### COORDINATION NOTE TO ELECTRICAL CONTRACTOR

THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL POWER REQUIREMENT NEEDS FOR DOOR HARDWARE WITH DOOR HARDWARE VENDOR PRIOR TO ROUGH-IN. THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL ROUTING OF CONDUIT, WIRING AND TERMINATION POINTS WITH THE ARCHITECT AND DOOR HARDWARE VENDOR PRIOR TO ROUGH-IN. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL JUNCTION BOXES, PUSH-PADS, LOW-VOLTAGE TRANSFORMERS, RELAYS, AND ALL OTHER COMPONENTS AS REQUIRED FOR DOOR HARDWARE TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO COORDINATE ALL INFORMATION IN ORDER TO CORRECTLY PREP THE DOOR INDICATED ON THIS PLAN.

### VOLTAGE DROP WIRING NOTE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING VOLTAGE DROP CONDITIONS OF FINAL CONDUIT / CONDUCTOR ROUTINGS DO NOT EXCEED THE FOLLOWING MAXIMUM VALUES AND UPSIZE CONDUCTORS AND CONDUIT AS REQUIRED:

A. FEEDER CIRCUITS: MAX 3% VOLTAGE DROP (PER NEC ARTICLE 215.2(A)(4) INFORMATIONAL NOTE NO. 2)

B. BRANCH CIRCUITS: MAX 3% VOLTAGE DROP (PER NEC ARTICLE 210.19(A)(1) INFORMATIONAL NOTE NO. 4)

C. COMBINED VOLTAGE DROP ON FEEDER AND BRANCH CIRCUIT TO THE FURTHEST DEVICE OUTLET / UTILIZATION EQUIPMENT SHALL NOT EXCEED 5%. D. EQUIPMENT GROUND CONDUCTORS SHALL BE UPSIZED AS REQUIRED PER NEC ARTICLE 250.122.(B).

WHERE THE CONDUCTOR LENGTH FROM THE PANEL TO THE LAST OUTLET ON A 120 VOLT CIRCUIT EXCEEDS 75 FEET, THE BRANCH CIRCUIT CONDUCTORS SHALL NOT BE SMALLER THAN #10 AWG. WHERE CONDUCTOR LENGTH FROM THE PANEL TO THE LAST OUTLET EXCEEDS 125 FEET CONDUCTORS SHALL NOT BE SMALLER THAN #8 AWG.

### MECHANICAL/ELECTRICAL CONTROLS WIRING COORDINATION NOTE

THE MECHANICAL AND ELECTRICAL CONTRACTORS SHALL FULLY COORDINATE ALL WORK PRIOR TO ROUGH-IN OF ANY MECHANICAL OR ELECTRICAL EQUIPMENT. REFER TO MECHANICAL SCHEDULES FOR DESIGNATIONS OF ALL EQUIPMENT REQUIRING CONTROL WIRING.

THE MECHANICAL CONTRACTOR SHALL PROVIDE ALL CONTROL WIRING AND HARDWARE RELATED TO CONTROL WORK (I.E. TRANSFORMERS, CONTROL MODULES, CONNECTORS, ETC..). ALL CONTROL WIRING SHALL BE PLENUM RATED AND INSTALLED IN CONDUIT.

THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROVIDING ALL MATERIALS AND LABOR TO PROVIDE THE 120V POWER SOURCES REQUIRED TO OPERATE ALL LOW VOLTAGE MECHANICAL EQUIPMENT AND MAKE FINAL 120 VOLT CONNECTIONS TO CONTROL EQUIPMENT. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL JUNCTION BOXES AND/OR RECEPTACLES, 120 VOLT WIRING AND SHALL INSTALL ALL WIRING IN CONDUIT.

### **ROUGH-IN NOTES**

RECEPTACLES: MOUNT AT 18" A.F.F. TO CENTERLINE UNLESS OTHERWISE NOTED. ADJUST TO MATCH MASONRY COURSES IF APPLICABLE. MOUNT ALL BOXES TRUE AND PLUMB.

ABOVE-COUNTER RECEPTACLES:

MOUNT AT 4" ABOVE COUNTERTOP OR BACKSPLASH AS APPLICABLE TO CENTERLINE. WHERE COUNTERTOP IS NOT SHOWN ON ARCHITECTURAL PLANS, MOUNT AT 48" A.F.F. TO CENTERLINE. ADJUST TO MATCH MASONRY COURSES IF APPLICABLE. MOUNT ALL BOXES TRUE AND PLUMB. BOXES FOR DEVICES ON OPPOSITE SIDES OF A COMMON WALL MUST BE OFFSET 12".

PROVIDE DOUBLE-GANG BOX WITH SINGLE GANG PLASTER RING. MOUNT OUTLET BOXES AT 18" A.F.F. TO CENTERLINE UNLESS OTHERWISE NOTED. ADJUST ALL MOUNTING HEIGHTS TO MATCH MASONRY COURSES AS APPLICABLE. MOUNT ALL BOXES TRUE AND PLUMB.

<u>SWITCHING:</u> MOUNT AT 48" A.F.F. TO TOP. ADJUST TO MATCH MASONRY COURSES AS APPLICABLE. MOUNT ALL BOXES TRUE AND PLUMB.

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FIRE ALARM: MOUNT ALL PULL STATIONS AT 48" A.F.F. TO CENTERLINE. MOUNT ALL SPEAKER/STROBES, STROBES AND REMOTE ALARM INDICATORS 80" A.F.F. TO BOTTOM OF DEVICE UNLESS OTHERWISE NOTED. COORDINATE LOCATION OF FAN CONTROL RELAY WITH DIVISION 23 CONTRACTOR. PROVIDE DUCT DETECTORS TO DIVISION 23 CONTRACTOR FOR MOUNTING. ALL WIRING BY DIVISION 26 CONTRACTOR. WIRE DUCT DETECTORS TO REMOTE ALARM INDICATORS IN CORRIDORS. COORDINATE LOCATIONS OF MAGNETIC DOOR HOLDERS PRIOR TO INSTALLATION. ADJUST ALL MOUNTING HEIGHTS TO MATCH MASONRY COURSES AS APPLICABLE. ALL DEVICES TO BE MOUNTED TRUE AND PLUMB.

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### POWFR/DATA SYMBOLS

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SYMBOL	DESCRIPTION
Фт	WALL MOUNTED DUPLEX RECEPTACLE. "T" - MOUNTED ABOVE COUNTER-TOP "S" - BOTTOM RECEPTACLE IS CONTROLLED BY WALL SWITC! "AFCI" - ARC FAULT CIRCUIT INTERRUPTER TYPE. "GFCI" - GROUND FAULT CIRCUIT INTERRUPTER TYPE.
$\bigtriangledown$	WALL MOUNTED TELEPHONE/DATA OUTLET. PROVIDE SINGLE GANG BOX WITH 3/4" EMPTY CONDUIT TO NEAREST ABOVE LAY-IN CEILING
٢	ELECTRICAL EQUIPMENT CONNECTION (HARD-WIRED OR CONNECTED TO SWITCH MOUNTED ON EQUIPMENT
-	PANELBOARD
1/2	MOTOR (NUMBER INDICATES HORSEPOWER)
8	ELECTRICAL UTILITY METER
PB	POWER PULLBOX
30/NF	HEAVY DUTY DISCONNECT. SIZE AS INDICATED IN DRAWINGS. 30 FRAME SIZE NF FUSE SIZE -'NF' INDICATES NON-FUSED -'F' INDICATES FUSED PER EQUIPMENT NAMEPLATE NUMBER INDICATES FRN FUSE SIZE
\$м	MOTOR RATED TOGGLE SWITCH, SQ'D TYPE K OR EQUAL
— G —	GROUND LOOP CONDUCTOR
۲	10' X 3/4" COPPER CLAD STEEL GROUND ROD
م م	10' X 10' X 10' SERVICE GROUNDING GRID

### RACEWAY SYMBOLS

# DESCRIPTION



G

6 G

CONDUIT CONCEALED IN WALLS OR ABOVE CEILINGS UNSWITCHED LIGHTING CIRCUIT

NEW HOMERUN TO PANELBOARD. LETTERS INDICATE PANELBOARD AND NUMBERS INDICATE CIRCUITS IN PANELBOARD 

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### FIRE ALARM SYMBOLS

(2) SB

SOUNDER BASE SMOKE DETECTOR

### LIGHTING CONTROL SYMBOLS

SYMBOL	DESCRIPTION
\$	SINGLE POLE SWITCH
\$к	SINGLE POLE SWITCH WITH PILOT LIGHT
\$os	OCCUPANCY SENSOR. WALL SWITCH MOUNTED (SINGLE G/ BOX), PIR SENSOR, RATED AT 120/277V.
(PC)	PHOTOCELL, ROOF MOUNTED

