

ELECTRICAL SYMBOLS LEGEND.

LIGHTING SYMBOLS		SPECIAL SYSTEMS SYMBOLS	
	- FLUORESCENT LIGHT FIXTURE, CAPITAL LETTER DENOTES TYPE SHADING INDICATES EMERGENCY BACKUP OR CIRCUIT.		- TV OUTLET
	- FLUORESCENT STRIP LIGHT, CAPITAL LETTER DENOTES TYPE.		- TELEPHONE OUTLET, SINGLE GANG BACKBOX, STUB UP. SUBSCRIPT "W" INDICATES WALL PHONE.
	- CEILING MOUNTED LIGHT FIXTURE, CAPITAL LETTER DENOTES TYPE SHADING INDICATES EMERGENCY BACKUP OR CIRCUIT.		- COMBINATION DATA / TELEPHONE TV/DIAL GANG BACKBOX, STUB 1/2" W/PULLWIRE INTO ACCESSIBLE CEILING SPACE ABOVE.
	- WALL MOUNTED LIGHT FIXTURE, CAPITAL LETTER DENOTES TYPE.		- DOOR BELL OR SIGNALLING DEVICE
	- EMERGENCY LIGHT PACK WITH BACKUP BATTERIES.		- PUSH BUTTON OPERATOR / MUSHROOM HEAD OPERATOR.
	- TRACK LIGHT FIXTURE.		- SPECIAL PROPOSE RECEPTACLE
	- WALL EXIT SIGN - SHADING INDICATES ILLUMINATED FACES. DIRECTIONAL ARROWS AS INDICATED.		- VIDEO DISPLAY BOX. SEE DETAIL THIS SHEET.
	- EXIT SIGN - SHADING INDICATES ILLUMINATED FACES. DIRECTIONAL ARROWS AS INDICATED.		- VIDEO BOXES. SEE DETAIL THIS SHEET.
	- SINGLE POLE, 20A, TOGGLE SWITCH. VOLTAGE AS REQUIRED.		- CEILING VIDEO PROJECTOR BOX. SEE DETAIL THIS SHEET.
	- 3-WAY, SINGLE POLE, 20A, TOGGLE SWITCH. VOLTAGE AS REQUIRED.		- CEILING VIDEO PROJECTOR SMART BOARD BOX. SEE DETAIL THIS SHEET.
	- 4-WAY, 20A, TOGGLE SWITCH. VOLTAGE AS REQUIRED.		- DOOR CONTROL/CARD READER BOXES. SEE DETAIL THIS SHEET.
	- INCANDESCENT DIMMER SWITCH, 1000 WATT, 120V., UND.		- DOOR CONTROL/CARD READER/KEYPAD BOXES. SEE DETAIL THIS SHEET.
	- TIMER SWITCH		- EMERGENCY POWER OFF (HALDIN FIRE EXTINGUISHING SYSTEM)
	- SINGLE POLE, 20A, TOGGLE SWITCH AND OCCUPANCY SENSOR, VOLTAGE AS REQUIRED.	ELECTRICAL CIRCUITING SYMBOLS	
	- PHOTOCCELL SWITCH		- CIRCUIT RUN #12W, 1/2" CONDUIT UND.
	- OCCUPANCY SENSOR. ARROWS INDICATE ORIENTATION.		- HOME-RUN #12W, 1/2" CONDUIT UND. NUMBER OF ARROW INDICATES QTY.
	- INCANDESCENT SLIDER DIMMER SWITCH, 1000 WATT, 120V., UND.		- CONDUIT RUN UNDER FLOOR OR GROUND, #12W, 1/2" CONDUIT UND.
	- INCANDESCENT SLIDER DIMMER SWITCH, 1500 WATT, 120V., UND.		- BRANCH CIRCUIT WITH EQUIPMENT CONNECTION REQUIRED.
	- LDV VOLTAGE SLIDER DIMMER SWITCH, 1500 WATT, 120V		- CIRCUIT RUN WITH STUBUP OR STUBDOWN AS REQUIRED.
	- SINGLE POLE, 20A, KEYSWITCH	ONE-LINE SYMBOLS	
	- THREE WAY, 20A, KEYSWITCH		- POWER TRANSFORMER. SIZE AND RATING AS INDICATED.
	- MULTI-LEVEL INBOARD LAMP/OUTBOARD LAMP SWITCHING.		- CIRCUIT BREAKER TRIP AND FRAME AS INDICATED.
	- THREE-WAY MULTI-LEVEL INBOARD LAMP/OUTBOARD LAMP SWITCHING.		- CURRENT TRANSFORMER.
	- LIGHTOLIER MULTI-SET MASTER SWITCH.		- ELECTRIC KWH-METER.
	- LIGHTOLIER MULTI-SET DIGITAL SWITCH.		- FUSIBLE SWITCH. RATING AND FUSE SIZE AS INDICATED.
	- LIGHTOLIER MULTI-SET DIMMER SWITCH.		- FEEDER SCHEDULE KEY TAG.
	- PANELBOARD. IDENTIFICATION, AMPERES AND RATINGS AS INDICATED.	COMMON ABBREVIATIONS	
	- 20A, 120V., 3 WIRE GROUNDED, DUPLEX RECEPTACLE, NEMA 5-20R UND.	AFF	- ABOVE FINISHED FLOOR.
	- 20A, 120V., 3 WIRE GROUNDED, DUPLEX RECEPTACLE, NEMA 5-20R, GROUND FAULT CIRCUIT INTERRUPTER.	(E)	- EXISTING
	- 20A, 120V., 3 WIRE GROUNDED, DUPLEX RECEPTACLE, MOUNTED WITHIN COOLER HOUSING	EWC	- ELECTRIC WATER COOLER RECEPTACLE CONCEALED BUT WITH ACCESS.
	- 20A, 120V., 3 WIRE GROUNDED, DUPLEX RECEPTACLE, NEMA 5-20R, WITH TIE-BAR REMOVED FOR SWITCHING UPPER HALF OF RECEPTACLE	GFI	- GROUND FAULT CIRCUIT INTERRUPTER.
	- 20A, 120V., 3 WIRE GROUNDED, DUPLEX RECEPTACLE, NEMA 5-20R UND WITH CHILD RESISTANT COVERPLATE.	IG	- ISOLATED GROUNDING TYPE RECEPTACLE.
	- 20A, 120V., 3 WIRE GROUNDED, DUPLEX RECEPTACLE, SUBSCRIPT - DENOTES TYPE, EG. IG-ISOLATED GROUND, GFI-GFCI, ETC.	QC	- OVER-COUNTER MOUNT RECEPTACLES HORIZONTALLY 1" ABOVE BACK SPLASH UND.
	- 20A, 120V., 3 WIRE GROUNDED, DUPLEX RECEPTACLE, NEMA 5-20R, WEATHERPROOF AND GFI UND.	TR	- CHILD RESISTANT RECEPTACLE COVERPLATE.
	- PLUGMOLD MULTI-OUTLET RACEWAY, RECEPTS SPACED 12" O.C. UND.	TVSS	- TRANSIENT VOLTAGE SURGE SUPPRESSOR.
	- DOUBLE DUPLEX RECEPTACLE WITH (2) DUPLEX 20 AMP 120V., 3 WIRE, GROUNDED NEMA 5-20R RECEPTACLE.	UG	- UNDERGROUND.
	- SPECIAL RECEPTACLE. TYPE AS NOTED OR MATCH EQUIPMENT CAP.	UND	- UNLESS NOTED OTHERWISE.
	- SINGLE RECEPTACLE, NEMA CONFIGURATION NOTED ON PLANS	WP	- WEATHERPROOF WITH GROUND FAULT CIRCUIT INTERRUPTER
	- 3 WIRE, GROUNDED NEMA 5-20R RECEPTACLE AND FLOOR RECEPTACLE, FLUSH MOUNTED, DUPLEX 20 AMP, COVER, BOX TYPE AND COVER AS NOTED.	(R)	- EXISTING TO BE RELOCATED
	- POWER POLE WITH COMMUNICATIONS / POWER CHANNELS	(F)	- TO BE ADDED IN THE FUTURE
	- JUNCTION BOX, 450 FLUSH MOUNTED/SURFACE MOUNTED UND	(N)	- TO BE ADDED TO AS NEW AND MATCH EXISTING
	- MOTOR	* SWITCHES MOUNTED 48" AFF. UND.	
	- DOOR SECURITY POWER SUPPLY	* TELECOMMUNICATION OUTLETS MOUNTED 18 AFF. UND.	
	- FIRE SMOKE DAMPER	* ALL MOUNTING HEIGHTS ARE ABOVE FINISHED FLOOR (AFF) UND.	
	- DISCONNECT SWITCH. FUSED / NON-FUSED. RATING AS INDICATED.	* NOT ALL SYMBOLS ARE USED.	
	- MOTOR CONTROLLER	* VERIFY ALL CONNECTIONS AND RECEPTACLE TYPES FOR EQUIPMENT FROM APPROVED MECHANICAL AND EQUIPMENT SUBMITTALS PRIOR TO INSTALLATION.	
	- MANUAL MOTOR STARTER WITH THERMAL OVERLOADS.		
	- PANELBOARD, SURFACE / FLUSH.		



