### DOCUMENT 00 90 00 ADDENDUM

ADDENDUM No.: 2 DATE: January 16, 2025 RE: LA CROSSE HOUSING AUTHORITY 2024 CAPITAL IMPROVEMENT PROJECTS LA CROSSE, WISCONSIN PROJECT NO. 24048 FROM: HSR Associates, Inc 100 Milwaukee Street La Crosse, WI 54603 (608) 784-1830

**TO:** Prospective Bidders

This addendum forms a part of the Contract Documents and modifies the original Bidding Documents dated January 2025. Acknowledge receipt of this Addendum in the space provided on the bid form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of: 3 pages, 1 document, 1 section, and 16 drawings.

#### CHANGES TO INTRODUCTORY INFORMATION AND BIDDING REQUIREMENTS:

- 1. Document 00 01 10 TABLE OF CONTENTS
  - a. See the revised document included in this addendum. Disregard the previous version.
  - b. Added section 26 32 13 Engine Generator

### CHANGES TO SPECIFICATIONS:

- 2. Section 26 32 13 Engine Generator
  - a. See the new section included in this addendum.

#### CHANGES TO DRAWINGS

- 3. Sheet G000 COVERSHEET 30"x42"
  - a. See the revised sheet included in this addendum. Disregard the previous version.
  - b. Revised Index of Drawings to include added sheets E304 & E305.
- 4. <u>Sheet A102 REFLECTED CEILING PLANS AND DOOOR SCHEDULE 30"x42"</u>
  - a. See the revised sheet included in this addendum. Disregard the previous version.
  - b. Revised door thickness at 107.1 & 108 from 1  $\frac{1}{2}$ " to 1  $\frac{3}{4}$ ".
- 5. <u>Sheet A201 REFLECTED CEILING PLAN AND DOOR SCHEDULE 30"x42"</u>
  - a. See the revised sheet included in this addendum. Disregard the previous version.
  - b. Revised ceiling layout to accommodate lighting revisions.

### 6. Sheet A501 REFLECTED CEILING & ROOF PLANS AND ELEVATIONS 30"x42"

- a. See the revised sheet included in this addendum. Disregard the previous version.
- b. Revised ceiling layout to accommodate lighting revisions.
- 7. Sheet E100 1ST & 2-7TH FLOOR LIGHTING PLANS 30"x42"
  - a. See the revised sheet included in this addendum. Disregard the previous version.
  - b. Updated light fixture schedule.
  - c. Added a basic symbols legend.
  - d. Updated key notes, adding #6 & #7 for generator and VFDs.
  - e. Added lighting in Wellness Room #118 to demo and new plans.
  - f. Added all stairways to replace existing various strip light fixtures, demo & new plans.
  - g. Updated 3/E100 & 4/E100 north and east stairwell callouts.
- 8. Sheet E101 1ST FL & 8TH FLOOR POWER PLANS 30"x42"
  - a. See the revised sheet included in this addendum. Disregard the previous version.
  - b. Updated key notes, adding #6 & #7 for generator and VFDs.
  - c. Added general notes for generator and VFDs to 3/E101 & 4/E101, 8th floor demo & new.
  - d. Added "General Notes Generator" with requirements for rental unit for emergency backup.
- 9. Sheet E200 1ST FLOOR LIGHTING PLAN 30"x42"
  - a. See the revised sheet included in this addendum. Disregard the previous version.
  - b. Updated fixture model tags in south corridor.
- 10. Sheet E201 2ND 8TH FLOOR LIGHTING PLAN 30"x42"
  - a. See the revised sheet included in this addendum. Disregard the previous version.
  - b. Tagged all light fixtures on 8th floor new, 4/E201.
- 11. Sheet E300 1ST & 2ND FLOOR LIGHTING DEMO PLAN 30"x42"
  - a. See the revised sheet included in this addendum. Disregard the previous version.
  - b. Added callout for typical 1 bedroom lighting replacement upgrades, demo & new.
  - c. Updated notes and drawings on the stairwell lighting.
- 12. Sheet E301 1ST & 2ND FLOOR LIGHTING REMODEL PLAN 30"x42"
  - a. See the revised sheet included in this addendum. Disregard the previous version.
  - b. Added callout for typical 1 bedroom lighting replacement upgrades, demo & new.
  - c. Updated notes and drawings on the stairwell lighting.
- 13. Sheet E302 3RD-5TH AND 6TH FLOOR LIGHTING DEMO PLAN 30"x42"
  - a. See the revised sheet included in this addendum. Disregard the previous version.
  - b. Updated notes and drawings on the stairwell lighting.
- 14. Sheet E303 3RD-5TH AND 6TH FLOOR LIGHTING REMODEL PLAN 30"x42"
  - a. See the revised sheet included in this addendum. Disregard the previous version.
  - b. Updated notes and drawings on the stairwell lighting.
- 15. Sheet E304 1ST FLOOR POWER DEMO & REMODEL 30"x42"
  - a. See the new sheet included in this addendum.
  - b. Added sheet for kitchen details.

#### 16. Sheet E305 2ND FLOOR POWER DEMO & REMODEL 30"x42"

- a. See the new sheet included in this addendum.
- b. Added sheet for laundry details.

### 17. Sheet E400 1ST FLOOR LIGHTING REMOVAL & REMODEL 30"x42"

- a. See the revised sheet included in this addendum. Disregard the previous version.
- b. Added (4) fixtures to the hard gypsum ceiling just inside the entryway.

### 18. Sheet E500 LIGHTING DEMO AND REMODEL PLANS 30"x42"

- a. See the revised sheet included in this addendum. Disregard the previous version.
- b. Updated light fixture schedule.
- c. Tagged light fixtures on plan.
- d. Added a basic symbols legend.

#### END OF DOCUMENT 00 90 00

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#### **Specifications**

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- 01 20 00 PRICE AND PAYMENT PROCEDURES
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- 01 50 00 TEMPORARY FACILITIES AND CONTROLS
- 01 60 00 PRODUCT REQUIREMENTS
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- **Division 26 Electrical**
- Section <u>Title</u>
- 26 32 13 ENGINE GENERATOR
- Division 27 Communications [Not Used]
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#### **SECTION 26 32 13**

#### **ENGINE GENERATOR**

#### PART 1: GENERAL

#### 1.01 SECTION INCLUDES

- **A.** Packaged engine generator system.
- **B.** Silencer, Flexible exhaust and fittings.
- **C**. Fuel system piping and accessories
- **D.** Battery and charger.
- **E.** Radiator and associated piping.

#### 1.02 REFERENCES

- **A.** ANSI/NEMA MG 1 Motors and Generators.
- **B.** ANSI/NFPA 70 National Electrical Code.

### 1.03 SYSTEM DESCRIPTION

- A. Engine generator system to provide source of standby power.
- **B.** System Capacity: 40 kW, 50 kVA at elevation to 3500 feet above sea level, and ambient temperature to 104 degrees C standby rating.

#### 1.04 SUBMITTALS

- **A.** Submit shop drawings and product data under provisions of Section 01 30 00.
- **B.** Submit shop drawings showing plan and elevation views with overall and interconnection point dimensions, fuel consumption rate curves at various loads, ventilation and combustion air requirements, and electrical diagrams including schematic and interconnection diagrams.
- **C.** Submit product data showing dimensions, weights, ratings, interconnection points, and internal wiring diagrams for engine, generator, control panel, battery, battery rack, battery charger, exhaust silencer, vibration isolators, and remote annunciator. VERIFY SELETED MODEL WILL FIT THE ACCESS AVAILABLE TO THE BOILER ROOM.
- **D.** Submit manufacturer's installation instructions under provisions of Section 01 30 00.

#### 1.05 PROJECT RECORD DOCUMENTS

- **A.** Submit record documents under provisions of Section 01 70 00.
- **B.** Accurately record location of engine generator and mechanical and electrical connections.

#### 1.06 OPERATION AND MAINTENANCE DATA

- A. Submit operation and maintenance data under provisions of Section 01 70 00.
- **B.** Include instructions for normal operation, routine maintenance requirements, service manuals for engine, oil sampling and analysis for engine wear, and emergency maintenance procedures.

