CAMERON COUNTY PURCHASING
1100 East Monroe St,
Brownsville, Texas 78520
(956) 544-0871 Fax: (956) 550-7219

ADDENDUM # 2

DATE OUT: 2/28/23

BID TITLE: SANTA ROSA PARK IMPROVEMENTS CONSTRUCTION PHASE II

BID # 230104

DEADLINE: MARCH 14, 2023

(IN ORDER TO AVOID DISQUALIFICATION – ALL ADDENDUMS MUST BE SIGNED AND RETURNED BY DEADLINE AND INCLUDED IN THE SEALED BID PACKAGE SUBMITTED)

DATE DUE: MARCH 14, 2023- DUE NO LATER THAN 3:00 P.M.

Note:

This addendum is issued for the purpose of modifying the plans and specifications for the Cameron County Santa Rosa Park Improvements – Phase II.

This addendum shall become part of the contract and all CONTRACTORS shall be bound by its content. All aspects of the specifications and drawings not covered herein shall remain the same.

The General Conditions and the Special Conditions of the specifications shall govern all parts of the work and apply in full force to this addendum.

Company Name_____ Phone # _____
Vendor Signature_____ Date _____

Must include and return with Bid Package

February 28, 2023

CAMERON COUNTY
CAMERON COUNTY SANTA ROSA PARK IMPROVEMENTS PHASE II
PROJECT # 2023-C230104

GMS ARCHITECTS
BROWNSVILLE, TEXAS 78526
(956) 546-0110

ADDENDUM NO. 2

A. PURPOSE AND INTENT

This addendum is issued for the purpose of modifying the plans and specifications for the Cameron County Santa Rosa Park Improvements – Phase II.

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The General Conditions and the Special Conditions of the specifications shall govern all parts of the work and apply in full force to this addendum.

B. SCOPE

I. CLARIFICATION:

- *The bid date will be March 14, 2023, at 3:00 pm.*
- There will be a pre-bid meeting at the park on Wednesday, March 8, 2023 at 1pm.

II. ***SPECIFICATIONS:***

- N/A

II. PLANS:

- N/A

III. ETHOS ENGINEERING ADDENDUM #2 – 15 PAGES

1126 South Commerce
Harlingen, TX 78550
Off: (956) 230-3435
Fax: (956) 720-0830
www.ethoseng.net

February 27, 2023

Cameron County Parks – Santa Rosa Park Improvements Phase II

ADDENDUM NO. 2

A. PURPOSE AND INTENT

This addendum is issued for the purpose of modifying the plans and specifications for the project referenced above. This addendum shall become part of the contract and all contractors shall be bound by its content. All aspects of the specifications and drawings not covered herein shall remain the same. The General Conditions and the Special Conditions of the specifications shall govern all parts of the work and apply in full force to this addendum.

B. SPECIFICATIONS:

1. Section 260923 Lighting Control Devices: Revised specification. See attached.

C. DRAWINGS:

1. Sheet EP1.1: Revised Electrical and Plumbing Site Plan. See attached.
2. Sheet E2.1: Revised Luminaire Schedule, Symbol Legend, and Images. See attached.
3. Sheet E3.1: Revised Gymnasium Lighting and Electrical Plan. See attached.
4. Sheet E4.2: Revised Electrical Panel Schedules. See attached.

SECTION 260923 – LIGHTING CONTROL DEVICES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Devices and associated accessories for automatic control of lighting and other loads:

1. Wallbox occupancy/vacancy sensors.
2. Wireless occupancy/vacancy sensors.
3. Wireless control stations.

1.02 ADMINISTRATIVE REQUIREMENTS

A. Coordination:

1. Coordinate the placement of sensors and wall controls with millwork, furniture, equipment, etc. installed under other sections or by others.
2. Coordinate the placement of wall controls with actual installed door swings.
3. Coordinate the placement of daylight sensors with windows, skylights, and luminaires to achieve optimum operation. Coordinate placement with ductwork, piping, equipment, or other potential obstructions to light level measurement installed under other sections or by others.
4. Coordinate the work to provide luminaires and lamps compatible with the lighting controls to be installed.
5. Notify Architect of any conflicts or deviations from the contract documents to obtain direction prior to proceeding with work.

B. Sequencing:
1. Do not install sensors and wall controls until final surface finishes are complete.

1.03 SUBMITTALS

A. Product Data: Include ratings, configurations, standard wiring diagrams, dimensions, colors, service condition requirements, and installed features.

1. Occupancy/Vacancy Sensors: Include detailed basic motion detection coverage range diagrams.
2. Wall Dimmers: Include derating information for ganged multiple devices.

B. Samples:

1. Wallbox Controls:
   a. Show available color and finish selections.
   b. Provide one sample(s) for each product proposed for substitution.
2. Sensors: Provide one sample(s) for each product proposed for substitution.

C. Manufacturer's Installation Instructions: Include application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, and installation of product.

D. Project Record Documents: Record actual installed locations and settings for lighting controls.

E. Operation and Maintenance Data: Include detailed information on lighting control system operation, equipment programming and setup, replacement parts, and recommended maintenance procedures and intervals.

F. Warranty: Submit sample of manufacturer's Warranty as specified in Part 1 under "WARRANTY". Submit documentation of final executed warranty completed in Owner's name and registered with manufacturer.

1.04 QUALITY ASSURANCE

A. Conform to requirements of NFPA 70.

B. Maintain at the project site a copy of each referenced document that prescribes execution requirements.

C. Manufacturer Qualifications:
   1. Company with not less than ten years of experience manufacturing lighting controls, including products using wireless communication between devices.
   2. Registered to ISO 9001, including in-house engineering for product design activities.
   3. Provides factory direct technical support hotline available 24 hours per day, 7 days per week.
   4. Qualified to supply specified products and to honor claims against product presented in accordance with warranty.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Store products in a clean, dry space in original manufacturer's packaging in accordance with manufacturer's written instructions until ready for installation.

1.06 FIELD CONDITIONS

A. Maintain field conditions within manufacturers required service conditions during and after installation.

   1. System Requirements- Lutron, Unless Otherwise Indicated:
      a. Ambient Temperature:
         1) Lighting Controls: Between 32 and 104 degrees F (0 and 40 degrees C).
      b. Relative Humidity: Less than 90 percent, non-condensing.
      c. Protect lighting controls from dust.

1.07 WARRANTY

A. Manufacturer's Standard Warranty:

1. Manufacturer Lighting Control System Components, Except Wallbox Occupancy Sensors, Wireless Sensors, Ballasts/Drivers and Ballast Modules: One year 100 percent parts coverage, no manufacturer labor coverage.
2. Wallbox Occupancy Sensors and Wireless Sensors: Five years 100 percent parts coverage, no manufacturer labor coverage.
3. Ballasts/Drivers and Ballast Modules: Three years 100 percent parts coverage, no manufacturer labor coverage.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Basis of Design Manufacturer: Lutron Electronics Company, Inc.

B. Other Acceptable Manufacturers:

1. Crestron Wireless
2. Products by listed manufacturers are subject to compliance with specified requirements and 10 day prior approval by Architect

C. Substitutions:

1. All proposed substitutions (clearly delineated as such) must be submitted in writing for approval by Architect a minimum of 10 working days prior to the bid date and must be made available to all bidders. Proposed substitutes must be accompanied by a review of the specification noting compliance on a line-by-line basis.
2. Any proposed substitutions to be reviewed by Architect/Engineer. Contractor accepts responsibility and associated costs for all required modifications to related equipment and wiring. Provide complete engineered shop drawings (including power wiring) with deviations from the original design highlighted in an alternate color for review and approval by Architect prior to rough-in.

D. Source Limitations: Where possible, furnish products produced by a single manufacturer and obtained from a single supplier.

2.02 LIGHTING CONTROL DEVICES - GENERAL REQUIREMENTS

A. Provide products listed, classified, and labeled by Underwriters Laboratories Inc. (UL) as suitable for the purpose indicated.

B. Unless specifically indicated to be excluded, provide all required equipment, conduit, boxes, wiring, connectors, hardware, supports, accessories, programming, etc. as necessary for a complete operating system that provides the control intent indicated.

C. Design lighting control equipment for 10 year operational life while operating continually at any temperature in an ambient temperature range of 32 degrees F (0 degrees C) to 104 degrees F (40 degrees C) and 90 percent non-condensing relative humidity.

