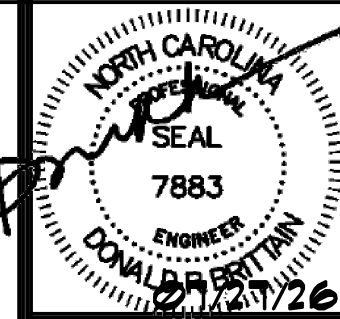
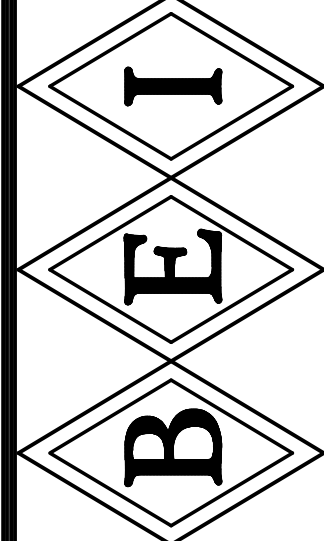




BRITTAIN ENGINEERING, INC.
CONSULTING MECHANICAL AND ELECTRICAL ENGINEERS
PO BOX 939
HICKORY, NC 28603
(828) 328-1613



MAIN CAMPUS SITE LIGHTING RENOVATIONS FOR
CLEVELAND COMMUNITY COLLEGE
137 SOUTH POST ROAD, SHELBY, NC 28152

JOB NO. 218350

DWN BY: RNB

DATE: 07/27/26

SCALE: AS SHOWN

SHEET

C-1

2018 APPENDIX B
BUILDING CODE SUMMARY
FOR ALL COMMERCIAL PROJECTS
(Except 1 & 2-Family Dwellings and Townhouses)

PROJECT NAME: MAIN CAMPUS SITE LIGHTING RENOVATIONS FOR CLEVELAND COMMUNITY COLLEGE
PROJECT ADDRESS: 137 SOUTH POST ROAD, SHELBY, NORTH CAROLINA ZIP CODE: 28152
PROPOSED USE: BUSINESS
OWNER/AUTHORIZED AGENT: JEFF LEDFORD PHONE #: (704) 669-4268
OWNED BY: CITY/COUNTY PRIVATE STATE
CODE ENFORCEMENT JURISDICTION: CITY COUNTY STATE
LEAD DESIGN PROFESSIONAL: DONALD R. BRITTAIN, P.E.
DESIGNER FIRM NAME LICENSE # TELEPHONE #
ARCHITECTURAL: CIVIL: BRITTAIN ENGINEERING, INC. DONALD R. BRITTAIN 7883 (828) 328-1813
ELECTRICAL: FIRE ALARM: PLUMBING: MECHANICAL: SPRINKLER-STANDPIPE: N/A N/A N/A N/A
STRUCTURAL: RETAINING WALLS <5H: N/A N/A N/A N/A
OTHER: N/A N/A N/A N/A

2018 EDITION OF NC CODE FOR: NEW CONSTRUCTION ADDITION UPFIT
EXISTING: RECONSTRUCTION ALTERATION REPAIR
CONSTRUCTED ORIGINAL USE RENOVATED CURRENT USE
2018 N.C. REHAB CODE Information: Work area must be delineated on the submitted plans.
Check all that apply: REPAIR RENOVATION ALTERATION RECONSTRUCTION CHANGE OF USE ADDITION
Describe scope of work based on code sections of the rehab code
Last known legal Occupancy History Property: YES NO
ORIGINAL BUILDING CONSTRUCTION DATE
Consideration for review under the Rehab Code based on code section as follows:
Reviewers Notes for Field Inspector:

BUILDING DATA:
CONSTRUCTION TYPE: I-A I-B II-A II-B III-A III-B IV V-A
MIXED CONSTRUCTION: YES NO TYPE N/A
SPRINKLERS: NO PARTIAL YES CLASS NFA13R NFA13D
STANDPIPES: NO YES CLASS III WET DRY
FIRE DISTRICT: NO YES FLOOR NO. BELOW: YES NO
BUILDING HEIGHT: FEET: 20 NUMBER OF STORIES: 1
MEZZANINE: NO YES
GROSS BUILDING AREA:
FLOOR: EXISTING (SQ FT) NEW (SQ FT) SUB-TOTAL
6TH FLOOR N/A N/A N/A
5TH FLOOR N/A N/A N/A
4TH FLOOR N/A N/A N/A
3RD FLOOR N/A N/A N/A
2ND FLOOR N/A N/A N/A
MEZZANINE N/A N/A N/A
UPPER FLOOR N/A N/A N/A
LOWER FLOOR N/A N/A N/A
TOTAL: N/A N/A N/A

ALLOWABLE AREA:
PRIMARY OCCUPANCY: ASSEMBLY A1 A2 A3 A4 A5
BUSINESS EDUCATIONAL FACTORY F2 MODERATE F2 LOW
HAZARDOUS H1 DETONATE H2 DEFLAGRATE H3 CORROSIVE H4 HEALTH H5 HPM
INSTITUTIONAL I-1 I-2 I-3 I-4
I-3 CONDITION 1 2 3 4 5
MERCANTILE RESIDENTIAL R1 R2 R3 R4
STORAGE S1 MODERATE S2 LOW HIGH-PILED
UTILITY & MISCELLANEOUS U1 U2 U3 U4
SECONDARY OCCUPANCY: S-1 (STORES)
SPECIAL USES: 402 403 404 405 406 407 408 409 410
411 412 413 414 415 416 417 418 419 420 421
SPECIAL PROVISIONS: 508.3 508.4 508.5 508.6 508.7 508.8
MIXED OCCUPANCY: YES SEPARATION: N/A EXCEPTION:
INCIDENTAL USE SEPARATION:
THIS USE IS NOT EXEMPT AS A NON-SEPARATED USE (SEE EXCEPTIONS)
NON-SEPARATED USE (302.3.1)
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 (302.3.2) - SEE BELOW FOR AREA CALCULATIONS:
FOR EACH STORY, THE AREA OF THE OCCUPANCY SHALL BE 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"
+ = ≤ 1.00

STORY NO.	DESCRIPTION AND USE	"A" BLDG AREA PER STORY (ACTUAL)	"B" TABLE 503 ⁵ AREA	"C" AREA FOR INCREASE ³	"D" AREA FOR INCREASE ³	"E" ALLOWABLE AREA OR UNLIMITED ³	"F" MAXIMUM AREA OR UNLIMITED ³
ONE (1)	BUSINESS	10,700	9,000	N/A	18,000	N/A	27,000
TWO (2)	BUSINESS	10,700	9,000	N/A	18,000	N/A	27,000

¹FRONTAGE AREA INCREASES FROM SECTION 508.2 COMPARE TO THIS:
a. PERIMETER WHICH FRONTS A PUBLIC WAY OR 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 = _____ (F)
e. PERCENT OF FRONTAGE INCREASE = $\frac{F}{P} \times 100 - 0.25 \times W/30 = \text{_____} (\%)$
²THE SPRINKLER INCREASE PER SECTION 508.3 IS AS FOLLOWS:
a. MULTI-STORY BUILDING (L ≥ 2) PERCENT INCREASE = _____
b. SINGLE STORY BUILDING PERCENT INCREASE = _____
³UNLIMITED AREA APPLICABLE UNDER CONDITIONS OF SECTIONS GROUP B,F,M,S,A4 (507); GROUP A MOTION PICTURE THEATERS (507.9); WALLS (402.6); AND H2 AIRCRAFT PAINT HANGARS (507.7).
⁴MAXIMUM BUILDING HEIGHT NUMBER OF STORIES IN THE BUILDING ≤ E (505.4)
⁵THE MAXIMUM AREA OF OCCUPANCY INCREASES MUST COMPLY WITH 408.3.5. THE MAXIMUM AREA OF AIR TRAFFIC CONTROL TOWERS MUST COMPLY WITH 412.1.2.