### LIGHT FIXTURE SYMBOLS

SYMBOL	DESCRIPTION
"A"	1'X4' FLUORESCENT FIXTURE, LE SEE LIGHT FIXTURE SCHEDULE F
'A' <b>5</b>	WALL MOUNTED LINEAR FLUORE FIXTURE TYPE. SEE LIGHT FIXTU
<b>⊢</b>	4'-0" FLUORESCENT STRIP LIGHT
ğ	WALL MOUNTED LIGHT FIXTURE
	INTERIOR WALL MOUNTED EMER EGRESS LIGHT FIXTURE
	EXIT LIGHT, WALL MOUNTED, DIR INDICATED. SHADING INDICATES
+8	EXIT/EMERGENCY LIGHT, WALL M AS INDICATED. SHADING INDICA
	CEILING

### ENERGY CODE SUMMARY

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ADDITIONAL PRESCRIPTIVE COMPLIANCE: C406.2 MORE EFFICIENT HVAC EQ X C406.3 REDUCED LIGHTING POWE C406.4 ENHANCED DIGITAL LIGHTII C406.5 ON-SITE RENEWABLE ENER C406.6 DEDICATED OUTDOOR AIR C406.7 REDUCED ENERGY USE IN	UI ER NG S' SI
LIGHTING SCHEDULE	
EQUIPMENT SCHEDULES WITH MOTORS (NO	דכ

MOTOR HORSEPOWER	N/A
NUMBER OF PHASES	N/A
MINIMUM EFFICIENCY	N/A
MOTOR TYPE	N/A
NUMBER OF POLES	N/A

ELECTRICAL DESIGNER STATEMENT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE DESIGN OF THIS BUILDING COMPLIES WITH THE ELECTRICAL SYSTEM AND EQUIPMENT REQUIREMENTS OF THE

# ETTER INDICATES FIXTURE TYPE.

FOR DESCRIPTION. RESCENT FIXTURE, LETTER INDICATES TURE SCHEDULE FOR DESCRIPTION. T FIXTURE

ERGENCY BATTERY BACK-UP

RECTIONAL ARROW AS S FACE

MOUNTED, DIRECTIONAL ARROW ATES FACE

### - PRESCRIPTIVE

JIPMENT PERFORMANCE R DENSITY IG CONTROLS

SYSTEM SERVICE WATER HEATING

—— SEE LIGHT FIXTURE SCHEDULE

LLOWED \_\_\_\_.58W/ft2 VS .65W/ft2 N/A

OT USED FOR MECHANICAL SYSTEMS)

NORTH CAROLINA ENERGY CODE 2018 EDITION

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SYMBOL

EGC EM

EWC

EWH G, GND

GEC

KCMIL

KVA ĸw

KWH

MCB

MLO

NEC

'NL'

NTS

PH, Ø

SWBD

TVSS

UON

UPS

XFMF

### 

ļ	DESCRIPTION
CONDUIT	
EQUIPMENT (	GROUND CONDUCTOR
EMERGENCY	
ELECTRIC WA	ATER COOLER
ELECTRIC WA	ATER HEATER
GROUND	
GROUNDING	ELECTRODE CONDUCTOR
GROUND FAL	JLT INTERRUPTER
GAS WATER	HEATER
ISOLATED GF	ROUND
INSTANTANE	OUS WATER HEATER
ONE THOUSA	ND CIRCULAR MILS
KILO-VOLT AI	MPERES
KILOWATTS	
KILOWATT-HO	JURS
MAIN CIRCUI	T BREAKER
MAIN LUG ON	ILY
NATIONAL EL	ECTRICAL CODE
INDICATES FI	XTURE ON UNSWITCHED NIGHT LIGHT CIRCUIT
NOT TO SCAL	.E
PHASE	
SWITCHBOAF	۶D
TRANSIENT \	/OLTAGE SURGE SUPPRESSOR (IG)
UNLESS OTH	ERWISE NOTED
UNINTERRUP	TIBLE POWER SUPPLY
VOLTS	
WEATHERPR	OOF
TRANSFORM	ER





P 919.851.8481 F 919.851.9703 www.engineereddesigns.com

### project status **Bid Set**

### owner id SCO ID# 16-14421-01A



<b>Umstead State Park</b>	Campground Improvement	8801 Glenwood Ave Raleigh, NC 27617	NC Division of Parks and Recreation
PROJEC DATE DRAW CHECH	CT 13 01 (N DJ (ED JD	94-21 /19/24 H L sheet n	ame
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		shee	et no





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## SITE UNDERGROUND UTILITIES AND VEGETATION COORDINATION NOTE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR FULLY COORDINATING ALL TRADES PRIOR TO ANY DISTURBANCE OF EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL FIELD COORDINATE ROUTING OF ALL UNDERGROUND WATER, WASTE AND ELECTRICAL FEEDERS WITH EXISTING AND NEW VEGETATION ELEMENTS TO PREVENT ADDITIONAL REMOVAL / RELOCATION OF VEGETATION TO INSTALL THESE UTILITIES. THE LOCATIONS OF ALL UNDERGROUND UTILITIES SHOWN ON DRAWINGS HAVE BEEN COORDINATED IN DESIGN BUT ARE DIAGRAMMATIC IN NATURE AND NOT INTENDED TO BE EXACT LOCATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INCLUDING ALL NECESSARY LABOR AND MATERIALS IN THE BID TO PROVIDE FULLY FUNCTIONING UTILITY SYSTEMS AS SHOWN ON DRAWINGS.

INSTALLING CONDUITS AND CONDUCTORS.

CABIN #3





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ENCLOSURE CONDUIT NOTE

ALL CONDUITS ENTERING/EXITING EQUIPMENT, ENCLOSURES AND RECEPTACLES SHALL BE BOTTOM FEED ONLY, TO KEEP WATER FROM BEING DIRECTLY ROUTED TO INTERNAL PARTS OF EQUIPMENT AND ENCLOSURES. CONTRACTOR SHALL NOT TOP FEED OR SIDE FEED ANY EQUIPMENT OR ENCLOSURES EXCEPT FOR EQUIPMENT/ENCLOSURES LOCATED INSIDE THE SHOWER HOUSE BUILDING. CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD IF ANY CONFLICTS ARISE WITH THIS REQUIREMENT PRIOR TO

### SITE CONDUIT ROUTING NOTE

COORDINATE ALL CONDUIT ROUTING PATHS WITH EXISTING/NEW BELOW GRADE UTILITIES PRIOR TO PERFORMING ANY TRENCHING. ALL UNDERGROUND FEEDERS AND BRANCH CIRCUITS SHALL HAVE UNDERGROUND-LINE WARNING TAPE INSTALLED ABOVE THE CONDUIT. REFER TO SPECIFICATION 260553-IDENTIFICATION FOR ELECTRICAL SYSTEMS FOR MORE INFORMATION.

ALL CONDUIT ROUTING SHALL BE COORDINATED WITH ALL ELEMENTS OF THE LANDSCAPE DESIGN PRIOR TO ROUGH-IN. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL ROUTES AND METHODS OF ROUTING PRIOR TO PERFORMING WORK. CONTRACTOR SHALL COORDINATE ALL INVERTS AND ELEVATIONS OF UNDERGROUND CONDUITS WITH CIVIL/SITE ENGINEER PRIOR TO ROUGH-IN.