D. Electrostatic Discharge Tolerance: Design and test equipment to withstand electrostatic discharges without impairment when tested according to IEC 61000-4-2.

E. Power Failure Recovery: When power is interrupted for periods up to 10 years and subsequently restored, lights to automatically return to same levels (dimmed setting, full on, or full off) as prior to power interruption.

F. Wireless Devices:

1. Capable of diagnosing system communications.
2. Capable of having addresses automatically assigned to them.
3. Receives signals from other wireless devices and provides feedback to user.
4. Capable of determining which devices have been addressed.
5. RF Frequency: 434 MHz; operate in FCC governed frequency spectrum for periodic operation; continuous transmission spectrum is not permitted.
6. RF Range: 60 feet (18 m) line-of-sight or 30 feet (9 m) through typical construction materials between RF transmitting devices and compatible RF receiving devices.
7. Electromagnetic Interference/Radio Frequency Interference (EMI/RFI) Limits: Comply with FCC requirements of CFR, Title 47, Part 15, for Class B application.

G. Device Finishes:

1. Wallbox Controls:
2. Standard Colors: Comply with NEMA WD1 where applicable.
3. Color Variation in Same Product Family: Maximum delta E of 1, CIE L*a*b color units per ASTM E308.
4. Visible Parts: Exhibit ultraviolet color stability when tested with multiple actinic light sources as defined in ASTM D4674. Provide proof of testing upon request.

2.03 WALLBOX OCCUPANCY SENSORS

A. General Requirements:

1. Passive Infrared Sensing:
   a. Utilize multiple segmented lens, with internal grooves to eliminate dust and residue build-up.
   b. Passive infrared coupled with technology for sensing fine motions; Lutron XCT Technology. Signal processing technology detects fine-motion passive infrared (PIR) signals without the need to change the sensor's sensitivity threshold.
2. Ultrasonic Sensing: Utilize an operating frequency of 32 kHz or 40 kHz, crystal-controlled to operate within plus/minus 0.005 percent tolerance.
3. Dual Technology Sensing: Passive infrared and ultrasonic sensing coupled with technology for sensing very fine motions; Lutron XCT Technology. Signal processing technology detects fine-motion passive infrared (PIR) and ultrasonic signals without the need to change the sensor's sensitivity threshold.

B. Wall Switch Occupancy/Vacancy Sensors; Lutron Maestro Series:

1. General Requirements:

a. Turns off lighting after reasonable and adjustable time delay once the last person to occupy the space vacates a room or area. Provide adjustable timeout settings of 1, 5, 15, and 30 minutes.
b. Switches at point of minimum energy to maximize relay life, actively adapting to variations in relay timing.
c. Suitable for incandescent, halogen, electronic low-voltage, magnetic low-voltage, compact fluorescent, LED, magnetic fluorescent, electronic fluorescent, and fan loads.

2. Passive Infrared Wall Switch Combination Occupancy/Vacancy Sensors:
   a. Programmable to operate as an occupancy sensor (automatic-on and automatic-off) or a vacancy sensor (manual-on and automatic-off).
   b. Adjustable sensitivity (high, low presets).
   c. Selectable option to enable low light feature (automatic-on when ambient light is below threshold). Ambient light threshold to be adaptive utilizing occupant feedback; Lutron Smart Ambient Light Detection.
   d. Selectable option to inhibit automatic turn-on of lights after manual-off operation while room is occupied for applications such as presentation viewing in conference rooms and classrooms; when room is vacated, returns to normal automatic-on operation after time delay period.
   e. Product(s):
      1) Passive Infrared Wall Switch Occupancy/Vacancy Sensor; Lutron Maestro Series, Model MS-OPS6M2-DV: 6 A lighting (120-277 V), 3 A fan (120 V); coverage of 900 square feet (81 sq m) with mounting height of 4 feet (1.2 m); 180 degree field of view; multi-location capability using standard 3-way or companion switch (up to nine companion switches may be connected).
      2) Passive Infrared Wall Switch Occupancy/Vacancy Sensor; Lutron Maestro Series, Model MS-OPS6M2N-DV: 6 A lighting (120-277 V), 3 A fan (120 V); neutral required; coverage of 900 square feet (81 sq m) with mounting height of 4 feet (1.2 m); 180 degree field of view; multi-location capability using standard 3-way or companion switch (up to nine companion switches may be connected).
      3) Passive Infrared Wall Switch Occupancy/Vacancy Sensor; Lutron Maestro Series, Model MS-OPS6M2U-DV: 6 A lighting (120-277 V), 3 A fan (120 V); convertible to require connection to either neutral or ground; coverage of 900 square feet (81 sq m) with mounting height of 4 feet (1.2 m); 180 degree field of view; multi-location capability using standard 3-way or companion switch (up to nine companion switches may be connected).

2.04 WIRELESS SENSORS

A. General Requirements:

1. Operational life of 10 years without the need to replace batteries when installed per manufacturer's instructions.
2. Communicates directly to compatible RF receiving devices through use of a radio frequency communications link.
3. Does not require external power packs, power wiring, or communication wiring.

4. Capable of being placed in test mode to verify correct operation from the face of the unit.

B. Wireless Occupancy/Vacancy Sensors:

1. General Requirements:
   a. Provides a clearly visible method of indication to verify that motion is being detected during testing and that the unit is communicating to compatible RF receiving devices.
   b. Utilize multiple segmented lens, with internal grooves to eliminate dust and residue build-up.
   c. Sensing Mechanism: Passive infrared coupled with technology for sensing fine motions; Lutron XCT Technology. Signal processing technology detects fine-motion passive infrared (PIR) signals without the need to change the sensor's sensitivity threshold.
   d. Provide optional, readily accessible, user-adjustable controls for timeout, automatic/manual-on, and sensitivity.
   e. Turns off lighting after reasonable and adjustable time delay once the last person to occupy the space vacates a room or area. Provide adjustable timeout settings of 1, 5, 15, and 30 minutes.
   f. Capable of turning dimmer's lighting load on to an optional locked preset level selectable by the user. Locked preset range to be selectable on the dimmer from 1 percent to 100 percent.
   g. Color: White.
   h. Provide all necessary mounting hardware and instructions for both temporary and permanent mounting.
   i. Provide temporary mounting means for drop ceilings to allow user to check proper performance and relocate as needed before permanently mounting sensor. Temporary mounting method to be designed for easy, damage-free removal.
   j. Sensor lens to illuminate during test mode when motion is detected to allow installer to place sensor in ideal location and to verify coverage prior to permanent mounting.
   k. Ceiling-Mounted Sensors:
      1) Provide surface mounting bracket compatible with drywall, plaster, wood, concrete, and compressed fiber ceilings.
      2) Provide recessed mounting bracket compatible with drywall and compressed fiber ceilings.
   l. Wall-Mounted Sensors: Provide wall or corner mounting brackets compatible with drywall and plaster walls.
2. Wireless Combination Occupancy/Vacancy Sensors:
   a. Ceiling-Mounted Sensors: Programmable to operate as an occupancy sensor (automatic-on and automatic-off), an occupancy sensor with low light feature (automatic-on when less than one footcandle of ambient light available and automatic-off), or a vacancy sensor (manual-on and automatic-off).
   b. Wall-Mounted Sensors: Programmable to operate as an occupancy sensor (automatic-on and automatic-off), or a vacancy sensor (manual-on and automatic-off).
   c. Product(s):
      1) Wall-Mounted Occupancy/Vacancy Sensor; Lutron Radio Powr Savr Series, Model LFR2-OWLB-P-WH; Minor motion coverage of 1500

square feet (139.4 sq m) and major motion coverage of 3000 square feet (278.7 sq m) with mounting height of 6 to 8 feet (1.8 to 2.4 m); 180 degree field of view.

2) Corner-Mounted Occupancy/Vacancy Sensor; Lutron Radio Powr Savr Series, Model LFR2-OKLB-P-WH Minor motion coverage of 1225 square feet (113.8 sq m) and major motion coverage of 2500 square feet (232.3 sq m) with mounting height of 6 to 8 feet (1.8 to 2.4 m); 90 degree field of view.

