

## Agenda Submittal

<b>Agenda #:</b>	4	<b>Status:</b>	ALUC-Regular-NW
<b>Type:</b>	ALUC-Document	<b>Department:</b>	Airport Land Use Commission
<b>File #:</b>	AC 24-009	<b>Contact:</b>	Nedzlene Ferrario
<b>Agenda date:</b>	03/14/2024	<b>Final Action:</b>	
<b>Title:</b>	ALUC-24-04 (Nut Tree Business Park)		

Approve the lighting plans for the Nut Tree Business Park project located on the northside of Nut Tree Road (APN: 1029-240-500, 510, 520 and 530) as submitted subject to staff review and approval of the avigation easement to be recorded by the applicant

**Governing body:** Airport Land Use Commission

**District:**

**Attachments:** [A - Project Location and Proximity to the Nut Tree Runway](#), [B - Photometric Plans Building 1 and 2](#), [C - Lighting Fixtures](#), [D - Site Plan and Elevations](#), [E - FAA Correspondence](#), [F - Letter from Optimized Energy Facilities & Consulting](#)

Date:	Ver.	Action By:	Action:	Result:
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### **RECOMMENDATION:**

Approve the lighting plans for the Nut Tree Business Park project located on the northside of Nut Tree Road (APN: 1029-240-500, 510, 520 and 530) as submitted subject to staff review and approval of the avigation easement to be recorded by the applicant.

### **DISCUSSION:**

The proposed project located on the north side of Nut Tree Road consists of two (2) 84, 505 square foot office/warehouse buildings, 2 stories or 40 feet in height, located on the northside of Nut Tree Road, adjacent to Putah Creek. The proposed project is 515 feet measured from the edge of the runway to the closest property line.

The project was part of the Nut Tree Ranch Development project which was approved by the City in 2002. Due to the proximity of the proposed development to the Nut Tree Airport, the Environmental Impact Report certified for the project required Solano Airport Land Use Commission approval of the lighting plans to ensure distracting lights or unwanted glare interfering pilot vision are avoided. The adopted mitigation measure is as follows:

### **Mitigation Measure 4.10.4.a**

*All lighting associated with the development of the proposed project, including, but not limited to outdoor building lighting and signage, parking lot lighting, and lighting associated with outdoor recreation areas, shall comply with applicable FAA standards for airport operation as provided for in the Solano County Airport/Land Use Compatibility Plan for the Nut Tree Airport. A lighting plan shall be prepared and submitted to the City*

*and Solano County Airport Land Use Commission for review and approval before the issuance of any building permits for the Proposed Project. The plan shall include the following minimum elements:*

- A. The location, type, height, and rating of all light fixtures; and*
- B. A photometric plan indicating the light in foot candles on all portions of the property and adjoining properties (100 feet from the property line); and*
- C. Any proposed shielding or other measures to reduce lighting to meet FAA and City of Vacaville standards.*
- D. As a condition of approval for any development within Land Use Compatibility Zones A, B and C, the Project Applicant shall obtain an avigation easement which restricts light and glare associated with the Proposed Project, from the Solano Airport Land Use Commission.*

The proposed lighting fixtures are either attached to the building (wall pack) or pole lights 20-21 feet high and faced downward, located within the adjoining sidewalk to the building. The photometric plans indicate that lighting will not illuminate within 100 feet of the northern boundary line, closest to the runway, consistent with item B.

Regarding item C - City staff confirms that the proposed lighting plans meet City standards. Regarding FAA standards, email correspondence from Michael Meyers, FAA staff, indicates that there are no standards for lighting specifications of facilities off airport property; however, a Notice of Proposed Construction or Alteration under F.A.R. Part 77 may be filed if there may be a concern of glare interfering with pilot vision. Item D requires an avigation easement which restricts light and glare. Staff has not received the draft for review and recommends that ALUC condition the project to be subject to staff review and approval.

**Analysis Findings:**

Staff recommends that the ALUC approve the lighting plans as submitted subject to the subject to staff review and approval of the avigation easement to be recorded by the applicant.

# Nut Tree Airport & Project Location

Appendix A  
File #AC 24-009



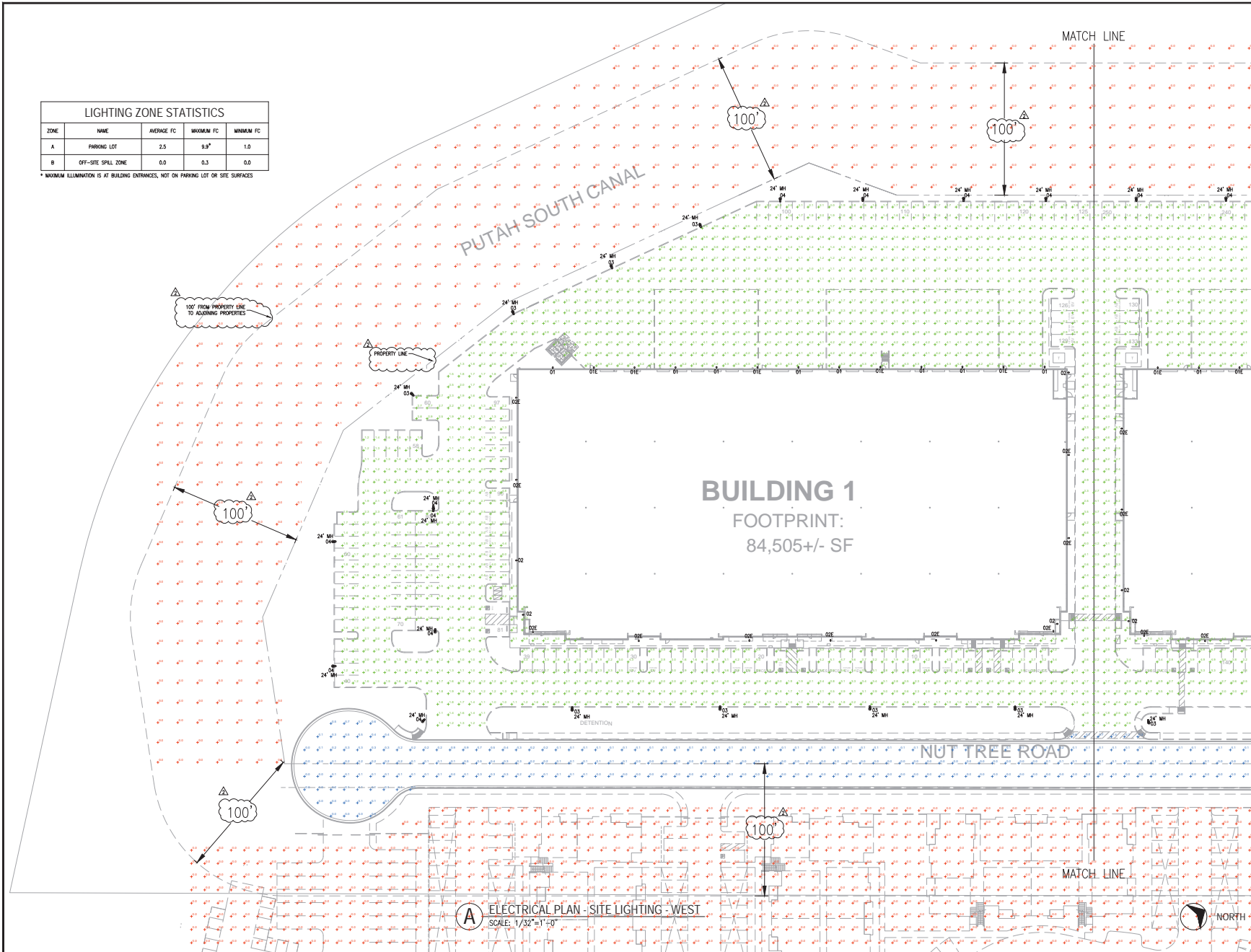
Parcels  
Project Location

0 125 250 500 Feet



LIGHTING ZONE STATISTICS				
ZONE	NAME	AVERAGE FC	MAXIMUM FC	MINIMUM FC
A	PARKING LOT	2.5	9.9"	1.0
B	OFF-SITE SPILL ZONE	0.0	0.3	0.0

\* MAXIMUM ILLUMINATION IS AT BUILDING ENTRANCES, NOT ON PARKING LOT OR SITE SURFACES



DATE	08-11-2023
REVISION	BUILDING FC COMMENTS #1 BUILDING FC COMMENTS #2
NO.	2327
DESIGNED BY	AM
CHECKED BY	JMB
PERMIT DATE	07-12-2023
PERMIT	12-12-2023
<b>NUT TREE BUSINESS PARK</b> 10 & 20 NUT TREE ROAD VACAVILLE, CA 95688	
ELECTRICAL PLAN PHOTOMETRIC WEST	
E2.3	

Project		Catalog #		Type	
Prepared by		Notes		Date	



## Streetworks

### USSL Petite Discrete Wall

Wall Mount Luminaire

#### Product Features



#### Product Certifications



#### Interactive Menu

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#### Quick Facts

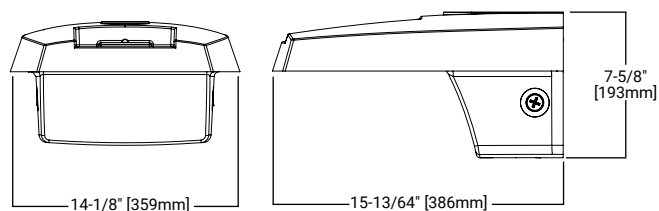
- Direct-mounted discrete light engine for improved optical uniformity and visual comfort
- Lumen packages range from 4,300 - 11,300 lumens (30W - 90W)
- Replaces 70W up to 250W HID equivalents
- Efficacies up to 147 lumens per watt
- Surface mount configuration with standard conduit entry

#### Connected Systems

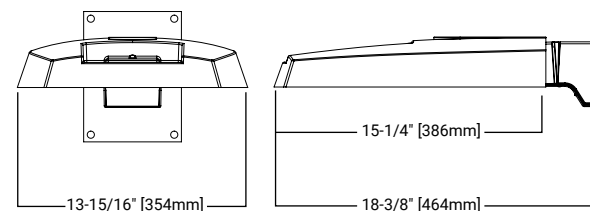
- WaveLinx

#### Dimensional Details

##### Surface Mount (SM)



##### Wall Mount (WM)



**NOTES:**

1. Visit <https://www.designlights.org/search/> to confirm qualification. Not all product variations are DLC qualified.
2. IDA Certified for 3000K CCT and warmer only.

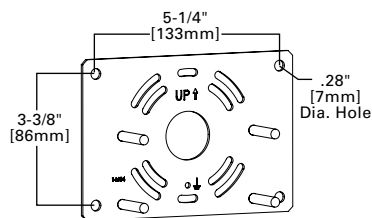
## Ordering Information

SAMPLE NUMBER: **USSL-P-PA1B-740-U-T4W-SM-BZ**

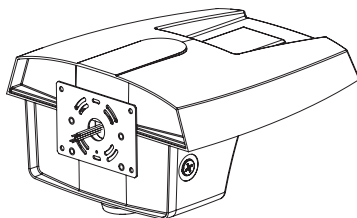
Product Family <sup>1</sup>	Light Engine		Color Temperature	Voltage	Distribution	Mounting (Included)	Finish
	Configuration	Drive Current <sup>2</sup>					
<b>USSL-P=USSL</b> Petite <b>BAA-USSL-P=USSL</b> Petite BAA Compliant <sup>23</sup> <b>TAA-USSL-P=USSL</b> Petite TAA Compliant <sup>23</sup>	<b>PA1</b> =1 Panel, 24 LED Rectangle	<b>A</b> =400mA Nominal <b>B</b> =700mA Nominal <b>C</b> =950mA Nominal <b>D</b> =1200mA Nominal	<b>740</b> =70CRI, 4000K <b>730</b> =70CRI, 3000K <b>750</b> =70CRI, 5000K	<b>U</b> =Universal, 120-277V <b>H</b> =High Voltage, 347-480V <b>9</b> =347V <b>8</b> =480V <sup>3</sup> <b>DV</b> =Duravolt, 277-480V <sup>3,24</sup>	<b>T2R</b> =Type II Roadway <b>T2U</b> =Type II Urban <b>T3</b> =Type III <b>T4W</b> =Type IV Wide <b>5WQ</b> =Type V Square Wide	<b>SM</b> =Surface Wall Mount <b>WM</b> =Wall Mount Arm	<b>BZ</b> =Bronze <b>AP</b> =Grey <b>BK</b> =Black <b>DP</b> =Dark Platinum <b>GM</b> =Graphite Metallic <b>WH</b> =White
Options (Add as Suffix)					Accessories (Order Separately) <sup>18,19</sup>		
<b>10MSP</b> =10kV MOV Surge Protective Device <b>10K</b> =10kV UL 1449 Fused Surge Protective Device <b>20MSP</b> =20kV MOV Surge Protective Device <b>20K</b> =20kV UL 1449 Fused Surge Protective Device <b>2L</b> =Two-Circuit Light Engine <sup>20</sup> <b>EBP</b> =Emergency Battery Pack (Ambient Temp, 0° to 40°C) <sup>4,5</sup> <b>CBP</b> =Cold Weather Emergency Battery Pack (Ambient Temp, -20° to 40°C) <sup>4,5</sup> <b>CBP-CEC</b> =Cold Weather Emergency Battery Pack, CEC Compliant (Ambient Temp, -20° to 40°C) <sup>4,5</sup> <b>HSS</b> =House Side Shield (Factory Installed) <sup>6</sup> <b>HA</b> =50°C High Ambient Temperature <sup>7</sup> <b>CC</b> =Coastal Construction <sup>8</sup> <b>BPC</b> =Button Photocontrol <sup>9</sup> <b>PR</b> =NEMA 3-PIN Twistlock Photocontrol Receptacle <sup>9,10</sup> <b>PR7</b> =NEMA 7-PIN Twistlock Photocontrol Receptacle <sup>9,10</sup> <b>MS/DIM-L08</b> =Dimming Motion and Daylight Sensor, IR Remote Programmable, < 8' Mounting <sup>9,11,12</sup> <b>MS/DIM-L20</b> =Dimming Motion and Daylight Sensor, IR Remote Programmable, 8' - 20' Mounting <sup>9,11,12</sup> <b>MS/DIM-L40</b> =Dimming Motion and Daylight Sensor, IR Remote Programmable, 21' - 40' Mounting <sup>9,11,12</sup> <b>SPB1</b> =Dimming Motion and Daylight Sensor, Bluetooth Programmable, < 8' Mounting <sup>9,11,13</sup> <b>SPB2</b> =Dimming Motion and Daylight Sensor, Bluetooth Programmable, 8' - 20' Mounting <sup>9,11,13</sup> <b>SPB4</b> =Dimming Motion and Daylight Sensor, Bluetooth Programmable, 21' - 40' Mounting <sup>9,11,13</sup> <b>ZW</b> =Wavelinx-enabled 4-PIN Twistlock Receptacle <sup>9,11,14,15</sup> <b>ZD</b> =SR Driver-enabled 4-PIN Twistlock Receptacle <sup>9,11,14,15</sup> <b>ZW-SWPD4XX</b> =WaveLinX Pro, Dimming Motion and Daylight, WAC Programmable, 7' - 15' Mounting <sup>9,11,14,15,16</sup> <b>ZW-SWPD5XX</b> =WaveLinX Pro, Dimming Motion and Daylight, WAC Programmable, 15' - 40' Mounting <sup>9,11,14,15,16</sup> <b>ZD-SWPD4XX</b> =WaveLinX Pro, SR Driver, Dimming Motion and Daylight, WAC Programmable, 7' - 15' Mounting <sup>9,11,14,15,16</sup> <b>ZD-SWPD5XX</b> =WaveLinX Pro, SR Driver, Dimming Motion and Daylight, WAC Programmable, 15' - 40' Mounting <sup>9,11,14,15,16</sup>					<b>HSS-HP</b> =House Side Shield, Horizontal Panel <sup>7</sup> <b>OA/RA1013</b> =Photocontrol Shorting Cap <b>OA/RA1014</b> =NEMA Photocontrol - 120V <b>OA/RA1016</b> =NEMA Photocontrol - Multi-Tap 105-285V <b>OA/RA1201</b> =NEMA Photocontrol - 347V <b>OA/RA1027</b> =NEMA Photocontrol - 480V <b>FSIR-100</b> =Wireless Configuration Tool for Occupancy Sensor <sup>21</sup> <b>WOLC-7P-10A</b> =WaveLinX Outdoor Control Module (7-PIN) <sup>22</sup> <b>SWPD4-XX</b> =WaveLinX Wireless Sensor, 7' - 15' Mounting Height <sup>15,16,17</sup> <b>SWPD5-XX</b> =WaveLinX Wireless Sensor, 15' - 40' Mounting Height <sup>15,16,17</sup>		
<p>NOTES:</p> <ol style="list-style-type: none"> <li>DesignLights Consortium® Qualified. Refer to <a href="http://www.designlights.org">www.designlights.org</a> Qualified Products List under Family Models for details.</li> <li>Nominal drive currents shown here. For actual drive current by configuration, refer to Power and Lumens tables.</li> <li>Only for use with 480V Wye systems. Per NEC, not for use with ungrounded systems, impedance grounded systems or corner grounded systems (commonly known as Three Phase Three Wire Delta, Three Phase High Leg Delta and Three Phase Corner Grounded Delta systems).</li> <li>Only available on Surface Wall Mount (SM) mounting.</li> <li>Must use with Universal (U) voltage only. Not available with other voltage options. Not available with PA1D light engine.</li> <li>House Side Shield not for use with 5WQ distribution.</li> <li>Not available with EBP, CBP, or CBP-CEC options. Not available with PA1D light engine.</li> <li>Salt spray tested to over 5,000-hours per ASTM B117 with a scribe rating of 9 per ASTM D1654. Also achieves 7,000-hour rating per ASTM B117 with a scribe rating of 4 per ASTM D1654. Extended lead times may apply.</li> <li>Option is not available with other controls: photocontrols (BPC), photocontrol receptacles (PR or PR7), or controls systems (MS, ZD, or ZW).</li> <li>If High Voltage (H) or DuraVolt (DV) is specified, use a photocontrol that matches the input voltage used.</li> <li>Option not available with High Voltage (H). Must specify Universal (U), 347V (9), or 480V (8) voltage.</li> <li>Utilizes the Wattstopper sensor FSP-211. Sensor color white unless specified otherwise via PDR. To field-configure, order FSIR-100 accessory separately.</li> <li>Utilizes the Wattstopper sensor FSP-3XX series. Sensor color determined by product finish. See Sensor Color Reference Table. Field-configures via mobile application. See Controls section for details.</li> <li>Sensor passive infrared (PIR) may be overly sensitive when operating below -20°C (-4°F).</li> <li>In order for the device to be field-configurable, requires WAC Gateway components WAC-PoE and WPOE-120 in appropriate quantities. Only compatible with WaveLinX system and software and requires system components to be installed for operation. See website for more Wavelinx application information.</li> <li>Replace XX with sensor color (WH, BZ or BK).</li> <li>Requires 4-PIN twistlock receptacle option (ZD or ZW) option.</li> <li>For BAA or TAA requirements, Accessories sold separately will be separately analyzed under domestic preference requirements. Consult factory for further information.</li> <li>Replace XX with paint color.</li> <li>Controls and/or emergency battery packs operate only one of the two circuits when 2L is specified.</li> <li>This tool enables adjustment to Motion Sensor (MS) parameters including high and low modes, sensitivity, time delay, cutoff and more. Consult your lighting representative for more information.</li> <li>Requires 7-PIN NEMA twistlock photocontrol receptacle (PR7) option. The WOLC-7 cannot be used in conjunction with other controls systems (MS, ZD, or ZW). Only for use at 120-347V.</li> <li>Only product configurations with these designated prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to <a href="http://DOMESTIC.PREFERENCES">DOMESTIC.PREFERENCES</a> website for more information. Components shipped separately may be separately analyzed under domestic preference requirements.</li> <li>DuraVolt drivers feature added protection from power quality issues such as loss of neutral, transients and voltage fluctuations. Visit <a href="http://www.signify.com/duravolt">www.signify.com/duravolt</a> for more information.</li> </ol>							

## Mounting Details

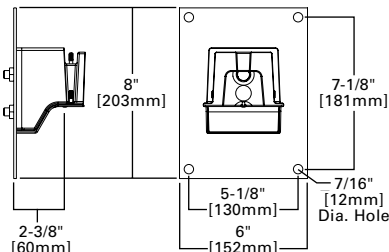
### Surface Mount Plate (SM)



### Surface Mount Assembly (SM)



### Wall Mount (WM)



## Product Specifications

### Construction

- Single-piece die-cast aluminum housing
- Tethered die-cast aluminum door
- Surface Mount (SM) offers two 1/2" NPT conduit entry plugs
- Not suitable for inverted mount installation

### Optics

- **Dark Sky Approved (3000K CCT and warmer only)**
- Precision molded polycarbonate optics

### Electrical

- -40°C minimum operating temperature
- 40°C maximum operating temperature

- >.9 power factor
- <20% total harmonic distortion
- Class 1 electronic drivers have expected life of 100,000 hours with <1% failure rate
- 0-10V dimming driver is standard with leads external to the fixture
- Three-position terminal block standard. Four-position terminal block with emergency battery pack options

### Typical Applications

- Outdoor, Pedestrian Pathways, Building Entrances, Loading Docks, Perimeter Parking Lots

### Finish

- Five-stage super TGIC polyester powder coat paint, 2.5 mil nominal thickness

### Shipping Data

- USSL Petite (with CBP): 21 lbs. (9.53 kgs.)

### Warranty

- Five year limited warranty, consult website for details. [www.cooperlighting.com/legal](http://www.cooperlighting.com/legal)



# Streetworks

# USSL Petite Discrete Wall

## Energy and Performance Data

### Power and Lumens

Light Engine		PA1A	PA1B	PA1C	PA1D
Power (Watts)		31	53	72	93
Drive Current (mA)		375	670	930	1200
Input Current @ 120V (A)		0.26	0.44	0.60	0.78
Input Current @ 277V (A)		0.12	0.20	0.28	0.35
Input Current @ 347V (A)		0.10	0.17	0.23	0.29
Input Current @ 480V (A)		0.07	0.13	0.17	0.22
Distribution					
Type II Roadway	4000K/5000K Lumens	4,505	7,362	9,495	11,300
	BUG Rating	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2
	Lumens per Watt	147	139	132	121
	3000K Lumens <sup>1</sup>	4,103	6,705	8,647	10,291
Type II Roadway w/ HSS	4000K/5000K Lumens	3,727	6,091	7,855	9,349
	BUG Rating	B0-U0-G1	B0-U0-G2	B0-U0-G2	B1-U0-G2
	Lumens per Watt	121	115	109	100
	3000K Lumens <sup>1</sup>	3,394	5,547	7,154	8,514
Type II Urban	4000K/5000K Lumens	4,496	7,347	9,476	11,277
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G3
	Lumens per Watt	146	139	131	121
	3000K Lumens <sup>1</sup>	4,095	6,691	8,630	10,271
Type II Urban w/ HSS	4000K/5000K Lumens	3,253	5,316	6,856	8,160
	BUG Rating	B1-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G2
	Lumens per Watt	106	101	95	87
	3000K Lumens <sup>1</sup>	2,963	4,841	6,244	7,431
Type III	4000K/5000K Lumens	4,443	7,261	9,364	11,145
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G2
	Lumens per Watt	145	138	130	119
	3000K Lumens <sup>1</sup>	4,046	6,612	8,528	10,150
Type III w/ HSS	4000K/5000K Lumens	3,406	5,566	7,179	8,543
	BUG Rating	B0-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2
	Lumens per Watt	111	105	100	91
	3000K Lumens <sup>1</sup>	3,102	5,069	6,538	7,781
Type IV Wide	4000K/5000K Lumens	4,348	7,106	9,164	10,906
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3
	Lumens per Watt	142	135	127	117
	3000K Lumens <sup>1</sup>	3,960	6,471	8,346	9,932
Type IV Wide w/ HSS	4000K/5000K Lumens	3,318	5,422	6,993	8,323
	BUG Rating	B0-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2
	Lumens per Watt	108	103	97	89
	3000K Lumens <sup>1</sup>	3,022	4,938	6,369	7,580
Type V Square Wide	4000K/5000K Lumens	4,497	7,349	9,478	11,280
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2
	Lumens per Watt	146	139	131	121
	3000K Lumens <sup>1</sup>	4,095	6,693	8,632	10,273

**NOTES:**  
1. For 3000K or HSS BUG Ratings, refer to published IES files.

### Power and Lumens: Emergency Configurations

Light Engine		PA1A	PA1B	PA1C
Power (Watts) <sup>1</sup>		37	59	78
Input Current @ 120V (A)		0.33	0.52	0.68
Input Current @ 277V (A)		0.16	0.24	0.31
Distribution <sup>2</sup>				
Type II Roadway	4000K/5000K Lumens	2,035		
	3000K Lumens	1,853		
Type II Urban	4000K/5000K Lumens	2,030		
	3000K Lumens	1,849		
Type III	4000K/5000K Lumens	2,007		
	3000K Lumens	1,827		
Type IV Wide	4000K/5000K Lumens	1,964		
	3000K Lumens	1,788		
Type V Square Wide	4000K/5000K Lumens	2,031		
	3000K Lumens	1,849		

**NOTES:**  
1. Power and current based on full power consumption while EBP or CBP is charging.  
2. Estimated lumen outputs while luminaire is operating in emergency mode only at full charge.

### Lumen Maintenance

Configuration	TM-21 Lumen Maintenance (50,000 Hours)	Theoretical L70 (Hours)
Up to 50°C	96.76%	> 663,000

### Sensor Color Reference Table (SPBx)

Housing Finish	Sensor Color
AP=Grey	Grey
BZ=Bronze	Bronze
BK=Black	Black
DP=Dark Platinum	Grey
GM=Graphite Metallic	Black
WH=White	White

### Lumen Multiplier

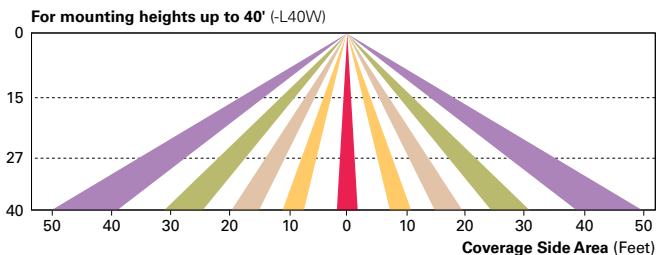
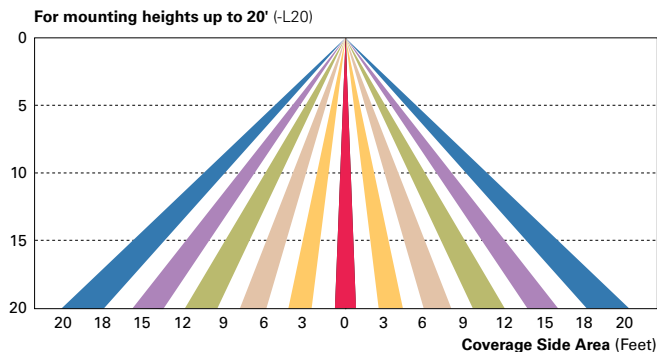
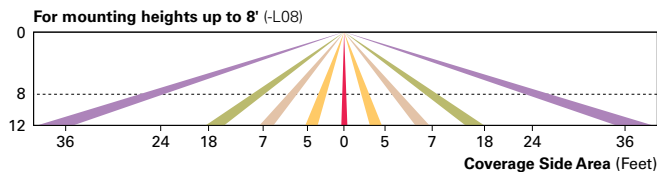
Ambient Temperature	Lumen Multiplier
0°C	1.02
10°C	1.01
25°C	1.00
40°C	0.99
50°C	0.97

## Control Options

**0-10V** This fixture provides 0-10V dimming wire leads for use with a lighting control panel or other control method.

**Photocontrol** (PR and PR7) Photocontrol receptacles provide a flexible solution to enable “dusk-to-dawn” lighting by sensing light levels. Advanced control systems compatible with NEMA 7-PIN standards can be utilized with the PR7 receptacle.

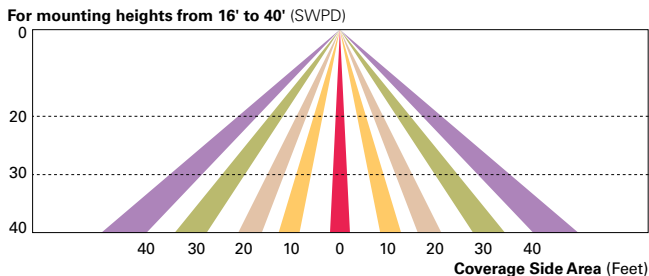
**Dimming Occupancy Sensor** (SPB, MS/DIM-LXX and MS-LXX) These sensors are factory installed in the luminaire housing. When the SPB or MS/DIM sensor options are selected, the luminaire will dim down after five minutes of no activity detected. When activity is detected, the luminaire returns to full light output. When a sensor for ON/OFF operation (MS-LXX) is selected, the luminaire will turn off after five minutes of no activity. These occupancy sensors include an integral photocell for “dusk-to-dawn” control or “daylight harvesting.” Factory default is enabled for the MS sensors and disabled for the SPB. SPB motion sensors require the Sensor Configuration mobile application by Wattstopper to change factory default dimming level, time delay, sensitivity and other parameters. Available for iOS and Android devices. The SPB sensor is factory preset to dim down to approximately 10% power with a time delay of five minutes.



**WaveLinx Wireless Control and Monitoring System** Available in 7-PIN or 4-PIN configurations, the WaveLinx Outdoor control platform operates on a wireless mesh network based on IEEE 802.15.4 standards enabling wireless control of outdoor lighting. At least one Wireless Area Controller (WAC) is required for full functionality and remote communication (including adjustment of any factory pre-sets).

**WaveLinx Outdoor Control Module (WOLC-7P-10A)** A photocontrol that enables astronomic or time-based schedules to provide ON, OFF and dimming control of fixtures utilizing a 7-PIN receptacle. The out-of-box functionality is ON at dusk and OFF at dawn.

**WaveLinx Wireless Sensor (SWPD4 and SWPD5)** These outdoor sensors offer passive infrared (PIR) occupancy sensing and a photocell for closed-loop daylight sensing. These sensors can be factory installed or field-installed via simple, tool-less integration into luminaires equipped with the Zhaga Book 18 compliant 4-PIN receptacle (ZD or ZW). These sensors are factory preset to dim down to approximately 50 percent power after 15 minutes of no activity detected, and the photocell for “dusk-to-dawn” control is default enabled. A variety of sensor lenses are available to optimize the coverage pattern for mounting heights from 7'-40'.



