

CHARLOTTE-DOUGLAS INTERNATIONAL AIRPORT

AIRFIELD WEST LIGHTING VAULT DOCKING STATION

5740A ARFF RD, CHARLOTTE, NC, 28208



VICINITY PLAN

N.T.S.

ELECTRICAL ENGINEER

AME CONSULTING ENGINEERS
413 DALTON AVE, SUITE A,
CHARLOTTE, NC 28206

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AME

CONSULTING ENGINEERS
CHARLOTTE | 704.295.4263
413 DALTON AVENUE, SUITE A, 28206
NC License No: C-2848
AME Project No: 23003

Seals



ISSUED FOR CONSTRUCTION

Project

CHARLOTTE-DOUGLAS
INTERNATIONAL AIRPORT
5740A ARFF RD,
CHARLOTTE, NC, 28208

AIRFIELD WEST LIGHTING
VAULT DOCKING STATION

Issues / Revisions

Rev. No.	Date	Description

Drawing Title

COVER SHEET

Drawing Info

Checked by

JDH

Drawn by

STT

Scale

AS SHOWN

Job No.

23003

Date

03-31-2023

Drawing No.

C-01

X:\2023 Projects\23003 CDIA Airfield Lighting Vaults Docking Stations\Draws\Electrical\West Lighting Vault\23003 C02 - APPENDIX B.dwg 3/20/2023 1:52:38 PM Scott Thompson

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
(EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)

Name of Project: CDIA AIRFIELD WEST LIGHTING VAULT DOCKING STATION

Address: 5740A ARFF RD

Zip Code: 28208

Owner/Authorized Agent: PAUL RATTENBURY

Phone #: (880) 384 3996

E-Mail: Paul.Rattenbury@ctairport.com

Owned By: ☒ City/County ☐ Private ☐ State

Code Enforcement Jurisdiction: ☒ City CHARLOTTE ☒ County MECKLENBURG ☐ State

CONTACT:

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural					
Civil					
Electrical	AME Consulting Engineers, PC	Joshua Henderson	033398	(704) 295-4263	jhenderson@ame-pc.com
Fire Alarm					
Plumbing					
Mechanical					
Sprinkler-Standpipe					
Structural					
Retaining Walls>5' High					
Other					

(*)Other* should include firms and individuals such as truss, precast, pre-engineered, interior designers, etc.)

2018 NC BUILDING CODE:

☐ New Building ☐ Addition ☒ Renovation

☐ 1st Time Interior Completion

☐ Shell/Core - Contact the local inspection jurisdiction for possible additional procedures and requirements.

☐ Phased Construction - Shell/Core - Contact the local inspection jurisdiction for possible additional procedures and requirements.

2018 NC EXISTING BUILDING CODE: EXISTING: ☐ Prescriptive ☐ Repair ☐ Chapter 14

Alteration: ☐ Level I ☐ Level II ☐ Level III

☐ Historic Property ☐ Change of Use

CURRENT OCCUPANCY(S) (Ch. 3): B

RENOVATED: (date) _____

PROPOSED OCCUPANCY(S) (Ch. 3): _____

RISK CATEGORY (Table 1604.5):

Current: ☐ I ☒ II ☐ III ☐ IV

Proposed: ☐ I ☐ II ☐ III ☐ IV

BASIC BUILDING DATA

Construction Type: ☐ I-A ☐ II-A ☐ III-A ☐ IV ☐ V-A

☐ I-B ☒ II-B ☐ III-B ☐ V-B

(Check all that apply)

Sprinklers: ☒ No ☐ Partial ☐ Yes ☐ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D

Standpipes: ☒ No ☐ Yes ☐ Class: ☐ I ☐ II ☐ III ☐ Wet ☐ Dry

Fire District: ☒ No ☐ Yes ☐ Flood Hazard Area: ☐ No ☐ Yes

Special Inspections Required: ☒ No ☐ Yes (Contact the local inspection jurisdiction for additional procedures and requirements.)

Gross Building Area Table

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
3rd Floor			
2nd Floor			
1st Floor	4560		
Basement			
TOTAL	4560		

ALLOWABLE AREA

Primary Occupancy Classification(s): Select one

Assembly ☐ A-1 ☐ A-2 ☐ A-3 ☐ A-4 ☐ A-5

Business ☒

Educational ☐

Factory ☐ F-1 Moderate ☐ F-2 Low

Hazardous ☐ H-1 Detonate ☐ H-2 Deflagrate ☐ H-3 Combust ☐ H-4 Health ☐ H-5 HPM

Institutional ☐ I-1 Condition ☐ I-2 Condition ☐ I-3 Condition ☐ I-4 Condition ☐ I-1 ☐ I-2 ☐ I-3 ☐ I-4

Mercantile ☐

Residential ☐ R-1 ☐ R-2 ☐ R-3 ☐ R-4

Storage ☐ S-1 Moderate ☐ S-2 Low ☐ S-3 High-piled

Utility and Miscellaneous ☐ Parking Garage ☐ Open ☐ Enclosed ☐ Repair Garage

Accessory Occupancy Classification(s): _____

Incidental Uses (Table 509): _____

Special Uses (Chapter 4 - List Code Sections): _____

Special Provisions (Chapter 5 - List Code Sections): _____

Mixed Occupancy: ☐ No ☐ Yes Separation: _____ Hr. Exception: _____

☐ Non-Separated Use (508.3) - The required type of construction for the building shall be determined by applying the height and area limitations for each of the applicable occupancies to the entire building. The most restrictive type of construction, so determined, shall apply to the entire building.

☐ Separated Use (508.4) - See below for area calculations for each story, the area of the occupancy shall be such that the sum of the ratios of the actual floor area of each use divided by the allowable floor area for each use shall not exceed 1.

Actual Area of Occupancy A + Actual Area of Occupancy B ≤ 1

Allowable Area of Occupancy A + Allowable Area of Occupancy B ≤ 100

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 507.1 AREA FOR FRONTAGE INCREASE ^{1,5}	(C) AREA FOR FRONTAGE INCREASE ^{1,5}	(D) ALLOWABLE AREA PER STORY OR UNLIMITED ^{2,3}

1 Frontage area increases from Section 506.2 are computed thus:

a. Perimeter which fronts a public way or open space having 20 feet minimum width = _____ (F)

b. Total Building Perimeter = _____ (P)

c. Ratio (F/P) = _____ (F/P)

d. W = Minimum width of public way = _____ (W)

e. Percent of frontage increase = 100(F/P - 0.25) × W/30 = _____ %

2 Unlimited area applicable under conditions of Section 507.

3 Maximum Building Area = total number of stories × D (maximum 3 stories) (506.2)

4 The maximum area of open parking garages must comply with Table 406.5.4. The maximum area of air traffic control towers must comply with Table 412.3.1.

5 Frontage increase is based on the unspinklered area value in Table 506.2.

ALLOWABLE HEIGHT

	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE
Building Height in Feet (Table 504.3)			
Building Height in Stories (Table 504.4)			

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING		DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	SHEET # FOR RATED PENETRATION	SHEET # FOR RATED JOISTS
		REQ'D	PROVIDED (W/ REDUCTION)				
Structural Frame, including columns, girders, trusses							
Bearing Walls							
Exterior							
North							
East							
West							
South							
Interior							
Nonbearing Walls and Partitions							
Exterior Walls							
North							
East							
West							
South							
Interior Walls and Partitions							
Floor Construction Including support beams and joists							
Floor Ceiling Assembly							
Columns Supporting Floors							
Roof Construction, including supporting beams and joists							
Roof Ceiling Assembly							
Columns Supporting Roof							
Shaft Enclosures - Exit							
Shaft Enclosures - Other							
Corridor Separation							
Occupancy/Fire Barrier Separation							
Party/Fire Wall Separation							
Smoke Barrier Separation							
Smoke Partition							
Tenant/Dwelling Unit/ Sleeping Unit Separation							
Incidental Use Separation							

EXISTING

PERCENTAGE OF WALL OPENING CALCULATIONS

FIRE SEPARATION DISTANCE (FEET) FROM PROPERTY LINES	DEGREE OF OPENINGS PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)

LIFE SAFETY REQUIREMENTS

Emergency Lighting: ☐ No ☒ Yes

Exit Signs: ☐ No ☒ Yes

Fire Alarm: ☐ No ☒ Yes

Smoke Detection Systems: ☐ No ☒ Yes ☐ Partial _____

Carbon Monoxide Detection: ☒ No ☐ Yes

LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet #: _____

☐ Fire and/or smoke rated wall locations (Chapter 7)

☐ Assumed and real property line locations (if not on the site plan)

☐ Exterior wall opening area with respect to distance to assumed property lines (705.8)

☐ Occupancy Use for each area as it relates to occupant load calculation (Table 1004.1.2)

☐ Occupant loads for each area

☐ Exit access travel distances (1017)

☐ Common path of travel distances (Tables 1006.2.1 & 1006.3.2(1))

☐ Dead end lengths (1020.4)

☐ Clear exit widths for each exit door

☐ Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.3)

☐ Actual occupant load for each exit door

☐ A separate schematic plan indicating where fire rated floor/ceiling and/or roof structure is provided for purposes of occupancy separation

☐ Location of doors with panic hardware (1010.1.10)

☐ Location of doors with delayed egress locks and the amount of delay (1010.1.9.7)

☐ Location of doors with electromagnetic egress locks (1010.1.9.9)

☐ Location of doors equipped with hold-open devices

☐ Location of emergency escape windows (1030)

☐ The square footage of each fire area (202)

☐ The square footage of each smoke compartment for Occupancy Classification 13, 407.5)

☐ Note any code exceptions or table notes that may have been utilized regarding the items above

ACCESSIBLE DWELLING UNITS (SECTION 4107)

TOTAL UNITS	ACCESSIBLE UNITS REQUIRED	ACCESSIBLE UNITS PROVIDED	TYPE A UNITS REQUIRED	TYPE A UNITS PROVIDED	TYPE B UNITS REQUIRED	TYPE B UNITS PROVIDED	TOTAL ACCESSIBLE UNITS PROVIDED

ACCESSIBLE PARKING (SECTION 1106)

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES		# OF ACCESSIBLE SPACES PROVIDED		TOTAL # ACCESSIBLE PROVIDED
	REQUIRED	PROVIDED	REGULAR WITH 5' ACCESS AISLE	VAN SPACES WITH 13'2" ACCESS AISLE	
TOTAL					

PLUMBING FIXTURE REQUIREMENTS (TABLE 2902.1)

USE	WATER CLOSETS			URINALS	LAVATORIES			SHOWERS/ TUBS	DRINKING FOUNTAINS
	MALE	FEMALE	UNISEX		MALE	FEMALE	UNISEX		
SPACE									
EXIST'G									
NEW									
REQ'D									

SPECIAL APPROVALS

Special approval: (Local jurisdiction, Department of Insurance, OSC, DPI, DHHS, etc., describe below)

ENERGY REQUIREMENTS:

The following data shall be considered minimum and any special attribute required to meet the energy code shall also be provided. Each Designer shall furnish the required portions of the project information for the plan data sheet. If performance method, state the annual energy cost for the standard reference design vs annual energy cost for the proposed design.