2.05 LOAD CONTROL MODULES FOR WIRELESS SENSORS AND CONTROL STATIONS

A. Provide wireless load control modules as indicated or as required to control the loads as indicated.

B. Junction Box-Mounted Modules:
1. Communicates via radio frequency with up to nine compatible wireless control stations, up to six occupancy/vacancy sensors, and one daylight sensor.
2. Plenum rated.
3. Relay Modules:
a. Product(s):
1) 16 A relay module, without contact closure output; Lutron PowPak Relay Module Model RMJ-16R-DV-B; 16 A relay module, with contact closure output; Lutron PowPak Relay Module Model RMJ-16RCCO1-DV-B; 5 A relay module, without contact closure output; Lutron PowPak Relay Module Model RMJ-5R-DV-B.
b. Relay:
1) Rated Life of Relay: Typical of 1,000,000 cycles at fully rated 16 A for all lighting loads.
2) Load switched in manner that prevents arcing at mechanical contacts when power is applied to and removed from load circuits.
3) Fully rated output continuous duty for inductive, capacitive, and resistive

2.06 WIRELESS CONTROL STATIONS

A. Product(s):

1. 2-Button Control; Lutron Pico Wireless Control Model PJ2-2B;
a. Button Marking on drawings
2. 2-Button Control with Night Light; Lutron Pico Wireless Control Model PJN-2B.
3. Wallbox Adapter; Lutron Model PICO-WBX-ADAPT.

B. Communicates directly to compatible RF receiving devices through use of a radio frequency communications link.

C. Does not require external power packs, power or communication wiring.

D. Allows for easy reprogramming without replacing unit.

E. Button Programming:

1. Single action.
2. Toggle action.

F. Includes LED to indicate button press or programming mode status.

G. Mounting:

1. Capable of being mounted with a table stand or directly to a wall under a faceplate.
2. Faceplates: Provide concealed mounting hardware.

H. Power: Battery-operated with minimum ten-year battery life (3-year battery life for night light models).

I. Finish: White

2.07 SOURCE QUALITY CONTROL

A. See Section 01 4000 - Quality Requirements, for additional requirements.

B. Factory Testing; Lutron Standard Factory Testing:

1. Perform full-function factory testing on all completed assemblies. Statistical sampling is not acceptable.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field measurements are as shown on the drawings.

B. Verify that ratings and configurations of devices are consistent with the indicated requirements.
C. Verify that mounting surfaces are ready to receive devices.
D. Verify that conditions are satisfactory for installation prior to starting work.

3.02 PREPARATION

A. Clean dirt, debris, plaster, and other foreign materials from outlet boxes.

3.03 INSTALLATION

A. Perform work in a neat and workmanlike manner in accordance with NECA 1 and, where applicable, NECA 130

B. Where multiple devices are installed at the same location and at the same mounting height, gang devices together under a common wall plate.

C. Install products in accordance with manufacturer's instructions.

D. Install permanent barrier between ganged devices when voltage between adjacent devices exceeds 300 V.

E. Install wall dimmers to achieve full rating specified after derating for ganging as instructed by manufacturer.

F. Sensor Locations:

1. Sensor locations indicated are diagrammatic. Within the design intent, reasonably minor adjustments to locations may be made in order to optimize coverage and avoid conflicts or problems affecting coverage, in accordance with manufacturer's recommendations.

G. Ensure that daylight sensor placement minimizes sensor view of electric light sources. Locate ceiling-mounted and luminaire-mounted daylight sensors to avoid direct view of luminaires.

H. Lamp Burn-In: Operate lamps at full output for prescribed period per manufacturer's recommendations prior to use with any dimming controls. Replace lamps that fail prematurely due to improper lamp burn-in.

3.04 FIELD QUALITY CONTROL

A. See Section 01 4000 - Quality Requirements, for additional requirements.

B. Correct defective work, adjust for proper operation, and retest until entire system complies with contract documents.

3.05 ADJUSTING

A. Sensor Fine-Tuning: Contractor to provide fine-tuning of sensor calibration.

3.06 CLEANING

A. Clean exposed surfaces to remove dirt, paint, or other foreign material and restore to match original factory finish.

3.07 CLOSEOUT ACTIVITIES

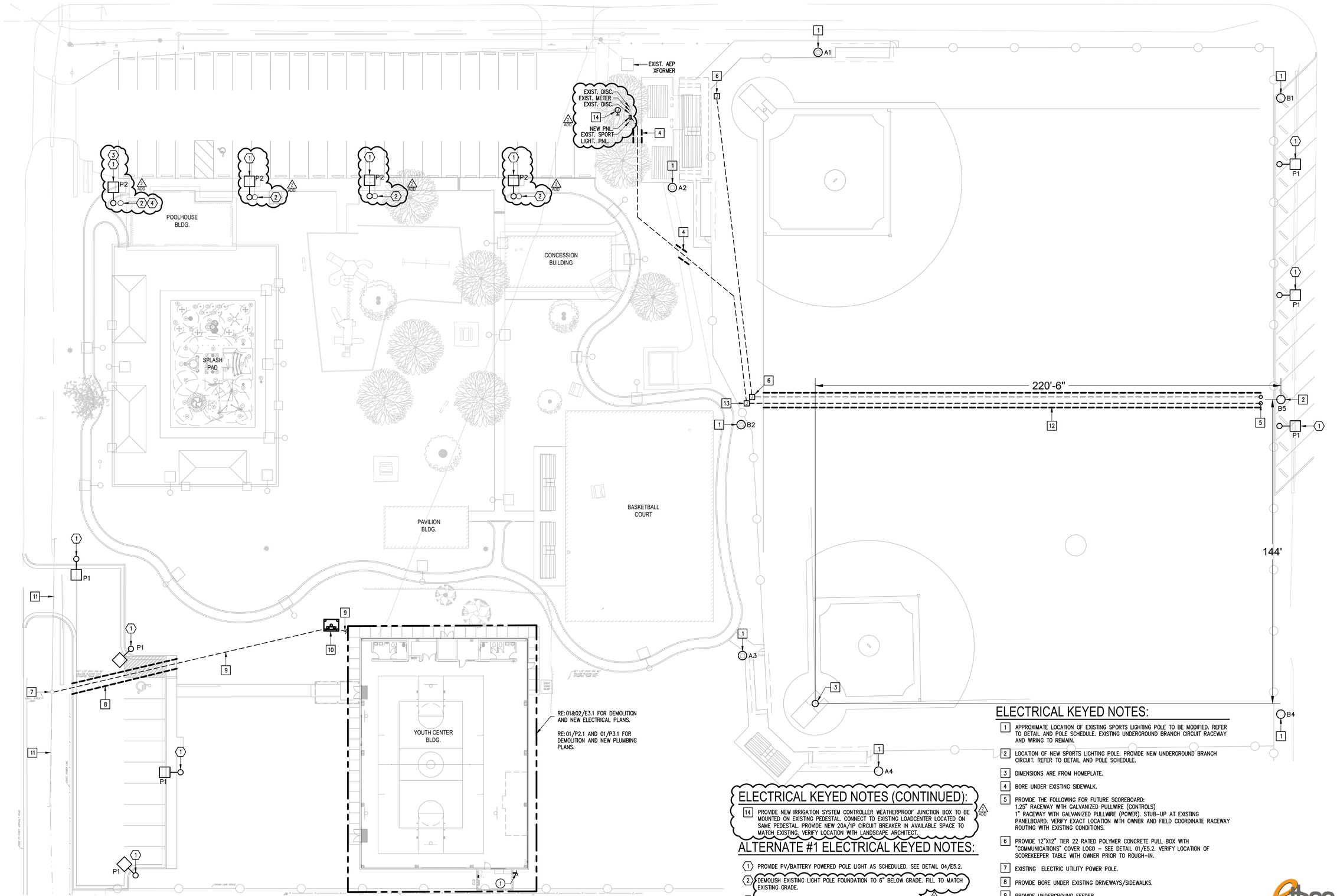
A. Demonstration: Demonstrate proper operation of lighting control devices to Engineer; or owner, and correct deficiencies or make adjustments as directed.

