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PCD File#: PPR-2247

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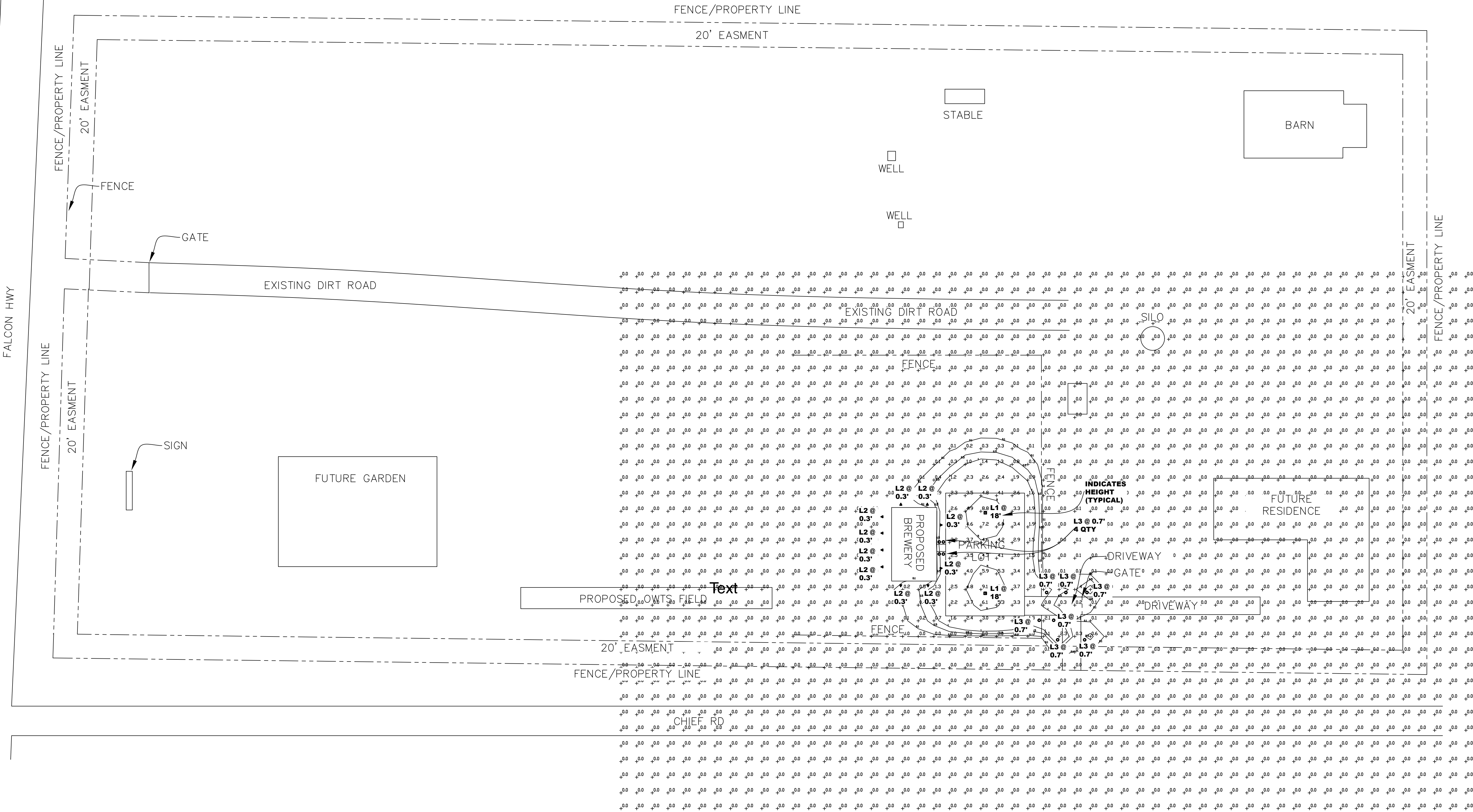
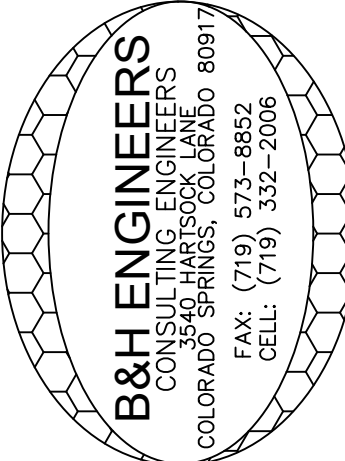
B&H ENGINEERS

