and the Federal Aviation Administration; provided, however, that reduction in structure height or elevation shall not require further review by the Airport Land Use Commission.

7. The coordinates, frequencies, and power specified in the Determination of No Hazard to Air Navigation letter dated October 4, 2019 shall not be amended without further review by the Federal Aviation Administration Obstruction Evaluation Service.

8. Temporary construction equipment used during actual construction of the structure shall not exceed 70 feet in height and a maximum elevation of 2,359 feet above mean sea level, unless separate notice is provided to the Federal Aviation Administration through the Form 7460-1 process.

9. Within five (5) days after construction of the structure reaches its greatest height, FAA Form 7460-2 (Part II), Notice of Actual Construction or Alteration, shall be completed by the project proponent or his/her designee and e-filed with the Federal Aviation Administration. (Go to https://oeaaa.faa.gov for instructions.) This requirement is also applicable in the event the project is abandoned or a decision is made not to construct the structure.

V. MEETING SUMMARY

The following staff presented the subject proposal:
Staff Planner: Paul Rull at (951) 955-6893, or e-mail at prull@rivco.org

No one spoke in favor, neutral or opposition to the project.

VI. ALUC COMMISSION ACTION

The ALUC by a unanimous vote of 6-0 found the project **CONSISTENT**. Absent: Commissioner Youmans

VII. VIDEO

The entire discussion of this agenda item is on video and live streamed on the day of the meeting. If you have any questions please contact Barbara Santos, ALUC Commission Secretary, at (951) 955-5132 or e-mail at basantos@rivco.org.

ITEM 3.4 TIME: 9:56 A.M.

I. **AGENDA ITEM 3.5**: ZAP1080BD19 – Michael Griswold (Representative: Egan Civil, Inc.) – County of Riverside Case No. PPT190025 (Plot Plan), TPM37675 (Tentative Parcel Map). A proposal to establish a 5-unit 6,748 square foot vehicle and RV/boat storage building with a condominium parcel map for each of the units on 0.70 acres located southerly of Country Club Drive and Interstate 10 freeway, westerly of Jefferson Street, easterly of Adams Street, and northerly of the Bermuda Dunes Airport (Airport Compatibility Zones A and B2 of the Bermuda Dunes Airport Influence Area).

II. **MAJOR ISSUES**

The project proposes several objects and structures within Zone A which are identified as prohibited uses: 6 foot tall security fence, handicap parking and loading stall, and a 3,500 square foot detention basin. These structures can also be considered a hazard to flight.

At the time this staff report was written, the applicant has not submitted for Federal Aviation Administration obstacle obstruction review.

III. **STAFF RECOMMENDATION**

Staff recommends that the Commission CONTINUE the matter to the January 9, 2020 meeting, pending completion of the Federal Aviation Administration obstacle obstruction review

STAFF RECOMMENDED AT HEARING
CONTINUE to 12-12-19

IV. **PROJECT DESCRIPTION**

The applicant proposes to establish a 5-unit 6,748 square foot vehicle and RV/boat storage building with a condominium parcel map for each of the units on 0.70 acres.

V. **MEETING SUMMARY**

The following staff presented the subject proposal:
Staff Planner: Paul Rull at (951) 955-6893, or e-mail at prull@rivco.org

No one spoke in favor, neutral or opposition to the project.

VI. **ALUC COMMISSION ACTION**

The ALUC by a unanimous vote of 6-0 **CONTINUED the project to 12-12-19**. Absent: Commissioner Youmans

VII. **VIDEO**

The entire discussion of this agenda item is on video and live streamed on the day of the meeting. If you have any questions please contact Barbara Santos, ALUC Commission Secretary, at (951) 955-5132 or e-mail at basantos@rivco.org.

ITEM 3.5: TIME: 10:00 A.M.

I. **AGENDA ITEM 3.6**: ZAP1080PS19 – City of Cathedral City (Representatives: Robert Rodriguez, City Planning Director; John Criste, Terra Nova Planning and Research) - City of Cathedral City Planning Case No. GPA 18-002 (General Plan Amendment). A City-initiated proposal to adopt an updated General Plan, including the following Elements: Land Use, Circulation and Mobility, Housing, Parks and Recreation, Community Design, Arts and Culture, Economic Development and Fiscal Health, Environmental Justice, Healthy and Sustainable Community, Open Space and Conservation, Air Quality and Climate Stability, Safety (including noise), and Public Services and Facilities. Also included are an introduction chapter and a General Plan Administration chapter. (Compatibility Zones B1, C, D, and E of the Palm Springs International Airport Influence Area).

II. **MAJOR ISSUES**

The Palm Springs International Airport Influence Area (AIA) extends into the City of Cathedral City. The City includes land within Compatibility Zones B1, C, D, and E, as well as areas outside the AIA. (Areas outside the AIA are not within ALUC's jurisdiction.) The proposed General Plan Land Use Map designates some properties within Airport Compatibility Zones B1, C, and D for land use densities and intensities that are not consistent, or are potentially inconsistent, with the 2005 Palm Springs International Airport Land Use Compatibility Plan, as amended in 2006. (To the extent that these designations reflect existing land uses [including projects that have already received their final discretionary approval from the City of Cathedral City], there is no conflict, as ALUC has no jurisdiction over existing land use.) The proposed General Plan text will also require additions and revisions in order to enable a consistency determination. As of the date of this staff report (October 24, 2019), staff review is ongoing. While we hope to be able to ultimately reach a finding of consistency with the 2005 Palm Springs International Airport Land Use Compatibility Plan, at this time, we must recommend a continuance.