## NOTES KEYED TO SITE PLAN

- ALL ELECTRICAL EXTERIOR MOUNTED PANELBOARDS SHALL BE AT A MINIMUM ELEVATION VERIFIED WITH CIVIL/SITE ENGINEER AND GENERAL CONTRACTOR. THIS DOES NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH NEC 240.24 "LOCATION IN OR ON PREMISES". OVERCURRENT DEVICES (CIRCUIT BREAKERS) SHALL BE READILY ACCESSIBLE AND SHALL BE INSTALLED SO THAT THE CENTER OF THE GRIP OF THE OPERATING HANDLE OF THE SWITCH OR CIRCUIT BREAKER, WHEN IN ITS HIGHEST POSITION, IS NOT MORE THAN 6'-7" ABOVE FINISHED GRADE.
- THE BOTTOM OF ALL CAMPSITE RV PEDESTAL-MOUNTED POWER OUTLET PANELS SHALL BE AT A MINIMUM ELEVATION AS COORDINATED WITH CIVIL/SITE ENGINEER AND GENERAL CONTRACTOR PRIOR TO ROUGH-IN OF ANY EQUIPMENT. MATERIALS AND INSTALLATION OF ALL EQUIPMENT/DEVICES ASSOCIATED WITH THE RV POWER PEDESTAL AND ITS ASSOCIATED POWER CIRCUITRY, THAT SUPPLIES POWER TO THESE PIECES OF EQUIPMENT, SHALL STRICTLY ADHERE TO NEC "ARTICLE 551-RECREATIONAL VEHICLES AND RECREATIONAL VEHICLE PARKS". PROVIDE (1) 10'-0" GROUND ROD AND CONNECT TO PEDESTAL GROUND LUG AS SHOWN ON DETAILS.
- 3 MOUNT PANEL 'W' TO THE BACK OF THE CONTROL PANEL SUPPORT STRUCTURE. REFER TO DETAIL SHEETS FOR SUPPORT STRUCTURE INFORMATION.
- 4 PROVIDE WEATHERPROOF, GFI-PROTECTED RECEPTACLE AT SERVICE RACK. REFER TO SERVICE RACK DETAIL AND PANEL SCHEDULES.



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owner id SCO ID# 16-14421-01A CORPORATE SEAL C-1729 DATE: 01-19-24 # date





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RISER DIAGRAM TO THESE SERVICES, THEN THE CONTRACTOR SHALL PROVIDE CREDIT BACK TO THE OWNER FOR THE WORK NOT REQUIRED TO BE PERFORMED. CONTRACTOR SHALL PROVIDE A SEPARATE COST BREAKOUT TO PERFORM THIS WORK TO THE OWNER DURING THE BID PHASE.

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IN THE BID TO PROVIDE FULLY FUNCTIONING UTILITY SYSTEMS AS SHOWN

ON DRAWINGS.

CONDUITS AND CONDUCTORS.

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DATE: 01-19-24

note

*‡* date



ELECTRICAL SITE PLAN

# sheet no **E-004**

## NOTES KEYED TO SITE PLAN

- STUB AND CAP 1" CONDUIT AT 6" BELOW PANEL USP2 AND AT 3" BELOW GRADE AT LOCATION OF FUTURE CHARGING STATION. USE WEATHERPROOF CAPS AND PROVIDE CONDUIT WITH PULL STRING. MARK LOCATION OF UNDERGROUND CONDUIT STUB-UP. LABEL CONDUIT AT PANEL AS 'FUTURE CHARGING STATION'.
- NEW PROPOSED ELECTRICAL UTILITY SITE TRANSFORMER AND METER BASE LOCATION. CONTRACTOR TO COORDINATE THE ORIENTATION AND EXACT LOCATION OF THE NEW SITE PAD MOUNTED UTILITY TRANSFORMER WITH THE LOCAL POWER COMPANY AND GENERAL CONTRACTOR PRIOR TO INSTALLATION OF SECONDARY SERVICE DUCTBANK. REFER TO SITE/CIVIL PLANS FOR EXACT LOCATION OF TRANSFORMER.
- PROVIDE AND INSTALL THE NEW ELECTRICAL SERVICE GROUND GRID. COORDINATE EXACT LOCATION IN FIELD WITH ALL 3 PROVIDE AND INSTALL THE NEW ELECTRICAL SERVICE GROUND GROUNDING DETAILS AND THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- MOUNT ELECTRICAL EXTERIOR MOUNTED PANELBOARDS TO EXTERIOR UNISTRUT RACK. COORDINATE WITH CIVIL AND 4 X LANDSCAPE PLANS. THIS DOES NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH NEC 240.24 "LOCATION IN OR ON PREMISES". OVERCURRENT DEVICES (CIRCUIT BREAKERS) SHALL BE READILY ACCESSIBLE AND SHALL BE INSTALLED SO THAT THE CENTER OF THE GRIP OF THE OPERATING HANDLE OF THE SWITCH OR CIRCUIT BREAKER, WHEN IN ITS HIGHEST POSITION, IS NOT MORE THAN 6'-7" ABOVE FINISHED GRADE .
- THE BOTTOM OF ALL CAMPSITE RV PEDESTAL-MOUNTED POWER OUTLET PANELS SHALL BE AT A MINIMUM ELEVATION AS 5 THE BOTTOM OF ALL CAMPSITE RV PEDESTAL-MOUNTED FOWER OUTLET FAILED STATE DE ALL MOUNTED FOWER OUTLET FOUNDED FOU AND INSTALLATION OF ALL EQUIPMENT/DEVICES ASSOCIATED WITH THE RV POWER PEDESTAL AND ITS ASSOCIATED POWER CIRCUITRY, THAT SUPPLIES POWER TO THESE PIECES OF EQUIPMENT, SHALL STRICTLY ADHERE TO NEC "ARTICLE 551-RECREATIONAL VEHICLES AND RECREATIONAL VEHICLE PARKS". PROVIDE (1) 10'-0" GROUND ROD AND CONNECT TO PEDESTAL GROUND LUG AS SHOWN ON DETAILS.



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project status



# SITE UNDERGROUND UTILITIES AND VEGETATION COORDINATION NOTE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR FULLY COORDINATING ALL TRADES PRIOR TO ANY DISTURBANCE OF EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL FIELD COORDINATE ROUTING OF ALL UNDERGROUND WATER, WASTE AND ELECTRICAL FEEDERS WITH EXISTING AND NEW VEGETATION ELEMENTS TO PREVENT ADDITIONAL REMOVAL / RELOCATION OF VEGETATION TO INSTALL THESE UTILITIES. THE LOCATIONS OF ALL UNDERGROUND UTILITIES SHOWN ON DRAWINGS HAVE BEEN COORDINATED IN DESIGN BUT ARE DIAGRAMMATIC IN NATURE AND NOT INTENDED TO BE EXACT LOCATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INCLUDING ALL NECESSARY LABOR AND MATERIALS IN THE BID TO PROVIDE FULLY FUNCTIONING UTILITY SYSTEMS AS SHOWN ON DRAWINGS.

### ENCLOSURE CONDUIT NOTE

ALL CONDUITS ENTERING/EXITING EQUIPMENT, ENCLOSURES AND RECEPTACLES SHALL BE BOTTOM FEED ONLY, TO KEEP WATER FROM BEING DIRECTLY ROUTED TO INTERNAL PARTS OF EQUIPMENT AND ENCLOSURES. CONTRACTOR SHALL NOT TOP FEED OR SIDE FEED ANY EQUIPMENT OR ENCLOSURES EXCEPT FOR EQUIPMENT/ENCLOSURES LOCATED INSIDE THE SHOWER HOUSE BUILDING. CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD IF ANY CONFLICTS ARISE WITH THIS REQUIREMENT PRIOR TO INSTALLING CONDUITS AND CONDUCTORS.

### SITE CONDUIT ROUTING NOTE

COORDINATE ALL CONDUIT ROUTING PATHS WITH EXISTING/NEW BELOW GRADE/UTILITIES PRIOR TO PERFORMING ANY TRENCHING. ALL UNDERGROUND FEEDERS AND BRANCH CIRCUITS SHALL HAVE UNDERGROUND-LINE WARNING TAPE INSTALLED ABOVE THE CONDUIT. REFER TO SPECIFICATION 260553-IDENTIFICATION FOR ELECTRICAL SYSTEMS FOR MORE INFORMATION.

ALL CONDUIT ROUTING SHALL BE COORDINATED WITH ALL ELEMENTS OF THE LANDSCAPE DESIGN PRIOR TO ROUGH-IN. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL ROUTES AND METHODS OF ROUTING PRIOR TO PERFORMING WORK. CONTRACTOR SHALL COORDINATE ALL INVERTS AND ELEVATIONS OF UNDERGROUND CONDUITS WITH CIVIL/SITE ENGINEER PRIOR TO ROUGH-IN.



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GENERAL NOTES: A. TYPE C FIXTURES SHALL BE PENDANT MOUNTED FOR THE BOTTOM OF THE FIXTURE TO BE AT 10' A.F.F..

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Glenwood Ave igh, NC 27617 8801 Raleiș

 PROJECT
 I 394-21

 DATE
 01/19/24

 DRAWN
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 CHECKED
 JDL

SHOWERHOUSE LIGHTING



SCO ID#

16-14421-01A

CORPORATE

SEAL C-1729

note

# date

**Bid Set** 

KEYED NOTES:

MOUNT PHOTOCELL AT PEAK OF SHOWERHOUSE ROOF AND CONNECT TO TYPE 'C' FIXTURES.