COMcheck Software Version 3.5.2
Interior Lighting and Power
Compliance Certificate

90.1 (2001) Standard: Section 1: Project Information

Project Type: **New Construction**
Project Title: **CALVARY FELLOWSHIP**
Construction Site: _____ Owner/Agent: _____ Designer/Contractor: _____

Section 2: General Information

Building Use Description by Activity Type	Activity Type(s)	Floor Area
Religious:Worship - Pulpit/Choir		4664
Common Space Types:Office - Enclosed		2040
Common Space Types:Lobby		988
Common Space Types:Active Storage		340
Common Space Types:Restrooms		832
Common Space Types:Corridor/Transition		2842

Section 3: Requirements Checklist: Interior Lighting:

- 1. Total proposed watts must be less than or equal to total allowed watts.
Allowed Watts 32287 Proposed Watts 10725 Complies YES

Exterior Lighting:

- 2. Minimum efficacy of 60 lumen/watt for lamps greater than 100W.
- 3. Lighting power for canopies, entrances, and exits meets the following criteria (trade-offs allowed among these applications):
Lighting power for free-standing canopy areas or building entrances with canopies is less than or equal to 3 watts per square foot.
Lighting power for building entrances without a canopy is less than or equal to 33 watts per linear foot of door width.
Lighting power for building exits is less than or equal to 20 watts per linear foot of exit door width.
- 4. Lighting power for building facades is less than or equal to 0.25 watts per square foot of the illuminated area.
Exceptions: Controlled by motion sensor, signal or advertising signage, highlighting features of historic monuments and buildings, or required for safety or security.

Controls, Switching, and Wiring:

- 5. Independent manual or occupancy sensing controls for each space (remote switch with indicator allowed for safety or security).
- 6. Automatic shutoff control for lighting in >5000 sq.ft buildings by time-of-day device, occupant sensor, or other automatic control. Exceptions: 24 hour operation lighting.
- 7. Master switch at entry to hotel/motel guest room.
- 8. Separate control device for display/accent lighting, case lighting, task lighting, nonvisual lighting, lighting for sale, and demonstration lighting.
- 9. Photocell/astronomical time switch on exterior lights.
Exceptions: Covered vehicle entrance/exit areas requiring lighting for safety, security and eye adaptation.
- 10. Tandem wired one-lamp and three-lamp ballasted luminaires (No single-lamp ballasts).
Exceptions: Electronic high-frequency ballasts; Luminaires not on same switch; Recessed luminaires 10 ft. apart or surface/pendant not continuous; Luminaires on emergency circuits.

Voltage Drop:

- 11. Feeder conductors have been designed for a maximum voltage drop of 2 percent.
- 12. Branch circuit conductors have been designed for a maximum voltage drop of 3 percent.

Section 4: Compliance Statement

Compliance Statement: The proposed lighting design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed lighting system has been designed to meet the 90.1 (2001) Standard requirements in COMcheck Version 3.5.2 and to comply with the mandatory requirements in the Requirements Checklist.

Name - Title	Signature	Date

Section 5: Post Construction Compliance Statement

Record Drawings and Operating and Maintenance Manuals:

- 1. Construction documents with record drawings and operating and maintenance manuals provided to the owner.

Lighting Designer or Contractor Name	Signature	Date

General:

It is the Intent of these documents that a complete and working electrical installation be provided for all the electrical products described, or shown as being part of this contract. Provide all materials and labor to furnish and install all apparatus, materials, equipment and appurtenances. In a fashion complying with all applicable codes, including items required but not normally shown.

For connections to mechanical equipment and the associated conduit and wire required but not shown on these documents, refer to the mechanical and plumbing documents. Coordinate all such connections with the affected trades.

Where a conflict exists between any codes and the work shown within these documents, the most stringent requirement shall govern.

Arrange and pay for all required electrical permits, fees and inspections.

Provide a one, (1) year Warranty on all material, equipment, appurtenances, and installation, from the date of acceptance. If, after having received notice from the Owner, defects are not corrected within a reasonable time, the Owner shall have the right to secure the necessary work from any other part and to bill the contractor for the cost of such work.

These documents indicate diagrammatically desired locations or arrangement of conduit runs, outlets, equipment, etc., and outlet locations are to be followed as closely as possible. Proper judgment must be exercised in executing work so as to secure the best possible installation in the available space and to overcome local difficulties due to space limitations or interference with structural or architectural conditions. All deviations from these documents which are required to make the work conform to the structure or to fit the installed work of other trades and contractors shall be made without additional cost to the owner.

Shop drawings shall be submitted for acceptance for the following: lighting fixtures, switchboards, panel boards, dimming products, devices, and fire alarm systems.

The grounding of the electrical equipment and system shall be in accordance with the requirements of all local ordinances. The conduit system shall form a complete grounding system. Connection to this system shall be made at all panelboards, outlet boxes, junction boxes, and wherever a conduit run is interrupted.

Products:

Materials shall be new and in perfect condition; all materials for similar uses shall be of the same type, material, and manufacturer, for ease of future maintenance.

Standards: materials shall be listed by or bear The Underwriter's Laboratory label and shall comply with IEE, ANSI, FM, and NEMA where applicable.

Conduit shall be rigid steel, intermediate metal conduit, electrical metallic tubing, flexible metallic conduit, liquid tight flexible conduit, non-metallic (rigid PVC schedule 40). All conduit shall be installed and sized per the NEC.

Conductors shall be copper, (rated 600 volts) type THWN, or THHN(dry locations only) per National Electric Code. use type RHW or THHN (dry locations only) where ambient temperature exceeds 140 degrees f. (60 degrees c). Conductors smaller than no. 8 gauge shall be solid, and no. 8 gauge and larger shall be stranded. Minimum wire size shall be no. 12 except no. 14 for control wiring. Wire 1/0 and larger shall be THW, THWN, XHHW, or RHW.

Devices shall be Ivory as specified or equal by Hubbell, Square-D, Pass & Seymour, Leviton, Bryant, or General Electric.

Switches: Hubbel. #1221-1.

Receptacles: Hubbell #5262-1 (where a single device is installed on a branch circuit the device rating shall match the circuit breaker rating).

Ground fault circuit Interrupter: Square-D #GFSR-120-1C.

Wall plates shall be brushed stainless steel.

Motor switches shall be Square-D Class 2510, or General Electric Type CR101.

Disconnect switch shall be non-fusible or fusible: Square-D heavy duty equal by General Electric, Cutler-Hammer or ITE. Where fuses are or required, provide dual-element Bussman -fusetron, type fuses, or equal by Gould.

Execution:

A. Raceways embedded in concrete slabs on earth shall be type 40, rigid non-metallic conduit.

B. Raceways embedded in concrete slabs above grade level shall be rigid metal conduit type 40, or rigid non-metallic conduit.

C. Raceways Indoors below 48", outdoors, in crawl spaces or otherwise in locations subject to mechanical injury shall be rigid metal conduit.