III. **STAFF RECOMMENDATION**

As initially submitted, the proposed General Plan Update is inconsistent with the Palm Springs International Airport Land Use Compatibility Plan. However, staff would prefer to find a path to consistency. At this time, staff recommends that the Commission open the public hearing, consider testimony, and CONTINUE its consideration of this matter to its January 9, 2020 public hearing agenda.

As of the date of this staff report, the City of Cathedral City has not requested or consented to a continuance. Due to the provisions of the Public Utilities Code, the Commission must render its determination within 60 days of project submittal unless the City agrees to a continuance. In the event that the City is not willing to agree to a continuance, staff would have to recommend a finding of inconsistency, unless the City is able to provide adequate additional policies by the scheduled hearing date of November 14 and agrees to modify the proposed land use designations that are in conflict with the 2005 Palm Springs International Airport Land Use Compatibility Plan, as amended in 2006.

STAFF RECOMMENDED AT HEARING

CONSISTENT provided that the City adds the text, table, goals, and policies outlined in the presentation document submitted by John Criste, AICP, dated 11-14-19.

IV. **PROJECT DESCRIPTION**

The City of Cathedral City proposes to adopt an updated General Plan, including the following elements: Land Use, Circulation and Mobility, Housing, Parks and Recreation, Community Design, Arts and Culture, Economic Development and Fiscal Health, Environmental Justice, Healthy and Sustainable Community, Open Space and Conservation, Air Quality and Climate Stability, Safety (including Noise), and Public Services and Facilities. Also included are an Introduction chapter and a General Plan Administration chapter.

V. **MEETING SUMMARY**

The following staff presented the subject proposal:
Staff Planner: John Guerin at (951) 955-0982, or e-mail at jguerin@rivco.org

The following spoke in favor of the project:
John Criste, City of Cathedral City c/o Terra Nova Planning and Research, 42635 Melanie Place, STE 101, Palm Desert, CA

No one spoke neutral or opposition to the project.

VI. **ALUC COMMISSION ACTION**

The ALUC by a vote of 5-1 found the project **CONSISTENT** as amended to include the text, table, goals, and policies outlined in the presentation document submitted by John Criste, AICP, dated 11-14-19. Commissioner Steven Stewart dissenting. Absent: Commissioner Youmans

VII. **VIDEO**

The entire discussion of this agenda item is on video and live streamed on the day of the meeting. If you have any questions please contact Barbara Santos, ALUC Commission Secretary, at (951) 955-5132 or e-mail at basantos@rivco.org.

ITEM 3.6: TIME: 10:23 A.M.

AIRPORT LAND USE COMMISSION
MINUTE ORDER NOVEMBER 14, 2019
RIVERSIDE MEETING

I. **4.0 ADMINISTRATIVE ITEMS**

4.1 Director's Approvals – Information Only

4.2 2020 ALUC Meeting and Application Submittal Schedule
The Commission reviewed the 2020 ALUC meeting and application submittal schedule and advised staff not to schedule any "dark" months at this time.

4.3 Request for Special Meeting
Simon Housman, ALUC Director requested to take the agenda out of order and move the Administrative Item 4.3 a "Request for Special Meeting" to the front of the agenda. The ALUC by a unanimous vote of 6-0 will hold a regular scheduled ALUC public hearing on December 12, 2019 and not a special meeting. Absent: Youmans

II. **5.0 APPROVAL OF MINUTES**
The ALUC by a unanimous vote of 6-0 approved the October 10, 2019 minutes. Absent: Youmans

III. **6.0 ORAL COMMUNICATION ON ANY MATTER NOT ON THE AGENDA**
Simon Housman, ALUC Director recently learned that the Office of Economic Adjustment (OEA) will be visiting the March Air Reserve Base in mid-December to decide whether or not to provide a grant to fund the March Joint Land Use Study. Mr. Housman plans to meet with the OEA staff at March for more information. Staff has also reached out to the Cities of Palm Springs, Cathedral City and Rancho Mirage for a proposed update of the Palm Springs Airport Land Use Compatibility Plan which would increase the non-residential intensities and also to move all of the policies applicable to that airport into that one plan, simplifying the process so that everything would be in one place.

IV. **7.0 COMMISSIONER'S COMMENTS**
Commissioner Richard Stewart thanked staff's decision to have a December 12th ALUC public hearing meeting expressing staff's efforts to be flexible and business friendly.

V. **8.0 ADJOURNMENT**
Steve Manos, Chairman adjourned the meeting at 10:58 a.m.

VI. **VIDEO**
The entire discussion of this agenda item is on video and live streamed on the day of the meeting. If you have any questions please contact Barbara Santos, ALUC Commission Secretary, at (951) 955-5132 or e-mail at basantos@rivco.org.

ITEM 4.0: TIME: 10:47 A.M.