Project		Catalog #		Type	
Prepared by		Notes		Date	



# Lumark

## Axcent

### Wall Mount Luminaire

#### Product Features



#### Product Certifications



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#### Quick Facts

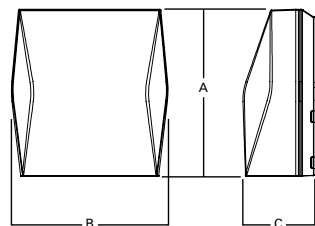
- Available in 14W - 123W (1,800 - 17,000 lumens) models
- Full cutoff and refractive lens models available
- Energy and maintenance savings up to 95% compared to HID
- Energy efficient illumination results in up to 144 LPW
- Replaces 70W up to 450W HID equivalents

#### Connected Systems

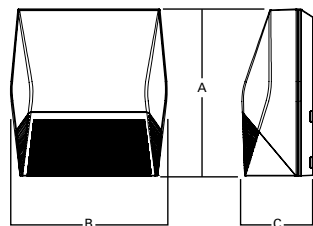
- WaveLinX Lite
- Enlighted

#### Dimensional Details

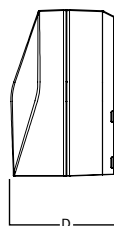
Full Cutoff



Refractive Lens



Deep Back Housing



Dimensional Data

	AXCS Small	AXCL Large
A	8" [202mm]	11-1/2" [292mm]
B	7-1/2" [190mm]	10-3/4" [273mm]
C	3-5/8" [94mm]	4-7/8" [124mm]
D	6-1/8" [155mm]	7-1/8" [181mm]

## Ordering Information

SAMPLE NUMBER: **AXCS1A-AP-347V**

Domestic Preferences <sup>28</sup>	Model Series <sup>1</sup>	LED Color Temperature	Color	Options (Add as Suffix)
<b>[Blank]</b> =Standard <b>BAA</b> =Buy American Act <b>TAA</b> =Trade Agreements Act	<b>Full Cutoff</b> <b>AXCS1A</b> =14W <b>AXCS2A</b> =21W <b>AXCS3A</b> =27W <b>AXCS4A</b> =44W <b>AXCS5A</b> =52W <b>AXCL6A</b> =56W <b>AXCL8A</b> =72W <b>AXCL10A</b> =102W <b>AXCL12A</b> =123W  <b>Refractive Lens</b> <b>AXCS1ARL</b> =14W <b>AXCS2ARL</b> =21W <b>AXCS3ARL</b> =27W <b>AXCS4ARL</b> =44W <b>AXCS5ARL</b> =52W <b>AXCL6ARL</b> =56W <b>AXCL8ARL</b> =72W <b>AXCL10ARL</b> =102W <b>AXCL12ARL</b> =123W	<b>[Blank]</b> =4000K, Neutral <b>C</b> =5000K, Cool <b>W</b> =3000K, Warm	<b>[Blank]</b> =Carbon Bronze (Standard) <b>WT</b> =Summit White <b>BK</b> =Black <b>AP</b> =Grey <b>GM</b> =Graphite Metallic <b>DP</b> =Dark Platinum	<b>347V</b> =347V <sup>2</sup> <b>480V</b> =480V <sup>2</sup> <b>PC1</b> =Photocontrol 120V <sup>3,4,5</sup> <b>PC2</b> =Photocontrol 208-277V, 347V, 480V <sup>4,5,6</sup> <b>PC</b> =Photocontrol 120-277V, 347V, 480V <sup>4,7,8</sup> <b>KKIT</b> =Knuckle Floodlight Mount <sup>7</sup> <b>TRNKIT</b> =Trunnion Floodlight Mount <b>SFKIT</b> =Slipfitter Floodlight Mount <b>PMAKIT</b> =Pole Mount Arm <b>ZW</b> =WaveLinX-enabled 4-PIN Twistlock Receptacle <sup>4,9</sup> <b>ZW-SWPD4XX</b> =WaveLinX Wireless Sensor, 7' - 15' Mounting Height <sup>4,9,10,11</sup> <b>ZW-SWPD5XX</b> =WaveLinX Wireless Sensor, 15' - 40' Mounting Height <sup>4,9,10,11</sup> <b>LWR-LW</b> =Enlighted Wireless Sensor, Wide Lens for 8' - 16' Mounting Height <sup>4,9,12</sup> <b>LWR-LN</b> =Enlighted Wireless Sensor, Narrow Lens for 16' - 40' Mounting Height <sup>4,9,12</sup> <b>MSP/DIM-L12</b> =Integrated Sensor for Dimming Operation, 8' - 12' Mounting Height <sup>4,9,13</sup> <b>MSP/DIM-L30</b> =Integrated Sensor for Dimming Operation, 12' - 30' Mounting Height <sup>4,9,13</sup> <b>MSP-L12</b> =Integrated Sensor for ON/OFF Operation, 8' - 12' Mounting Height <sup>4,9,13</sup> <b>MSP-L30</b> =Integrated Sensor for ON/OFF Operation, 12' - 30' Mounting Height <sup>4,9,13</sup> <b>CBP</b> =Cold Weather Battery Pack <sup>3,14,15,16,17,18</sup> <b>CBP-CEC</b> =Cold Weather Battery Pack, CEC compliant <sup>3,14,15,16,17,18</sup> <b>10K</b> =10kV/10kA Surge Protection <b>HA</b> =50°C High Ambient <sup>15,19</sup> <b>GRF</b> =Glare Reducing Lens <sup>20</sup> <b>AHD145</b> =After Hours Dim, 5 Hours <sup>5,21</sup> <b>AHD245</b> =After Hours Dim, 6 Hours <sup>5,21</sup> <b>AHD255</b> =After Hours Dim, 7 Hours <sup>5,21</sup> <b>AHD355</b> =After Hours Dim, 8 Hours <sup>5,21</sup>
Accessories (Order Separately) <sup>22,23</sup>				
<b>VS/AXCS-XX</b> =Vandal Shield Xcent Small <sup>7,23</sup> <b>VS/AXCS-MS</b> =Vandal Shield Xcent Small (With Motion Sensor) <sup>7,23</sup> <b>WG/AXCS</b> =Wire Guard Xcent Small <sup>7</sup> <b>WG/AXCS-MS</b> =Wire Guard Xcent Small (With Motion Sensor) <sup>7</sup> <b>VS/AXCL-XX</b> =Vandal Shield Xcent Large <sup>5,23</sup> <b>VS/AXCL-MS</b> =Vandal Shield Xcent (With Motion Sensor) <sup>5,23</sup> <b>WG/AXCL</b> =Wire Guard Xcent Large <sup>5</sup> <b>WG/AXCL-MS</b> =Wire Guard Xcent (With Motion Sensor) <sup>5</sup> <b>BB/AXC</b> =Xcent Lumen Select Back Box, Carbon Bronze <sup>24</sup> <b>BB/AXC-PC</b> =Xcent Lumen Select Back Box with PC, Carbon Bronze <sup>24,25</sup> <b>BB/AXC-WT</b> =Xcent Lumen Select Back Box, Summit White <sup>24</sup> <b>BB/AXC-WT-PC</b> =Xcent Lumen Select Back Box with PC, Summit White <sup>24,25</sup>		<b>KKIT/AXCS-XX</b> =Knuckle and Visor Floodlight Kit (For Xcent Small) <sup>7</sup> <b>SFKIT/AXCS-XX</b> =Slipfitter Floodlight Kit (For Xcent Small) <sup>7</sup> <b>TRNKIT/AXCS-XX</b> =Trunnion and Visor Floodlight Kit (For Xcent Small) <sup>7</sup> <b>TRNKIT-XX</b> =Trunnion Floodlight Kit (For Xcent Large) <sup>5</sup> <b>SFKIT-XX</b> =Slipfitter Floodlight Kit (For Xcent Large) <sup>5</sup> <b>PMAKIT-XX</b> =Pole Mount Kit <b>ISHH-01</b> =Integrated Sensor Programming Remote <sup>26</sup> <b>MA1010-XX</b> =Single Tenon Adapter for 3-1/2" O.D. Tenon <b>MA1011-XX</b> =2@180° Tenon Adapter for 3-1/2" O.D. Tenon <b>MA1017-XX</b> =Single Tenon Adapter for 2-3/8" O.D. Tenon <b>MA1018-XX</b> =2@180° Tenon Adapter for 2-3/8" O.D. Tenon <b>SWPD4-XX</b> =WaveLinX Wireless Sensor, 7' - 15' Mounting Height <sup>10,11,27</sup> <b>SWPD5-XX</b> =WaveLinX Wireless Sensor, 15' - 40' Mounting Height <sup>10,11,27</sup>		
<b>NOTES:</b> 1. DesignLights Consortium® Qualified. Refer to <a href="http://www.designlights.org">www.designlights.org</a> Qualified Products List under Family Models for details. 2. Transformer used only when ordered with motion sensor or AXCS1 through AXCS5 or AXCL6 fixture wattages. 3. Not available in 347 or 480 VAC. 4. Button photocontrol and any motion sensor (MSP, ZW, or LWR) not offered together. 5. Only available on AXCL6-AXCL12 models. 6. Used with 277, 347, and 480 VAC options. 7. Only available on AXCS1-AXCS5 models. 8. This configuration may contain materials that are not RoHS compliant. Contact your lighting representative for more information. 9. Uses deep back housing. 10. Sensor passive infrared (PIR) may be overly sensitive when operating below -20°C (-4°F). For the device to be field-configurable, requires WAC Gateway components WAC-PoE and WPOE-120 in appropriate quantities. Only compatible with WaveLinX system and software and requires system components to be installed for operation. See website for more WaveLinX application information. 11. Replace XX with sensor color (WH, BZ, or BK). 12. Enlighted wireless sensors are factory installed and require network components LWP-EM-1, LWP-GW-1, and LWP-PoE8 in appropriate quantities. See website for application information. 13. The ISHH-01 accessory is required to adjust parameters. 14. Ambient operating temperature -20°C to 25°C for AXCL6 through AXCL10. Ambient operating temperature -20°C to 30°C on AXCS4 models. Ambient operating temperature -20°C to 40°C on AXCS1 through AXCS3 models. 15. Not available with AXCS5 or AXCL12 models. 16. Uses deep back housing for AXCS1, AXCL2, AXCS3, and AXCS4 models. 17. Not to be mounted in upwards / inverted orientation. Downlight wall mount only for AXCS1 through AXCS4. 18. CBP cannot be used with PC and motion sensor (MSP, ZW, or LWR). CBP can be used with PC or motion sensor (MSP, ZW, or LWR). 19. Can not be ordered with CBP or PC options. 20. Use dedicated IES files on product website for lumen values and distributions. 21. Requires the use of PC1 or PC2 button photocontrol. See After Hours Dim supplemental guide for additional information. 22. Replace XX with color designation. 23. For use with full cutoff lens configurations only. 24. Lumen Select functionality not available in conjunction with any motion sensor option (MSP, ZW, or LWR). Photocontrol back box not available with any photocontrol or motion sensor options (PC, MSP, ZW, or LWR). 25. Photocell only operates at 120-277V input voltages. Not for use with 347 or 480V systems. 26. This tool enables adjustment to parameters including high and low modes, sensitivity, time delay, cutoff and more. Consult your lighting representative for more information. 27. Requires 4-PIN twistlock receptacle (ZW) option. 28. Only product configurations with these designated prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to <a href="http://DOMESTIC.PREFERENCES">DOMESTIC.PREFERENCES</a> website for more information. Components shipped separately may be separately analyzed under domestic preference requirements. 29. Accessories sold separately will be separately analyzed under domestic preference requirements. Consult factory for further information.				

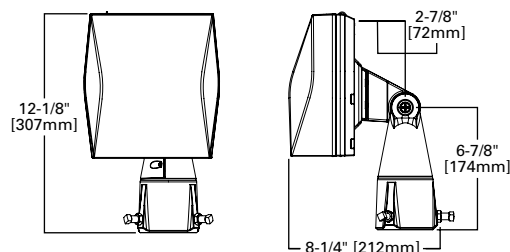
## Stock Ordering Information

Model Series <sup>1</sup>			
Full Cutoff		Refractive Lens	
<b>AXCS1A</b> =14W	<b>AXCL10A</b> =102W	<b>AXCS1ARL</b> =14W	<b>AXCL10ARL</b> =102W
<b>AXCS2A</b> =21W	<b>AXCL12A</b> =123W	<b>AXCS2ARL</b> =21W	<b>AXCL12ARL</b> =123W
<b>AXCS3A</b> =27W	<b>AXCL6A-347V</b> =56W	<b>AXCS3ARL</b> =27W	<b>AXCL6ARL-347V</b> =56W
<b>AXCS4A</b> =44W	<b>AXCL8A-347V</b> =72W	<b>AXCS4ARL</b> =44W	<b>AXCL8ARL-347V</b> =72W
<b>AXCS5A</b> =52W	<b>AXCL10A-347V</b> =102W	<b>AXCS5ARL</b> =52W	<b>AXCL10ARL-347V</b> =102W
<b>AXCL6A</b> =56W	<b>AXCL12A-347V</b> =123W	<b>AXCL6ARL</b> =56W	<b>AXCL12ARL-347V</b> =123W
<b>AXCL8A</b> =72W		<b>AXCL8ARL</b> =72W	

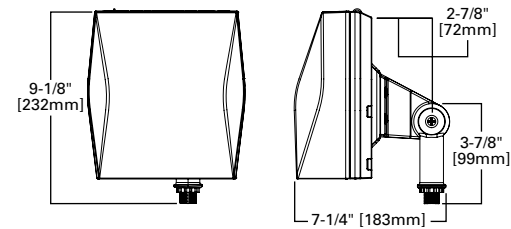
**Note:** All stock configurations are 4000K color temperatures, standard Carbon Bronze finish, and wall mount configuration.

## Mounting Details

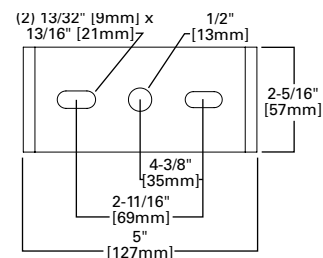
**Slipfitter Mount (Small)**  
Tenon OD: 2-3/8" | EPA: 0.60



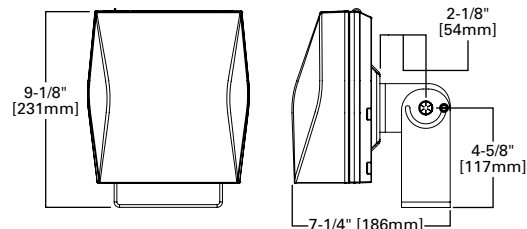
**Knuckle Mount (Small)**



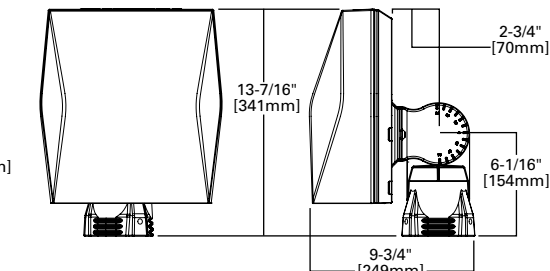
**Trunnion Mount Detail**



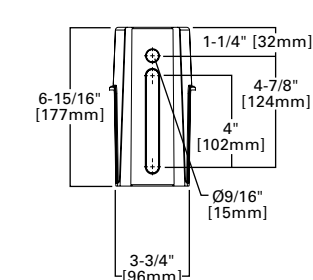
**Trunnion Mount (Small)**



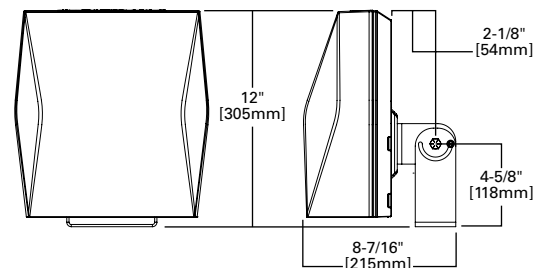
**Slipfitter Mount (Large)**  
Tenon OD: 2-3/8" to 2-7/8" | EPA: 1.10



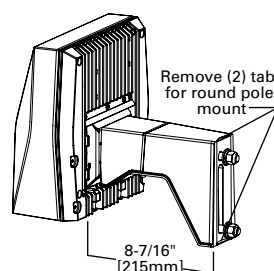
**Pole Mount Arm Drill Pattern**



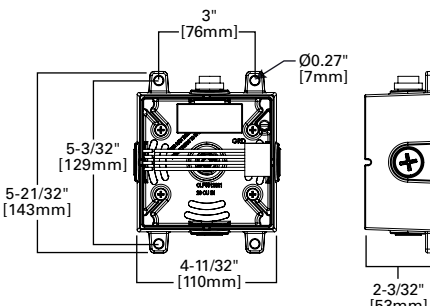
**Trunnion Mount (Large)**



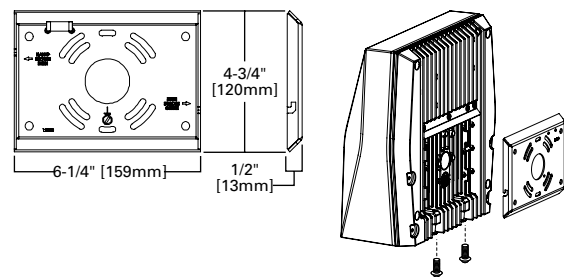
**Pole Mount Arm (Large)**  
EPA: 1.10



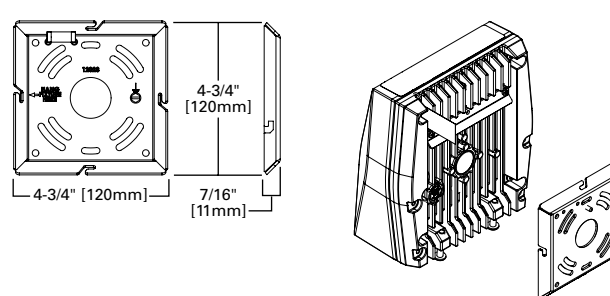
**Lumen Select Back Box**



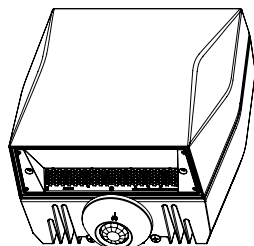
**Wall Mount Plate Detail (Large)**



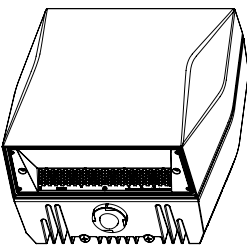
**Wall Mount Plate Detail (Small)**



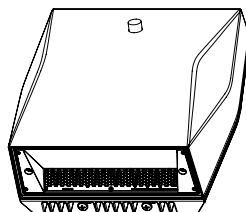
**Enlighted Sensor**



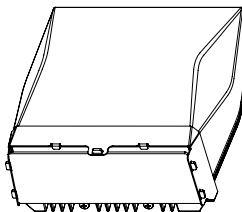
**Occupancy Sensor**



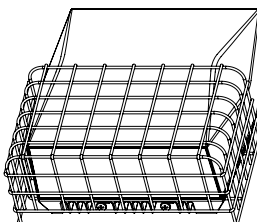
**Button Photocontrol**



**Vandal Shield**



**Wire Guard**



## Product Specifications

### Construction

- Die-cast aluminum housing
- External back fin design extracts heat from the surface to thermally optimize design for longer luminaire life

### Optics

- Dark Sky Approved (Fixed mount, Full cutoff, and 3000K CCT only)
- Silicone-sealed optical LED chamber
- Acrylic refractive or full cutoff lens options for Type IV distributions

### Electrical

- Standard universal voltage (120-277V, 50/60Hz)
- Driver incorporates 6kV surge protection
- -40°C minimum operating temperature
- 40°C maximum operating temperature
- <20% total harmonic distortion

- 0-10V dimming driver is standard with leads external to the fixture

### Mounting

- Steel wedge mounting plate fits directly to 4" standard j-box or directly to wall with the "Hook-N-Lock" mechanism
- Stainless steel set screws
- Lumen Select Back Box accessory offers four 1/2" NPT conduit entry wire ways. Resistor Pack combinations allow field-dimming of 75% or 50% when connected to luminaire dimming leads
- Not suitable for indoor use when installed in inverted/uplight orientation

### Emergency Egress

- Optional integral cold weather battery emergency egress includes emergency operation test switch, an AC-ON indicator light and a premium, maintenance-free battery pack

- The separate emergency lighting LEDs are wired to provide redundant emergency lighting. Listed to UL Standard 924, Emergency Lighting

### Finish

- Five-stage super TGIC polyester powder coat paint, 2.5 mil nominal thickness

### Shipping Data

- Small fixture=5 lbs. [2.36 kgs.]
- Small with sensor or CBP=10 lbs. [4.40 kgs.]
- Large fixture=12 lbs. [5.45 kgs.]
- Large with sensor or CBP=17 lbs. [7.73 kgs.]
- Large with sensor & CBP=21 lbs. [9.54 kgs.]

## Energy and Performance Data

### Power and Lumens (Axcent Small)

Light Engine		AXCS1A	AXCS2A	AXCS3A	AXCS4A	AXCS5A
Power (Watts)		14	21	27	44	52
Input Current @ 120V (A)		0.12	0.18	0.23	0.37	0.43
Input Current @ 240V (A)		0.06	0.09	0.11	0.18	0.22
Input Current @ 277V (A)		0.05	0.08	0.10	0.16	0.19
Input Current @ 347V (A)		0.04	0.06	0.08	0.13	0.15
Input Current @ 480V (A)		0.03	0.04	0.06	0.09	0.11
Configuration						
Full Cutoff	4000K/5000K Lumens	1,806	2,561	3,537	5,520	6,300
	3000K Lumens	1,526	2,164	2,989	4,665	5,324
	BUG Rating	B1-U0-G0	B1-U0-G0	B1-U0-G0	B2-U0-G1	B2-U0-G1
Refractive Lens	4000K/5000K Lumens	1,915	2,716	3,704	5,858	6,699
	3000K Lumens	1,618	2,295	3,130	4,950	5,661
	BUG Rating	B1-U3-G2	B1-U3-G2	B1-U3-G2	B1-U4-G3	B1-U4-G3

### Power and Lumens (Axcent Large)

Light Engine		AXCL6A	AXCL8A	AXCL10A	AXCL12A
Power (Watts)		49.4	65.3	89.1	115.3
Input Current @ 120V (A)		0.41	0.54	0.74	0.96
Input Current @ 240V (A)		0.21	0.27	0.37	0.48
Input Current @ 277V (A)		0.18	0.24	0.32	0.42
Input Current @ 347V (A)		0.14	0.19	0.26	0.33
Input Current @ 480V (A)		0.10	0.14	0.19	0.24
Configuration					
Full Cutoff	4000K Lumens	7,594	9,716	12,719	16,302
	5000K Rating	7,501	9,598	12,564	16,103
	3000K Lumens	6,502	8,319	10,890	13,958
	BUG Rating	B2-U0-G1	B2-U0-G2	B3-U0-G2	B3-U0-G2
Refractive Lens	4000K Lumens	7,809	10,331	13,665	16,637
	5000K Rating	7,714	10,205	13,498	16,434
	3000K Lumens	6,686	8,845	11,700	14,244
	BUG Rating	B1-U4-G4	B2-U5-G5	B2-U5-G5	B2-U5-G5

## Energy and Performance Data

### Power and Lumens (Small + CBP)

Light Engine		AXCS1A	AXCS2A	AXCS3A	AXCS4A
Power (Watts)		18	25	31	48
Input Current @ 120V (A)		0.15	0.21	0.26	0.40
Input Current @ 240V (A)		0.08	0.11	0.13	0.20
Input Current @ 277V (A)		0.07	0.09	0.11	0.18
Configuration					
Full Cutoff	4000K/5000K Lumens	629	587	647	570
	3000K Lumens	531	496	547	482
Refractive Lens	4000K/5000K Lumens	667	623	686	605
	3000K Lumens	563	526	580	511

Note: Power and current based on full power consumption while CBP is charging. Lumen outputs are while operating in emergency mode only.

### Power and Lumens (Large + CBP)

Light Engine		AXCL6A	AXCL8A	AXCL10A
Power (Watts)		60	76	106
Input Current @ 120V (A)		0.50	0.63	0.88
Input Current @ 240V (A)		0.25	0.32	0.44
Input Current @ 277V (A)		0.22	0.27	0.38
Configuration				
Full Cutoff	4000K/5000K Lumens	1,070		
	3000K Lumens	945		
Refractive Lens	4000K/5000K Lumens	1,098		
	3000K Lumens	973		

Note: Power and current based on full power consumption while CBP is charging. Lumen outputs are while operating in emergency mode only.

### Power and Lumens Multipliers (Lumen Select Back Box + Axcnt Small)

Configuration		~75% Nominal Output	~50% Nominal Output
Catalog Number	Material Number	Connect per Installation Instructions	
AXCS1A*	13109741 or 13109939 or Other	74%	50%
AXCS2A*	13109698 or 13109938 or Other	74%	50%
AXCS3A*	13109697 or 13109937 or Other	74%	50%
AXCS4A*	13109695 or 13109936	75%	40%
AXCS4A*	13495299 or 13495470 or Other	72%	50%
AXCS5A*	13109652 or 13109935	75%	40%
AXCS5A*	13495471 or 13495472 or Other	72%	50%

### Power and Lumens Multipliers (Lumen Select Back Box + Axcnt Large)

Configuration		~75% Nominal Output	~50% Nominal Output
Catalog Number	Material Number	Connect per Installation Instructions	
AXCL6A*	12963843 or 12964235	75%	40%
AXCL6A*	13495473 or 13495474 or Other	69%	47%
AXCL8A*	12963842 or 12964234	84%	48%
AXCL8A*	13495475 or 13495476 or Other	69%	47%
AXCL10A*	12963840 or 12964233	84%	48%
AXCL10A*	13495477 or 13495478 or Other	69%	47%
AXCL12A*	12902056 or 12902057	85%	50%
AXCL12A*	13495479 or 13495480 or Other	72%	49%

### Lumen Maintenance (Axcnt Small)

Ambient Temperature	TM-21 Lumen Maintenance (72,000 Hours)	Theoretical L70 (72,000 Hours)
<b>Up to 3A</b>		
25°C	90%	246,000
40°C	90%	225,000
50°C	89%	195,000
<b>Up to 5A</b>		
25°C	89%	240,000
40°C	88%	223,000
50°C	87%	186,000

### Lumen Maintenance (Axcnt Large)

Ambient Temperature	TM-21 Lumen Maintenance (72,000 Hours)	Theoretical L70 (72,000 Hours)
<b>Up to 8A</b>		
25°C	94%	556,000
40°C	94%	556,000
50°C	92%	340,000
<b>Up to 10A</b>		
25°C	94%	556,000
40°C	94%	478,000
50°C	87%	207,000
<b>Up to 12A</b>		
25°C	94%	151,000
40°C	81%	125,000

### Lumen Multiplier

Ambient Temperature	Lumen Multiplier
10°C	1.02
15°C	1.01
25°C	1.00
40°C	0.97

## Control Options

**0-10V** This fixture is offered standard with 0-10V dimming driver(s) for use with a lighting control panel or other control method.

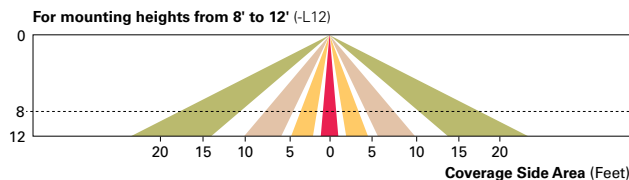
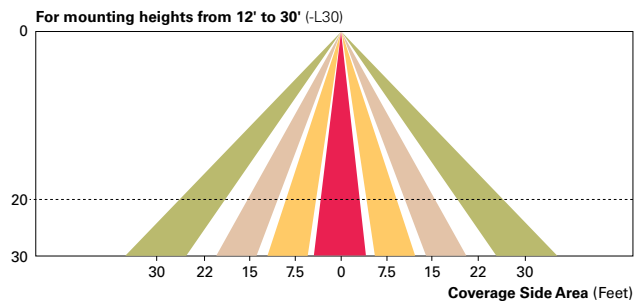
**Photocontrol** (PC1, PC2 and PC) Optional button-type photocontrol provides a flexible solution to enable “dusk-to-dawn” lighting by sensing light levels.

**After Hours Dim** (AHD) This feature allows photocontrol-enabled luminaires to achieve additional energy savings by dimming during scheduled portions of the night. The dimming profile will automatically take effect after a “dusk-to-dawn” period has been calculated from the photocontrol input. Specify the desired dimming profile for a simple, factory-shipped dimming solution requiring no external control wiring. Reference the After Hours Dim supplemental guide for additional information.

**Dimming Occupancy Sensor** (MSP/DIM-LXX and MSP-LXX) These sensors are factory installed in the luminaire housing. When the MSP/DIM-LXX sensor option is selected, the occupancy sensor is connected to a dimming driver and the entire luminaire dims when there is no activity detected. When activity is detected, the luminaire returns to full light output. The MSP/DIM sensor is factory preset to dim down to approximately 50 percent power with a time delay of ten minutes. The MSP-LXX sensor is factory preset to turn the luminaire off after five minutes of no activity.

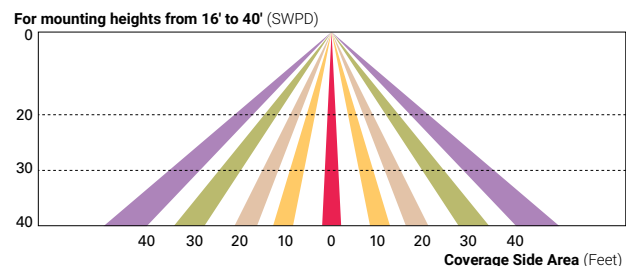
These occupancy sensors includes an integrated photocell that can be activated with the ISHH-01 accessory for “dusk-to-dawn” control or daylight harvesting - the factory preset is ON. The ISHH-01 is a wireless tool utilized for changing the dimming level, time delay, sensitivity and other parameters.

A variety of sensor lens are available to optimize the coverage pattern for mounting heights from 8'-30'.