#### 1.07 QUALIFICATIONS

**A.** Manufacturer: Company specializing in packaged engine generator systems.

#### 1.08 WARRANTY

- **A.** Provide five-year warranty under provisions of Section 01 70 00. Provide options for five-year limited warranty, and five-year comprehensive warranty.
- **B.** The generator set manufacturer shall warrant all equipment provided under this section whether it is manufactured by the generator set manufacturer, so that there is one source for warranty and product service. Technicians specifically trained and certified by the manufacturer to support the product and employed by the generator set supplier shall service the generator sets.

#### PART 2: PRODUCTS

#### 2.01 MANUFACTURERS – SEE DRAWING FOR BASIS OF DESIGN MODEL.

- A. Kohler
- B. Cummin's N Power/Onan
- C. MTU
- D. Generac Industrial Power
- E. Caterpillar Inc.
- F. Substitutions: Under provisions of Section 01 25 00.

#### 2.02 GENERATOR SETS

- A. Ratings: 40 KW/50 KVA <u>Standby</u>, 120/208 volt, 3 phase, 4-wire, 60 HZ.
- **B.** Provide a complete factory assembled generator set equipment with digital electronic controls and fan cooled radiator.
- **C.** Provide factory test, startup by a supplier authorized by the manufacturer, and on-site testing of the system.
- **D.** Voltage regulation shall be plus or minus 0.5 percent for any constant load between no load and rated load for non parallel applications. Random voltage variation with any steady load from no load to full load shall not exceed plus or minus 0.5 percent.
- **E.** Frequency regulation shall be isochronous from steady state no load to steady rated load. Random frequency variation with any steady load from no load to full load shall not exceed plus or minus 0.25%.

- **F.** The engine-generator set shall be capable of single step load pick up of 100% nameplate KW and power factor, less applicable derating factors, with the engine-generator set at operating temperature.
- **G.** The Alternator shall produce a clean AC voltage waveform, with not more than 5% total harmonic distortion at full linear load, when measured from line to neutral, and with not more than 3% in any single harmonic.
- **H.** The engine-generator set shall be mounted on heavy-duty steel base to maintain alignment between components.
- I. Provide air duct adapter on radiator for direct ventilation to exterior.

#### 2.03 ENGINE AND ENGINE EQUIPMENT

- **A.** Type: Fan cooled radiator, 8-cylinder, four cycle, spark-ignited type.
- **B.** Fuel System: Natural gas (7" WC). Include all pressure regulators, strainers, flexible fuel connection and control valves. The fuel system shall be plumbed to the generator set skid for ease of site connections to the generator set.
- **C.** Governor: An electronic governor system shall provide automatic isochronous frequency regulation. The governing system dynamic capabilities shall be controlled as a function of engine coolant temperature to provide fast, stable operation at varying engine operating temperature conditions. The control system shall actively control the fuel rate and excitation as appropriate to the state of the generator set. Fuel rate shall be regulated as a function of starting, accelerating to start, disconnect speed, and operating in various isochronous states.
- **D.** Safety Devices: Engine shutdown on high water temperature, low oil pressure, overspeed, and engine overcrank. Limits as selected by manufacturer.
- **E.** Engine Starting: DC starting system with positive engagement, number and voltage of starter motors in accordance with manufacturer's instructions. Include remote starting control circuit, with MANUAL-OFF-REMOTE selector switch on engine-generator control panel.
- **F.** Engine Accessories: Lube oil filter(s), intake air filter(s), gear-driven water pump. Include water temperature gage, and lube oil pressure gage on engine-generator control panel. Provide pump motor starters if required.
- **G.** Base: Mount to heavy steel, skid type base.
- **H.** Vibration Isolation: Factory installed vibration isolators mounted between the control panel and the generator frame.
- I. Electric starter capable of three complete cranking cycles without overheating.
- J. Positive displacement, mechanical, full pressure, lubrication oil pump.
- **K.** Full flow lubrication oil filters with replaceable spin-on canister elements and dipstick oil level indicator.
- L. Replaceable dry element air cleaner with restriction indicator.

- **M.** Engine mounted battery charging alternator, solid state voltage regulator.
- **N.** Coolant heater:
  - 1. Engine mounted, thermostatically controlled. Heater voltage shall be 120 volt.
  - 2. The coolant heater shall be installed on the engine with silicone hose connections. Steel tubing shall be used for connections into the engine coolant system wherever the length of pipe run exceeds 12 inches. Installation shall be specifically designed to provide proper venting of the system. The heater shall be installed using quick disconnect couplers to isolate the heater for heater replacement of the heater element. The quick disconnect/automatic sealing couplers shall allow the heater element to be replaced without draining the engine cooling system or significant coolant loss.
  - 3. The coolant heater shall be provided with a thermostat, installed at the engine thermostat housing. An AC power connection box shall be provided for a single AC power connection to the coolant heater system.
  - 4. The coolant heater shall be sized as recommended by the engine manufacturer to warm the engine to a minimum of 100F in a 40F ambient, in compliance with NFPA 110 requirements, or the temperature required for starting and load pickup requirements of this specification.
- **O.** Starting and control batteries shall be calcium/lead antimony type, sized as recommended by the engine manufacturer, complete with battery cables and connectors.

#### 2.04 GENERATOR

- **A.** ANSI/NEMA MG 1; The AC generator shall be; synchronous, four pole, 1800 rpm, 2/3pitch, revolving field, drip proof construction, single pre-lubricated sealed bearing, air cooled by a direct drive centrifugal blower fan.
- **B.** Insulation: ANSI/NEMA MG 1, Class H.
- **C.** Temperature Rise: 105 degrees C standby.
- D. Enclosure: ANSI/NEMA MG1: open drip proof.
- **E.** The generator shall be capable of delivering rated output at rated frequency and power factor, at any voltage not more than 5 percent above or below rated voltage.
- **F.** A permanent magnet generator (PMG) shall be included to provide a reliable source of excitation power for optimum motor starting and short circuit performance. The PMG and controls shall be capable of sustaining and regulating current supplied to a single phase or three phase fault at approximately 300% of rated current for not more than 10 seconds.
- **G.** The subtransient reactance of the alternator shall not exceed 12 percent, based on the standby rating of the generator set.

#### 2.05 GENERATOR SET CONTROLS

**A.** The generator set shall be provided with a microprocessor-based control system that is designed to provide automatic starting, monitoring, and control functions for the generator set. The control system shall also be designed to allow local monitoring and control of the generator set.

- **B.** The control shall be mounted on the generator set. The control shall be vibration isolated, and prototype tested to verify the durability of all components in the system under the vibration conditions encountered.
- **C.** The generator set mounted control shall include the following features and functions:
  - 1. Mode Select Switch: The mode select switch shall initiate the following control modes:
    - a. When in the RUN or Manual position the generator set shall start and accelerate to rated speed and voltage as directed by the operator.
    - b. In the OFF position the generator set shall immediately stop, bypassing all time delays.
    - c. In the AUTO position the generator set shall be ready to accept a signal from a remote device to start and accelerate to rated speed and voltage.
  - 2. Emergency Stop switch: Switch shall be red "mushroom-head" push-down. Depressing the emergency stop switch shall cause the generator set to immediately shut down and be locked out from automatic restarting.
  - 3. RESET switch: The RESET switch shall be used to clear a fault and allow restarting the generator set after it has shut down for any fault condition.
  - 4. PANEL LAMP switch: Depressing the panel lamp switch shall cause the entire panel to be lighted with DC control power. The panel lamps shall automatically be switched off 10 minutes after the switch is depressed, or after the switch is depressed a second time.
  - 5. The generator-set shall be provided with AC Output Metering as follows:
    - a. Analog voltmeter, ammeter, frequency meter, and kilowatt (KW) meter. Voltmeter and ammeter shall display all three phases. Ammeter and KW meter scales shall be color coded in the following fashion: readings from 0-90% of generator set standby rating: green; readings from 90-100% of standby rating: amber; readings in excess of 100%: red.
    - b. Digital metering set, 0.5% accuracy, to indicate generator RMS voltage and current, frequency, output current, output KW, KW-hours, and power factor. Generator output voltage shall be available in line-to-line and line-to-neutral voltages, and shall display all three phase voltages (line to neutral or line to line) simultaneously.
    - c. Both analog and digital metering are required. The analog and digital metering equipment shall be driven by a single microprocessor, to provide consistent readings and performance.
  - 6. The generator-set shall be provided with alarm and status indicating lamps as follows:
    - a. Alarm and status lamps shall indicate non-automatic generator status, existing warning and shut-down conditions. The lamps shall be of high-intensity LED type. The lamp condition shall be clearly apparent under bright room lighting conditions. The generator set control shall indicate the existence of the following alarm and shutdown conditions on an alphanumeric digital display panel:

low oil pressure (alarm) low oil pressure (shutdown) oil pressure sender failure (alarm) low coolant temperature (alarm) high coolant temperature (alarm) high coolant temperature (shutdown) engine temperature sender failure (alarm) low coolant level (alarm or shutdown – selectable) fail to crank (shutdown) fail to start/overcrank (shutdown) overspeed (shutdown) low DC voltage (alarm) high DC voltage (alarm) weak battery (alarm) high AC voltage (shutdown) low AC voltage (shutdown) under frequency (shutdown) over current (warning) over current (shutdown) short circuit (shutdown) ground fault (alarm) overload (alarm) emergency stop (shutdown)

7. The following engine status monitoring shall be included:

- a. engine oil pressure (psi or kPA)
- b. engine coolant temperature (degrees F or C)
- c. engine oil temperature (degrees F or C)
- d. engine speed (rpm)
- e. number hours of operation (hours)
- f. number of start attempts
- g. battery voltage (DC volts)
- 8. The following engine control functions shall be included:
  - a. The control system shall include a cycle cranking system, which allows for user elected crank time, rest time, and # of cycles. Initial settings shall be for 3 cranking periods of 15 seconds each, with 15 second rest period between cranking periods.
- 9. The control system shall include an idle mode control, which allows the engine to run in idle mode in the RUN position only. In this mode, the alternator excitation system shall be disabled.
- 10. The control system shall include an engine governor control, which functions to provide steady state frequency regulation. The governor shall include adjustments for gain, damping, and a ramping function to control engine speed and limit exhaust smoke while unit is starting.
- 11. The control system shall include adjustable time delay start and time delay stop functions.
- 12. The control system shall include sender failure monitoring logic for speed sensing, oil pressure, and engine temperature which is capable of discriminating between failure of sender or wiring components, and an actual failure condition.
- 13. Alternator Control Functions shall include the following:
  - a. The generator set shall include an automatic digital voltage regulation system that is matched and prototyped tested with governing system provided. It shall be immune from mis-operation due to load-induced voltage waveform distortion and provide a pulse width modulated output to the alternator exciter. The voltage regulation system shall be equipped with three-phase RMS sensing and shall control buildup of AC generator voltage to provide a linear rise and limit overshoot. The system shall include a torque-matching characteristic, which shall reduce output voltage in proportion to frequency below a threshold of (58-59) HZ. The voltage regulator shall include adjustments to gain, damping, and frequency roll-off. Adjustments shall be broad range, and made via digital raise-lower switches, with an alphanumeric LED readout to indicate setting level. Rotary potentiometers for system adjustments are not acceptable.
  - b. Controls shall be provided to monitor the output current of the generator set and initiate an alarm (over current warning) when load current exceeds 110% of the rated current of the generator set on any phase for more than 60 seconds. The controls shall shut down and lock out the generator set when output current level approaches the thermal damage point of the alternator. The protective functions provided shall be in compliance to the requirements of NFPA 70 article 445.
  - c. Controls shall be provided to individually monitor all three phases of the output current for short circuit conditions. The control/protection system shall monitor the current level and voltage. The controls shall shut down and lock out the generator set when output current level approaches the thermal damage point of the alternator (short circuit

shutdown). The protective functions provided shall be in compliance to the requirements of NFPA article 445.

- d. Controls shall be provided to monitor the KW load on the generator set, and initiate an alarm condition (overload) when total load on the generator set exceeds the generator set rating for in excess of 5 seconds. Controls shall include a load shed control, to operate a set of dry contacts for use in shedding customer load devices when the generator set is overloaded.
- e. An AC over/under voltage monitoring system that responds only to true RMS voltage conditions shall be provided. The system shall initiate shutdown of the generator set when alternator output voltage exceeds 110% of the operator-set voltage level for more than 10 seconds, or with no intentional delay when voltage exceeds 130%. Under voltage shutdown shall occur when the output voltage of the alternator is less than 85% for more than 10 seconds.
- f. A battery monitoring system shall be provided which initiates alarms when the DC control and starting voltage is less than 25VDC or more than 32VDC. During engine starting, the low voltage limit shall be disabled, and if DC voltage drops to less than 14.4 volts for more than two seconds a "weak battery" alarm shall be initiated.

#### 2.06 ACCESSORIES

- **A.** Exhaust: Critical type Silencer, with muffler companion flanges as required and flexible stainless steel exhaust fittings, suitable for horizontal orientation, sized in accordance with engine manufacturer's instructions.
- **B.** Batteries: Heavy duty starting type lead-acid storage batteries. Match battery voltage to starting system. Include necessary cables, clamps, and electrolyte.
- **C.** Battery Tray: Plastic coated metal or wooden tray treated for electrolyte resistance, constructed to contain spillage of electrolyte, mounted on the skid base.
- D. Battery Charger: A UL listed/CSA certified 10 amp. voltage regulated battery charger shall be provided. The charger shall be wall mounted. Input AC voltage and DC output voltage shall be as required. Chargers shall be equipped with float, taper, and equalize charge settings. Charger shall include an Analog DC voltmeter, and ammeter, 12 hour equalize charge timer, and AC and DC fuses.
- **E.** Field Circuit Breaker: Manual reset generator field circuit breaker. The generator set shall be provided with a mounted main line circuit breaker, sized to carry the rated output current of the generator set. The circuit breaker shall incorporate an electronic trip unit that operates to protect the alternator under all overcurrent conditions, or a thermal-magnetic trip with other overcurrent protection devices that positively protect the alternator under overcurrent conditions. The supplier shall submit time overcurrent characteristic curves and thermal damage curve for the alternator, demonstrating the effectiveness of the protection provided.
- **F.** Engine-Generator Control Panel: ANSI/NEMA 250, Type 1 generator mounted control panel enclosure with engine and generator controls and indicators. Include provision for padlock and the following equipment and features:
  - 1. Frequency Meter: 45-65 Hz range, 3-1/2 inch (89 mm) dial.
  - 2. AC Output Voltmeter: 3-1/2 inch (89 mm) dial, 2 percent accuracy, with phase selector switch.
  - 3. AC Output Ammeter: 3-1/2 inch (89 mm) dial, 2 percent accuracy, with phase selector switch.
  - 4. Output voltage adjustment.

- 5. Push-to-test indicator lamps, one each for low oil pressure, high water temperature, overspeed, and overcrank.
- 6. Engine start/stop selector switch.
- 7. Engine running time meter.
- 8. Oil pressure gage.
- 9. Water temperature gage.
- 10. Anti condensation heater.
- 11. Panel illuminating lights.
- **G.** Remote Alarm Annunciator Panels: ANSI/NFPA 110; include engine run indicator lights, flush mounted panels with brushed stainless steel finish.
- **H.** Engine lubrication oil: type as recommended by the generator set manufacturer.
- I. Emergency Shut off Switch. Pilla #BSD120 with #PILNCCB contact Block. Provide Integra #H8064HCFLL enclosure with clear cover.

### PART 3: EXECUTION

#### 3.01 GENERAL

- **A.** Note that electrical wiring, exhaust piping, and water piping shall be sized as required.
- **B.** The performance of the generator set shall be certified by an independent testing laboratory as to the sets full power rating (based on a completely assembled unit), stability and voltage and frequency regulations.
- **C.** Field Supervision: It is mandatory that prior to securing equipment and making mechanical and electrical connections, the Electrical Contractor shall have factory trained personnel meet at the job site to go over the installation to preclude any installation problems.

