

**IOWA DEPARTMENT OF NATURAL RESOURCES  
LAND & WATERS BUREAU  
WALLACE STATE OFFICE BUILDING**

**ADDENDUM No. 1**

Lake Rathbun  
Law Enforcement Shop  
Appanoose County, IA  
PROJECT NUMBER: 23-05-04-01

January 13, 2023

This Addendum is issued to modify, explain or correct the original Drawings and Specifications, and is hereby made a part of the Contract Documents. Please attach this Addendum to the Project Manual in your possession. Insert the number and issue date of this Addendum in the blank space provided on the Proposal Form.

**Substitutions:**

1. The following Structural Insulated Panel manufacturers are approved to bid on this project:
  - a. EPS Buildings
  - b. Extreme Panel Technologies
  - c. Enercept
  - d. InsulSpan
  - e. ThermaFoam

**Clarifications:**

1. Structural Insulated Panels (SIP panels) shall only be for the vertical wall structure, the roof will not receive SIP panels. The attic space shall receive R-42 batt insulation laid on the liner panel, 2x blocking and structure required to support the insulation shall be incidental.

**Specifications:**

1. Specification Section 06121 – Structural Insulated Panels shall be superseded by the attached specification section attached. Please note that structural calcs and certification shall be for the entire building package and not separated out into separate components.

\*Additional Mechanical and Electrical Addenda has been prepared by KCL engineers (attached)

This addendum is issued to modify, clarify, or amend the original Project Drawings and Specifications and is hereby made part of the Contract Documents. The Contractor shall be responsible for incorporating items in this Addendum to the Work. The following shall take precedence over anything to the contrary in the Drawings or Specifications.

Mechanical Drawings:

M-300 – MECHANICAL SCHEDULES

- a. REVISE Split System Unit and Condensing Unit Schedules as shown on attached drawing.

Electrical Drawings:

- 1. Drawing E-400 – ELECTRICAL SCHEDULES:
  - a. **CLARIFY** specifications within Lighting Fixture Schedule.
  - b. Refer to attached full size sheet E-400

Electrical – Approved Manufacturers:

The following shall be added to specifications as approved manufacturers:

<u>Light Fixture Type</u>	<u>Manufacturer</u>
F1	LITHONIA
F2	PRESCOLITE, JUNO
F3	COLUMBIA LIGHTING
W1	LITHONIA

Drawings Attached: M-300, E-400.

End of Mechanical and Electrical Addendum.

CONSULTING ENGINEERS

Mechanical  
Electrical  
Plumbing  
Lighting  
Technology

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Structural insulated panels for wall applications.

B. Related Sections:

Section 06100 Rough Carpentry  
Section 06190 Wood Trusses

1.2 REFERENCES

A. ASTM International (ASTM):

1. C578-06 - Standard Specification for Preformed Cellular Polystyrene Thermal Insulation.
2. D2559-03 - Standard Specification for Adhesives for Structural Laminated Wood Products for Use Under Exterior (Wet Use) Exposure Conditions.
3. E84-05 - Standard Test Method for Surface Burning Characteristics of Building Materials.

B. National Institute of Standards and Technology (NIST):

1. Product Standard PS 1-95 - Construction and Industrial Plywood.
2. Product Standard PS 2-04 - Performance Standards for Wood-Based Structural Use Panels.
3. Product Standard PS 20-05 - American Softwood Lumber Standard.

C. Western Wood Products Association (WWPA) G-5 - Western Lumber Grading Rules.

1.3 SYSTEM DESCRIPTION

A. Design Requirements: Panel system design performed by or under direct supervision of professional Structural Engineer with experience in work of this Section.

B. Performance Requirements; Design panel system to withstand:

1. Live and dead loads in accordance with applicable building code.

1.4 SUBMITTALS

A. Provide submittals in accordance with Section 00812 and section 01300.

B. Product Data: Submit manufacturer's product information, specifications and installation instructions for building components and accessories.