2 PROVIDE DIMMER SWITCH FOR EXTERIOR TYPE 'C' FIXTURES. PROVIDE PHENOLIC LABEL FOR SWITCH READING 'SWITCH TO CONTROL EXTERIOR LIGHT LEVEL'.

3 MOUNT TYPE 'C' PENDANT FIXTURES AT 9' ABOVE FINISHED FLOOR TO BOTTOM OF FIXTURE.

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### KEYED NOTES:

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CABIN PANEL

1 NEW SMOKE ALARM TO BE HARD WIRED FROM NEW PANEL (CIRCUIT #6) AND SHALL ALSO HAVE BACK-UP BATTERIES. LOCATE SMOKE ALARM A MINIMUM OF 36" (IN HORIZONTAL PATH) FROM CEILING FAN TIP. SMOKE DETECTORS SHALL BE LOW-FREQUENCY TYPE IN ACCORDANCE WITH 2013 NFPA 72 18.4.3.

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2 PROVIDE NEMA6-15R 208V/1ph RECEPTACLE FOR PTAC UNIT. COORDINATE RECEPTACLE WITH EQUIPMENT SUPPLIED.

3 PROVIDE POWER CONNECTION TO CEILING FAN CONTROLLER. COORDINATE EXACT LOCATION OF CONTROLLER WITH MECHANICAL.

4 COORDINATE MOUNTING HEIGHT OF RECEPTACLES (66"AFF, 14"AFF, ETC.) IN BACK ROOM WITH ARCHITECT TO ACCOMMODATE RESIDENTS PLUGGING IN DEVICES.

5 PROVIDE NEC APPROVED CEILING FAN BOX. MOUNT AT ROOF LEVEL ON ROOF RIDGE BEAM. PROVIDE POWER CONNECTION FROM CEILING FAN BOX TO THE WALL MOUNTED CONTROLLER.

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6 MOUNT TYPE 'C' FIXTURE AT 8' A.F.F. TO BOTTOM OF FIXTURE.

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### ARC-FAULT INTERRUPTER NOTE TO CONTRACTOR

PROVIDE ARC FAULT CIRCUIT INTERRUPTER (AFCI) PROTECTION AT FIRST RECEPTACLE IN THE CIRCUIT AS REQUIRED PER NEC (2020) 210.12(A)(5).

# EQUIPMENT/FIXTURE/DEVICE COORDINATION NOTE

ALL LOCATIONS AND MOUNTING HEIGHTS OF WALL MOUNTED DEVICES, LIGHT SWITCHES, LIGHT FIXTURES (INTERIOR & EXTERIOR), DISCONNECT SAFETY SWITCHES, MOTOR RATED SWITCHES, PANELBOARDS, ETC... SHALL BE CLOSELY COORDINATED WITH THE ARCHITECTURAL PLANS AND SHALL ALSO BE APPROVED BY THE OWNERS REPRESENTATIVE AND/OR ARCHITECT PRIOR TO ROUGH-IN. MOUNTING HEIGHTS OF LIGHT FIXTURES, RECEPTACLES, LIGHT SWITCHES, DISCONNECT SAFETY SWITCHES, PANELBOARDS, MOTOR RATED SWITCHES, ETC... MAY VARY DEPENDING ON THE CASEWORK, DOOR, WINDOW, CEILING, ETC... INFORMATION. CONTRACTOR WILL BE RESPONSIBLE FOR REVIEWING ALL OTHER PROJECT PLANS (PARTICULARLY THE ARCHITECTURAL AND STRUCTURAL PLANS), PROPERLY COORDINATING ALL EQUIPMENT LOCATIONS/MOUNTING HEIGHTS AND HAVING THE OWNERS REPRESENTATIVE AND/OR ARCHITECT VERIFY THE LOCATIONS SO THAT THE POWER/LIGHTING CONDUITS, DEVICE BACK BOXES, JUNCTION BOXES, PULL BOXES, ETC... ARE PROPERLY ROUGHED-IN TO AVOID ANY POTENTIAL CONFLICT OF OTHER TRADES.

\*\*ANY DEVICES THAT ARE NOT LOCATED IN THE CORRECT LOCATIONS WILL BE REMOVED AND RELOCATED AT THE CONTRACTORS EXPENSE. ANY WALLS OR CEILINGS THAT ARE REQUIRED TO BE PATCHED DUE TO THE INCORRECT LOCATION OF DEVICES WILL ALSO BE PATCHED AND REFINISHED AT THE CONTRACTORS EXPENSE IF COORDINATION OF EQUIPMENT/DEVICES IS NOT PERFORMED WITH THE OWNERS REPRESENTATIVE AND/OR ARCHITECT PRIOR TO ROUGH-IN.

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### **Bid Set**

SCO ID# 16-14421-01A



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CABIN ELECTRICAL PLANS



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### NOTES KEYED TO SINGLE-LINE DIAGRAM

(1) CONNECT 1#3/0 SERVICE GROUND TO GROUND RODS, WATER PIPE, BUILDING STEEL (CONCRETE STRUCTURE REBAR), ETC., PER NEC 250. REFER TO GROUNDING DETAILS.

- 2 PROVIDE PHENOLIC FAULT CURRENT NAMEPLATE FOR THIS PANELBOARD. REFER TO THE FAULT CURRENT NAMEPLATE NOTE ON THIS SHEET FOR MORE INFORMATION.
- (3) ALL SERVICE EQUIPMENT SHALL BE S.E. RATED.

A NEW ELECTRICAL SERVICE FROM NEW PAD MOUNTED TRANSFORMER SECONDARY TO BE PROVIDED AND INSTALLED BY CONTRACTOR. ELECTRICAL CONTRACTOR SHALL PROVIDE 10'-0" OF ADDITIONAL CONDUCTORS (SLACK) WITHIN NEW SITE TRANSFORMER FOR CONNECTION BY THE LOCAL POWER COMPANY. THE UNDERGROUND CONDUIT FROM THE NEW EXTERIOR MOUNTED ELECTRICAL SERVICE WIREWAY SHALL BE SLOPED AT A MINIMUM OF 2% BACK TOWARDS THE NEW SITE TRANSFORMER PIT PAD. COORDINATE ALL WORK WITH LOCAL POWER COMPANY AND ALL OTHER TRADES PRIOR TO BEGINNING ANY WORK ASSOCIATED WITH THIS NEW ELECTRICAL SERVICE FEEDER. SERVICE FEEDERS TO BE CONCRETED ENCASED (3-INCHES OF CONCRETE ON ALL SIDES OF DUCTBANK). REFER TO SPECIFICATIONS AND DETAILS FOR ADDITIONAL INFORMATION.

5 METER ENCLOSURE & CT CABINET ENCLOSURE FURNISHED & INSTALLED BY EC. METERS & CTs FURNISHED & INSTALLED BY LOCAL POWER COMPANY. COORDINATE EXACT REQUIREMENTS WITH LOCAL POWER COMPANY. CONTRACTOR SHALL VERIFY THE EXACT SIZED ENCLOSURE REQUIRED FOR THE CT CABINET WITH THE LOCAL POWER COMPANY PRIOR TO PURCHASING.

6 REFER TO CIVIL/SITE PLANS FOR LOCATION OF ELECTRICAL UTILITY SITE TRANSFORMER.

NEW SITE ELECTRICAL TRANSFORMER PAD INSTALLATION PROVIDED BY ELECTRICAL CONTRACTOR. SITE TRANSFORMER AND FINAL TERMINATIONS PROVIDED BY LOCAL POWER COMPANY. VERIFY EXACT MATERIALS NEEDED AND INSTALLATION REQUIREMENTS OF NEW SITE ELECTRICAL TRANSFORMER CONCRETE PAD WITH LOCAL POWER COMPANY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL ALL POWER COMPANY INFRASTRUCTURE REQUIRED FOR THIS NEW ELECTRICAL SITE TRANSFORMER PAD EXACTLY PER THE LOCAL POWER COMPANIES STANDARDS.

8 PROVIDE U.L. WET LOCATION LISTED TAP BOX IN NEMA 3R ENCLOSURE. TAP BOX TO BE SIZED PER NEC. COORDINATE EXACT LOCATION OF TAP BOX WITH ARCHITECT AND GENERAL CONTRACTOR PRIOR TO ROUGH-IN OF NEW PANEL FEEDERS.

9 COORDINATE DEMARCATION POINT OF LOCAL POWER COMPANY WORK/MATERIALS PRIOR TO INSTALLING THE C.T. CABINET ENCLOSURE AND THE METER BASE ENCLOSURE. ELECTRICAL SERVICE METER AND C.T. CABINET TO BE MOUNTED ON EXTERIOR ELECTRICAL SERVICE SUPPORT STRUCTURE. REFER TO DETAILS FOR MORE INFORMATION.