3.08 PROTECTION

A. Protect installed products from subsequent construction operations.

SECTION 260923 – LIGHTING CONTROL DEVICES

END OF SECTION 260923



01 E.P. SITE PLAN

SCALE: 1" = 20'-0"

NORTH

ELECTRICAL KEYED NOTES (CONTINUED):

14 PROVIDE NEW IRRIGATION SYSTEM CONTROLLER WEATHERPROOF JUNCTION BOX TO BE MOUNTED ON EXISTING PEDESTAL. CONNECT TO EXISTING LOADCENTER LOCATED ON SAME PEDESTAL. PROVIDE NEW 20A/1P CIRCUIT BREAKER IN AVAILABLE SPACE TO MATCH EXISTING. VERIFY LOCATION WITH LANDSCAPE ARCHITECT. (ADD 1)

ALTERNATE #1 ELECTRICAL KEYED NOTES:

1 PROVIDE PV/BATTERY POWERED POLE LIGHT AS SCHEDULED. SEE DETAIL 04/E5.2.

2 DEMOLISH EXISTING LIGHT POLE FOUNDATION TO 6" BELOW GRADE. FILL TO MATCH EXISTING GRADE.

3 LOCATE NEW POLE LIGHT IN GRAVEL AREA NEXT TO SIDEWALK. (ADD 1)

4 REFINISH SIDEWALK TO MATCH EXISTING.

PLUMBING KEYED NOTES:

1 PROVIDE NEW 2" SANITARY SEWER LINE. SEE PLUMBING DRAWINGS FOR MORE DETAILS AND CIVIL DRAWINGS FOR CONNECTION AND CONTINUATION.

ELECTRICAL KEYED NOTES:

1 APPROXIMATE LOCATION OF EXISTING SPORTS LIGHTING POLE TO BE MODIFIED. REFER TO DETAIL AND POLE SCHEDULE. EXISTING UNDERGROUND BRANCH CIRCUIT RACEWAY AND WIRING TO REMAIN.

2 LOCATION OF NEW SPORTS LIGHTING POLE. PROVIDE NEW UNDERGROUND BRANCH CIRCUIT. REFER TO DETAIL AND POLE SCHEDULE.

3 DIMENSIONS ARE FROM HOMEPLATE.

4 BORE UNDER EXISTING SIDEWALK.

5 PROVIDE THE FOLLOWING FOR FUTURE SCOREBOARD:
1.25" RACEWAY WITH GALVANIZED PULLWIRE (CONTROLS)
1" RACEWAY WITH GALVANIZED PULLWIRE (POWER). STUB-UP AT EXISTING PANELBOARD. VERIFY EXACT LOCATION WITH OWNER AND FIELD COORDINATE RACEWAY ROUTING WITH EXISTING CONDITIONS.

6 PROVIDE 12"X12" TIER 22 RATED POLYMER CONCRETE PULL BOX WITH "COMMUNICATIONS" COVER LOGO – SEE DETAIL 01/E5.2. VERIFY LOCATION OF SCOREKEEPER TABLE WITH OWNER PRIOR TO ROUGH-IN.

7 EXISTING ELECTRIC UTILITY POWER POLE.

8 PROVIDE BORE UNDER EXISTING DRIVEWAYS/SIDEWALKS.

9 PROVIDE UNDERGROUND FEEDER.

10 PROVIDE NEW ELECTRIC UTILITY PAD MOUNT TRANSFORMER CONCRETE PAD.

11 EXISTING ELECTRIC 3Ø UTILITY OVERHEAD SERVICE LINES.

12 BORE UNDER EXISTING FIELD. DO NOT TRENCH.

13 PROVIDE 12"X12" TIER 22 RATED POLYMER CONCRETE PULL BOX WITH "ELECTRICAL" COVER LOGO – SEE DETAIL 01/E5.2.

REVISIONS	BY
1 ADD 02/16/2023	ETHOS
2 ADD 02/27/2023	ETHOS

GMS ARCHITECTS
1150 Paredes Line Rd.
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Fax (956) 546-0196

CAMERON COUNTY PARKS

SANTA ROSA PARK IMPROVEMENTS PHASE II

THE COUNTY OF CAMERON BROWNSVILLE, TEXAS

STATE OF TEXAS
CESAR A. GONZALEZ
108611
LICENSED PROFESSIONAL ENGINEER
02.01.2023

Date: FEBRUARY 01, 2022
Scale: As Noted
Project Architect: Roan G. Gomez, AIA
Drawn By: ETHOS
Job No. 22v114
Sheet: EP1.1

ethos engineering
1126 SOUTH COMMERCE ST.
HARLINGEN, TX.
PHONE: 956-230-3435
TEXAS REGISTERED
ENGINEERING FIRM
F-15998

ABBREVIATIONS:

A	AMPS	EMS	ENERGY MANAGEMENT SYSTEM	MOCP	MAX. OVERCURRENT PROTECTION
ABC	ABOVE CEILING LINE	EXT.	EXTERNAL OR EXTERIOR	NTS	NOT TO SCALE
AC	ABOVE COUNTER BACKSPLASH	FACP	FIRE ALARM CONTROL PANEL	OA	OUTSIDE AIR
ACCU	AIR COOLED CONDENSING UNIT	FCU	FAN COIL UNIT	OAU	OUTSIDE AIR UNIT
AHU	AIR HANDLING UNIT	FD	FIRE DAMPER	P	POLE(S)
AFF	ABOVE FINISHED FLOOR	FS	FLAT SCREEN	PA	PUBLIC ADDRESS
ACB	ABOVE COUNTER BACKSPLASH	G.	GROUND	PH	PHASE
B.	BOTTOM	GA.	GAGE	RM.	ROOM
BLC.	BELOW CEILING LINE	GALV.	GALVANIZED	SS	STAINLESS STEEL
C.	CONDUIT OR COMMON	GRND.	GROUND	TSTAT	THERMOSTAT
CLG.	CEILING	HP	HORSEPOWER	UG	UNDERGROUND
COMB.	COMBINATION	HVAC	HEATING, VENTILATION, & AIR CONDITIONING	UNO	UNLESS OTHERWISE NOTED
COND.	CONDUIT			V	VOLTS
CU.	COPPER	IG	ISOLATED GROUND	VAV	VARIABLE AIR VOLUME
DDC	DIRECT DIGITAL CONTROLS	INT.	INTRUSION DETECTION	VFD	VARIABLE FREQUENCY DRIVE
DISC.	DISCONNECT	MECH	MECHANICAL	WACU	WALL AIR CONDITIONING UNIT.
EDH	ELECTRIC DUCT HEATER	MS	MOTOR STARTER	W	WIRE
EF	EXHAUST FAN				

LIGHTING SYMBOL LEGEND:

SYMBOL	DESCRIPTION	MNTG. HT. UNO (SEE NOTE 1)
	2'X4' LIGHT FIXTURE – TYPE AS NOTED	– – – –
	EMERGENCY 2'X4' LIGHT FIXTURE–TYPE AS NOTED CONNECT BATTERY PACK TO BE ON AT ALL TIMES (UNSWITCHED)	– – – –
	SURFACE/WRAPAROUND LIGHT FIXTURE	– – – –
	SURFACE/WRAPAROUND EMERGENCY LIGHT FIXTURE CONNECT BATTERY PACK TO BE ON AT ALL TIMES (UNSWITCHED)	– – – –
	SINGLE FACE EXIT SIGN CEILING OR WALL MOUNTING (DIRECTIONAL ARROWS WHERE INDICATED)	12" ABV. EGRESS OPENING
	DOUBLE FACE EXIT SIGN CEILING OR WALL MOUNTING (DIRECTIONAL ARROWS WHERE INDICATED)	12" ABV. EGRESS OPENING
	EMERGENCY LIGHTING UNIT	8'–0"AFF
	WALL MOUNT LIGHT FIXTURE – TYPE AS NOTED	– – – –
	HIGH BAY FIXTURE – TYPE AS NOTED	– – – –

NOTES:

1.) REFERENCE LIGHT FIXTURE SCHEDULE FOR ALL MOUNTING HEIGHTS.

LIGHTING WIRING DEVICES SYMBOL LEGEND:

SYMBOL	DESCRIPTION	MNTG. HT. UNO (SEE NOTE 1)
S	SINGLE POLE TOGGLE SWITCH – HUBBELL MODEL #HBL1221W (WHITE)	48"AFF
S_{VS}	VACANCY WALL SENSOR SWITCH – LUTRON MODEL #MS–OPS2–WH (CW–1–WH). CONTROLLED LIGHT FIXTURE.	48"AFF
S_T	1P TOGGLE SWITCH–THERMAL TYPE – SQUARE "D" CLASS 2510 W/ RED PILOT LIGHT & HANDLE GUARD/LOCK OFF	AS REQUIRED
PC	OUTDOOR PHOTO CELL WALL MOUNTED	– – – –
1	WIRELESS SWITCH – LUTRON MODEL #PJ2–2B–GWH–L01 (CW–1–WH)	48"AFF
4	WIRELESS SWITCH – LUTRON MODEL #PJ2–4B–GWH–L03 (CW–1–WH)	48"AFF
VS	WIRELESS WALL VACANCY SENSOR – LUTRON MODEL #LRF2–OWLB–P–WH	9'–0" AFF
165	POWER PACK SWITCHING MODULE – LUTRON MODELT #RMJS–16R–DV–B	ABV. CLG.