BRITTAIN ENGINEERING, INC.
CONSULTING MECHANICAL AND ELECTRICAL ENGINEERS
PO BOX 939
HICKORY, NC 28603

ALLOWABLE HEIGHT				
	ALLOWABLE (TABLE 503)	INCREASE FOR SPRINKLERS	SHOWN ON PLANS	CODE REFERENCE
TYPE OF CONSTRUCTION	TYPE VB	TYPE VB	TYPE VB	503
BUILDING HEIGHT (FEET)	FEET 40	FEET = H+20	FEET 35	503
BUILDING HEIGHT (STORIES)	STORIES 2	STORIES	STORIES 3	503

FIRE PROTECTION REQUIREMENTS						
LIFE SAFETY PLAN #, IF PROVIDED	FIRE SEPARATION DISTANCE (FEET)	RATING AND REDUCTION	DETAIL # AND SHEET	DESIGN # FOR ASSEMBLY	DESIGN # FOR PENETRATION	DESIGN # FOR RATED JOINTS
BUILDING ELEMENT						
STRUCTURAL FRAME, INCLUDING COLUMNS, GIRDERS, TRUSSES	N/A	N/A	N/A	N/A	N/A	N/A
BEARING WALLS						
EXTERIOR						
NORTH	N/A	N/A	N/A	N/A	N/A	N/A
EAST	N/A	N/A	N/A	N/A	N/A	N/A
WEST	N/A	N/A	N/A	N/A	N/A	N/A
SOUTH	N/A	N/A	N/A	N/A	N/A	N/A
INTERIOR	N/A	N/A	N/A	N/A	N/A	N/A
NONBEARING WALLS AND PARTITIONS						
EXTERIOR						
NORTH	<5	1 HR	1 HR	U419	N/A	N/A
EAST	>5	N/A	N/A	N/A	N/A	N/A
WEST	>5	N/A	N/A	N/A	N/A	N/A
SOUTH	N/A	N/A	N/A	N/A	N/A	N/A
INTERIOR WALLS & PARTITIONS	N/A	N/A	N/A	N/A	N/A	N/A
FLOOR CONSTRUCTION INCLUDING SUPPORTING BEAMS AND JOISTS	N/A	N/A	N/A	N/A	N/A	N/A
ROOF CONSTRUCTION INCLUDING SUPPORTING BEAMS AND JOISTS	N/A	N/A	N/A	N/A	N/A	N/A
SHAFT ENCLOSURES - ELEVATOR	N/A	N/A	N/A	N/A	N/A	N/A
SHAFT ENCLOSURES - STAIR	N/A	N/A	N/A	N/A	N/A	N/A
CORRIDOR SEPARATION	N/A	N/A	N/A	N/A	N/A	N/A
OCCUPANCY SEPARATION	N/A	N/A	N/A	N/A	N/A	N/A
PARTY/FIRE WALL SEPARATION	N/A	N/A	N/A	N/A	N/A	N/A
SMOKE BARRIER SEPARATION	N/A	N/A	N/A	N/A	N/A	N/A
TENANT SEPARATION	N/A	N/A	N/A	N/A	N/A	N/A
INCIDENTAL USE SEPARATION	N/A	N/A	N/A	N/A	N/A	N/A

* INDICATE SECTION NUMBER PERMITTING REDUCTION
LIFE SAFETY REQUIREMENTS
EMERGENCY LIGHTING: NO YES
EXIT SIGNS: NO YES
FIRE ALARM: NO YES
SMOKE DETECTION SYSTEMS: NO YES
PANIC HARDWARE: NO YES

EXIT REQUIREMENTS NUMBER AND ARRANGEMENT OF EXITS				
FLOOR, ROOM OR SPACE DESIGNATION	MINIMUM ² NUMBER OF EXITS REQUIRED	TRAVEL DISTANCE ALLOWABLE TRAVEL DISTANCE (TABLE 1015.1)	ACTUAL TRAVEL DISTANCE SHOWN ON PLANS	ARRANGEMENT MEANS OF EGRESS ^{1a} (SECTION 1014.2)
LOWER FLOOR PLAN	2	5	300	58 109'
UPPER FLOOR PLAN	2	2	300	58 109'

¹CORRIDOR DEAD ENDS (SECTION 1016.3)
²SINGLE EXITS (TABLE 1018.2)
³COMMON PATH OF TRAVEL (SECTION 1013.3)

USE GROUP OR SPACE DESIGNATION		(A) AREA ¹ SQ. FT.	(B) AREA ¹ PER OCCUPANT	(C) EGRESS WIDTH PER OCCUPANT (TABLE 1005.1)	EXIT WIDTH (in) ^{2,3,4,5,6}			
					REQUIRED WIDTH (SECTION 1005.1)	ACTUAL WIDTH SHOWN ON PLANS		
LOWER FLOOR PLAN	10,700	107	.15	N/A	16.1	N/A	160	
UPPER FLOOR PLAN	10,700	107	.2	.15	21.4	16.1	95	64

¹SEE TABLE 1004.1.2 TO DETERMINE WHETHER NET OR GROSS AREA IS APPLICABLE.
²SEE DEFINITION "AREA, GROSS" AND "AREA, NET" (SECTION 1002).
³MIN. STAIRWAY WIDTH (SECTION 1005.1); MIN. CORRIDOR WIDTH (SECTION 1016.2); MIN. DOOR WIDTH (SECTION 1018.1).
⁴MIN. WIDTH OF EXIT PASSAGEWAY (SECTION 1009.2)
⁵SEE SECTION 1004.5 FOR CONVEYING EXITS.
⁶THE LOSS OF ONE MEANS OF EGRESS SHALL NOT REDUCE THE AVAILABLE CAPACITY TO LESS THAN 50% OF THE TOTAL REQUIRED (SECTION 1005.1).
⁷ASSEMBLY OCCUPANCIES (SECTION 1024).

PERCENTAGE OF OPENINGS (TABLE 704.8)					
NORTH ELEVATION					
TOTAL BUILDING ELEVATION AREA = N/A					
TOTAL SQUARE FOOTAGE OF OPENINGS = N/A					
TOTAL = N/A					

STRUCTURAL DESIGN
(SEE STRUCTURAL DRAWINGS FOR BUILDING SUMMARY)

PLUMBING FIXTURE REQUIREMENTS									
USE ASSEMBLY	WATERCLOSETS	URINALS	LAVATORIES	TOILETS	SHOWERS	DRINKING FOUNTAINS	REGULAR	ACCESSIBLE	
EXISTING	3	6	1	4	2	2	2	2	
NEW	2	2	N/A	2	2	N/A	2	2	
REQUIRED	4	4	N/A	3	3	N/A	N/A	2	

ACCESSIBLE PARKING			
LOT OR PARKING AREA	TOTAL # OF SPACES REQUIRED	# OF ACCESSIBLE SPACES PROVIDED	TOTAL # OF ACCESSIBLE PROVIDED
TOTAL:			

SPECIAL APPROVALS
SPECIAL APPROVAL: (LOCAL JURISDICTION, DEPARTMENT OF INSURANCE, OSC, DPI, DFS, ICC, etc., DESCRIBE BELOW)

ENERGY SUMMARY

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 energy cost budget method, state the annual energy cost budget versus allowable annual energy cost budget.

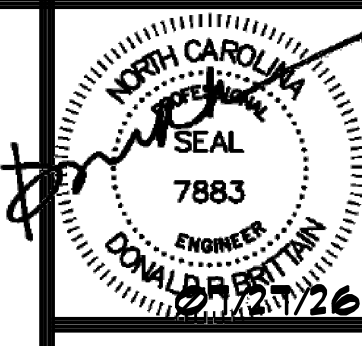
Method of Compliance: ☐ Prescriptive ☐ Performance ☐ Energy Cost Budget	
ROOF/CEILING ASSEMBLY (each assembly)	
Exterior Air Film	.34
Single Ply Membrane	.34
Rigid Insulation	.20
Air Space	.34
Suspended Ceiling	.68
Interior Air Film	.68
U-Value of total assembly	1/22.38 = 0.04468
R-Value of Insulation	20
Skylights in each assembly	N/A
U-Value of skylight	N/A
Total sq ft of skylights in each assembly	N/A
EXTERIOR WALLS (4" brick and metal studs)	
Exterior Air Film	.34
Face Brick	.7
2" Air Space	.40
1/2" exterior sheathing	.54
6" batt insulation	.86
5/8" Fire Code Gypsum Board	.68
Interior Air Film	.68
U-Value of total assembly	1/22.39 = 0.74
R-Value of Insulation	16
Openings (window or doors glazing)	.57
U-Value of assembly	.70
Shading coefficient	.70
Projection factor	.70
Low E (if required)	N / A
Door R-Value	2.0
WALLS ADJACENT TO UNCONDITIONED SPACE (each assembly)	
Openings (Windows Glazing)	.49
U-Value of assembly	N / A
Low E required (if applicable)	N / A
Door R-Value	2.0
WALLS BELOW GRADE (each assembly) (Vertical N / A)	
FLOORS OVER UNCONDITIONED SPACE (each assembly) (N / A)	
FLOORS SLAB ON GRADE (Horizontal N/A)	
	(Vertical @ Perimeter)
Interior Air Film	.68
Concrete block	.24
Vapor Barrier	.34
Rigid Perimeter (2"x24")	NONE
U-Value of total assembly	1 / 1.26 = 0.793
R-Value of Insulation	N / A
Horizontal-Vertical requirement	N / A
Slab heated	N / A

