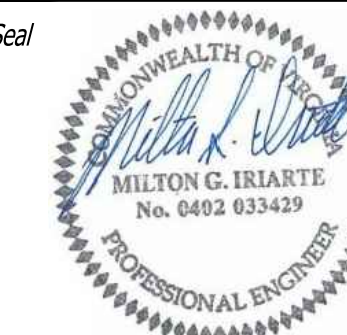




BUILT ENVIRONMENT ENGINEERS
 6801 ELM ST., SUITE 20
 MCLEAN, VA 22101
 703.698.0549 WWW.BEENGINEERS.COM

Seal



I certify that these documents were prepared or approved by me, and that I am a duly licensed engineer under the laws of the State of Maryland, license number

Consultants

Project

Parking Solar Lighting

Church at the Holy Comforter
 543 Beulah Road
 Vienna, VA 22180



PERMIT SET 2024-05-28

Issue Description Date

BEE Project No. 2024-017

Checked By MK

Drawn By ST

Scale As Noted

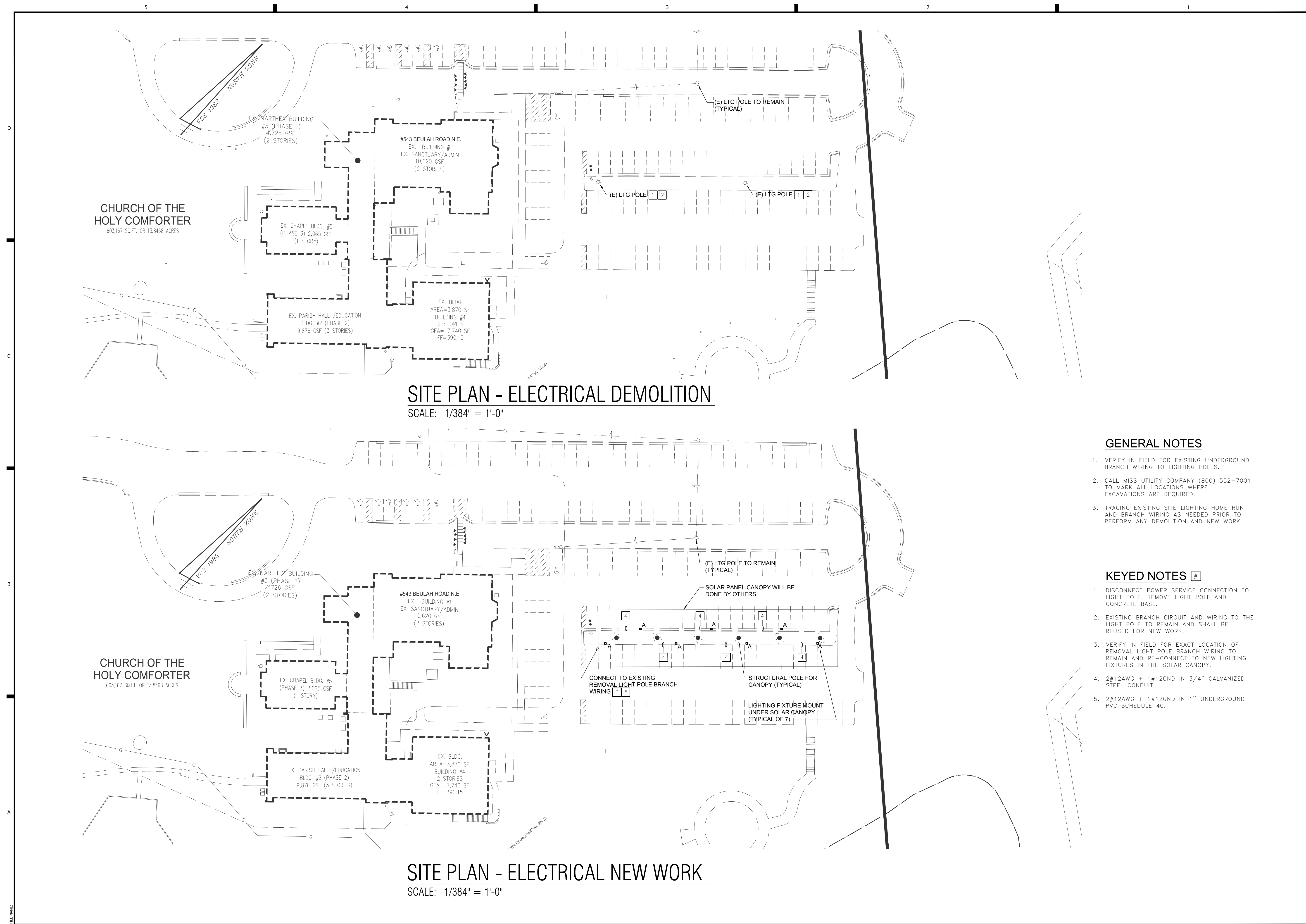
Sheet Title

**SITE PLAN
 NEW AND
 DEMOLITION PLAN**

Sheet No.