### 3.02 OPERATION

- A. The generator set shall be installed and wired to provide power for all loads connected to same.
- **B.** Upon failure of the normal power source, the loads will be supplied electrically from the generator set through automatic load transfer equipment. When normal power has been re-established, the above loads will be automatically returned to the normal source and the engines will stop after factory-recommended cool-down period.
- **C.** Controls shall be provided to allow the manual operation of the generator sets. The generator sets shall be run under load when testing or exercising.
- **D**. Sequence of operation:
  - 1. Generator set shall start on receipt of a start signal from remote equipment. The start signal shall be via hardwired connection to the generator set control.
  - 2. The generator shall complete a time delay start period as programmed into the control.
  - 3. The generator set control shall initiate the starting sequence for the generator set. The starting sequence shall include the following functions:
    - a. The control system shall verify that the engine is rotating when the starter is signaled to operate. If the engine does not rotate after two attempts, the control system shall shut down and lock out the generator set, and indicate "fail to crank" shutdown.

- b. The engine shall fire and accelerate as quickly as practical to start disconnect speed. If the engine does not start, it shall complete a cycle cranking process as described elsewhere in this specification. If the engine has not started by the completion of the cycle cranking sequence, it shall be shut down and locked out, and the control system shall indicate "fail to start".
- c. The engine shall accelerate to rated speed and the alternator to rated voltage. Excitation shall be disabled until the engine has exceeded programmed idle speed, and regulated to prevent over voltage conditions and oscillation as the engine accelerates and the alternator builds to rated voltage.
- d. On reaching rated speed and voltage, the generator set shall operate as dictated by the control system in isochronous, synchronize, load share, load demand, or load govern state.
- e. When all start signals have been removed from the generator set, it shall complete a time delay stop sequence. The duration of the time delay stop period shall be adjustable by the operator.
- f. On completion of the time delay stop period, the generator set control shall switch off the excitation system and shut down.
- g. Any start signal received after the time stop sequence has begun shall immediately terminate the stopping sequence and return the generator set to isochronous operation.

### 3.03 INSTALLATION

- **A.** The complete system shall be installed as per the generator set manufacturer's recommendations.
- **B.** Securely fasten spring type vibration isolators on the existing structural supports. Install isolators parallel to base channels. Securely anchor generator sets to isolators.
- **C.** No piping or conduits shall be run on the floor. Provide necessary angle iron or metal framing channels to rigidly support pipes and conduits.
- **D.** Equipment shall be installed by the Electrical Contractor in accordance with final submittals and contract documents. Installation shall comply with applicable state and local codes as required by the authority having jurisdiction. Install equipment in accordance with manufacturer's instructions and instructions included in the listing or labeling of UL listed products.
- **E.** Installation of equipment shall include furnishing and installing all interconnecting wiring between all major equipment provided for the on-site power system. The electrical contractor shall also perform interconnecting wiring between equipment under the supervision of the equipment supplier.
- **F.** Equipment shall be installed on existing structural support for previously removed generator. Install according to equipment suppliers requirements.
- **G.** All equipment shall be physically inspected for damage. Scratches and other installation damage shall be repaired prior to final system testing.

#### 3.04 REMOTE ALARM ANNUNCIATOR PANEL

- A. Install remote annunciator where indicated on drawings.
- **B.** Wire as required by NFPA 110.

#### 3.05 BATTERIES

**A.** Install and securely fasten batteries in rack.

#### 3.06 FUEL SYSTEM

- **A.** Fuel Piping:
  - 1. Fuel piping system shall be provided under Division 22. Size and route piping as required for proper generator set operation. Provide all valves, fittings, etc. as necessary for a complete system.
  - 2. The Following items are furnished by Division 26 and installed by Division 22:
    - a) Primary Fuel regulator.
    - b) Fuel Strainer
    - c) Shut off Valve
    - d) Emergency shut off Solenoid
    - e) Flexible fuel line Connections

#### 3.07 ENGINE EXHAUST PIPING

- A. Engine exhaust piping system shall be provided under Division 23.
- **B.** Provide manufacturer recommended silencer. Install silencer where directed. Adequately support same.
- **C.** Horizontal piping shall be 8 feet minimum above floor. Piping shall pitch downward, away from the engine, to prevent condensation from running back to engine.
- **D.** Provide exhaust thimble at penetration of exterior wall, installation is by <u>Division 23.</u>
- E. Contractor shall mount and install all exhaust components as shown on drawings and as required to comply with applicable codes and regulations. All components shall be properly sized to assure proper operation without excessive back pressure when installed as shown on the drawings. Make provisions as required for pipe expansion and contraction.
- **F.** Exhaust Piping System Insulation: (By Division 23)
  - 1. Provide insulation on all exposed portions of the engine exhaust piping system including silencer within the building (except flexible connection).
  - 2. Insulation sections shall be secured in place with metal bands.
  - 3. Cover insulation sections with a non-combustible fabric material applied with adhesive.
  - 4. Install as per insulation manufacturers recommendations.
- **G.** Give to the <u>Division 23</u> Contractor, exhaust system installation recommendations furnished by the generator set manufacturer/supplier.

### 3.08 CITY WATER COOLING SYSTEM

**A.** Water strainer, thermostatically controlled electric water supply solenoid valve, standpipe and flexible water supply and discharge connections shall be furnished by this Contractor, but installed under <u>Division 22</u>.

- **B.** All water piping, valves, fittings, etc. for a complete piping system shall be provided under <u>Division 22.</u>
- **C.** Give to the <u>Division 22</u> Contractor, water piping system installation recommendations furnished by the generator set manufacturer/supplier.

#### 3.09 VENTILATION

- A. Motorized dampers, intake/exhaust grilles and ducts, etc. shall be provided under Division 23.
- **B.** Interlock Damper operation with generator.

#### 3.10 WIRING

- A. Unless indicated otherwise, all wiring shall be in conduit.
- **B.** All final raceway connections to generator set shall be with flexible conduit.
- **C.** Wire motorized combustion air intake damper to open when engine starts and remain open when engine runs. Damper shall close when engine shuts off.
- **D.** Provide wiring between battery charger and batteries.
- **E.** Connect batteries to engine control panel with flexible cables. Keep cable lengths as short as possible.
- F. Provide necessary power and control wiring between load transfer equipment and generator set.
- **G.** Provide proper branch circuit breakers, wiring, relays, etc. as required, based on the electrical characteristics of the equipment, to energize water heaters and thermostats, lube oil heaters, and battery charger.
- **H.** Provide interconnecting wiring between generator set and remote alarm annunciator panels.

#### 3.11 SYSTEM START-UP AND TESTING

- **A.** Prior to acceptance of the generator set installation, the supplier shall provide the services of a technically competent, factory trained technician to provide for start-up and testing. Test shall be scheduled in advance, so that Engineer can witness same.
- **B.** The generator set shall be tested at the jobsite using a portable load bank. The following tests shall be made <u>before</u> generator set is connected to the transfer switch:
  - 1. 2 hour test with varying load. Load shall be gradually increased (over evenly spaced increments) from 10% to 100% during the 2-hour period.
  - 2. 2 hour test at 100% full load.
- **C.** After completing the 4-hour load bank test, disconnect the bank and connect the building emergency load through the transfer switch to the generator set.
- **D.** After connecting the transfer switch, a minimum of 3 simulated outages shall then be performed, with engine starts and transfers made.

- **E.** Upon completion of generator tests, the entire standby system, including transfer equipment, overcurrent devices, alarms, etc. shall be checked to ensure proper operation.
- **F.** During all testing, voltage, frequency, fuel, air, cooling, ventilation, etc. shall be checked and recorded, so that adequacy of the system components can be verified. Any defects which become evident during the tests shall be corrected at the Electrical Contractor's expense.
- **G.** Furnish two (2) copies of the recorded test data to the Engineer.