C. Shop Drawings: Submit four complete sets of erection drawing showing post spacing, endwall, sidewalls, transverse cross sections, installation details to clearly indicate proper assembly of building components, and supporting engineering design calculation.

D. Certification: Submit written certification prepared and signed by a professional engineer registered to practice in the state of Iowa, verifying that building design meets indicated loading requirements and codes of authorities having jurisdiction.

1. Drawings and calculations shall be stamped and certified by a structural engineer registered in the state of Iowa. This Certification shall be for the entire building package and all structural components

## 1.5 QUALITY ASSURANCE

A. Installer Qualifications: Minimum 2 years experience in work of this Section.

## 1.6 DELIVERY, STORAGE AND HANDLING

A. Deliver panels to site with manifest drawings containing following information:

1. Manufacturer.
2. Product standard and type.
3. Flame spread/smoke developed rating.
4. Identification of quality assurance agency.

B. Store panels flat, on level base, evenly supported.

C. Cover panels during transportation and storage with waterproof coverings, properly vented.

D. Protect panels from moisture absorption and exposure to sunlight.

E. When lifting panels by crane, support panels with straps or I-bolts.

## 1.7 SEQUENCING

A. Cover wall panels with moisture barrier or final wall cladding as soon as practical after erection.

B. Cover roof panels with water-resistant paper or roofing underlayment immediately after erection.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

A. Approved Manufacturers: Review by architect.

B. Substitutions: Approval by architect

### 2.2 MATERIALS

A. Insulation:

1. Expanded polystyrene, ASTM C578, Type I.
2. Minimum density: 0.90 pounds per cubic foot.

3. Maximum flame spread/smoke developed rating: 75/450, tested to ASTM E84.

B. Facings:

1. Plywood/OSB conforming to NIST PS 1 and PS 2.
2. Bear trademark or certification of inspecting agency in accordance with NIST PS 2.

C. Lumber Framing:

1. Species: Spruce-Pine-fir or equivalent.
2. Grade: WWPA No. 2.

D. Panel Finish: By Contractor

### 2.3 ACCESSORIES

A. Panel Adhesive: ASTM D2559, Type II, Class 2.

B. Panel Sealant: Type recommended by panel manufacturer.

C. Fasteners: Galvanized or corrosion resistant coated; types and sizes as recommended by panel manufacturer.

### 2.4 FABRICATION

A. Fabricate panels with 7/16 to 3/4 inch thick plywood/OSB facings of thickness to meet design criteria pressure laminated to insulation core using adhesive.

C. Panel Thickness: 8-1/4 inches.

D. R-Value: 33.0

## PART 3 - EXECUTION

### 3.1 INSTALLATION

Structural Insulated Panels 06 12 19-4 Energy Panel Structures 01/17/07

A. Install panel system in accordance with manufacturer's instructions and approved Shop Drawings.

B. Install continuous double bottom plate of width equal to panel:

1. Attach bottom plates at exterior walls to concrete foundation with anchor bolts spaced maximum 6 feet on center and within 12 inches of ends of pieces, with minimum of two anchors per piece, or with foundation anchor straps.
2. Attach interior bottom plates to concrete foundation with approved anchors.

C. Install continuous top plates of width equal to panel. Overlap plates at corners, intersections and splines.

- D. Drill 1-1/2 inch diameter access holes in splines to align with electrical chases.
- E. Apply panel sealant in continuous beads to wood-to-wood, wood-to-insulation, and insulation-to-insulation joints per manufacturer's recommendations.
- F. Fasten panels to framing through both facing surfaces unless otherwise indicated.
- G. Provide temporary bracing during erection and until final connections are complete.
- H. Do not install panels directly on concrete; use double plate sill detail or place sill sealer under panels.
- I. Do not place plumbing in panels without approval of panel manufacturer.
- J. Do not cut panel skins for electrical chases. Cut for electrical boxes as needed, but do not cut through to panel edges.