D. Motor and equipment connections shall be PVC jacketed liquid tight flexible metallic conduit with liquid-tight connectors. Motor and equipment connections in environmental plenums shall be flexible metal conduit.

E. Raceways in all other areas shall be electric metallic tubing unless otherwise noted.

Provide the following color coding for the a-b-c-n-g phase sequence:
A. 120/240v, 1-phase black, red, white, green
B. 120/208v, 3-phase black, red, blue, white, green
C. 277/480v, 3-phase brown, orange, yellow, gray with white stripe, green with white stripe.

Outlet box Installation:

A. Where two or more similar type devices -r adjacent to each other, they shall be in gang type box with a gang type cover. Where different type devices are adjacent to each other, space: outlet boxes so that finish plates will be spaced 1" apart.

B. Unless otherwise Indicated, switch boxes shall be mounted with centerline at 42 Inches. Desk height outlet boxes shall be at 36 Inches, other convenience outlets shall be at 18 Inches, unless otherwise indicated.

C. Telephone outlets shall be mounted at the same height as adjacent receptacle outlets, unless noted otherwise.

D. Back-to-back outlet in the same wall, or through-wall type boxes shall not be permitted. Provide 12" (minimum) long nipple to offset all outlets shown on opposite sides of a common wall to minimize sound transmission.

E. Provide suitable barrier to separate switch terminals exceeding 300v. Provide and Install a code approved disconnect switch within sight of every motor. Feed motors not equipped with built in protection through a magnetic or manual motor starter equipped with solid state thermal overloads sized to comply with manufacturer's recommendation and applicable codes.

Do not run any conduit in a slab where the conduit diameter exceeds 1/3 the thickness of the slab. Locate embedded conduit within the inner 1/3 of the slab. Where embedded conduits are run in parallel, space them not less than 3 inches apart. Where embedded conduit cross, thicken the slab proportionately over an area ten times the diameter of the largest conduit.

In each conduit without conductors, provide a nylon pulling cord with a tag identifying the location of the opposite end.

As-built documents:

A. After the work is complete provide As-Built documentation of the work.

B. The documentation shall include outlet location and type, branch circuit, conductor and raceway size. The documentation shall be executed upon documents provided by the Architect which will indicate the best known as-built conditions of the work. The documentation shall be legible, complete, and in Ink with a date and signature of the responsible individual designated by the contractor. The Ink markup can be by hand.



Yergensen, Obering, & Whittaker
A Professional Corporation
Architecture & Planning
1115 S. Weber Colorado Springs, Colorado 719-475-8133

Revision Schedule	
No.	Date
△	10/09/08
△	11/19/08

CALVARY FELLOWSHIP
AT THE MART FOUNTAIN
6436 South Highway 85-87
Fountain, Colorado 80817

Project Number

08.012

Date

10/09/08

Drawn By
Author
Checked By
Checker

E101
ELEC. SPEC.
Scale
NONE

LIGHT FIXTURE SCHEDULE

TYPE	DESCRIPTION	MOUNTING	OSRAM LAMP TYPE (QTY)	LENS/DIFFUSER	VOLT	MANUFACTURER/SERIES ALTERNATE MFR.	NOTES
A	2x4 FLUORESCENT TROFFER RECESSED GRID	RECESSED GRID	FO32/835/32WT8 (3)	PRISMATIC ACRYLIC A12	277	LITHONIA 2G78 SERIES METALLUX COLUMBIA	1
A2	2x4 FLUORESCENT TROFFER SURFACE TROFFER	SURFACE	FO32/835/32WT8 (3)	ACRYLIC PATTERN #12 125 THICK INVERTED	277	LITHONIA 2SSH SERIES METALLUX COLUMBIA	
A3	2x4 FLUORESCENT TROFFER RECESSED GRID	RECESSED GRID	FO32/835/32WT8 (3)	PRISMATIC ACRYLIC A12	277	LITHONIA 2G78 SERIES METALLUX COLUMBIA	
B	1x4 FLUORESCENT WRAP	SURFACE	FO32/835/32WT8 (2)	PRISMATIC	277	LITHONIA SB SERIES METALLUX COLUMBIA	
D	FLUORESCENT DOWN LIGHT VERTICAL	RECESSED	CF420T/E/835 (1)	CLEAR SPECULAR	277	LITHONIA AFV SERIES METALLUX COLUMBIA	
F	EXISTING 8 FOOT STRIP LIGHTS TO BE RE-USED	SURFACE	EXISTING LAMPS TO BE REPLACED AS NEED	N/A	277	EXISTING FIXTURE TO BE RE-USED	
F2	4 FOOT GENERAL PURPOSED STRIP	SURFACE	FO32/835/32WT8 (2)	N/A	277	LITHONIA C SERIES METALLUX COLUMBIA	
G	INCANDESCENT 5 CYLINDER PENDANT WITH DIMMER SWITCH	SURFACE	75W PAR30 (3)	BLACK BAFFLE	120	LITHONIA 1122-910 SERIES DIMMING BALLAST	
L	SURFACE MOUNTED 8 CFL CYLINDER	SURFACE	42W TRIPLE (1)	CLEAR XL2XK	277	PRESCOTT LIFEFORMS CF8 SERIES	2
N	ROPE LIGHT	SURFACE	5W PER FOOT AS SHOWN	LED COLOR WHITE	24	BARRON MANUFACTURING CORP. BMC RL SERIES	
O	GOOSENECK FIXTURE	SURFACE WALL	CF57W (1)	WHITE FINISH	277	TMS LIGHTING 185 SERIES	2
P	WALK WAY POLE LIGHT ONE HEAD	POLE	175W MH		120	KIW LIGHTING ERA LANTERN ED17 MED BASE SERIES	
S	SURFACE MOUNTED DOWN LIGHT VANDAL RESISTANT FIXTURE	SURFACE	70W METAL HALIDE	POLYCARBONATE REFRACTOR	277	HUBBELL LIGHTING S9-70H SERIES	2
EM	EMERGENCY LIGHT THERMOPLASTIC	UNIVERSAL	12W (2)	N/A	277	SURE LITES C07 SERIES LITHONIA, COLUMBIA	
X2	SINGLE FACE EXIT SIGN ALUMINUM	UNIVERSAL	WITH UNIT LED	N/A	277	LITHONIA LESW1GRELN SERIES SURE-LITES, DUAL-LITE	
X3	DOUBLE FACE EXIT SIGN ALUMINUM	UNIVERSAL	WITH UNIT LED	N/A	277	LITHONIA LESW2GRELN SERIES SURE-LITES, DUAL-LITE	
E_N	Suffixes to Fixture Types: "E" indicates emergency backup; "N" indicates night light wiring.	N/A	N/A	N/A	N/A	N/A	

- NOTES:
1. FIXTURE TO BE DUAL-LEVEL SWITCH AS NEEDED PER. I.E.C.
2. PROVIDE 0 DEGREE C BALLAST

General Notes To Fixture Schedule:

- Exterior fixtures shall be provided with damp- or wet-location labels as required.
- Lamps shall be new and conform to the Energy Policy Act of 1992. Only Osram, Venture, and Philips brands are acceptable, unless otherwise noted.
- Fixture submittals shall include lamp information complete enough to indicate lamps recommended by the manufacturer of each fixture type, as applicable.
- Generic terms for lamp types such as "triple-tube", "R30", etc. is not acceptable. ANSI or Lamp catalog numbers are required.
- HD ballasts shall be high power factor, energy saving type. Fluorescent ballasts shall be electronic, unless otherwise noted.
- Exit signs above doors shall be centered on the doorway opening. Exit signs shall be mounted not lower than 7' 6" AFF to bottom of fixture unless otherwise noted.
- Emergency battery backup ballasts shall be factory installed in ballast channels. Minimum 1300-lumen output ballasts shall be provided for 4-foot fluorescent lamps.
- All aimable fixtures such as track heads and wall wash fixtures shall be aimed as directed by the Architect.
- Provide all needed hardware and equipment necessary for a complete and functioning installation of all fixtures.
- Fluorescent troffers are permitted to be wired in tandem pairs. When so provided, outboard lamps shall be wired to the same ballast, and all inboard lamps shall be wired to the same ballast. When dual-level switching is indicated, inboard lamps shall be switched separately from outboard lamps.
- KID lamps in open fixtures will be suitable for that purpose and listed as such in manufacturer's product literature.
- All specular reflector will be low idescent specular in the color indicated.
- PROVIDE WATTAGE RESTRICTION LABEL TO MATCH LAMP SPECIFIED.