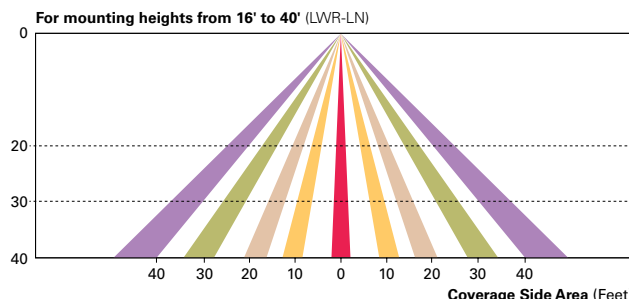
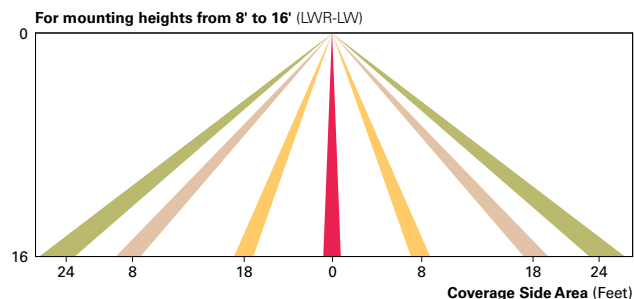


**WaveLinX Wireless Control and Monitoring System** The WaveLinX Outdoor control platform operates on a wireless mesh network based on IEEE 802.15.4 standards enabling wireless control of outdoor lighting. Use the WaveLinX Mobile application for set-up and configuration. At least one Wireless Area Controller (WAC) is required for full functionality and remote communication (including adjustment of any factory pre-sets).

**WaveLinX Wireless Sensor** (SWPD4 and SWPD5) These outdoor sensors offer passive infrared (PIR) occupancy and a photocell for closed loop daylight sensing. These sensors can be factory installed or field-installed via simple, tool-less integration into luminaires equipped with the Zhaga Book 18 compliant 4-PIN receptacle (ZW). These sensors are factory preset to dim down to approximately 50 percent power after 15 minutes of no activity detected. These occupancy sensors include an integral photocell for “dusk-to-dawn” control or daylight harvesting that is factory-enabled. A variety of sensor lenses are available to optimize the coverage pattern for mounting heights from 7'-40'.



**Enlighted Wireless Control and Monitoring System** (LWR-LW and LWR-LN) The Enlighted System is a connected lighting solution that combines LED luminaires with an integrated wireless sensor system. The sensor controls the lighting system in compliance with the latest energy codes and collects valuable data about building performance and use. Software applications turn the granular data into information through energy dashboards and specialized apps that make it simple and help optimize the use of other resources beyond lighting.





Project		Catalog #		Type	
Prepared by		Notes		Date	



# Lumark

## Prevail Discrete LED

Area / Site Luminaire

### Product Features



### Product Certifications



### Interactive Menu

- Ordering Information page 2
- Mounting Details page 3, 4
- Optical Configurations page 5
- Product Specifications page 5
- Energy and Performance Data page 6, 7
- Control Options page 8

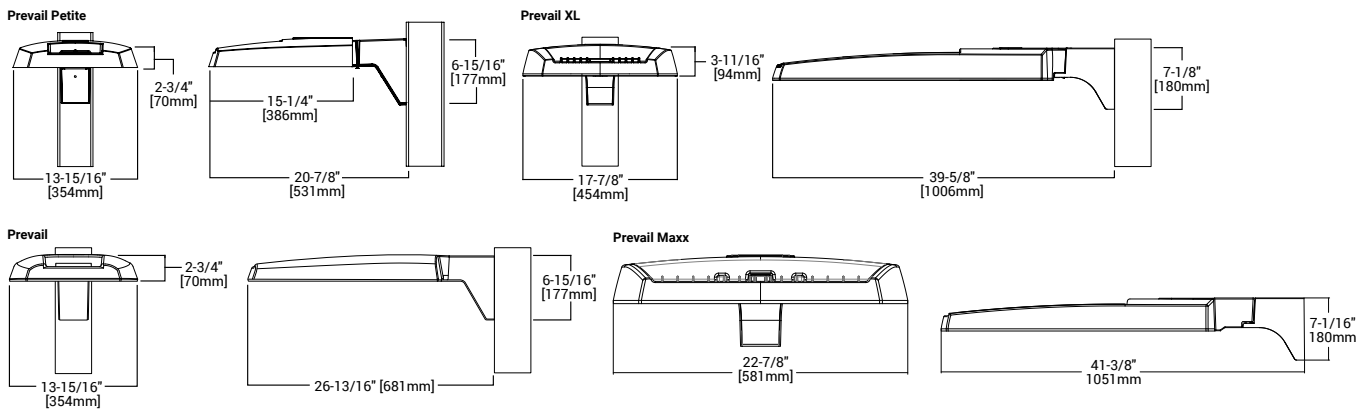
### Quick Facts

- Direct-mounted discrete light engine for improved optical uniformity and visual comfort
- Lumen packages range from 4,300 - 68,000 nominal lumens (30W - 550W)
- Replaces 70W up to 1,000W HID equivalents
- Efficacies up to 157 lumens per watt
- Standard universal quick mount arm with universal drill pattern

### Connected Systems

- WaveLinx

### Dimensional Details



NOTES:  
1. Visit <https://www.designlights.org/search/> to confirm qualification. Not all product variations are DLC qualified.  
2. IDA Certified for 3000K CCT and warmer only.


Ordering Information

SAMPLE NUMBER: PRV-XL-PA4B-740-U-T4W-BZ

Product Family <sup>1,2</sup>	Light Engine		Color Temperature	Voltage	Distribution	Mounting (Included)	Finish			
	Configuration	Drive Current <sup>4</sup>								
<b>PRV-P</b> =Prevail Petite <b>BAA-PRV-P</b> =Prevail Petite BAA Buy American Act Compliant <sup>3</sup> <b>TAA-PRV-P</b> =Prevail Petite TAA Trade Agreements Act Compliant <sup>3</sup>	<b>PA1</b> =1 Panel, 24 LED Rectangle	<b>A</b> =400mA Nominal <b>B</b> =700mA Nominal <b>C</b> =950mA Nominal <b>D</b> =1200mA Nominal	<b>740</b> =70CRI, 4000K <b>730</b> =70CRI, 3000K <b>750</b> =70CRI, 5000K <b>8540</b> =85CRI, 4000K	<b>U</b> =Universal, 120-277V <b>H</b> =High Voltage, 347-480V <b>9</b> =347V <b>8</b> =480V <sup>5</sup> <b>DV</b> =DuraVolt, 277-480V <sup>5,6</sup>	<b>T2R</b> =Type II Roadway <b>T2U</b> =Type II Urban <b>T3</b> =Type III <b>T4W</b> =Type IV Wide <b>5WQ</b> =Type V Square Wide	<b>SA</b> =QM Standard Versatile Arm <b>MA</b> =QM Mast Arm <b>FMA</b> =Fixed Mast Arm <sup>28</sup> <b>WM</b> =QM Wall Mount Arm <b>ADJA-WM</b> = Adjustable Arm - Wall Mount <sup>30</sup> <b>ADJA</b> =Adjustable Arm - Pole Mount <sup>30</sup> <b>ADJS</b> =Adjustable Arm - Slipfitter, 3" vertical tenon <sup>30</sup> <b>SP2</b> =Adjustable Arm - Slipfitter, 2 3/8" vertical tenon <sup>28, 30</sup>	<b>AP</b> =Grey <b>BZ</b> =Bronze <b>BK</b> =Black <b>DP</b> =Dark Platinum <b>GM</b> =Graphite Metallic <b>WH</b> =White			
<b>PRV</b> =Prevail <b>BAA-PRV</b> =Prevail BAA Buy American Act Compliant <sup>3</sup> <b>TAA-PRV</b> =Prevail TAA Trade Agreements Act Compliant <sup>3</sup>	<b>PA1</b> =1 Panel, 24 LED Rectangle <b>PA2</b> =2 Panels, 48 LED Rectangles	<b>A</b> =700mA Nominal <b>B</b> =950mA Nominal								
<b>PRV-XL</b> =PRV XL <b>BAA-PRV-XL</b> =Prevail XL BAA Buy American Act Compliant <sup>3</sup> <b>TAA-PRV-XL</b> =Prevail XL TAA Trade Agreements Act Compliant <sup>3</sup>	<b>PA3</b> =3 Panels, 72 LED Rectangles <b>PA4</b> =4 Panels, 96 LED Rectangles	<b>A</b> =750mA Nominal <b>B</b> =950mA Nominal								
<b>PRV-M</b> =Prevail Maxx <b>BAA-PRV-M</b> =Prevail Maxx BAA Buy American Act Compliant <sup>3</sup> <b>TAA-PRV-M</b> =Prevail Maxx TAA Trade Agreements Act Compliant <sup>3</sup>	<b>PA6</b> = 6 Panels, 144 LED Rectangles	<b>A</b> =600mA Nominal <b>B</b> =800mA Nominal <b>C</b> =1000mA Nominal <b>D</b> =1200mA Nominal								
<b>Options (Add as Suffix)</b>			<b>Accessories (Order Separately) <sup>20, 21</sup></b>							
<b>10K</b> =10kV UL 1449 Fused Surge Protective Device <b>20MSP</b> =20kV MOV Surge Protective Device <b>20K</b> =20kV UL 1449 Fused Surge Protective Device <b>L90</b> =Optics Rotated 90° Left <b>R90</b> =Optics Rotated 90° Right <b>CC</b> =Coastal Construction finish <sup>31</sup> <b>HSS</b> =House Side Shield (Factory Installed) <sup>7</sup> <b>HA</b> =50°C High Ambient Temperature <sup>8</sup> <b>PR</b> =NEMA 3-PIN Twistlock Photocontrol Receptacle <sup>10</sup> <b>PR7</b> =NEMA 7-PIN Twistlock Photocontrol Receptacle <sup>10</sup> <b>MS/DIM-L08</b> =Motion Sensor for Dimming Operation, Up to 8' Mounting Height <sup>11, 12, 13, 22</sup> <b>MS/DIM-L20</b> =Motion Sensor for Dimming Operation, 9' - 20' Mounting Height <sup>11, 12, 13, 28, 29</sup> <b>MS/DIM-L40</b> =Motion Sensor for Dimming Operation, 21' - 40' Mounting Height <sup>11, 12, 13</sup> <b>SPB1</b> =Motion Sensor for Dimming Operation, BLE Interface, Up to 8' Mounting Height <sup>11, 14, 22</sup> <b>SPB2</b> =Motion Sensor for Dimming Operation, BLE Interface, 8' - 20' Mounting Height <sup>11, 14, 28, 29</sup> <b>SPB4</b> =Motion Sensor for Dimming Operation, BLE Interface, 21' - 40' Mounting Height <sup>11, 14, 29</sup> <b>ZW</b> =Wavelinx-enabled 4-PIN Twistlock Receptacle <sup>11, 12</sup> <b>ZD</b> =DALI-enabled 4-PIN Twistlock Receptacle <sup>11, 12</sup>			<b>ZW-SWPD4XX</b> =Wavelinx Pro, Dimming Motion and Daylight, WAC Programmable, 7' - 15' Mounting Height <sup>11, 12, 15, 16, 17, 22</sup> <b>ZW-SWPD5XX</b> =Wavelinx Pro, Dimming Motion and Daylight, WAC Programmable, 15' - 40' Mounting Height <sup>11, 12, 15, 16, 17, 28, 29</sup> <b>ZD-SWPD4XX</b> =Wavelinx Pro, SR Driver, Dimming Motion and Daylight, 7' - 15' Mounting Height <sup>11, 12, 15, 16, 17, 22</sup> <b>ZD-SWPD5XX</b> =Wavelinx Pro, SR Driver, Dimming Motion and Daylight, 15' - 40' Mounting Height <sup>11, 12, 15, 16, 17, 28, 29</sup> <b>(See Table Below)</b> =LumenSafe Integrated Network Security Camera <sup>18, 19</sup>			<b>PRVSA-XX</b> =Standard Arm Mounting Kit <sup>22</sup> <b>PRVMA-XX</b> =Mast Arm Mounting Kit <sup>22</sup> <b>PRVWM-XX</b> =Wall Mount Kit <sup>22</sup> <b>PRV-ADJA-XX</b> =Adjustable Arm - Pole Mount Kit <sup>22</sup> <b>PRV-ADJS-XX</b> =Adjustable Arm - Slipfitter Kit <sup>22</sup> <b>PRV-ADJA-WM-XX</b> =Adjustable Arm - Wall Mount Kit <sup>22</sup> <b>PRVXLSA-XX</b> =Standard Arm Mounting Kit <sup>29</sup> <b>PRVXLSA-XX</b> =Mast Arm Mounting Kit <sup>29</sup> <b>PRVXLWM-XX</b> =Wall Mount Kit <sup>29</sup> <b>PRV-XL-ADJA-XX</b> =Adjustable Arm - Pole Mount Kit <sup>29</sup> <b>PRV-XL-ADJA-WM-XX</b> = Adjustable Arm - Wall Mount Kit <sup>29</sup> <b>PRV-XL-ADJS-XX</b> = Adjustable Arm - Slipfitter Kit <sup>29</sup> <b>PRV-M-ADJA-XX</b> =Adjustable Arm - Pole Mount Kit <sup>28</sup> <b>PRV-M-ADJS-XX</b> =Adjustable Arm - Slipfitter Kit <sup>28</sup> <b>PRV-M-ADJA-WM-XX</b> =Adjustable Arm - Wall Mount Kit <sup>28</sup> <b>MA1010-XX</b> =Single Tenon Adapter for 3-1/2" O.D. Tenon <b>MA1011-XX</b> =2@180° Tenon Adapter for 3-1/2" O.D. Tenon <b>MA1017-XX</b> =Single Tenon Adapter for 2-3/8" O.D. Tenon <b>MA1018-XX</b> =2@180° Tenon Adapter for 2-3/8" O.D. Tenon <b>SRA238</b> =Tenon Adapter from 3" to 2-3/8" <b>PRV/DIS-FDV</b> =Full Drop Visor <sup>23</sup> <b>PRVXL/DIS-FDV</b> =Full Drop Visor <sup>18</sup> <b>HSS-VP</b> =House Side Shield Kit, Vertical Panel <sup>7, 24</sup> <b>HSS-HP</b> =House Side Shield Kit, Horizontal Panel <sup>7, 24</sup> <b>VGS-ARCH</b> = Panel Drop Shield, Short <b>VGL-ARCH</b> = Panel Drop Shield, Long <b>OA/RA1013</b> =Photocontrol Shorting Cap <b>OA/RA1014</b> =NEMA Photocontrol - 120V <b>OA/RA1016</b> =NEMA Photocontrol - Multi-Tap 105-285V <b>OA/RA1201</b> =NEMA Photocontrol - 347V <b>OA/RA1027</b> =NEMA Photocontrol - 480V <b>FSIR-100</b> =Wireless Configuration Tool for Occupancy Sensor <sup>25</sup> <b>WOLC-7P-10A</b> =Wavelinx Outdoor Control Module (7-PIN) <sup>27</sup> <b>SWPD4-XX</b> =Wavelinx Wireless Sensor, 7' - 15' Mounting Height <sup>15, 16, 17, 22, 28</sup> <b>SWPD5-XX</b> =Wavelinx Wireless Sensor, 15' - 40' Mounting Height <sup>15, 16, 17, 26, 28, 29</sup>				
<p><b>NOTES:</b></p> <ol style="list-style-type: none"> <li>DesignLights Consortium® Qualified. Refer to <a href="http://www.designlights.org">www.designlights.org</a> Qualified Products List under Family Models for details.</li> <li>Customer is responsible for engineering analysis to confirm pole and fixture compatibility for applications. Refer to installation instructions and pole white paper WP513001EN for additional support information.</li> <li>Only product configurations with these designated prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to <a href="http://www.designlights.org">DOMESTIC PREFERENCES</a> website for more information. Components shipped separately may be separately analyzed under domestic preference requirements.</li> <li>Nominal drive currents shown here. For actual drive current by configuration, refer to Power and Lumens tables.</li> <li>480V not to be used with ungrounded or impedance grounded systems.</li> <li>DuraVolt drivers feature added protection from power quality issues such as loss of neutral, transients and voltage fluctuations. Visit <a href="http://www.signify.com/duravolt">www.signify.com/duravolt</a> for more information.</li> <li>House Side Shield not for use with 5WQ distribution.</li> <li>Not available with PA1D light engine in Petite housing (PRV-P).</li> <li>Coastal construction finish salt spray tested to over 5,000-hours per ASTM B117, with a scribe rating of 9 per ASTM D1654.</li> <li>If High Voltage (H) or DuraVolt (DV) is specified, use a photocontrol that matches the input voltage used.</li> <li>Controls system is not available in combination with a photocontrol receptacle (PR or PR7) or another controls system (MS, SPB, ZD, or ZW).</li> <li>Option not available with High Voltage (H) or DuraVolt (DV). Must specify Universal (U), 347V (9), or 480V (8) voltage.</li> <li>Utilizes the Wattstopper sensor FSP-211. Sensor color white unless specified otherwise via PDR. To field-configure, order FSIR-100 accessory separately.</li> <li>Utilizes the Wattstopper sensor FSP-3XX series. Sensor color determined by product finish. See Sensor Color Reference Table. Field-configures via mobile application. See Controls section for details.</li> <li>Sensor passive infrared (PIR) may be overly sensitive when operating below -20°C (-4°F).</li> <li>In order for the device to be field-configurable, requires WAC Gateway components WAC-PoE and WPOE-120 in appropriate quantities. Only compatible with Wavelinx system and software and requires system components to be installed for operation. See website for more Wavelinx application information.</li> <li>Replace XX with sensor color (WH, BZ or BK).</li> <li>Not available in PRV-XL configurations.</li> <li>Not available with High Voltage (H, DV, 8 or 9) or HA options. Consult LumenSafe system product pages for additional details and compatibility information.</li> <li>Replace XX with paint color.</li> <li>For BAA or TAA requirements, Accessories sold separately will be separately analyzed under domestic preference requirements. Consult factory for further information.</li> <li>Not for use with PRV-XL or PRV-M configurations.</li> <li>Only for use with PRV. Not applicable to PRV-M, PRV-XL, or PRV-P.</li> <li>Must order one per optic/LED when ordering as a field-installable accessory (1, 2, 3, 4, or 6). Refer to House Side Shield reference table for details.</li> <li>This tool enables adjustment to Motion Sensor (MS) parameters including high and low modes, sensitivity, time delay, cutoff and more. Consult your lighting representative for more information.</li> <li>Requires 4-PIN twistlock receptacle option (ZD or ZW) option.</li> <li>Requires 7-PIN NEMA twistlock photocontrol receptacle (PR7) option. The WOLC-7 cannot be used in conjunction with other controls systems (MS, ZD, ZW or LWR). Only for use at 120-347V.</li> <li>Only available for PRV-M configurations.</li> <li>Only for use with PRV-XL.</li> <li>Fixed for PRV-M</li> </ol>										

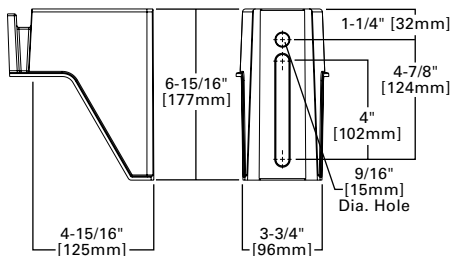
To be provided on all site pole mount fixtures

LumenSafe Integrated Network Security Camera Technology Options (Add as Suffix)

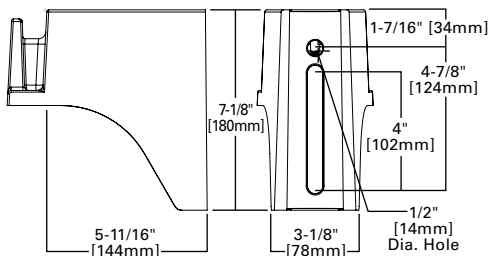
Product Family	Camera Type	Data Backhaul
<b>L</b> =LumenSafe Technology 	<b>H</b> =Dome Camera, High Res <b>Z</b> =Dome Camera, Remote PTZ	<b>C</b> =Cellular, Customer Installed SIM Card <b>A</b> =Cellular, Factory Installed AT&T SIM Card <b>V</b> =Cellular, Factory Installed Verizon SIM Card <b>S</b> =Cellular, Factory Installed Sprint SIM Card <b>E</b> =Ethernet Networking

Mounting Details

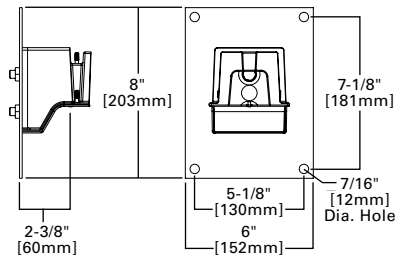
SA=QM Pole Mount Arm (PRV & PRV-P)



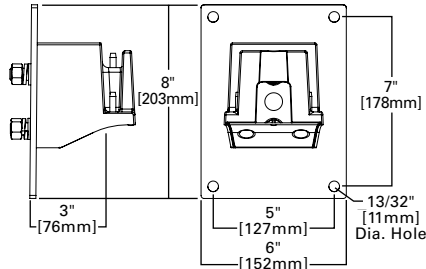
SA=QM Pole Mount Arm (PRV-XL)



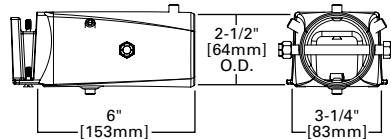
WM=QM Wall Mount Arm (PRV & PRV-P)



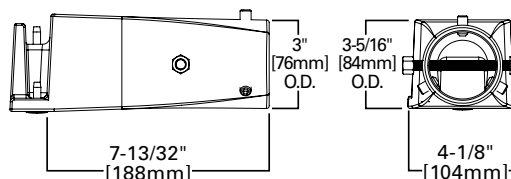
WM=QM Wall Mount Arm (PRV-XL)



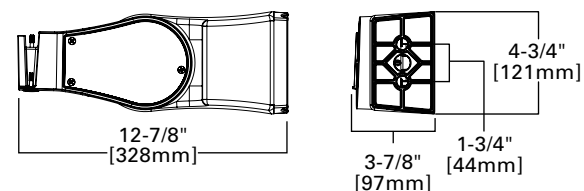
MA=QM Mast Arm (PRV & PRV-P)



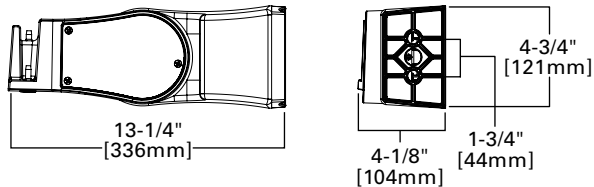
MA=QM Mast Arm (PRV-XL)



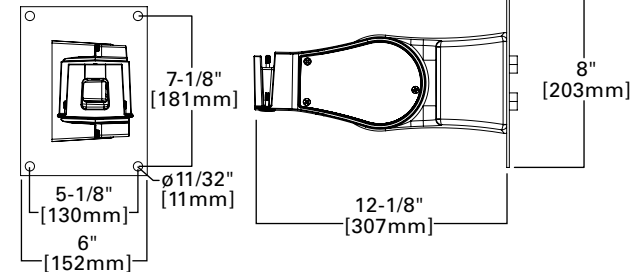
ADJA=Adjustable Arm Pole Mount (PRV & PRV-P)



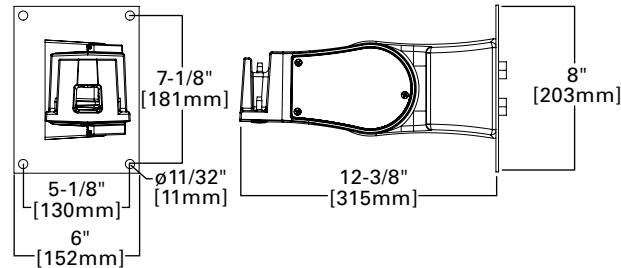
ADJA=Adjustable Arm Pole Mount (PRV-XL)



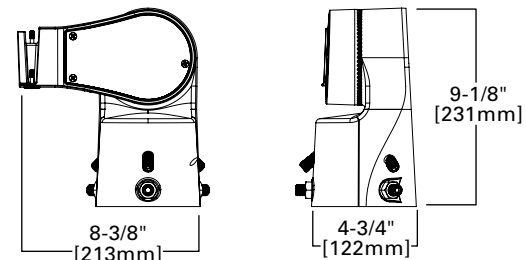
ADJA-WM=Adjustable Arm Wall Mount (PRV & PRV-P)



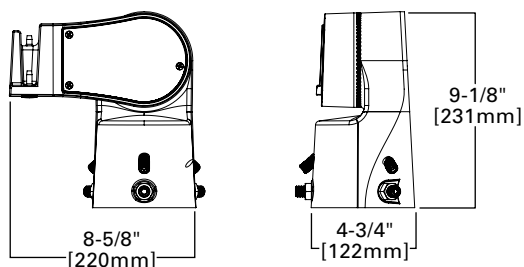
ADJA-WM=Adjustable Arm Wall Mount (PRV-XL)



ADJS=Adjustable Slipfitter 3 (PRV & PRV-P)

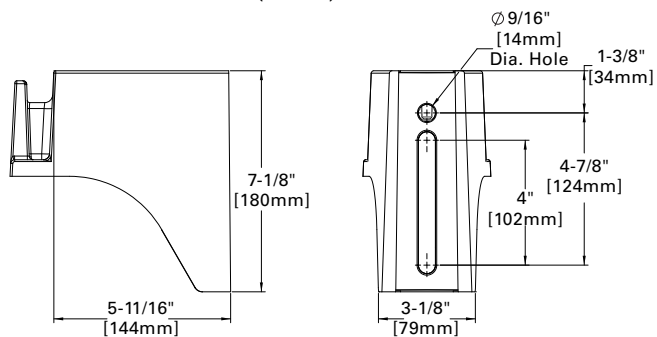


ADJS=Adjustable Slipfitter 3 (PRV-XL)

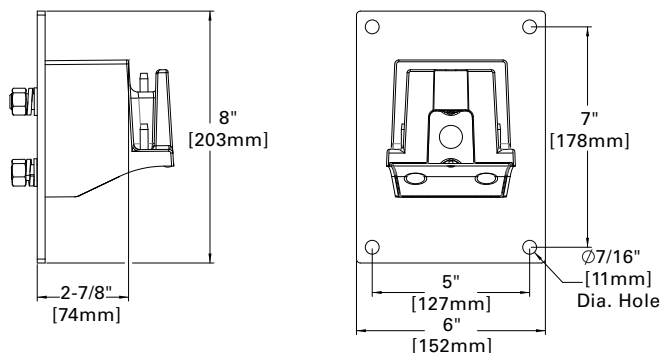


## Mounting Details

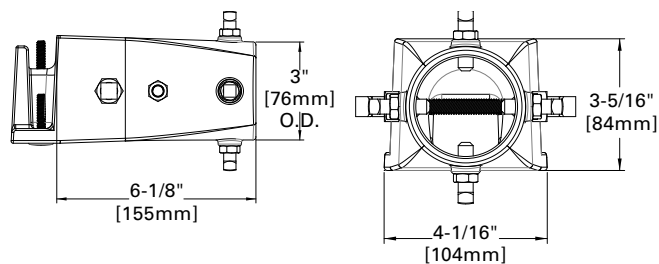
### SA=QM Pole Mount Arm (PRV-M)



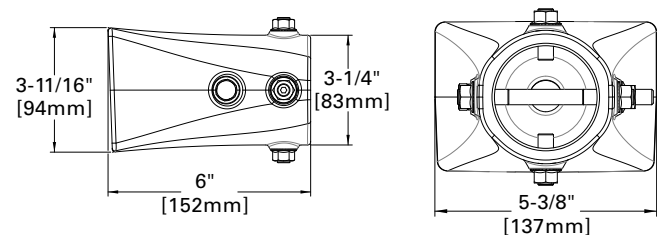
### WM=QM Wall Mount Arm (PRV-M)



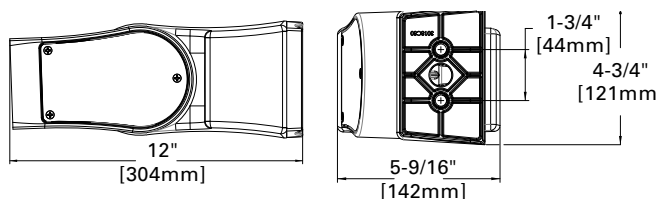
### MA=QM Mast Arm (PRV-M)



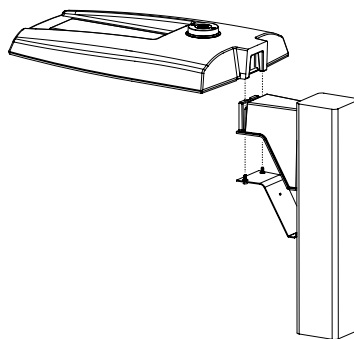
### FMA=Fixed Mast Arm (PRV-M)



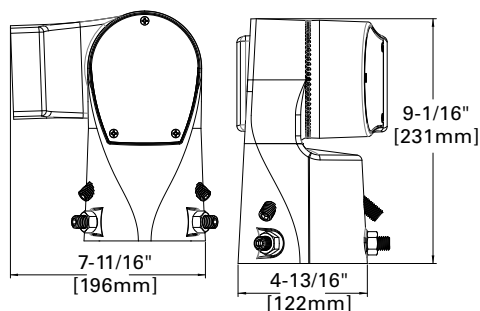
### DM=Direct Pole Mount Arm (PRV-M)



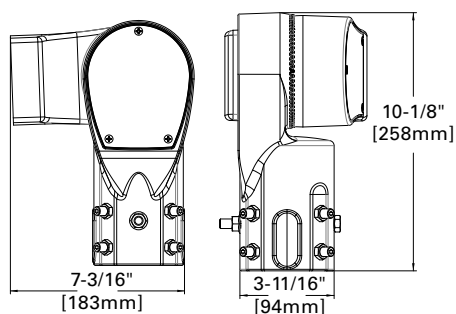
### Versatile Mount System



### ADJS=Adjustable Slipfitter (PRV-M)



### SP2=Adjustable Slipfitter 2-3/8" (PRV-M)



## Mounting Details

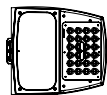
### Mounting Configurations and EPAs

**NOTE:** For 2 PRV's mounted at 90°, requires minimum 3" square or 4" round pole for fixture clearance. For 2 PRV-XL's mounted at 90°, requires minimum 4" square or round pole for fixture clearance. Customer is responsible for engineering analysis to confirm pole and fixture compatibility for applications

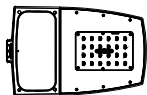
Housing Size	Tilt Angle (Degrees)	Arm Mount Single	Arm Mount 2 @ 180°	Arm Mount 2 @ 90°	Arm Mount 3 @ 90°	Arm Mount 4 @ 90°
Prevail Petite	0°	0.54	1.08	0.84	1.38	1.38
	60°	1.68	1.85	2.42	3.15	3.30
Prevail	0°	0.92	1.35	1.42	1.63	1.63
	60°	2.20	2.40	3.05	3.88	4.07
	60° + Full Drop Visor	2.20	2.40	3.25	4.28	4.47
Prevail XL	0°	1.12	2.25	2.13	2.52	2.52
	60°	3.99	4.30	5.26	6.51	6.79
	60° + Full Drop Visor	3.99	4.30	5.59	7.17	7.49
Prevail Maxx	0°	1.28	2.56	1.7	2.69	2.69
	60°	5.09	5.52	6.34	7.49	7.81

## Optical Configurations

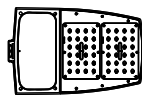
PRV-P-PA1X



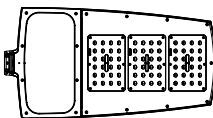
PRV-PA1X



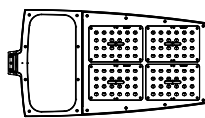
PRV-PA2X



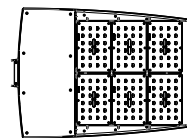
PRV-XL-PA3X



PRV-XL-PA4X

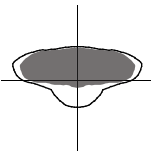


PRV-M-PA6X

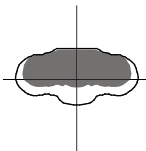


### Optical Distributions

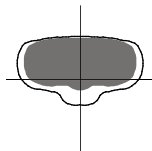
T2R  
(Type II Roadway)



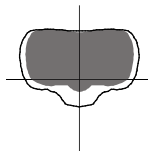
T2U  
(Type II Urban)



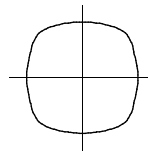
T3  
(Type III)



T4W  
(Type IV Wide)



5WQ  
(Type V Square Wide)



■ = Distribution with House Side Shield (HSS)  
□ = Optical Distribution

## Product Specifications

### Construction

- Single-piece die-cast aluminum housing
- Tethered die-cast aluminum door

### Optics

- **Dark Sky Approved (3000K CCT and warmer only)**
- Precision molded polycarbonate optics

### Electrical

- -40°C minimum operating temperature
- 40°C maximum operating temperature
- >.9 power factor
- <20% total harmonic distortion
- Class 1 electronic drivers have expected life of 100,000 hours with <1% failure rate
- 0-10V dimming driver is standard with leads external to the fixture
- Standard MOV surge protective device designed to withstand 10kV of transient line surge

### Mounting

- Versatile, patented, standard mount arm accommodates multiple drill patterns ranging from 1-1/2" to 4-7/8" (Type M drilling recommended for new installations)
- A knock-out on the standard mounting arm enables round pole mounting
- Adjustable pole and wall mount arms adjust in 5° increments from 0° to 60°; Downward facing orientation only (Type N drilling required for ADJA mount)
- Adjustable slipfitter arm adjusts in 5° increments from -5° to 85°; Downward facing orientation only
- Prevail and Prevail Petite: 3G vibration rated (all arms)
- Prevail XL Mast Arm: 3G vibration rated
- Prevail XL Standard Arm: 1.5G vibration rated
- Adjustable Arms: 1.5G vibration rated

### Finish

- Five-stage super TGIC polyester powder coat paint, 2.5 mil nominal thickness
- Finish is compliant to 3,000 hour salt spray standard (per ASTM B117)

### Typical Applications

- Parking lots, Walkways, Roadways and Building Areas

### Shipping Data

- Prevail Petite: 18 lbs. (7.94 kgs.)
- Prevail: 20 lbs. (9.09 kgs.)
- Prevail XL: 45 lbs. (20.41 kgs.)
- Prevail Maxx: 49 lbs. (22.23 kgs.)

