

ELECTRICAL SYMBOL LEGEND

ALL SYMBOLS SHOWN IN THIS LEGEND ARE NOT NECESSARILY USED ON PLANS

SYMBOL	DESCRIPTION
EXTERIOR LIGHTING	
	LIGHTING FIXTURE. UPPER CASE LETTER INDICATES TYPE, LOWER CASE LETTER INDICATES SWITCH LEG, NUMBER DENOTES CIRCUIT AND NL INDICATES NIGHT LIGHT. REFER TO LIGHTING FIXTURE SCHEDULE FOR DETAILS.
	POLE MOUNTED LUMINAIRE, SINGLE HEAD
	POLE MOUNTED LUMINAIRE, DOUBLE HEAD

NOTE:
ALL SYMBOLS REPRESENTED BELOW BUT SHOWN ON PLANS IN A LIGHT LINE WEIGHT DENOTE EXISTING DEVICE

DIVISION 26 - ELECTRICAL

A. GENERAL:

- ALL ELECTRICAL PRODUCTS AND THEIR INSTALLATION SHALL BE UL LISTED AND COMPLY WITH THE 2017 NATIONAL ELECTRICAL CODE (NEC) AND 2015 INTERNATIONAL CODES, PERTINENT STATE AND LOCAL CODES AND ALL INSPECTION AUTHORITIES HAVING JURISDICTION.
- PROCURE ALL LICENSES AND CERTIFICATES AND PAY ALL FEES ASSOCIATED REQUIRED TO PERFORM THE DIVISION 26 WORK. COORDINATE THE ELECTRICAL WORK WITH THE WORK OF ALL OTHER TRADES. CLEAN AND REPLACE ANY DAMAGED PRODUCTS AT CONCLUSION OF WORK.

B. BASIC METHOD AND MATERIALS:

- MATERIALS AND EQUIPMENT FURNISHED BY THE CONTRACTOR SHALL BE NEW.

C. CONDUCTORS:

- ALL CONDUCTORS SHALL BE 600V, COPPER, THHN/THWN IN DRY LOCATIONS AND THWN-2 IN DAMP/WET LOCATIONS.
- CONDUCTORS SHALL BE SOLID IN SIZES UP TO #10 AND STRANDED FOR SIZES #8 AND LARGER.
- MINIMUM WIRE SIZE SHALL BE #12 AWG UNLESS OTHERWISE NOTED.

D. LIGHTING FIXTURES:

- PROVIDE LIGHT FIXTURES AND LAMPS AS SHOWN IN THE LIGHTING FIXTURE SCHEDULE U.N.O.

PROJECT GENERAL NOTES

- NOTICE TO CONTRACTOR:
ALL COSTS AND FEES (REDESIGN COSTS) FOR MAKING MODIFICATIONS, e.g. ARCHITECTURAL, CIVIL, STRUCTURAL, ELECTRICAL, ETC., TO THE CONTRACT DOCUMENTS, AS WELL AS ALL COSTS PERTAINING TO CONSTRUCTION OF THE WORK, MADE NECESSARY BY SELECTION/PROVISION PRODUCTS OTHER THAN THE BASIS-OF-DESIGN PRODUCTS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND NO INCREASE IN THE CONSTRUCTION CONTRACT AMOUNT WILL BE MADE ON ACCOUNT THEREOF. CONTRACTOR SHALL REIMBURSE OWNER FOR SAID REDESIGN COSTS VIA DEDUCTIVE CHANGE ORDER.
- THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL WORK WITH THE MECHANICAL, PLUMBING, STRUCTURAL AND ARCHITECTURAL PLANS AND/OR CONTRACTORS PRIOR TO AND DURING CONSTRUCTION. COORDINATE WITH THE ARCHITECT, OWNER, AND GC ON ALL CONSTRUCTION PHASING REQUIREMENTS PRIOR TO STARTING DEMOLITION AND/OR NEW WORK.
- ALL WORK SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE (NEC), NFPA-70, 2017 EDITION, AND THE 2015 INTERNATIONAL ENERGY CONSERVATION CODE.
- U.N.O., COORDINATE ALL LUMINAIRE MOUNTING HEIGHTS AND LOCATIONS WITH OTHER TRADES PRIOR TO ROUGH-IN. COORDINATE LUMINAIRE MOUNTING HEIGHTS AND LOCATIONS WITH SHOP EQUIPMENT LAYOUT PRIOR TO ROUGH-IN.