PHOTO METRIC PLAN

PM1

JOE PRUE
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PEYTON, COLORADO 80831
719 360-2320 - JLPRUE@GMAIL.COM

B&H ENGINEERS
CONSULTING ELECTRICAL, MECHANICAL, & PLUMBING ENGINEERS
3540 HARTSOCK LANE
COLORADO SPRINGS, COLORADO 80917
(719) 332-2006
REVISION/DATE
DATE: 9-29-22 SEE B&H LOGO FOR
JOB NO. DESIGNER'S INFO
DRAWN BY: BEN PARSAYE
CHECKED BY: BEN PARSAYE
FILE NAME



GENERAL NOTES

- ALL WORK SHALL BE DONE IN COMPLIANCE WITH 2020 NEC, IBC 2015, 2015 IECC, 2017 PPRBC, 2015 IMC, 2018 IPC, AND ALL OTHER LOCAL CODES.
- ELECTRICAL CONTRACTOR SHALL VISIT SITE AND EXAMINE DRAWINGS OF OTHER TRADES ON THIS PROJECT, ARCHITECTURAL AND MECHANICAL, TO DETERMINE ANY ADDITIONAL WORK THAT MAY BE REQUIRED FOR A COMPLETE AND OPERATIONAL ELECTRICAL INSTALLATION AND SHALL INCLUDE AN ALLOWANCE FOR THIS WORK IN HIS BID.
- CONTRACTOR SHALL BE HELD RESPONSIBLE FOR VERIFICATION OF EXISTING JOB CONDITIONS PRIOR TO BID. NO ADDITIONAL COSTS SHALL BE AWARDED TO THE SUCCESSFUL CONTRACTOR OR HIS SUBCONTRACTORS.
- THE CONDUIT SYSTEM AND ALL CONDUCTING WIRE ENCLOSURES SHALL BE SECURELY BONDED TOGETHER.

5.LAND DEVELOPMENT STANDARDS:

6.2.3. Lighting

(A) General

- Purpose
The purpose of this Section is to address the physical effects of lighting, and the affect that lighting may have on the surrounding neighborhood.
- Applicability
This Section applies in all zoning districts, except as otherwise provided.
- Existing Lighting Allowed
Lighting existing at the time of adoption of this Section is not required to be modified to conform to this Section.
- Lighting Plan to Reflect Standards
A lighting plan for meeting these standards shall be submitted in accordance with submittal requirements for lighting plans described in the Procedures Manual.

(B) Design Standards and Requirements

- Limitations on Extent of Lighted Area
(a) Concealed or Shielded
Light fixtures shall be arranged and positioned such that the light sources are concealed and fully shielded so that no direct light or reflection creates a nuisance or hazard to any adjacent ownership or right-of-way and that up-light, spill-light, glare, and unnecessary diffusion are minimized. Light fixtures, except as otherwise permitted herein, are required to be full cutoff as defined by the Illuminating Engineers Society of North America (IESNA). The cut-off angle of an exterior light source shall not exceed 90 degrees. Full cut-off fixtures may not be tilted or aimed in a manner that results in light distribution above the horizontal plane. The use of semi-cutoff or cutoff (as opposed to full cutoff) fixtures shall be permitted to illuminate areas other than parking lots provided the pole or mounting point is no more than 10' in height and the maximum lumen output does not exceed 1800 lumens per lamp.

- Non-Security Lighting During Non-Operating Hours
Exterior lighting, including but not limited to floodlights used to light a building façade, shall be reduced, activated by motion sensor devices, or turned off during the principal use's non-operating hours. Lighting necessary for security shall not be subject to this provision.

(c) Upward Lighting

Upward lighting for architectural, landscape or decorative purposes shall have at least 90% of the total distribution pattern within the profile of the illuminated structure or feature. Light fixtures used to illuminate flags, statues, or any other objects mounted on a pole, pedestal, or platform, shall use a narrow cone of light that does not extend beyond the illuminated object.