### Warranty

- Five year limited warranty, consult website for details. [www.cooperlighting.com/legal](http://www.cooperlighting.com/legal)

## Energy and Performance Data

### Power and Lumens

[View PRV-P IES files](#)

[View PRV IES files](#)

[View PRV-XL IES files](#)

Product Family		Prevail Petite				Prevail				Prevail XL				Prevail Maxx			
Light Engine		PA1A	PA1B	PA1C	PA1D	PA1A	PA1B	PA2A	PA2B	PA3A	PA3B	PA4A	PA4B	PA6A	PA6B	PA6C	PA6D
Power (Watts)		31	53	72	93	54	74	113	151	172	234	245	303	274	366	457	544
Drive Current (mA)		375	670	930	1200	670	930	720	970	750	980	785	970	600	800	1000	1200
Input Current @ 120V (A)		0.26	0.44	0.60	0.78	0.45	0.62	0.93	1.26	1.44	1.95	2.04	2.53	2.30	3.05	3.83	4.54
Input Current @ 277V (A)		0.12	0.20	0.28	0.35	0.21	0.28	0.41	0.55	0.62	0.85	0.93	1.12	0.99	1.30	1.62	1.94
Input Current @ 347V (A)		0.10	0.17	0.23	0.29	0.17	0.23	0.33	0.45	0.52	0.70	0.74	0.90	0.78	1.05	1.32	1.60
Input Current @ 480V (A)		0.07	0.13	0.17	0.22	0.12	0.17	0.24	0.33	0.39	0.52	0.53	0.65	0.58	0.76	0.95	1.14
<b>Distribution</b>																	
Type II Roadway	4000K/5000K Lumens	4,505	7,362	9,495	11,300	7,605	9,896	15,811	19,745	24,718	30,648	34,067	39,689	41,611	52,596	61,921	67,899
	BUG Rating	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	147	139	132	121	141	134	141	131	144	131	139	131	152	144	135	125
	3000K Lumens <sup>1</sup>	4,103	6,705	8,647	10,291	6,926	9,012	14,399	17,982	22,511	27,912	31,025	36,145	37,896	47,900	56,392	61,837
Type II Roadway w/ HSS	4000K/5000K Lumens	3,727	6,091	7,855	9,349	6,006	7,815	12,487	15,594	19,521	24,204	26,094	31,334	32,874	41,553	48,919	53,642
	BUG Rating	B0-U0-G1	B0-U0-G2	B0-U0-G2	B1-U0-G2	B0-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G3	B1-U0-G3	B1-U0-G4	B1-U0-G4	B2-U0-G4	B2-U0-G4	B2-U0-G5	B2-U0-G5
	Lumens per Watt	121	115	109	100	111	106	111	103	113	103	107	103	120	114	107	99
	3000K Lumens <sup>1</sup>	3,394	5,547	7,154	8,514	5,470	7,117	11,372	14,201	17,778	22,043	24,502	28,545	29,939	37,843	44,552	48,853
Type II Urban	4000K/5000K Lumens	4,496	7,347	9,476	11,277	7,597	9,886	15,795	19,724	24,692	30,616	34,031	39,647	41,372	52,294	61,565	67,509
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G3	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3	B4-U0-G4	B4-U0-G4	B4-U0-G4	B4-U0-G4	B4-U0-G4	B5-U0-G5	B5-U0-G5	B5-U0-G5
	Lumens per Watt	146	139	131	121	141	134	141	131	144	131	139	131	151	143	135	124
	3000K Lumens <sup>1</sup>	4,095	6,691	8,630	10,271	6,919	9,003	14,384	17,963	22,488	27,882	30,992	36,107	37,678	47,625	56,068	61,481
Type II Urban w/ HSS	4000K/5000K Lumens	3,253	5,316	6,856	8,160	5,297	6,893	11,013	13,753	17,217	21,347	23,728	27,644	28,951	36,594	43,082	47,241
	BUG Rating	B1-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G1	B1-U0-G2	B1-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5
	Lumens per Watt	106	101	95	87	98	93	97	91	100	91	97	91	106	100	94	87
	3000K Lumens <sup>1</sup>	2,963	4,841	6,244	7,431	4,824	6,277	10,029	12,525	15,680	19,441	21,609	25,176	26,366	33,327	39,235	43,023
Type III	4000K/5000K Lumens	4,443	7,261	9,364	11,145	7,575	9,857	15,749	19,667	24,621	30,527	33,932	39,532	41,155	52,020	61,242	67,155
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G2	B1-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	145	138	130	119	140	133	141	130	143	130	138	130	150	142	134	123
	3000K Lumens <sup>1</sup>	4,046	6,612	8,528	10,150	6,899	8,977	14,343	17,911	22,423	27,802	30,903	36,002	37,480	47,375	55,774	61,159
Type III w/ HSS	4000K/5000K Lumens	3,406	5,566	7,179	8,543	5,592	7,277	11,626	14,519	18,176	22,536	25,049	29,183	30,159	38,121	44,879	49,212
	BUG Rating	B0-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G3	B2-U0-G4	B2-U0-G4	B2-U0-G4	B2-U0-G5	B2-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
	Lumens per Watt	111	105	100	91	104	98	103	96	106	96	102	96	110	104	98	90
	3000K Lumens <sup>1</sup>	3,102	5,069	6,538	7,781	5,093	6,627	10,588	13,222	16,553	20,524	22,813	26,578	27,466	34,717	40,872	44,818
Type IV Wide	4000K/5000K Lumens	4,348	7,106	9,164	10,906	7,484	9,738	15,560	19,431	24,325	30,161	33,525	39,057	41,207	52,086	61,320	67,240
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3	B2-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	142	135	127	117	139	132	139	129	141	129	137	129	151	142	134	124
	3000K Lumens <sup>1</sup>	3,960	6,471	8,346	9,932	6,816	8,869	14,170	17,696	22,153	27,468	30,531	35,570	37,528	47,435	55,845	61,236
Type IV Wide w/ HSS	4000K/5000K Lumens	3,318	5,422	6,993	8,323	5,420	7,053	11,268	14,072	17,617	24,843	24,279	28,286	30,005	37,926	44,650	48,961
	BUG Rating	B0-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G3	B1-U0-G3	B1-U0-G4	B2-U0-G4	B2-U0-G4	B2-U0-G5	B2-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
	Lumens per Watt	108	103	97	89	100	95	100	93	102	106	99	93	110	104	98	90
	3000K Lumens <sup>1</sup>	3,022	4,938	6,369	7,580	4,936	6,423	10,262	12,816	16,044	19,892	22,111	25,760	27,326	34,540	40,664	44,589
Type V Square Wide	4000K/5000K Lumens	4,497	7,349	9,478	11,280	7,831	10,190	16,281	20,332	25,453	31,559	35,079	40,868	42,947	54,285	63,909	70,079
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B3-U0-G2	B4-U0-G3	B4-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5
	Lumens per Watt	146	139	131	121	145	138	145	135	148	135	143	135	157	143	136	129
	3000K Lumens <sup>1</sup>	4,095	6,693	8,632	10,273	7,132	9,280	14,827	18,517	23,180	28,741	31,947	37,219	39,112	49,438	58,203	63,822

NOTES:  
1. For 3000K or HSS BUG Ratings, refer to published IES files

## Energy and Performance Data

House Side Shield Reference Table

Product Family		Prevail	Prevail		Prevail XL		Prevail Maxx
Light Engine		PA1	PA1	PA2	PA3	PA4	PA6
Rotated Optics	Standard	HSS-HP (Qty 1)	HSS-VP (Qty 1)	HSS-HP (Qty 2)	HSS-HP (Qty 3)	HSS-VP (Qty 4)	HSS-HP (qty 6)
	L90 or R90 option	HSS-VP (Qty 1)	HSS-HP (Qty 1)	HSS-VP (Qty 2)	HSS-VP (Qty 3)	HSS-HP (Qty 4)	HSS-VP (qty 6)

Sensor Color Reference Table (SPBx)

Housing Finish	Sensor Color
AP=Grey	Grey
BZ=Bronze	Bronze
BK=Black	Black
DP=Dark Platinum	Grey
GM=Graphite Metallic	Black
WH=White	White

Lumen Multiplier

Ambient Temperature	Lumen Multiplier
0°C	1.02
10°C	1.01
25°C	1.00
40°C	0.99
50°C	0.97

Lumen Maintenance

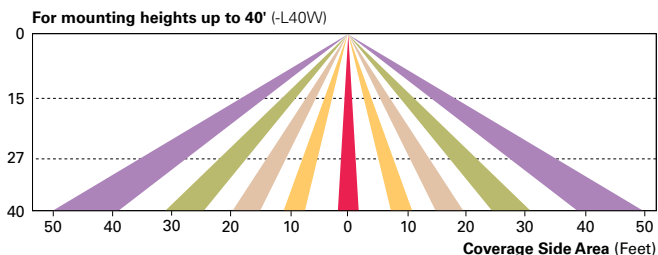
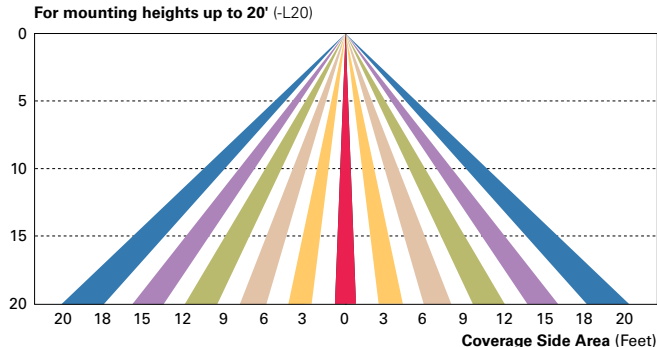
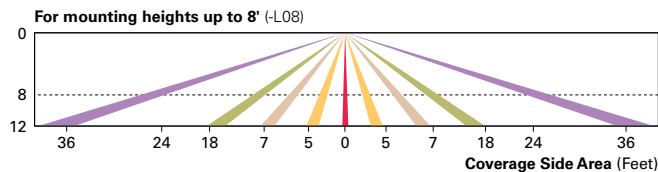
Ambient Temperature	TM-21 Lumen Maintenance (78,000 Hours)	Theoretical L70 (Hours)
Up to 50°C	96.76%	> 896,000

## Control Options

**0-10V** This fixture provides 0-10V dimming wire leads for use with a lighting control panel or other control method.

**Photocontrol** (PR and PR7) Photocontrol receptacles provide a flexible solution to enable “dusk-to-dawn” lighting by sensing light levels. Advanced control systems compatible with NEMA 7-PIN standards can be utilized with the PR7 receptacle.

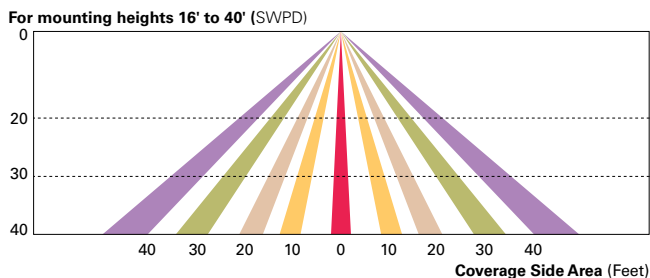
**Dimming Occupancy Sensor** (SPB, MS/DIM-LXX) These sensors are factory installed in the luminaire housing. When the SPB or MS/DIM sensor options are selected, the luminaire will dim down after five minutes of no activity detected. When activity is detected, the luminaire returns to full light output. These occupancy sensors include an integral photocell for “dusk-to-dawn” control or “daylight harvesting.” Factory default is enabled for the MS sensors and disabled for the SPB. SPB motion sensors require the Sensor Configuration mobile application by Wattstopper to change factory default dimming level, time delay, sensitivity and other parameters. Available for iOS and Android devices. The SPB sensor is factory preset to dim down to approximately 10% power with a time delay of five minutes.



**WaveLinx Wireless Control and Monitoring System** Available in 7-PIN or 4-PIN configurations, the WaveLinx Outdoor control platform operates on a wireless mesh network based on IEEE 802.15.4 standards enabling wireless control of outdoor lighting. At least one Wireless Area Controller (WAC) is required for full functionality and remote communication (including adjustment of any factory pre-sets).

**WaveLinx Outdoor Control Module (WOLC-7P-10A)** A photocontrol that enables astronomical or time-based schedules to provide ON, OFF and dimming control of fixtures utilizing a 7-PIN receptacle. The out-of-box functionality is ON at dusk and OFF at dawn.

**WaveLinx Wireless Sensor (SWPD4 and SWPD5)** These outdoor sensors offer passive infrared (PIR) occupancy sensing and a photocell for closed-loop daylight sensing. These sensors can be factory installed or field-installed via simple, tool-less integration into luminaires equipped with the Zhaga Book 18 compliant 4-PIN receptacle (ZD or ZW). These sensors are factory preset to dim down to approximately 50 percent power after 15 minutes of no activity detected, and the photocell for “dusk-to-dawn” control is default enabled. A variety of sensor lenses are available to optimize the coverage pattern for mounting heights from 7'-40'.



**LumenSafe (LD)** The LumenSafe integrated network camera is a streamlined, outdoor-ready camera that provides high definition video surveillance. This IP camera solution is optimally designed to integrate into virtually any video management system or security software platform of choice. No additional wiring is needed beyond providing line power to the luminaire. LumenSafe features factory-installed power and networking gear in a variety of networking options allowing security integrators to design the optimal solution for active surveillance.



NEW CONSTRUCTION FOR:  
**NUT TREE BUSINESS PARK**  
10 & 20 NUT TREE ROAD  
VACAVILLE, CALIFORNIA 95688

VICINITY MAP



FIRE DEPARTMENT NOTES

- FIRE EXTINGUISHER NOTES**
1. PORTABLE FIRE EXTINGUISHERS SHALL BE A MULTI-PURPOSE DRY CHEMICAL AGENT PROVIDING A MINIMUM RATING CLASSIFICATION OF 2A-10BC.
  2. THE MAXIMUM TRAVEL DISTANCE TO A PORTABLE FIRE EXTINGUISHER SHALL NOT EXCEED 75 FT. OR ONE EXTINGUISHER FOR EVERY 3,000 S.F. OF SPACE, WHICHEVER IS MORE RESTRICTIVE.
  3. FIRE EXTINGUISHER CABINETS SHALL NOT BE LOCKED.
  4. PORTABLE FIRE EXTINGUISHERS SHALL HAVE A SERVICE TAG AND INTERNAL MAINTENANCE TAG AFFIXED FROM A CALIFORNIA STATE FIRE MARSHAL PRIOR TO FINAL OCCUPANCY APPROVAL BY THE FIRE DEPT.
  5. FIRE EXTINGUISHERS SHALL BE SERVICED ON AN ANNUAL BASIS IN ACCORDANCE WITH CALIFORNIA CODE OF REGULATIONS, TITLE 19.
  6. A SIGN SHALL BE INSTALLED DIRECTLY ABOVE FIRE EXTINGUISHER LOCATIONS WHEN REQUIRED BY THE FIRE DEPT. THIS SIGN SHALL STATE "FIRE EXTINGUISHER" AND BE CLEARLY LEGIBLE AND CONTRASTING WITH ITS BACKGROUND.

NOTES:

1. ALL GATES SHALL BE UL 325 COMPLIANT.
2. AFTER PASSING THROUGH A GATE, THE NEAREST CURB OF ANY CROSS STREET SHALL BE NO LESS THAN 40'.
3. ELECTRICALLY OPERATED GATES SHALL BE EQUIPPED WITH A KEY (KNOX) OVERRIDE SWITCH AND RADIO OPERATED CONTROLLER (CLICKCENTER OR OTHER APPROVED EQUIPMENT).
4. RADIO CONTROLLED ACCESS SHALL BE PROVIDED WITH AN APPROVED 2"X4" BLUE REFLECTIVE MARKER VISIBLE TO APPROACHING TRAFFIC. BLUE REFLECTIVE SHALL BE LOCATED IN THE CENTER OF THE EXIT GATE.
5. ELECTRICALLY OPERATED GATES SHALL FALL TO THE OPEN POSITION WHEN THE POWER IS OFF. GATE SHALL REMAIN OPEN UNTIL POWER IS RESTORED.
6. PEDESTRIAN GATES SHALL HAVE AN APPROVED KNOX BOX INSTALLED AT LEAST 48" ABOVE GRADE ON THE OUTSIDE OF THE GATE. IT SHALL BE PROVIDED WITH THE KEY TO OPEN THE PEDESTRIAN GATE.

SCOPE OF WORK

THE SCOPE OF THIS PROJECT IS TO CONSTRUCT (TWO) NEW CONCRETE TILT-UP BUILDINGS ON A SINGLE LOT, INCLUDING SITE WORK. THESE WILL BE COLD SHELL, SPEC INDUSTRIAL BUILDINGS TO REMAIN VACANT, PENDING FUTURE TENANT IMPROVEMENT APPROVAL UNDER SEPARATE PERMIT APPLICATIONS.

CHAPTER 5 AREA ANALYSIS

OCCUPANCY GROUPS:	S-1 (STORAGE - MODERATE HAZARD) B (OFFICE SUPPORT - UNDER FUTURE PERMIT)
BUILDING TYPE:	TYPE B-6
ALLOWABLE HEIGHT:	75 FT. PER TABLE 504.3
ALLOWABLE STORES:	4 PER TABLE 504.4
ALLOWABLE AREA:	UNLIMITED AREA BUILDING PER 2022 CBC 507 (80 FT. CLEAR ALL AROUND)
PROPOSED (N) BUILDING AREA:	84,505 S.F. EACH
PROPOSED (N) SITE BUILDING AREA:	99,010 S.F. TOTAL
(BOTH BUILDINGS ARE CONSIDERED AS ONE FOR PURPOSES OF ALLOWABLE AREA)	

ASSUMED OCCUPANT LOADS (TABLE 100.4.5)

FLOOR	SQUARE FOOTAGE	FACTOR	OCCUPANTS
S-1 WAREHOUSE	70,203 S.F.	500 GROSS	141
B ACCESSORY BUSINESS	14,302 S.F.	150 GROSS	95
			237 TOTAL PER BUILDING

CONSULTANTS

- OWNER**  
THE CONCO COMPANIES  
5441 COMMERICAL CIRCLE  
CONCORD, CA 94520  
(925) 681-6836
- CONTRACTOR**  
SIERRA NEW GENERAL CONTRACTOR  
4202 DOUGLAS BLVD.  
GRANITE BAY, CA 95746  
(916) 974-9182
- ARCHITECT**  
PERKINS, WILLIAMS & COTTELL ARCHITECTS  
3320 DATA DRIVE, SUITE 200  
RANCHO COSSOVOIA, CA 95670  
(916) 851-1400
- CIVIL ENGINEER**  
PHILLIPP ENGINEERING  
428 MERCHANT ST., SUITE 100  
VACAVILLE, CA 95656  
(707) 451-6556
- STRUCTURAL ENGINEER**  
4 STEEL ENGINEERING  
222 S. HARBOR BLVD., 10TH FLOOR, STE 1000  
ANAHEIM, CA 92805  
(714) 522-0911
- M/E/C & PLUMBING & ELECTRICAL**  
OPTIMIZED ENERGY & FACILITIES  
CONSULTING INC.  
5734 LONETREE BLVD.  
ROCKLIN, CA 95766  
(916) 629-5576
- LANDSCAPE ARCHITECT**  
GARTH RUFFER LANDSCAPE ARCHITECT  
4120 DOUGLAS BLVD., SUITE 308, PHB 3031  
ROSEVILLE, CA 95746-5958  
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GENERAL NOTES

1. ALL CONSTRUCTION SHALL COMPLY WITH THE 2022 CALIFORNIA BUILDING CODE AND OTHER APPLICABLE CODES AS AMENDED BY THE STATE OF CALIFORNIA AND LOCAL JURISDICTION.
2. ALL WORK SHALL CONFORM TO ALL REQUIREMENTS OF THE STATE OF CALIFORNIA TITLE 24 REGARDLESS OF THE INFORMATION NOTICED ON THESE PLANS.
3. GENERAL CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
4. AT THE TIME OF PERMIT ISSUANCE, CONTRACTOR SHALL SHOW A VALID WORKER'S COMPENSATION INSURANCE CERTIFICATE.
5. ENLARGED PLANS WHERE ENLARGED OR PARTIAL PLANS ARE REFERENCED, DIMENSIONS & SPECIAL DETAILING OR FINISH REQUIREMENTS ARE NOTED ON THE ENLARGED PLANS AND USUALLY OMITTED ON THE SMALLER SCALE PLANS.
6. THE CONTRACTOR SHALL CAREFULLY STUDY AND COMPARE THE CONTRACT DOCUMENTS PRIOR TO CONSTRUCTION AND SHALL REPORT TO THE ARCHITECT ANY ERROR, INCONSISTENCY, OR OMISSION HE MAY DISCOVER.
7. NO DEVIATION FROM CONTRACT DRAWINGS OR SPECIFICATIONS SHALL BE MADE WITHOUT WRITTEN APPROVAL FROM THE ARCHITECT.
8. THE STRUCTURAL, MECHANICAL, AND/OR ELECTRICAL DRAWINGS ARE SUPPLEMENTARY TO THE ARCHITECTURAL DRAWINGS. SHOULD THERE BE A DISCREPANCY BETWEEN THE ARCHITECTURAL DRAWINGS AND THE ENGINEERING DRAWINGS, SUCH A DISCREPANCY IS TO BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO INSTALLATION OF SAID WORK. ANY WORK INSTALLED IN CONFLICT WITH THE ARCHITECTURAL DRAWINGS SHALL BE CORRECTED BY THE CONTRACTOR AT HIS OWN EXPENSE, AND AT NO EXPENSE TO THE OWNER OR ARCHITECT.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION AND COORDINATION WITH OTHER TRADES AND THEIR WORK TO ENSURE COMPLIANCE WITH THE DRAWINGS AND SPECIFICATIONS. ALSO HE SHALL VERIFY SIZES AND LOCATIONS OF ALL OPENINGS FOR MECHANICAL, ELECTRICAL, AND PLUMBING EQUIPMENT WITH ARCHITECT, BEFORE PROCEEDING WITH THE WORK.
10. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SUPERVISE ALL CUTTING AND PATCHING OF FINISHED WORK ALREADY INSTALLED IF MADE NECESSARY BY ERRORS, CHANGED, OR OTHER REASONS, AND ALL REPLACEMENT WORK SHALL MATCH ADJOINING SURFACES.
11. DO NOT SCALE DRAWINGS. CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AT JOB SITE AND IF ANY DISCREPANCIES ARE FOUND, THE ARCHITECT SHALL BE NOTIFIED.
12. PROVIDE GALVANIC ISOLATION OR OTHER MEANS OF ISOLATION BETWEEN DISSIMILAR METALS.
13. SOUND TRANSMISSION CONTROL SHALL CONFORM TO STATE LAWS. MONITORING OF ONGOING CONSTRUCTION NOISE TO ADHERE TO CITY STANDARDS.
14. WHERE DOORS ARE LOCATED NEXT TO A WALL, THERE SHALL BE 4" MINIMUM CLEARANCE BETWEEN WALL FINISH SURFACE AND FACE OF DOOR IN 90 DEGREE OPEN POSITION, UNLESS DETAILED OR DIMENSIONED OTHERWISE.
15. CONTRACTOR SHALL PROVIDE AND INSTALL ALL STIFFENERS BRACING BACKING PLATES, AND SUPPORTING BRACKETS REQUIRED FOR THE INSTALLATION OF ALL CASEWORK AND OF ALL FLOOR MOUNTED OR SUSPENDED MECHANICAL, ELECTRICAL, OR EQUIPMENT. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND ENGINEERING CALCULATIONS AS REQUIRED TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO FABRICATION AND INSTALLATION.
16. ABBREVIATIONS THROUGHOUT THE PLANS ARE THOSE IN COMMON USE. ARCHITECT WILL DEFINE INTENT OF ANY IN QUESTION.
17. ALL SHOP FABRICATED ITEMS SHALL NOT BE FABRICATED FROM ANY DIMENSIONS OTHER THAN ACTUAL EXISTING FIELD DIMENSIONS.
18. PENETRATIONS OF PIPES, CONDUITS, ETC. IN WALLS OR FLOORS REQUIRING PROTECTED OPENINGS SHALL BE FIRE STOPPED. FIRE STOP MATERIAL SHALL BE A TESTED ASSEMBLY APPROVED BY THE LOCAL FIRE MARSHAL.
19. SUPPORT AND BRACING OF ALL PIPES, DUCTS AND CONDUITS PER LOCAL CODES.
20. GENERAL CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE SECTIONS OF CPC CHAPTER 33, FIRE SAFETY DURING CONSTRUCTION, AND DEMOLITION.
21. PRIOR TO FINAL GENERAL CONTRACTOR SHALL PROVIDE DOCUMENTATION INDICATING THAT THE BUILDING HAS BEEN TESTED BY A LICENSED CONTRACTOR AND COMPLIES WITH CPC SECTION 510, EMERGENCY RESPONSE RADIO COVERAGE.
22. OWNER WILL COMPLY WITH THE LIMITATIONS OF QUANTITIES OF HAZARDOUS MATERIALS PER CBC SEC 311 TABLE 307.1 (I) FOR S-1 REPAIR GARAGE OCCUPANCIES.
23. ALL BUILDINGS # 1 & 2 ARE BOTH NEW CONSTRUCTION AND ARE 100% COMPLIANT.

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	<b>*NOTE:</b>
	A SEPARATE PERMIT WAS SUBMITTED FOR GRADING ONLY WITH THE CIVIL PLANS.

DEFERRED SUBMITTALS

1. TRUSS DRAWINGS & CALCULATIONS
  2. MANUFACTURED GRIDDERS & FURLINS & BUCKLING RESTRAINED BRACES
  3. STEEL STARS
  4. UNDERGROUND MECHANICAL, ELECTRICAL, OR FIRE SERVICE
  5. OVERHEAD DOORS
  6. MINIM. THROUGHPOINT WINDOWS
  7. STEEL ROOF ACCESS LADDER
- DEFERRED SUBMITTALS SHALL BE SUPPLIED TO THE BUILDING OFFICIALS FOR REVIEW PRIOR TO INSTALLATION DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE SHALL BE REVIEWED & PROVIDE A LETTER CERTIFYING SUBSTANTIAL COMPLIANCE WITH GENERAL BUILDING DESIGN.
- ALL REQUIRED NON-RESIDENTIAL BUILDING COMMISSIONING AS SPECIFIED IN 2022 CALIFORNIA ENERGY CODE SECTION 504.