ADD

NOTES:

1.) 48" AFF INDICATES TO TOP OF DEVICE;
ALL OTHER MOUNTING HEIGHTS REFER TO CENTERLINE OF DEVICE.

GENERAL SYMBOL LEGEND:

SYMBOL	DESCRIPTION	MNTG. HT. UNO (SEE NOTE 1)
	ELECTRICAL PANELBOARD – SURFACE MOUNTED	AS REQUIRED
	CONCEALED RACEWAY	AS REQUIRED

SPECIAL SYSTEMS SYMBOL LEGEND:

SYMBOL	DESCRIPTION	MNTG. HT. UNO (SEE NOTE 1)
	DATA OUTLET/VOICE OVER IP – PROVIDE BACK BOX WITH 1" RACEWAY STUBBED INTO ACCESSIBLE CLG. WITH PULL WIRE – SEE DETAIL. NUMBER INDICATES AMOUNT OF DATA DROPS.	18"AFF

NOTES:

1.) 48" AFF INDICATES TO TOP OF DEVICE;
ALL OTHER MOUNTING HEIGHTS REFER TO CENTERLINE OF DEVICE.

LUMINAIRE SCHEDULE

CALLOUT	LAMP	DESCRIPTION	DRIVER	MOUNTING	MODEL	INPUT WATTS	VOLTS	NOTE 1	LUMENS / LAMP	LUMENS MAINT.	HOURS
A2	LED	2'X4' LAY–IN INDIRECT TROFFER	0–10V	RECESSED	LITHONIA: 2BLT4 40L ADSM MVOLT GZ10 LP840 LSI: OPT24 LED FS1 4066LM UNV DIM	34	MULTIPLE		4032	L80	60,000
A2E	LED	2'X4' LAY–IN INDIRECT TROFFER	0–10V	RECESSED	LITHONIA: 2BLT4 40L ADSM MVOLT GZ10 LP840 EL14L LSI: OPT24 LED FS1 4066LM UNV DIM EM	34	MULTIPLE	PROVIDE WITH AN EMERGENCY BATTERY PACK.	4032	L80	60,000
D2	LED	4' WRAPAROUND	0–10V	SURFACE/ROD	LITHONIA: BLWP4 48L SDSM GZ10 LP840 WILLIAMS: 17–4–L55/840–AF–DIM–UNV	40	120V 1P 2W		5205	L90	50,000
D2E	LED	4' WRAPAROUND	0–10V	SURFACE/ROD	LITHONIA: BLWP4 48L SDSM GZ10 LP840 E10WLCP WILLIAMS: 17–4–L55/840–AF–EM/10W–DIM–UNV	40	120V 1P 2W	PROVIDE WITH AN EMERGENCY BATTERY PACK.	5205	L90	50,000
E1	LED	EMERGENCY LIGHTING UNIT		WALL	LITHONIA: INDL SP2200L UVOLT LTP EHO SDRT ELA WG2M MULE: MP–M60–2–L15–D	20	120V 1P 2W	PROVIDE WITH A WIREGUARD, SELF–DIAGNOSTICS, LOAD DISCONNECT, & TIME DELAY.	2950		
H4	LED	15" ROUND HIGH BAY	0–10V	SURFACE	AEL: LUFOHB–14–4K–PRM–BLK–UNV LITHONIA: JEBL 12L 40K 80CRI WH	100	120V 1P 2W		13961	L70	141,000
H6	LED	15" ROUND HIGH BAY	0–10V	SURFACE	AEL: LUFOHB–21–4K–PRM–BLK–UNV LITHONIA: JEBL 18L 40K 80CRI WH	150	120V 1P 2W		20799	L70	141,000
ME	LED	WALLPACK	0–10V	SURFACE	LITHONIA: AFF OEL DDBTXD UVOLT LTP SDRT WT CW	11	MULTIPLE	PROVIDE UL LISTED FOR WET LOCATIONS AND WITH AN EMERGENCY BATTERY PACK. VERIFY FINISH WITH ARCHITECT PRIOR TO ORDERING.	635	L70	55,000
N	LED	WALLPACK	0–10V	SURFACE	LITHONIA: WDGE2 LED P4 40K 80CRI VF MVOLT DDBXD RAYON: T630LEDB 45 UNI12 40 T3 BZ G2	50	MULTIPLE	PROVIDE UL LISTED FOR WET LOCATIONS.VERIFY FINISH WITH ARCHITECT PRIOR TO ORDERING.	6000	L80	50,000
P1	LED	LED SOLAR AREA LIGHT		POLE	ROMANSO: RMS–H210460 POLE: ENERGY LIGHT INC H18A5RS125 8.3" X 6.3" X 3.5"	60	MULTIPLE	PROVIDE FIXTURE UL LISTED FOR WET LOCATIONS AND WITH A MOTION SENSOR & TIME CONTROLLER TOGETHER. POLE SHALL BE 18' ROUND STRAIGHT ALUMINUM & RATED FOR 138MPH WINDS. PROVIDE POLE WITH A VIBRATION DAMPER. STANDARD COLOR FINISH TO BE SELECTED AT A LATER DATE.COLOR TEMPERATURE 57K.5 YEARS OF WARRANTY.	10594	LM–70	50,000
P2	LED	LED SOLAR AREA LIGHT		POLE	ROMANSO: RMS–H210480 POLE: ENERGY LIGHT INC H18A5RS125 39" X 20.47" X 12.48"	80	MULTIPLE	PROVIDE FIXTURE UL LISTED FOR WET LOCATIONS AND WITH A MOTION SENSOR & TIME CONTROLLER TOGETHER. POLE SHALL BE 18' ROUND STRAIGHT ALUMINUM & RATED FOR 138MPH WINDS. PROVIDE POLE WITH A VIBRATION DAMPER. STANDARD COLOR FINISH TO BE SELECTED AT A LATER DATE.COLOR TEMPERATURE 57K.5 YEARS OF WARRANTY.	15110	LM–70	50,000
S	LED	WRAPAROUND	0–10V	SURFACE	VENTURE: VP4–40NA–BF1 BEGHELLI: BS101LED 4 HT LO WT40 120–277V SS TPS	50	120V 1P 2W	PROVIDE UL LISTED FOR DAMP LOCATIONS AND PROVIDE CORNER MOUNT BRACKET. PROVIDE LIGHT GRAY FINISH TO MATCH PHASE I.	6318	L70	60,000

GENERAL NOTES:
1.OTHER LIGHT FIXTURE MANUFACTURERS THAN THOSE LISTED ON THIS SCHEDULE ARE REQUIRED TO OBTAIN PRIOR APPROVAL BY SUBMITTING CUT SHEETS OF THEIR SUBSTITUTIONS AT LEAST (10) DAYS PRIOR TO BID. CUT SHEETS SHALL INDICATE/HIGHLIGHT PHOTOMETRIC CURVE, EFFICIENCY & CONSTRUCTION FOR DIRECT COMPARISON WITH SPECIFIED FIXTURES.
2.EXTRA MATERIALS: SEE SPECIFICATIONS.
3.EMERGENCY BATTERY PACKS SHALL BE COMPLETE FACTORY INSTALLED WITH NI–CAD BATTERY, CHARGER INDICATING LIGHT, ELECTRONIC CIRCUITRY, 1400 LUMENS OUTPUT, 90 MINUTES DURATION & FIVE FULL YEARS WARRANTY.