- Maximum Levels
Maximum on-site lighting levels shall not exceed 10 foot candles, except for loading and unloading platforms where the maximum lighting level shall be 20 foot candles.

(e) Measurement at Property Boundaries
Light levels measured at the property line of the development site adjacent to residential property or public right of way shall not exceed 0.1 foot candles as a direct result of the on-site lighting. All light fixtures mounted within 15' of any residential property line of the site shall be classified as IES Type II or Type III, or fixture demonstrated to provide similar distribution patterns and shielding properties. Fixtures shall be fitted with "house side shield" reflectors on the sides facing the residential property line.

- Light Standards and Fixtures
The style of light standards and fixtures shall be consistent with the style and character of architecture proposed on the site. Poles shall be anodized or coated to minimize glare from the light source. Bollards or similar light fixtures intended to illuminate landscape features or walkways are permitted which do not exceed 4 feet in height, 2 fixtures per bollard and 1 lamp not exceeding 900 lumens per fixture.

- Lamp Types
All outdoor light fixtures should utilize one of the following lamp types: metal halide, induction lamp, compact fluorescent, incandescent (including tungsten-halogen), or high-pressure sodium. Alternatives are permitted provided they are demonstrated to be more effective for the proposed use based on IESNA recommendations.

- Canopy Lighting
Light fixtures associated with canopies, including but not limited to fuel islands, seasonal outdoor sales areas, shopping malls, theaters, bank drive-thrus, and hotels shall be full cutoff or mounted so that the bottom of the lens is recessed or flush with the bottom surface of the canopy. All light emitted from the canopy shall be substantially confined to the ground directly beneath the perimeter of the canopy. No lighting of any kind, except as permitted by sign regulations, shall be allowed on the top or sides of a canopy. The design of the canopy in terms of height above grade, and the spacing between the fixtures within the canopy, shall be such that the illuminance level under the canopy does not exceed 20 foot-candles.

- Consideration of Pilots
No lighting shall make it difficult for pilots to distinguish airport lights from others, result in glare in the eyes of the pilots using the airport facility, impair visibility in the vicinity of an aviation facility or, in any way create a hazard or endanger the landing, take-off, or maneuvering of aircrafts intending to use an aviation facility.

- Height
No freestanding light fixtures shall be mounted higher than 15 feet, except parking lot light fixtures shall be mounted no higher than 20 feet unless an alternative lighting proposal is approved in accordance with this Code.

- Requirements for Outdoor Recreation Facilities
Ball diamonds, playing fields, tennis courts, and other outdoor recreational uses shall be required to meet the following standards:

- Maximum Pole Height
The maximum light pole height shall be 80 feet.
- Cut-Off Angle
The cut-off angle from a lighting source that illuminates an outdoor recreational use may exceed 90 degrees provided the light source is shielded to prevent light and glare from spilling to adjacent residential properties.

- Hours of Use
Exterior lighting for an outdoor recreational use shall be extinguished no later than 10:00 p.m. or immediately after the conclusion of the final event of the day, whichever is later.

(C) Prohibited Lighting

- The following are considered prohibited lighting:
Site lighting that may be confused with warning, emergency or traffic signals, except as authorized by a federal, State or County government;
Any fixed light not designed for roadway illumination that produces incident or reflected light that could be disturbing to the operator of a vehicle;
Blinking, flashing or changing intensity lights and lighted signs, except for temporary holiday displays or lighting required by the FAA for air traffic control and warning purposes;
The use of laser source light or any similar high intensity light for outdoor advertising or entertainment when projected above the horizontal;
The private operation of searchlights; and
The nighttime use of white lighting or white strobe lighting in communication tower lighting.