#### 3.12 INSTRUCTIONS AND MAINTENANCE

- **A.** Factory technician shall instruct Owner's representative in proper care and operation of equipment supplied.
- **B.** Provide to Owner, three (3) copies of detailed operating instructions and maintenance manuals with parts lists.
- **C.** The equipment supplier shall provide training for the facility operating personnel covering operation and maintenance of the equipment provided. The training shall be not less than 4 hours in duration. Training date shall be coordinated with the Owner.

#### 3.13 CLEANUP

**A.** At completion of project clean generator set to be free of dirt, oil, debris, etc.

#### END OF SECTION

# HOUSING AUTHORITY OF THE CITY OF LA CROSSE **2024 CAPITAL IMPROVEMENT PROJECTS 1307 BADGER STREET** LA CROSSE, WISCONSIN

## 24048

**INDEX OF DRAWINGS** 

PROJE		
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	ARC	CHITECT
	A100	REMOVAL PLA
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	A102	REFLECTED CI
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	ID300	FINISH FLOOR
	ID500	FINISH FLOOR

ID600

## **JANUARY 2025**







	<b>ELECTRICAL - BECKER</b>
E100	<b>1ST &amp; 2-7TH FLOOR LIGHTING PLANS</b>

**1ST FL & 8TH FLOOR POWER PLANS** E101

	<b>ELECTRICAL - SAUBER</b>
E200	1ST FLOOR LIGHTING PLAN
E201	2ND - 8TH FLOOR LIGHTING PLAN

E	LECTRICAL - SOLBERG
E300	1ST & 2ND FLOOR LIGHTING DEMO PLAN
E301	1ST & 2ND FLOOR LIGHTING REMODEL PLAN
E302	3RD-5TH AND 6TH FLOOR LIGHTING DEMO PLAN
E303	3RD-5TH AND 6TH FLOOR LIGHTING REMODEL
E304	1st FLOOR POWER DEMO & REMODEL
E305	2ND FLOOR POWER DEMO & REMODEL

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SITE LOCATION MAP



<ul> <li>MODIFY EXISTING GYP</li> <li>BOARD AND TOUCH UP</li> <li>PAINT TO MATCH</li> <li>EXISTING</li> <li>NEW DOOR AND FRAME -</li> </ul>	EXISTING WOOD	
SEE DOOR SCHEDULE - SEALANT AND BACKER ROD AROUND PERIM. INSIDE AND OUTSIDE	EXISTING 1/2" GYP	
DETAIL JAMB SIMILAR	<b>9 DOOR JAMB DETAIL</b> 1 1/2" = 1'-0"	
NEW DOOR AND FRAME - SEE DOOR SCHEDULE - SEALANT AND BACKER ROD AROUND PERIM. INSIDE AND OUTSIDE EXISTING CAST CONC SLAB EXISTING EXPANSION MATERIAL EXISTING PERIMETER INSULATION	EXISTING BRICK OVER EXISTING 2" RIGID INSUL OVER EXISTING 1/2" GYP BD NEW GLAZING AND FRAME - SEE DOOR SCHEDULE - SEALANT AND BACKER ROD AROUND PERIM. INSIDE AND OUTSIDE	
	DODOR JANB DETAIL 1 1/2" = 1'-0" EXISTING BRICK OVER EXISTING 2" RIGID INSUL OVER EXISTING 1/2" GYP BD	₹ 7'-9 1/2" 1 10'-11" 10'-11"
NEW DOOR AND FRAME - BEE DOOR SCHEDULE - BEALANT AND BACKER ROD AROUND PERIM. NSIDE AND OUTSIDE	NEW DOOR AND FRAME -         SEE DOOR SCHEDULE -         SEALANT AND BACKER         ROD AROUND PERIM.         INSIDE AND OUTSIDE         EXISTING 5/8" GYP         BOARD OVER EXISTING         6" METAL STUD W/ 2"         SOUND BLANKET OVER         5/8" GYP BOARD <b>DOOR JANBE DETAIL</b> 1 1/2" = 1'-0"	<b>1STFLOC</b> 1/8" = 1'-0"

FINISH	TYPE	HEAD	JAMB	SILL	LABEL	GROUP	SIGNAGE	REMARKS
PAINT	EXISTING					5	YES	1,6
PAINT						5	YES	1,6
PAINT	EXISTING					5	YES	1,6
						5	YES	1,6
ORGANIC COATING	GLI-12	5A102	10A102/11A102	7A102		6	NU	2
		 5A102				/ 0	YES	1,0
		5A102	6A102/9A102	74102		0	NU	16
		54102	84102/94102	74102		8	NO	1,0
	EXISTING	54102	04102/34102	74102	45 MIN	2	NO	14
ORGANIC COATING	GLT-12	5A102	10A102/11A102	7A102		6	NO	2
PAINT					20 MIN	1	YES	1.3.6
PAINT					20 MIN	1	YES	1.3.6
PAINT					20 MIN	1	YES	1,3,6
ORGANIC COATING		3A102	3A102	4A102		8	NO	
PAINT					20 MIN	1	YES	1,3,6
PAINT					20 MIN	1	YES	1,3,6
PAINT					20 MIN	1	YES	1,3,6
PAINT					20 MIN	1	YES	1,3,6
PAINT					20 MIN	1	YES	1,3,6
PAINT					20 MIN	1	YES	1,3,6
PAINT					20 MIN	1	YES	1,3,6
PAINT					20 MIN	1	YES	1,3,6
PAINT					20 MIN	1	YES	1,3,6
PAINT					20 MIN	1	YES	1,3,6
PAINT					20 MIN	1	YES	1,3,6
PAINT					20 MIN	1	YES	1,3,6
	EXISTING				45 MIIN	2	NU	1,4
					 20 MINI	3	VES	1,0
		64102	64102	74102		10	NO	1,3,3,0
		64102	64102	74102		10	NO	
					1. 2. 3. 4. 5. 6.	NEW DOOR LE EXISTING FRA PAINT EXISTIN ELECTRIC STI OPERATOR R DOOR VIEWEI EXISTING MAC REMOVED, SA NEW DOOR LE EXISTING AUT REMOVED, SA NEW DOOR LE SEE SPEC FO	EAF IN EXISTING ME FOR NEW HA NG FRAME. RIKE AND AUTO I EQUIRED. R REQUIRED. SNETIC HOLD OF LVAGED AND RE EAF. TO DOOR OPENE LVAGED AND RE EAF. R DOOR SIGNAG	FRAME. MODIFY ARDWARE. DOOR PEN TO BE EINSTALLED ON R TO BE EINSTALLED ON E.

FIRE HDWR

DETAILS



F	RCP GENERAL NOTES:
A.	SEE MECHANICAL FOR CEILING GRILLE INFORMATIC
В.	SEE ELECTRICAL FOR LIGHTING TYPES.
C.	ALL REMAINING ANNULAR SPACE AROUND ITEMS PE WALLS SHALL BE NEATLY SEALED. PENETRATIONS RATED WALLS SHALL BE FIRESTOPPED WITH THE S WALL.
D.	HANGERS AND SUPPORTS: MECHANICAL, PLUMBING AND OTHER CABLING CONTRACTORS SHALL NOT H/ SUPPORT THE WORK FROM THE ROOF DECK IN ANY CONDUIT RUNS SHALL NOT BE LAID ON ROOF DECK THE STRUCTURAL SUPPORT THAT SUPPORTS THE I NO FASTENERS SHALL PENETRATE ROOF DECK BY OTHER THAN THE ROOFING CONTRACTOR FOR THE SYSTEM.
E.	CEILING TYPES INSTALLED AS NOTED ON PLANS. S SPECIFICATIONS FOR ADDITIONAL SYSTEM INFORM. <b>ACT-2</b> =TEGULAR EDGE, <b>ACT-3</b> =VINYL FACED GYP.
F.	AT LIGHTING REPLACEMENT AT EXISTING GYP BOAF OR EXPOSED STRUCTURE, TOUCH UP PAINT AS REC MATCH EXISTING. SEE ELECTRICAL FOR LIGHTING I EXTENTS.
R	CP LEGEND:
	LIGHT FIXTURE - SEE ELECTRICAL
C	LIGHT FIXTURE - SEE ELECTRICAL
	• LIGHT FIXTURE - SEE ELECTRICAL
	LIGHT FIXTURE - SEE ELECTRICAL
	CEILING GRILLE - SEE MECHANICAL
	EXISTING CEILING MOUNTED CAMERA - REMO AND REINSTALL IN SAME LOCATION.
	EXISTING CEILING MOUNTED FIRE SPINKLER F REMAIN AS IS.
	<b>RCP KEY NOTES</b>
1	INSTALL NEW 2'x2' AC TILE AND GRID SYSTEM.
2 3	INSTALL NEW PREFINISHED ALUM TRANSITION. EXISTING TEXTURED GYP BOARD CEILING. CUT AS REQU FLOOR DRAIN REMOVAL/INSTALLATION ABOVE - COORDIN PLUMBING. PATCH, TEXTURE AND PAINT AFTER PLUMBIN COMPLETE