10 PROVIDE GROUND ROD IN ACCORDANCE WITH NEC 250 FOR ALL PANELS SERVED FROM A GROUNDED SERVICE DISTRIBUTION PANEL LOCATED AT ANOTHER STRUCTURE.

![](_page_8_Picture_18.jpeg)

![](_page_8_Picture_19.jpeg)

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![](_page_8_Picture_20.jpeg)

owner id SCO ID# 16-14421-01A

![](_page_8_Figure_22.jpeg)

## ARC-FLASH HAZARD WARNING NOTE

PROVIDE ARC-FLASH WARNING LABELS AS OUTLINED IN NEC 110.16(B) ON ELECTRICAL EQUIPMENT REQUIRED BY NEC 110.16(A)

![](_page_8_Picture_28.jpeg)

ELECTRICAL SINGLE LINE AND PANEL SCHEDULES

sheet no

![](_page_8_Picture_30.jpeg)

В

											PAI	NEL "US	SP1"									
СТ	DESCRIPTION	LIGHT	RECP	MOTOR	HEAT	OTHER	C	EGC	N	W	CB	PHASE	CB	W	N	EGC	С	OTHER	HEAT	MOTOR	RECP	LIG
1	RV SITE PEDESTAL					14400	F	REFERT	Ó SING	LE-LIN	Ē	A		REFER	TOSIN	GLE-LIN	E	14400				-
3	#20, #19 & #22		~~			14400	1	D	AGRA	M		В	1		DIAGR	AM		14400	~~			1
5	SPACE							A						REFER	TO SIN	IGLE-LIN	Ë	18000				-
7	SPACE				~~		~-					В	B DIAGRAM									
9	SPACE		~~		~~		~-			~~		A	~~									
11	SPACE											В										-
13	SPACE	**	~~									A				**					+	-
15	SPACE									l		В										-
17	SPACE											A										
19	SPACE											В										-
21	SPACE											A										-
23	SPACE		**	~~		Ψ <b>4</b>		~~				В			~				¥~		~~	-
25	SPACE			~~		~^						A				~~					~~	-
27	SPACE											В										
29	SPACE											A										
VO	.TAGE	240/120			PANEL	LOAD	CON	ECTED	DEN	AND	NE	C KVA	TOTA	LS:	KVA	AMPS	LOAD	NOTES:				
PHA	SE/WIRE	1 PHASE	4 WIRE		SUM	MARY	ĸ	VA	FAC	TOR	יד	OTAL	PHAS	SEA:	46.8	390.0	1. LAF	RGEST OF	: NEC TA	BLE 220-1	2 OR CC	)NINE(
[MAI	NSIZE	400 AMF	×		LIGHTINK	3 NOTE 1	. (	0.0	12	5%		0.0	PHAS	SE B:	46.8	390.0	2. <10	KVA - 10	0% + >10	KVA - 509	%	
MAI	NTYPE	M.C.B.			RECP. N	DTE 2		D.O	N	EC		0.0					3. INC	LUDIES 12	5% OF L	ARGEST N	OTOR	
ENC	LOSURE	NEMA 3F	२		MOTOR	NOTE 3		0.0	N	EÇ		0.0	TOTA	۱L:	93.6	390.0	4					
TYF	E	PANELB	OARD		HEAT			0.0	10	0%		0.0	PANE	1 NOT	ES:							
BUS	ISING	COPPER			OTHER		1:	20.0	50	0%		60.0	1.	S.E. F	ATED	PANELBO	oard.					
BRE	AKERTYPE	BOLT OF	N										2.	PANE	LSHAL	L BE FU	LLY B	USSED.				
MO	INTING	SURFAC	E	TOTAL K	(VA	12	20.0				60.0	3.	50% I	STHEI	DEMAND	FACT	OR FOR T	en RV pe	DESTALS	FROMIN	IEC TA	
MIN	MUM AIC RATING	35,000			KVA X '	1000 / VOI	LTS =	TOTAL /	AMPS		2	250.0	4									

											PA	NEL "US	P2"											
СТ	DESCRIPTION	LIGHT	RECP	MOTOR	HEAT	OTHER	C	EGC	N	W	СВ	PHASE	ÇВ	W	N	EGC	C	OTHER	HEAT	MOTOR	RECP	LIGHT	DESCRIPTION	Тст
1											60	A	40					3600					FUTURE CAR	2
3	JEARE											В	40					3600					CHARGING STA.	4
5	PANEL "SH"	680	1315	918	1976	150	F	REFERT	O SING	LE-LIN	Ē	A	REFER TO SINGLE-I			GLE-LIN	E	450	0	2448	2700	435	CABIN PANELS	6
7	1	1162	540	3704	720	0	1	DIAGRAM				В		I	Diagr	٩M		0	0	2808	2160	0	P5, P2 & P3	8
9	PANEL "W"	100	0	4348	600	0	F	REFER TO SINGLE-LINE			A	REFER TO SINGLE-LINE				E	450	0	2448	2700	435	CABIN PANELS	10	
11	1	0	360	4284	0	1200	1	D	AGRAN	A		В		I	DIAGR/	٩M		0	0	2808	2160	0	P4, P7 & P6	12
13	SPACE											A											SPACE	14
15	SPACE		~~	*-	~~	**	~~		**			В	~~	~~		**		~~	**		**		SPACE	16
17	SPACE											A											SPACE	18
19	SPACE											B		1	1					<b>.</b>			SPACE	20
21	SPACE											A											SPACE	22
23	SPACE											В											SPACE	24
25	SPACE		**	~~		~~		~~				A	**		~~				~~		~~		SPACE	26
27	SPACE											В											SPACE	28
29	SPACE											A						1	•	1	-		SPACE	30
vo	DLTAGE	240/120			PANEL	LOAD	CONN	ECTED	DEMAND NE			NEC KVA		LS:	KVA	AMPS	S LOAD NOTES:							
PH	ASE/WIRE	1 PHASE	4 WIRE		SUM	MARY	<u>к</u>	VA	FAC	TOR	יד	OTAL	PHAS	EA:	25.8	214.6	]1. LAI	1. LARGEST OF: NEC TABLE 220-12 OR CONNECTED LOAD.						
MA	IN SIZE	300 AMF	×s		LIGHTING	NOTE 1	2	2.8	12	5%		3.5	PHAS	EB:	25.5	212.6	2. <10	KVA - 100	)% + >10	KVA - 509	%			
MA	IN TYPE	M.C.B.			RECP. NO	DTE 2	1	1.9	N	EC		11.0					3. INC	LUDES 12	5% of L4	RGEST	<b>I</b> OTOR			
EN	CLOSURE	NEMA 3F	२		MOTOR	VOTE 3	2	3.8	N	EC		23.8	TOTA	L:	51.3	213.6	4							
TΥ	PE	PANELB	OARD		HEAT		3	3.3	10	0%		3.3	PANE	L NOTI	ES:									
BUSSING COPPER OTHER 9.5 100							0%		7.6	1.	S.E. R	ATEDR	PANELBO	oard										
BR	EAKERTYPE	BOLT OF	N										2.	PANE	1. SHALL BE FULLY BUSSED.									
MÖ	UINTING	SURFAC	Æ		TOTAL K	VA	5	1.3				49.1	3											
MIN	MUM AIC RATING	35,000			KVA X 1	000 / VOI	LTS = "	TOTAL /	AMPS		2	204.6	4.											