(D) Exemptions

- The following lighting shall be exempt from the requirements of this Section:
Holiday lights in the nature of decorations, clearly incidental and customary and commonly associated with any national, local or religious holiday. Holiday lights may be of any type, number, area, height, location, illumination or animation, except that they shall not produce incident or reflected light that may be confused with or construed as a traffic control device;
Any lighting required by the FAA for air traffic control, navigation, and warning purposes;
Emergency lighting as required by law enforcement or emergency services personnel to protect life or property provided the lighting is temporary and is discontinued immediately on abatement of the emergency necessitating the lighting;
Road lighting;
Construction lighting provided the lighting is temporary and is discontinued immediately on completion of the construction work;
Traffic control signals and devices;
Vehicular lights;
Temporary use of low wattage or low voltage lighting for public festivals, celebrations, and carnivals approved as a temporary use; and
Single family residential lighting, except as prohibited herein

(E) Alternative Lighting Proposal

- Authority
The PCD Director may approve a proposal that offers an alternative approach for meeting the standards of this Section. A lighting plan proposing an alternative approach for meeting these standards shall be submitted in accordance with submittal requirements for lighting plans described in the Procedures Manual. The plan shall clearly identify and discuss the modifications and alternatives proposed and describe how the proposal would better accomplish the purpose of this Section.

- Review Criteria
The PCD Director shall find the alternative lighting proposal accomplishes the purposes of this Section as well as a lighting plan that complies with this Section. The PCD Director will consider the extent to which the proposed design protects natural areas from light intrusion; how it enhances neighborhood continuity and connectivity; how it fosters non-vehicular access; and how it demonstrates innovative design and use of fixtures or other elements.

LIGHTING SCHEDULE										
Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number	Filename	Lumens Per Lamp	Light Loss Factor
	L1	2	GL		FULL CUTOFF WITH MOUNT KIT & 18" POLE	LED	1	PLTS-11975 150W 5K IES	21029	1
	L2	10	Volt		Brass All-Star FULL CUTOFF	MR16-16/27-60 BS #1	1	All-Star MR16-15-27-60 BS #1 IES	167	1
	L3	11	DABMAR	LV104	LANDSCAPE LIGHT FULL CUTOFF	1.5W LED	1	LV104.ies	200	1
									148.9	0



LED AREA LIGHT

PLTS-11975

DESCRIPTION

Outlasting and outperforming 400W metal halide fixtures, this 150W LED area light is ideal for a variety of outdoor applications.

FEATURES

- Up to 135 LPW ultra-high efficiency delivers superior performance over older HID fixtures
- Type V light distribution projects light in a circular pattern with the same intensity at all angles
- 0-10V dimming
- Instant on with no warmup

LISTINGS

- IP65
- UL Listed for wet locations
- FCC Part 15, Part B, Class A
- DesignLights Consortium® 5.1 Premium - meets the requirements for the highest DLC qualification for efficacy and lumen maintenance: DLC PN - PLTBFS523

PERFORMANCE

- CRI: 80+
- CCT: 5000K
- Rated lifetime L70: 50,000 hours
- Surge Protection: 6kV
- Light Distribution: Type V
- Philips Lumileds LEDs and Sosen driver

THERMAL

- 40°F to 122°F (-40°C to 50°C) operating temperature

ELECTRICAL

- THD: <20%
- Power Factor: >0.95
- Input Voltage: 120-277V
- Dimmable power supply (0-10V)

INSTALLATION

- Designed to be mounted with Excel Series and select Grandview Series slip filters, straight arms, or U brackets (all sold separately); see Mounting Accessories section for full list of compatible products. See installation instructions for more information on how to install these fixtures.

CONSTRUCTION

- Low profile die-cast aluminum housing
- Durable dark bronze powder coat finish

WARRANTY

- 5 year limited warranty; see pilsolutions.com for warranty details

project name	type
catalog number	voltage
comments	date
approved by	



APPLICATIONS

- Parking Lots
- Automotive Dealerships
- Roadways
- Campuses
- Area Security Lighting
- Airports