EL PASO COUNTY, COLORADO

LAND DEVELOPMENT CODE

Effective 12/12/2017

Section	Requirement	Comments
6.2.3 (B)(1)(a)	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.	Complies: Refer to sheet E610, light fixture specifications and refer to sheet E100, light fixture schedule
6.2.3 (B)(1)(b)	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.	Not Applicable
6.2.3 (B)(1)(c)	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.	Not Applicable
6.2.3 (B)(1)(d)	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.	Complies: Refer to sheet E100 for area statistics. E. Parking Lot maximum: 6.9 fc W. Parking Lot maximum: 6.9 fc Employee Parking Lot maximum: 7.6 fc Exterior Building South maximum: 8.6 fc South Patio maximum: 0.1 fc Yard maximum: 0.8 fc
6.2.3 (B)(1)(e)	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.	Complies: The property is not adjacent to residential property. Capital Drive Boundary maximum: 0.1fc
6.2.3 (B)(1)(f)	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.	Complies: Refer to Sheet E612 for pole specifications
6.2.3 (B)(1)(g)	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.	Complies: All light fixtures are LED
6.2.3 (B)(1)(h)	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.	Not applicable
6.2.3 (B)(1)(i)	No lighting shall make it difficult for pilots to distinguish airport lights from others, result in glare in the eyes of the pilots using an aviation 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.	Complies
6.2.3 (B)(2)	No freestanding light fixtures shall be mounted higher than 15 feet, except parking lot light fixtures which shall be mounted no higher than 20 feet unless an alternative lighting proposal is approved in accordance with this Code.	Complies: Refer to sheet E100 Detail 1 All light pole fixtures mounted at 20'-0" AFG for parking lot areas.

ELECTRICAL ABBREVIATIONS

SYMBOL	DESCRIPTION
AA/AMP	AMPERES
AC	ALTERNATING CURRENT
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	AMPERES INTERRUPTING CAPACITY (SYMMETRICAL)
BFC	BELOW FINISHED CEILING
BWE	BAKED WHITE ENAMEL
C	CONDUIT
CCT	CIRCUIT
CL	CEILING MOUNTED
COFF	COFFEE/ESPRESSO MACHINE
D, DED	DEDICATED
DC	DIRECT CURRENT
(E), (EX), EX	EXISTING
EC	EMPTY CONDUIT
EMT	ELECTRICAL METALLIC TUBING
EPO	EMERGENCY POWER OFF
EVCS	ELECTRIC VEHICLE CHARGING STATION
EXT.	EXTERIOR
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE METALLIC CONDUIT
FPN	FUSED PER NAMEPLATE
(F)	FUTURE
GND	GROUND
GRC	GALVANIZED RIGID CONDUIT
HACR	HEATING, AIR CONDITIONING, REFRIGERATION RATED DEVICE
HP	HORSEPOWER
HPRS	HORSEPOWER RATED SWITCH
IMC	INTERMEDIATE METALLIC CONDUIT
INT.	INTERIOR
J-BOX	JUNCTION BOX
KAIC	KILOAMPERES INTERRUPTING CAPACITY (SYMMETRICAL)
K.E.C.	KITCHEN EQUIPMENT CONTRACTOR
KV	KILOVOLTS
KVA	KILOVOLT-AMPS
KW	KILOWATT
MA	MILLIAMPERE
MCA	MINIMUM CIRCUIT AMPACITY
MCB	MAIN CIRCUIT BREAKER
MLO	MAIN LUGS ONLY
MM	MILLIMETER
MTD	MOUNTED
MW	MICROWAVE
(N)	NEW
N	NEUTRAL CONDUCTOR (GROUNDED CIRCUIT CONDUCTOR)
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
P	PHASE OR POLE
PNL	PANELBOARD
P.O.S.	POINT OF SALE SYSTEM
PVC	POLYVINYL CHLORIDE CONDUIT (SCHEDULE 40)
(R)	RELOCATED
REF	REFRIGERATOR
SEC	SECTION
T, XFMR	TRANSFORMER
UC	UNDER COUNTER
U.N.O.	UNLESS NOTED OTHERWISE
V	VOLTAGE OR VOLTS
W	WATTS
WP	WEATHERPROOF
WT	WIRING TROUGH