ELECTRICAL SUMMARY
(SEE ELECTRICAL DRAWINGS FOR BUILDING SUMMARY)

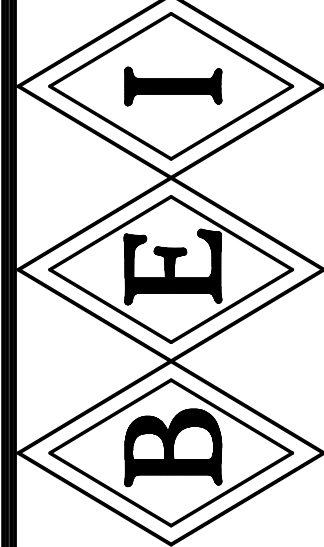
MECHANICAL SUMMARY
N/A

SCHEDULE OF SPECIAL INSPECTION SERVICES
☒ No Special Inspection Required for this Project ☐ Special Inspections Needed
The following sheets comprise the required schedule of special inspections for this project. The construction divisions which require special inspections for this project are as follows.
☐ IT-1 Verification of Soils ☐ IT-10 Inspection of Structural Steel Fabricators
☐ IT-2 Excavation and Fill ☐ IT-11 Structural Masonry
☐ IT-3 Piling and Drilling Piers ☐ IT-12 Welding
☐ IT-4 Modular Retaining Walls ☐ IT-13 High Strength Bolts & Steel Framing Inspection
☐ IT-5 Reinforced Concrete ☐ IT-14 Sprayed Fire-Resistance Materials
☐ IT-6 Post Tension Slab ☐ IT-15 Exterior Insulation and Finish System
☐ IT-7 Pre-cast Concrete Erection ☐ IT-16 Seismic Resistance
☐ IT-8 Pre-stressed Concrete ☐ IT-17 Smoke Control
☐ IT-9 Inspection of Pre-Cast Fabrication ☐ IT-18 Detention Basin
☐ IT-19 Special Cases

Check the above boxes for the special inspection required for this project and list below specific special inspections required under Chapter 17.



BRITAIN ENGINEERING, INC.
CONSULTING MECHANICAL AND ELECTRICAL ENGINEERS
PO BOX 938
HICKORY, NC 28603
(828) 328-1613



MAIN CAMPUS SITE LIGHTING RENOVATIONS FOR
CLEVELAND COMMUNITY COLLEGE
137 SOUTH POST ROAD, SHELBY, NC 28152

JOB NO. 218350
DWN BY: RNB
DATE: 07/27/26
SCALE: AS SHOWN

SHEET

LIGHTING FIXTURE SCHEDULE									
MARK	TYPE	MOUNTING	MANUFACTURER CATALOG NO.	BALLAST QTY/TYPE	LAMPS QTY/TYPE	TOTAL WATTS	VOLTAGE	REMARKS	
OA1	SITE LIGHTING	30' POLE W/ CONCRETE BASE	LITHONIA RSX2 LED P6 50K R4 XVOLT RPA DOBXD POLE: LITHONIA RTS 6-68 UL DOBXD POLE	LED DRIVER	LED 30,633 LUMEN 5,000K 70CRI	244 W	XVOLT 277-480V	30' ROUND STEEL TAPERED POLE. POLE TO BE UL LISTED. DARK BRONZE POLE & FIXTURE. TYPE 4 DISTRIBUTION PATTERN. EC TO CONFIRM VOLTAGE WHERE CONNECTING TO EXISTING CIRCUITS PRIOR TO RELEASING. NO SUBSTITUTIONS, FIXTURE IS A CAMPUS WIDE STANDARD.	
OA2	SITE LIGHTING	EXISTING 30' ROUND POLE	LITHONIA RSX2 LED P6 50K R3 MVOLT DOBXD	LED DRIVER	LED 30,633 LUMEN 5,000K 70CRI	244 W	XVOLT 277-480V	DARK BRONZE. TYPE 3 DISTRIBUTION PATTERN. PROVIDE MOUNTING HARDWARE AS REQUIRED. EC TO CONFIRM VOLTAGE PRIOR TO RELEASING WHERE CONNECTING TO EXISTING CIRCUITY. NO SUBSTITUTIONS, FIXTURE IS A CAMPUS WIDE STANDARD.	
OB1	AREA LIGHTING	12' POLE W/ CONCRETE BASE	LITHONIA RADPT LED P4 50K SYM MVOLT P14 PAO POLE: LITHONIA RSS 12 48 FT DOBXD	LED DRIVER	LED 11,600 LUMEN 5,000K 70CRI	86 W	MVOLT 120-277V	12' STRAIGHT ROUND DARK BRONZE STEEL POLE. POLE TO BE (UL LISTED). BRONZE POLE & HEAD. TYPE 5 DISTRIBUTION PATTERN. EC TO CONFIRM VOLTAGE PRIOR TO RELEASING WHERE CONNECTING TO EXISTING CIRCUITY. ADJUSTABLE LUMEN OUTPUT, SET TO PERFORMANCE PACKAGE P4.	
OC1	AREA LIGHTING	BOLLARD 42"	LITHONIA DSXB LED 12C 530 50K ASY MVOLT DOBXD	LED DRIVER	LED 1,859 LUMEN 5,000K 70CRI	22 W	MVOLT 120-277V	DARK BRONZE. ASYMMETRIC DISTRIBUTION PATTERN. EC TO CONFIRM VOLTAGE PRIOR TO RELEASING WHERE CONNECTING TO EXISTING CIRCUITY.	
OD1	SITE LIGHTING	EXISTING 30' ROUND POLE	LITHONIA RSX2 LED P6 50K R4 MVOLT DOBXD	LED DRIVER	LED 30,267 LUMEN 5,000K 70CRI	244 W	MVOLT 120-277V	DARK BRONZE. TYPE 4 DISTRIBUTION PATTERN. PROVIDE MOUNTING HARDWARE AS REQUIRED. EC TO CONFIRM VOLTAGE PRIOR TO RELEASING WHERE CONNECTING TO EXISTING CIRCUITY. NO SUBSTITUTIONS, FIXTURE IS A CAMPUS WIDE STANDARD.	
OD2	SITE LIGHTING	EXISTING 30' ROUND POLE	LITHONIA RSX2 LED P6 50K R3 MVOLT DOBXD	LED DRIVER	LED 30,267 LUMEN 5,000K 70CRI	244 W	MVOLT 120-277V	DARK BRONZE. TYPE 3 DISTRIBUTION PATTERN. PROVIDE MOUNTING HARDWARE AS REQUIRED. EC TO CONFIRM VOLTAGE PRIOR TO RELEASING WHERE CONNECTING TO EXISTING CIRCUITY. NO SUBSTITUTIONS, FIXTURE IS A CAMPUS WIDE STANDARD.	
OD5	SITE LIGHTING	EXISTING 30' ROUND POLE	LITHONIA RSX2 LED P4 50K R3 MVOLT DOBXD	LED DRIVER	LED 25,000 LUMEN 5,000K 70CRI	187 W	MVOLT 120-277V	DARK BRONZE. TYPE 3 WIDE DISTRIBUTION. PROVIDE MOUNTING HARDWARE AS REQUIRED. EC TO CONFIRM VOLTAGE PRIOR TO RELEASING WHERE CONNECTING TO EXISTING CIRCUITY. NO SUBSTITUTIONS, FIXTURE IS A CAMPUS WIDE STANDARD.	
OF1	WALL PACK	SURFACE	LITHONIA DSXW1 LED P7 50K 80CRI T4M MVOLT XXX DOBXD	LED DRIVER	LED 10,529 LUMEN 5,000K 80CRI	73 W	MVOLT 120-277V	DARK BRONZE. TYPE 4 DISTRIBUTION PATTERN. PROVIDE MOUNTING HARDWARE AND/OR BACKBOX AS REQUIRED. EC TO CONFIRM VOLTAGE PRIOR TO RELEASING WHERE CONNECTING TO EXISTING CIRCUITY.	
OF2	WALL PACK	SURFACE	LITHONIA DSXW2 LED P7 50K 80CRI T3M MVOLT XXX DOBXD	LED DRIVER	LED 30,633 LUMEN 5,000K 70CRI	244 W	XVOLT 277-480V	DARK BRONZE. TYPE 3 DISTRIBUTION. PROVIDE MOUNTING HARDWARE AS REQUIRED. EC TO CONFIRM VOLTAGE PRIOR TO RELEASING WHERE CONNECTING TO EXISTING CIRCUITY.	