END OF SECTION

**BRANCH PANEL: A**

LOCATION: ELEC/MECH  
 SUPPLY FROM: UTILITY  
 MOUNTING: SURFACE  
 ENCLOSURE: TYPE 1

VOLTAGE: 120/240 SINGLE  
 PHASES: 1  
 WIRES: 3

SCCR RATING: 22k A  
 MAINS TYPE: MCB  
 MAINS RATING: 200 A  
 MCB RATING: 200 A

**NOTES:**

CIRCUIT DESCRIPTION	P	AMP	CKT NO	A	B	CKT NO	AMP	P	CIRCUIT DESCRIPTION
LIGHTING	1	20 A	1	1108	100	2	20 A	1	EF-1
RCPT EXTERIOR	1	20 A	3		720	100	4	20 A	EF-2
RCPT KITCHENETTE	1	20 A	5	360	1020	6	20 A	1	GFS-1, RCP-1
RCPT GARAGE	1	20 A	7		900	510	8	20 A	CP-1
DOOR OPENER	1	20 A	9	920	500	10	20 A	1	B-1
DOOR OPENER	1	20 A	11		920	2250	12		WH-1
DOOR OPENER	1	20 A	13	920	2250		14		
DOOR OPENER	1	20 A	15		920	1835	16		
CORD REELS	1	20 A	17	540	1835		18	20 A	CU-1
RCPT KITCHENETTE	1	20 A	19		900	100	20	20 A	MOD-1
RCPT MEZZ	1	20 A	21	720	1200		22	20 A G	RCPT REFRIGERATOR
MW	1	20 A	23		1600	1260	24	20 A	RCPT GARAGE
HAND DRYER	1	20 A	25	1500	180		26	20 A	RCPT DISPOSAL
SPARE	1	--	20 A	27		0	28	20 A --	SPARE
SPARE	1	--	20 A	29	0		30	20 A --	SPARE
				13153 VA		12015 VA			
				110 A		100 A			

**LEGEND:**  
 \*G\* INDICATES GFCI TYPE BREAKER.

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED...	PANEL TOTALS
LIGHTING	1108 VA	125.00%	1385 VA	<b>TOTAL CONN. LOAD:</b> 25168 VA <b>TOTAL EST. DEMAND:</b> 25445 VA <b>TOTAL CONN.:</b> 105 A <b>TOTAL EST. DEMAND:</b> 106 A
POWER	14720 VA	100.00%	14720 VA	
RECEPTACLE	9340 VA	100.00%	9340 VA	

**NOTES:**

**EQUIPMENT CONNECTION SCHEDULE**

**GENERAL NOTES:**

1. INCLUDE AUXILIARY CONTACTS AND LOW-VOLTAGE WIRING TO AUXILIARY EQUIPMENT THAT RUNS IN TANDEM WITH...

**ABBREVIATIONS:**

1 NEMA 1 ENCLOSURE	INT INTEGRAL WITH EQUIPMENT FROM FACTORY
3R NEMA 3R ENCLOSURE	M... MANUAL MOTOR STARTER WITH FUSES
4 NEMA 4 ENCLOSURE	N... NON-FUSED DISCONNECT SWITCH, HEAVY...
4X NEMA 4X ENCLOSURE	RD RETURN AIR DUCT DETECTOR
BO PROVIDED BY OTHERS	R... RUN STATUS RELAY, NORMALLY OPEN
CB CIRCUIT BREAKER IN PANEL	SD SUPPLY AIR DUCT DETECTOR
C... COMBINATION STARTER/DISCONNECT	SSP START/STOP PUSHBUTTON WITH PILOT
CP CORD AND PLUG PROVIDED WITH UNIT	SS START/STOP PUSHBUTTON
E... ENCLOSED CIRCUIT BREAKER	ST SHUNT TRIP
FAR FIRE ALARM SHUTDOWN RELAY	T... TIME DELAY OFF RELAY
FDS FUSED DISCONNECT SWITCH, HEAVY...	TS TOGGLE SWITCH WITH PLUG FUSE
GF GROUND FAULT CIRCUIT INTERRUPTION	VFD VARIABLE FREQUENCY DRIVE
H... HAND-OFF-AUTO	