ELECTRICAL SHEET INDEX

SHEET	TITLE
E001	ELECTRICAL LEGEND
E100	ELECTRICAL SITE PLAN
E610	ELECTRICAL FIXTURE SPECIFICATION
E611	ELECTRICAL FIXTURE SPECIFICATIONS



COMcheck Software Version 4.1.1.0

Exterior Lighting Compliance Certificate

Project Information

Energy Code: 2015 IECC
Project Title:
Project Type: New Construction
Exterior Lighting Zone: 2 (Light industrial area with limited nighttime use)

Construction Site: Owner/Agent: Designer/Contractor:

Allowed Exterior Lighting Power

A Area/Surface Category	B Quantity	C Allowed Watts / Unit	D Tradable Wattage	E Allowed Watts (B X C)
Parking Lot Areas (Parking area)	58499 ft2	0.06	Yes	3510
Loading Docks (Emergency services, loading area)	14622 ft2	0.5	No	7311
Walkway (Walkway < 10 feet wide)	111 ft of	0.7	Yes	78
Total Tradable Watts (a) =				3588
Total Allowed Watts =				10899
Total Allowed Supplemental Watts (b) =				600

(a) Wattage tradeoffs are only allowed between tradable areas/surfaces.
(b) A supplemental allowance equal to 600 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

Proposed Exterior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
Parking Lot Areas (Parking area 58499 ft2): Tradable Wattage				
S1: DSX1: AREA LIGHT FIXTURE: Other:	1	5	163	815
S1HS: DSX1: AREA LIGHT FIXTURE W/ HS: Other:	1	1	138	138
Loading Docks (Emergency services, loading area 14622 ft2): Non-tradable Wattage				
WP: WST LED: WALL PACK: Other:	1	8	25	200
Walkway (Walkway < 10 feet wide 111 ft of walkway length): Tradable Wattage				
WP: WST LED: WALL PACK: Other:	1	1	25	25
Total Tradable Proposed Watts =				978

Exterior Lighting PASSES: Design 77% better than code

Exterior Lighting Compliance Statement

Compliance Statement: The proposed exterior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed exterior lighting systems have been designed to meet the 2015 IECC requirements in COMcheck Version 4.1.1.0 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

A. WIKSTROM - E.L.C. - ENG
Name - Title
Signature
Date 01/23/2020

Project Title: Report date: 01/23/20
Data filename: P:\Projects\2020\20010 Timberland Storage Yard Site DP\Calculations\EXTERIOR COMCHECK.cc Page 1 of 5

TIMBERLAND LANDSCAPING, INC

NEW CONSTRUCTION

3499 CAPITAL DRIVE

COLORADO SPRINGS, CO 80939

REVISIONS	DATE	COMMENT
1	01/23/2020	100% EPC SUBMITAL

SHEET TITLE

ELECTRICAL
LEGEND

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PROJECT	20010
DATE	01/23/2020
DRAWN	ARW
CHECKED	MPP