NOTES: *** FIXTURES SPECIFIED ABOVE ARE CAMPUS WIDE STANDARD FIXTURES AND SHALL BE WHAT IS SUPPLIED AND INSTALLED. ***

- GENERAL NOTES:
- COORDINATE FINAL LOCATION OF ALL NEW LIGHTING POLES IN FIELD WITH OWNER.
 - UNLESS NOTED OTHERWISE, ALL UNDERGROUND RACEWAY SHALL BE 2" MINIMUM.
 - ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING ALL PUBLIC AND PRIVATE UNDERGROUND UTILITIES LOCATED.
 - COORDINATE WITH OWNER FOR PRIVATE UTILITIES.
 - DURING CONSTRUCTION THE CONTRACTOR SHALL BE RESPONSIBLE FOR PUBLIC SAFETY IN THE AREA OF WORK. CONES, SAFETY TAPE, SIGNAGE, BARRICADES, ETC SHALL BE USED TO KEEP THE PUBLIC OUT OF THE CONSTRUCTION AREA(S). THIS SHALL BE COORDINATED WITH THE OWNER.
 - ALL AFTER HOURS WORK SHALL BE COORDINATED WITH THE OWNER.
 - THE CONTRACTOR SHALL DIRECTIONAL BORE FOR FOR INSTALLATION OF NEW UNDERGROUND RACEWAY AND CONDUCTORS, OPEN TRENCHES AND EXCAVATION SHALL BE KEPT TO A MINIMUM. WHERE OPEN TRENCHES AND EXCAVATION IS REQUIRED, IT SHALL BE APPROVED BY THE OWNER. WHERE IT IS REQUIRED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR BACKFILLING SETTLED TRENCHES, HOLE, ETC. FOR A PERIOD OF 12 MONTHS AFTER FINAL INSPECTION AND PROJECT ACCEPTANCE BY THE OWNER.
 - AT ANY PLACE THE EXISTING GRASS, MULCH, GROUND COVERING, ETC IS DISTURBED BY THE INSTALLATION OF RACEWAYS, ADDITION OF NEW AND REMOVAL OF EXISTING POLE BASES, CONSTRUCTION EQUIPMENT, INSTALLATION OF HANDHOLE ENCLOSURES, ETC, THE CONTRACTOR SHALL BE RESPONSIBLE FOR RE-SOWING GRASS AND REPLACING GROUND COVERINGS AS REQUIRED TO RETURN THE AREA TO ITS ORIGINAL CONDITIONS.
 - ALL NEW LIGHTING SHALL BE CONNECTED TO EXISTING OUTDOOR LIGHTING CIRCUITS AS SHOWN ON THE DRAWINGS. BASED ON THE OWNERS RESEARCH, THE EXISTING CIRCUITS SHOULD HAVE ADEQUATE CAPACITY TO SERVE NEW LIGHTING SHOWN, HOWEVER, THE CONTRACTOR SHALL VERIFY THIS INFORMATION AND IF THE CIRCUIT IS NOT CAPABLE OF CARRYING THE NEW LOAD, HE SHALL CONTACT THE OWNER AND THE ENGINEER FOR DIRECTION ON HOW TO PROCEED.
 - UNLESS INDICATED OTHERWISE, ALL EXISTING OUTDOOR LIGHTING CONTROLS ARE EXISTING. REFER TO ADD ALTERNATE #3 FOR REVISIONS TO THE CONTROLS.
 - ALL EXISTING EQUIPMENT/MATERIALS BEING REMOVED SHALL BE DISPOSED OF PROPERLY.
 - WHERE OUTDOOR IN-GROUND JUNCTION BOXES ARE REQUIRED, THEY SHALL BE AN IN-GRADE HANDHOLE ENCLOSURES SIZED PER NEC 314.28, 314.30 & 312.6(A). THE UNIT SHALL BE AN OPEN BOTTOM UNIT AND HAVE A HEAVY DUTY, BOLT-ON, GASKETED LID. SUPPLY UNIT WITH ALL COMPONENTS AND EXTENSIONS AS REQUIRED. THE UNIT SHALL BE A QUAZITE UNIT, OR EQUAL, RATED FOR THE APPLICATION. REFER ALSO TO "IN-GRADE HANDHOLE ENCLOSURE DETAIL".

PROJECT ALTERNATES:

- ADD ALTERNATE #1:
THE CONTRACTOR SHALL PROVIDE A COST FOR ALL WORK SHOWN WITHIN THE BOXED AREA ON THE DEMOLITION AND RENOVATED LIGHTING PLANS.
- ADD ALTERNATE #2:
THE CONTRACTOR SHALL PROVIDE A COST TO PROVIDE AN INTEGRAL BI-LEVEL MOTION/AMBIENT SENSOR (LITHONIA CAT #NLTAIR2 PIRHN) FOR FIXTURE TYPES OA1, OD1, OD2 & OD5 UNLESS NOTED OTHERWISE ON THE RENOVATED LIGHTING PLAN.
- ADD ALTERNATE #3:
THE CONTRACTOR SHALL PROVIDE A COST FOR THE REMOVAL OF THE EXISTING LIGHTING CONTROLS (TIME CLOCKS, LIGHTING CONTACTOR AND PHOTOCELLS) CURRENTLY CONTROLLING THE OUTDOOR LIGHTING IN LOCATIONS SHOWN ON THE RENOVATED LIGHTING PLAN. THE EQUIPMENT SHALL BE REPLACED WITH A HINGED, INDOOR ENCLOSURE WITH MOUNTING PLATE AND REPLAYS FOR CONTROL OF ALL OUTDOOR LIGHTING CIRCUITS SERVED FROM THAT LOCATION. THE RELAY(S) SHALL BE A 20A, RIB RELAY RATED FOR 120V, 277V OR 480V (AS REQUIRED) WITH A 24V COIL. THE CONTRACTOR SHALL ALSO INCLUDE IN THIS ALTERNATE THE COST FOR THE LOW VOLTAGE CONNECTIONS AND PROGRAMMING OF THE OWNERS BUILDING AUTOMATION SYSTEM (BAS) FOR CONTROL. THE OWNERS BUILDING AUTOMATION SYSTEM IS A TRANE SYSTEM. THE OWNERS TRANE REPRESENTATIVE IS TORI JOHNSON AND SHE CAN BE REACHED AT 704-472-4068 FOR PRICING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VISITING EACH LOCATION TO DETERMINE THE EXACT EXTENT OF WORK. THIS ALTERNATE DOES NOT INCLUDE THE FIXTURES IN ALTERNATE #1 AS THEY ARE CURRENTLY CONTROLLED BY THE OWNERS BUILDING AUTOMATION SYSTEM.