SEPARATE PERMITS

1. AUTOMATIC FIRE SPRINKLER SYSTEMS
2. FIRE ALARM SYSTEM
3. INTERIOR IMPROVEMENTS INCLUDING TITLE 24
4. FIRE UNDERGROUND PLANS
5. PV-SOLAR SYSTEM (TO BE CONSTRUCTED AT A LATER DATE)



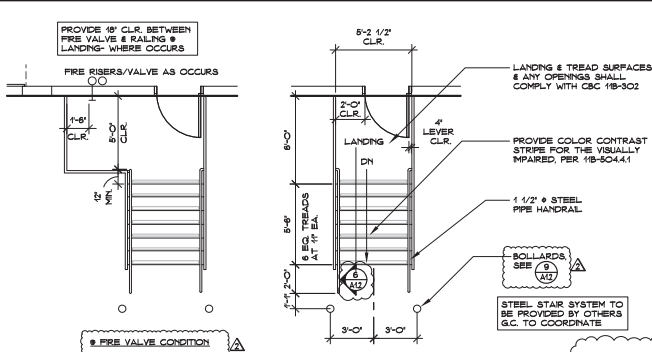
CONSULTANT PFD

NEW CONSTRUCTION OF (2) BLDGS. AT:  
**NUT TREE BUSINESS PARK**  
10 & 20 NUT TREE ROAD  
VACAVILLE, CA 95688

ISSUE TITLE:  
PC SUBMITAL 07-23

REVISIONS:  
PC #1: 08-19-2023  
PC #1: 12-08-2023

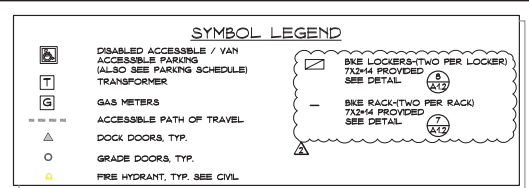
DATE: 07-19-23  
PROJECT NUMBER: 22-175  
DRAWING TITLE: COVER SHEET  
SHEET NUMBER: AO.1



3 ENLARGED STAIR PLANS  
SCALE = 1/8" = 1'-0"

PARKING TABLE	
NET GROSS BUILDING AREA	84505 S.F.
INDIVIDUAL BUILDING FOOTPRINT:	
TOTAL COMBINED BUILDING 1 & 2 AREAS	169010 S.F.
<b>PARKING REQUIRED:</b>	
10X OFFICE @ 1/250 SQ. FT.	59 STALLS
70X WAREHOUSE @ 1/1000 SQ. FT.	23 STALLS
10X MANUFACTURING @ 1/750 SQ. FT.	34 STALLS
16 STALLS	16 STALLS
TOTAL PER BUILDING:	232 STALLS
TOTAL FOR SITE:	246 STALLS
<b>PARKING PROVIDED (PER CBC 1B 2003.2):</b>	
TOTAL STALLS BUILDING 1	127 STALLS @ (15/100 S.F.)
ACCESSIBLE STALLS BUILDING 1	13 OF 127 STALLS
TOTAL STALLS BUILDING 2	119 STALLS @ (14/100 S.F.)
ACCESSIBLE STALLS BUILDING 2	13 OF 119 STALLS
TOTAL ON SITE	246 STALLS
REFER TO PARKING SCHEDULE BELOW FOR ADDITIONAL REQUIRED EVCS STALLS	

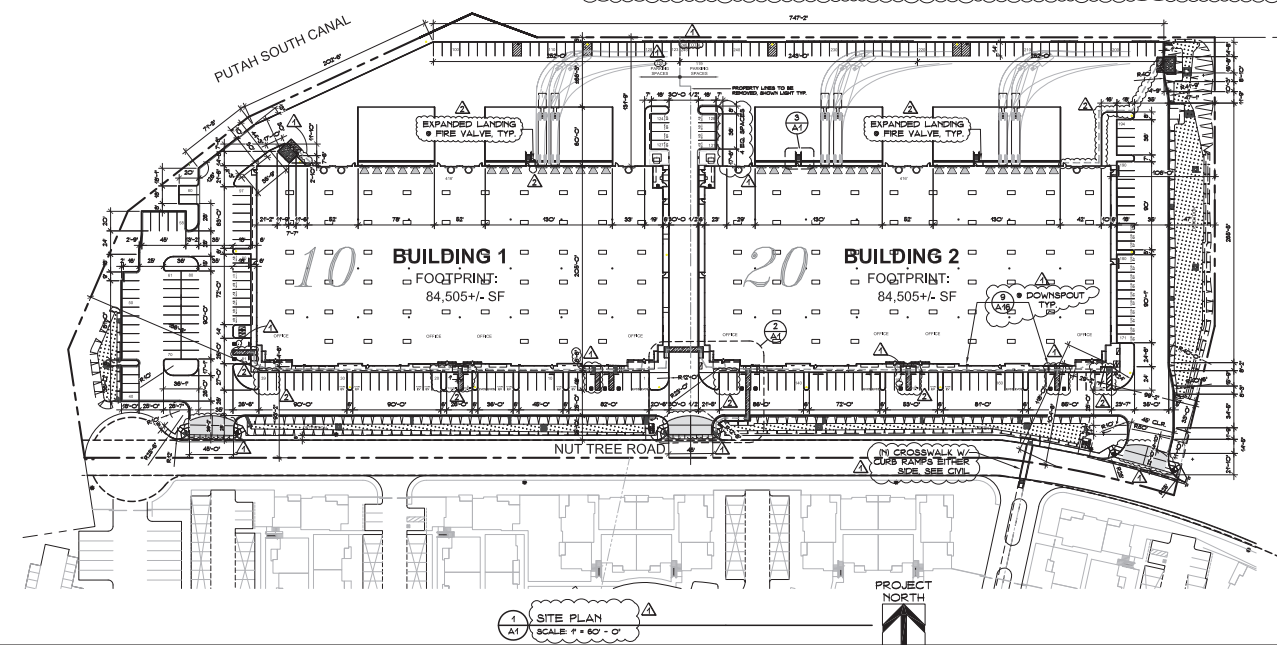
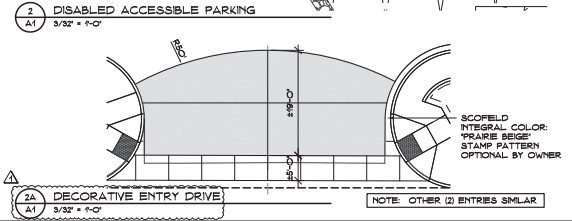
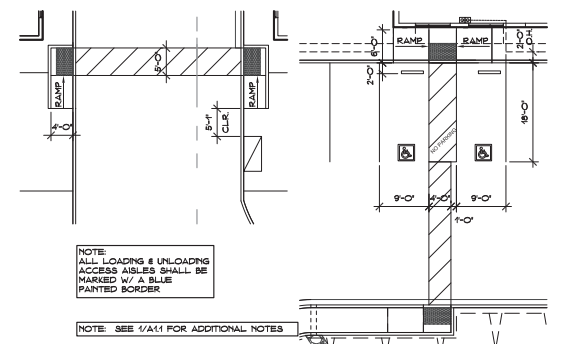
PARKING SCHEDULE						
SYMBOL	TYPE OF EV STALL	BLDG. 1 PROVIDED/ REQ'D	BLDG. 2 PROVIDED/ REQ'D	SUBTOTAL ON SITE PROVIDED/ REQ'D	TOTAL ON SITE PROVIDED/ REQ'D	CODE REFERENCE
<b>REQUIREMENTS FOR EV PARKING STALLS:</b>						
FUTURE EV	FUTURE CHARGING STATION (CS)	19/19	19/19	38/38		CGESC TABLE 8.106.5.3.1
EVCS	PROVIDED CS (EV CHARGING ONLY) @ STALL	4/E	4/E	(8/12 of 38)		
EV STANDARD SUBTOTAL:		23/28	23/28	46/50		
EV CHARGING ONLY	VAN ACCESSIBLE EV - PROVIDED CS (EV CHARGING ONLY) @ STALL	1/1	1/1		50/246	
EV CHARGING ONLY	STANDARD ACCESSIBLE EV - PROVIDED CS (EV CHARGING ONLY) @ STALL	1/1	1/1			CBC TABLE 1B-228.3.2.1
EV ACCESSIBLE SUBTOTAL:		2/2 of 25	2/2 of 25	(4/12 of 38)		
<b>REQUIREMENTS FOR NON-EV ACCESSIBLE PARKING STALLS:</b>						
VAN	VAN ACCESSIBLE (1/6 OF REQ'D ACCESSIBLE PER 1B 2003.4.1) (1/6 OF 6 = 1 STALL PER BLDG. (1/6 OF 30 = 5 STALLS REQ'D ON SITE)	1/5	1/5	2/10		CBC TABLE 1B-208.2
	STANDARD ACCESSIBLE (S = 1 VAN + 4 PER BLDG)	4/5	4/5	8/10		(5 REQ'D PER BLDG)
NON-EV ACCESSIBLE STALL SUBTOTAL:		5/5	5/5	10/10	10/246	
<b>REGULAR PARKING STALLS:</b>						
(BLANK)	NON-EV OR ACCESSIBLE	101/127	85/119	186/246	186/246	
<b>TOTAL:</b>					246	



- SITE GENERAL NOTES:**
- FOR SIDEWALK CONTROL & EXPANSION JOINTS SEE DETAIL 15/A11
  - WALKWAYS AT PRIMARY ENTRY/EXITS SHALL BE LEVEL WITH BUILDING FINISH FLOOR WITH 2% MAX. CROSS SLOPE FOR 5'-0" MIN. IN WIDTH WITH AT LEAST 24" CLEAR WIDTH PROVIDED FROM STRIKE EDGE OF DOOR. SEE 77/A11
  - ALL CONCRETE SIDEWALKS TO RECEIVE LIGHT BROOM FINISH PERPENDICULAR TO DIRECTION OF TRAVEL. EXCEPT WHERE NOTED OTHERWISE.
  - SLEEVING OF IRRIGATION COMPONENTS SHALL BE INSTALLED DURING PAVING PHASE OF CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WORK TO INSURE CORRECT SLEEVING PLACEMENT.
  - THIS SITE PLAN IS BASED ON CIVIL ENGINEERING DOCUMENTS, PREPARED BY PHELIPPI ENGINEERING. SITE WORK SHOWN HERE FOR INFORMATION ONLY. SEE CIVIL IMPROVEMENT PLAN FOR DETAILS.
  - ALL CURB RADIUS DIMENSIONS TO 3'-0" OUTSIDE OF CURB UNLESS OTHERWISE NOTED.

- ACCESSIBILITY NOTES:**
- WALKWAYS AND SIDEWALKS ALONG ACCESSIBLE ROUTES OF TRAVEL (1) SHALL BE CONTINUOUSLY ACCESSIBLE, (2) SHALL HAVE MAXIMUM 1/2" CHANGE IN ELEVATION (3) SHALL BE MINIMUM 48" IN WIDTH, (4) SHALL HAVE A MAX. CROSS SLOPE OF 1/4" FT AND (5) SHALL HAVE RAMPS COMPLYING WITH CBC 1B-408 & 1B-409, WHERE NECESSARY TO CHANGE ELEVATION AT A SLOPE EXCEEDING 5% (IE, 120)
  - WHERE THE ACCESSIBLE ROUTE OF TRAVEL CROSSES ONTO A VEHICULAR ROUTE OF TRAVEL USING A CURB RAMP, A CONTINUOUS DETECTABLE WARNING STRIP SHALL BE PROVIDED FOR THE FULL WIDTH & 30" DEEP DEPTH PER CBC 1B-705. CURB RAMPS SHALL COMPLY WITH C.B.C. 1B-406
  - ALL REQUIRED ENTRANCES SHALL HAVE LEVEL LANDINGS NOT TO EXCEED 2% IN ANY DIRECTION AT THE ENTRANCE. THE WIDTH OF THE LEVEL AREA ON THE SIDE TO WHICH THE DOOR SWINGS SHALL EXTEND 24" PAST THE STRIKE EDGE OF THE DOOR FOR THE EXTERIOR DOORS AND THE LENGTH SHALL NOT BE LESS THAN 60" PER CBC 1B-404.2.4.
  - OUTDOOR RAMPS, STAIRS AND THEIR APPROACHES SHALL BE DESIGNED SO THAT WATER WILL NOT ACCUMULATE ON WALKING SURFACES PER CBC 1B-405.0 & 1B-504.7.
  - PROVIDE "INTERNATIONAL SYMBOL OF ACCESSIBILITY" AT MAIN ENTRANCE (MOUNT @ 60" AFF.)

- CAL GREEN REQUIREMENTS FOR BIKE PARKING:**
- 5% PER CGESC SECTION 8.106.4.1 - PROVIDE BIKE RACKS FOR 13 BIKES
  - 5% PER CGESC SECTION 8.106.4.2 - PROVIDE BIKE LOCKERS FOR 13 BIKES



1 SITE PLAN  
SCALE = 1/8" = 1'-0"



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PROFESSIONAL STAMP  
PHILLIP P. PHELIPPI  
REGISTERED ARCHITECT  
NO. 10000  
STATE OF CALIFORNIA

CONSULTANT PFD

NEW CONSTRUCTION OF (2) BLDGS. AT:  
**NUT TREE BUSINESS PARK**  
10 & 20 NUT TREE ROAD  
VACAVILLE, CA 95688

ISSUE TYPE:  
PC SUBMITTAL 07-23

REVISIONS:  
A1 PC #1 05-19-2023  
A2 PC #2 12-08-2023

DATE: 07-19-23  
PROJECT NUMBER: 23-718  
DRAWING TITLE:  
SITE PLAN  
SHEET NUMBER:  
A1

SCOPE/FIELD INTEGRAL COLOR: "PRAIRIE EDGE" STAMP PATTERN OPTIONAL BY OWNER

NOTE: OTHER (2) ENTRIES SIMILAR

ROOF ZONE DRAINAGE INFORMATION		
ZONE	AREA SQ. FT.	REMARKS
R1 & R6	7,030	SEE PLUMBING
R2 & R5	6,355	
R3-4	6,264	
R7 & R10	9,374	
R8-9	10,787	

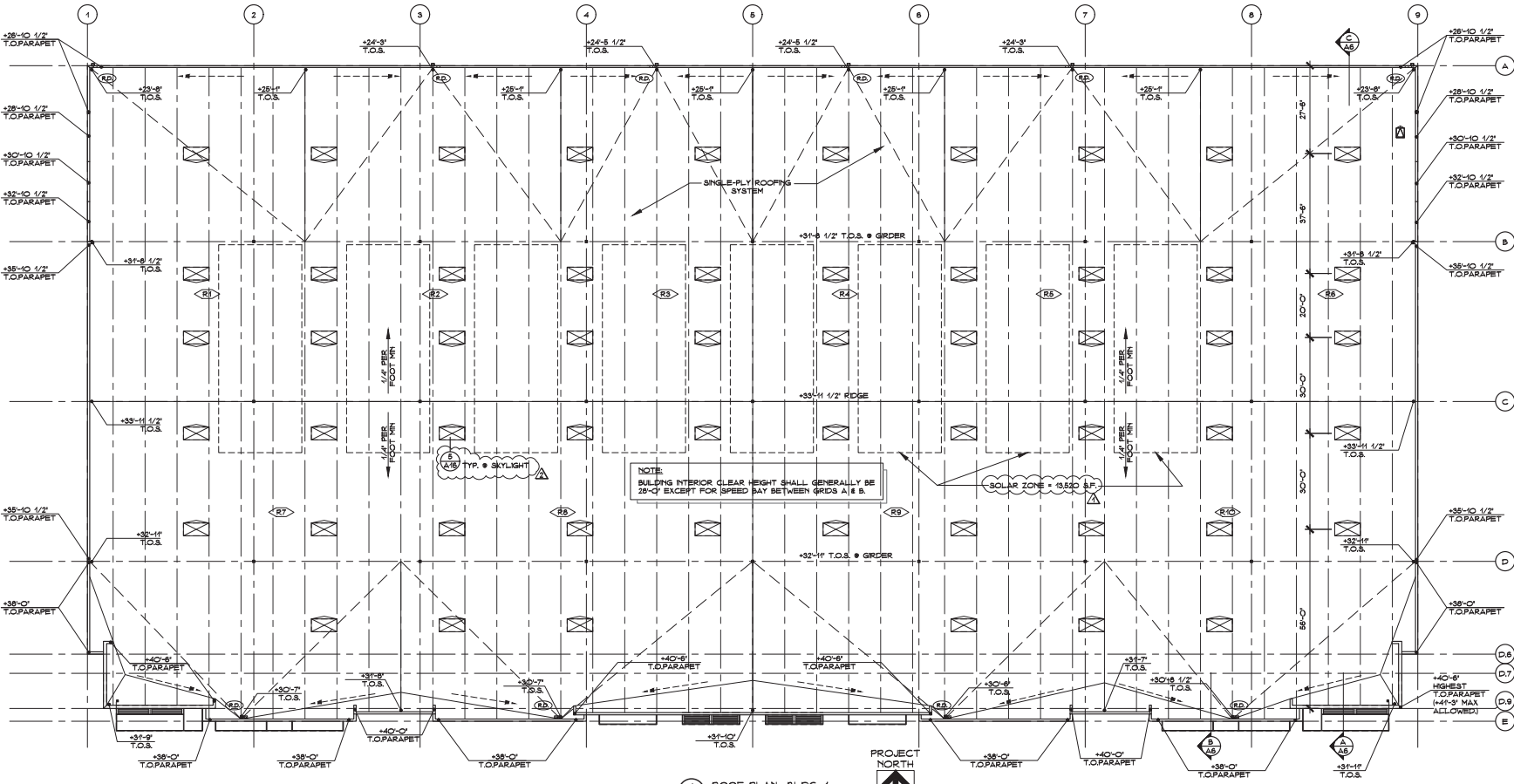
SOLAR ZONE CALCULATION	
ROOF AREA:	65,616 S.F.
SKYLIGHTS:	-1,664 S.F.
TOTAL:	63,952 S.F.
SOLAR AREA:	18%
AREA REQUIRED:	12,293 S.F. → OK
AREA PROVIDED:	15,820 S.F. → OK

DOWNSPOUT SIZE REQUIREMENTS (PRELIMINARY CALC. - SEE PLUMBING DWGS.)	
LEADER & VERTICAL RAINWATER PIPING PER C.P.C. 2022 TABLE 1101.2	
LARGEST ROOF AREA FOR 1 DRAIN: 10,787 S.F.	
LEADER SIZE AREA @ 3" / HR.	
2"	960
3"	2,930
4"	6,320
6"	11,990
8"	17,990
8"	38,660

**TPO SINGLE PLY ROOFING**  
ROOFING WILL BE CLASS A. IT SHALL BE APPLIED IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF CBC CHAPTER 15 AND THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.  
WHITE SINGLE PLY THERMOPLASTIC POLYOLEFIN (TPO) MEMBRANE MECHANICALLY ATTACHED ROOFING SYSTEM 60 ML THICK SCRM REINFORCED FIELD SHEETS. ROOFING SYSTEM SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS.  
EXTENT OF ROOF SCOPE: PROVIDE ALL LABOR, MATERIAL, TOOLS, EQUIPMENT AND SUPERVISION NECESSARY TO COMPLETE THE INSTALLATION OF A 60 ML THICK TPO MEMBRANE MECHANICALLY FASTENED ROOFING SYSTEM OVER ROOF SHEATHING, INCLUDING FLASHING AS SPECIFIED HEREIN AND AS INDICATED ON THE DRAWINGS IN ACCORDANCE WITH THE MANUFACTURER'S MOST CURRENT SPECIFICATIONS AND DETAILS.  
WARRANTY: PROVIDE 20 YEAR INCL. ROOFING SYSTEM WARRANTY COVERING BOTH LABOR AND MATERIAL WITH NO DOLLAR LIMITATION. THE MINIMUM WIND SPEED COVERAGE SHALL BE AS REQUIRED FOR LOCAL WIND SPEEDS PER CODE. CERTIFICATION INDICATING MANUFACTURER'S WIND COVERAGE WILL BE REQUIRED AT PROJECT CLOSEOUT.  
UNLESS OTHERWISE APPROVED AND ACCEPTED BY THE MEMBRANE MANUFACTURER, ALL PRODUCTS (INCLUDING FASTENERS, FASTENING PLATES AND EDGINGS) MUST BE MANUFACTURED AND SUPPLIED BY SAME MANUFACTURER AND COVERED BY THE WARRANTY.  
- MEMBRANE: FURNISH 60 ML WHITE TPO MEMBRANE IN THE LARGEST SHEET POSSIBLE. THE MEMBRANE SHALL CONFORM TO THE MINIMUM PHYSICAL PROPERTIES OF ASTM D4787-03.  
- ROOFTOP WALKWAY PROTECTION WALKWAY SHALL BE PROVIDED AT ALL MECHANICAL UNITS AND ROOF HATCH LOCATIONS. HOT AIR WELD WALKWAY PADS TO THE MEMBRANE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

LEGEND	
3'-X'-X"	HEIGHT OF ELEMENT ABOVE FINISH FLOOR
(R1)	EXTERIOR ROOF DRAIN W/ DOWNSPOUT & OVERFLOW SCUPPER SEE (R2)
(R8)	INTERIOR ROOF DRAIN W/ HIGH OVERFLOW PIPE. SEE (R9) (R10) (R11) (R12)
→	SLOPE OF ROOF TO DRAIN
- - -	WARP
T.O.P.	TOP OF PARAPET
T.O.S.	TOP OF STRUCTURAL SHEATHING

**SKYLIGHT SPEC:**  
PROVIDE SUN OPTICS DOUBLE HP 4040 TRIP GLAZED POLYCARBONATE - CLEAR/WHITE/CLEAR 600 MD MI INSULATED THERMAL BREAK UNITS ARE TESTED & CERTIFIED TO AAMA/MDMA/CSA101/1&2/A440-06 TO COMPLY W/ SECTION 2406.6 OF THE BC.



1 ROOF PLAN- BLDG. 1  
SCALE = 1/16" = 1'-0"

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CONSULTANT FIRM:

NEW CONSTRUCTION OF (2) BLDGS. AT:  
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ISSUE TYPE:  
PC SUBMITTAL 07-23

REVISIONS:  
A PC #1 05-19-2023  
B PC #2 12-08-2023

DATE: 07-19-23  
PROJECT NUMBER: 22-718  
DRAWING TITLE: BLDG. 1 ROOF PLAN  
SHEET NUMBER: A3



**LEGEND**

**PAINT**

- P1 - SW 7101 'FUTON'
- P2 - SW 6002 'ESSENTIAL GRAY'
- P3 - SW 7674 'PEPPERCORN'
- P4 - SW 6074 'SPALDING GRAY'

**PRE-FINISHED MATERIAL**

- AP - NCHHA AWP 3030 'VINTAGE CEDAR'

**STOREFRONT**

- CLEAR ANODIZED STOREFRONT WITH LIGHT GREEN GLAZING

**KEYNOTES**

- CONCRETE WALL PANEL - PAINTED
- COMPOSITE/CEMENTITIOUS SIDING WITH WOOD GRAIN APPEARANCE
- METAL CANOPY - PAINTED
- ALUMINUM STOREFRONT WINDOW SYSTEM W/ TINTED GLASS
- 3/4" DEEP REVEAL IN CONCRETE (TYP. SEE 12)
- PANEL JOINT (TYP. SEE 11)
- METAL MAN-DOOR - PAINTED
- CONC. REBBD FORMLINER - PAINTED
- LINE OF ROOF BEHIND PARAPET
- WALL PACK LIGHT FIXTURE - SEE ELECTRICAL PLANS
- DAY/LIT OVERFLOW. SEE 11
- 15' HIGH BUILDING ADDRESS W/ HALO ILLUMINATION.

**EXTERIOR PAINTING OF CONCRETE WALLS, TO BE AS FOLLOWS:**

**PRODUCTS**  
SIC TO PROVIDE TEXTURED ELASTOMERIC COATING SYSTEM.  
1 COAT PRIMER (WHITE). PRIMER MAY NOT BE TINTED SAME COLOR AS FINISHED TEXTURED COATING. 2 COATS TEXTURED ELASTOMERIC PAINT.  
SPRINT PRIMER AS REQUIRED FOR PRIMING CAULK JOINTS, ACCENT COLORS, TEX-COTE DE COLOR COAT. COLOR AS SPECIFIED ON THE DRAWINGS.

**EXECUTION**  
APPLY PRODUCT TO A FINE TEXTURED FINISH PER MANUFACTURER'S SPECIFICATIONS. APPLY TO ALL EXPOSED CONCRETE AND CEMENT PLASTER AREAS INCLUDING BACK OF PARAPET AND FOAM MOLDINGS. REFER TO COLOR SCHEDULE FOR PAINT COLORS.

**CLEAN UP**  
USE CLEANING AGENTS RECOMMENDED BY MANUFACTURER FOR WET AND DRY MATERIAL. ATTEMPT SAMPLE IN CONCEALED AREA FIRST. REMOVE SPLATTERS FROM ADJACENT SURFACES. REPAIR ANY DAMAGE TO COATINGS OR SURFACES CAUSED BY CLEANING OPERATIONS.

2. PAINT METAL DOORS/FRAMES, LOWERS, FIRE HYDRANTS, TRASH ENCLOSURE GATE, ETC. WITH ENAMEL PAINT. COLORS AS NOTED IN PLANS OR SIMILAR TO ADJACENT SURFACE.

3. DOWNSPOUTS AS FOLLOWS: 1 COAT ACRYLIC METAL PRIMER 725 KEL-GUARD AS MANUFACTURED BY KELLY MOORE OR ACCEPTED EQUAL. 2 COATS ACRYLIC SEMI-GLOSS 650 ACRYL-GLAZER AS MANUFACTURED BY KELLY MOORE.

4. SUBMIT 6 BRUSH OUT SAMPLES OF COLOR FOR APPROVAL OF SYSTEM, TEXTURE AND COLOR BY ARCHITECT.

5. SIDE OF ALL PARAPETS - EXTERIOR PAINTED ELASTOMERIC FINISH OVER TOP OF CONCRETE PARAPET AND OVER BACKSIDE OF PARAPET TO ROOFING TERMINATION BAR.

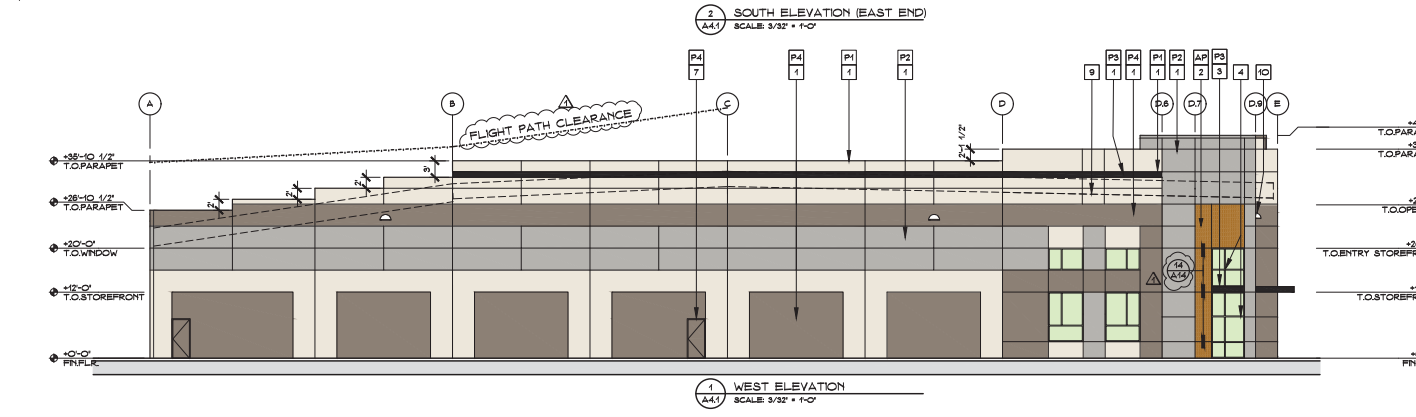
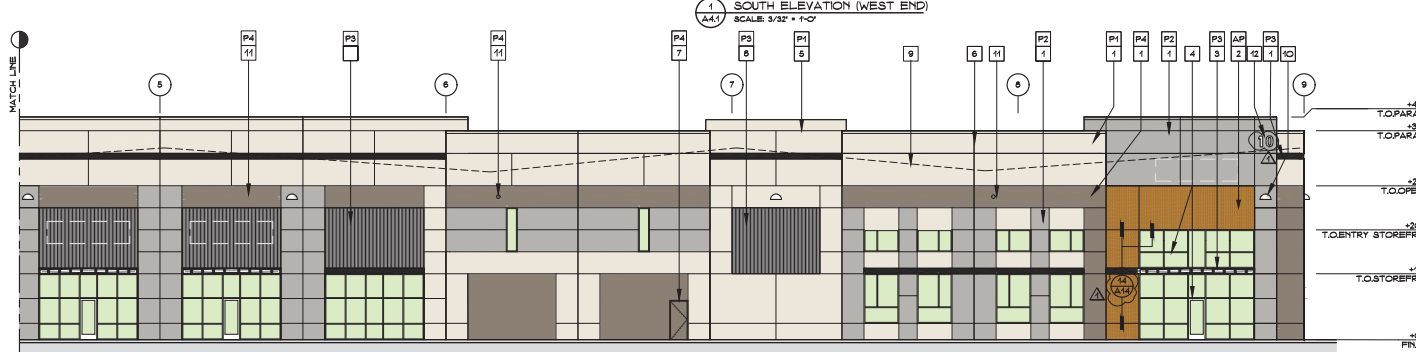
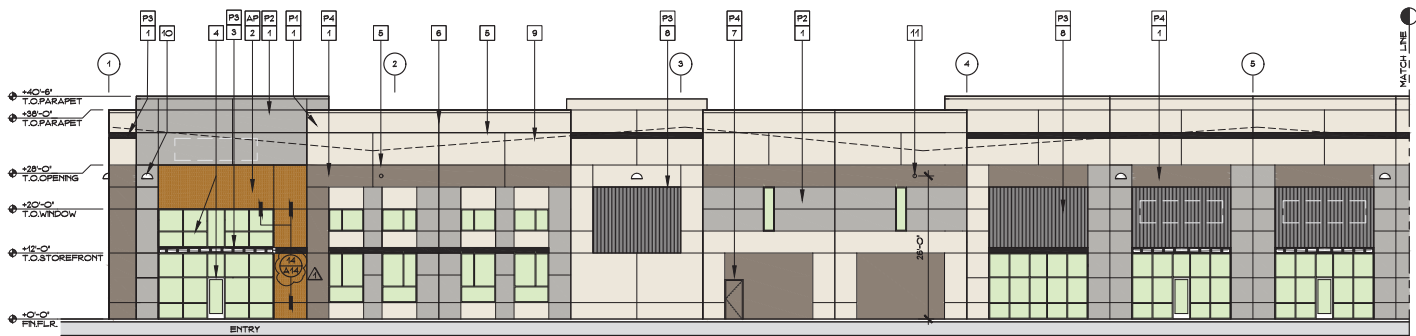
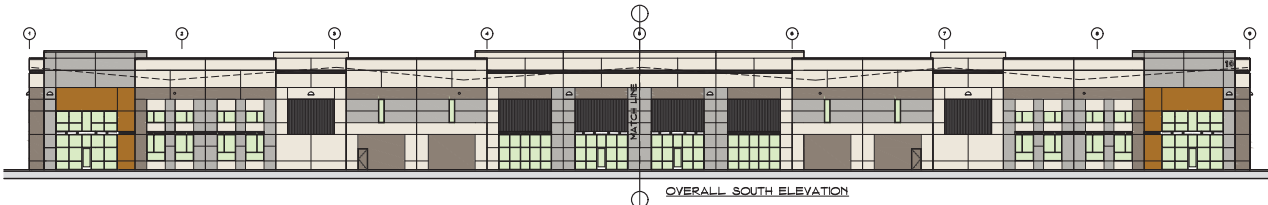
**ENVELOPE MANDATORY MEASURES**

ALL EXTERIOR JOINTS AND OPENINGS IN THE BUILDING ENVELOPE THAT ARE OBSERVABLE SOURCES OF AIR LEAKAGE SHALL BE CAULKED, GASKETED, WEATHER-STRIPPED OR OTHERWISE SEALED.