### PARTIAL 7TH FLOOR **REFLECTED CEILING PLAN**







## 1ST FLOOR REFLECTED CEILING PLAN





			DOOR SO	CHEDULE - S	SAUBER I	MANOR							
					FRAME								
OR	GLASS	FRAME	FRAME	FRAME FRAME FRAME GLASS DETAILS F			FIR	E	HDWR				
IISH	TYPE	TYPE	DEPTH	MATERIAL	FINISH	TYPE	HEAD	JAMB	SILL	LAB	EL	GROUP	SIG
ATING		FRAME AA	4 1/2"	ALUM	ORGANIC COATING		2A102	2A102	3A102			2	NO
		FRAME AA	4 1/2"	ALUM	ORGANIC COATING		6A102	8A102 & 9A102	7A102			3	NO
ATING			0	ALOM	ORGANIC COATING		4A102	44102	SATUZ			1	NO
			DOOR F	RAME GEN	IERAL NO	TES				D	00	R SCHE	DULI
UPS UNLES	S NOTED OT	HERWISE	ALOW - P		ES					1.	1	19" x19" LOUV	ΈR IN Ι



EXISTING AC TILE AND GRID SYSTEM TO REMAIN AS IS.



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## **DOOR JAMB DETAIL**

1 1/2" = 1'-0"



1 1/2" = 1'-0"









		net noted
	Number	Description
	1	REMOVE AND SAVE DOOR ASSIST OPENER, PADDLE RE-INSTALL ON NEW DOOR FRAME & LEAF.
	2	TYPICAL: CEILING MOUNTED CAMERA AND FIRE ALAI DURING CONSTRUCTION. REINSTALL CEILING DEVIC ORIENTATION AS NEAR AS POSSIBLE TO ORIGINALLY
	3	DISCONNECT FAN-FORCED CABINET UNIT HEATER, M CONDUCTORS, AND RECONNECT NEW FAN-FORCED SPECIFICATIONS WITH MECHANICAL TO INSURE CIRC
	4	4TH FLOOR, #410 ONLY, REMOVE AND SAVE DOOR A ELECTRIC STRIKE FOR RE-INSTALL ON NEW DOOR FF
	5	STAIRWELL FIXTURE COUNTS MUST BE FIELD VERIFI TYPICALLY 1 FIXTURE EACH FLOOR AND EACH LANDI INCLUDE ALL STAIRWELLS. NEW LIGHT FIXTURES TO EQUIPPED WITH INTEGRATED ALWAYS-ON 50% TO FULL-BRIGHTNESS 100% MOTION SENSOR CONTROL
	6	DISCONNECT, REMOVE, AND INSTALL NEW VFDS FOR MINIMIZE DOWNTIME, AND FOR NEW VDS SETUP.
	7	GENERATOR REPLACEMENT: GENERATOR DOWNTIN PLUMBING AND MECHANICAL FOR RESPECTIVE EXHA SUPPORT SYSTEMS. RE-CONFIGURE RACEWAYS AS DISCONNECT. REPLACE GENERATOR FEEDER COND REUSE.
L L	$\mathcal{A}$	









## 6 <u>2ND - 7TH FL. LIGHTING - REMODEL PLAN</u> 1/8" = 1'-0"







<u>8TH FLOOR ELECTRICAL DEMO PLAN</u> 2 1/8" = 1'-0"





## 2 <u>1ST FLOOR POWER - REMODEL PLAN</u> 1/8" = 1'-0"













## $\frac{1}{1/8"} = 1"-0"$

Lighting Fixture Schedule										
Type Mark         Manufacturer         Model         Comments										
GENERIC 2'x2' & 2'x4' LAY-IN DEMO										
'A'	Cooper Lighting	CGTS LED FLAT PANEL 2'x4'	2'x4'							
'B'	Cooper Lighting	CGTS LED	2'x2'							
'C'	Cooper Lighting	MMS	1'x4'							
'D'	Cooper Lighting	SRL LED W/ WLS SENSOR								
-	GENERIC	4' STRIP LIGHT 32W T8	DEMO							
X1		1X-FACE EXIT SIGN-120V								
X2	-	2X-FACE EXIT SIGN-120								

	KEY NOTES
Number	Description
1	TYPICAL CEILING MOUNTED CAMERA AND FIRE ALARM SYSTEMS
ſ	OPERATION TO BE MAINTAINED DURING CONSTRUCTION. REINSTALL CEILING DEVICES IN NEW CEILING, KEEPING LOCATION AND ORIENTATION AS NEAR AS POSSIBLE TO ORIGINALLY INSTALLED.
2	STAIRWELL FIXTURE COUNTS MUST BE FIELD VERIFIED. TYPICALLY 1 FIXTURE EACH FLOOR AND EACH LANDING. INCLUDE ALL STAIRWELLS. NEW LIGHT FIXTURES TO BE EQUIPPED WITH INTEGRATED ALWAYS-ON 50% TO FULL-BRIGHTNESS 100% MOTION SENSOR CONTROL.

'x	LIGHT FIXTURE
	FIXTURE DESIGNATION (SEE SCHEDULE)
SD	NEW INTELLIGENT PHOTOELECTRIC SMOKE DETECTOR
	EXIT LIGHT. SHADING INDICATES FACE OF EXIT.
	SECURITY CAMERA.



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## Image: Market state 8th FL LIGHTING DEMO 1/8" = 1'-0"

2 4 25 E201 \_\_\_\_ 

## A 8th FL LIGHTING REMODEL 1/8" = 1'-0"





## $\frac{\text{LIGHTING - N STAIR DEMO}}{1/4" = 1'-0"}$





## LIGHTING - S STAIR DEMO





LIGHTING - N STAIR REMODEL





## LIGHTING - S STAIR REMODEL 1/4" = 1'-0"













LIGHT FIXTURE

SECURITY CAMERA.

SD

 $\bigotimes$ 

FIXTURE DESIGNATION (SEE SCHEDULE)

NEW INTELLIGENT PHOTOELECTRIC SMOKE DETECTOR

EXIT LIGHT. SHADING INDICATES FACE OF EXIT.