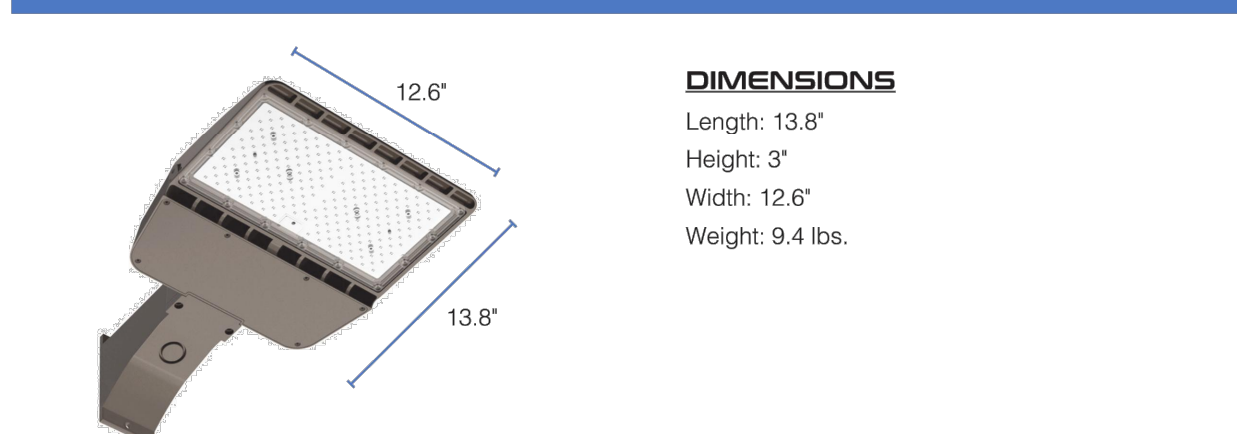
PERFORMANCE SUMMARY

Item #	Family	Watts	Lumens	LPW	CCT	CRI	Dimming	Voltage	Replaces	Light Distribution	DLC Listed	DLC #
PLTS-11975	Excel Series	150	20500	136	5000K	80+	0-10V	120-277V	M4000	Type V	5.1	PLTBFS523

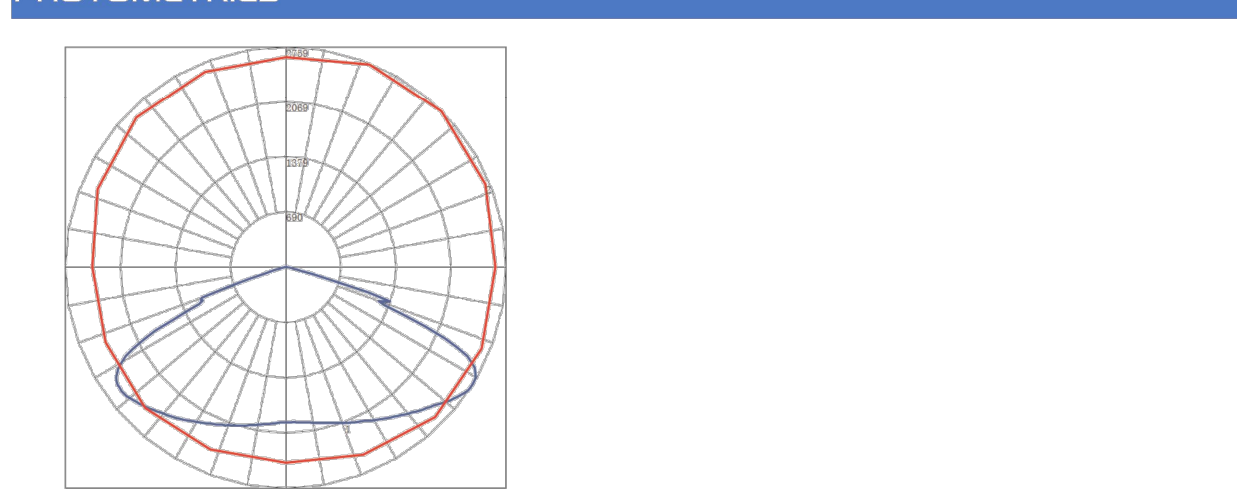
MOUNTING ACCESSORIES (SOLD SEPARATELY)

Item #	Family	Description
PLTS-11989	Excel Series	Adjustable Unbracket for 100W and 150W fixtures
PLTS-11990	Excel Series	Adjustable Unbracket for 200W and 300W fixtures
PLTS-11994	Grandview Series	Slipfilter for Fixtures up to 240" in Diameter
PLTS-11995	Grandview Series	8" Mounting Arm for Square Poles
PLTS-11103	Grandview Series	8" Mounting Arm for Square or Round Poles