01 TYPE A2, A2E, A3, A3E
SCALE : NOT TO SCALE

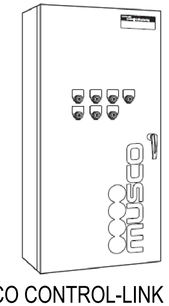
02 TYPE D2,D2E
SCALE : NOT TO SCALE

03 TYPE H4,H6
SCALE : NOT TO SCALE

04 TYPE ME,N
SCALE : NOT TO SCALE

05 TYPE S
SCALE : NOT TO SCALE

06 TYPE P1 & P2
SCALE : NOT TO SCALE



07 MUSCO CONTROL-LINK CONTACTOR CABINET IMAGE
SCALE : NOT TO SCALE

08 TYPE E1
SCALE : NOT TO SCALE

09 WALL SENSOR SWITCH MODEL#MS-OPS6-WH
SCALE : NOT TO SCALE

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CAMERON COUNTY PARKS
SANTA ROSA PARK IMPROVEMENTS PHASE II

THE COUNTY OF CAMERON BROWNSVILLE, TEXAS

STATE OF TEXAS
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Date: FEBRUARY 01, 2022
Scale: As Noted
Project Architect: Roan G. Gomez, AIA
Drawn By: ETHOS
Job No.: 22v114
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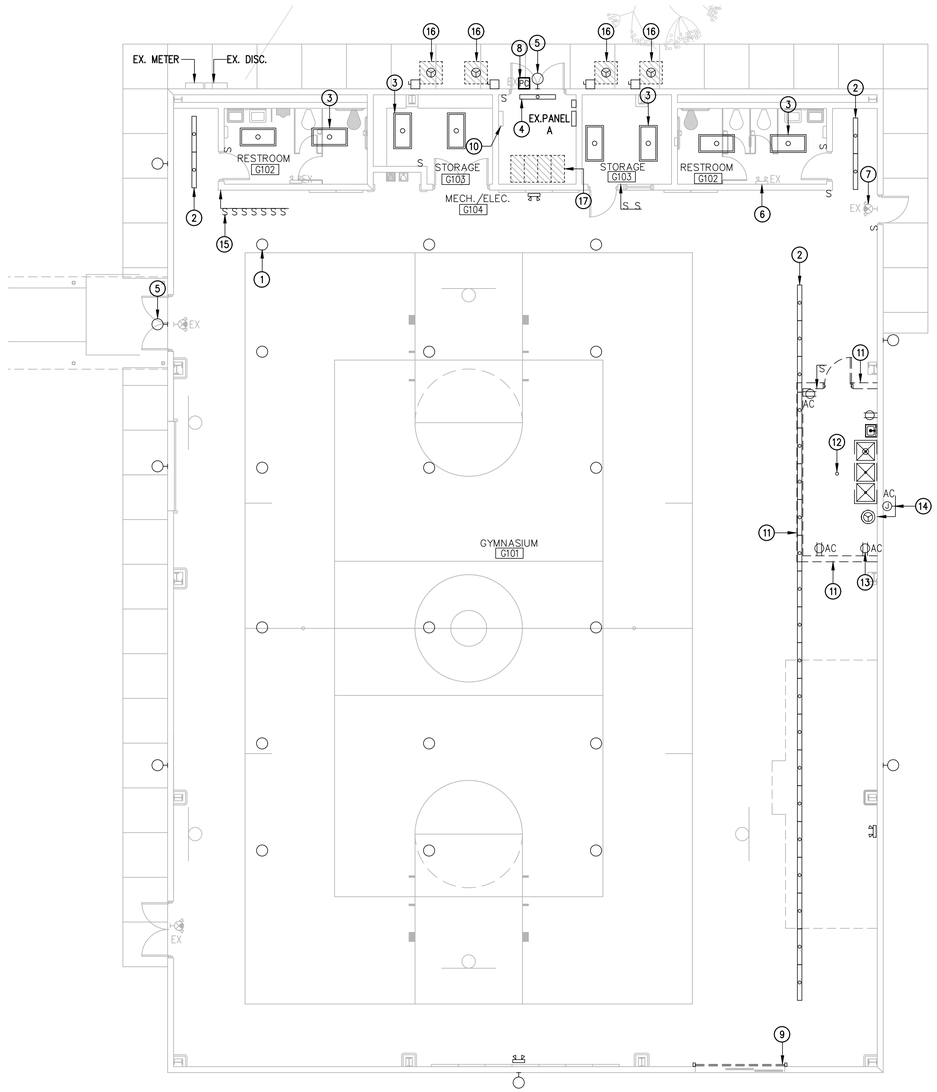
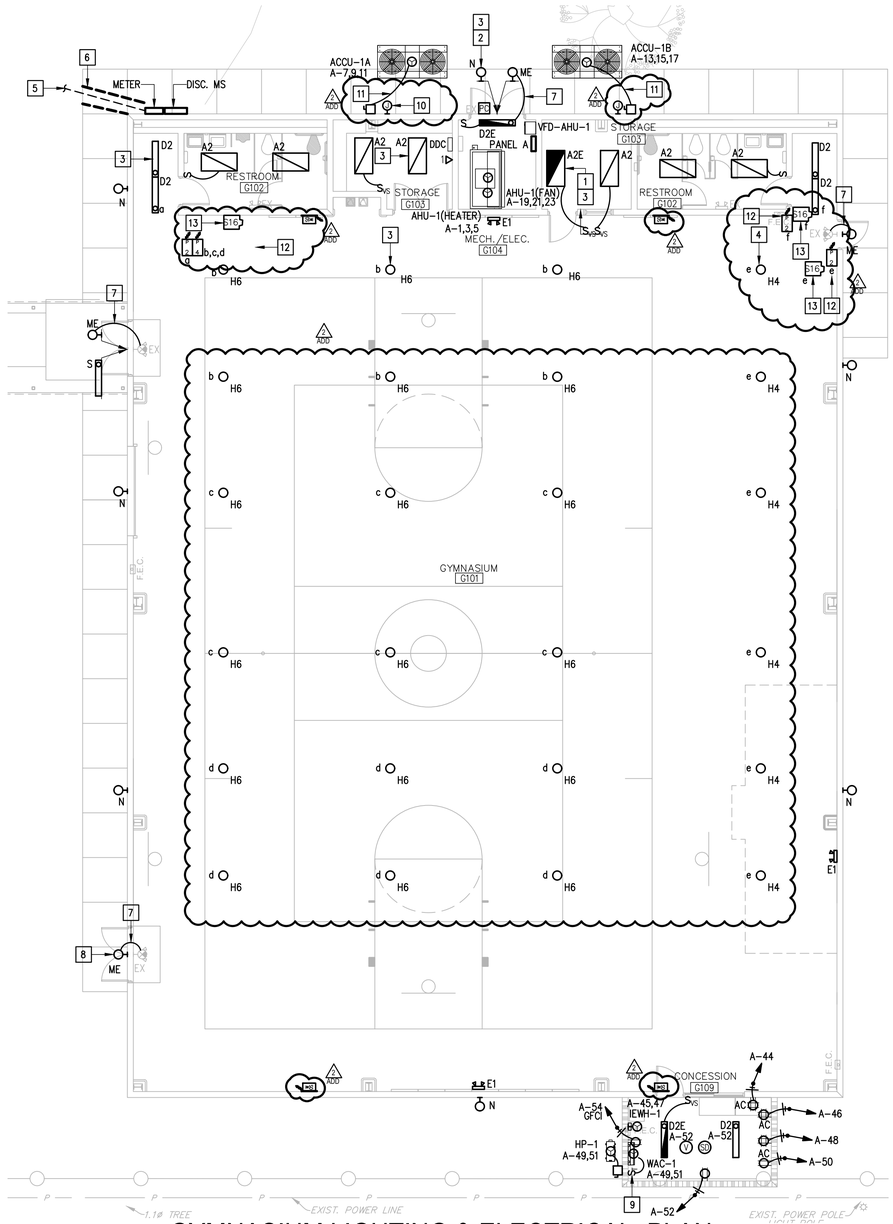


01 GYMNASIUM DEMOLITION PLAN

SCALE: 1/8" = 1'-0"

NORTH



02 GYMNASIUM LIGHTING & ELECTRICAL PLAN

SCALE: 1/8" = 1'-0"

NORTH

KEYED NOTES:(CONTINUED):

10 PROVIDE WEATHER PROOF J-BOX & 3/4" RACEWAY WITH PULL WIRE TO THE AHU LOCATION & SEAL TIGHT RACEWAY STUBBED OUT TO THE ACCU LOCATION – TYPICAL.

11 SAWCUT EXISTING SIDEWALK FOR ACCU UNIT UNDERGROUND BRANCH CIRCUIT AND CONTROL RACEWAY.

12 PROVIDE CLEAR LOCKING COVER.

13 PROVIDE (1) POWER PACK SWITCHING MODULE PER LIGHTING ZONE FOR ZONES "a" THROUGH "e" IN GYMNASIUM. INTERCEPT RELATED LIGHTING BRANCH CIRCUIT AND FEED FROM POWER PACKS TO BE CONTROLLED BY WALL MOUNTED OCCUPANCY SENSORS.