E101

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GENERAL NOTES

1. VERIFY IN FIELD FOR EXISTING UNDERGROUND BRANCH WIRING TO LIGHTING POLES.
2. CALL MISS UTILITY COMPANY (800) 552-7001 TO MARK ALL LOCATIONS WHERE EXCAVATIONS ARE REQUIRED.
3. TRACING EXISTING SITE LIGHTING HOME RUN AND BRANCH WIRING AS NEEDED PRIOR TO PERFORM ANY DEMOLITION AND NEW WORK.

KEYED NOTES #

1. DISCONNECT POWER SERVICE CONNECTION TO LIGHT POLE. REMOVE LIGHT POLE AND CONCRETE BASE.
2. EXISTING BRANCH CIRCUIT AND WIRING TO THE LIGHT POLE TO REMAIN AND SHALL BE REUSED FOR NEW WORK.
3. VERIFY IN FIELD FOR EXACT LOCATION OF REMOVAL LIGHT POLE BRANCH WIRING TO REMAIN AND RE-CONNECT TO NEW LIGHTING FIXTURES IN THE SOLAR CANOPY.
4. 2#12AWG + 1#12GND IN 3/4" GALVANIZED STEEL CONDUIT.
5. 2#12AWG + 1#12GND IN 1" UNDERGROUND PVC SCHEDULE 40.

#	ITEM SERVED	TYPE	WIRE	COND.	OCD		LOAD (VA)	PHASE			LOAD (VA)	OCD		COND.	WIRE	TYPE	ITEM SERVED	#	
					TRIP	POLE		A	B	C		TRIP	POLE						
1	Space	-	-	-	-	-											Existing Booster Pumps	2	
3	Space	-	-	-	-	-											Existing Booster Pumps	4	
5	Space	-	-	-	-	-											Existing Boiler Recept.	6	
7	Existing	O	-	-	-	100	2	7000	7360		360	1	20	-	-	R	Existing Quad Recept Sprinkler Room	8	
9	-	O	-	-	-	-	-	7000		7500	500	1	20	-	-	O	Existing Door Holder	10	
11	Existing	O	-	-	-	15	1	250			750	500	1	20	-	-	O	Existing Fire Alarm Control Panel FACP	12
13	Existing	O	-	-	-	20	2	1000	5000		4000	2	40	-	-	O	Existing Snow Melting System	14	
15	-	O	-	-	-	-	-	1000		5000	4000	-	-	-	-	O	-	16	
17	Existing	O	-	-	-	30	3	1500			2000	500	1	20	-	-	O	Existing	18
19	-	O	-	-	-	-	-	1500	2500		1000	1	20	-	-	L	Existing Outdoor Lighting Fixtures	20	
21	-	O	-	-	-	-	-	1500		2500	1000	1	20	-	-	L	Existing Outdoor Lighting Fixtures	22	
23	Existing	O	-	-	-	20	1	500			500	1	20	-	-	-	Spare	24	
25	Spare	-	-	-	-	20	1			0		1	20	-	-	-	Spare	26	
27	Spare	-	-	-	-	20	1			0		1	20	-	-	-	Spare	28	
29	Spare	-	-	-	-	20	1			0		1	20	-	-	-	Spare	30	
31	Spare	-	-	-	-	20	1			0		1	20	-	-	-	Spare	32	
33	spare	-	-	-	-	20	1			0		1	20	-	-	-	Spare	34	
35	Spare	-	-	-	-	20	1			0		1	20	-	-	-	Spare	36	
37	spare	-	-	-	-	20	1			0		1	20	-	-	-	Spare	38	
39	Spare	-	-	-	-	20	1			0		1	20	-	-	-	Spare	40	
41	Spare	-	-	-	-	20	1			0		1	20	-	-	-	Spare	42	
							CONNECTED LOAD (VA)	15610	15750	3430	34790	TOTAL (VA)							

Notes:		TOP FEED	
<input checked="" type="checkbox"/> RECESSED SURFACE	(1) Provide a lockable device handle.	<input type="checkbox"/> TOP FEED	<input type="checkbox"/> BOTOM FEED
<input checked="" type="checkbox"/> GROUND BUS		<input type="checkbox"/> FEED THRU LUGGS	<input type="checkbox"/> SUB FEED MAIN LUGGS (DOUBLE LUGGS)
<input type="checkbox"/> INSULATED GROUND BUS		<input type="checkbox"/> SUB FEED MAIN LUGGS (DOUBLE LUGGS)	