COMcheck Software Version 3.5.2
Interior Lighting Application
Worksheet

90.1 (2001) Standard: Section 1: Allowed Lighting Power Calculation

Area Category	A	B	C	D
		Floor Area (ft2)	Allowed Watts / ft2	Allowed Watts (B x C)
Religious:Worship - Pulpit/Choir		4664	5.2	24



Yergensen, Obering, & Whittaker
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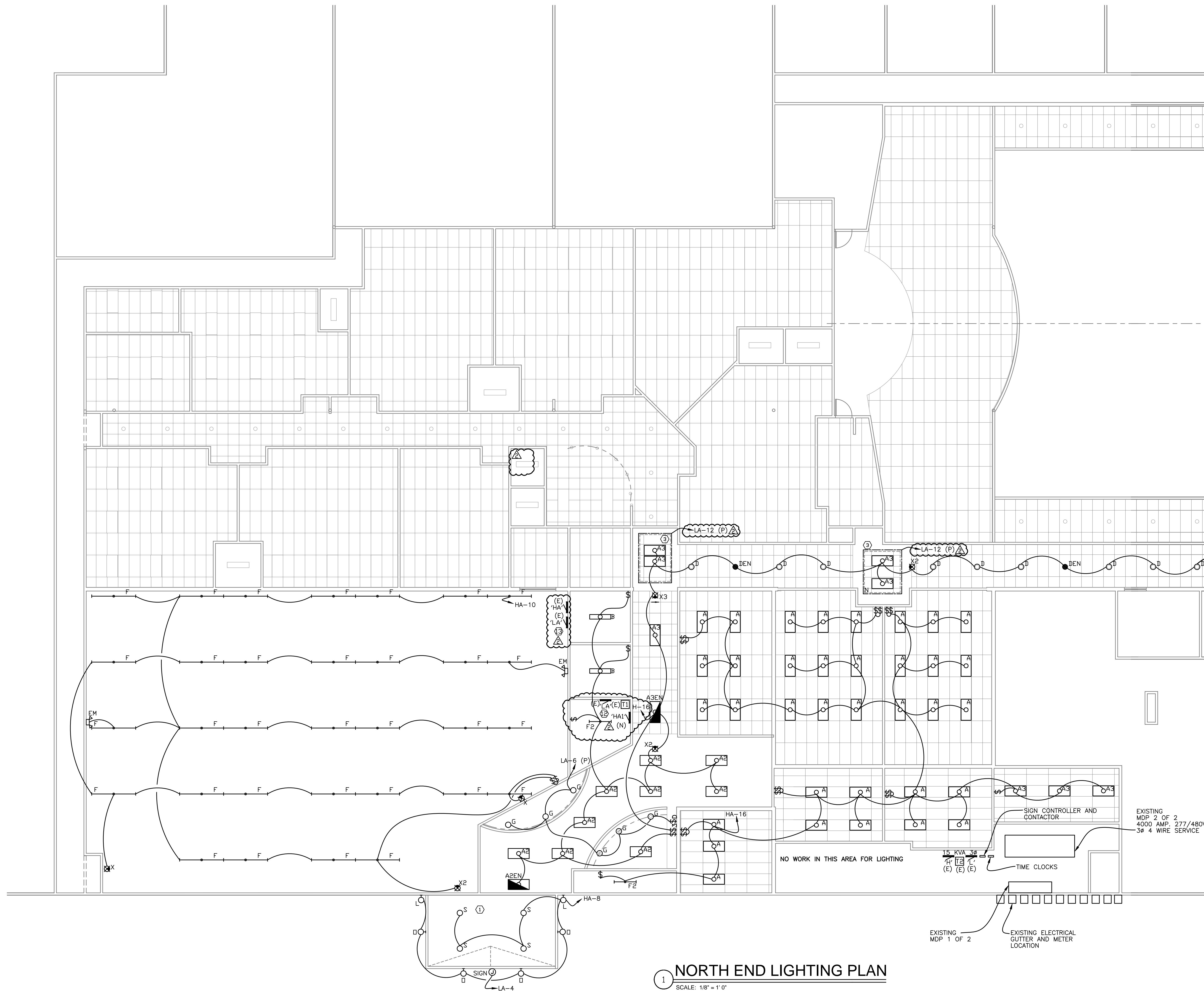
Project Number
08.012

Date
 10/09/08

Drawn By
 Author

Checked By
 Checker

E201
 ELEC. SPEC.
 Scale
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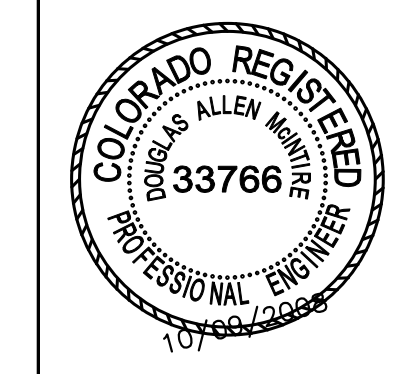
KEY NOTES:

- ① ALL EXTERIOR BUILDING LIGHTS TO BE CONNECTED TO TIME CLOCK AND PHOTO CELL. PHASE 1 & 2
- ② CURVED SOFFIT TO HAVE TWO BUILT IN COVES FOR ROPE LIGHTING ONE LOCATED AT THE TOP, THE OTHER LOCATED AT THE BOTTOM. SEE ELECTRICAL PAGE E202 DETAIL 4, PHASE 3
- ③ ROPE LIGHTING LOCATED AROUND THE PERIMETER OF BUILT IN CLOUD. VERIFY ALL DETAILS WITH CONTRACTOR PRIOR TO ROUGH IN. PHASE 1 & 3
- ④ LIGHT SWITCH LOCATED IN SOUND BOOTH AREA. PHASE 3
- ⑤ LIGHTING CONTROL DETAIL SEE PAGE E202 DETAIL 2, PHASE 3 (NOT USED)
- ⑥ THEATRICAL LIGHTS ARE EXCLUDED FROM IECC. PHASE 3

GENERAL NOTES:

1. ALL OTHER ELECTRICAL WORK TO BE DONE IN FUTURE PHASES.





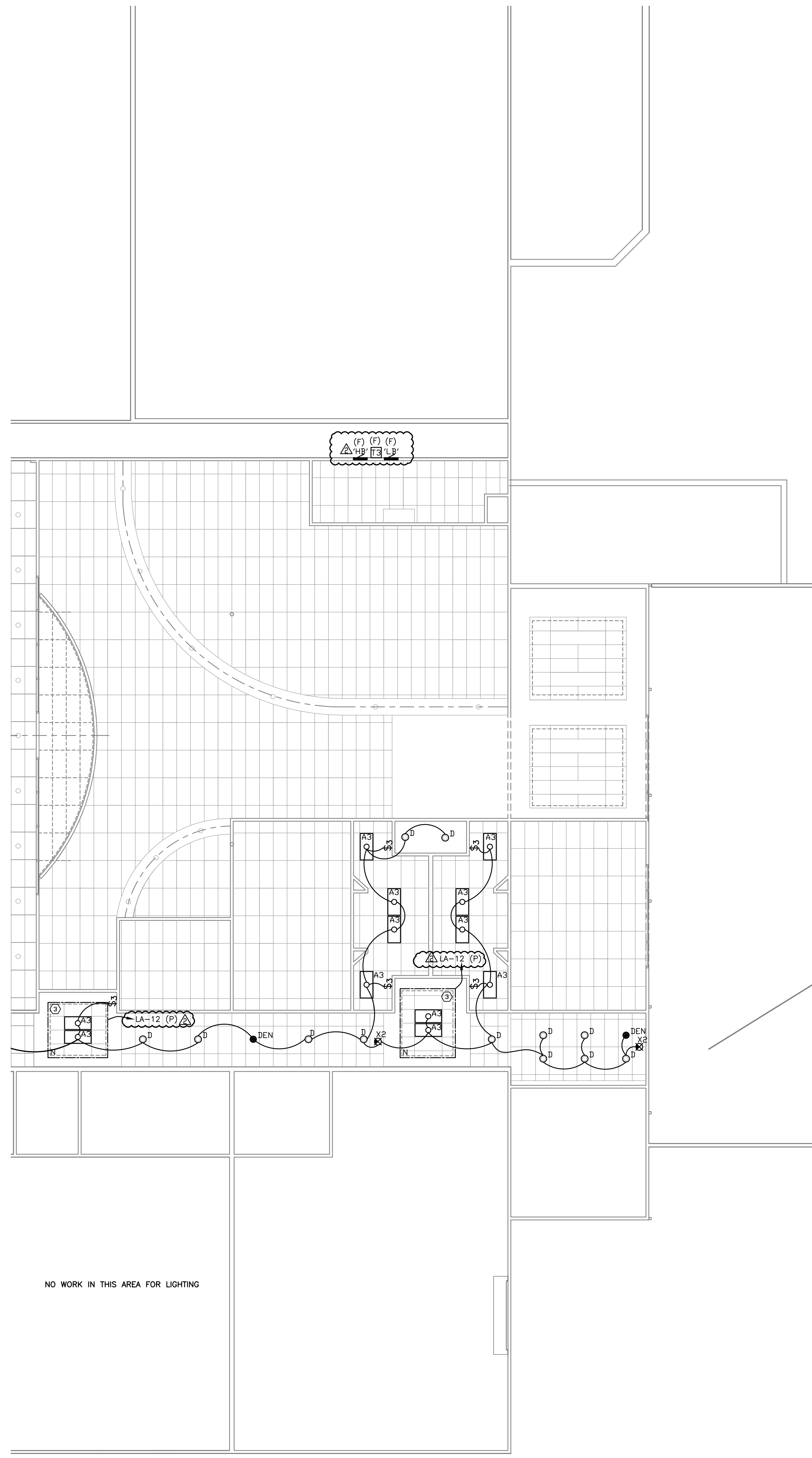
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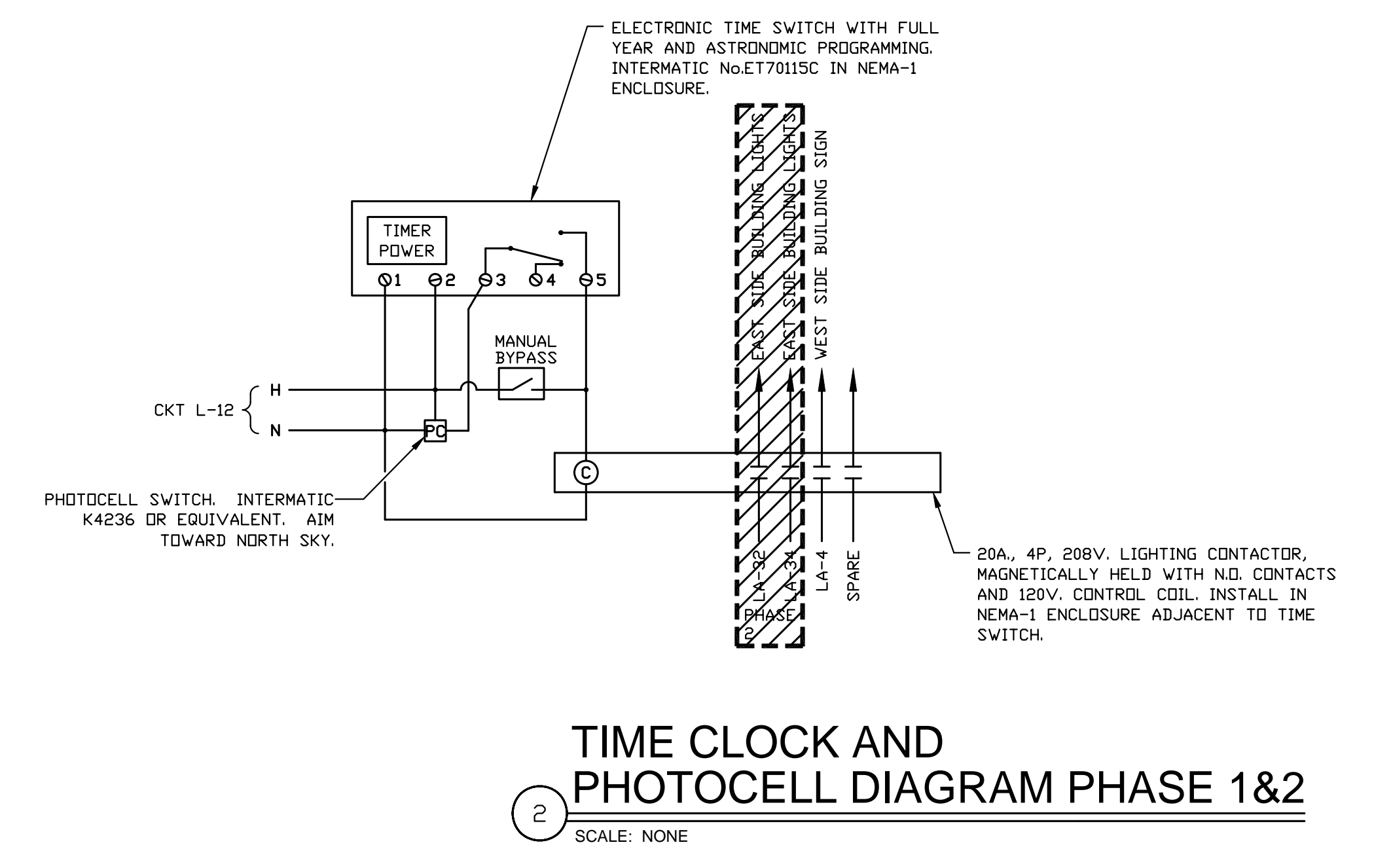