Existing building envelope complies with code: ☐ No ☐ Yes (The remainder of this section is not applicable)

Exempt Building: ☐ No ☐ Yes (Provide code or statutory reference):

Climate Zone: ☐ 3A ☐ 4A ☐ 5A

Method of Compliance: Energy Code ☐ Performance ☐ Prescriptive

ASHRAE 90.1 ☐ Performance ☐ Prescriptive

(If "Other" specify source here)

THERMAL ENVELOPE (Prescriptive method only)

Roof/Ceiling Assembly (each assembly)

Description of assembly: _____

U-Value of total assembly: _____

R-Value of insulation: _____

Skylights in each assembly: _____

U-Value of skylight: _____

Total square footage of skylights in each assembly: _____

Exterior Walls (each assembly)

Description of assembly: _____

U-Value of total assembly: _____

R-Value of insulation: _____

Openings (windows or doors with glazing)

U-Value of skylight: _____

Solar heat gain coefficient: _____

Projection factor: _____

Door R-Value: _____

Walls below grade (each assembly)

Description of assembly: _____

U-Value of total assembly: _____

R-Value of insulation: _____

Floors over unconditioned space (each assembly)

Description of assembly: _____

U-Value of total assembly: _____

R-Value of insulation: _____

Floors slab on grade (each assembly)

Description of assembly: _____

U-Value of total assembly: _____

R-Value of insulation: _____

STRUCTURAL DESIGN (PROVIDE ON THE STRUCTURAL SHEETS IF APPLICABLE)

DESIGN LOADS:

Importance Factors: Snow (I_s) _____

Seismic _____

Live Loads: Roof _____ psf

Mezzanine _____ psf

Floor _____ psf

Ground Snow Load: _____ psf

Wind Load: Basic Wind Speed _____ mph (ASCE 7)

Exposure Category _____

SEISMIC DESIGN CATEGORY: ☐ A ☐ B ☐ C ☐ D

Provide the following Seismic Design Parameters:

Risk Category (Table 1604.5) ☐ I ☐ II ☐ III ☐ IV

Spectral Response Acceleration _____ %g _____ %g

Site Classification (ASCE 7) ☐ A ☐ B ☐ C ☐ D ☐ E ☐ F

Data Source: ☐ Field Test ☐ Presumptive ☐ Historical Data

Basic structural system ☐ Bearing Wall ☐ Dual w/Special Moment Frame

☐ Building Frame ☐ Moment Frame ☐ Inverted Pendulum

Analysis Procedure: ☐ Simplified ☐ Equivalent Lateral Forces ☐ Dynamic

Architectural, Mechanical Components anchored? ☐ Yes ☐ No

LATERAL DESIGN CONTROL: Earthquake ☐ Wind ☐

SOIL BEARING CAPACITIES:

Field Test (provide copy of field test) _____ psf

Presumptive Bearing capacity _____ psf

Pile, size, and capacity _____ psf

MECHANICAL DESIGN (PROVIDE ON THE MECHANICAL SHEETS IF APPLICABLE) REFER TO SHEET M1 FOR MORE INFORMATION MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS, AND EQUIPMENT

Thermal Zone

Winter Dry Bulb: _____

Summer Dry Bulb: _____

Interior Design Conditions

Winter Dry Bulb: _____

Summer Dry Bulb: _____

Relative Humidity: _____

Building Heating Load: _____

Building Cooling Load: _____

Mechanical Space Conditioning System

Unitary

Description of Unit: _____

Heating Efficiency: _____

Cooling Efficiency: _____

Size Category of Unit: _____

Chiller

Size category. If oversized, state reason: _____

Chiller

Size category. If oversized, state reason: _____

List Equipment Efficiencies: _____

ELECTRICAL DESIGN (PROVIDE ON THE ELECTRICAL SHEETS IF APPLICABLE) REFER TO SHEET E-01 FOR MORE INFORMATION ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance: Energy Code ASHRAE 90.1

Performance Performance

Prescriptive Prescriptive

Lighting schedule (each fixture type)

lamp type required in each fixture

number of lamps in fixture

ballast type used in the fixture

number of ballasts in the fixture

total wattage per fixture

total interior wattage specified vs. allowed (whole building or space by space)

total exterior wattage specified vs. allowed

Additional Efficiency Package Options (When using the 2018 NCECC, not required for ASHRAE 90.1)

☐ C406.2 More Efficient HVAC Equipment Performance

☐ C406.3 Reduced Lighting Power Density

☐ C406.4 Enhanced Digital Lighting Controls

☐ C406.5 On-Site Renewable Energy

☐ C406.6 Dedicated Outdoor Air System

☐ C406.7 Reduced Energy Use in Service Water Heating

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AIRFIELD WEST LIGHTING VAULT DOCKING STATION

Issues / Revisions

Rev. No.

Date

Description

APPENDIX B

Drawing Title

Drawing Info

Checked by JDH

Drawn by STT

Scale AS SHOWN

Job No. 23003

Date 03-31-2023

Drawing No. C-02

X:\2023 Projects\23003 CDIA Airfield Lighting - Stations\Draws\Electrical\West Lighting Vault\23003 E01 - GENERAL NOTES AND LEGEND.dwg 3/29/2023 5:25:07 PM Scott Thompson

ABBREVIATIONS	
TYPE	DESCRIPTION
A	AMPERE
AC	ALTERNATING CURRENT
AF	AMPERE FRAME
AFc	ABOVE FINISHED COUNTER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	AMPERE INTERRUPTING CURRENT
AMP	AMPERE
ARA	AREA OF RESCUE ASSISTANCE
AT	AMPERE TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BET	BUILDING ENTRANCE TERMINAL
BFC	BELOW FINISHED CEILING
C	CONDUIT
CCT	CIRCUIT
CCT BRKR	CIRCUIT BREAKER
CLG	CEILING
CR	CARD READER
CT	CURRENT TRANSFORMER
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
EIA	ELECTRONIC INDUSTRIES ALLIANCE
ETBD	EXISTING TO BE DEMOLISHED
ETR	EXISTING TO REMAIN
ETBR	EXISTING TO BE RELOCATED
EWc	ELECTRIC WATER COOLER
EX.	EXISTING
FA	FIRE ALARM
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FLUOR	FLUORESCENT
FPN	FUSE/TRIP PER NAMEPLATE
FVNR	FULL VOLTAGE NON-REVERSING
G OR GND	GROUND
GC	GENERAL CONTRACTOR
GEN	GENERATOR
GF OR GFI	GROUND FAULT INTERRUPTER
HID	HIGH INTENSITY DISCHARGE
HOA	HAND OFF AUTO
HVAC	HEATING, VENTILATION, AIR CONDITIONING
IDS	INTRUSION DETECTION SYSTEM
IG	ISOLATED GROUND
INTERCOM OR IC	INTERCOMMUNICATION
J-BOX	JUNCTION BOX
KVA	KILOVOLT AMPERES
KW	KILOWATTS
LV	LOW VOLTAGE

ABBREVIATIONS	
TYPE	DESCRIPTION
MCA	MINIMUM CIRCUIT AMPACITY
MC	MECHANICAL CONTRACTOR
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MD	MOTION DETECTOR
MIC	MICROPHONE
MLO	MAIN LUG ONLY
MOCP	MAXIMUM OVERCURRENT PROTECTION
MSB	MAIN SWITCH BOARD
N OR NEUT	NEUTRAL
NEC	NATIONAL ELECTRICAL CODE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
OL	OVERLOAD
P	POLE
PA	PUBLIC ADDRESS
PB	PUSHBUTTON SWITCH
PC	PLUMBING CONTRACTOR
PNL	PANELBOARD
Ø OR PH	PHASE
R	RELOCATED DEVICE
REF	REFRIGERATOR
RTU	ROOFTOP UNIT
RU	RACK UNITS
RVNR	REDUCED VOLTAGE NON-REVERSING
SOG	SLAB ON GRADE
SPD	SURGE PROTECTION DEVICE
SPKR	SPEAKER
SQ	SQUARE
SWBD	SWITCHBOARD
TC	TIME CLOCK
TIA	TELECOMMUNICATION INDUSTRIES ASSOCIATION
T.R.	TELECOM ROOM
TS	TIME SWITCH
TTB	TELEPHONE TERMINAL BOARD
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
V	VOLT(S)
VFD	VARIABLE FREQUENCY DRIVE
VSD	VARIABLE SPEED DRIVE
W	WATTS OR WIRE
WIC	WALL-MOUNTABLE INTERCONNECT CENTER
WG	WIRE GUARD
WP	WEATHERPROOF
XFMR	TRANSFORMER
Z	IMPEDANCE

- GENERAL NOTES
1.

ALL WORK MUST CONFORM TO THE LATEST NFPA, 2020 NATIONAL ELECTRICAL CODE, LATEST STATE CODE, & LATEST LOCAL AUTHORITY REQUIREMENTS.
2.