						P		"P#" (	τγρια					FER			OTE	#1				
									# I													
СТ	DESCRIPTION	LIGHT	RECP	MOTOR	HEAT	OTHER	С	EGC	Ν	W	CB	PHASE	CB	W	N	EGC	С	OTHER	HEAT	MOTOR	RECP	LIGH
1	LIGHTS	145					3/4"	12	12	12	20	A	15	12	12	12	3/4"			816		
3	RECEPTACLES		720				3/4"	12	12	12	20	В	2P	12						816		
5	RECEPTACLES		900				3/4"	12	12	12	20	A	20	12	12	12	3/4"	150				
7	CEILING FANS			120			3/4"	12	12	12	20	В										
9	SPARE										20	A										
11	SPARE										20	В										
VC	VOLTAGE 240/120					PANEL LOAD		CONNECTED		DEMAND		NEC KVA		TOTALS: KVA		AMPS	LÓAD	NOTES:				
PH	ASEWIRE	1 PHASE	4 WIRE		SUMMARY		KVA		FACTOR		<u>т</u>	DTAL	PHAS	EA:	2.0	16.8	1. LAF	RGEST OF	NEC TAI	BLE 220-1	2 OR CO	NNEC
MA	AN SIZE	30 AMPS	\$		LIGHTING	LIGHTING NOTE 1		0.1		125%		0.2		PHASE B:		13.8	2. <10KVA - 100% + >10KVA - 50%			%		
MA	AN TYPE	M.C.B.			RECP. N	OTE 2		1.6	N	EÇ		1.6			<b>_</b>		3. INC	LUDES 12	5% OF L/	ARGEST N	<b>IOTOR</b>	
EN	ICLOSURE	NEMA 3F	२		MOTOR	NOTE 3		1.8	N	EC		1.8	TOTA	L:	3.7	15.3	4					
TY	'PE	PANELB	OARD		HEAT		1	0.0	10	0%	<u> </u>	0.0	PANE	1 NOT	ES:							
BL	ISSING	COPPER			OTHER		1	).2	10	0%		0.2	1.	LABE	LEACH	I CABIN	PANEL	"P#" (PLA		SER OF CA	BINWHE	BRE TH
BF	NEAKER TY PE	BOLT OF	۱ I											THERE	ESHAL	L BE PA	NELS "	'P1", "P2",	"P3", "P4	", "P5" AN	D "P6"	
M	DUNTING		TOTAL K	(VA		3.7				3.7	2.											
M	NIMUM AIC RATING	10,000			KVA X '	1000 / VO	LTS =	TOTAL A	MPS			15.4	3.									

											PA	NEL "S	3 <b>H</b> "									
СТ	DESCRIPTION	LIGHT	RECP	MOTOR	HEAT	OTHER	C C	EGC	N	W	CB	FHASE	СВ	W	N	EGC	C	OTHER	HEAT	MOTOR	RECP	LIGI
1	102/105 RECPT		775				3/4"	12	12	12	20	A	20	12	12	12	3/4"			722		
3	WOMEN 101 - RECPT	~-	540				3/4"	12	12	12	20	В	20	12	12	12	3/4"			1656		
5	MEN 103 - RECPT		540				3/4"	12	12	12	20	A	20	12	12	12	3/4"		888			
7	MENS LIGHTS	612			~~	~~	3/4"	12	12	12	20	В	20	12	12	12	3/4"	~*	720	~~		~
9	PUMP-1		47	196	**	~~-	3/4"	12	12	12	20	A	20	12	12	12	3/4"	~*	888	~~	**	~
11	WOMEN RR EF-2			1176			3/4"	12	12	12	20	В	20	12	12	12	3/4"			722		
13	JAN. MH-1				200		3/4"	10	10	10	20	Α	20	12	12	12	3/4"	150				
15	FAMILY/JAN LIGHTS	250									20	В	20	12	12	12	3/4"			150		
17	WOMENS LIGHTS	680					3/4"	12	12	12	20	A	20									
19	EXT, LIGHTS	300		÷	~~	**	3/4"	12	12	12	20	В	20	-+	+-	~~	**		~~	**	***	
21	SPARE										20	A	20									
23	SPARE										20	В	20									
25	SPARE										20	Α	20									
27	SPARE										20	В	20									
29	SPARE			~~	**	÷.+		~~	**		20	Α	20	**	~~	~~	74	**	**	~~	~~	
VC	NLTAGE	240/120			PANEL	LÓAD	CON	NECTED	DEV	AND	NB	C KVA	TOTA	LS:	KVA	AMPS	LOAD	NOTES:				
PH	ASE/WIRE	1 PHASE	4 WIRE		SUM	WARY	ĸ	VA	FAC	TOR	Т	OTAL	FHAS	EA:	5.0	42.0	]1. LAF	RGEST OF	NEC TAI	BLE 220-1	2 OR CC	NNEC
MA	NSIZE	125 AM	×s		LIGHTING	S NOTE 1	1	.8	12	5%		2.3	PHAS	EB:	6.1	51.1	2. <10	KVA - 100	0% + >10	KVA - 50%	6	
MA	IN TYPE	PE M.C.B. RECP. NOTE 2		DTE 2	1	.9	N	EC		1.9					]3. INCI	LUDES 12	5% OF L4	ARGEST M	IOTOR			
BN	ENCLOSURE NEWA 1 MOTOR NOTE 3				4	1.6	N	EC		4.6	TOTA	L:	11.2	46.5	4							
ΤY	PE	PANELB	OARD	******	HEAT		2	2.7	10	0%	····	2.7	PANE	L NOT	<u>ES:</u>		••••••	*****	****	*****	*****	
BU	ISSING	COFFER			OTHER		0	).2	10	0%		0.2	1.		_							
BR	EAKER TYPE	BOLT OF	N								1		2.									
MC	NUNTING	SURFAC	E		TOTAL K	(VA	1	1.2				11.6	3.									
M	NIMUM AIC RATING	22.000			KVA X 1	1000 / VOI	LTS =	TOTAL A	AMPS			48.4	4.									

											P/	NEL "	N"									
ст	DESCRIPTION	LIGHT	RECP	MOTOR	HEAT	OTHER	С	EGC	N	W	CB	PHASE	СB	W	N	EGC	С	OTHER	HEAT	MOTOR	RECP	LIGH
1	RECIRC PUMP			1020			3/4"	12		12	15	A	20	12	12	12	3/4"					100
3				1020						12	2P	В	20	12	12	12	3/4"				360	
5	RECIRC PUMP			1020			3/4"	12		12	15	A	20	12	12	12	3/4"		600			
7				1020			]			12	2P	В	20	12	12	12	3/4"	1200	÷		~~	
9	DISCHARGE PUMP			1020			3/4"	12		12	15	A	20							1		
11	(FIELD DOSE TANK)			1020			]			12	2P	В	20									
13	DISCHARGE PUMP			1020			3/4"	12		12	15	Α	20							-		
15	(FIELD DOSE TANK)			1020			]			12	2 <b>P</b>	В	20									
17	CHEM, FEED MIXER			268			3/4"	12	12	12	20	A	20	+-								
19	Chem. Feed Pump			204			3/4"	12	12	12	20	В										
21	SPACEONLY											A										
23	SPACEONLY											В				~-						
25	SPACEONLY											A										
27	SPACEONLY			**	~~	~~			~~		~~	В		~~		~-	~~	~~	~~	\$		~~
29	SPACEONLY								~~		~~	A		~~			~~		~~	~		~~
VO	LTAGE	240/120			PANEL	LOAD	CONNECTED DEMAND					NEC KVA TOTA			KVA	AMPS	LOAD	NOTES:				
PH/	ASE/WIRE	1 PHASE	3 WRE		SUMNA	MARY	ĸ	VA	FAC	TOR	T	JTAL	PHAS	EA:	5.0	42.1	]1. LAF	RGEST OF	: NEC TA	BLE 220-1	2 OR CC	NNECT
MA	IN SIZE	100 AMF	ঙ		LIGHTING	NOTE 1	0	).1	12	5%		0.1	PHASE B:		5.8	48.7	2. <10KVA - 100% + >10KVA - 50%					
MA	IN TYPE	M.C.B.			RECP. NO	DTE 2	0	).4	N	EC		0.4					3. INC	LUDES 12	5% OF L/	ARGEST N	<b>IOTOR</b>	
BN	LOSURE	NEMA 3F	۲		MOTORN	NOTE 3	6	3.6	N	EC		8.6	TOTA	L:	10.9	45.4	4,					
TYPE PANELBOARD				HEAT		0	).6	10	0%		0.6	PANE	1 NOT	E <u>S:</u>								
BUSSING COPPER				OTHER		1	.2	10	0%		1.2	1										
BREAKER TYPE BOLT ON												2.										
MO	UNTING	SURFAC	E		TOTAL K	VA	1	0.9				10.9	3.									
MIN	IMUM AIC RATING	10,000			KVA X 1	000 / VO	LTS = 1	TOTAL A	AMPS	*********		45.5	4.									

Е

F

2

![](_page_9_Figure_10.jpeg)

TABLE 551.73A.

![](_page_9_Figure_14.jpeg)

THE "#" IS INDICATED.