ELECTRICAL SYSTEM AND EQUIPMENT

METHOD OF COMPLIANCE:
Energy Code: Prescriptive ☒ Performance ☐
ASHRAE 90.1: Prescriptive ☐ Performance ☐

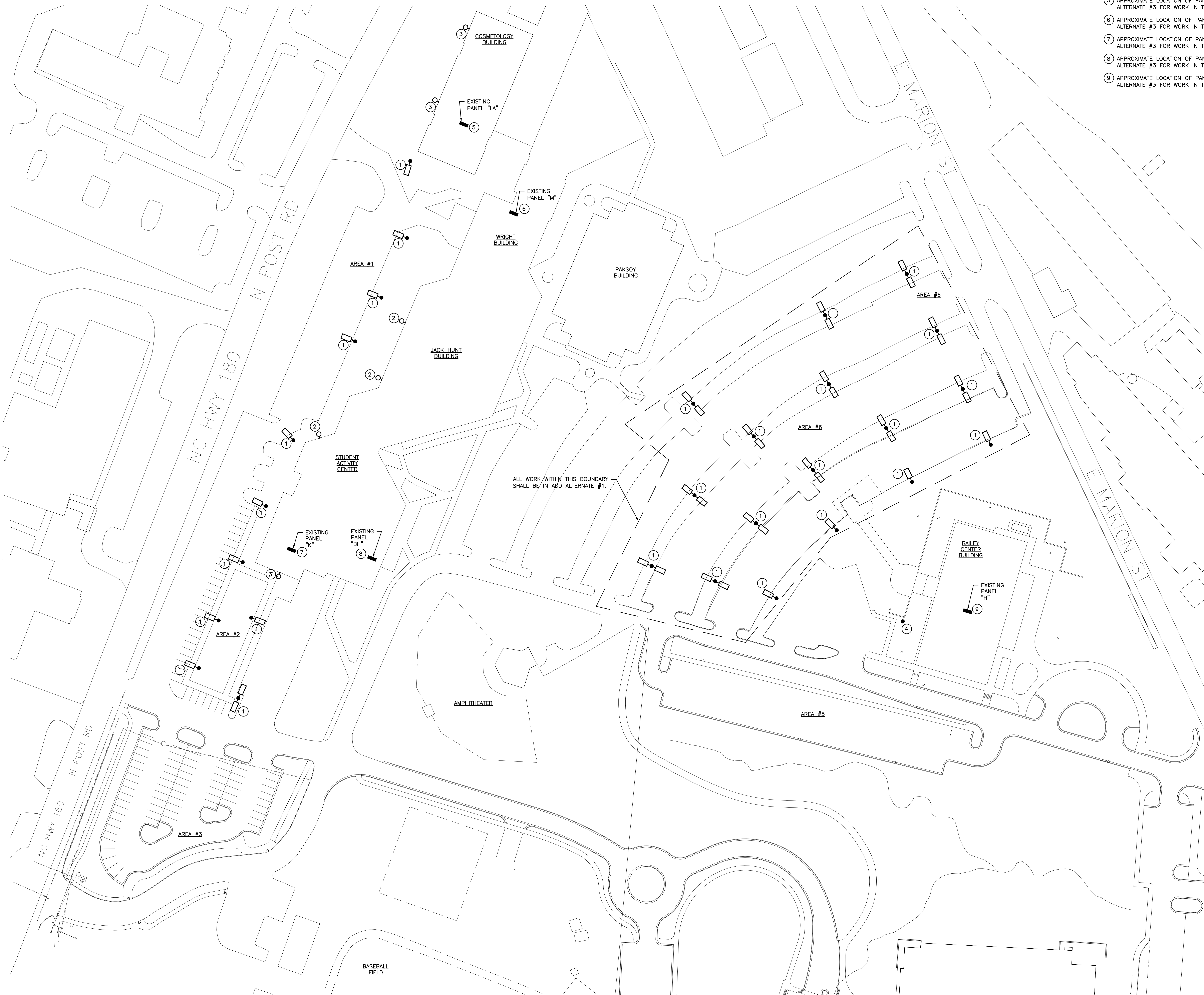
Lighting schedule

lamp type required in fixture	See Fixture Schedule
number of lamps in fixture	See Fixture Schedule
ballast type used in the fixture	See Fixture Schedule
number of ballasts in fixture	See Fixture Schedule
total wattage per fixture	See Fixture Schedule
total interior wattage specified vs allowed	N/A
total exterior wattage specified vs allowed	13,982 / 33,128

Additional

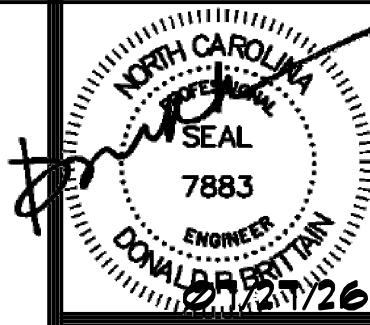
Prescriptive Compliance

C406.2 More Efficient Mechanical Equipment	
C406.3 Reduced Lighting Power Density	☒
C406.4 Enhanced Lighting Controls	
C406.5 On-Site Supply of Renewable Energy	
C406.6 Dedicated Outdoor Air System	
C406.7 High-Efficiency Service Water Heating	

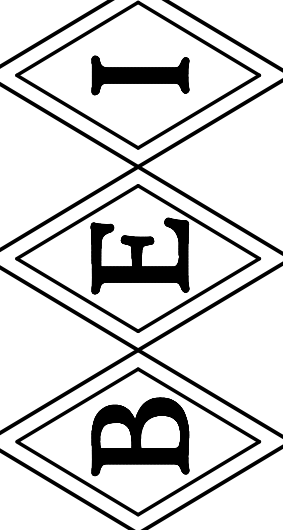


- DEMOLITION SITE PLAN NOTES:
- 1 30' POLE AND LIGHTING FIXTURE(S). POLE TO REMAIN. REPLACE FIXTURE(S) AS SHOWN ON RENOVATED PLAN.
 - 2 WALL PACK LIGHTING FIXTURE AT 10' AFG. REPLACE FIXTURE AS SHOWN ON RENOVATED PLAN.
 - 3 WALL PACK LIGHTING FIXTURE AT 21' AFG. REPLACE FIXTURE AS SHOWN ON RENOVATED PLAN.
 - 4 12' POLE, CONCRETE BASE & FIXTURE TO BE REMOVED & REPLACED.
 - 5 APPROXIMATE LOCATION OF PANEL "LA" & OUTDOOR LIGHTING CONTROLS FOR THIS AREA. REFER TO ALTERNATE #3 FOR WORK IN THIS AREA.
 - 6 APPROXIMATE LOCATION OF PANEL "M" & OUTDOOR LIGHTING CONTROLS FOR THIS AREA. REFER TO ALTERNATE #3 FOR WORK IN THIS AREA.
 - 7 APPROXIMATE LOCATION OF PANEL "K" & OUTDOOR LIGHTING CONTROLS FOR THIS AREA. REFER TO ALTERNATE #3 FOR WORK IN THIS AREA.
 - 8 APPROXIMATE LOCATION OF PANEL "BH" & OUTDOOR LIGHTING CONTROLS FOR THIS AREA. REFER TO ALTERNATE #3 FOR WORK IN THIS AREA.
 - 9 APPROXIMATE LOCATION OF PANEL "H" & OUTDOOR LIGHTING CONTROLS FOR THIS AREA. REFER TO ALTERNATE #3 FOR WORK IN THIS AREA.

DEMOLITION SITE PLAN - LIGHTING
SCALE: 1" = 50'-0"



BRITAIN ENGINEERING, INC.
CONSULTING MECHANICAL AND ELECTRICAL ENGINEERS
PO BOX 938
HICKORY, NC 28603
(828) 328-1613



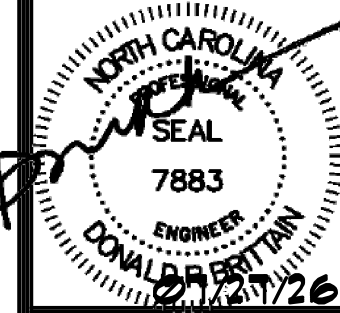
MAIN CAMPUS SITE LIGHTING RENOVATIONS FOR
CLEVELAND COMMUNITY COLLEGE
137 SOUTH POST ROAD, SHELBY, NC 28152

JOB NO. 218350
DWN BY: RNB
DATE: 07/27/26
SCALE: AS SHOWN
SHEET

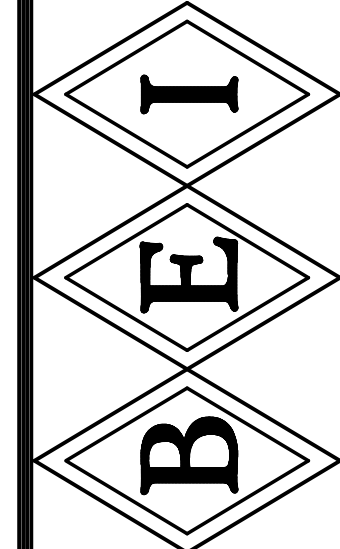


RENOVATED SITE PLAN - LIGHTING
SCALE: 1" = 50'-0"