THE CONTRACTOR MUST VISIT THE PREMISES AND THOROUGHLY FAMILIARIZE THEMSELVES WITH ALL DETAILS OF THE WORK AND WORKING CONDITIONS. VERIFY ALL FIELD CONDITIONS INCLUDING LOCATION OF UTILITY LINES, STRUCTURES, AND ADVISE THE ENGINEER OF ANY DISCREPANCY THAT MAY PREVENT OR HINDER THE SPECIFIED WORK FROM BEING COMPLETED.
3.

THE CONTRACTOR MUST STUDY THE STRUCTURE AND FINISH CONDITIONS AFFECTING THEIR WORK AND MUST COORDINATE THEIR WORK ACCORDINGLY. THE CONTRACTOR MUST PROVIDE ALL ACCESSORIES, HANGERS, AND ANCHORS AS NECESSARY TO MEET SUCH CONDITIONS WITHOUT ANY ADDITIONAL COST TO THE OWNER.
4.

PRIOR TO ACCOMPLISHING ANY WORK IN ANY AREA, ALL WORK MUST BE PLANNED AND COORDINATED WITH OTHER TRADES AND THE OWNER. ALL CONDUITS MUST BE INSTALLED CONCEALED, UON. THE CONDUIT ROUTING MUST BE COORDINATED WITH DUCT WORK AND OTHER OBSTACLES SO AS TO PROVIDE THE MOST EFFICIENT AND AESTHETICALLY PLEASING INSTALLATION.
5.

PROPERLY SUPPORT ALL WORK AND EQUIPMENT INSTALLED UNDER THIS CONTRACT. STUDY ALL DRAWINGS, MANUFACTURER'S INSTRUCTIONS, UL LISTINGS, AND CATALOG DATA TO DETERMINE HOW EQUIPMENT, ACCESSORIES AND RELATED ITEMS ARE TO BE SUPPORTED, MOUNTED, OR SUSPENDED. PROVIDE ALL BOLTS, INSERTS, BRACKETS, SPACERS, STRUCTURAL SUPPORTS, AND ACCESSORIES FOR PROPER SUPPORT OF EQUIPMENT FURNISHED UNDER THIS CONTRACT.
6.

PROVIDE GREEN EQUIPMENT GROUNDING CONDUCTOR WITH ALL FEEDER AND BRANCH CIRCUITS.
7.

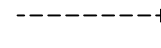
THE CONTRACTOR MUST FIELD VERIFY EXACT DIMENSIONS. DO NOT SCALE THESE PLANS.
8.

COORDINATE MOUNTING HEIGHT AND LOCATION OF ALL WALL MOUNTED EQUIPMENT WITH OWNER.
9.

THE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC. THE ELECTRICAL INSTALLATION MUST BE FULLY COORDINATED WITH ALL OTHER TRADES PRIOR TO ROUGH-IN BETWEEN THE ELECTRICAL WIRING AND DEVICES AND STRUCTURAL WORK.
10.

MANUFACTURING STANDARDS - ALL MATERIALS MUST BE NEW AND APPROVED AND LABELED BY UL OR A NC APPROVED THIRD PARTY NRTL WHEREVER STANDARDS HAVE BEEN ESTABLISHED BY THAT AGENCY. DEFECTIVE EQUIPMENT OR EQUIPMENT DAMAGED IN THE COURSE OF INSTALLATION OR TEST MUST BE REPLACED OR REPAIRED IN A MANNER MEETING THE APPROVAL OF THE OWNER. ALL ITEMS OF THE SAME TYPE AND RATING MUST BE IDENTICAL.
11.

BRAND NAME MANUFACTURER'S OF MATERIALS AND PRODUCTS IDENTIFIED ARE PROVIDED TO THE BIDDER TO CONVEY THE GENERAL STYLE, TYPE, CHARACTER, AND QUALITY OF PRODUCT DESIRED, AND ESTABLISH AN ACCEPTABLE RANGE FOR ITEMS OF EQUAL, OR EQUIVALENT DESIGN. THEY DO NOT RESTRICT SELECTIONS TO A SPECIFIC BRAND, MAKE, MANUFACTURER OR SPECIFIC NAME. EQUIVALENT PRODUCTS SHALL BE ACCEPTABLE.

SYMBOL LEGEND	
TYPE	DESCRIPTION
	EXISTING LIGHT FIXTURE.
	ELECTRICAL EQUIPMENT AS INDICATED ON PLANS.
	DUPLEX CONVENIENCE RECEPTACLE 20A, 120V, MOUNT 18" AFF; UON. SUBSCRIPT 'WP' INDICATES GFCI RECEPTACLE WITH WEATHERPROOF WHILE IN USE COVER.
	EXISTING LIGHT SWITCH.
	EXISTING TRANSFORMER.
	EXISTING SURFACE MOUNTED PANELBOARD. DESIGNATION AS NOTED.
	BRANCH CIRCUIT OR FEEDER WIRING, RUN IN CONDUIT AND HOMERUN TO PANELBOARD INDICATED. SINGLE PHASE CIRCUIT MUST CONTAIN 1 #12 PHASE CONDUCTOR, 1 #12 NEUTRAL CONDUCTOR AND 1 #12 GROUNDING CONDUCTOR IN 3/4" CONDUIT, MINIMUM. CONDUCTORS LARGER THAN #12 AND CONDUIT LARGER THAN 3/4" MUST BE AS INDICATED. WHERE "MULTIPLE PHASED" ELECTRICAL LOADS ARE REQUIRED, PROVIDE ADDITIONAL PHASE AND NEUTRAL CONDUCTORS AS INDICATED. MULTIPLE SINGLE PHASE CONDUCTORS MAY BE GROUPED TOGETHER IN A COMMON CONDUIT AS ALLOWED AND IN ACCORDANCE WITH THE NEC. CONTRACTOR MUST PROVIDE ADDITIONAL "SWITCH LEG" CONDUCTORS AS REQUIRED TO ACHIEVE FIXTURE CONTROL INDICATED ON PLANS. PROVIDE DEDICATED NEUTRAL CONDUCTOR FOR EACH SINGLE POLE CIRCUIT BREAKER. GROUNDING CONDUCTORS MUST BE SHARED IN ACCORDANCE WITH AND AS ALLOWED BY THE NEC. WHEN SHOWN DASHED, IT MUST DENOTE WIRING UNDERGROUND OR ABOVE TILE CEILING OF FLOOR BELOW. CONDUITS SHOWN ARE DIAGRAMMATIC ONLY AND DO NOT REPRESENT ACTUAL CONDUIT ROUTING UNLESS SPECIFICALLY NOTED. CONTRACTOR TO DETERMINE CONDUIT ROUTING IN THE FIELD.
	

ELECTRICAL ENERGY CODE SUMMARY	
(STATE ENERGY CODE OR ASHRAE 90.1, LATEST EDITION ADOPTED)	
ELECTRICAL SYSTEM AND EQUIPMENT:	
METHOD OF COMPLIANCE: STATE ENERGY CODE: (X) PRESCRIPTIVE () PERFORMANCE ASHRAE 90.1: (X) PRESCRIPTIVE () PERFORMANCE	
WEST VAULT:	
LUMINAIRE SCHEDULE:	
LAMP TYPE REQUIRED IN LUMINAIRE	LED
NUMBER OF LAMPS IN LUMINAIRE	2
BALLAST TYPE USED IN THE LUMINAIRE	N/A
NUMBER OF BALLASTS IN LUMINAIRE	N/A
TOTAL WATTAGE PER LUMINAIRE	32
TOTAL INTERIOR WATTAGE ALLOWED VS. SPECIFIED	1003 VS 384
PROJECT TOTAL SQUARE FOOTAGE:	1174 S.F.
<u>STATE ENERGY CODE ADDITIONAL PRESCRIPTIVE COMPLIANCE SUMMARY:</u>	
MUST COMPLY WITH ONE OF THE FOLLOWING SECTIONS:	
() C406.2 MORE EFFICIENT HVAC EQUIPMENT PERFORMANCE	
(X) C406.3 REDUCED LIGHTING POWER DENSITY	
() C406.4 ENHANCED DIGITAL LIGHTING CONTROLS	
() C406.5 ON-SITE RENEWABLE ENERGY	
() C406.6 DEDICATED OUTDOOR AIR SYSTEM	
() C406.7 REDUCED ENERGY USE IN SERVICE WATER HEATING	
** ABOVE CALCULATIONS INCLUDE REDUCED LIGHTING DENSITY. **	

LUMINAIRE SCHEDULE							
TYPE	DESCRIPTION	MFG/MODEL SERIES	LUMENS	LAMP(S)	WATTS VOLTS	MOUNTING	REMARKS
X1	THERMOPLASTIC LED EXIT SIGN	LIGHTALARMS: 'GRAN' SERIES LITHONIA: 'LOM' SERIES EMERGI-LITE: 'PREM' SERIES SURELITE: 'LPX7' SERIES OR EQUAL	N/A	INTEGRAL LED	5 UNIV.	WALL MOUNTED	6" RED LETTERS, POLYCARBONATE HOUSING, CHEVRONS AND FACES PER PLANS, 90-MINUTE NI-CAD SELF-DIAGNOSTIC BATTERY BACK-UP WITH TEST SWITCH, UL 924 LISTED, MICROPROCESSOR BASED CHARGER, SURGE PROTECTION, BROWNOUT, AC LOCKOUT, LOW VOLTAGE DISCONNECT, 5 YEAR WARRANTY

SCOPE OF WORK	
THE SCOPE OF WORK FOR THIS PROJECT IS TO PROVIDE A NEW DOCKING STATION FOR THE WEST CDIA AIRFIELD LIGHTING VAULT. THE LIGHTING VAULT IS CURRENTLY EQUIPPED WITH AN EXISTING DIESEL GENERATOR WITHOUT MEANS FOR TEMPORARY POWER CONNECTIONS. EACH DOCKING STATION MUST BE INSTALLED AT THE BUILDING EXTERIOR AND CONNECTED TO THE EXISTING STANDBY POWER SYSTEM AHEAD OF THE EXISTING TRANSFER SWITCH. LIGHT FIXTURES MUST BE RE-LAMPED WITH LED LAMPS AS INDICATED ON PLANS.	