Lighting Fixture Schedule					KEY NOTES
Type Mark	Manufacturer	Model	Comments	1	ALL EXISTING CAN LIGHTS TO BE SALVAGED BACK TO OWNER.
'A' 'C' 'D'	Cooper Lighting Cooper Lighting Cooper Lighting	CGTS LED MMS SRL LED W/ WLS SENSOR	2'x4' LED LAY-IN FLAT PANEL MAIL ROOM, 1 BEDROOM UNIT KITCHENS STAIRWELLS	2	ALL CEILING MOUNTED CAMERA AND FIRE ALARM SYSTEMS OPERATION TO BE MAINTAINED DURING CONSTRUCTION. REINST CDEILING DEVICES IN NEW CEILING, KEEPING LOCATION & ORIENTATION AS NEAR AS POSSIBLE TO ORIGINALLY INSTALLED. ELOOR SHOWN AS A GUIDE
'E' 'F'	Cooper Lighting ANY	4' STSLP 12" -15" SEMI-FLUSH FIXTURE, 3 LAMPS, E26 BASE, 4000K 10W.	CORRIDORS 3 1-BEDRROOM UNITS.		STAIRWELL FIXTURE COUNTS MUST BE FIELD VERIFIED. TYPICALI FIXTURE EACH FLOOR AND AT EACH LANDING. INCLUDE ALL STAIRWELLS IN BUILDING. NEW LIGHT FIXTURES TO BE FOUR
'H' 	Cooper Lighting GENERIC	SLSTP 3' &/OR 4' 1-LAMP STRIP LIGHT	2' VANITY STRIP LIGHT. DEMO		WITH INTEGRATED ALWAYS-ON 50% TO FULL-BRIGHTNESS 100% MOTION SENSOR CONTROL.
	GENERIC	6" CAN LIGHT	DEMO, EXISTING CAN LIGHTS TO BE SALVAGED BACK TO OWNER.	4	DISCONNECT AND REMOVE RANGE HOODS. NEW, SINGLE, RANGE HOOD TO BE INSTALLED AND RECONNECTED.
	GENERIC	1'x4' SURFACE T8	DEMO	5	REPLACE ALL LAUNDRY RECEPTACLES WITH NEW GFCI PROTECT
EXTG	GENERIC	2'x4' LAY-IN T8	DEMO		RECEPTACLES. VERIFY CORRECT CONDUCTOR AND BREAKER
X1	ANY	1x FACE EXIT LIGHT	INSURE THAT NEW EXIT SIGN DIRECTIONAL ARROWS MATCH EXISTING.		KATINGO. GFUI BREAKERO ARE AUGEPTABLE.











		Lighting Fixture Schedule		KEY NOTES	
Type Mark	Manufacturer	Model	Comments	1	ALL EXISTING CAN LIGHTS TO BE SALVAGED BACK TO OWNER.
				2	ALL CEILING MOUNTED CAMERA AND FIRE ALARM SYSTEMS
'A'	Cooper Lighting	CGTS LED	2'x4' LED LAY-IN FLAT PANEL		OPERATION TO BE MAINTAINED DURING CONSTRUCTION. REINSTA
'C'	Cooper Lighting	MMS	MAIL ROOM, 1 BEDROOM UNIT KITCHENS		CDEILING DEVICES IN NEW CEILING, KEEPING LOCATION &
'D'	Cooper Lighting	SRL LED W/ WLS SENSOR	STAIRWELLS		FLOOR SHOWN AS A GUIDE.
'E'	Cooper Lighting	4' STSLP	CORRIDORS	3	STAIRWELL FIXTURE COUNTS MUST BE FIELD VERIFIED TYPICALLY
'F'	ANY	12" -15" SEMI-FLUSH FIXTURE, 3 LAMPS, E26 BASE, 4000K 10W.	1-BEDRROOM UNITS.		FIXTURE EACH FLOOR AND AT EACH LANDING. INCLUDE ALL STAIRWELLS IN BUILDING. NEW LIGHT FIXTURES TO BE EQUIPPED
'H'	Cooper Lighting	SLSTP	2' VANITY STRIP LIGHT.		WITH INTEGRATED ALWAYS-ON 50% TO FULL-BRIGHTNESS 100%
	GENERIC	3' &/OR 4' 1-LAMP STRIP LIGHT	DEMO		MOTION SENSOR CONTROL.
	GENERIC	6" CAN LIGHT	DEMO, EXISTING CAN LIGHTS TO BE SALVAGED BACK TO OWNER.	4	DISCONNECT AND REMOVE RANGE HOODS. NEW, SINGLE, RANGE HOOD TO BE INSTALLED AND RECONNECTED.
	GENERIC	1'x4' SURFACE T8	DEMO	5	REPLACE ALL LAUNDRY RECEPTACLES WITH NEW GFCI PROTECTE
EXTG	GENERIC	2'x4' LAY-IN T8	DEMO		RECEPTACLES. VERIFY CORRECT CONDUCTOR AND BREAKER
X1	ANY	1x FACE EXIT LIGHT	INSURE THAT NEW EXIT SIGN DIRECTIONAL ARROWS MATCH EXISTING.		KATINGO. GFUI DREAKERO ARE AUGEPTABLE.

![](_page_31_Picture_5.jpeg)

![](_page_31_Figure_6.jpeg)

![](_page_31_Figure_7.jpeg)

![](_page_32_Figure_0.jpeg)

![](_page_32_Figure_1.jpeg)

![](_page_32_Figure_2.jpeg)

### 2 <u>6TH FLOOR LIGHTING DEMO</u> 1/8" = 1'-0"

![](_page_32_Picture_4.jpeg)

ure Schedule		KEY NOTES				
	Comments	1	ALL EXISTING CAN LIGHTS TO BE SALVAGED BACK TO OWNER.			
	2'x4' LED LAY-IN FLAT PANEL MAIL ROOM, 1 BEDROOM UNIT KITCHENS	2	ALL CEILING MOUNTED CAMERA AND FIRE ALARM SYSTEMS OPERATION TO BE MAINTAINED DURING CONSTRUCTION. REINSTALL CDEILING DEVICES IN NEW CEILING, KEEPING LOCATION & ORIENTATION AS NEAR AS POSSIBLE TO ORIGINALLY INSTALLED. 1S			
OR	STAIRWELLS		FLOOR SHOWN AS A GUIDE.			
KTURE, 3 K 10W.	CORRIDORS 1-BEDRROOM UNITS. 2' VANITY STRIP LIGHT. DEMO	3	STAIRWELL FIXTURE COUNTS MUST BE FIELD VERIFIED. TYPICALLY, FIXTURE EACH FLOOR AND AT EACH LANDING. INCLUDE ALL STAIRWELLS IN BUILDING. NEW LIGHT FIXTURES TO BE EQUIPPED WITH INTEGRATED ALWAYS-ON 50% TO FULL-BRIGHTNESS 100% MOTION SENSOR CONTROL.			
	DEMO, EXISTING CAN LIGHTS TO BE SALVAGED BACK TO OWNER.	4	DISCONNECT AND REMOVE RANGE HOODS. NEW, SINGLE, RANGE HOOD TO BE INSTALLED AND RECONNECTED.			
	DEMO DEMO INSURE THAT NEW EXIT SIGN DIRECTIONAL		REPLACE ALL LAUNDRY RECEPTACLES WITH NEW GFCI PROTECTED RECEPTACLES. VERIFY CORRECT CONDUCTOR AND BREAKER RATINGS. GFCI BREAKERS ARE ACCEPTABLE.			
	ARROWS MATCH EXISTING.					

![](_page_32_Figure_6.jpeg)

![](_page_33_Figure_0.jpeg)

![](_page_33_Figure_1.jpeg)

![](_page_33_Picture_2.jpeg)

## **3-5TH FLOOR LIGHTING REMODEL** 1/8" = 1'-0"

![](_page_33_Picture_4.jpeg)

		Lighting Fixture Schedule	KEY NOTES					
Type Mark	Manufacturer	Model	Comments	1	ALL EXISTING CAN LIGHTS TO BE SALVAGED BACK TO OWNER.			
'A'	Cooper Lighting	CGTS LED	2'x4' LED LAY-IN FLAT PANEL	2	ALL CEILING MOUNTED CAMERA AND FIRE ALARM SYSTEMS OPERATION TO BE MAINTAINED DURING CONSTRUCTION. REINSTALL			
'C'	Cooper Lighting	MMS	MAIL ROOM, 1 BEDROOM UNIT KITCHENS		CDEILING DEVICES IN NEW CEILING, KEEPING LOCATION &			
'D'	Cooper Lighting	SRL LED W/ WLS SENSOR	STAIRWELLS		FLOOR SHOWN AS A GUIDE.			
'E'	Cooper Lighting	4' STSLP	CORRIDORS	3	STAIRWELL FIXTURE COUNTS MUST BE FIELD VERIFIED TYPICALLY			
'F'	ANY	12" -15" SEMI-FLUSH FIXTURE, 3 LAMPS, E26 BASE, 4000K 10W.	1-BEDRROOM UNITS.	0	FIXTURE EACH FLOOR AND AT EACH LANDING. INCLUDE ALL STAIRWELLS IN BUILDING. NEW LIGHT FIXTURES TO BE EQUIPPED			
'H'	Cooper Lighting	SLSTP	2' VANITY STRIP LIGHT.		WITH INTEGRATED ALWAYS-ON 50% TO FULL-BRIGHTNESS 100%			
	GENERIC	3' &/OR 4' 1-LAMP STRIP LIGHT	DEMO		MOTION SENSOR CONTROL.			
	GENERIC	6" CAN LIGHT	DEMO, EXISTING CAN LIGHTS TO BE SALVAGED BACK TO OWNER.	4	DISCONNECT AND REMOVE RANGE HOODS. NEW, SINGLE, RANGE HOOD TO BE INSTALLED AND RECONNECTED.			
	GENERIC	1'x4' SURFACE T8	DEMO	5	REPLACE ALL LAUNDRY RECEPTACLES WITH NEW GFCI PROTECTED			
EXTG	GENERIC	2'x4' LAY-IN T8	DEMO		RECEPTACLES. VERIFY CORRECT CONDUCTOR AND BREAKER			
X1	ANY	1x FACE EXIT LIGHT	INSURE THAT NEW EXIT SIGN DIRECTIONAL ARROWS MATCH EXISTING.		RATINGS. GFUI BREAKERS ARE AUCEPTABLE.			