DIMENSIONS



PHOTOMETRICS



LV104

THREE-TIER PAGODA LIGHT

PATH, WALKWAY AND AREA LIGHTING

Overall Dimensions:
7.00" H x 10.00" W x 10.00" D

Weight: 2.00 lbs
Approximate Wire Length: 18.00"
Pagoda Head Only
(No Post or Ground Spike Included)

► **Material:** Powder Coated Cast Aluminum

► **Lens:** Frosted, Heat Resistant, Tempered Glass

► **Lamp:** K Bi-Pin Base (50W Maximum) Available in 30K or 60K (LED)

MODEL NUMBER	LAMP TYPE	ILLUMINANT TYPE	WATTS (W)	VOLTS (V)	LAMPS INCLUDED
LV104	K	HALOGEN	30	12	YES
LV-LED104	KC-LED	LED	2.5	12	YES
LV-LED104-AMB	KC-LED	LED	3.0	12	YES

► **Pre-wired with U.S. Listed Direct Burial Wire/Cable**

► **Anchor Lamp: Silicone G4 Bi-Pin (Turtle Friendly)**

► **Connector Assembly: P-CNO1 (sold separately)**

► **Available Finish:** Black, Green, Verde Green

► **ETL Approved**

DABMAR LIGHTING

DABMAR LIGHTING INCORPORATED

320 Graves Ave. Oxnard, CA 93030 • 805.604.9090 • F: 805.604.9050 • www.dabmar.com

4693 19th Street Ct E. Bradenton, FL 34203

SNS

SQUARE NON-TAPERED STEEL

PROJECT NAME: _____ TYPE: _____

QUOTE / ORDER NO: _____

APPROVED BY: _____ DATE: _____

SPECIFICATIONS

POLE SHAFT:
The pole shaft is fabricated from hot rolled commercial quality carbon steel of one piece construction with a minimum yield strength of 55,000 psi.

BASE PLATE:
The base plate is fabricated from a structural quality hot rolled carbon steel plate that meets or exceeds ASTM A-36 with a minimum yield strength of 36,000 psi. The base plate telescopes the pole shaft and is circumferential welded top and bottom.

BASE COVER:
The two-piece standard full base cover is fabricated from ABS plastic. Optional two-piece steel base cover also available.

ANCHOR BOLTS:
Anchor bolts conform to ASTM F1554 Grade 55 and are provided with two hex nuts and flat washers. Bolts have an "L" bend on one end and are galvanized a minimum of 12" on the threaded end in accordance with ASTM A-153.

HANDHOLE:
A reinforced hand hole, having a nominal opening of 2.5" x 5" or 3" x 5" will be installed 18" above the base plate. A hand hole cover with hardware will be included along with grounding provisions.

POLE TOP:
Each pole will be provided with a welded top plate and tenon or top cap for poles meeting setting for side mount fixtures.

FINISH:
Standard color finishes shall be coated with TQC polyester powder or hot dip galvanized to ASTM A-123 specifications.

SNS Square Pole Anchor Base	POLE DIMENSIONS										BASE DETAIL										ALLOWABLE MAX WPS & WEIGHT (lbs)									
	10'	12'	14'	16'	18'	20'	22'	24'	26'	28'	30'	32'	34'	36'	38'	40'	42'	44'	46'	48'	50'									
10'	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00									
12'	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00									
14'	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00									
16'	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00									
18'	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00									
20'	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00									
22'	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00									
24'	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00									
26'	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00									
28'	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00									
30'	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00									
32'	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00									
34'	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00									
36'	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00									
38'	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00									
40'	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00									
42'	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00									
44'	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00									
46'	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00									
48'	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00									
50'	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00									

ORDERING CODE	CATALOG NO.	BASE	FINISH	FIXTURE MOUNT	BASE COVER	OPTIONS	OPTIONS
10'	10-0000	10-0000	10-0000	10-0000	10-0000	10-0000	10-0000
12'	12-0000	12-0000	12-0000	12-0000			