- RENOVATED SITE PLAN NOTES:
- EXISTING 30' POLE & LIGHTING FIXTURE. ADD ADDITIONAL FIXTURE AS SHOWN. REFER ALSO TO DEMOLITION PLAN.
 - EXISTING 30' POLE. ADD FIXTURES AT 90° AS SHOWN. REFER ALSO TO DEMOLITION PLAN.
 - MAKE CONNECTION TO EXISTING POLE W/ GALVANIZED RIGID METAL CONDUIT. PROVIDE SUPPORT/STRAPPING AS REQUIRED. PAINT TO MATCH POLE.
 - 2 #12, #12 GND, 1/2". INSTALL INSIDE BUILDING. DO NOT INSTALL EXPOSED ON EXTERIOR OF BUILDING.
 - REPLACE EXISTING FIXTURE W/ NEW TYPE "OF1" FIXTURE. REFER ALSO TO DEMOLITION PLAN.
 - EXISTING 30' POLE. REPLACE EXISTING FIXTURE(S) AS SHOWN. REFER ALSO TO DEMOLITION PLAN.
 - REPLACE EXISTING FIXTURE W/ NEW "OF2" FIXTURE. REFER ALSO TO DEMOLITION PLAN.
 - ADD NEW "OF2" FIXTURE. MOUNT AT 21'-0" AFG TO MATCH EXISTING FIXTURES.
 - CONNECT TO EXISTING LIGHTING CIRCUIT.
 - 2 #12, #12 GND, 3/4".
 - THIS FIXTURE IS NOT TO BE INCLUDED IN ALTERNATE #2.
 - APPROXIMATE LOCATION OF PANEL "LA" & OUTDOOR LIGHTING CONTROLS FOR THIS AREA. REFER TO ALTERNATE #3 FOR WORK IN THIS AREA.
 - APPROXIMATE LOCATION OF PANEL "BH" & OUTDOOR LIGHTING CONTROLS FOR THIS AREA. REFER TO ALTERNATE #3 FOR WORK IN THIS AREA.
 - APPROXIMATE LOCATION OF PANEL "M" & OUTDOOR LIGHTING CONTROLS FOR THIS AREA. REFER TO ALTERNATE #3 FOR WORK IN THIS AREA.
 - APPROXIMATE LOCATION OF PANEL "K" & OUTDOOR LIGHTING CONTROLS FOR THIS AREA. REFER TO ALTERNATE #3 FOR WORK IN THIS AREA.
 - APPROXIMATE LOCATION OF PANEL "H" OUTDOOR LIGHTING CONTROLS FOR THIS AREA. REFER TO ALTERNATE #3 FOR WORK IN THIS AREA.
 - FIXTURE SHALL BE ADDED TO EXISTING POLE IN BASE BID.