TYPE	LOADS (VA)	PANEL	PANEL	PANEL	CONNECTED LOADS (VA)	SIZING FACTOR	SIZING LOADS (VA)
Lighting	2000.0				2000.0	125%	2500
Receptacles	360.0				360.0	*	360
Mechanical	0.0				0.0	100%	0
Kitchen Equip.	0.0				0.0	100%	0
Hot Water	0.0				0.0	100%	0
Washer/Dryer	0.0				0.0	125%	0
Others	32430.0				32430.0	100%	32430
Elec. Heater	0.0				0.0	100%	0
CONNECTED TOTAL (VA)					34790.0		
CONNECTED AMPACITY (A)					96.6		
DEMAND TOTAL (VA)					35290.0		
DEMAND AMPACITY (A)					98.0		

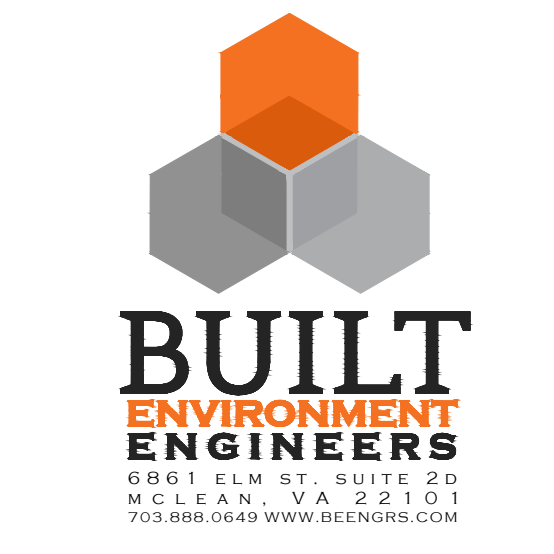
* 1st 10KVA @ 100%, Remain @ 50%

LUMINAIRE SCHEDULE								
SYMBOL AND TYPE	MANUFACTURER & MODEL #	DESCRIPTION	LAMPS			VOLT	MOUNTED	REMARKS
			QTY.	TYPE	WATT			
A	H. E WILLIAMS VG1 L30 8 50 TFL SM BLK DRV UNV. PROVIDE PHOTO CELL	OUTDOOR LED FLOOD LIGHTING FIXTURE	1	PERMANENTLY INSTALLED LED, 3000 LM	36.0	UNV	UNDER CANOPY	PROVIDE ACCESSORIES OPTIONS PER FIELD CONDITION FOR INSTALLATION.

- ### GENERAL NOTES
- SCOPE: PROVIDE AND INSTALL ALL ELECTRICAL SYSTEMS AS INDICATED AND REQUIRED, COMPLETE AND OPERABLE.
 - FURNISH ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, SERVICES AND SKILLED SUPERVISION NECESSARY FOR THE CONSTRUCTION, RIGGING, ERECTION, INSTALLATION, CONNECTION, TESTING AND ADJUSTMENT OF ALL CIRCUITS AND ELECTRICAL EQUIPMENT SPECIFIED HEREIN OR SHOWN, OR NOTED ON THE DRAWINGS. DELIVER MATERIALS AND EQUIPMENT TO SITE PROTECTED, COMPLETE IN ALL RESPECTS, READY FOR INSTALLATION.
 - APPLICABLE CODES, REGULATIONS & PRACTICES: ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING CODES, REGULATIONS & PUBLICATIONS:
 - 2018 VIRGINIA BUILDING CONSTRUCTION CODE
 - 2018 VIRGINIA ENERGY CONSERVATION CODE
 - NFPA 70, NATIONAL ELECTRICAL CODE, 2017
 - DRAWINGS ARE DIAGRAMMATIC AND REPRESENT THE INTENT OF THE PLANS AND SPECIFICATIONS. MANUFACTURER AND CATALOG NUMBERS ARE USED HERE STRICTLY AS REFERENCE. THEY REPRESENT THE TYPE, SIZE, CONSTRUCTION, PERFORMANCE AND LEVEL OF QUALITY DESIRED. EQUIPMENT AND APPURTENANCES FROM OTHER MANUFACTURERS THAT MATCH OR SURPASS THE CHARACTERISTICS OF THOSE REFERENCED AND THAT WILL FIT IN THE ALLOCATED SPACE WILL BE ACCEPTABLE, SUBJECT TO APPROVAL BY THE OWNER'S REPRESENTATIVE.
 - ALL CUTTING AND PATCHING, AND INSTALLATION OF MATERIALS, CONDUITS, WIRING, AND DEVICES SHALL BE DONE IN A PROFESSIONAL MANNER IN ACCORDANCE WITH NECA 1. SHALL CONFORM TO APPLICABLE CODES, REGULATIONS AND MANUFACTURER'S RECOMMENDATIONS, AND SHALL BE COMPLETED IN A MANNER ACCEPTABLE TO THE OWNER'S REPRESENTATIVE.
 - CONDUITS: ALL CONDUITS SHALL BE NEW AND SHALL BE CUT TO EXACT LENGTHS TO SUIT THE FIELD CONDITIONS. BURRS SHALL BE REMOVED. PROVIDE BUSHINGS WHERE CONDUIT ENDS ARE EXPOSED TO CABLING. FIELD COORDINATE EXACT ROUTING OF ALL NEW FEEDERS AND BRANCH CIRCUITS.
 - CONDUIT SYSTEMS: CONDUIT SHALL BE PVC OR LIQUIDTIGHT. ALUMINUM CONDUIT SHALL NOT BE PERMITTED. MINIMUM SIZE OF CONDUIT IS 3/4". RUN CONDUIT PARALLEL TO WALLS AND CEILING. TYPE MC CABLE, 600 VOLT, MAY BE INSTALLED WHERE PERMITTED BY NATIONAL ELECTRICAL CODE (NEC) AND WHERE PROVIDED WITH GROUND WIRE.
 - ALL CONDUITS INSTALLED BELOW CONCRETE SLAB SHALL BE IN GRAVEL BED, NOT IN CONCRETE.
 - WIRE AND CABLE: TYPE THWN OR THHN, 600 VOLT, COPPER CONDUCTORS, COLOR CODED. THE MINIMUM SIZE SHALL BE #12 AWG, 75°C TEMPERATURE RATING PER NEC.
 - GROUNDING: ALL SYSTEMS SHALL BE GROUNDED IN ACCORDANCE WITH THE NEC, RECOMMENDED PRACTICES OF IEEE STD 1100, AND ALL LOCAL CODES. CONDUIT OR CABLE ARMOR SHALL NOT BE SOLE MEANS OF GROUNDING FOR ANY CIRCUIT.