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AME Project No.: 23003

Seals



ISSUED FOR CONSTRUCTION

Project

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INTERNATIONAL AIRPORT
5740A ARFF RD,
CHARLOTTE, NC, 28208

AIRFIELD WEST LIGHTING
VAULT DOCKING STATION

Issues / Revisions

Rev. No.	Date	Description

Drawing Title

ELECTRICAL -
GENERAL NOTES
AND LEGEND

Drawing Info

Checked by	JDH
Drawn by	STT
Scale	AS SHOWN
Job No.	23003
Date	03-31-2023

Drawing No.

E-01

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LOAD SUMMARY	
DESIGNATION:	UTILITY
VOLTAGE:	480/277V
PHASE/WIRE:	3Ø, 4W
RATING:	1600A
OCPD:	1600A
EXISTING LOAD (KVA):	129 X 1.25 = 161.2
REMOVED LOAD (KVA):	0.8
ADDED LOAD (KVA):	0.6
TOTAL LOAD (KVA):	161
TOTAL LOAD (AMPS):	194
EXISTING LOADS ARE BASED ON HIGHEST DEMAND IN PRIOR 12 MONTHS PERIOD BY LOCAL POWER COMPANY.	

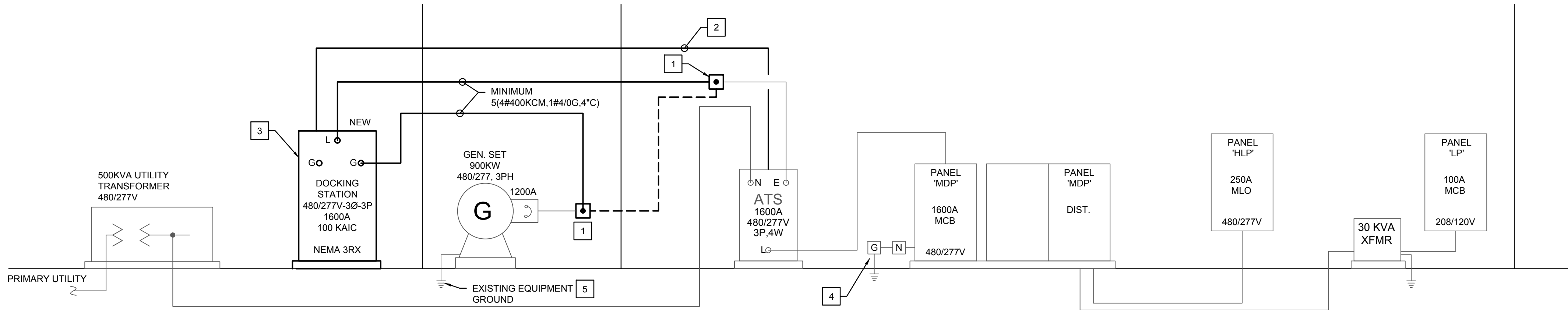
LOAD SUMMARY	
DESIGNATION:	LP
VOLTAGE:	208/120V
PHASE/WIRE:	3Ø, 4W
RATING:	100A
OCPD:	100A
EXISTING LOAD (KVA):	24
REMOVED LOAD (KVA):	0
ADDED LOAD (KVA):	0.2
TOTAL LOAD (KVA):	24.2
TOTAL LOAD (AMPS):	67
EXISTING LOADS ARE BASED ON EXISTING CONDITIONS AND ASSOCIATED NEC DEMAND FACTORS.	

RISER LEGEND

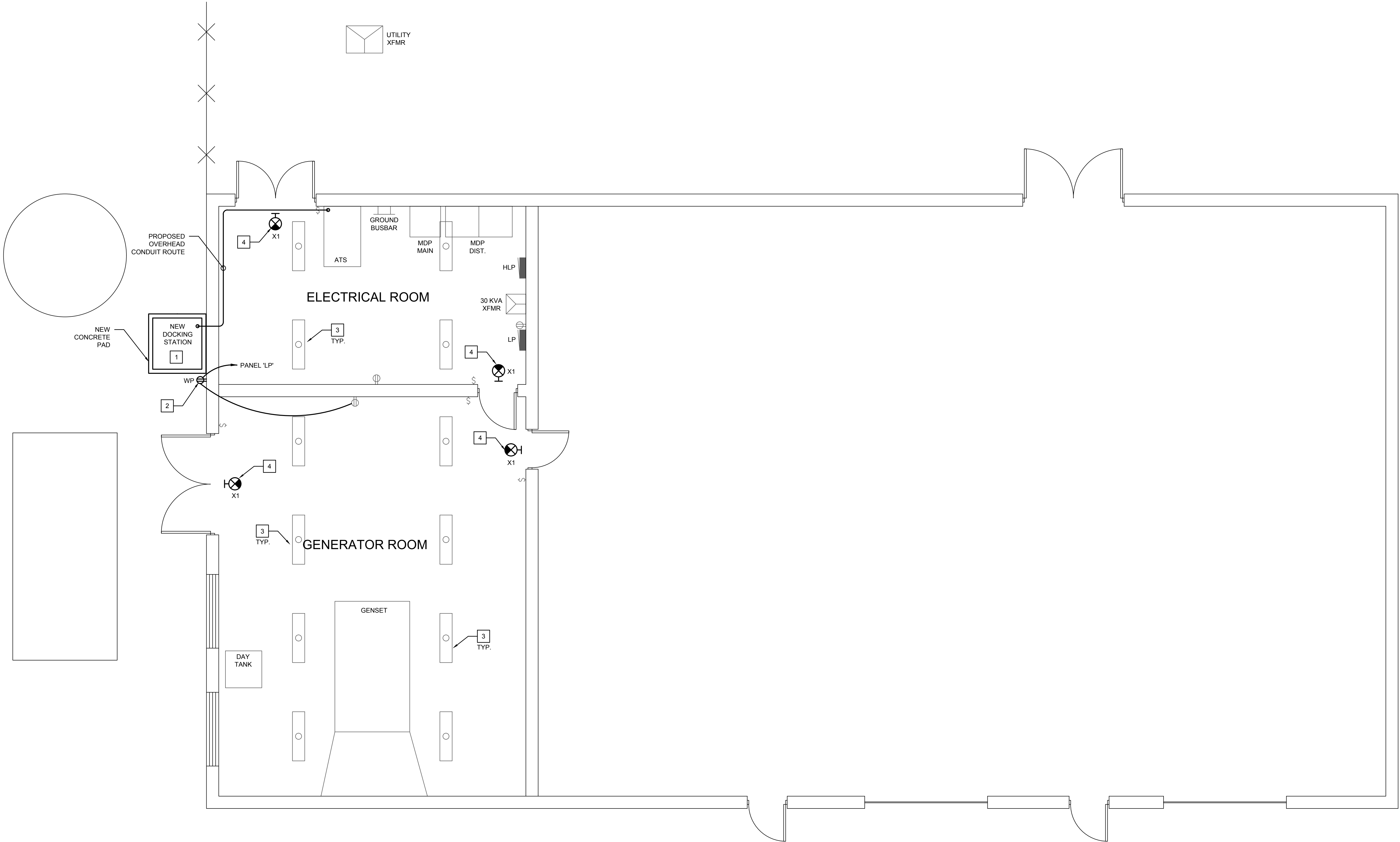
- LIGHT SOLID LINETYPE = EXISTING TO REMAIN, UON.
----- HEAVY DASHED LINETYPE = TO BE DEMOLISHED, UON.
———— MEDIUM SOLID LINETYPE = NEW WORK, UON.

KEYED NOTES (RISER):

- INTERCEPT EXISTING FEEDER AND EXTEND TO NEW DOCKING STATION. CONDUIT AND WIRE MUST MATCH EXISTING.
- PROVIDE NEW SIGNAL WIRE AND CONDUIT. CONDUIT MINIMUM SIZE MUST BE 1". WIRE MUST MATCH EXISTING.
- DOCKING STATION PROVIDED BY OWNER INSTALLED BY CONTRACTOR.
- VERIFY NEUTRAL IS BONDED TO GROUND AT THE SERVICE ENTRANCE DISCONNECT.
- CONTRACTOR TO VERIFY EXISTING NEUTRAL TO GROUND DOES NOT EXIST AT THIS LOCATION.



2 ELECTRICAL - WEST VAULT RISER DIAGRAM
NTS



GENERAL NOTES:

- ALL DEVICES ARE EXISTING TO REMAIN UNLESS OTHERWISE NOTED.
- CONTRACTOR MUST COORDINATE ALL WORK WITH OWNER. OWNER RESERVES THE RIGHT TO POSTPONE WORK DUE TO INCLEMENT WEATHER AND/OR EMERGENCY CONDITIONS.
- CONTRACTOR MUST COORDINATE GENERATOR DISCONNECT FROM EXISTING SYSTEM A MINIMUM OF (2) WEEKS IN ADVANCE WITH OWNER AND FAA.

1 ELECTRICAL - WEST LIGHTING VAULT PLAN

SCALE: 1/4" = 1'-0"



KEYED NOTES (PLAN):

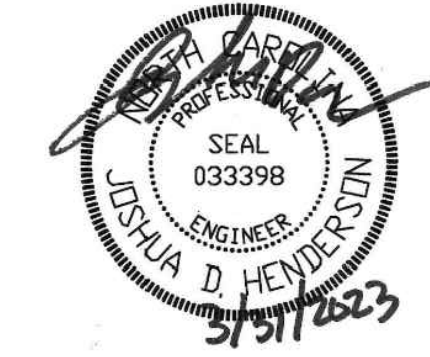
- NEMA 3RX DOCKING STATION** - 1600A, 480/277V, 3Ø, 3 POLE - BASIS OF DESIGN. TEMP POWER SYSTEMS QUICK CONNECT PANEL. NEW DOCKING STATION WITH INTEGRAL ROTARY TRANSFER SWITCH PROVIDED BY OWNER. PAD MOUNTED AND INSTALLED BY CONTRACTOR. PROVIDE CONCRETE PAD PER MANUFACTURER'S RECOMMENDATIONS. COORDINATE EXACT LOCATION WITH OWNER PRIOR TO INSTALLATION.