![](_page_9_Picture_16.jpeg)

![](_page_9_Figure_18.jpeg)

LIGHT FIXTURE SC LAMPS TYPE LUMENS MANUFACTURER FIXTURE TYPE COLOR/ TEMP MOUNTING DESCRIPTION VOLTS/WAT CURRENT HUBBELL A 4' LINEAR LED PENDANT LIGHT FIXTURE PENDANT 120/26.8 3500K LED 3600 COOPER LITHONIA KENALL HE WILLIAMS B2 2' LINEAR WALL MOUNT LED FIXTURE WALL 120/25 LED 2536 4000K COOPER MØBERN KENALL HE WILLIAMS B4 4' LINEAR WALL MOUNT LED FIXTURE WALL 5072 120/49 LED 4000K COOPER MOBERN PRESCOLITE HUBBELL C LED PENDANT CYLINDER PENDANT 120/22.7 3500K LED 2400 COOPER LITHONIA SAYLITE EM EMERGENCY LIGHT FIXTURE WALL 3500K 120/6.6 SURE LITES LED NA HUBBELL WALL OR SAYLITE CEILING EX/EM EXIT LIGHT FIXTURE 120/2 N/A

LIGHTING NOTES: 1. ALL LIGHTING FIXTURES SHALL BE U.L. LISTED.

2. VERIFY ALL MOUNTING HEIGHTS WITH ARCHITECT PRIOR TO ROUGH-IN.

3. COORDINATE ALL COLORS/FINISH OPTIONS OF LIGHT FIXTURES WITH THE ARCHITECT PRIOR TO PURCHASING. 4. ALL LIGHTING FIXTURES INDICATED WITHIN THE LIGHTING FIXTURE SCHEDULE SHALL BE PROVIDED WITH ALL REQUIRED MOUNTING HARDWARE, CONNECTORS AND ANY OTHER NEEDED FIXTURE OPTIONS FOR A COMPLETE AND OPERATIONAL INSTALLATION AS INTENDED ON THE DRAWINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL REQUIRED COMPONENTS AT NO ADDITIONAL COST TO THE OWNER.

3500K

5. THE E.C. SHALL COORDINATE CLOSELY WITH THE ARCHITECT AND/OR GENERAL CONTRACTOR FOR THE DESIRED MOUNTING METHODS OF THE LED LIGHT FIXTURES IN ALL LOCATIONS OF THE BUILDING AS SHOWN ON THE PLANS. THE E.C. SHALL COORDINATE AND VERIFY THE EXACT LOCATIONS FOR THE POWER SUPPLY (LOW-VOLTAGE TRANSFORMERS) WITH THE ARCHITECT AND/OR GENERAL CONTRACTOR PRIOR TO ROUGH-IN. CONTRACTOR SHALL PROVIDE ALL MOUNTING HARDWARE AS REQUIRED TO MOUNT THESE FIXTURES AS DIRECTED BY THE ARCHITECT.

AS

INDICATED

# EQUAL LIGHTING MANUFACTURER NOTE

LED

SURE LITES

HUBBELL

THE LIGHTING FIXTURES INDICATED WITHIN THIS FIXTURE SCHEDULE ONLY INDICATE THE MINIMAL QUALITY STANDARDS THAT ARE REQUIRED FOR THE FIXTURES THAT ARE TO BE INSTALLED WITHIN THIS FACILITY. SEE INTERIOR LIGHTING SPECIFICATION SECTION 265100.2.1 FOR ALL ACCEPTABLE MANUFACTURERS PER NORTH CAROLINA GENERAL STATURE GS-133.

	PLUMBING/ELECTRICAL EQUIPMENT SCHEDULE										
EQUIPMENT DESIGNATION	EQUIPMENT DESCRIPTION	EQUIPMENT FURNISHED BY	VOLTAGE/ PHASE	ĸw	HP	FLA	DISCONNECT FURNISHED BY	STARTER FURNISHED BY	CONTROLS	REMARKS	
EDF-1	DRINKING FOUNTAIN W/ BOTTLE FILLER	PC	115V	-	-	1.0	EC	N/A	W/EQUIP		
HWRP-1	HOT WATER RECIRCULATION PUMP	PC	115V	-	1/25	-	EC	N/A	W/EQUIP		
IWH-1	TANKLESS WATER HEATER, PROPANE	PC	115V	-	-	1.48	EC	N/A	W/EQUIP		
SK-1	INFRARED SENSOR FAUCET	PC	115V	-		~	EC	N/A	W/EQUIP	HARDWIRED MODEL	

		MECH	ANICAL / I			WENI	COORD	INATION	SCHEDUL			
EQUIPMENT DESIGNATION	EQUIPMENT DESCRIPTION	EQUIPMENT FURN. BY	VOLTAGE/ PHASE	HEATER KW	FAN HP	MCA	MOCP	FLA	DISCONNECT FURN. BY	STARTER FURN. BY	CONTROLS	REMARKS
PTAC-1	PACKAGED TERMINAL AIR CONDITIONER	мс	208/1	1.5		8.5	15		мс	мс	TSTAT	
PTAC-2	PACKAGED TERMINAL AIR CONDITIONER	мс	208/1	1.5		8.5	15		мс	мс	TSTAT	
PTAC-3	PACKAGED TERMINAL AIR CONDITIONER	мс	208/1	1.5		8.5	15		MC	мс	TSTAT	
PTAC-4	PACKAGED TERMINAL AIR CONDITIONER	MC	208/1	1.5		8.5	15		мс	MC	TSTAT	
PTAC-5	PACKAGED TERMINAL AIR CONDITIONER	мс	208/1	1.5		8.5	15		мс	MC	TSTAT	
PTAC-6	PACKAGED TERMINAL AIR CONDITIONER	мс	208/1	1.5		8.5	15		MC	MC	TSTAT	
EF-1	IN-LINE FAN	MC	115/1		3/4			10	MC	MC	TSTAT / OCC	
EF-2	IN-LINE FAN	MC	115/1		1/4			3.8	MC	MC	TSTAT / OCC	
۴-1	CEILING FAN	MC	120/1		52 W				MC	MC	TSTAT / OCC	
F-2	CEILING FAN	MC	120/1		52 W				MC	MC	TSTAT / OCC	
F-3	CEILING FAN	MC	120/1		52 W				MC	MC	TSTAT / OCC	
F-4	CEILING FAN	MC	120/1		52 W				MC	MC	TSTAT / OCC	
F-5	CEILING FAN	MC	120/1		52 W				MC	MC	TSTAT / OCC	
F-6	CEILING FAN	MC	120/1		20.3 W				MC	MC	WALL CONTROL	
F-7	CEILING FAN	MC	120/1		20.3 W				MC	MC	WALL CONTROL	
F-8	CEILING FAN	MC	120/1		20.3 W				MC	MC	WALL CONTROL	
F-9	CEILING FAN	MC	120/1		20.3 W				MC	MC	WALL CONTROL	
F-10	CEILING FAN	MC	120/1		20.3 W				MC	MC	WALL CONTROL	
F-11	CEILING FAN	MC	120/1		20.3 W				MC	MC	WALL CONTROL	
F-12	CEILING FAN	MC	120/1		20.3 W				MC	MC	WALL CONTROL	
F-13	CEILING FAN	MC	120/1		20.3 W				MC	MC	WALL CONTROL	
F-14	CEILING FAN	MC	120/1		20.3 W	1	~~~~~~	[	MC	MC	WALL CONTROL	~~~~~~
F-15	CEILING FAN	MC	120/1		20.3 W				MC	MC	WALL CONTROL	
F-16	CEILING FAN	MC	120/1		20.3 W				MC	MC	WALL CONTROL	
F-17	CEILING FAN	MC	120/1		20.3 W				MC	MC	WALL CONTROL	
GUH-1	GAS-FIRED UNIT HEATER	MC	120/1		1/20	3.7		3.2	MC	MC	TSTAT	
GUH-2	GAS-FIRED UNIT HEATER	MC	120/1		1/20	3.7		3.2	MC	MC	TSTAT	
GUH-3	GAS-FIRED UNIT HEATER	MC	120/1		1/20	3.7		3.2	MC	MC	TSTAT	
GUH-4	GAS-FIRED UNIT HEATER	MC	120/1		1/20	3.7		3.2	MC	MC	TSTAT	
EUH-1	ELECTRIC UNIT HEATER	MC	120/1		1/40				MC	MC	TSTAT	
EUH-2	ELECTRIC UNIT HEATER	MC	120/1		1/40				MC	MC	TSTAT	

В

ABBREVIATIONS: EC: ELECTRICAL CONTRACTOR

FWE: FURNISHED WITH EQUIPMENT MC: MECHANICAL CONTRACTOR

D

HED	ULE	
	SERIES NO.	REMARKS
LITI	ECONTROL: 67L-P-D-4-DM-C1-35K-D090-D01-1C-UNV OR APPROVED EQUAL	PROVIDE HANGING KIT AS REQUIRED FOR THE BOTTOM OF THE FIXTURE TO BE AT THE SAME LEVEL AS THE BOTTOM O THE CEILING FAN IN THE SAME ROOM.
	MLHA8-24-F-MW-CP-1-25L40K-DCC-1-DV OR APPROVED EQUAL	FIXTURE SHALL BE DAMP LOCATION RATED.
	MLHA8-48-F-MW-CP-1-45L40K-DCC-1-DV OR APPROVED EQUAL	WALL MOUNT FIXTURES AT 8'-0" A.F.F. UNLESS NOTED OTHERWISE
	LTC-6RD-P-20L40K-8XW-DM1-S OR APPROVED EQUAL	PROVIDE HANGING KIT AS REQUIRED TO MOUNT FIXTURES AT 10' A.F.F. TO BOTTOM OF FIXTURE.