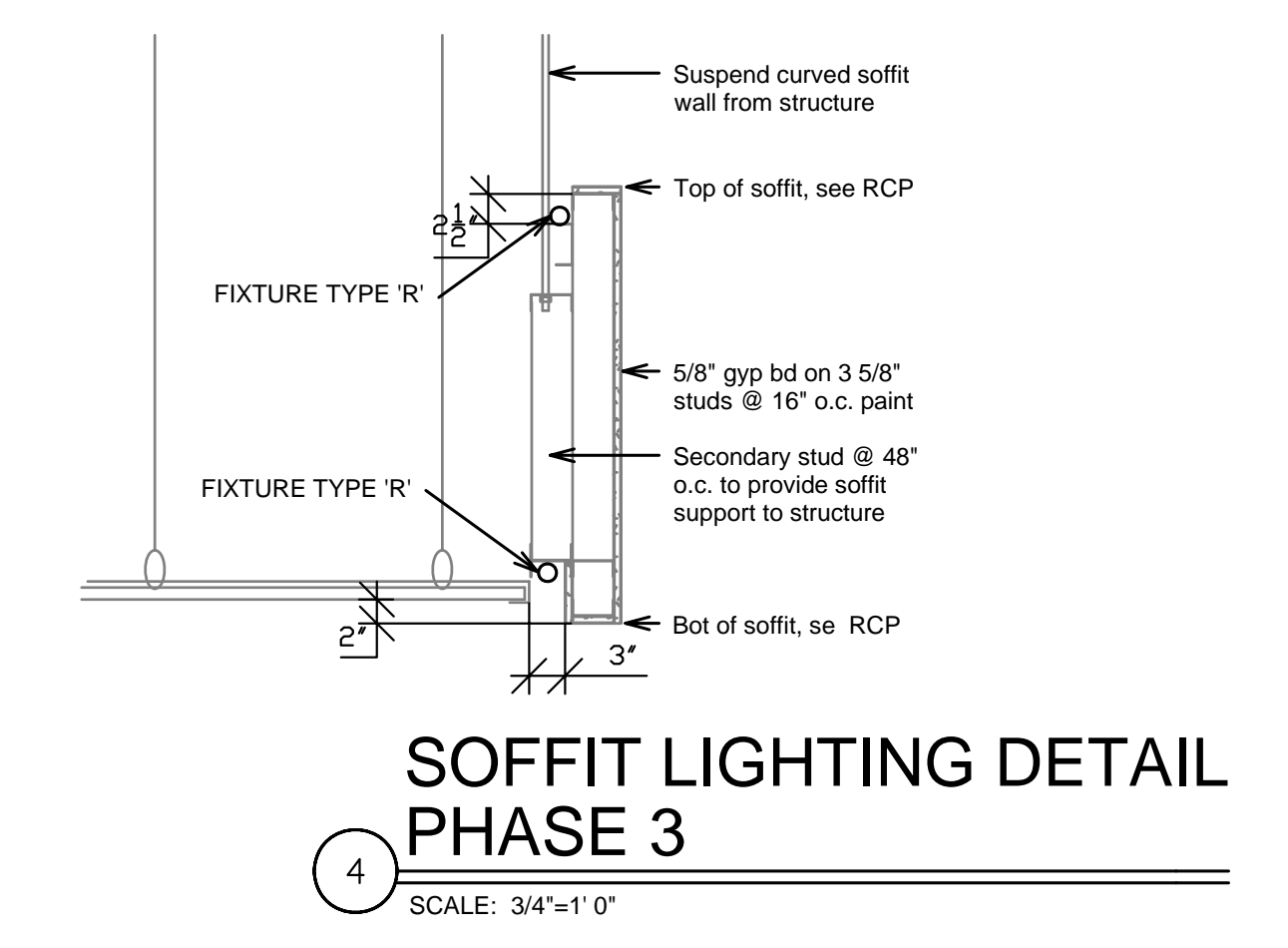
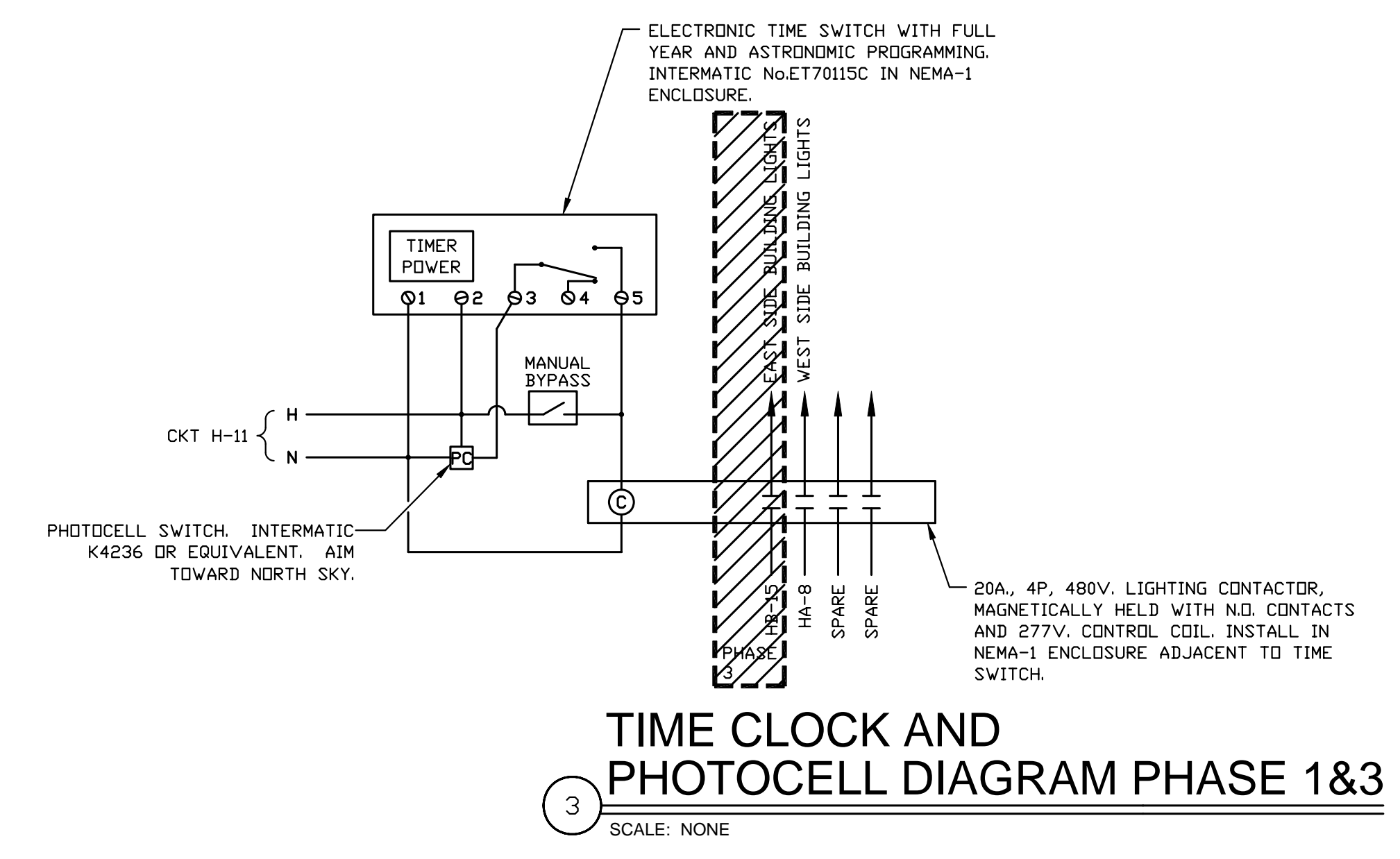
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E202
 ELEC. SPEC.
 Scale
 1/8"=1'-0"