ADDED LOAD: 180 VA
- PROVIDE WEATHERPROOF DUPLEX RECEPTACLE MOUNTED ADJACENT TO DOCKING STATION. WIRE TO CIRCUIT FROM PANEL 'LP' SERVING RECEPTACLES IN THIS AREA. FIELD VERIFY EXACT CIRCUIT.

REMOVED LOAD: 768 VA
ADDED LOAD: 384 VA
NET LOAD: -384 VA
- EXISTING FLUORESCENT LIGHT FIXTURES MUST BE RE-LAMPED WITH LED LAMPS. PROVIDE (2) NEW 48" T8 COMPATIBLE LAMPS PER FIXTURE - 277V, 16W, 4000K. 1800 LUMEN. LIGHT FIXTURE HOUSINGS EXISTING TO REMAIN. ANY EXISTING BATTERY BACKED LIGHT TO REMAIN BATTERY BACKED. EXISTING BALLASTS MUST BE REMOVED.
- EXISTING EXIT SIGNS MUST BE DEMOLISHED AND REPLACED WITH NEW IN THE SAME LOCATION. REUSE EXISTING WIRE AND CONDUIT. SEE FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION. CIRCUIT LOAD IS UNAFFECTED.

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AIRFIELD WEST LIGHTING
VAULT DOCKING STATION

Issues / Revisions

Rev. No.	Date	Description

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ELECTRICAL - WEST
LIGHTING VAULT
PLAN

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Date 03-31-2023

Drawing No.

E-31

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Scott Thompson

ELECTRICAL SPECIFICATIONS

SECTION 26 01 00 - GENERAL PROVISIONS

PART 1 - GENERAL

- A. CODES AND STANDARDS - THE LATEST EFFECTIVE PUBLICATIONS OF ALL APPLICABLE STANDARDS, CODES, ETC., AS THEY APPLY, FORM PART OF THESE SPECIFICATIONS AS IF WERE WRITTEN FULLY HEREIN AND CONSTITUTE MINIMUM REQUIREMENTS. THE FOLLOWING WILL BE REFERRED TO THROUGHOUT IN ABBREVIATED FORMS:
- 2020 NATIONAL ELECTRICAL CODE (NFPA 70) (NEC)
 - INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE)
 - RULES AND REGULATIONS OF LOCAL ELECTRIC AND TELECOMMUNICATIONS UTILITY COMPANY
 - NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)
 - AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
 - APPLICABLE LOCAL CODES
 - UNDERWRITERS LABORATORIES, INC. (UL)
 - NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
 - AMERICAN SOCIETY OF TESTING AND MATERIALS (ASTM)
 - INSULATED CABLE ENGINEERS ASSOCIATION (ICEA)
 - STATE ENERGY CODE
 - STATE BUILDING CODE
- B. SCOPE OF WORK - PROVIDE ALL WORK REQUIRED FOR THIS DIVISION INCLUDING ALL LABOR, MATERIALS, EQUIPMENT, SUPERVISION, APPURTENANCES AND SERVICES TO PROVIDE COMPLETE ELECTRICAL SYSTEMS AS SHOWN ON THE DRAWINGS AND SPECIFIED IN THIS DIVISION OF THE SPECIFICATIONS. THE WORD "PROVIDE" MUST MEAN "FURNISH AND INSTALL, COMPLETE AND READY FOR USE".
- C. THE WORD "MUST" OR TERMS "REQUIRED" OR "SHALL", MEAN THAT THE DEFINITION IS AN ABSOLUTE REQUIREMENT.
- D. THE CONTRACTOR MUST VISIT THE SITE PRIOR TO BID TO DETERMINE THE EXTENT OF THE WORK, LACK OF KNOWLEDGE OF EXISTING CONDITIONS WILL NOT BE CONSIDERED A BASIS FOR CHANGE ORDERS. PRIOR TO ORDERING EQUIPMENT, VERIFY THAT EQUIPMENT TO BE PROVIDED UNDER THIS CONTRACT IS ACCEPTABLE AND CAN FIT INTO BUILDINGS, ROOMS, AND SPACES INDICATED ON THE DRAWINGS. EXPENSE INCURRED BY THE CONTRACTOR, WHICH IN THE ENGINEER'S OPINION COULD HAVE BEEN AVOIDED BY THIS STEP, MUST NOT BE A BASIS FOR CHANGE ORDERS.
- E. DRAWINGS AND SPECIFICATIONS - THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL EXTENT, CHARACTER AND ARRANGEMENT OF EQUIPMENT, FIXTURES AND CONDUIT AND WIRING SYSTEMS. IT IS THE INTENTION OF THESE SPECIFICATIONS AND DRAWINGS TO FULLY COVER ALL WORK AND MATERIALS FOR A COMPLETE, FIRST-CLASS ELECTRICAL INSTALLATION, AND ANY DEVICES SUCH AS PULL BOXES, DISCONNECT SWITCHES, STARTERS, ETC., USUALLY EMPLOYED IN THIS CLASS OF WORK, THOUGH NOT SPECIFICALLY MENTIONED OR SHOWN ON THE DRAWINGS OR IN THIS SPECIFICATION, BUT WHICH MAY BE NECESSARY FOR THE SATISFACTORY COMPLETION OF THE WORK, MUST BE FURNISHED AND INSTALLED BY THE CONTRACTOR AS A PART OF HIS TOTAL WORK UNDER THIS DIVISION. CONSULT THE SPECIFICATIONS AND DRAWINGS OF ALL OTHER TRADES AND PERFORM ALL ELECTRICAL WORK REQUIRED THEREIN. COOPERATE WITH ALL OTHER CONTRACTORS OR SUBCONTRACTORS TO FURNISH COMPLETE WORKABLE SYSTEMS.
- F. DURING CONSTRUCTION, KEEP AN ACCURATE RECORD OF ALL DEVIATIONS BETWEEN THE WORK AS SHOWN ON THE CONTRACT DRAWINGS AND THAT WHICH IS ACTUALLY INSTALLED ON A SET OF FULL SIZE PRINTS OF THE ELECTRICAL DRAWINGS AND NOTE CHANGES THEREON WITH RED MARKS IN A NEAT AND VISIBLE MANNER. WHEN ALL REVISIONS HAVE BEEN SHOWN ON THESE PRINTS TO INDICATE THE WORK AS INSTALLED THE "AS-BUILT" PRINTS MUST BE DELIVERED TO THE ENGINEER BEFORE FINAL PAYMENT.
- G. PERMITS, INSPECTION AND TESTS - THE RIGHT IS RESERVED TO INSPECT AND TEST ANY PORTION OF THE INSTALLATION/EQUIPMENT DURING THE PROGRESS OF ITS ERECTION. THIS CONTRACTOR MUST TEST ALL WIRINGS FOR CONTINUITY AND GROUNDS BEFORE CONNECTING ANY FIXTURES OR DEVICES. THIS CONTRACTOR MUST TEST THE ENTIRE SYSTEM WHEN THE WORK IS FINALLY COMPLETED TO ENSURE THAT ALL PORTIONS ARE FREE FROM SHORT CIRCUITS AND GROUNDS. IT MUST BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO NOTIFY THE CODE ENFORCING AUTHORITY AND TO SCHEDULE ALL REQUIRED INSPECTIONS WITH THE STATE, COUNTY, & CITY OFFICIALS (WHERE APPLICABLE), AND LOCAL AUTHORITY HAVING JURISDICTION, THE WORK MUST BE THOROUGHLY TESTED IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE TO DEMONSTRATE THAT THE ENTIRE SYSTEM IS IN PROPER WORKING ORDER AND IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. DURING FINAL INSPECTION FURNISH THE TEST INSTRUMENTS AND QUALIFIED PERSONNEL TO PERFORM COMPLETE TESTING. COSTS OF TESTS INCLUDING EXPENSES INCIDENT TO RETEST OCCASIONED BY DEFECTS AND FAILURES OF THE EQUIPMENT TO MEET THE REQUIREMENTS SPECIFIED MUST BE PAID BY THE ELECTRICAL CONTRACTOR.
- H. SECURE AND PAY FOR ALL REQUIRED PERMITS, FEES, TESTING AND INSPECTIONS. INSPECTION CERTIFICATES FROM LOCAL AUTHORITIES HAVING JURISDICTION MUST BE DELIVERED TO THE OWNER BEFORE FINAL PAYMENT.
- I. SUBMITTALS - SUBMIT SHOP DRAWINGS, PRODUCT DATA AND SAMPLES WITHIN A TIMELY MANNER OF AWARD OF CONTRACT AND IN ACCORDANCE WITH THE GENERAL CONDITIONS AND SUPPLEMENTARY CONDITIONS. SUBMITTALS ARE REQUIRED FOR ALL ITEMS PROVIDED UNDER THIS SPECIFICATION. REVIEW OF SUBMITTALS BY THE ENGINEER AND ANY ASSOCIATED ACTION TAKEN BY THE ENGINEER DOES NOT RELIEVE THE CONTRACTOR OF ANY REQUIREMENTS SET FORTH BY THE CONTRACT DOCUMENTS. CONTRACTOR MUST NOT RELEASE ANY EQUIPMENT FOR FABRICATION WITHOUT APPROVED SHOP DRAWINGS. PROVIDE TABLE OF CONTENTS FOR EACH SPECIFICATION SECTION WITH COMPLETE PART NUMBER PER TYPE OF EQUIPMENT. PROVIDE TABS IN MULTI-SECTION SUBMITTALS. PROVIDE SUBMITTALS FOR THE FOLLOWING ITEMS AT A MINIMUM:
- WIRING DEVICES, COVERPLATES
 - LIGHTING - LAMPS
- J. CAD/PDF DRAWINGS - CAD/PDF DRAWINGS WILL BE AVAILABLE FOR THE CONTRACTORS USE IN REPRODUCTION OF SHOP DRAWINGS. CONTRACTOR WILL HAVE TO FILL OUT AND SIGN A WAIVER/RELEASE FORM FROM THE ENGINEER. THIS REQUIREMENT IS NOT INTENDED TO RESTRICT THE CONTRACTOR FROM PREPARING SHOP/COORDINATION DRAWINGS IN A TIMELY FASHION. IF THE CONTRACTOR DEMS THIS REQUIREMENT TOO RESTRICTIVE, THEN THE CONTRACTOR MUST PROCEED AS IF THE CAD/PDF DRAWINGS ARE NOT AVAILABLE FOR USE.
- K. OPERATIONS AND MAINTENANCE MANUALS - PROVIDE INSTRUCTION AND MAINTENANCE MANUALS FOR EACH ITEM OF ELECTRICAL SYSTEM AS SPECIFIED IN AND SHOWN ON DRAWINGS. SUBMIT THREE COPIES OF O&M MANUALS AS SPECIFIED FORMAT LISTED BELOW.
- PROVIDE HARDBACK THREE RING LOOSE-LEAF BINDER WITH REINFORCED HOLES IN SHEETS AND DRAWINGS NEATLY FOLDED AND NOT EXTENDING BEYOND THE EDGE OF THE BINDER.
 - PROVIDE TITLE SHEET WITH JOB NAME, AND THE NAMES, ADDRESSES AND PHONE NUMBERS OF THE CONTRACTOR, ALL SUBCONTRACTORS AND SUPPLIERS.
 - PROVIDE INDEX OF CONTENTS.
 - PROVIDE A SIGNED COPY OF ACKNOWLEDGMENT OF INSTRUCTION TO THE OWNER OR THE OWNER'S AUTHORIZED REPRESENTATIVE FOR ALL ELECTRICAL PROVIDED.
 - PROVIDE TYPE WRITTEN OPERATING INSTRUCTIONS FOR THE OWNER'S PERSONNEL DESCRIBING HOW TO OPERATE AND MAINTAIN EACH PIECE OF EQUIPMENT.
 - PROVIDE APPROVED SHOP DRAWINGS, SUBMITTAL DATA AND MAINTENANCE BOOKLET FOR EACH ITEM OF MATERIAL AND EQUIPMENT FURNISHED UNDER THIS CONTRACT. FINAL DRAWINGS MUST INCLUDE ALL DIMENSIONS.
 - RECORD DRAWINGS OF ELECTRICAL SYSTEM DIAGRAMS.
 - PROVIDE COPIES OF FINAL INSPECTION CERTIFICATES.
 - PROVIDE GUARANTEES AND WARRANTIES INCLUDING EXTENDED GUARANTEES AND WARRANTIES.
- L. MANUFACTURING STANDARDS - ALL MATERIALS MUST BE NEW AND APPROVED AND LABELED BY UL OR A NO APPROVED THIRD PARTY UNTL WHEREVER STANDARDS HAVE BEEN ESTABLISHED BY THAT AGENCY. DEFECTIVE EQUIPMENT OR EQUIPMENT DAMAGED IN THE COURSE OF INSTALLATION OR TEST MUST BE REPLACED OR REPAIRED IN A MANNER MEETING THE APPROVAL OF THE OWNER. ALL ITEMS OF THE SAME TYPE AND RATING MUST BE IDENTICAL.
- M. TRADE NAMES - UNLESS SPECIFICALLY IDENTIFIED OTHERWISE, MANUFACTURERS' NAMES AND CATALOG NUMBERS INDICATED HEREIN AND ON THE DRAWINGS ARE NOT INTENDED TO BE PROPRIETARY DESIGNATIONS. THEY ARE TO INDICATE GENERAL TYPE AND QUALITY OF MATERIALS AND EQUIPMENT REQUIRED. EQUIPMENT AND MATERIALS BY OTHER MANUFACTURERS WHICH IN THE OPINION OF THE ENGINEER ARE OF EQUAL QUALITY AND WHICH WILL PRODUCE THE SAME RESULTS WILL BE CONSIDERED ACCEPTABLE AS LONG AS ALL DIMENSIONS, WEIGHTS, CLEARANCES, SHIPPING LEAD TIMES, ETC. AS THE SAME.
- N. OBTAIN APPROVED SHOP DRAWINGS SHOWING WIRING DIAGRAMS, CONNECTION DIAGRAMS, ROUGHING-IN AND WIRING DETAILS FROM OTHER INVOLVED CONTRACTORS FOR ALL EQUIPMENT AND COMPLY THEREWITH.
- O. CONTROL, INTERLOCK, AND INTERNAL EQUIPMENT WIRING REGARDLESS OF VOLTAGE WILL BE PROVIDED BY OTHERS UNLESS SPECIFICALLY SHOWN HERE.
- P. SCHEDULE OF WORK - THE SCHEDULE OF THE ELECTRICAL WORK MUST BE ARRANGED TO SUIT