TAG	ELECTRICAL CHARACTERISTICS				DISCONNECT				REMARKS	
	VOLTAGE	PHASE	MOTOR HP	KW	MCA	TYPE	SIZE (AMPS)	NEMA RATING		FUSE SIZE (AMPS)
B-1	120 V	1			15	CB				
CP-1	120 V	1	0.08	-	-	CB				PROVIDE DISCONNECT
CU-1	240 V	1			18	NFD	30	3R		PROVIDE AND INSTALL DISCONNECT
EF-1	120 V	1	FHP			INT				CONNECT TO LOCAL OCCUPANCY SENSOR WITH LIGHTS IN SPACE.
EF-2	120 V	1	1/4			HOA	20	1		POWER MOTORIZED DAMPER TO OPEN/CLOSE WITH FAN. INSTALL PROVIDED HOA.
GFS-1	120 V	1	FHP			CB				
MOD-1	120 V	1								POWER MOTORIZED DAMPER TO OPEN/CLOSE WITH FAN.
RCP-1	120 V	1	1/8			CB				
WH-1	240 V	1		4.5		CB				

**LIGHTING FIXTURE SCHEDULE**

**NOTES:**

- ALL FIXTURES SHALL BE U.L. OR SIMILARLY LISTED.
- INCLUDE A MINIMUM 1 YEAR WARRANTY FOR LIGHTING FIXTURES, WHERE NOT OTHERWISE SPECIFIED.
- REFER TO ARCHITECTURAL DOCUMENTS FOR EXACT MOUNTING LOCATIONS, DETAILS, AND CONFIGURATIONS OF ALL LUMINAIRES. IF ARCHITECTURAL DRAWINGS DO NOT CLARIFY EXACT MOUNTING LOCATION OR DETAIL, ISSUE AN RFI FOR ARCHITECT TO SPECIFICALLY CLARIFY PRIOR TO FIXTURE ROUGH-IN.
- VERIFY COMPATIBILITY OF LIGHT FIXTURES WITH CEILING MATERIAL, ADJACENT CONSTRUCTION, AND ADJACENT FINISHES PRIOR TO SHOP DRAWINGS SUBMITTAL. NOTIFY THE ARCHITECT OF ANY CONFLICTS WITH THE PROPOSED INSTALLATION.
- CONTRACTOR IS RESPONSIBLE FOR ALL MISCELLANEOUS HARDWARE NECESSARY TO INSTALL AND SUPPORT THE LUMINAIRES.
- AIM AND TARGET ADJUSTABLE INTERIOR AND EXTERIOR LIGHT FIXTURES UNDER THE OBSERVATION AND IN COMPLIANCE WITH RECOMMENDATIONS OF THE ARCHITECT. INCLUDE LABOR AND MATERIAL COSTS MADE NECESSARY BY THIS REQUIREMENT.
- CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND FILLING OUT ALL UTILITY REBATE FORMS FOR OWNER.