SITE CONSTRUCTED DOORS & WINDOWS SHALL BE CALLED BETWEEN THE UNIT AND THE BUILDING AND SHALL BE WEATHER-STRIPPED (EXCEPT FOR UNFRAMED GLASS DOORS AND FIRE DOORS).

MANUFACTURERS DOORS AND WINDOWS INSTALLED SHALL HAVE AIR INFILTRATION RATES CERTIFIED BY THE MANUFACTURER PER SECTION 1604H.

MANUFACTURED PENETRATION PRODUCTS MUST BE LABELED FOR U-VALUE ACCORDING TO NFRIC PROCEDURES.



FLIGHT PATH CLEARANCE

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ROOF ZONE DRAINAGE INFORMATION		
ZONE	AREA SQ. FT.	REMARKS
R1 & R8	7,030	SEE PLUMBING
R2 & R5	6,355	
R3-4	6,254	
R7 & R10	9,374	
R6-9	10,787	

SOLAR ZONE CALCULATION	
ROOF AREA:	85,616 S.F.
SKYLIGHTS:	-1,664 S.F.
TOTAL:	83,952 S.F.
SOLAR AREA:	18%
AREA REQUIRED:	12,293 S.F. → OK
AREA PROVIDED:	15,820 S.F. → OK

DOWNSPOUT SIZE REQUIREMENTS (PRELIMINARY CALC. - SEE PLUMBING DWGS.)	
LEADER & VERTICAL RAINWATER PIPING PER C.P.C. 2022 TABLE 1101.2	
LARGEST ROOF AREA FOR 1 DRAIN: 10,840 S.F.	
LEADER SIZE AREA @ 3" / HR.	
2"	960
3"	2,930
4"	6,320
6"	11,990
8"	17,990
8"	38,660

**TPO SINGLE PLY ROOFING**

ROOFING WILL BE CLASS A. IT SHALL BE APPLIED IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF CBC CHAPTER 18 AND THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

WHITE SINGLE PLY THERMOPLASTIC POLYOLEFIN (TPO) MEMBRANE MECHANICALLY ATTACHED ROOFING SYSTEM 60 ML THICK SCRM REINFORCED FIELD SHEETS. ROOFING SYSTEM SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS.

EXTENT OF ROOF SCOPE: PROVIDE ALL LABOR, MATERIAL, TOOLS, EQUIPMENT AND SUPERVISION NECESSARY TO COMPLETE THE INSTALLATION OF A 60 ML THICK TPO MEMBRANE MECHANICALLY FASTENED ROOFING SYSTEM OVER ROOF SHEATHING, INCLUDING FLASHING AS SPECIFIED HEREIN AND AS INDICATED ON THE DRAWINGS IN ACCORDANCE WITH THE MANUFACTURER'S MOST CURRENT SPECIFICATIONS AND DETAILS.

WARRANTY: PROVIDE 20 YEAR INCL. ROOFING SYSTEM WARRANTY COVERING BOTH LABOR AND MATERIAL WITH NO DOLLAR LIMITATION. THE MINIMUM WIND SPEED COVERAGE SHALL BE AS REQUIRED FOR LOCAL WIND SPEEDS PER CODE. CERTIFICATION INDICATING MANUFACTURER'S WIND COVERAGE WILL BE REQUIRED AT PROJECT CLOSEOUT.

UNLESS OTHERWISE APPROVED AND ACCEPTED BY THE MEMBRANE MANUFACTURER, ALL PRODUCTS (INCLUDING FASTENERS, FASTENING PLATES AND EDGINGS) MUST BE MANUFACTURED AND SUPPLIED BY SAME MANUFACTURER AND COVERED BY THE WARRANTY.

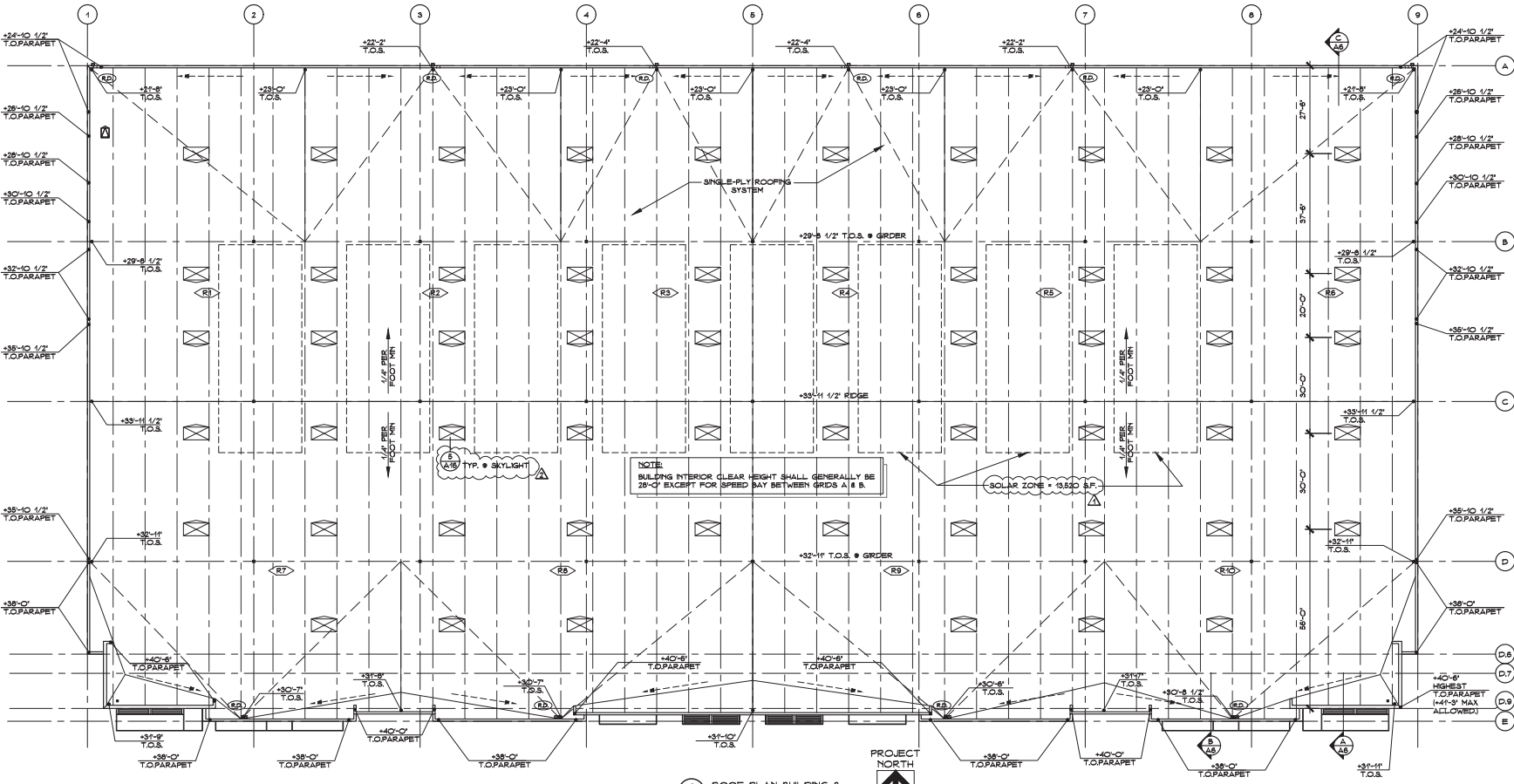
- MEMBRANE: FURNISH 60 ML WHITE TPO MEMBRANE IN THE LARGEST SHEET POSSIBLE. THE MEMBRANE SHALL CONFORM TO THE MINIMUM PHYSICAL PROPERTIES OF ASTM D4789-03.

- ROOFTOP WALKWAY PROTECTION: WALKWAY SHALL BE PROVIDED AT ALL MECHANICAL UNITS AND ROOF HATCH LOCATIONS. HOT AIR WELD WALKWAY PADS TO THE MEMBRANE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

LEGEND	
3'-X'-X'	HEIGHT OF ELEMENT ABOVE FINISH FLOOR
(R2)	EXTERIOR ROOF DRAIN W/ DOWNSPOUT & OVERFLOW SCUPPER SEE (R1)
(R8)	INTERIOR ROOF DRAIN W/ HIGH OVERFLOW PIPE SEE (R1) (R11) (R12)
→	SLOPE OF ROOF TO DRAIN
- - -	WARP
T.O.P.	TOP OF PARAPET
T.O.S.	TOP OF STRUCTURAL SHEATHING

**SKYLIGHT SPEC:**

PROVIDE SUN OPTICS DOUBLE HP 4040 TRIP GLAZED POLYCARBONATE - CLEAR/WHITE/CLEAR 600 MD MI INSULATED THERMAL BREAK UNITS ARE TESTED & CERTIFIED TO AAMA/MDMA/CSA101/1&2/A44C-06 TO COMPLY W/ SECTION 2406.6 OF THE BC.



1 ROOF PLAN BUILDING 2  
SCALE = 1/16" = 1'-0"



CONSULTANT PFD:

NEW CONSTRUCTION OF (2) BLDGS. AT:  
**NUT TREE BUSINESS PARK**  
10 & 20 NUT TREE ROAD  
VACAVILLE, CA 95688

ISSUE TYPE:	
PC SUBMITTAL	07-23

REVISIONS:	
PC #1	08-06-2023
PC #2	12-08-2023

DATE: 07-13-23  
PROJECT NUMBER: 22-718  
DRAWING TITLE: BLDG. 2 ROOF PLAN  
SHEET NUMBER: A8

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CONSULTANT PFD.

NEW CONSTRUCTION OF (2) BLDGS. AT:  
**NUT TREE BUSINESS PARK**  
10 & 20 NUT TREE ROAD  
VACAVILLE, CA 95688

ISSUE TYPE:  
PC SUBMITAL 07-23

REVISIONS:  
A PC #1 08-19-2023

DATE: 07-13-23  
PROJECT NUMBER: 22718  
DRAWING TITLE: BUILDING 2 ELEVATIONS  
SHEET NUMBER:

**A9**

**LEGEND**

	P1 - SW 7101 'FUTON'
	P2 - SW 6002 'ESSENTIAL GRAY'
	P3 - SW 7674 'PEPPER CORN'
	P4 - SW 6074 'SPALDING GRAY'
	AP - NCH4A AWP 3030 'VINTAGE CEDAR'
	PRE-FINISHED MATERIAL STOREFRONT
	CLEAR ANODIZED STOREFRONT WITH LIGHT GREEN GLAZING

**KEYNOTES**

1	CONCRETE WALL PANEL - PAINTED
2	COMPOSITE/CEMENTITIOUS SIDING WITH WOOD GRAIN APPEARANCE
3	METAL CANOPY - PAINTED
4	ALUMINUM STOREFRONT WINDOW SYSTEM W/ TINTED GLASS
5	3/4" DEEP REVEAL IN CONCRETE (TYP) SEE (1/25)
6	PANEL JOINT (TYP) SEE (1/25)
7	METAL MAN-DOOR - PAINTED
8	CONC. REBbed FORMLINER - PAINTED
9	LINE OF ROOF BEHIND PARAPET
10	WALL PACK LIGHT FIXTURE - SEE ELECTRICAL PLANS
11	DAY/LIT OVERFLOW, SEE (11/25)
12	15' HIGH BUILDING ADDRESS W/ HALO ILLUMINATION

**EXTERIOR FINISH NOTES**

1. EXTERIOR PAINTING OF CONCRETE WALLS, TO BE AS FOLLOWS:

PRODUCTS:  
SIC TO PROVIDE TEXTURED ELASTOMERIC COATING SYSTEM.  
1 COAT PRIMER (WHITE). PRIMER MAY NOT BE TINTED SAME COLOR AS FINISHED TEXTURED COATING.  
2 COATS TEXTURED ELASTOMERIC PAINT.  
SPOT PRIMER AS REQUIRED FOR PRIMING CAULK JOINTS, ACCENT COLORS & TEX-COTE DE COLOR COAT. COLOR AS SPECIFIED ON THE DRAWINGS.  
EXECUTION:  
APPLY PRODUCT TO A FINE TEXTURED FINISH PER MANUFACTURER'S SPECIFICATIONS. APPLY TO ALL EXPOSED CONCRETE AND CEMENT PLASTER AREAS INCLUDING BACK OF PARAPET AND FOAM MOLDINGS. REFER TO COLOR SCHEDULE FOR PAINT COLORS.  
CLEAN UP:  
USE CLEANING AGENTS RECOMMENDED BY MANUFACTURER FOR WET AND DRY MATERIAL. ATTEMPT SAMPLE IN CONCEALED AREA FIRST. REMOVE SPLATTERS FROM ADJACENT SURFACES. REPAIR ANY DAMAGE TO COATINGS OR SURFACES CAUSED BY CLEANING OPERATIONS.

2. PAINT METAL DOORS/FRAMES, LOWERS, FIRE HYDRANTS, TRASH ENCLOSURE GATE, ETC. WITH ENAMEL PAINT. COLORS AS NOTED IN PLANS OR SIMILAR TO ADJACENT SURFACE.

3. DOWNSPOUTS AS FOLLOWS: 1 COAT ACRYLIC METAL PRIMER (725 KEL-GUARD AS MANUFACTURED BY KELLY MOORE OR ACCEPTED EQUAL). 2 COATS ACRYLIC SEMI-GLOSS 620 ACRYL-UBSTRA AS MANUFACTURED BY KELLY MOORE.

4. SUBMIT 6 BRUSH OUT SAMPLES OF COLOR FOR APPROVAL OF SYSTEM, TEXTURE AND COLOR BY ARCHITECT.

5. SIDE OF ALL PARAPETS - EXTERIOR PAINTED ELASTOMERIC FINISH OVER TOP OF CONCRETE PARAPET AND OVER BACKSIDE OF PARAPET TO ROOFING TERMINATION BAR.

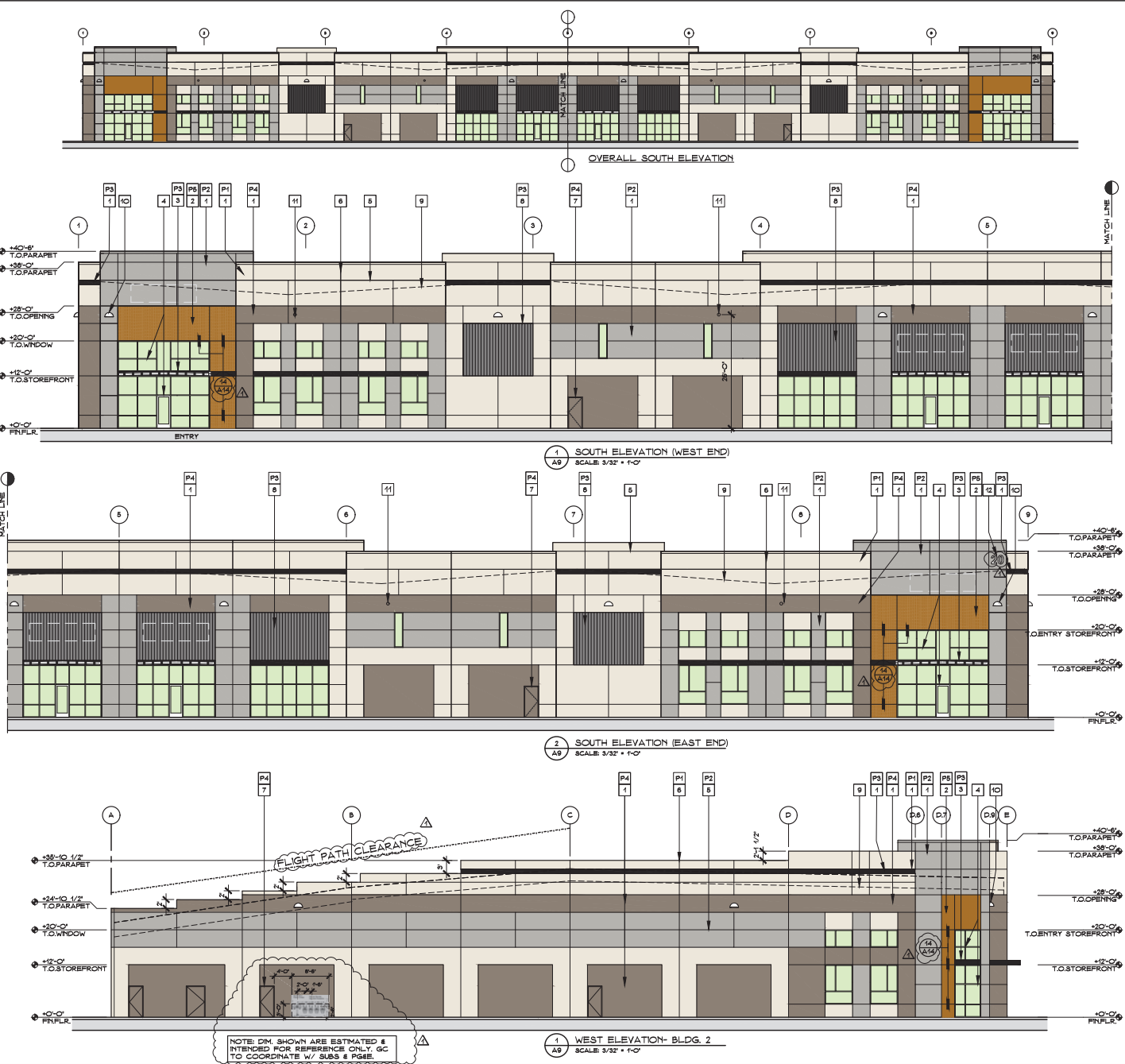
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MANUFACTURED PENETRATION PRODUCTS MUST BE LABELED FOR U-VALUE ACCORDING TO NFRS PROCEDURES.



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ELECTRICAL GENERAL NOTES

- ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN COMPLIANCE WITH THE FOLLOWING CODES AS AMENDED AND ADOPTED BY THE AUTHORITY HAVING JURISDICTION: 2022 CALIFORNIA AMENDMENTS CODE (C.A.), 2022 CALIFORNIA BUILDING CODE (CBC), 2022 CALIFORNIA FIRE CODE (CFC), 2022 CALIFORNIA MECHANICAL CODE (CMC), 2022 CALIFORNIA PLUMBING CODE (CPC), 2022 CALIFORNIA ELECTRICAL CODE (CEC), 2022 CALIFORNIA ENERGY CODE (CEC), 2022 CALIFORNIA GREEN BUILDING CODE (CGC), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), OCCUPATIONAL SAFETY AND HEALTH (OSHA), AND ANY OTHER STATE, COUNTY, OR MUNICIPAL REGULATIONS OR ORDINANCES. THE AUTHORITY HAVING JURISDICTION IN THESE PLACES IS TO BE CONSULTED TO DETERMINE WORK NOT COVERED TO BE COMPLETED OR OTHER CODES AND REGULATIONS APPLICABLE TO THE PROJECT. THESE CODES DETERMINE MINIMUM REQUIREMENTS FOR MATERIALS, METHODS, AND LABOR PRACTICES NOT OTHERWISE DEFINED IN THESE SPECIFICATIONS.
- CONDUITS SHALL BE PER DESIGN SHEETS. CEC AND MAXIMUM VOLTAGE DROP OF 5% WILL DEFINE CONDUIT SIZING.
- ALL CONDUITS SHALL BE IN CONDUITS. U.G. CONDUITS SHALL BE USED IN THE FOLLOWING METHODS:
  - FLUOROPOLYMER CHLORIDE (PVC) CONDUITS ALLOWED FOR UNDERGROUND OTHERWISE PROVIDE RMC OR IMC. INSTALL PER CEC TABLE 300.5 BURIAL DEPTH REQUIREMENTS.
  - ELECTRICAL METALLIC TUBING (EMT) WITH COMPRESSOR FITTINGS MAY BE USED IN OR ON WALLS OR CEILING WHERE NOT SUBJECT TO MECHANICAL DAMAGE, DAMP CONDITIONS OR CORROSIVE CONDITIONS.
  - LIQUID TIGHT FLEXIBLE METAL CONDUIT WHERE REQUIRED BY CEC IN DRY LOCATIONS. NOTE: ALL CONDUITS IN HAZARDOUS LOCATIONS (PER CEC) SHALL MEET THE REQUIREMENTS OF CEC CHAPTER 5.
  - CONNECTION TO LIGHT FIXTURES ABOVE 14'-0" CEILING MAY USE 3/8" FLEXIBLE METAL CONDUIT PER CEC 348.20(A)(2).
  - ALL EXPOSED CONDUIT SUBJECT TO WEAR OR COLLISION SHALL BE RIGID GALVANIZED STEEL (RGS) OR INDEPENDENT METALLIC TUBING (IMT) WITH BRONZE COATING TO ALL METALLIC CONDUITS IN SLABS OR UNDERGROUND.
  - CONNECTION PER REQUIREMENT ALL APPROVED SEALANT ON ALL RACEWAY PENETRATIONS OF FINE RATED CEILING, PARTITIONS, WALLS AND STRUCTURAL SLABS.
- FOR TELEPHONE SYSTEM: PROVIDE GROUNDING FOR ALL TELEPHONE RACKS/DRAWNS, TERMINAL CABINETS AND EQUIPMENT PER REQUIREMENTS OF CEC 600 AND TELEPHONE COMPANY.
- ALL EQUIPMENT SHALL BE PROVIDED WITH AN APPROVED DISCONNECTING MEANS PER CEC. ALL DISCONNECT SWITCHES SHALL BE SIZED PER CEC TO ACCOMMODATE EQUIPMENT SERVED, INCLUDING REQUIRED FUSES. U.G. SWITCHES SHALL BE HEAVY POWER RATED, OF HEAVY DUTY TYPE. PROVIDE MEANS FOR PAD LOCKING IN THE OPEN POSITION.
- ALL CIRCUIT BREAKERS SHALL BE INVERSE TIME (THERMAL MAGNETIC) "PERMANENT TRIP" TYPE. TWO AND THREE POLE CIRCUIT BREAKERS SHALL BE COMMON TRIP. AMPACITY IS EQUAL TO OR GREATER THAN CIRCUIT BREAKER FRAME AMPERE RATING.
- ALL CONNECTIONS TO GROUND ROGS AND GREL, ETC., SHALL BE MADE WITH ALL APPROVED WELDED CONNECTIONS, UNLESS NOTED OTHERWISE.
- LIGHTING SYSTEMS SHALL COMPLY WITH CEC. ALL LIGHTING FIXTURES, LAMPS, BALLASTS, DIMMER SWITCHES, AND CONTROLS SHALL BE LISTED WITH THE CALIFORNIA ENERGY COMMISSION AS MEETING ALL CEC REQUIREMENTS AND BE LISTED IN THE APPLICABLE ENERGY COMMISSION DIRECTORY. ALL SUCH DEVICES AND EQUIPMENT SHALL BE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS. LIGHT FIXTURES REQUIREMENTS:
  - 1) THE MINIMUM REQUIREMENTS IN CEC FOR LIGHTING ZONES 0-4 AS DEFINED IN 10.0.10 OF CEC.
  - 2) BACKLIT RAINWAYS AS DEFINED IN IES TM-15-11.
  - 3) ILLUMINANCE AND GLARE RATINGS AS DEFINED IN CEC TABLE 130.3-A AND 130.3-B.
  - 4) ALLOWABLE BUG RATING NOT EXCEEDING THOSE SHOWN IN TABLE 5.106.8, OR COMPLY WITH A LOCAL ORDINANCE LAWFULLY ENACTED PURSUANT TO SECTION 101.7, WHICHEVER IS MORE STRINGENT.
- ALL ELECTRICAL EQUIPMENT, DEVICES, WIRES, ETC., SHALL BE LISTED FOR THE INTENDED USE, WITH UNDERWRITERS LABORATORIES, INC. (UL) WHERE CONFORMANCE HAS BEEN ESTABLISHED BY ALL EQUIPMENT SHALL BE BURN TESTED WHERE EXPOSED TO THE WEATHER. ALL FLEX CONDUITS CONNECTED TO SUCH EQUIPMENT SHALL BE METALLIC LIQUID TIGHT. ALL EQUIPMENT IN HAZARDOUS LOCATIONS PER CEC CHAPTER 5, SHALL BE IN ACCORDANCE WITH THE CEC. ALL EQUIPMENT IN CORROSIVE ENVIRONMENTS SHALL BE IN ENCLOSURES (CSC) AS NOTED AND AS PRACTICABLE FOR WRITER APPROVAL OF THE ENGINEER.
- UTILITY SERVICE AND REQUIREMENTS SHALL BE COORDINATED WITH POWER SERVICE WITH POWER COMPANY PROVIDE FOR ALL STANDARD POWER COMPANY REQUIREMENTS. FAULT CURRENT RATINGS SHALL BE PROVIDED BY UTILITY.
- THE LAYOUTS OF THE CONTRACT DRAWINGS ARE DIAGRAMMATIC. IT IS NOT INTENDED TO SHOW OFFSET AND FITTING FOR EVERY STRUCTURAL DIFFICULTY THAT WILL BE ENCOUNTERED DURING THE INSTALLATION OF THE WORK. ALIGNMENT OF EQUIPMENT AND ROUTING OF RACEWAYS MAY BE ADJUSTED SUFFICIENTLY TO ACCOMMODATE STRUCTURAL CONDITIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL CONDITIONS OCCUR NECESSITATING DEPARTURES FROM CONTRACT DRAWINGS. DETAILS OF DEPARTURES AND REASONS THEREFOR SHALL BE SUBMITTED AS SOON AS PRACTICABLE FOR WRITER APPROVAL OF THE ENGINEER.
- THE WORD "CONTRACTOR", AS USED IN THE ELECTRICAL CONTRACT DOCUMENTS, SHALL MEAN THE PRIME (I.E. GENERAL) CONTRACTOR AND HIS/HER SUBCONTRACTORS FOR THE APPROPRIATE TRADE WHERE THE OWNER ACTS AS HIS OWN CONTRACTOR, THE WORD CONTRACTOR APPLIES TO THE OWNER.
- CONTRACTOR SHALL PROVIDE EVIDENCE OF LICENSING, BONDING, AND INSURANCE, AND PROVIDE OTHER NECESSARY ADMINISTRATIVE FUNCTIONS FOR CONTRACTOR'S WORK.
- CONTRACTOR SHALL PROVIDE AND PAY FOR ALL REQUIRED PERMITS AND SERVICE CHARGES.
- COORDINATION: CONFORM TO GENERAL CONSTRUCTION CONTRACT DOCUMENTS EXCEPT AS NOTED HEREIN. REFER ALSO TO STRUCTURAL AND MECHANICAL CONTRACT DOCUMENTS. COORDINATE ALL WORK WITH OTHER TRADES.
- CUTTING AND PATCHING: ANY CUTTING, ATTACHING, OR WELDING TO BUILDING STRUCTURE SHOULD BE COORDINATED AND APPROVED BY A CALIFORNIA LICENSED STRUCTURAL ENGINEER. PATCHING SUBJECT TO ACCEPTANCE BY OWNER.
- SAW CUT TRENCHES IN SLAB SHALL BE FULLY RESTORED AND REINFORCED TO PREVENT SAGGING. REPAIRS USE CUT CODES PRIOR TO RE-POURING CONCRETE.
- COORDINATE ALL WORK WITH OTHER TRADES TO PROVIDE A COMPLETE INSTALLATION. CONNECT ALL EQUIPMENT FURNISHED BY OTHERS AS REQUIRED. INSTALL ALL WORK TO CLEAR ARCHITECTURAL AND STRUCTURE MEMBERS. INSTALL ALL ROOF DRAIN OVERHEAD PIPING AS HIGH AS PRACTICAL.
- RESTORE ALL DAMAGE RESULTING FROM THE WORK AND LEAVE PREMISES IN CLEAN CONDITION WHEN FINISHED WITH WORK. ADJUST, CLEAN, REPAIR, OR REPLACE PRODUCTS, WHICH HAVE BEEN DAMAGED.
- PROVIDE FLASHING AND COUNTER FLASHING FOR ALL WALL AND ROOF PENETRATIONS.
- WARRANTY: ALL MATERIALS AND EQUIPMENT INSTALLED UNDER THIS CONTRACT SHALL BE GUARANTEED FREE FROM ALL MECHANICAL, ELECTRICAL, AND WORKMANSHIP DEFECTS FOR A MINIMUM OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES TO THE PREMISES CAUSED BY WORK UNDER THIS CONTRACT, AS WELL AS ANY DAMAGES FROM LEAKS OR ROOF PENETRATIONS MADE AND SEALED UNDER CONTRACTOR'S SCOPE.

ELECTRICAL CALGREEN NOTES

- 5.106.5.1 ELECTRIC VEHICLE (EV) CHARGING: CONSTRUCTION SHALL COMPLY WITH CEC SECTION 5.106.5.3.1 OR SECTION 5.106.5.3.2 TO FACILITATE FUTURE INSTALLATION OF ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE).
- 5.106.5.1.1 SINGLE CHARGING SPACE REQUIREMENTS: WHEN ONLY A SINGLE CHARGING SPACE IS REQUIRED PER CEC TABLE 5.106.5.3.3, A RACEWAY IS REQUIRED TO BE INSTALLED AT THE TIME OF CONSTRUCTION AND SHALL BE INSTALLED IN ACCORDANCE WITH CEC.
- 5.106.5.1.2 MULTIPLE CHARGING SPACES REQUIREMENTS: WHEN MULTIPLE CHARGING SPACES ARE REQUIRED PER CEC TABLE 5.106.5.3.3, RACEWAY(S) IS/ARE REQUIRED TO BE INSTALLED AT THE TIME OF CONSTRUCTION AND SHALL BE INSTALLED IN ACCORDANCE WITH CEC.
- 5.106.5.1.3 BY CHARGING SPACE CALCULATION: CEC TABLE 5.106.5.3.3 SHALL BE USED TO DETERMINE IF SINGLE OR MULTIPLE CHARGING SPACE REQUIREMENTS APPLY FOR THE FUTURE INSTALLATION OF EVSE.
- 5.106.5.1.4 IDENTIFICATION: THE SERVICE PANEL OR SUBPANEL(S) CIRCUIT DIRECTORY SHALL BE IDENTIFIED WITH THE RESERVED OVERCURRENT PROTECTIVE DEVICE (SPACES) FOR FUTURE EV CHARGING AS TV CABLED. THE RACEWAY TERMINATION SHALL BE PERMANENTLY AND VISIBLY MARKED AS TV CABLED.
- 5.106.5.1.5 FUTURE CHARGING SPACES: FUTURE CHARGING SPACES QUALIFY AS DESIGNATED PARKING AS DESCRIBED IN CEC SECTION 5.106.5.2 DESIGNATED PARKING FOR CLEAN AIR VEHICLES.