THE PROGRESS OF WORK BY THE OTHER TRADES AND MUST IN NO WAY RETARD PROGRESS OF CONSTRUCTION OF THE PROJECT.

- P. WORK UNDER THIS DIVISION MUST PROCEED IN ADVANCE OF THE WORK OF OTHERS WHENEVER POSSIBLE, ELIMINATING ALL UNNECESSARY CUTTING AND PATCHING. WHEN SUCH PROCEDURE IS IMPOSSIBLE, CUTTING AND PATCHING MUST BE DONE IN AN APPROVED MANNER. CUTTING MUST NOT ENDANGER STRUCTURAL INTEGRITY IN ANY WAY. PATCHING MUST EXACTLY MATCH CONTIGUOUS WORK. ACTUAL WORK OF CUTTING AND PATCHING OF EXISTING SURFACES MUST BE COORDINATED WITH AND PERFORMED BY THE GENERAL CONTRACTOR, E.G., CUTTING AND PATCHING OF MASONRY WALL WILL BE PERFORMED BY THE MASONRY SUBCONTRACTOR. COSTS OF SUCH CUTTING AND PATCHING MUST BE BORNE BY THE ELECTRICAL SUBCONTRACTOR. CUTTING MUST BE CAREFULLY DONE AND DAMAGE TO BUILDING, PIPING, WIRING OR EQUIPMENT AS A RESULT OF CUTTING MUST BE REPAIRED BY SKILLED MECHANICS OF TRADE INVOLVED.
- Q. STORAGE AND MATERIALS - SPACE MUST BE COORDINATED BETWEEN THE CONTRACTOR AND THE OWNER FOR THE STORAGE OF MATERIALS. THIS CONTRACTOR WILL BE RESPONSIBLE FOR THE PROTECTION AND SAFEGUARDING OF MATERIALS, TOOLS, AND EQUIPMENT. ALL MATERIALS AND EQUIPMENT MUST BE KEPT IN ITS ASSIGNED PLACE UNTIL THE TIME OF ITS INSTALLATION. EXCESS MATERIALS, DIRT AND REFUSE MUST BE PROMPTLY REMOVED FROM THE WORK SITE.
- R. COORDINATION - COOPERATE AND COORDINATE EFFORTS WITH ALL CONTRACTORS ON THE PROJECT. THIS IS ESPECIALLY IMPORTANT IN DETERMINING EXACT LOCATIONS OF ALL EQUIPMENT AND RECEPTACLES. THIS VERIFICATION MUST BE EXECUTED REGARDLESS OF INFORMATION PLACED ON THE DRAWINGS. ANY COST INCURRED WHICH IN THE OPINION OF THE OWNER, COULD HAVE BEEN AVOIDED BY THIS STEP MUST BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
- S. GUARANTEE OF WORK - CONTRACTOR GUARANTEES BY HIS ACCEPTANCE OF THE CONTRACT THAT ALL WORK INSTALLED IS FREE FROM ANY AND ALL DEFECTS IN WORKMANSHIP AND/OR MATERIALS, AND THAT THE MATERIALS WILL DEVELOP CAPACITIES AND CHARACTERISTICS SPECIFIED, AND THAT IF, DURING THE PERIOD OF ONE YEAR OR AS OTHERWISE SPECIFIED, FROM DATE OF CERTIFICATE OF COMPLETION AND ACCEPTANCE OF THE WORK ANY SUCH DEFECTS IN WORKMANSHIP, MATERIAL, OR PERFORMANCE APPEAR, HE WILL, WITHOUT COST TO THE OWNER, REMEDY SUCH DEFECTS WITHIN A REASONABLE TIME TO BE SPECIFIED IN NOTICE. IN DEFAULT THEREOF, THE OWNER MAY HAVE SUCH WORK DONE AND CHARGE COST TO CONTRACTOR. EQUIPMENT GUARANTEES FROM DATE OF "START-UP" WILL NOT BE RECOGNIZED.
- T. WORKING CLEARANCES - WORKING CLEARANCES AROUND EQUIPMENT REQUIRING ELECTRICAL SERVICE MUST COMPLY WITH NEC REQUIREMENTS.
- U. SEISMIC DESIGN CRITERIA - INSTALLATIONS MUST CONFORM TO SEISMIC REQUIREMENTS OF THE STATE BUILDING CODE. CONTRACTOR MUST CONSULT A SEISMIC DESIGN ENGINEER FOR ALL RELATED REQUIREMENTS.
- V. PAINTING - COORDINATE WITH G.C. TO ENSURE ALL EXPOSED CONDUIT, BOXES, AND FITTINGS IN FINISHED AREAS ARE PAINTED TO MATCH ADJACENT SURFACE.
- W. ALL WIRING LUGS USED THROUGHOUT THE PROJECT, INCLUDING BUT NOT LIMITED TO: OVERCURRENT PROTECTION DEVICES, SWITCHGEAR LUGS, WIRING DEVICE TERMINALS, MOTOR TERMINALS, EQUIPMENT TERMINALS, ETC. MUST BE RATED FOR USE WITH 75 DEGREE MINIMUM CONDUCTORS. CONTRACTOR TO COORDINATE LUG SIZES WITH EQUIPMENT MANUFACTURERS.
- X. MAXIMUM HEIGHT TO OPERATION OF OVERCURRENT PROTECTION DEVICES OR DISCONNECTS TO BE 6'-7" AFF.
- Y. IT MUST BE UNDERSTOOD THAT ALL WORK PERFORMED MUST BE DONE BY A LICENSED E.C. AND IN A FIRST CLASS WORKMAN LIKE MANNER. SAID CONTRACTOR MUST MEET ALL REQUIREMENTS SET FORTH BY ANY LOCAL ORDINANCE AND/OR GOVERNING AUTHORITIES.
- Z. ALL REQUIRED INSURANCE MUST BE PROVIDED FOR PROTECTION AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THE WORK.
- AA. IT MUST BE THE RESPONSIBILITY OF THE E.C. FOR THE ADVANCED ORDERING OF LONG LEAD ITEMS SO AS NOT TO INTERFERE WITH THE PRODUCTION OF OTHER TRADES RESULTING IN ANY DOWN OR LAG TIME.
- AB. THE E.C. MUST BE RESPONSIBLE TO REPAIR TO ORIGINAL CONDITIONS ANY AND ALL DAMAGES TO BUILDING SURFACES, EQUIPMENT AND FURNISHINGS CAUSED DURING PERFORMANCE OF WORK.
- AC. E.C. MUST NOT SCALE DRAWINGS.
- AD. IT MUST NOT BE THE INTENT OF THESE PLANS AND/OR SPECIFICATIONS TO SHOW EVERY MINOR DETAIL OF CONSTRUCTION. THE E.C. MUST BE EXPECTED TO FURNISH AND INSTALL ALL ITEMS FOR A COMPLETE ELECTRICAL SYSTEM AND PROVIDE ALL REQUIREMENTS NECESSARY FOR EQUIPMENT TO BE PLACED IN PROPER WORKING ORDER.
- AE. ALL CONDUIT RUNS ARE SHOWN DIAGRAMMATICALLY. EXACT ROUTING MUST BE DETERMINED IN THE FIELD, UNLESS OTHERWISE NOTED. THE E.C. MUST PROVIDE AND INSTALL THE PROPER NUMBER OF CONDUCTORS IN ALL RACEWAYS AS REQUIRED TO ACCOMPLISH THE PROPER FUNCTIONING OF THE DEVICES OR EQUIPMENT AS SHOWN.
- AF. THE E.C. MUST KEEP ALL AREAS IN WHICH WORK IS BEING PERFORMED, FREE FROM DEBRIS AT ALL TIMES AND SAID AREAS MUST BE LEFT BROOM CLEAN AT THE END OF EACH WORKING DAY.
- AG. ENGINEERING EXPENSES THAT ARE INCURRED DUE TO REVISIONS OR SUBSTITUTIONS REQUESTED BY THE CONTRACTOR MUST BE PAID FOR BY THAT CONTRACTOR.
- AH. UNLESS NOTED AS EXISTING TO REMAIN OR EXISTING TO BE RELOCATED, ALL EQUIPMENT, WIRING, DEVICES, ETC., MUST BE NEW AND AS SPECIFIED.