SHEET

E001

REAL



PLANT
ENGINEERING CONSULTANTS
320 W FILLMORE SUITE 100 COLORADO SPRINGS CO 80907
www.planted.com
719 473 7077

LIGHT FIXTURE SCHEDULE

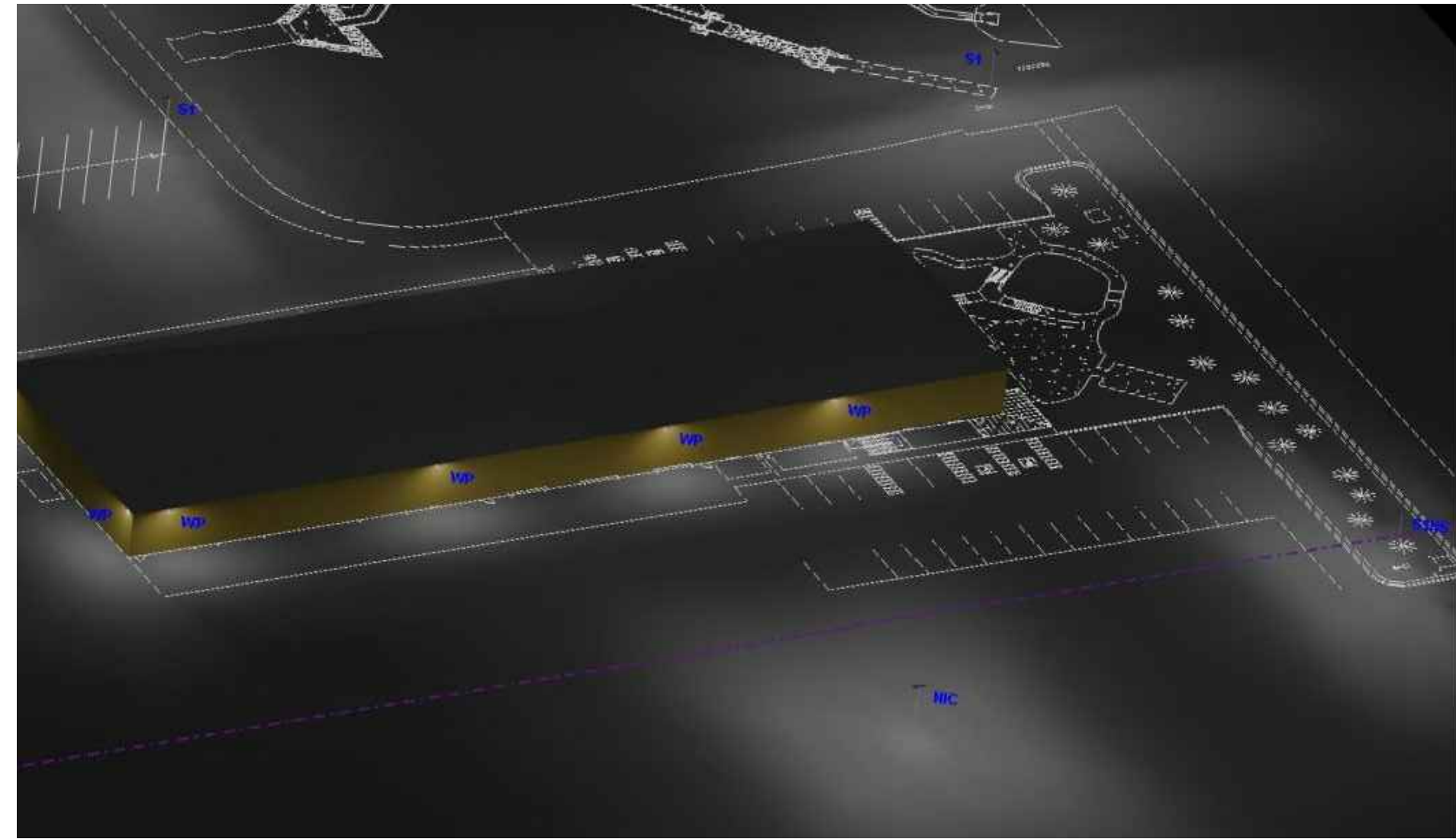
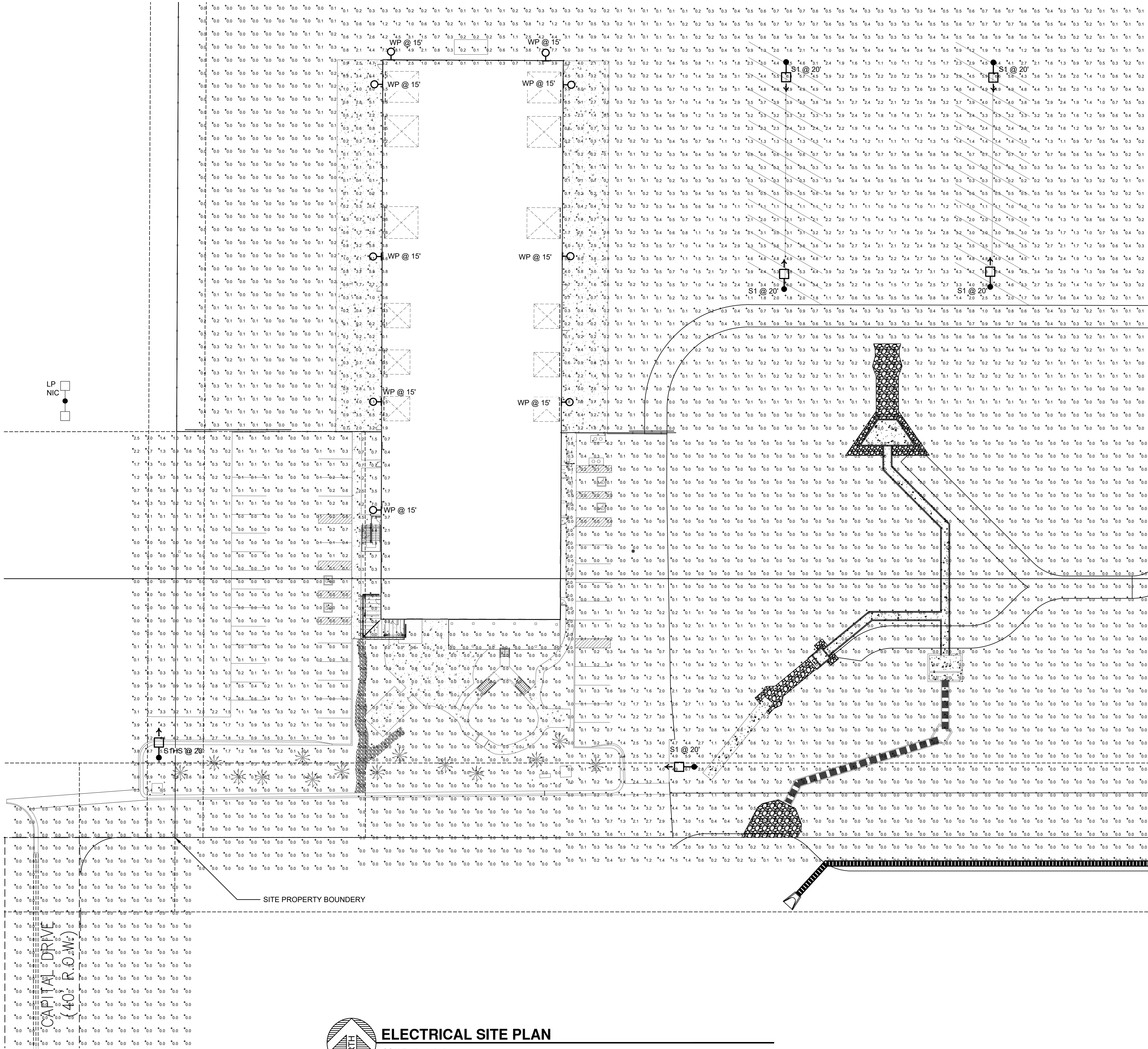
Label	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Lumens Per Fixture	Wattage
WP	Lithonia Lighting	WST LED P2 40K VW MVOLT	WST LED, Performance package 2, 4000 K, visual comfort wide, MVOLT	LED	1	3511	25
S1	Lithonia Lighting	DSX1 LED P6 40K T3M MVOLT	DSX1 LED P6 40K T3M MVOLT	LED	1	18492	163
STHS	Lithonia Lighting	DSX1 LED P5 40K T3S MVOLT HS	DSX1 LED P5 40K T3S MVOLT with houseside shield	LED	1	13145	138