BRITAIN ENGINEERING, INC.
CONSULTING MECHANICAL AND ELECTRICAL ENGINEERS
PO BOX 9388
HICKORY, NC 28603
(828) 328-1613

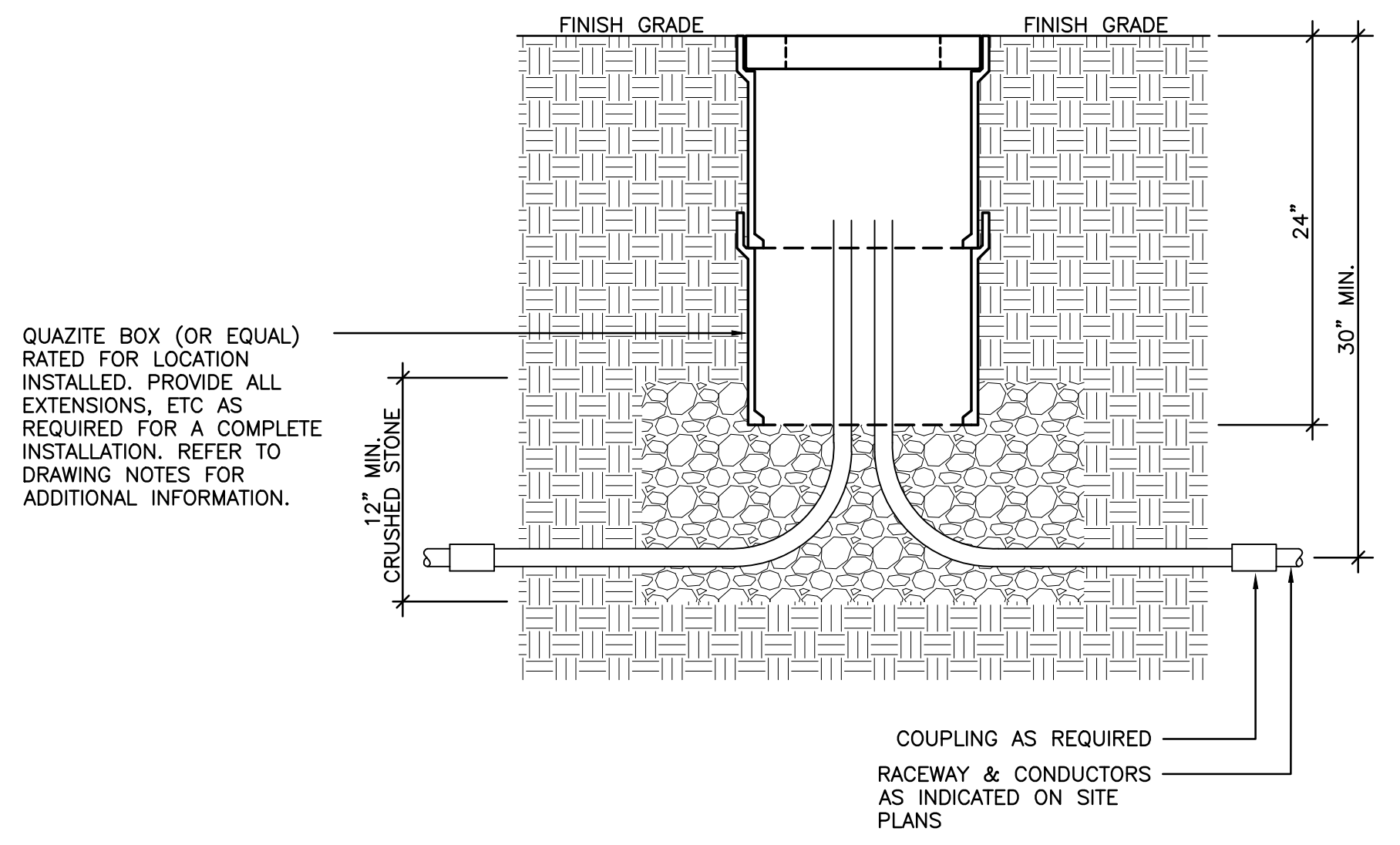


MAIN CAMPUS SITE LIGHTING RENOVATIONS FOR
CLEVELAND COMMUNITY COLLEGE
137 SOUTH POST ROAD, SHELBY, NC 28152

JOB NO. 218350
DWN BY: RNB
DATE: 07/27/26
SCALE: AS SHOWN
SHEET

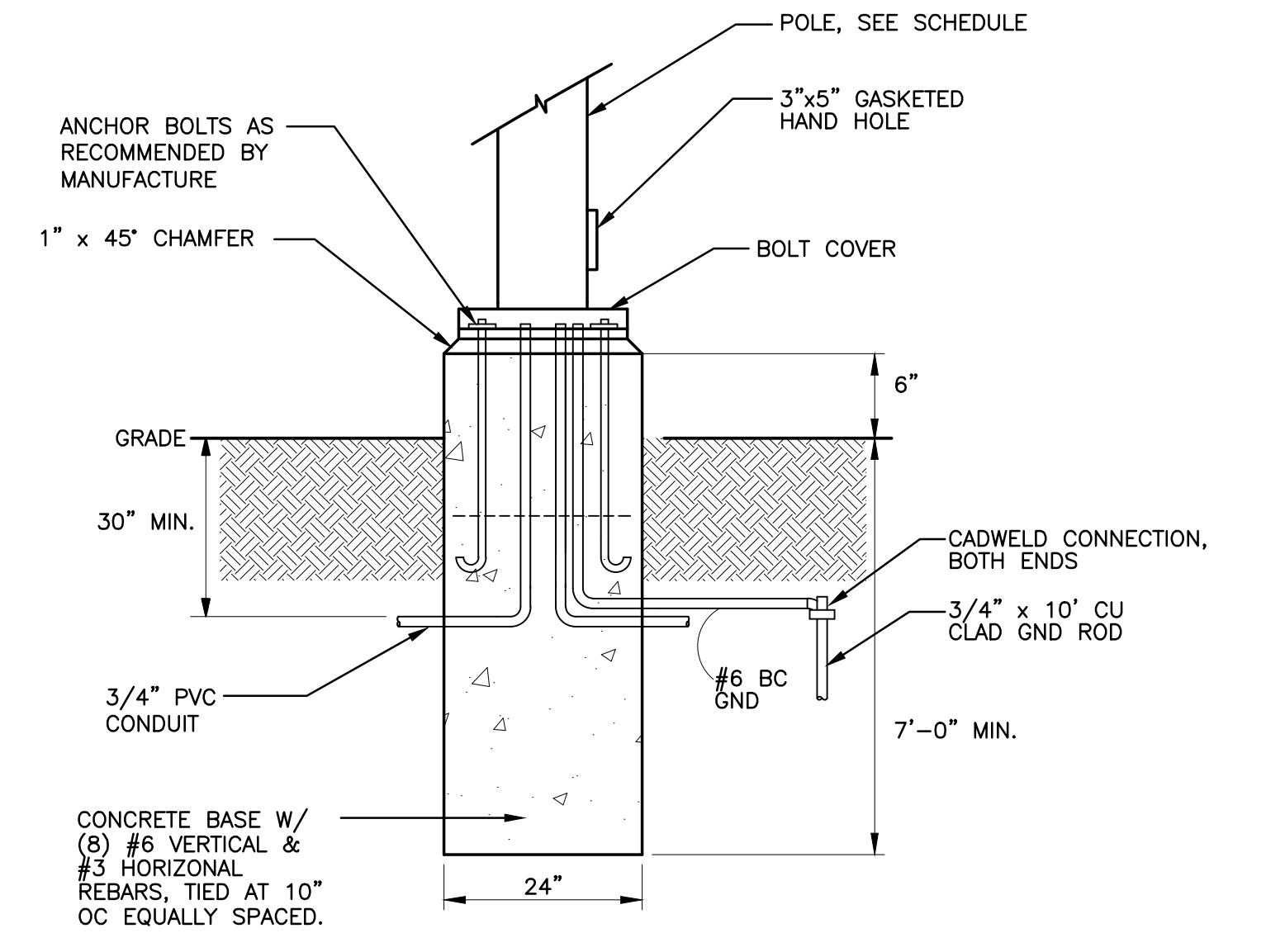
E-3

062626MW

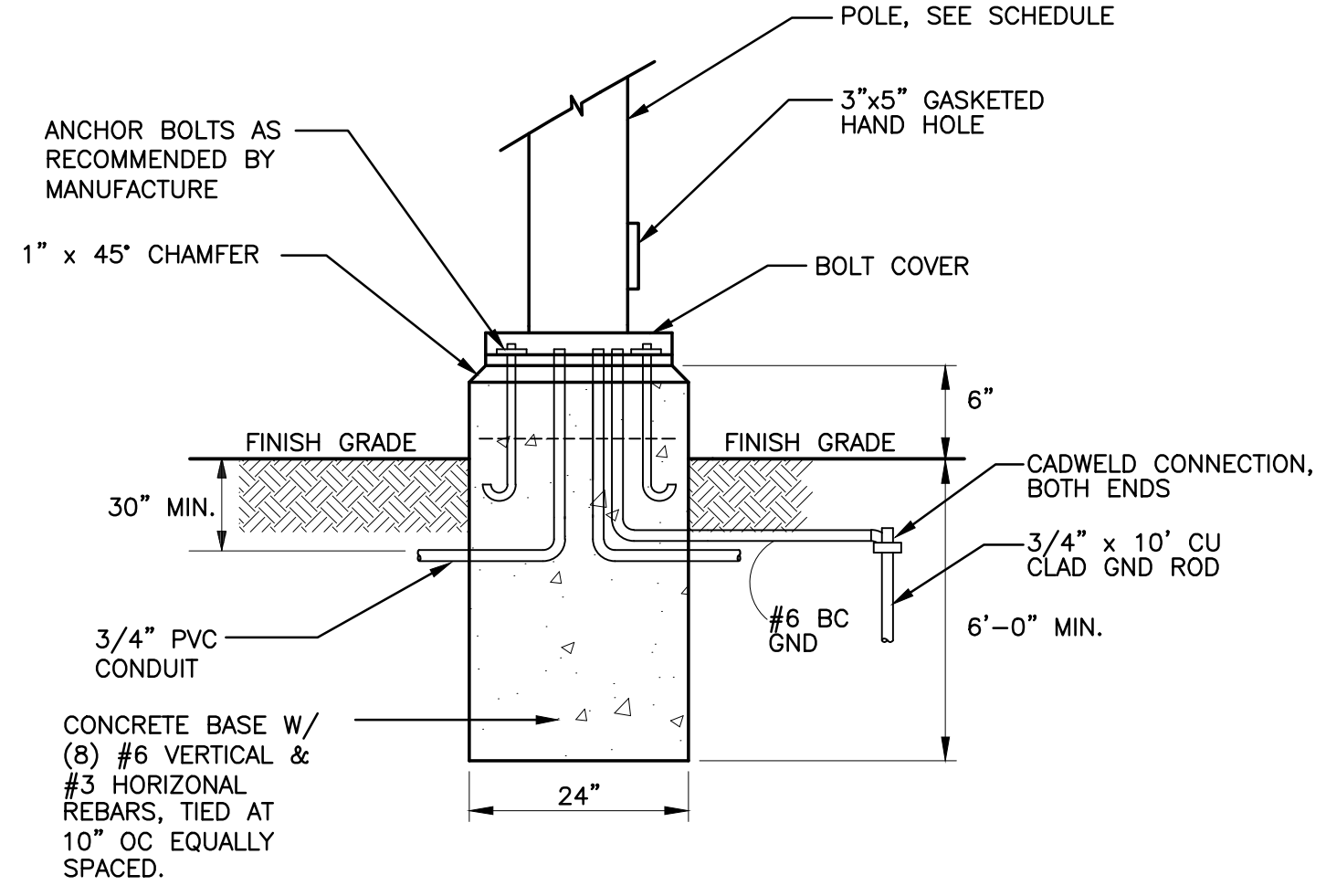


HANDHOLE ENCLOSURE DETAIL
NTS

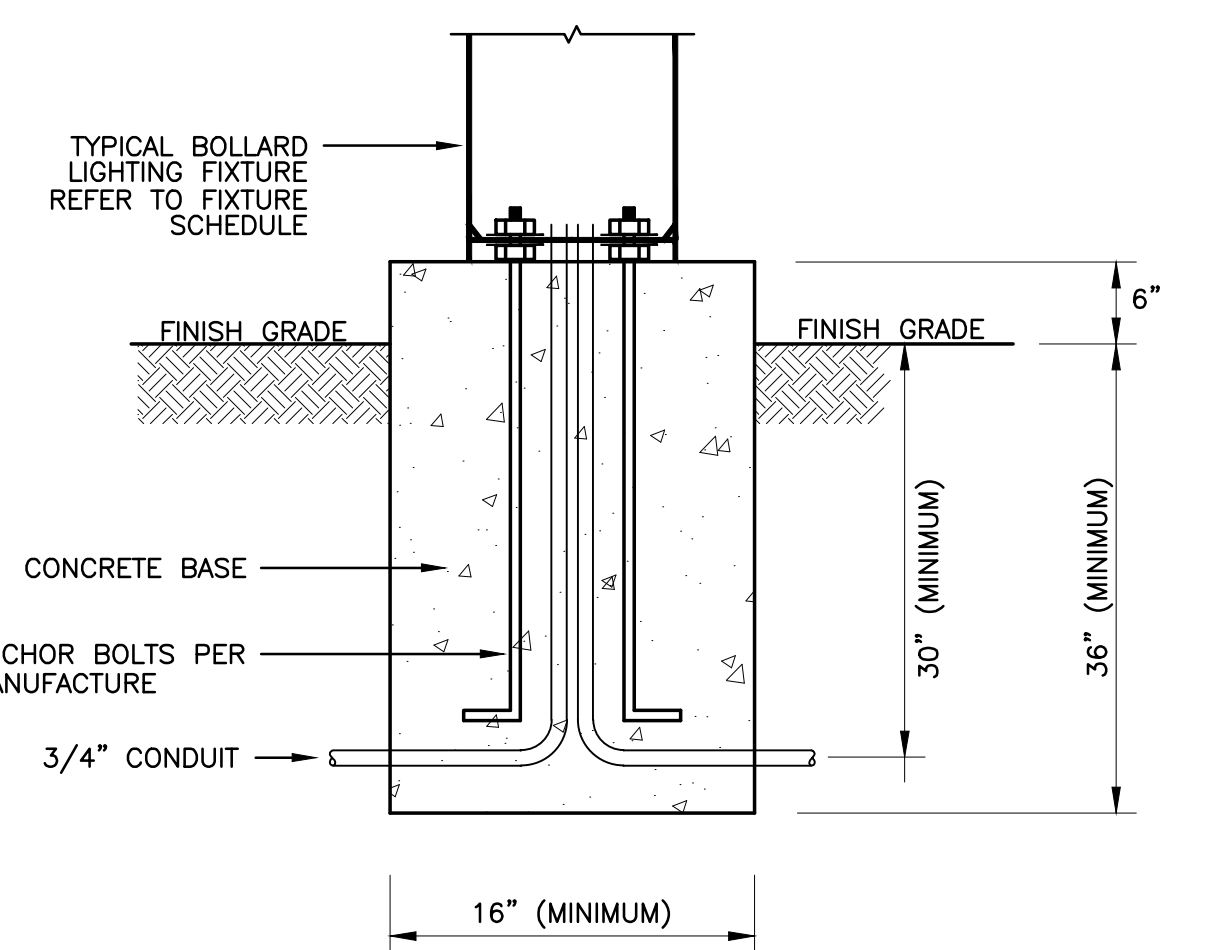
NOTE:
WHERE REQUIRED DUE TO CONSTRUCTION, THE EC SHALL PROVIDE & INSTALL AN IN-GRADE HANDHOLE ENCLOSURE SIZED PER NEC 314.28, 314.30 & 312.6(A) FOR CONNECTIONS. UNIT SHALL BE AN OPEN BOTTOM AND HAVE A HEAVY DUTY, BOLT ON GASKETED LID W/ "ELECTRICAL" INDICATION ON THE LID AS REQUIRED. UNIT SHALL BE A QUAZITE BOX W/ RATING AS REQUIRED FOR AREA INSTALLED. SIZE BOX FOR TWICE THE NUMBER OF RACEWAYS SHOWN. WHERE A BOX IS REQUIRED, COORDINATE FINAL LOCATION W/ OWNER.