![](_page_33_Figure_6.jpeg)

![](_page_33_Figure_7.jpeg)

![](_page_34_Figure_0.jpeg)

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	Lighting Fixture Schedule			KEY NOTES			
Туре М	Mark	Manufacturer	Model	Comments	1	ALL EXISTING CAN LIGHTS TO BE SALVAGED BACK TO OWNER.	
					2	ALL CEILING MOUNTED CAMERA AND FIRE ALARM SYSTEMS	
'A'	A' Co	ooper Lighting	CGTS LED	2'x4' LED LAY-IN FLAT PANEL		OPERATION TO BE MAINTAINED DURING CONSTRUCTION. REINSTALL	
'C'	C' Co	ooper Lighting	MMS	MAIL ROOM, 1 BEDROOM UNIT KITCHENS		CDEILING DEVICES IN NEW CEILING, KEEPING LOCATION &	
'D'	)' Co	ooper Lighting	SRL LED W/ WLS SENSOR	STAIRWELLS		ELOOR SHOWN AS A GUIDE	
'E'	E' Co	ooper Lighting	4' STSLP	CORRIDORS			
'F'	-' AN	NY	12" -15" SEMI-FLUSH FIXTURE, 3 LAMPS, E26 BASE, 4000K 10W.	1-BEDRROOM UNITS.	5	FIXTURE EACH FLOOR AND AT EACH LANDING. INCLUDE ALL STAIRWELLS IN BUILDING. NEW LIGHT FIXTURES TO BE EQUIPPED	
'H'	l' Co	ooper Lighting	SLSTP	2' VANITY STRIP LIGHT.		WITH INTEGRATED ALWAYS-ON 50% TO FULL-BRIGHTNESS 100%	
	- GE	ENERIC	3' &/OR 4' 1-LAMP STRIP LIGHT	DEMO		MOTION SENSOR CONTROL.	
	- GE	ENERIC	6" CAN LIGHT	DEMO, EXISTING CAN LIGHTS TO BE SALVAGED BACK TO OWNER.	4	DISCONNECT AND REMOVE RANGE HOODS. NEW, SINGLE, RANGE HOOD TO BE INSTALLED AND RECONNECTED.	
	. GE	ENERIC	1'x4' SURFACE T8	DEMO	5	REPLACE ALL LAUNDRY RECEPTACLES WITH NEW GFCI PROTECTED	
EXTO	TG GE	ENERIC	2'x4' LAY-IN T8	DEMO		RECEPTACLES. VERIFY CORRECT CONDUCTOR AND BREAKER	
X1	1 AN	NY	1x FACE EXIT LIGHT	INSURE THAT NEW EXIT SIGN DIRECTIONAL	<u>,                                    </u>	RATINGS. GFCI BREAKERS ARE ACCEPTABLE.	
				ARROWS MATCH EXISTING			

![](_page_34_Figure_4.jpeg)

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![](_page_35_Figure_0.jpeg)

Lighting Fixture Schedule			KEY NOTES		
Type Mark	Manufacturer	Model	Comments	1	ALL EXISTING CAN LIGHTS TO BE SALVAGED BACK TO OWNER.
				2	ALL CEILING MOUNTED CAMERA AND FIRE ALARM SYSTEMS
'A'	Cooper Lighting	CGTS LED	2'x4' LED LAY-IN FLAT PANEL		OPERATION TO BE MAINTAINED DURING CONSTRUCTION. REINSTALL
'C'	Cooper Lighting	MMS	MAIL ROOM, 1 BEDROOM UNIT KITCHENS		CDEILING DEVICES IN NEW CEILING, KEEPING LOCATION &
'D'	Cooper Lighting	SRL LED W/ WLS SENSOR	STAIRWELLS		FLOOR SHOWN AS A GUIDE
'E' (	Cooper Lighting	4' STSLP	CORRIDORS	3	
'F'	ANY	12" -15" SEMI-FLUSH FIXTURE, 3	1-BEDRROOM UNITS.	5	FIXTURE EACH FLOOR AND AT EACH LANDING. INCLUDE ALL
		LAMPS, E26 BASE, 4000K 10W.			STAIRWELLS IN BUILDING. NEW LIGHT FIXTURES TO BE EQUIPPED
'H'	Cooper Lighting	SLSTP	2' VANITY STRIP LIGHT.		WITH INTEGRATED ALWAYS-ON 50% TO FULL-BRIGHTNESS 100%
	GENERIC	3' &/OR 4' 1-LAMP STRIP LIGHT	DEMO		MOTION SENSOR CONTROL.
	GENERIC	6" CAN LIGHT	DEMO, EXISTING CAN LIGHTS TO BE	4	DISCONNECT AND REMOVE RANGE HOODS. NEW, SINGLE, RANGE
			SALVAGED BACK TO OWNER.		HOOD TO BE INSTALLED AND RECONNECTED.
	GENERIC	1'x4' SURFACE T8	DEMO	5	REPLACE ALL LAUNDRY RECEPTACLES WITH NEW GFCI PROTECTED
EXTG	GENERIC	2'x4' LAY-IN T8	DEMO		RECEPTACLES. VERIFY CORRECT CONDUCTOR AND BREAKER
X1	ANY	1x FACE EXIT LIGHT	INSURE THAT NEW EXIT SIGN DIRECTIONAL		RATINGS. GECI BREAKERS ARE ACCEPTABLE.
	K		ARROWS MATCH EXISTING.		

![](_page_35_Figure_7.jpeg)

\_\_\_\_\_ \_\_\_\_\_ (, 1

![](_page_36_Figure_0.jpeg)

![](_page_36_Picture_1.jpeg)

1
 1
 18" = 1'-0"
 1
 1
 1
 1
 1
 1

![](_page_36_Figure_3.jpeg)

KEY NOTES		
Number	Description	
1	Disconnect, remove, and relocate existing corner lot light to new location shown.	
2	Remove and discard existing light pole concrete base. Intercept conduits and extend to new light pole base location. Pull new conductors between existing and new light pole bases.	
3	Electrician to provide and install a new 24" diameter concrete base with 2" exposed above grade. SEE DETAIL #3.	
4	Replace lay-in fixture in hard ceiling.	

	Lighting	Fixture Schedule
Type Mark	Manufacturer	Model
'C'	Cooper Lighting	MMS
'A'	Cooper Lighting	CGTS LED
'B'	EXISTING	PARKING LOT LIG POLE

'X'	LIGHT FIXTURE
<b>~</b>	FIXTURE DESIGNATION (SEE SCHEDU
SD	NEW INTELLIGENT PHOTOELECTRIC SM
$\bigotimes$	EXIT LIGHT. SHADING INDICATES FACE
	SECURITY CAMERA.

## $\frac{1 \text{ST FLOOR LIGHTING PLAN REMODEL}}{1/8" = 1'-0"}$

![](_page_36_Figure_10.jpeg)

![](_page_36_Figure_11.jpeg)

![](_page_37_Figure_0.jpeg)

![](_page_37_Picture_3.jpeg)