DEMOLITION GENERAL NOTES:

1. REFER TO ARCHITECTURAL SPECIFICATIONS FOR PHASING REQUIREMENTS.
2. THE EXTENT OF DEMOLITION WORK IS INDICATED ON THE ARCHITECTURAL DRAWINGS AND BY THE REQUIREMENTS OF THIS SECTION. A VISIT TO THE SITE IS REQUIRED TO PROPERLY BID THE DEMOLITION WORK.
3. REMOVED MATERIALS SHALL BELONG TO OWNER. DELIVER THEM TO OWNERS DESIGNATED LOCATION. IF OWNER DOES NOT WANT THE REMOVED MATERIALS THEN REMOVE THEM FROM SITE & PROPERLY DISPOSE OF THEM.
4. IF REMOVAL OF EXISTING ELECTRICAL SYSTEMS RENDERS EXISTING ELECTRICAL SYSTEMS DOWNSTREAM TO REMAIN INOPERABLE, PROVIDE J-BOXES, CONDUIT WIRING AND SPLICES ABOVE ACCESSIBLE CEILINGS IN ORDER TO CONTINUE OPERATION.
5. REFER TO ARCHITECTURAL DEMOLITION DRAWINGS FOR WALL AND CEILINGS TO BE REMOVED.
6. ITEMS DESIGNATED WITH AN "EX" ARE EXISTING TO REMAIN AS IS.
7. PRIOR TO DEMOLITION, IN CEILINGS SCHEDULED TO BE REMOVED AND (OR) REPLACED FOR NEW WORK, PREPARE REFLECTED CEILING PLAN SKETCH SHOWING LOCATIONS OF ALL CEILING COMPONENTS AND DEVICES TO BE RE-USED INCLUDING BUT NOT LIMITED TO:
   - LIGHT FIXTURES
   - SPEAKERS
   - WIRELESS ACCESS POINTS
   - FIRE ALARM DEVICES
   - ETC.

   IF ANY OF THE ABOVE ITEMS ARE IN NON-WORKING CONDITION, SUBMIT A WRITTEN REPORT TO OWNER/ARCHITECT. TEMPORARY SUPPORT AND OR REMOVAL OF THESE SYSTEMS SHALL BE PROVIDED FOR NEW WORK.
8. PROVIDE BLANK COVERPLATE FOR UNUSED BACKBOXES.

DEMOLITION KEYED NOTES:

1 DISCONNECT AND REMOVE EXISTING HIGH BAY LIGHT FIXTURE TO BE REPLACED – TYPICAL.

2 DISCONNECT AND REMOVE EXISTING SUSPENDED LINEAR LIGHT FIXTURE TO BE REPLACED – TYPICAL.

3 DISCONNECT AND REMOVE EXISTING TROFFER LIGHT FIXTURE TO BE REPLACED – TYPICAL.

4 DISCONNECT AND REMOVE EXISTING WALL MOUNTED LINEAR LIGHT FIXTURE TO BE REPLACED.

5 DISCONNECT AND REMOVE EXISTING WALL MOUNTED EXTERIOR LIGHT FIXTURE TO BE REPLACED – TYPICAL.

6 EXISTING EMERGENCY LIGHT FIXTURE TO REMAIN AS IS – TYPICAL.

7 EXISTING EXIT SIGN FIXTURE TO REMAIN AS IS – TYPICAL.

8 EXISTING PHOTOCELL TO REMAIN AS IS.

9 DISCONNECT AND REMOVE OVERHEAD DOOR CONTACT ALONG WITH RELATED RACEWAY, WIRING AND SUPPORT HARDWARE.

10 APPROXIMATE LOCATION OF EXISTING FIRE LITE ALARMS BY HONEYWELL MODEL "MS-9050UD" ADDRESSABLE FIRE ALARM CONTROL PANEL.

11 DISCONNECT AND REMOVE ANY AND ALL LIGHTING, ELECTRICAL AND SPECIAL SYSTEMS ALONG WITH RELATED RACEWAYS, WIRING AND SUPPORT HARDWARE LOCATED ON WALLS TO BE REMOVED – TYPICAL.

12 DISCONNECT AND REMOVE EXISTING CEILING MOUNTED LIGHT FOR REMOVAL.

13 DISCONNECT AND REMOVE EXISTING RECEPTACLE ALONG WITH RELATED RACEWAY, WIRING AND SUPPORT HARDWARE –TYPICAL.

14 DISCONNECT EXISTING WATER HEATER FOR REMOVAL ALONG WITH RELATED RACEWAY, WIRING AND SUPPORT HARDWARE.

15 DISCONNECT AND REMOVE EXISTING SWITCH. EXISTING LIGHTING CIRCUIT AND SWITCH LEG TO BE REUSED.

16 DISCONNECT EXISTING HVAC EQUIPMENT FOR REMOVAL ALONG WITH RELATED DISCONNECT, RACEWAY, WIRING, SUPPORT HARDWARE, ETC.

17 DISCONNECT EXISTING HVAC EQUIPMENT FOR REMOVAL ALONG WITH RELATED, RACEWAY, WIRING, SUPPORT HARDWARE, ETC.

GENERAL NOTES:

1. LIGHTING BRANCH CIRCUIT HOMERUNS SHALL BE 3/4" – 2#12 & #12G. 20A/120V HOMERUNS EXCEEDING 200FT THE WIRE SIZE SHALL BE #10 & #8 FOR 275'.
2. INTERIOR LIGHTING CONTROLS ARE EXISTING TO REMAIN.
3. EXTERIOR LIGHTING CONTROLS SHALL BE BY EXISTING PHOTOCELL.
4. EACH 20A/1P BRANCH CIRCUIT SHALL HAVE A DEDICATED NEUTRAL.
5. IF NEW DEVICES ARE TO BE INSTALLED ON EXISTING WALLS; PROVIDE SURFACE MOUNTED METAL RACEWAYS AND BOXES (WIREMOLD).

KEYED NOTES:

1 CONNECT EMERGENCY BATTERY PACK TO BE CHARGING AT ALL TIMES (UNSWITCHED). LIGHT FIXTURE SHALL BE OPERATED BY THE CORRESPONDING SWITCH – TYPICAL.

2 PROVIDE NEW UNSWITCHED HOT WIRE FROM EXISTING LIGHTING CIRCUIT FOR INTEGRAL EMERGENCY BATTERY.

3 CONNECT TO AN EXISTING ROOM CIRCUIT –TYPICAL.

4 PROVIDE NEW LIGHT FIXTURE TYPE "H4".

5 PROVIDE UNDERGROUND FEEDER.

6 BORE UNDER EXISTING SIDEWALK.

7 CONNECT NEW FIXTURE TYPE "ME" TO EXISTING EXIT/EMERGENCY LIGHT CIRCUIT IN THE VICINITY.

8 MOUNT LIGHT FIXTURE TYPE "ME" AT 12""ABOVE TOP OF DOOR – TYPICAL.

9 MOUNT THERMAL SWITCH AT 90° AFF.

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Drawn By: ETHOS
Job No. 22v114
Sheet: E3.1

SL

ROOM OUTDOORS | VOLTS 480Y/277V 3P 4W | AIC 22,000
MOUNTING SURFACE | BUS AMPS 225 | MAIN BKR MLO
FED FROM UTILITY | NEUTRAL 100% | LUGS STANDARD
NOTE PROVIDE A TYPE WRITTEN AS BUILT DIRECTORY.