1 SOUTH END LIGHTING PLAN
 SCALE: 1/8" = 1'-0"

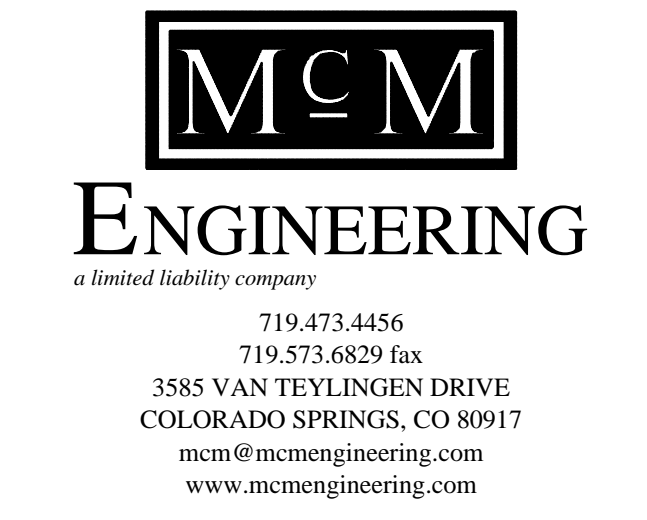


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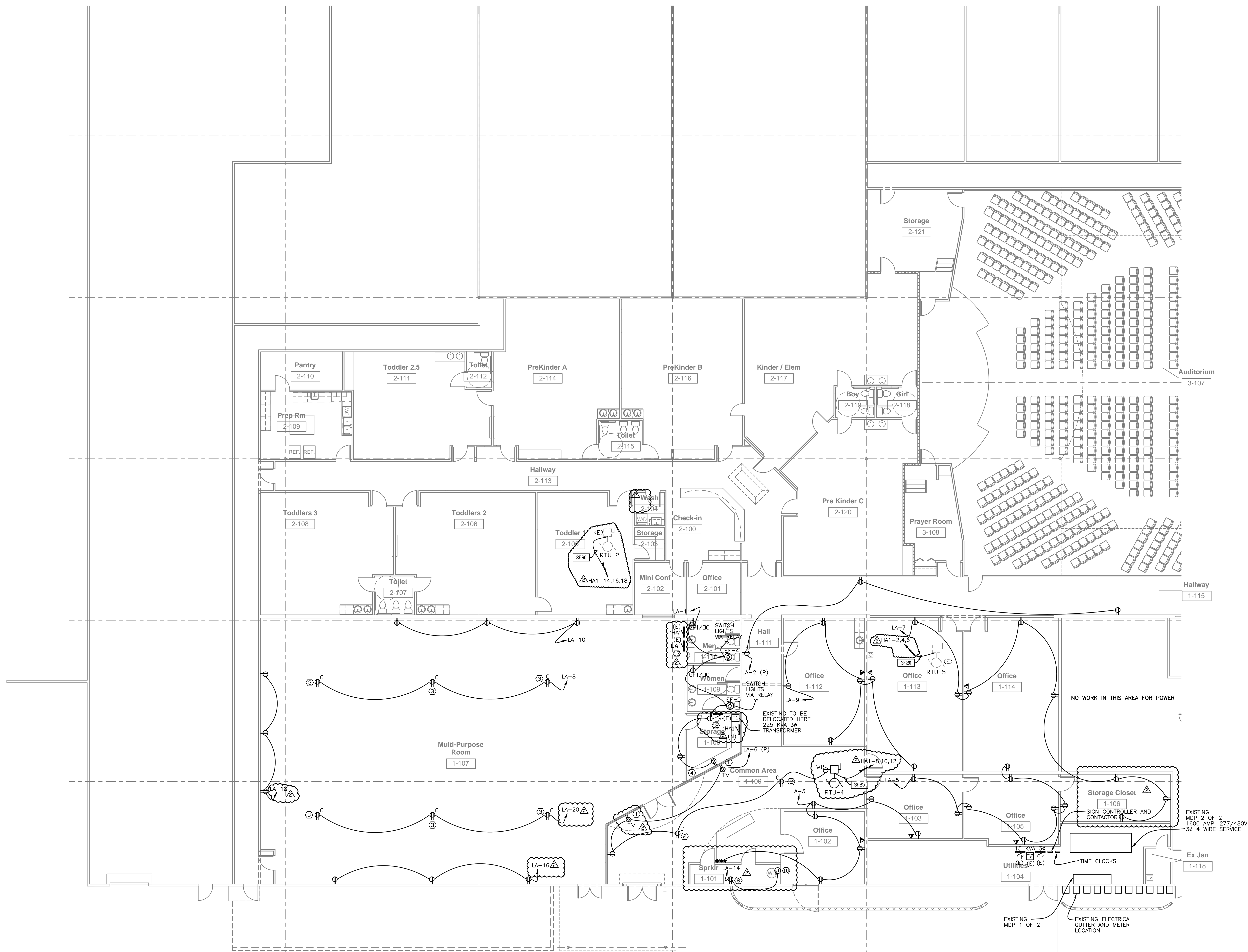
- ① RECEPTACLE FOR FLAT SCREEN TV. ELECTRICAL CONTRACTOR TO VERIFY LOCATIONS AND SPECIFICATION WITH OWNER PRIOR TO ROUGH IN. PHASE 1 & 3
- ② CEILING MOUNTED RECEPTACLE FOR FLAT SCREEN TV. ELECTRICAL CONTRACTOR TO VERIFY LOCATIONS AND SPECIFICATION WITH OWNER PRIOR TO ROUGH IN. PHASE 1, 2 & 3
- ③ CEILING MOUNTED RECEPTACLE FOR PROJECTOR. ELECTRICAL CONTRACTOR TO VERIFY LOCATIONS AND SPECIFICATION WITH OWNER PRIOR TO ROUGH IN. PHASE 1 & 3
- ④ A/V RACK LOCATIONS ELECTRICAL CONTRACTOR TO VERIFY LOCATIONS AND SPECIFICATION WITH OWNER PRIOR TO ROUGH IN. PHASE 1
- ⑤ ELECTRICAL FLOOR BOX RECEPTACLE FOR POWER. PHASE 3
- ⑥ FLOOR BOX FOR ADDITIONAL EQUIPMENT. VERIFY SPECIFICATION WITH OWNER. PHASE 3
- ⑦ RECEPTACLE FOR SCREEN VERIFY REQUIREMENTS PRIOR TO ROUGH IN. PHASE 3
- ⑧ RECEPTACLE FOR CIRCULATING PUMP PHASE 1
- ⑨ SWITCH FOR HEAT CURTAIN VERIFY ALL REQUIREMENTS WITH OWNER. OWNER PROVIDED PHASE 3
- ⑩ WATER HEATER CONNECTION VERIFY REQUIREMENTS PRIOR TO ROUGH IN. PHASE 1
- ⑪ HEAT CURTAIN LOCATION VERIFY WITH CONTRACTOR. PHASE 1 & 3
- ⑫ NEW LOCATION OF EXISTING PANEL 'LA'
- ⑬ EXISTING LOCATION OF PANEL 'LA'

GENERAL NOTES:

- 1. ALL OTHER ELECTRICAL WORK TO BE DONE IN FUTURE PHASES.

Revision Schedule

No.	Date
△	10/09/08
△	11/19/08



1 NORTH END POWER PLAN
 SCALE: 1/8" = 1' 0"

MCM ENGINEERING
 a limited liability company
 719.473.4456
 719.573.6829 fax
 3585 VAN TESSYNGEN DRIVE
 COLORADO SPRINGS, CO 80917
 mcm@mcengineering.com
 www.mcengineering.com

CALVARY FELLOWSHIP
 AT THE MART FOUNTAIN
 6436 South Highway 85-87
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Project Number
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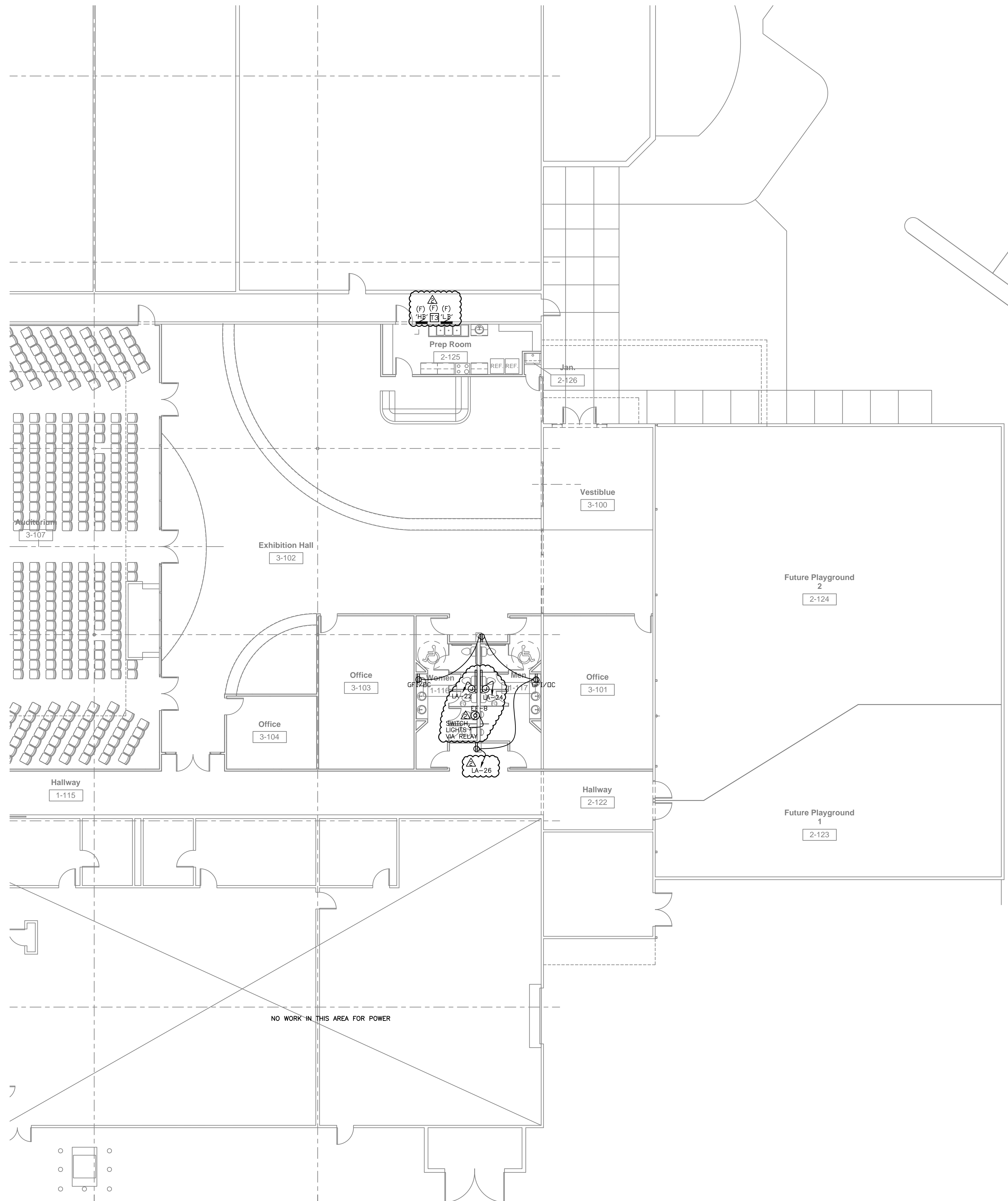
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E301
 ELEC. SPEC.
 Scale
 1/8"=1'-0"