STATISTICS

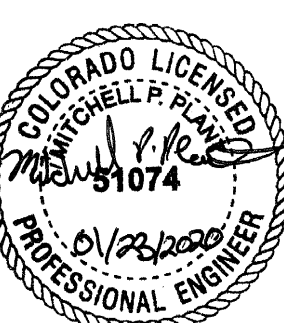
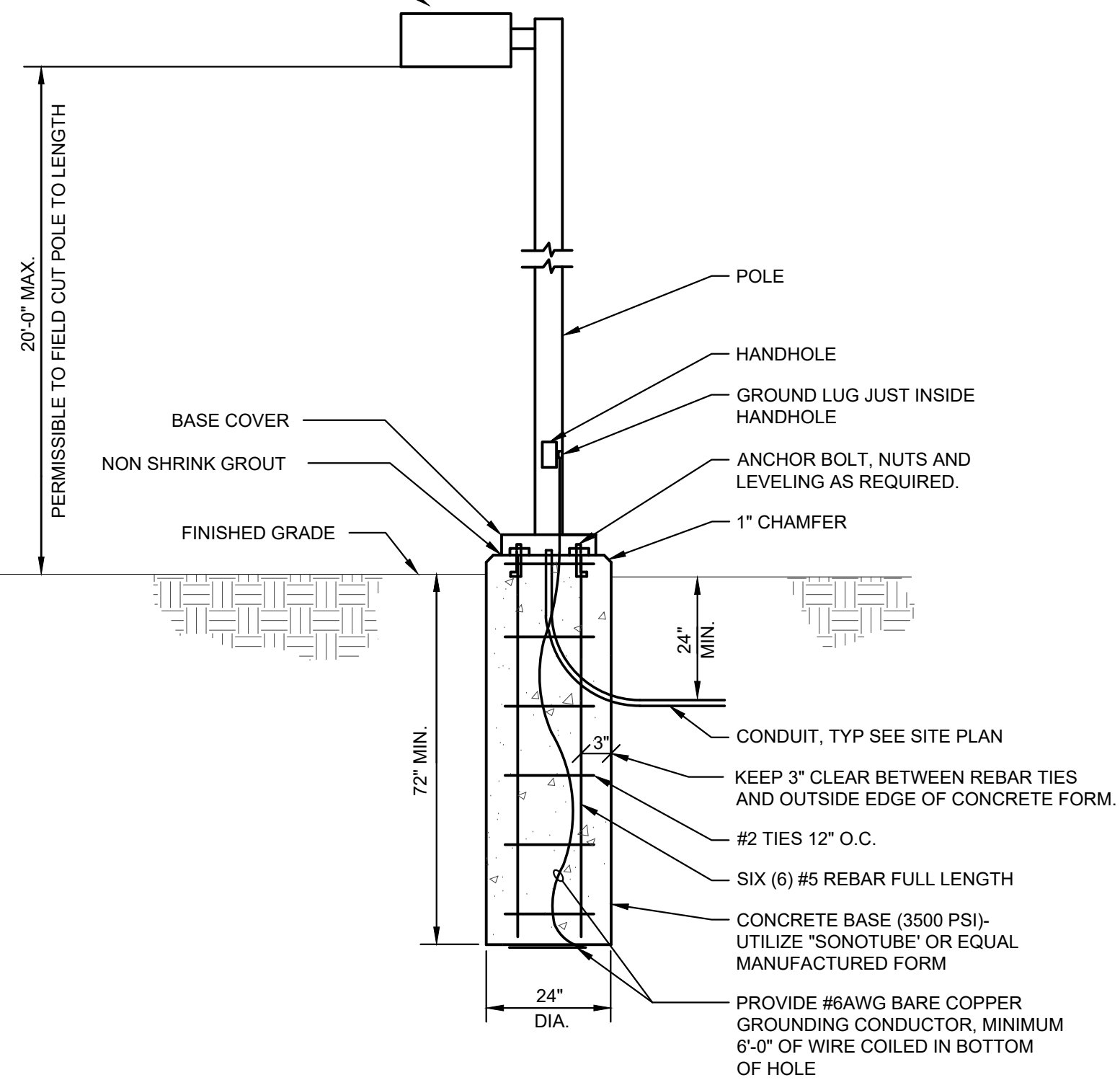
Description	Avg	Max	Min
Capital Drive	0.0 fc	0.1 fc	0.0 fc
Employee Parking	0.9 fc	6.6 fc	0.0 fc
Exterior Building	0.7 fc	7.8 fc	0.0 fc
Loading Zone	1.2 fc	8.1 fc	0.0 fc
Parking West	0.2 fc	6.7 fc	0.0 fc
Patio	0.0 fc	0.0 fc	0.0 fc
West Parking Lot	0.4 fc	5.1 fc	0.0 fc
YARD	0.0 fc	0.4 fc	0.0 fc

GENERAL PHOTOMETRY NOTES

- THESE PHOTOMETRIC CALCULATIONS ARE BASED ON MANUFACTURER'S IES FILES AND 0.92 LIGHT DEPRECIATION FACTOR.
- ACTUAL ILLUMINANCE LEVELS MAY DIFFER FROM THE FOOTCANDLE LEVELS SHOWN DUE TO VARIABLE FIELD CONDITIONS, SUCH AS NEARBY EXISTING LUMINAIRES, LUMINAIRE DIRT DEPRECIATION, LANDSCAPING, AND FUTURE DEVELOPMENTS.
- THIS PLAN IS BASED ON THE INFORMATION AVAILABLE. THE LUMINAIRE LOCATIONS SHOWN MUST BE COORDINATED WITH EXISTING OR FUTURE FIELD CONDITIONS.



FOR EXACT NUMBER OF LUMINAIRES AND TYPE SEE ELECTRICAL SITE PLAN



REVISIONS	MARK	DATE	COMMENT
1	Δ	01/23/2020	100% EPC SUBMITAL

ELECTRICAL SITE PLAN

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PROJECT	20010
DATE	01/23/2020
DRAWN	ARW
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SHEET