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TYPE	MANUFACTURER	MODEL	DESCRIPTION	FINISH	LUMENS	CRI	DRIVER TYPE	SOURCE-CCT	VOLTAGE	LOAD-VA	APPROVED EQUALS
E1	LITHONIA	ELM2L-120/347-SDRT	EMERGENCY UNIT, WALL OR CEILING MOUNTED, 2 LED ADJUSTABLE LAMP HEADS, MAINTENANCE FREE BATTERY	WHITE	EM	N/A	N/A	LED	120 V	2 VA	EMERGH-LITE, DUAL-LITE
E1-W	LITHONIA	ELM2L-UVOLT-SDRT / ELAWG1	EMERGENCY UNIT, WALL OR CEILING MOUNTED, 2 LED ADJUSTABLE LAMP HEADS, MAINTENANCE FREE BATTERY, WIRE GUARD	WHITE	EM	N/A	N/A	LED	120 V	2 VA	EMERGH-LITE, DUAL-LITE
F1	COLUMBIA LIGHTING	HEM-4-40K-ML-RFA-E-U	CHAIN MOUNT VANDAL WRAP, ACRYLIC LENS, GENERAL DISTRIBUTION	WHITE	5000	80	NON-DIMMING	LED-4000K	120 V	50 VA	KENALL, FAIL-SAFE
F2	LIGHTOLIER	SSR-8-40K-7	SURFACE MOUNTED ROUND DOWNLIGHT NOMINAL 5" DIAMETER 1/2" THICK, GENERAL DISTRIBUTION, NON-CONDUCTIVE TRIM	WHITE	600	80	NON-DIMMING	LED-4000K	120 V	11 VA	AS APPROVED BY ENGINEER
F3	LITHONIA LIGHTING	BLWP4-20LHE-ADSM-LP840	CHAIN HUNG UTILITY FIXTURE 4' LENGTH, CURVED RIBBED LENS, GENERAL DISTRIBUTION	WHITE	2000	80	NON-DIMMING	LED-4000K	120 V	40 VA	AS APPROVED BY ENGINEER
W1	HUBBELL LIGHTING	TRP1-24L-15-3K8-4W-UNV-DBT-PC	BUILDING MOUNTED WALL PACK, TYPE 4 DISTRIBUTION, BUTTON PHOTOCONTROL	BRONZE	1700	80	NON-DIMMING	LED-3000K	120 V	20 VA	AS APPROVED BY ENGINEER
X1-W	LITHONIA	LQM-S-W-3-R-MVOLT-EL-N-SD / ELAWG1	BACK MOUNTED EXIT SIGN, SINGLE FACE, THERMOPLASTIC HOUSING, SELF-DIAGNOSTICS, WIRE GUARD	WHITE	N/A	N/A	N/A	RED LED	120 V	2 VA	EMERGH-LITE, DUAL-LITE

**LIGHTING CONTROLS SCHEDULE**

**NOTES:**

- ALL DEVICES SHALL BE U.L. OR SIMILARLY LISTED.
- ALL DEVICES PROVIDED WITH MANUFACTURER LIMITED 5 YEAR WARRANTY.
- PROVIDE LIGHTING CONTROLS WITH MANUFACTURER COMPLIANT POWER PACKS AND LOW VOLTAGE ROOM CONTROLLERS IN QUANTITY REQUIRED TO INSTALL A COMPLETE AND OPERATIONAL SYSTEM. MANUFACTURER OR MANUFACTURERS REP TO PROVIDE DEVICE QUANTITIES, LAYOUTS AND TYPICAL WIRING DETAILS DURING SHOP SUBMITTAL PROCESS. PROVIDE DIMMING COMPATIBLE DEVICES WHERE DIMMING CONTROLS ARE SHOWN. COORDINATE DIMMING TYPE WITH LIGHTING FIXTURES SHOWN. REFER TO LUMINAIRE SCHEDULE FOR FIXTURE DIMMING TYPE.
- WHERE WIRELESS LIGHTING CONTROLS ARE PROVIDED, POWERPACKS SHALL BE PROVIDED AND INSTALLED WITHIN MANUFACTURER RECOMMENDED DISTANCES TO ENSURE CONTROLLER OPERATION.
- INSTALL LOW VOLTAGE POWER PACKS AND ROOM CONTROLLERS ABOVE NEARBY ACCESSIBLE CEILING TILES OR IN MECHANICAL/STORAGE SPACES ADJACENT TO CONTROLLED FIXTURES. DO NOT INSTALL POWERPACKS EXPOSED IN COMMON SPACES OR IN INACCESSIBLE LOCATIONS.
- PROVIDE FACTORY AUTHORIZED REPRESENTATIVE TO DEMONSTRATE TYPICAL INSTALLATION AND COMMISSIONING OF EQUIPMENT.
- WHERE APPROVED EQUAL MANUFACTURER PRODUCTS SENSOR COVERAGE OR LOAD RATINGS DIFFER FROM BASIS OF DESIGN, CONTRACTOR AND MANUFACTURER ARE RESPONSIBLE FOR PROVIDING ADDITIONAL DEVICES AS NECESSARY TO PROVIDE A COMPLETE AND OPERABLE SYSTEM.
- ETD'S AND ALL EMERGENCY LIGHTING CONTROLS COMPONENTS SHALL BE TESTED AND LISTED AS COMPATIBLE BY MANUFACTURER WITH NORMAL LIGHTING CONTROLS IN ALL AREAS.
- UNLESS INDICATED OTHERWISE, LIGHTING CONTROL SCHEMES/OPERATION SHALL BE AS FOLLOWS:

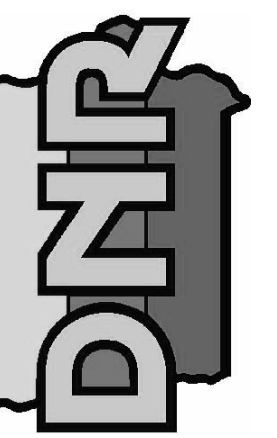
CORRIDORS, VESTIBULES, COMMON SPACES:	SENSORS PROGRAMMED FOR OCCUPANCY MODE, AUTOMATIC ON/OFF OPERATION, 20 MINUTES MINIMUM, 30 MINUTES MAXIMUM. DIMMING CONTROL OF FIXTURES WITHIN DAYLIGHT ZONES SHALL BE BY ALWAYS ON DAYLIGHT SENSOR.
ALL OTHER SPACES	SENSORS PROGRAMMED FOR VACANCY MODE, MANUAL ON/AUTOMATIC OFF OPERATION 20 MINUTES MINIMUM, 30 MINUTES MAXIMUM. DIMMING CONTROL OF FIXTURES WITHIN DAYLIGHT ZONES SHALL BE BY ALWAYS ON DAYLIGHT SENSOR.

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TYPE	DESCRIPTION	ELECTRICAL	MOUNTING	SENSOR TYPE	COVERAGE	APPROVED MANUFACTURERS
OS 1	WALL SWITCH OCCUPANCY SENSOR. DEVICE FINISH MATCHING WIRING DEVICES SPEC. RATED FOR MIN 1/6 HP MOTOR. INTEGRAL AUTOMATIC SELF-ADAPTIVE COVERAGE THRESHOLD AND FALSE ON/FALSE OFF CORRECTION. 8-30 MINUTE TIMER SETTINGS.	120V	WALL SWITCH / SINGLE GANG	PASSIVE INFRARED	1000 SQ FT / 180 DEG	HUBBELL, CRESTRON, ACUTY, WATTSTOPPER, GREENGATE, AS APPROVED BY ENGINEER.
OS 2	CEILING MOUNTED OCCUPANCY/VACANCY SENSOR. WHITE FINISH. AUTOMATIC SELF-ADAPTIVE COVERAGE THRESHOLD AND FALSE ON/FALSE OFF CORRECTION. 8-30 MINUTE TIMER SETTINGS. INDOOR USE.	INTEGRAL BATTERY	CEILING / 8-12" MH	PASSIVE INFRARED	500 SQ FT / 360 DEG	LUTRON, ACUTY, CRESTRON, WATTSTOPPER, AS APPROVED BY ENGINEER.

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**ELECTRICAL SCHEDULES**  
 Low Enforcement Shop for:  
**Lake Rathbun LE**  
 12194 Honey Creek Place  
 Maraviva, IA 52571

NO.	BY DATE	REVISION
1	7/19/23	ADD1

DRAWN BY: DEB PROJECT NUMBER: 23-05-04-01  
 CHCD BY: JTL DATE: 12.20.2022