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C
1	40/3	EXISTING LOAD	0			2	40/3	EXISTING LOAD	0		
3	|			0		4	|		0	
5	|				0	6	|			0
7	20/3	EXISTING LOAD	0			8	20/3	EXISTING LOAD	0		
9	|			0		10	|		0	
11	|				0	12	|			0
13	20/3	EXISTING LOAD	0			14	20/3	EXISTING LOAD	0		
15	|			0		16	|		0	
17	|				0	18	|			0
19	30/3	EXISTING LOAD	0			20	20/2	EXISTING LOAD	0		
21	|			0		22	|		0	
23	|				0	24	20/1	SPACE			0
25	20/3	POLE B5	2.91			26	20/1	SPACE	0		
27	|			2.91		28	20/1	SPACE		0	
29	|				2.91	30	20/1	SPACE			0
31	20/1	SPACE	0			32	20/1	SPACE	0		
33	20/1	SPACE		0		34	20/1	SPACE		0	
35	20/1	SPACE			0	36	20/1	SPACE			0
37	20/1	SPACE	0			38	20/1	SPACE	0		
39	20/1	SPACE		0		40	20/1	SPACE		0	
41	20/1	SPACE			0	42	20/1	SPACE			0
								TOTAL CONNECTED KVA BY PHASE	2.91	2.91	2.91

	CONN KVA	CALC KVA			CALC KVA
LIGHTING	8.73	10.9	(125%)	TOTAL LOAD	10.9
				BALANCED 3-PHASE LOAD	13.1 A

1. PROVIDE NEMA 3R OUTDOOR ENCLOSURE.

A (ALTERNATE #2)

ROOM MECH./ELEC. G104 | VOLTS 208Y/120V 3P 4W | AIC 14,000
MOUNTING SURFACE | BUS AMPS 400 | MAIN BKR MLO
FED FROM UTILITY | NEUTRAL 100% | LUGS STANDARD
NOTE PROVIDE A TYPE WRITTEN AS BUILT DIRECTORY THAT INCLUDES ROOM NUMBERS.

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C
1	225/3	AHU-1(HEATER)	20			2	20/1	EXISTING LOAD	0		
3	|			20		4	20/1	EXISTING LOAD		0	
5	|				20	6	20/1	EXISTING LOAD			0
7	125/3	ACCU-1A	11.8			8	20/1	EXISTING LOAD	0		
9	|			11.8		10	20/1	EXISTING LOAD		0	
11	|				11.8	12	20/1	EXISTING LOAD			0
13	125/3	ACCU-1B	11.8			14	20/1	EXISTING LOAD	0		
15	|			11.8		16	20/1	EXISTING LOAD		0	
17	|				11.8	18	25/1	EXISTING LOAD			0
19	125/3	AHU-1(FAN)	5.82			20	20/1	EXISTING LOAD	0		
21	|			5.82		22	20/1	EXISTING LOAD		0	
23	|				5.82	24	20/1	EXISTING LOAD			0
25	30/1	EXISTING LOAD	0			26	20/1	EXISTING LOAD	0		
27	20/1	EXISTING LOAD		0		28	20/1	EXISTING LOAD		0	
29	20/1	EXISTING LOAD			0	30	20/1	EXISTING LOAD			0
31	20/1	EXISTING LOAD	0			32	20/1	EXISTING LOAD	0		
33	20/1	EXISTING LOAD		0		34	20/1	EXISTING LOAD		0	
35	20/1	EXISTING LOAD			0	36	20/1	EXISTING LOAD			0
37	20/1	EXISTING LOAD	0			38	20/1	EXISTING LOAD	0		
39	20/1	EXISTING LOAD		0		40	20/1	EXISTING LOAD		0	
41	20/1	EXISTING LOAD			0	42	20/1	EXISTING LOAD			0
43	20/1	EXISTING LOAD	0			44	20/1	RECEPT.	0.36		
45	80/2	IEWH-1		6.5		46	20/1	RECEPT.		0.36	
47	|				6.5	48	20/1	RECEPT.			0.36
49	15/2	HP-1., WAC-1	0.95			50	20/1	RECEPT.	0.18		
51	|			0.95		52	20/1	LIGHTING, RECEPT.		0.26	
53	20/1	SPACE			0	54	20/1	RECEPT.			0.18
55	20/1	SPACE	0			56	20/1	SPACE	0		
57	20/1	SPACE		0		58	20/1	SPACE		0	
59	20/1	SPACE			0	60	20/1	SPACE			0
								TOTAL CONNECTED KVA BY PHASE	50.8	57.4	56.4

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	0.08	0.1	(125%)	RECEPTACLES	1.62	1.62	(50%>10)
LARGEST MOTOR	35.3	8.83	(25%)	NONCONTINUOUS	13	13	(100%)
MOTORS	17.5	17.5	(100%)	HEATING	60	0	(0%)
				COOLING	72.5	72.5	(100%)
				TOTAL LOAD		114	
				BALANCED 3-PHASE LOAD		315 A	

GENERAL NOTE: EXISTING SQUARE D 400A, 120/240V, 1ϕ, 3-WIRE PANELBOARD "A" TO BE REPLACED. TEMPORARILY DISCONNECT FEEDER AND BRANCH CIRCUITS FOR THE REMOVAL OF EXISTING PANELBOARD. PROVIDE NEW PANEL AND FEEDER AS PER SCHEDULE. TERMINATE EXISTING TO REMAIN BRANCH CIRCUITS TO NEW PANEL.

A (BASE BID)

ROOM MECH./ELEC. G104 | VOLTS 240/120V 2P 3W | AIC 14,000
MOUNTING SURFACE | BUS AMPS 400 | MAIN BKR MLO
FED FROM UTILITY | NEUTRAL 100% | LUGS STANDARD
NOTE PROVIDE A TYPE WRITTEN AS BUILT DIRECTORY THAT INCLUDES ROOM NUMBERS.

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B
1	20/2	EXISTING LOAD	0		2	20/1	EXISTING LOAD	0	
3	|			0	4	20/1	EXISTING LOAD		0
5	60/2	EXISTING LOAD	0		6	20/1	EXISTING LOAD	0	
7	|			0	8	20/1	EXISTING LOAD		0
9	60/2	EXISTING LOAD	0		10	20/1	EXISTING LOAD	0	
11	|			0	12	20/1	EXISTING LOAD		0
13	20/2	EXISTING LOAD	0		14	20/1	EXISTING LOAD	0	
15	|			0	16	20/1	EXISTING LOAD		0
17	60/2	EXISTING LOAD	0		18	25/1	EXISTING LOAD	0	
19	|			0	20	20/1	EXISTING LOAD		0
21	60/2	EXISTING LOAD	0		22	20/1	EXISTING LOAD	0	
23	|			0	24	20/1	EXISTING LOAD		0
25	60/2	EXISTING LOAD	0		26	20/1	EXISTING LOAD	0	
27	|			0	28	20/1	EXISTING LOAD		0
29	60/2	EXISTING LOAD	0		30	20/1	EXISTING LOAD	0	
31	|			0	32	20/1	EXISTING LOAD		0
33	20/1	EXISTING LOAD	0		34	20/1	EXISTING LOAD	0	
35	20/1	EXISTING LOAD		0	36	20/1	EXISTING LOAD		0
37	20/1	EXISTING LOAD	0		38	20/1	EXISTING LOAD	0	
39	20/1	EXISTING LOAD		0	40	20/1	EXISTING LOAD		0
41	100/2	EXISTING PANELBOARD	0		42	20/1	EXISTING LOAD	0	
43	|			0	44	20/1	RECEPT.		0.36
45	80/2	IEWH-1	6.95		46	20/1	RECEPT.	0.36	
47	|			6.95	48	20/1	RECEPT.		0.36
49	15/2	HP-1, WAC-1	0.95		50	20/1	RECEPT.	0.18	
51	|			0.95	52	20/1	LIGHTING, RECEPT.		0.26
53	20/1	SPACE	0		54	20/1	RECEPT.	0.18	
55	20/1	SPACE		0	56	20/1	SPACE		0
57	20/1	SPACE	0		58	20/1	SPACE	0	
59	20/1	SPACE		0	60	20/1	SPACE		0
							TOTAL CONNECTED KVA BY PHASE	8.62	8.88

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	0.08	0.1	(125%)	RECEPTACLES	1.62	1.62	(50%>10)
LARGEST MOTOR	1.9	0.475	(25%)	NONCONTINUOUS	13.9	13.9	(100%)
				COOLING	1.9	1.9	(100%)
				TOTAL LOAD		18	
				BALANCED LOAD		75 A	

GENERAL NOTE: EXISTING SQUARE D 400A, 120/240V, 1ϕ, 3-WIRE PANELBOARD "A" TO BE REPLACED. TEMPORARILY DISCONNECT FEEDER AND BRANCH CIRCUITS FOR THE REMOVAL OF EXISTING PANELBOARD. PROVIDE NEW PANEL AS PER SCHEDULE. EXISTING FEEDER TO BE REUSED. TERMINATE EXISTING TO REMAIN BRANCH CIRCUITS TO NEW PANEL.

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ELECTRICAL ENGINEER
02.01.2023

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