DRAWING LIST

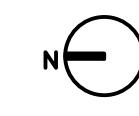
E100	GENERAL NOTES, PANEL SCHEDULES AND FIXTURE SCHEDULES
E101	SITE DEMOLITION AND NEW WORK PLAN



I certify that these documents were prepared or approved by me, and that I am a duly licensed engineer under the laws of the State of Maryland, license number

Consultants

Project
Parking Solar Lighting
 Church at the Holy Comforter
 543 Beulah Road
 Vienna, VA 22180



COMcheck Software Version 4.1.5.5 Exterior Lighting Compliance Certificate

Project Information	
Energy Code:	2018 IECC
Project Title:	Church of the Holy Comforter Alteration
Project Type:	2 (Residentially zoned area (L22))
Exterior Lighting Zone:	
Construction Site:	543 Beulah Road, Vienna, VA 22189
Owner/Agent:	Church of the Holy Comforter, 543 Beulah Road, Vienna, VA 22180
Designer/Contractor:	Michael P. Kang, Built Environmental Engineers, 6861 Elm Street, Suite 20, McLean, VA 22101, (703) 863-3001, kang7250@yahoo.com

A	B	C	D	E
Area/Surface Category	Quantity	Allowed Watts / Unit	Tradable Wattage	Allowed Watts (B X C)
Parking Area (Parking area)	8200 ft2	0.04	Yes	328
		Total Tradable Watts (a) =		328
		Total Allowed Watts =		328
		Total Allowed Supplemental Watts (b) =		400

(a) Wattage tradeoffs are only allowed between tradable areas/surfaces.
 (b) A supplemental allowance equal to 400 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

A	B	C	D	E
Fixture ID - Description / Lamp / Wattage Per Lamp / Ballast	Lamps / Fixture	# of Fixtures	Watt.	(C X D)
Parking Area (Parking area 8200 ft2): Tradable Wattage LED 1: Type A: LED Fixtures: LED Panel 36W:	1	7	36	252
		Total Tradable Proposed Watts =		252

Exterior Lighting PASSES

Exterior Lighting Compliance Statement
 Compliance Statement: The proposed exterior lighting alteration project represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed exterior lighting systems have been designed to meet the 2018 IECC requirements in COMcheck Version 4.1.5.5 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Michael P. Kang, Electrical Engineer
 Name - Title: Michael P. Kang
 Signature: [Signature]
 Date: 05/21/2024

PERMIT SET	2024-05-28
Issue Description	Date

BEE Project No. 2024-017
 Checked By MK
 Drawn By ST
 Scale As Noted

Sheet Title
GENERAL NOTES, PANEL SCHEDULES AND FIXTURE SCHEDULE

Sheet No.
E100