OTHERWISE
PROVIDE HANGING KIT AS REQUIRED TO MO AT 10' A.F.F. TO BOTTOM OF FIXTURE.
PROVIDE WITH SELF-DIAGNOSTIC FEATURE

PROVIDE WITH SELF-DIAGNOSTIC FEATURE

CKXTEU-#-R-W-W-EM
OR APPROVED
EQUAL

RMR-16-LED

OR APPROVED

EQUAL

# LED LIGHT FIXTURE POWER CIRCUITRY NOTE TO E.C.

CONTRACTOR SHALL NOT EXCEED THE LED MANUFACTURERS RECOMMENDED MAXIMUM LOAD RATINGS FOR LED LIGHT FIXTURE CIRCUITS THAT ARE PROVIDED AND INSTALLED FOR THIS PROJECT. CONTRACTOR SHALL VERIFY ALL LOAD INFORMATION REQUIREMENTS WITH THE LED LIGHT FIXTURE MANUFACTURER (FOR THE ACTUAL LED LIGHT FIXTURES THAT ARE PURCHASED FOR THIS PROJECT) AND INSTALL POWER CIRCUITS TO THESE FIXTURES AS REQUIRED BY THE MANUFACTURER'S RECOMMENDATIONS. ANY CHANGES TO THE CIRCUITRY AND/OR FIXTURE SWITCHING ARRANGEMENTS FOR THIS PROJECT SHALL BE DOCUMENTED AND SHOWN ON THE AS-BUILT DOCUMENTS.

ture Kirwan Skinner | Farlow | architecture.com ----consultants ENGINEERED DESIGNS INC. March Content Leaster, \$0,1728 - 751 ČE Cary Parkway, Suite 200 - Cary, North Carolina, 27532 P 913.851.8431 F 959.351.3702 www.sngiwesreiddisigmi.com project status Bid Set owner id SCO ID# 16-14421-01A seals ERED DESIG CORPORATE SEAL C-1729

![](_page_9_Picture_41.jpeg)

![](_page_9_Picture_42.jpeg)

![](_page_9_Picture_43.jpeg)

![](_page_10_Figure_0.jpeg)

- 5

- (1) EQUIPMENT OF TRADES OTHER THAN ELECTRICAL
- (2) CONDUIT & WIRING BY HVAC, PLUMBING CONTRACTOR OR OTHER TRADES.
- (3) IF AN ADDITIONAL DISCONNECT IS REQUIRED BY NEC IT SHALL BE PROVIDED AND INSTALLED BY THE EQUIPMENT CONTRACTOR.
- (4) A COMBINATION STARTER OR VFD MAY BE USED IN LIEU OF A SEPARATE DISCONNECT SWITCH AND STARTER. LOCATE ADJACENT TO EQUIPMENT.
- 5 FEEDER CIRCUIT WIRING AND CONDUIT IN ELECTRICAL WORK. SEE PANELBOARD SCHEDULES FOR WIRE AND BREAKER SIZES.
- (6) JUNCTION BOX MAY BE SHOWN ON ELECTRICAL PLANS FOR SOME EQUIPMENT. IF NO STARTER OR DISCONNECT IS SUPPLIED, A JUNCTION BOX SHALL BE INSTALLED ADJACENT TO EQUIPMENT. THE ELECTRICAL CONTRACTOR SHALL PROVIDE LINE SIDE WIRING TO THE JUNCTION BOX. LOAD SIDE WIRING WILL BE PROVIDED BY MECHANICAL CONTRACTOR OR OTHER TRADES.
- PROJECTS UTILIZING AN MCC, THE STARTER, CB, OR VFD IN THE MCC ARE PROVIDED BY THE ELECTRICAL CONTRACTOR.
- (8) IN ALL CASES THE EQUIPMENT CONTRACTOR SHALL MAKE FINAL CONNECTIONS, START UP AND TEST EQUIPMENT.
- () IF THE ROOFTOP EQUIPMENT IS NOT PROVIDED WITH BUILT IN SWITCH, THE ELECTRICAL CONTRACTOR SHALL PROVIDE A DISCONNECT SWITCH.
- (1) IN A SINGLE PRIME CONTRACT, IT IS THE RESPONSIBILITY OF THE PRIME CONTRACTOR TO COORDINATE BETWEEN THE ELECTRICAL AND THE OTHER TRADES.

![](_page_10_Figure_11.jpeg)

![](_page_10_Figure_12.jpeg)

![](_page_10_Figure_13.jpeg)

SHALL BE PERMITTED TO BE INSTALLED IN, ENTER OR PASS THROUGH THE DEDICATED SPACES SHOWN ABOVE.

E

F

SCALE: NTS

![](_page_10_Figure_19.jpeg)

![](_page_10_Figure_20.jpeg)

## NOTES TO 4/E-601

- INSTALL THE SEALING FITTING INTO THE CONDUIT SYSTEM. REFER TO NATIONAL ELECTRICAL CODE FOR APPLICABLE REGULATIONS.
- 2. PULL THE CONDUCTORS (WIRES) THROUGH THE CONDUIT SYSTEM.
- PROVIDE PACKING FIBER, BUILD A DAM AT EACH CONDUIT HUB 3. (EXCEPT UPPER HUBS IN VERTICAL SEALS.
- 4. PROVIDE SEALING COMPOUND PER MANUFACTURER'S INSTRUCTIONS.

D

DEDICATED SPACE REQUIREMENTS FOR PANELBOARDS

![](_page_10_Figure_28.jpeg)

AS REQUIRED B LOCAL POWER COMPANY
LIFT

FINISHED-

CONCRETE FOOTINGS (TYPICAL). MINIMUM DEPTH BELOW GRADE OF 24-INCHES AND MINIMUM WIDTH/LENGTH 18-INCHES SQUARE

![](_page_10_Figure_32.jpeg)

### NOTES KEYED TO 6/E-601

PROVIDE SIGN ON CONTROLLER "IN THE EVENT THE PUMP STATION ALARM IS GOING OFF, CALL 919.XXX.XXXX AND INFORM NC DENR.

С

В

sheet no

![](_page_11_Figure_0.jpeg)

![](_page_11_Figure_1.jpeg)

NOTES:

F

1. THIS DRAWING IS INTENDED TO ILLUSTRATE THE SERVICE GROUNDING REQUIREMENTS. REFER TO NEC ARTICLE 250 FOR ADDITIONAL DETAILS.

2. ALL CONNECTIONS SHALL BE EXOTHERMIC WELDS WITH THE EXCEPTION OF MECHANICAL LUGS IN THE SERVICE ENTRANCE EQUIPMENT.

3. WALL MOUNTED COPPER 4"x24"x1/4" GROUND BUS SHALL BE EQUAL TO ERICO EGB-A14424BB.

4. PROVIDE 20' #4 AWG BARE COPPER IN LIEU OF BONDING TO REBAR WHERE 20' OF BARE REBAR IS NOT INSTALLED.

### 10 SERVICE GROUNDING ELECTRODE DETAIL SCALE: NTS E-602

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2

Е

![](_page_11_Figure_16.jpeg)

![](_page_11_Figure_17.jpeg)

- #3/0 AWG (BARE COPPER CONDUCTOR) IN 3/4"C.

DESCRIPTION NO. HARGER LIGHTNING PROTECTION CAST IRON OR STAINLESS STEEL COVER CADWELD (EXOTHERMIC) CONNECTION TYPE GT TO TOP OF GROUND ROD HARGER LIGHTNING PROTECTION PVC WELL (8" MIN. DIA. X 24" DEEP) GROUND ROD COPPER-CLAD STEEL 3/4" DIA X 10'-0"

С

![](_page_11_Figure_20.jpeg)

![](_page_11_Figure_21.jpeg)

![](_page_11_Figure_22.jpeg)

![](_page_11_Figure_23.jpeg)

В

![](_page_11_Picture_24.jpeg)

 $\overline{\mathbf{O}}$ 

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