SECTION 26 05 26 - GROUNDING

- A. GROUNDING - THE ENTIRE ELECTRICAL SYSTEM, INCLUDING EQUIPMENT FRAMES, CONDUIT, SWITCHES, CONTROLLERS, WIREWAYS, NEUTRAL CONDUCTORS, BOXES, AND ALL OTHER SUCH EQUIPMENT MUST BE PERMANENTLY AND EFFECTIVELY GROUNDED IN ACCORDANCE WITH THE NEC ARTICLE 250, PROVIDE A SEPARATE GROUND CONDUCTOR IN ALL BRANCH AND FEEDER CIRCUIT CONDUITS SIZED IN ACCORDANCE WITH THE NEC.
- B. ALL CONNECTIONS TO GROUND RODS & BUILDING STEEL MUST BE MADE WITH UL APPROVED WELDED CONNECTIONS, UNLESS OTHERWISE NOTED.

SECTION 26 05 53 - ELECTRICAL IDENTIFICATION

- A. NAMEPLATES - NAMEPLATES MUST BE ENGRAVED, LAMINATED PHENOLIC WITH WHITE BACKGROUND AND BLACK CORE LETTERS.
- B. LABELING OF EQUIPMENT - ALL SWITCHBOARDS, PANELBOARDS, CABINETS, DISCONNECT SWITCHES, MOTOR CONTROLLERS, UPS, GENERATORS, TRANSFORMERS, AND ENCLOSED CIRCUIT BREAKERS MUST BE IDENTIFIED BY MACHINE ENGRAVED LAMINATED PLASTIC DESIGNATION PLATES PERMANENTLY ATTACHED THERETO WITH SELF-TAPPING SCREWS OR RIVETS. ALL COMPONENT PARTS OF EACH ITEM OF EQUIPMENT OR DEVICE MUST BEAR THE MANUFACTURER'S NAMEPLATE, GIVING NAME OF MANUFACTURER, DESCRIPTION, SIZE, TYPE, SERIAL AND MODEL NUMBER AND ELECTRICAL CHARACTERISTICS IN ORDER TO FACILITATE MAINTENANCE OR REPLACEMENT.

SECTION 26 05 90 - TESTING

- A. TEST RUN EACH PIECE OF EQUIPMENT.
- B. TEST ALL WIRING DEVICES FOR PROPER OPERATION.
- C. PROVIDE REPORT OF ALL TEST RESULTS.

SECTION 26 05 19 - CONDUCTORS

- A. CONDUCTORS AND INSULATION - WIRE AND CABLE MUST BE SOFT DRAWN, ANNEALED COPPER WITH 600 VOLT COLOR CODED INSULATION. MINIMUM WIRE SIZE MUST BE #12 AWG. INSULATION MUST BE TYPE TH&N/THWN/THW. WET LOCATIONS WILL INCLUDE SERVICE CONDUITS, CONDUIT UNDERGROUND, RACEWAYS INSTALLED IN CRAWL SPACES AND UTILITY TUNNELS, RACEWAYS INSTALLED IN CONCRETE FLOOR SLABS IN DIRECT CONTACT WITH THE EARTH AND RACEWAYS REGULARLY SUBJECT TO MOISTURE OR CONDENSATION. CONDUCTORS NO. 8 AWG AND LARGER DIAMETER MUST BE STRANDED. CONDUCTORS NO. 10 AWG AND SMALLER DIAMETER MUST BE SOLID, EXCEPT THAT CONDUCTORS FOR REMOTE-CONTROL AND SIGNAL CIRCUITS, CLASSES 1, 2, AND 3, MAY BE STRANDED.
- B. PROVIDE A SEPARATE GROUND CONDUCTOR IN ALL RACEWAYS, WITH WIRING OPERATING OVER 100 VOLTS, SIZED IN ACCORDANCE WITH THE NEC.
- C. JOINTS AND TERMINATIONS - FOR CONDUCTORS #12 AND #10 ALL FIXTURE AND BRANCH CIRCUITS JOINTS IN JUNCTION AND OUTLET BOXES MUST BE MADE WITH UL LISTED PRESSURE TYPE CONNECTORS RATED AT 600 VOLTS AND 105 DEGREES C. CONNECTORS MUST BE IDEAL INDUSTRIES "WING-NUT" OR BUCHANAN "B-CAP", 3M "SCOTCH-LOK" CONNECTORS OR EQUAL. WIRE #8 AND LARGER MUST BE JOINED OR TERMINATED WITH SOLDERLESS PRESSURE CONNECTORS PROPERLY TAPED IN LAYERS TO FORM A MOISTURE-TIGHT JOINT.
- D. COLOR CODE FOR 480Y/277 VOLT, 3-PHASE, 4-WIRE: (BROWN, ORANGE, YELLOW, GRAY, GREEN).
- E. COLOR CODE FOR 208Y/120 VOLT, 3-PHASE, 4-WIRE: (BLACK, RED, BLUE, WHITE, GREEN).