TYPE "OA1" POLE BASE DETAIL
NTS

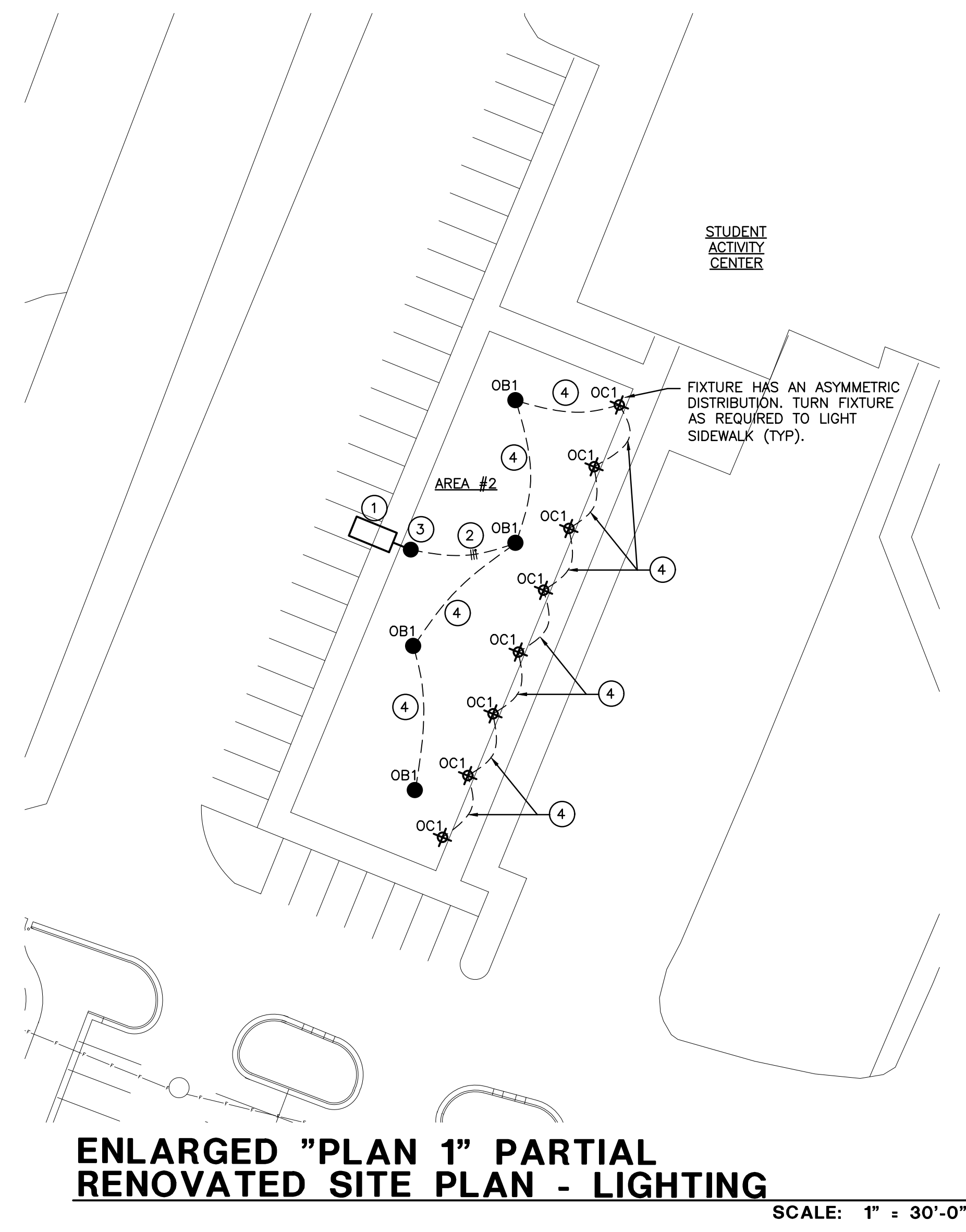


TYPE "OB1" POLE BASE DETAIL
NTS

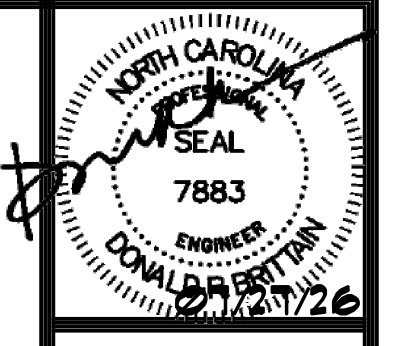


TYPE "OC1" BOLLARD BASE DETAIL
NTS

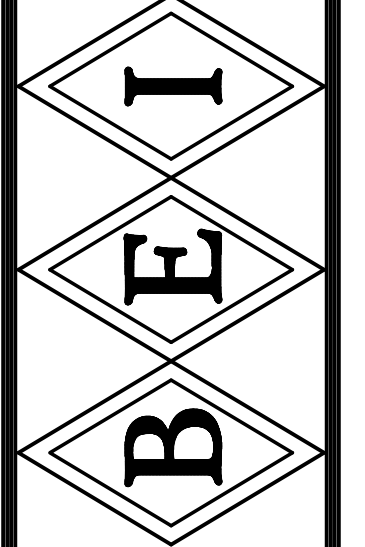
- ENLARGED RENOVATED SITE PLAN NOTES:**
- 1 EXISTING 30' POLE & SITE LIGHTING FIXTURE. REFER TO RENOVATED SITE PLAN - LIGHTING.
 - 2 CONNECT TO EXISTING LIGHTING CIRCUIT.
 - 3 MAKE CONNECTION TO EXISTING POLE W/ GALVANIZED RIGID METAL CONDUIT. PROVIDE SUPPORT & STRAPPING AS REQUIRED. PAINT CONDUIT TO MATCH POLE.
 - 4 2 #12, #12 GND, 3/4" C.



ENLARGED "PLAN 1" PARTIAL RENOVATED SITE PLAN - LIGHTING
SCALE: 1" = 30'-0"



BRITAIN ENGINEERING, INC.
CONSULTING MECHANICAL AND ELECTRICAL ENGINEERS
PO BOX 938
HICKORY, NC 28603
(828) 328-1613



MAIN CAMPUS SITE LIGHTING RENOVATIONS FOR CLEVELAND COMMUNITY COLLEGE
137 SOUTH POST ROAD, SHELBY, NC 28152

JOB NO. 218350
DWN BY: RNB
DATE: 07/27/26
SCALE: AS SHOWN
SHEET