LIGHTING FIXTURE SCHEDULE

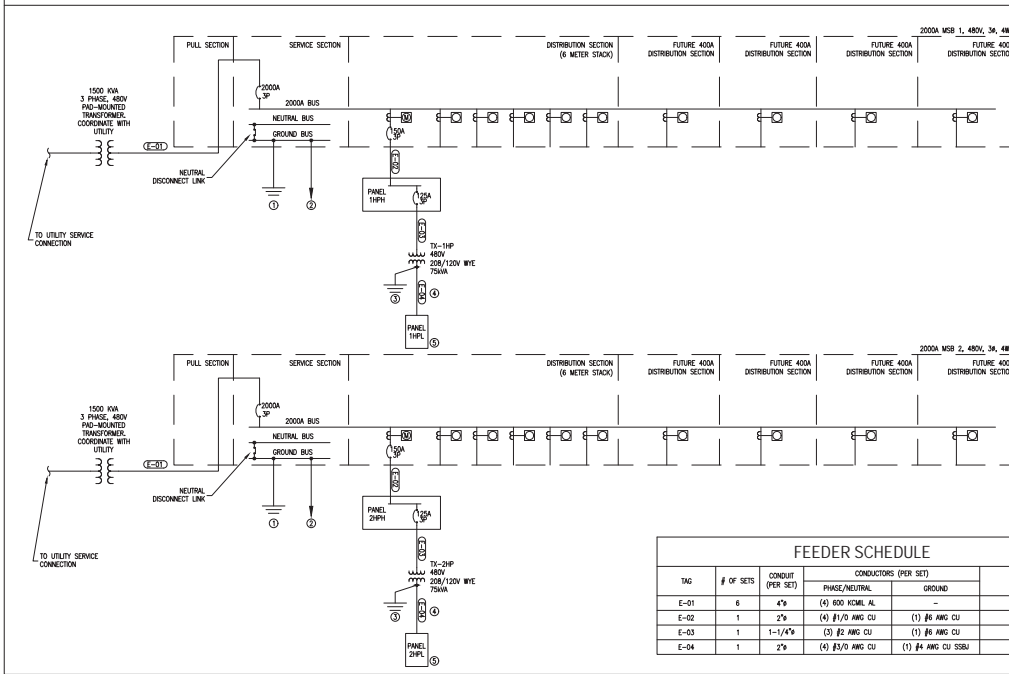
TAG	TYPE	MANUF.	SERIES	MODEL	QTY.	MOUNTING	VOLT.	WATTAGE	SOURCE	LUMENS	CCT	BULB RATING	REMARKS
A	4" W/RAFOURD	COOPER	METALUX	4WLED-L04-325L-F-LW-L840-CD-1	2	SUSPENDED #12' AFF	120	28.8	LED	3200	4000K	N/A	
A1	4" W/RAFOURD	COOPER	METALUX	4WLED-L04-325L-F-LW-L840-EL7W-CD-1	2	SUSPENDED #12' AFF	120	28.8	LED	3200	4000K	N/A	90 MIN BATTERY BACKUP
O1	OUTDOOR WALLPACK	COOPER	STREETWORKS	USSL-P-PA18-740-U-12R	14	WALL #24" ABOVE GRADE U.G.L.	277	52.8	LED	7,362	4000K	81-10-02	
O1E	OUTDOOR WALLPACK	COOPER	STREETWORKS	USSL-P-PA18-740-U-12R-OBP	11	WALL #24" ABOVE GRADE U.G.L.	277	52.8	LED	7,362	4000K	81-10-02	90 MIN BATTERY BACKUP
O2	OUTDOOR WALL MOUNT	COOPER	LUMARK	AXOLBA-OBP	8	WALL #24" ABOVE GRADE U.G.L.	277	65.3	LED	9,716	4000K	82-10-02	
O2E	OUTDOOR WALL MOUNT	COOPER	LUMARK	AXOLBA-OBP-OBP-CEC	20	WALL #24" ABOVE GRADE U.G.L.	277	65.3	LED	9,716	4000K	82-10-02	90 MIN BATTERY BACKUP
O3	OUTDOOR POLE	COOPER	LUMARK	PRV-PA18-740-U-12R-HSS	16	POLE #24" ABOVE GRADE U.G.L.	277	74.0	LED	7,815	4000K	81-10-02	SPROUSE WITH HOUSE SIDE SHIELDING
O4	OUTDOOR POLE	COOPER	LUMARK	PRV-PA18-740-U-13-HSS	12	POLE #24" ABOVE GRADE U.G.L.	277	74.0	LED	7,277	4000K	81-10-02	SPROUSE WITH HOUSE SIDE SHIELDING
O5	OUTDOOR POLE	COOPER	LUMARK	PRV-PA24-740-U-13-HSS	3	POLE #21" ABOVE GRADE U.G.L.	277	113	LED	11,626	4000K	81-10-02	SPROUSE WITH HOUSE SIDE SHIELDING
O6	OUTDOOR POLE	COOPER	LUMARK	PRV-PA18-740-U-14W-HSS	1	POLE #11"-6" ABOVE GRADE U.G.L.	277	74.0	LED	7,053	4000K	81-10-02	SPROUSE WITH HOUSE SIDE SHIELDING

NOTES: COORDINATE ALL ARCHITECTURAL, TRIM AND ACCESSORY OPTIONS WITH OWNER. EQUIPMENT FIXTURES ACCEPTABLE CONTRACTOR ON OWNER APPROVAL.

EQUIPMENT SCHEDULE

TAG	TYPE	MANUF.	MODEL	SERIES	RATINGS	DIMENSIONS (LxWxH)	WEIGHT (LBS)	REMARKS
MSB-1	MAIN SWITCHBOARD	SQUARE D	QED-2	BUILDING A	NEMA 1	198"X36"X91.5"	2504	CONTACT JAKE W/FLTER AT EDGES GROUP FOR PHOING (916) 879-8880
MSB-2	MAIN SWITCHBOARD	SQUARE D	QED-2	BUILDING B	NEMA 1	198"X36"X91.5"	2504	CONTACT JAKE W/FLTER AT EDGES GROUP FOR PHOING (916) 879-8880
TX-1HP	TRANSFORMER	SQUARE D	EN75T3H	SEE ONE-LINE DIAGRAM	75KVA, 480V -> 208/120V, NEMA 1	30.1"X27.4"X33.5"	515	
TX-2HP	TRANSFORMER	SQUARE D	EN75T3H	SEE ONE-LINE DIAGRAM	75KVA, 480V -> 208/120V, NEMA 1	30.1"X27.4"X33.5"	515	

ONE-LINE DIAGRAM



FEEDER SCHEDULE

TAG	# OF SETS	CONDUIT PER SET	CONDUCTORS (PER SET)	REMARKS
E-01	6	4"	(4) 600 NDM AL	-
E-02	1	2"	(4) #1/0 AWC CU (1) #6 AWC CU	-
E-03	1	1-1/4"	(3) #2 AWC CU (1) #6 AWC CU	-
E-04	1	2"	(4) #3/0 AWC CU (1) #4 AWC CU SSB	-

ELECTRICAL SHEET INDEX

- E0.0 ELECTRICAL SCHEDULES, ONE-LINE, & GENERAL NOTES
- E1.0 ELECTRICAL PANEL SCHEDULES
- E2.1 ELECTRICAL PLAN - SITE POWER - WEST
- E2.2 ELECTRICAL PLAN - SITE POWER - EAST
- E2.3 ELECTRICAL PLAN - PHOTOMETRIC - WEST
- E2.4 ELECTRICAL PLAN - PHOTOMETRIC - EAST
- E3.1 ELECTRICAL PLAN - BUILDING 1
- E3.2 ELECTRICAL PLAN - BUILDING 2
- E4.1 ELECTRICAL PLAN - ROOF - BUILDING 1
- E4.2 ELECTRICAL PLAN - ROOF - BUILDING 2

ELECTRICAL SCOPE OF WORK

- COLD SHELL BUILD-OUT ONLY
- INSTALLATION OF (2) NEW SERVICES
- INSTALLATION OF NEW PANELS
- INSTALLATION OF NEW POWER SYSTEMS
- INSTALLATION OF NEW LIGHTING SYSTEMS AND ASSOCIATED POWER AND CONTROLS

- ONE-LINE NOTES:
- ALL EQUIPMENT/WIRING IS NEW U.G.L.
  - ALL WIRING INSULATION SHALL BE THHN-2, U.G.L.
  - THE SERVICE DISCONNECT SHALL BE PERMANENTLY MARKED PER CEC 230.70(B).
  - POST A DATED AVAILABLE FAULT CURRENT CALCULATION OF THE SERVICE EQUIPMENT PER CEC 110.24
  - SERVICE EQUIPMENT SHALL BE GFI TESTED IN ACCORDANCE WITH CEC 230.30. THE TESTING REPORT SHALL BE PROVIDED TO THE BUILDING OFFICIAL PRIOR TO ENERGIZATION
  - ALL SWITCHBOARDS AND PANELBOARDS SUPPLIED BY A FEEDER SHALL BE MARKED TO INDICATE THE DEVICE OR EQUIPMENT WHERE THE FEEDER SUPPLY ORIGINATES PER CEC 408.4(B)
  - FOR SWITCHBOARDS 1200A OR LARGER, PROVIDE OWNER REDUCING MAINTENANCE SWITCH (RMS) OR OTHER METHOD OF ARC ENERGY REDUCTION PER CEC 240.67, AND SERVICE EQUIPMENT LABELING PER CEC 110.16(B)
  - POST IDENTIFICATION FOR CONDUCTORS OF DIFFERENT VOLTAGE SYSTEMS PER CEC 215.5
  - AN INTERSYSTEM BONDING ELECTRODE WHICH INCLUDES PROVIDING FOR CONNECTING AT LEAST THREE GROUNDING OR BONDING CONDUCTORS REQUIRED FOR COMMUNICATION SYSTEMS SHALL BE INSTALLED EXTERNALLY AT THE SERVICE EQUIPMENT AS SPECIFIED IN CEC 800.100(B) AND CEC 250.4
- ONE-LINE KEY NOTES:
- GROUND ELECTRODE SYSTEM: PROVIDE GROUND ELECTRODE PER CEC 250.50(A), AND CONNECT TO SERVICE EQUIPMENT WITH MINIMUM #3/0 AWC CU PER CEC 250.24
  - MINIMUM #3/0 BARE COPPER BOND TO METAL FINISH AND WEATHER
  - MINIMUM #4 AWC CU TO GROUND ELECTRODE SYSTEM: PROVIDE #4 AWC CU SBI PER CEC 250.30(A)(1)(b)
  - SECONDARY CONDUCTORS MAX LENGTH SHALL BE 25' PER CEC 240.210(1)(a)
  - ENSURE THAT PANEL HAS THE ABILITY TO ACCEPT BEM FOR INDIVIDUAL CIRCUIT MONITOR OR PROVIDE ALTERNATE ACCEPTABLE METHOD THAT COMPLIES WITH CEC 130.5(3)

ELECTRICAL LEGEND

- 24x LIGHT FIXTURE (SURFACE, RECESSED)
- 2x2 LIGHT FIXTURE (SURFACE, RECESSED)
- FIXTURE W/ BATTERY BACKUP (TV, ALL SHOWN FIXTURES)
- RECESSED DOWNLIGHT
- ROUND SURFACE MOUNT LIGHT
- PENDANT LIGHT
- TRACK LIGHT
- SIGNAL
- WALL MOUNT LIGHT
- POLE MOUNT LIGHT - 2 HEAD
- POLE MOUNT LIGHT - 1 HEAD
- EXT/EMERGENCY COMBO LIGHT
- EMERGENCY FEATURE
- EXT LIGHT
- CEILING EXHAUST FAN
- WALL MOUNTED SWITCH
- WALL MOUNTED 3-WAY SWITCH
- PHOTOCELL
- CEILING MOUNTED SENSOR
- RECEPTACLE - DUPLEX
- RECEPTACLE - QUADPLEX
- RECEPTACLE - DEDICATED
- RECEPTACLE - 2-POLE
- RECEPTACLE - SPECIALTY, SEE PLANS FOR TYPE
- RECEPTACLE WITH USB PORT
- FLOOR MOUNTED RECEPTACLE
- CEILING MOUNTED RECEPTACLE
- PHONE-DATA PORT
- SMOKE DETECTOR
- CARBON MONOXIDE DETECTOR
- JUNCTION BOX
- DISCONNECT - POLES (CIRCUIT/FUSES)
- HOME RUN - PANEL-CIRCUITS
- WIRE/CONDUIT - OVERHEAD
- WIRE/CONDUIT - UNDERGROUND
- POWER PANEL
- TRANSFORMER
- ABOVE FINISHED FLOOR
- HANGER (HIDDEN) AFT
- DIMMER
- M OCCUPANCY SENSOR
- V VACUUMY SENSOR
- GFCI GROUND FAULT CURRENT INTERRUPTER
- CH COUNTERHEIGHT (44"), GFCI
- WP WEATHERPROOF
- HP HOSEPOWER
- BHP BRACK HOSEPOWER
- NIS NOT TO SCALE
- OND ON-DRAWN
- GC GROUNDING ELECTRODE CONDUCTOR
- MSB MAIN SWITCHBOARD
- SBI SYSTEM BONDING JAMPER
- SSBI SUPPLY SIDE BONDING JAMPER
- BCPM BRANCH CIRCUIT POWER METER
- TYP TYPICAL
- UN UNLESS OTHERWISE NOTED

DATE	DESCRIPTION
08-11-2023	BUILDING FC COMMENTS #1
12-08-2023	BUILDING FC COMMENTS #2



ISSUED FOR	DATE
PERMIT	12-12-2023



**NUT TREE BUSINESS PARK**  
10 & 20 NUT TREE ROAD  
VACAVILLE, CA 95688

ELECTRICAL SCHEDULES, ONE-LINE, & GEN. NOTES

E0.0

Panel Name: M882		Bus Rating: 200								
Voltage & Phase: 277/480V - 3Ø - 4W		AIC Rating: 65kAIC								
Mounting: Surface		Main Type: Circuit Breaker								
Enclosure Rating: NEMA 1		NEMA 1								
Code	VA	Description	BUS	CH1	PHASE	CH2	BK	Description	VA	Code
D	26750	Panel 2PH	14073	1	A	2	400/3	Future Tenant		
D	26779			1	B	4				
D	26805			1	C	6				
		Future Tenant	20073	7	A	8	400/3	Future Tenant		
				9	B	10				
				11	C	12				
		Future Tenant	20073	13	A	14	400/3	Future Tenant		
				15	B	16				
				17	C	18				
		Future Tenant	20073	19	A	20	400/3	Future Tenant		
				21	B	22				
				23	C	24				
		Future Tenant	20073	25	A	26				
				27	B	28				
				29	C	30				
		Future Tenant	20073	31	A	32				
				33	B	34				
				35	C	36				

Largest Motor VA: 8779					
Largest Motor Phases: A,B,C					
Load Code					
VA Load per Phase	Calculation				
A	B	C	Total VA	Mult.	VA Load
R - Recept	0	0	0	1.00	0
K - Kitchen	0	0	0	1.00	0
M - Motor	0	0	0	1.00	0
L - Lighting	0	0	0	1.25	0
H - Heat	0	0	0	1.25	0
PV - Solar	0	0	0	1.25	0
EV - Elec. Vehicle	0	0	0	1.25	0
D - Other	21761.01	16779.87	24864.87	79313.9	1.00
Load Totals	21761.01	16779.87	24864.87	79313.9	1.00
VA of Largest Motor					
Subfeed VA Loads	0.0	0.0	0.0		
Total VA Loads	21761.01	16779.87	24864.87		
Load Balance	102.8%	102.7%	94.7%		
Average This Panel Per Largest Phase VA					79313.9

Voltage Drop Summary				
Total Feeder Voltage Drop	Worst Case Branch Circuit	Worst Case Voltage Drop		
M882 - 14073	0.96%	3.47%	2.96%	4.00%
M882 - 14073 - 121 - 34P - 118P	0.52%	3.94%	0.51%	4.54%

Panel Name: M883		Bus Rating: 200								
Voltage & Phase: 277/480V - 3Ø - 4W		AIC Rating: 65kAIC								
Mounting: Surface		Main Type: Circuit Breaker								
Enclosure Rating: NEMA 1		NEMA 1								
Code	VA	Description	BUS	CH1	PHASE	CH2	BK	Description	VA	Code
D	22480	Panel 2PH	15073	1	A	2	400/3	Future Tenant		
D	22571			1	B	4				
D	24886			1	C	6				
		Future Tenant	20073	7	A	8	400/3	Future Tenant		
				9	B	10				
				11	C	12				
		Future Tenant	20073	13	A	14	400/3	Future Tenant		
				15	B	16				
				17	C	18				
		Future Tenant	20073	19	A	20	400/3	Future Tenant		
				21	B	22				
				23	C	24				
		Future Tenant	20073	25	A	26				
				27	B	28				
				29	C	30				
		Future Tenant	20073	31	A	32				
				33	B	34				
				35	C	36				

Largest Motor VA: 8779					
Largest Motor Phases: A,B,C					
Load Code					
VA Load per Phase	Calculation				
A	B	C	Total VA	Mult.	VA Load
R - Recept	0	0	0	1.00	0
K - Kitchen	0	0	0	1.00	0
M - Motor	0	0	0	1.00	0
L - Lighting	0	0	0	1.25	0
H - Heat	0	0	0	1.25	0
PV - Solar	0	0	0	1.25	0
EV - Elec. Vehicle	0	0	0	1.25	0
D - Other	22480.01	22571.17	24886.11	79937.29	1.00
Load Totals	22480.01	22571.17	24886.11	79937.29	1.00
VA of Largest Motor					
Subfeed VA Loads	0.0	0.0	0.0		
Total VA Loads	22480.01	22571.17	24886.11		
Load Balance	95.8%	95.0%	106.3%		
Average This Panel Per Largest Phase VA					79937.29

Voltage Drop Summary				
Total Feeder Voltage Drop	Worst Case Branch Circuit	Worst Case Voltage Drop		
M883 - 15073	0.96%	3.47%	2.96%	4.00%
M883 - 15073 - 121 - 34P - 118P	0.52%	3.94%	0.51%	4.54%

Panel Name: 2PH1		Bus Rating: 200								
Voltage & Phase: 277/480V - 3Ø - 4W		AIC Rating: 65kAIC								
Mounting: Surface		Main Type: Circuit Breaker								
Enclosure Rating: NEMA 1		NEMA 1								
Code	VA	Description	BUS	CH1	PHASE	CH2	BK	Description	VA	Code
L	1318	Site Lighting	2073	1	A	2	20/1	Building Lighting	8426	L
L	200	Site Lighting	2073	3	B	4				
L	844	Site Lighting	2073	5	C	6				
M	1530	Stair Drain Pump 1	2073	7	A	8				
M	1530			9	B	10				
M	1530			11	C	12				
M	1530	Stair Drain Pump 2	2073	13	A	14				
M	1530			15	B	16				
M	1530			17	C	18				
L	100	Address Sign	2073	19	A	20				
				21	B	22				
				23	C	24				
				25	A	26				
				27	B	28				
				29	C	30				
				31	A	32				
				33	B	34				
				35	C	36				
				37	A	38	125/3	Tr-3HP	17643	O
				39	B	40			23956	O
				41	C	42			23447	O

Largest Motor VA: 8779					
Largest Motor Phases: A,B,C					
Subfeed Breaker to Panel:					
Load Code					
VA Load per Phase	Calculation				
A	B	C	Total VA	Mult.	VA Load
R - Recept	0	0	0	1.00	0
K - Kitchen	0	0	0	1.00	0
M - Motor	2062.667	2062.667	2062.667	7068	1.00
L - Lighting	2062.667	2062.667	2062.667	1.25	6800
H - Heat	0	0	0	1.25	0
PV - Solar	0	0	0	1.25	0
EV - Elec. Vehicle	0	0	0	1.25	0
D - Other	7143.12	21761.01	21443.87	66164.8	1.00
Load Totals	2062.667	2062.667	2062.667	72688	1.00
VA of Largest Motor					
Subfeed VA Loads	0.0	0.0	0.0		
Total VA Loads	2062.667	2062.667	2062.667		
Load Balance	95.0%	102.7%	106.7%		
Average This Panel Per Largest Phase VA					70688.2

Notes:  
- Panel AIC Rating based on wire size and length.

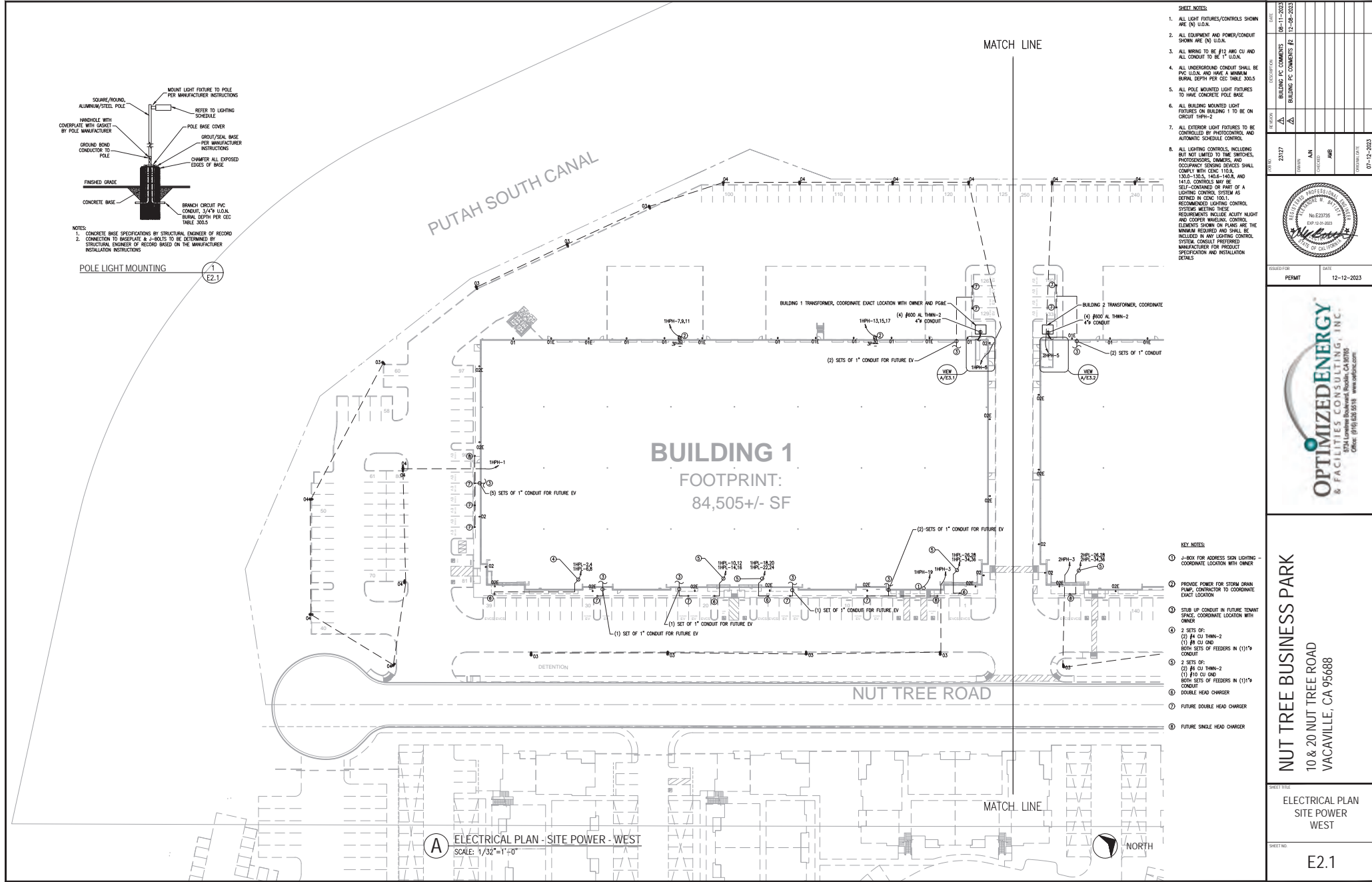
Panel Name: 2PH1		Bus Rating: 200								
Voltage & Phase: 277/480V - 3Ø - 4W		AIC Rating: 65kAIC								
Mounting: Surface		Main Type: Circuit Breaker								
Enclosure Rating: NEMA 1		NEMA 1								
Code	VA	Description	BUS	CH1	PHASE	CH2	BK	Description	VA	Code
L	1318	Site Lighting	2073	1	A	2	20/1	Building Lighting	8426	L
L	200	Site Lighting	2073	3	B	4				
L	844	Site Lighting	2073	5	C	6				
M	1530	Stair Drain Pump 1	2073	7	A	8				
M	1530			9	B	10				
M	1530			11	C	12				
M	1530	Stair Drain Pump 2	2073	13	A	14				
M	1530			15	B	16				
M	1530			17	C	18				
L	100	Address Sign	2073	19	A	20				
				21	B	22				
				23	C	24				
				25	A	26				
				27	B	28				
				29	C	30				
				31	A	32				
				33	B	34				
				35	C	36				
				37	A	38	125/3	Tr-3HP	17643	O
				39	B	40			23956	O
				41	C	42			23447	O

Largest Motor VA: 865.6					
Largest Motor Phases: C,A					
Subfeed Breaker to Panel:					
Load Code					
VA Load per Phase	Calculation				
A	B	C	Total VA	Mult.	VA Load
R - Recept	540	300	480	1300	1.00
K - Kitchen	0	0	0	1.00	0
M - Motor	1883.2	150	1483.2	3194.4	1.00
L - Lighting	574	0	0	17.6	72
H - Heat	0	0	0	1.25	0
PV - Solar	0	0	0	1.25	0
EV - Elec. Vehicle	0	0	0	1.25	0
D - Other	13400	14700	13400	40500	1.25
Load Totals	17643.2	15000	17473.2	54612	1.25
VA of Largest Motor					
Subfeed VA Loads	0.0	0.0	0.0		
Total VA Loads	17643.2	15000	17473.2		
Load Balance	92.0%	105.0%	85.0%		
Average This Panel Per Largest Phase VA					58012.8

Notes:  
- Panel AIC Rating based on wire size and length.

Panel Name: 2PH1		Bus Rating: 200								
Voltage & Phase: 277/480V - 3Ø - 4W		AIC Rating: 65kAIC								
Mounting: Surface		Main Type: Circuit Breaker								
Enclosure Rating: NEMA 1		NEMA 1								
Code	VA	Description	BUS	CH1	PHASE	CH2	BK	Description	VA	Code
L	1322	Site Lighting	2073	1	A	2	20/1	Building Lighting	8426	L
L	200	Site Lighting	2073	3	B	4				
L	700	Site Lighting	2073	5	C	6				





- SHEET NOTES:**
1. ALL LIGHT FIXTURES/CONTROLS SHOWN ARE (N) U.S.A.
  2. ALL EQUIPMENT AND POWER/CONDUIT SHOWN ARE (N) U.S.A.
  3. ALL WIRING TO BE #12 AWG CU AND ALL CONDUIT TO BE 1" U.S.A.
  4. ALL UNDERGROUND CONDUIT SHALL BE PVC U.S.A. AND HAVE A MINIMUM BURIAL DEPTH PER CEC TABLE 300.5
  5. ALL POLE MOUNTED LIGHT FIXTURES TO HAVE CONCRETE POLE BASE
  6. ALL BUILDING MOUNTED LIGHT FIXTURES ON BUILDING 1 TO BE ON CIRCUIT THHN-2
  7. ALL EXTERIOR LIGHT FIXTURES TO BE CONTROLLED BY PHOTOCONTROL, AND AUTOMATIC SCHEDULE CONTROL.
  8. ALL LIGHTING CONTROLS, INCLUDING BUT NOT LIMITED TO TIME SWITCHES, PHOTOSENSORS, DIMMERS, AND OCCUPANCY SENSING DEVICES SHALL COMPLY WITH CEC 100.5, 100.2-100.5, 140.6-140.8, AND 141.0. CONTROLS MAY BE SELF-CONTAINED OR PART OF A LIGHTING CONTROL SYSTEM AS DEFINED IN CEC 100.1. RECOMMENDED LIGHTING CONTROL SYSTEMS MEETING THESE REQUIREMENTS INCLUDE ACQUITY NIGHT AND COOPER WAREHOSE. CONTROLS ELEMENTS SHOWN ON PLANS ARE THE MINIMUM REQUIRED AND SHALL BE INCLUDED IN ANY LIGHTING CONTROL SYSTEM CONSULT PROVIDED MANUFACTURER FOR PRODUCT SPECIFICATION AND INSTALLATION DETAILS.