SECTION 26 05 33 - RACEWAY, BOXES, AND FITTINGS

- A. RACEWAYS - CONDUIT MUST BE HOT-DIPPED, ZINC COATED OR GALVANIZED RIGID METALLIC CONDUIT (RMC), INTERMEDIATE METALLIC CONDUIT (IMC), ELECTRICAL METALLIC TUBING (EMT), METAL CLAD (MC) OR SCHEDULE 40 POLYVINYL CHLORIDE (PVC), NM CABLE, AND FLEXIBLE NON-METALLIC CONDUIT (FNC) WILL NOT BE ALLOWED.
- B. FLEXIBLE METALLIC CONDUIT (FMC) MUST BE GALVANIZED STEEL, CONTINUOUS SPIRAL, SINGLE STRIP TYPE. LIQUID TIGHT FLEXIBLE METALLIC CONDUIT (LFMC) MUST BE COVERED WITH PVC JACKET IN WET OR DAMP LOCATIONS. PROVIDE SUITABLE FITTINGS WITH GROUND CONNECTOR.
- C. FITTINGS - ALL CONDUIT ENTERING OR LEAVING OUTLET, JUNCTION OR PULL BOXES, AND CABINETS AND ALL CONDUIT STUBS MUST HAVE BUSHINGS. PROVIDE INSULATING BUSHINGS WHERE REQUIRED BY NEC. PROVIDE EXPANSION FITTINGS WITH BONDING JUMPER WHERE CONDUITS CROSS EXPANSION JOINTS.
- FITTINGS FOR RMC AND IMC MUST BE THREADED TYPE.
 - FITTINGS FOR EMT MUST BE THREADLESS AND MUST BE STEEL COMPRESSION TYPE.
- D. FITTINGS FOR PVC MUST BE PVC, PRIMED AND GLUED.
- E. OUTLET BOXES AND JUNCTION BOXES - OUTLET BOXES MUST BE PRESSED STEEL, ELECTRO-GALVANIZED OR CADMIUM PLATED WITH CLEAN CUT, EASILY REMOVABLE KNOCKOUTS. EXCEPT AS NOTED HEREINAFTER MINIMUM SIZE OUTLET BOX MUST BE 4" SQUARE, 1 1/2" DEEP, AND MUST BE INCREASED IN DIMENSIONS TO ACCOMMODATE CONDUCTORS, CONDUITS, AND DEVICES AS REQUIRED BY THE NEC. SHALL OVER BOXES MAY BE USED WHERE REQUIRED BY STRUCTURAL CONDITIONS. PROVIDE SUITABLE PLASTER-RINGS TO MATCH WALL CONSTRUCTION AND DEVICE. CEILING AND BRACKET OUTLET BOXES MUST BE NOT LESS THAN 4" OCTAGONAL, 1 1/2" DEEP EXCEPT THAT SMALLER BOXES MAY BE USED WHERE REQUIRED BY PARTICULAR FIXTURE TO BE INSTALLED. BOXES IN METAL STUD WALLS MUST BE SUPPORTED BY METALLIC BRACKETS THAT SPAN FROM STUD TO STUD.
- F. OUTLET BOXES IN WET OR DAMP LOCATIONS MUST BE CAST-METAL, THREADED HUB-TYPE WITH GASKETS.
- G. JUNCTION OR PULL BOXES NOT OVER 100 CUBIC INCHES IN VOLUME MUST BE STANDARD OUTLET BOXES. JUNCTION BOXES OVER 100 CUBIC INCHES IN VOLUME MUST BE CONSTRUCTED OF CODE GAGE, GALVANIZED SHEET STEEL. JUNCTION BOXES MUST HAVE REMOVABLE COVERS AND MUST BE ACCESSIBLE AFTER COMPLETION OF WORK.
- H. RACEWAY AND FITTING INSTALLATION - RUN CONDUITS CONCEALED WITHIN FINISHED WALLS, CEILINGS AND FLOORS. CONDUITS MAY BE RUN EXPOSED IN MECHANICAL ROOMS AND SPACES WITH EXPOSED CONSTRUCTION. RIGID CONDUIT MUST BE SUPPORTED AT INTERVALS OF NOT MORE THAN 8'. FLEXIBLE CONDUIT MUST ONLY BE USED FOR LIGHTING FIXTURE WHIPS AND FINAL CONNECTIONS TO VIBRATING EQUIPMENT. FLEXIBLE CONDUIT MUST BE LIMITED TO 6'-0" MAXIMUM LENGTH. FLEXIBLE CONDUIT MUST BE SUPPORTED AT INTERVALS OF NOT MORE THAN 4'. RUN EXPOSED AND CONCEALED CONDUIT PARALLEL OR PERPENDICULAR TO WALLS, STRUCTURAL MEMBERS, OR INTERSECTIONS OF VERTICAL PLANES AND CEILING.
- I. SUPPORT CONDUITS BY ONE/TWO HOLE STRAPS, STRUT STRAP HANGERS AND TRAPEZE, MINERALLAC STRAPS, BEAM CLAMPS OR CADDY CLIPS. ALL CONDUIT AND BOXES TO BE SUPPORTED PROPERLY PER THE NEC.
- J. DO NOT INSTALL EMT OUTDOORS, OR UNDERGROUND, OR ENCASED IN CONCRETE, OR SURFACE MOUNTED LESS THAN 48" ABOVE FINISHED FLOOR, IN HAZARDOUS AREAS, OR IN AREAS SUBJECT TO PHYSICAL DAMAGE.
- K. DO NOT INSTALL PVC IN OR THROUGH FIRE RATED ASSEMBLIES, IN OR THROUGH ANY WALLS, IN OR THROUGH ANY CEILINGS, IN HAZARDOUS AREAS, IN AREAS SUBJECT TO SEVERE PHYSICAL DAMAGE, OR EXPOSED ANYWHERE IN THE PROJECT.
- L. SLEEVES - ALL ELECTRICAL SYSTEM CONDUIT MUST HAVE SLEEVES WHERE CONDUIT PASSES THROUGH CONCRETE SLABS EXCEPT CONCRETE SLABS IN CONTACT WITH GRADE. ALL CONDUIT 1 1/4 INCH AND LARGER RUNNING CONCEALED ABOVE CEILING MUST HAVE SLEEVES WHERE THE CONDUIT PASSES THROUGH MASONRY, TILE AND GYPSUM WALL CONSTRUCTION. SLEEVES MUST BE CONSTRUCTED OF GALVANIZED STEEL PIPE, SCHEDULE 40. PROVIDE ESCUTCHEON PLATES FOR ALL EXPOSED CONDUIT PASSING THROUGH WALLS, FLOORS AND CEILINGS. WHERE PLATES ARE PROVIDED FOR CONDUITS PASSING THROUGH SLEEVES, WHICH EXTEND ABOVE THE FLOOR SURFACE, PROVIDE DEEP RECESSED PLATES TO CONCEAL THE SLEEVES. TERMINATE SLEEVES TO TERMINATE A CONNECTOR/BUSHING FLUSH WITH WALL, FLOOR, PARTITIONS AND CEILINGS. FASTEN SLEEVES SECURELY IN FLOORS, WALLS, SO THAT THEY WILL NOT BECOME DISPLACED WHEN CONCRETE IS POURED OR WHEN OTHER CONSTRUCTION IS BUILT AROUND THEM. WHERE SLEEVES PASS THROUGH FLOORS OR FIRE RATED WALLS PROVIDE APPROVED ASSEMBLY AROUND CONDUIT TO MAINTAIN FIRE RATING.
- M. CONDUIT LOCATIONS -
- OUTDOORS EXPOSED - RMC OR IMC
 - INDOORS EXPOSED AND NOT SUBJECT TO PHYSICAL DAMAGE - EMT
- N. PROVIDE PULL BOXES, SUCH THAT NO SINGLE CONDUIT RUN HAS BENDS IN EXCESS OF 360.
- O. PROPER PLASTIC OR MASONARY RINGS MUST BE USED WITH OUTLET BOXES. PROPER COORDINATION BETWEEN E.C. AND G.C. FOR PLASTER OR MASONARY RING INITIATION WILL BE REQUIRED. NO "GOOF" RINGS MUST BE ALLOWED. ALL OUTLET BOXES MUST BE SECURELY FASTENED.
- P. CONTRACTOR MUST NOT INSTALL J-BOXES, OUTLETS, DEVICES, ETC. BACK TO BACK FOR NEW OR RENOVATION WORK.

SECTION 26 27 26 - WIRING DEVICES

- A. WIRING DEVICES MUST BE HEAVY DUTY "SPECIFICATION GRADE" AS MANUFACTURED BY HUBBELL, LEVITON, OR PASS & SEYMOUR, UNLESS OTHERWISE NOTED.
- B. DUPLEX CONVENIENCE RECEPTACLES MUST BE 20 AMPERE, 125 VOLTS, 2 POLE, 3 WIRE NEMA AND ASA STANDARD, GROUNDING TYPE, SIDE WIRED. HUBBELL #HBL5362 OR EQUAL.
- C. WEATHERPROOF DEVICES MUST BE IN WET "WHILE-IN-USE" COVERPLATES.
- D. GROUND FAULT CIRCUIT INTERRUPTING RECEPTACLES MUST BE 20 AMPERE, 125 VOLTS, 2 POLE, 3 WIRE NEMA AND ASA STANDARD, SIDE WIRED, AND MUST CONFORM TO NEC, MUST BE UL LISTED, MUST HAVE A "PUSH-TO-TEST" BUTTON AND VISIBLE INDICATION OF A TRIPPED CONDITION, HUBBELL #GF20 OR EQUAL.
- E. DEVICE PLATES IN SURFACE MOUNTED BOXES ON UNFINISHED WALLS, MUST BE ZINC-COATED SHEET STEEL HAVING ROUNDED OR BEVELED EDGES ("RS" COVERS). DEVICE PLATES ON FINISHED WALLS MUST BE SATIN FINISHED TYPE 302, ALLOY 18-8 STAINLESS STEEL OR POLYCARBONATE WITH BEVELED EDGES, AS COORDINATED WITH THE OWNER.
- F. ALL DEVICES MUST BE UL LISTED AND MEET THE FEDERAL SPECIFICATION.

SECTION 26 51 19/26 56 19 - LED INTERIOR/EXTERIOR LIGHTING FIXTURES

- A. ALL FIXTURES AND COMPONENTS MUST BE LISTED BY APPROVED THIRD PARTY TESTING LAB.
- B. FIXTURES IN UNCONDITIONED SPACES MUST BE RATED FOR OPERATION IN HIGH OR LOW TEMPERATURE ENVIRONMENTS.
- C. LED LAMPS MUST BE: MINIMUM 50,000 HOUR, MINIMUM 80 CRI.
- D. ACCEPTABLE LED MANUFACTURERS: PHILIPS, CREE, NICHIA, SAMSUNG, OSRAM, AND G.E.
- E. COLOR TEMPERATURE 4000K.
- F. ALL LED FIXTURES ARE TO BE BURNED IN FOR 100 HOURS AT FULL BRIGHTNESS PRIOR TO TESTING AND TURNOVER TO THE OWNER.
- G. LED STANDARDS: ANSI C78.377 (CHROMATICITY), LM-79 (LUMINOUS FLUX), LM-80 (LUMEN MAINTENANCE) AND TM-21.

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AME Project No: 23003

Seals



ISSUED FOR CONSTRUCTION

Project

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AIRFIELD WEST LIGHTING
VAULT DOCKING STATION

Issues / Revisions

Rev. No.	Date	Description

Drawing Title

ELECTRICAL -
SPECIFICATIONS

Drawing Info

Checked by	JDH
Drawn by	STT
Scale	AS SHOWN
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