NO.	REVISION	DATE
1	ISSUE FOR PERMIT	08-11-2023
2	BUILDING PC COMMENTS	12-08-2023
3	BUILDING PC COMMENTS #2	



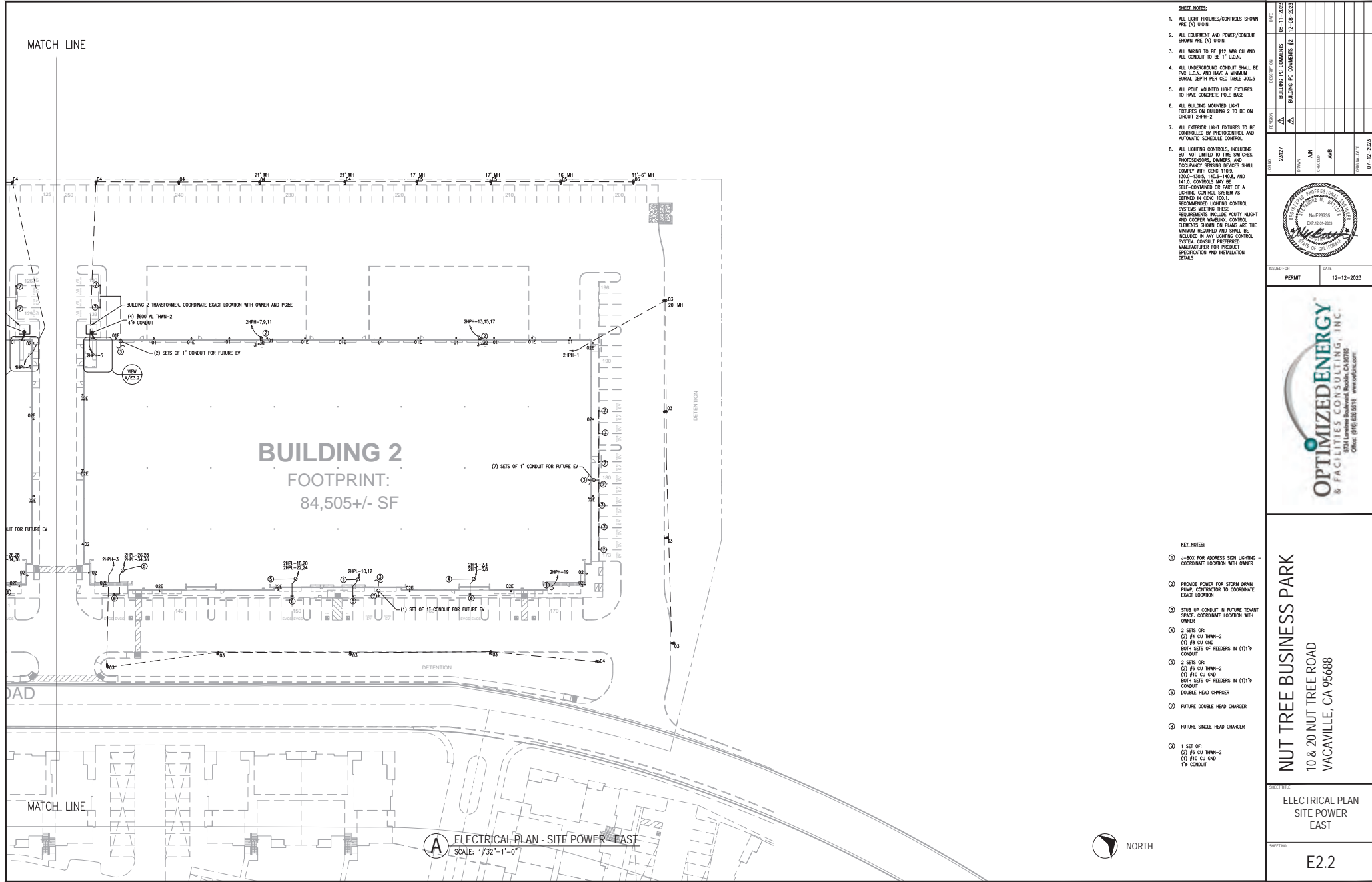
NO.	REVISION	DATE
1	ISSUE FOR PERMIT	12-12-2023

**OPTIMIZED ENERGY & FACILITIES CONSULTING, INC.**  
 5750 Lantana Boulevard, Suite 200, Irvine, CA 92618  
 Office: (949) 828-6518 | www.oefinc.com

**NUT TREE BUSINESS PARK**  
 10 & 20 NUT TREE ROAD  
 VACAVILLE, CA 95688

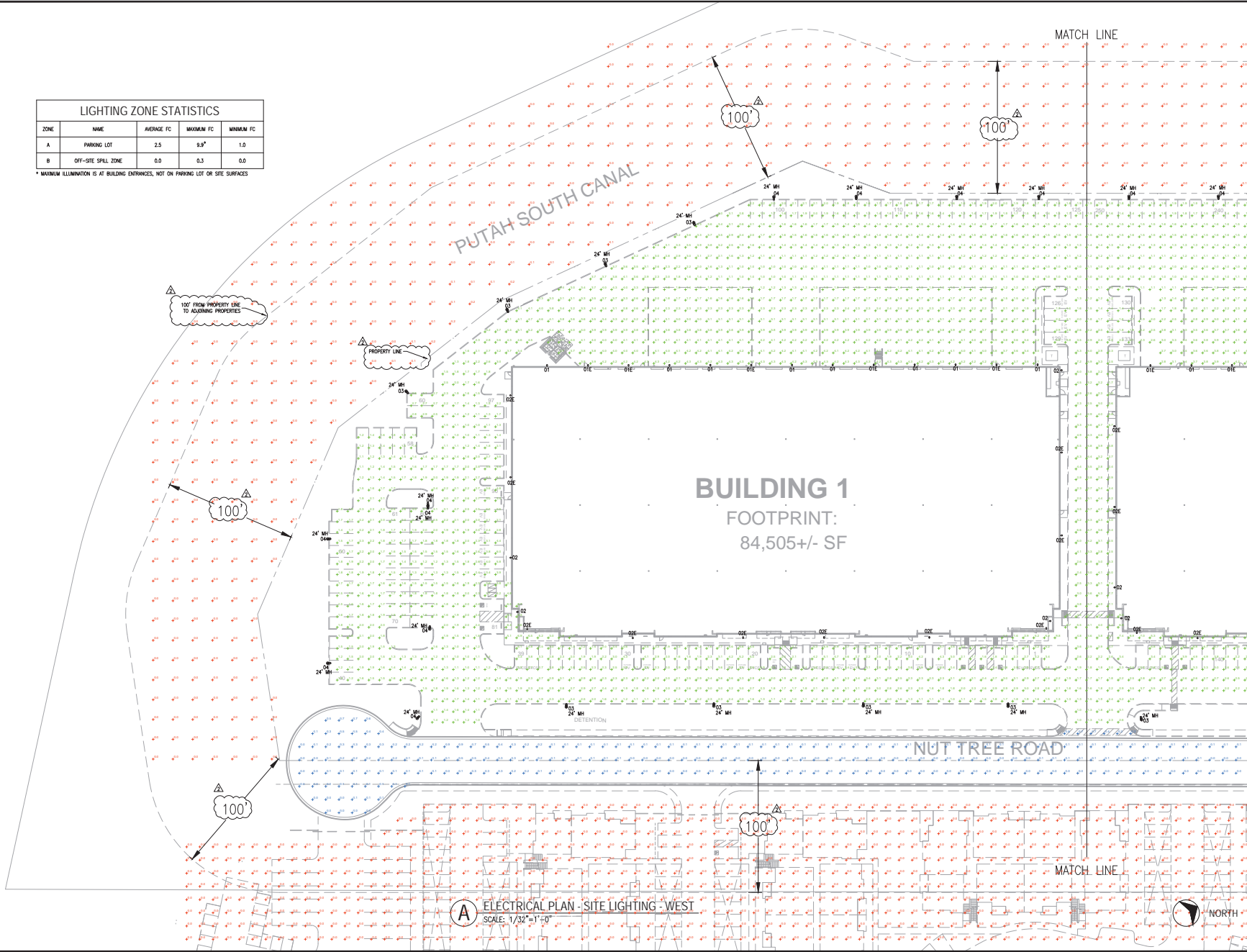
**ELECTRICAL PLAN**  
 SITE POWER - WEST

**E2.1**



LIGHTING ZONE STATISTICS				
ZONE	NAME	AVERAGE FC	MAXIMUM FC	MINIMUM FC
A	PARKING LOT	2.5	9.9*	1.0
B	OFF-SITE SPILL ZONE	0.0	0.3	0.0

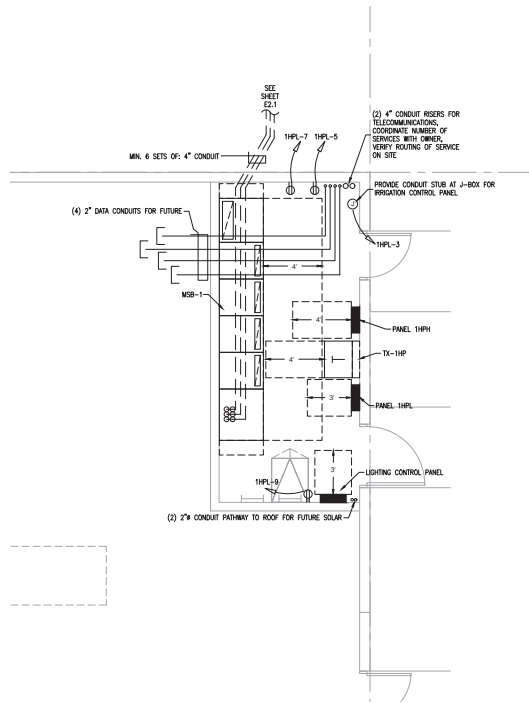
\* MAXIMUM ILLUMINATION IS AT BUILDING ENTRANCES, NOT ON PARKING LOT OR SITE SURFACES



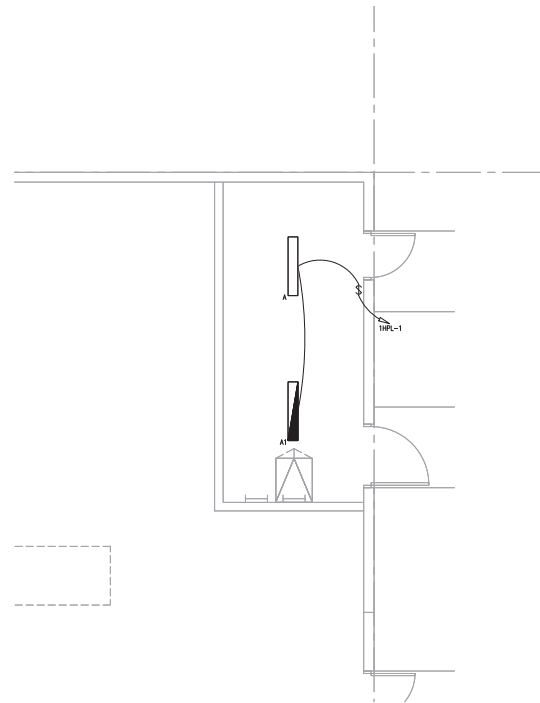
**A** ELECTRICAL PLAN - SITE LIGHTING - WEST  
SCALE: 1/32" = 1'-0"

DATE	08-11-2023
REVISION	BUILDING FC COMMENTS #1 BUILDING FC COMMENTS #2
NO.	23127
DESIGNED BY	AM
CHECKED BY	JMB
PERMIT DATE	07-12-2023
PERMIT	12-12-2023
<b>NUT TREE BUSINESS PARK</b> 10 & 20 NUT TREE ROAD VACAVILLE, CA 95688	
SHEET TITLE <b>ELECTRICAL PLAN                  PHOTOMETRIC                  WEST</b>	
SHEET NO. <b>E2.3</b>	





**A** ELECTRICAL PLAN - POWER - BUILDING 1  
SCALE: 1/4"=1'-0"



**B** ELECTRICAL PLAN - LIGHTING - BUILDING 1  
SCALE: 1/4"=1'-0"

- SHEET NOTES:**
1. ALL RECEPTACLES/EQUIPMENT SHOWN ARE (N) U.G.A.
  2. BRANCH CIRCUITS: ALL WIRING SHALL BE #12 AWG CU AND ALL WIRING INSULATION SHALL BE THHN-2, U.G.A.
  3. BOTTOM OF BOXES FOR RECEPTACLES AND PORTS SHALL BE MINIMUM 1" ABOVE THE FINISHED FLOOR, U.G.A.
  4. GFI RECEPTACLES SHALL BE WIRED IN PARALLEL.
  5. TOP OF BOXES FOR SWITCHES SHALL BE MINIMUM 48" ABOVE THE FINISHED FLOOR, U.G.A.
  6. SWITCHBOARDS, PANELBOARDS, INDUSTRIAL CONTROL PANELS, AND MOTOR CONTROL CENTERS THAT ARE IN OTHER THAN DWELLING OCCUPANCIES AND ARE LIKELY TO REQUIRE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE WHILE ENERGIZED SHALL BE FIELD MARKED TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRICAL ARC FLASH HAZARDS. THE MARKING SHALL BE LOCATED SO AS TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS BEFORE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE OF THE EQUIPMENT. CEC 110.16.
  7. ALL LIGHTING CONTROLS, INCLUDING BUT NOT LIMITED TO THE SWITCHES, PHOTOSENSORS, DIMMERS, AND OCCUPANCY SENSING DEVICES SHALL COMPLY WITH CEC 110.0, 130.0-TOLLS, 140.0-140.6, AND 141.0. CONTROLS MAY BE SELF-CONTAINED OR PART OF A LIGHTING CONTROL SYSTEM AS DEFINED IN CEC 100.1. RECOMMENDED LIGHTING CONTROL SYSTEMS MEETING THESE REQUIREMENTS INCLUDE ACUITY NIGHT AND COOPER WINKLING CONTROLS. ELEMENTS SHOWN ON PLANS ARE THE MINIMUM REQUIRED AND SHALL BE INCLUDED IN ANY LIGHTING CONTROL SYSTEM CONSULT PREFERRED MANUFACTURER FOR PRODUCT SPECIFICATION AND INSTALLATION DETAILS.
  8. ALL NEW LIGHT FIXTURES INSTALLED WITHIN 1/2" OF CONCRETE MATERIAL SHALL BE RATED FOR AND LABELED AS TYPE IC (INSULATION CONTACT).

DATE	DESCRIPTION	BY	CHECKED
08-11-2023	BUILDING PC COMMENTS #1		
12-08-2023	BUILDING PC COMMENTS #2		

NO.	DATE	BY	CHECKED
23127		AIN	AMB



ISSUED FOR	DATE
PERMIT	12-12-2023

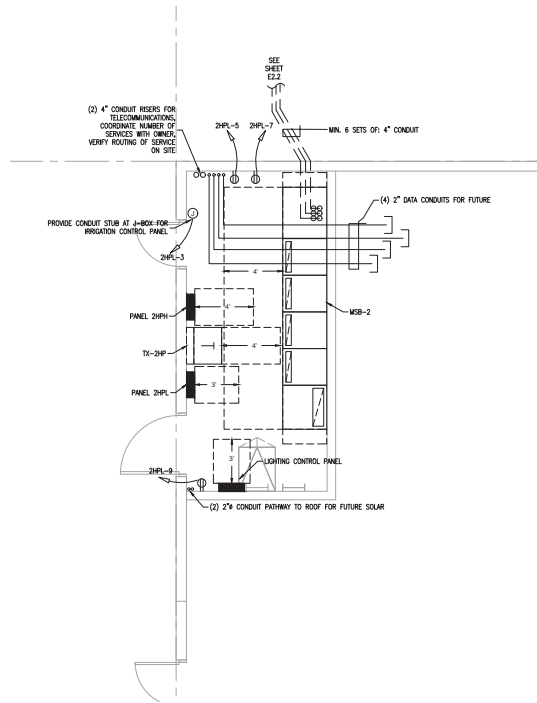


**NUT TREE BUSINESS PARK**  
10 & 20 NUT TREE ROAD  
VACAVILLE, CA 95688

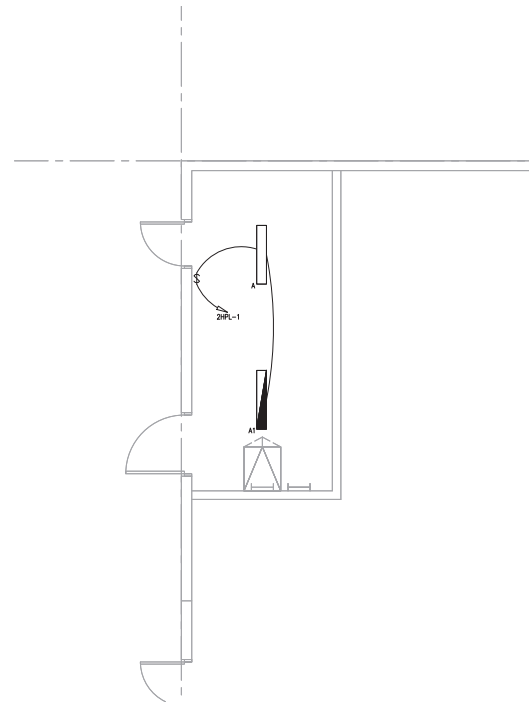
ELECTRICAL PLAN  
BUILDING 1

SHEET NO.  
**E3.1**





**A** ELECTRICAL PLAN - POWER - BUILDING 2  
SCALE: 1/4"=1'-0"



**B** ELECTRICAL PLAN - LIGHTING - BUILDING 2  
SCALE: 1/4"=1'-0"

- SHEET NOTES:**
1. ALL RECEPTACLES/EQUIPMENT SHOWN ARE (N) U.S.A.
  2. BRANCH CIRCUITS: ALL WIRING SHALL BE #12 AWG CU AND ALL WIRING INSULATION SHALL BE THHN-2, U.S.A.
  3. BOTTOM OF BOXES FOR RECEPTACLES AND PORTS SHALL BE MINIMUM 1" ABOVE THE FINISHED FLOOR, U.S.A.
  4. GFI RECEPTACLES SHALL BE WIRED IN PARALLEL.
  5. TOP OF BOXES FOR SWITCHES SHALL BE MINIMUM 48" ABOVE THE FINISHED FLOOR, U.S.A.
  6. SWITCHBOARDS, PANELBOARDS, INDUSTRIAL CONTROL PANELS, AND MOTOR CONTROL CENTERS THAT ARE IN OTHER THAN DWELLING OCCUPANCIES AND ARE LIKELY TO REQUIRE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE WHILE ENERGIZED SHALL BE FIELD MARKED TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRICAL ARC FLASH HAZARDS. THE MARKING SHALL BE LOCATED SO AS TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS BEFORE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE OF THE EQUIPMENT. CEC 110.16.
  7. ALL LIGHTING CONTROLS, INCLUDING BUT NOT LIMITED TO THE SWITCHES, PHOTOSENSORS, DIMMERS, AND OCCUPANCY SENSING DEVICES SHALL COMPLY WITH CEC 110.0, 130.0-TOLLS, 140.0-140.6, AND 141.0. CONTROLS MAY BE SELF-CONTAINED OR PART OF A LIGHTING CONTROL SYSTEM AS DEFINED IN CEC 100.1. RECOMMENDED LIGHTING CONTROL SYSTEMS MEETING THESE REQUIREMENTS INCLUDE ACUITY NIGHT AND COOPER WAVELINK. CONTROL ELEMENTS SHOWN ON PLANS ARE THE MINIMUM REQUIRED AND SHALL BE INCLUDED IN ANY LIGHTING CONTROL SYSTEM CONSULT PREFERRED MANUFACTURER FOR PRODUCT SPECIFICATION AND INSTALLATION DETAILS.
  8. ALL NEW LIGHT FIXTURES INSTALLED WITHIN 1/2" OF COMBUSTIBLE MATERIAL SHALL BE RATED FOR AND LABELED AS TYPE IC (INSULATION CONTACT).

NO.	DATE	DESCRIPTION	BY	CHECKED	DATE
1	08-11-2023	BUILDING PC COMMENTS #1	AN	AMB	
2	12-08-2023	BUILDING PC COMMENTS #2	AN	AMB	



ISSUED FOR	DATE
PERMIT	12-12-2023



**NUT TREE BUSINESS PARK**  
10 & 20 NUT TREE ROAD  
VACAVILLE, CA 95688

ELECTRICAL PLAN  
BUILDING 2

SHEET NO.  
E3.2



- SHEET NOTES:**
1. ALL RECEPTACLES/EQUIPMENT SHOWN ARE (N) UL/AN.
  2. BRANCH CIRCUITS: ALL WIRING SHALL BE #12 AWG CU AND ALL WIRING INSULATION SHALL BE THHN-2, UL/AL.
  3. ALL CONDUIT/WIRING DISTRIBUTION SHOWN TO BE INSTALLED BELOW THE ROOF, LOCAL PENETRATIVE ROOF IMMEDIATELY ADJACENT THE RECEPTACLE/EQUIPMENT.
  4. ALL DISCONNECT SWITCHES LOCATED OUTDOORS SHALL BE NEMA 3R PER CCC TABLE 110.28.
  5. ALL RECEPTACLES LOCATED OUTSIDE SHALL BE TYPE WEATHER RESISTANT, SPEC WITH EXTRA DUTY IN-HOUSE COVER, PER CCC 210.8 AND 408.4(B).

NO.	DATE	DESCRIPTION
1	08-11-2023	BUILDING PER COMMENTS #1
2	12-08-2023	BUILDING PER COMMENTS #2



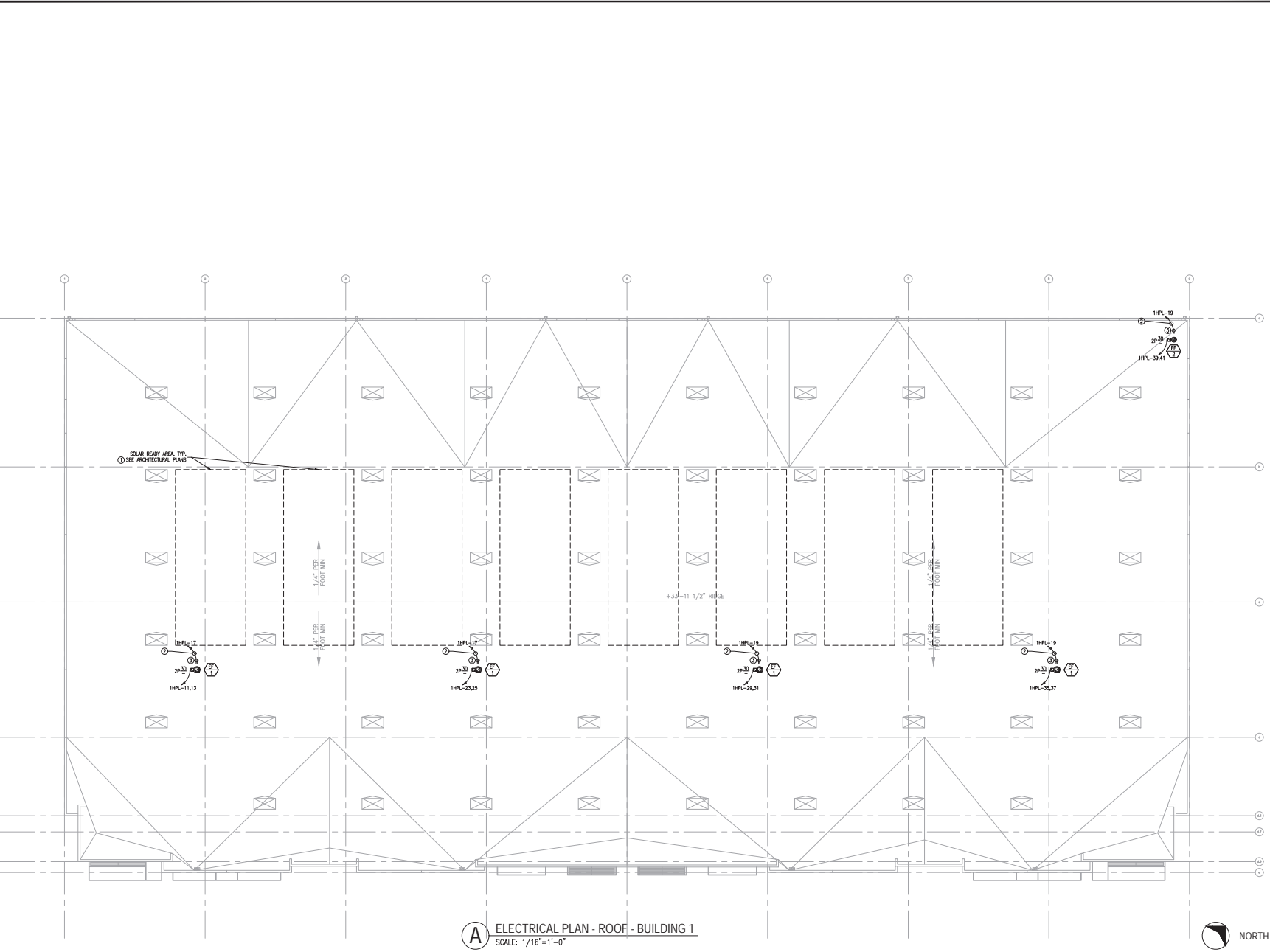
DESIGNED FOR	DATE
PERMIT	12-12-2023



**NUT TREE BUSINESS PARK**  
10 & 20 NUT TREE ROAD  
VACAVILLE, CA 95688

ELECTRICAL PLAN  
ROOF BUILDING 1

SHEET NO.  
E4.1



- KEY NOTES:**
1. SQUARE READY ZONE TO BE 15% OF TOTAL ROOF AREA PER GENC 110.10.
  2. (2) #10 CU THHN-2
  3. (1) #10 CU GND 3/4\"/>

**A** ELECTRICAL PLAN - ROOF - BUILDING 1  
SCALE: 1/16"=1'-0"







## Guy Duerwald

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**From:** Meyers, Michael A (FAA) <Michael.A.Meyers@faa.gov>  
**Sent:** Monday, February 26, 2024 4:02 PM  
**To:** De Angelis, Andrea CTR (FAA); Bassey, Robert (FAA); Woods, Marvin (FAA); Small, D'Lorah D (FAA); Guy Duerwald  
**Cc:** Darren Ratekin; Gary Graves; Jason Voorhees; Criswell, Christopher (FAA); Perry, David W (FAA); Lewis, Lloyd E (FAA); Choi, Amy L (FAA); Cruz, Alberto (FAA)  
**Subject:** RE: Lighting Plans-Nut Tree Business Park-Vacaville, California  
**Attachments:** Nut Tree Business Park-Lighting Plans.pdf; 2307-0165 Exhibit 'B'-Nut Tree Airport Flight Contours - Model 3.pdf; Mitigation Measure 4.10.4a.pdf

Good Evening Mr. Duerwald,

I received the forward of your email below stating your request. Can you clarify what you are seeking approval of regarding your lighting plans?

It appears that your facility could possibly be within one of the protective surfaces of the runway nearby, or not. If you are seeking approval to build the facility in this location, the proper channel to seek a determination of no hazard is to submit a Form 7460-1, *Notice of Proposed Construction or Alteration* under F.A.R. Part 77. This allows the FAA to review your proposal (with accurate geospatial data) to assess whether there are any physical penetrations to navigable surfaces as well as electromagnetic interference to aircraft and ground based navigational aids. If there is a concern with the glare of the lighting interfering with pilot vision, our Flight Standards Services Office or local Flight Standards District Office (FSDO) will comment accordingly.

If you are seeking approval for the design of your lighting plan within the facility, we do not have standards for lighting specifications of facilities off airport property, other than mitigations to light obstructions that may physically interfere with air navigation. Additionally, even if we did have such standards, it would be the responsibility of the proponent or airport sponsor (which ever is applicable) to ensure that FAA standards are met by complying with the applicable FAA guidance document(s).

I hope that you find this information to be helpful. If you have any more questions, please contact your respective Airports District Office (ADO), which is the San Francisco ADO. You may contact Amy Choi in that office, who is cc'd.

Thank you.

***Michael A.P. Meyers, P.E.***

Manager  
Airport Engineering Division, AAS-100  
Office of Airport Safety and Standards  
Federal Aviation Administration

800 Independence Avenue, S.W.  
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For more information:

[http://www.faa.gov/about/office\\_org/headquarters\\_offices/arp/](http://www.faa.gov/about/office_org/headquarters_offices/arp/)



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**From:** Guy Duerwald <[guyd@pwcarchitects.com](mailto:guyd@pwcarchitects.com)>  
**Sent:** Monday, February 26, 2024 4:52 PM  
**To:** De Angelis, Andrea CTR (FAA) <[Andrea.CTR.De.Angelis@faa.gov](mailto:Andrea.CTR.De.Angelis@faa.gov)>  
**Cc:** Darren Ratekin <[dratekin@conconow.com](mailto:dratekin@conconow.com)>; Gary Graves <[gary@sierraview.com](mailto:gary@sierraview.com)>; Jason Voorhees <[Jasonv@pwcarchitects.com](mailto:Jasonv@pwcarchitects.com)>  
**Subject:** Lighting Plans-Nut Tree Business Park-Vacaville, California

**CAUTION:** This email originated from outside of the Federal Aviation Administration (FAA). Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Hi Andrea,

It was a pleasure talking with you this afternoon. We would like to get an approval letter that our project meets FAA standards as adopted in the Nut Tree Ranch Development Project Mitigation Monitoring Program-Mitigation Measure 4.10.4a.

The project is located close to the Solano County Airport in Vacaville, CA. The Solano County Airport Land Use Commission (ALUC) Principal Planner Nedzlene Ferrario is requesting a letter that you have reviewed and approved the lighting plans. Can we receive a letter from you prior to March 1<sup>st</sup> to send to Nedzlene.

Can you forward this email to the appropriate person in your Airport Engineering Division to review the plans.

Thank You,

 **GUY DUERWALD**  
Architect

**PERKINS, WILLIAMS & COTTERILL, INC. | ARCHITECTS**  
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T (916) 851-1400 F (916) 851-1408  
[pwcarchitects.com](http://pwcarchitects.com)

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**From:** De Angelis, Andrea CTR (FAA) <[Andrea.CTR.De.Angelis@faa.gov](mailto:Andrea.CTR.De.Angelis@faa.gov)>  
**Sent:** Monday, February 26, 2024 1:17 PM  
**To:** Guy Duerwald <[guyd@pwcarchitects.com](mailto:guyd@pwcarchitects.com)>  
**Subject:** Lighting Plans

Hi Guy,

Thank you for your phone call today. Please send the appropriate documents needing review.

Thank you,

**Andrea De Angelis**  
*Airport Engineering Division, AAS-100*  
*Office : 202 267 6499*  
*Fax: (202) 267-3688*  
[Andrea.CTR.De.Angelis@faa.gov](mailto:Andrea.CTR.De.Angelis@faa.gov)

Federal Aviation Administration  
Office of Airports Safety & Standards  
800 Independence, Avenue S.W.  
Washington D.C. 20591



Solano County  
Planning Services Division

Attention: Nedzlene Ferrario, AICP  
Principal Planner

January 30, 2024

Building Permit #: 2307-0165  
Address: 10 & 20 Nut Tree Road

**Regarding: Approval for the Lighting at two new commercial buildings and associated site on Nut Tree Road**

For Solano County Airport Land Use Commission:

The site and building lighting have been designed to provide adequate illumination to the site while mitigating and reducing off-site glare and spillage. To achieve this, we have done the following.

1. ***Coordinated pole heights to be within the allowable range as stated by the FAA standards where applicable and City of Vacaville standards when more stringent.***
2. ***Provided a minimum of 1.0 FC of lighting on the site for safety and security purposes as required by the City of Vacaville.***
3. ***Maximum foot candles measured at building entry ways is specified to be less than 10 FC to reduce site glare.***
4. ***Adjacent Airport and Residential properties have a max FC of less than 0.1 FC, and an average of 0.0 FC to comply with City of Vacaville and FAA regulations.***
5. ***All lighting on site has been selected to be compliant BUG ratings as specified in the California Green Code and California Administrative Code.***
6. ***All lighting is specified to be LED and lighting along the property lines is specified to be provided with House Side Shielding to prevent off-site glare and light spillage.***
7. ***All site lighting is specified to be controlled by both photocell and automatic scheduling controls.***

Electrical plan sheets E2.3 and E2.4 show photometrics, statistics, fixture locations, and fixture heights. Sheet E0.0 shows the fixture selections, BUG ratings, and applicable general codes.

Sincerely  
Alex Batista, PE