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KEY NOTES:

- ① RECEPTACLE FOR FLAT SCREEN TV. ELECTRICAL CONTRACTOR TO VERIFY LOCATIONS AND SPECIFICATION WITH OWNER PRIOR TO ROUGH IN. PHASE 1 & 3
- ② CEILING MOUNTED RECEPTACLE FOR FLAT SCREEN TV. ELECTRICAL CONTRACTOR TO VERIFY LOCATIONS AND SPECIFICATION WITH OWNER PRIOR TO ROUGH IN. PHASE 1, 2 & 3
- ③ CEILING MOUNTED RECEPTACLE FOR PROJECTOR. ELECTRICAL CONTRACTOR TO VERIFY LOCATIONS AND SPECIFICATION WITH OWNER PRIOR TO ROUGH IN. PHASE 1 & 3
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- ⑥ FLOOR BOX FOR ADDITIONAL EQUIPMENT. VERIFY SPECIFICATION WITH OWNER. PHASE 3
- ⑦ RECEPTACLE FOR SCREEN VERIFY REQUIREMENTS PRIOR TO ROUGH IN. PHASE 3
- ⑧ RECEPTACLE FOR CIRCULATING PUMP PHASE 1
- ⑨ SWITCH FOR HEAT CURTAIN VERIFY ALL REQUIREMENTS WITH OWNER. OWNER PROVIDED PHASE 3
- ⑩ WATER HEATER CONNECTION VERIFY REQUIREMENTS PRIOR TO ROUGH IN. PHASE 1
- ⑪ HEAT CURTAIN LOCATION VERIFY WITH CONTRACTOR. PHASE 1 & 3
- ⑫ NEW LOCATION OF EXISTING PANEL 'LA'
- ⑬ EXISTING LOCATION OF PANEL 'LA'

GENERAL NOTES:

1. ALL OTHER ELECTRICAL WORK TO BE DONE IN FUTURE PHASES.

Revision Schedule	
No.	Date
△	10/09/08
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 6436 South Highway 85-87
 Fountain, Colorado 80817

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08.012

Date
 10/09/08

Drawn By
 Author

Checked By
 Checker

E302

ELEC. SPEC.
 Scale
 1/8"=1'-0"



1 SOUTH END POWER PLAN
 SCALE: 1/8" = 1'-0"



GENERAL NOTE:
 1. WHERE ALLOWED BY CODE, PROVIDE HACR BREAKERS AND NON-FUSED DISCONNECTS AT EQUIPMENT.

PANELBOARD NOTES:
 • SHORT CIRCUIT RATING SHOWN REFLECTS REQUIRED RATING AT THE PANEL. IF LABELED "SERIES RATING", THEN INDIVIDUAL BREAKERS MAY BE AT THIS RATING OR LOWER. IF LABELED "FULLY RATED", BREAKERS ALL MUST MATCH THIS RATING. IF SERIES RATINGS ARE SHOWN, CONTRACTOR IS TO PROVIDE MANUFACTURER'S CUT SHEETS TO SUPPORT THIS RATING. ALSO PROVIDE A MANUFACTURER'S LABEL CLEARLY STATING THE RATING ACHIEVED.

H PANELBOARD										
LOCATION:		EXISTING		480Y/277V 3PH 4W 125A MLO 14KA SHORT CIRCUIT FULLY RATED GROUND BUS COPPER BUS						
CKT NO.	DESCRIPTION	BRKR	P	KVA	PH	KVA	P	BRKR	DESCRIPTION	CKT NO.
1				9.00	A					2
3	PARKING LOT PANEL	100	3	9.00	B			3	50 TEMP POWER X-FORMER	4
5				9.00	C					6
7	BLANK	1			A	1.70				8
9	BLANK	1			B	1.70	3	90	TRANSFORMER 'T2'	10
11	TIME CLOCK	20	1	0.50	C	1.70				12
13	LIGHTING	20	1	1.80	A	1.80	1	20	LIGHTS	14
15	LIGHTING	20	1	1.80	B	3.54	1	20	HALLWAY LIGHTS	16
17					C					18
19					A					20
21					B					22
23					C					24
25					A					26
27					B					28
29					C					30
LOAD		KVA	FACTOR	DEMAND	KVA	CONNECTED LOAD				
LIGHTING		9.44	1.25	11.80	14.90	PHASE A				
RECEPTACLES			1.00		16.64	PHASE B				
			0.50		11.80	PHASE C				
KITCHEN					43.35	TOTAL CONNECTED LOAD				
ELEC. HEAT		1.00			52	AMPERES				
MOTOR & HVAC		1.00								
LARGEST MOTOR		1.25								
NONCONT. + 1.25%CONT.		33.91			42.38					
TOTAL LOAD KVA		43.35			54.18					
AMPERES @ 480V		52			65					

NOTES:
 1. ALL BOLD ITEM ARE NEW ADDED LOADS

HA PANELBOARD											
LOCATION:		EXISTING		480Y/277V 3PH 4W 100A MLO 14KA SHORT CIRCUIT FULLY RATED GROUND BUS COPPER BUS							
CKT NO.	DESCRIPTION	BRKR	P	KVA	PH	KVA	P	BRKR	DESCRIPTION	CKT NO.	
1				6.60	A					2	
3	EXISTING RTU	30	3	6.60	B			3	30	NOT BEING USED	4
5				6.60	C					6	
7	LIGHTING	20	1	2.00	A	0.70	1	20	OUTSIDE LIGHTS	8	
9	LIGHTING	20	1	1.00	B	3.84	1	20	YOUTH CENTER LIGHTS	10	
11	LIGHTING	20	1	2.00	C	2.00	1	20	LIGHTING	12	
13	LIGHTING	20	1	2.00	A	2.00	1	20	LIGHTING	14	
15	SPARE	20	1		B	3.06	1	20	BACK OFFICE LGT	16	
17	SPARE	20	1		C			1	20	BLANK	18
19	LIGHTING	20	1	2.00	A	2.00	1	20	LIGHTING	20	
21	LIGHTING	20	1	1.00	B	2.00	1	20	LIGHTING	22	
23	LIGHTING	20	1	2.00	C			1		24	
25	SPARE	20	1		A					26	
27	SPARE	20	1		B			1		28	
29					C					30	
LOAD		KVA	FACTOR	DEMAND	KVA	CONNECTED LOAD					
LIGHTING		27.60	1.25	34.50	17.30	PHASE A					
RECEPTACLES			1.00		17.50	PHASE B					
			0.50		12.00	PHASE C					
KITCHEN					47.40	TOTAL CONNECTED LOAD					
ELEC. HEAT		1.00			57	AMPERES					
MOTOR & HVAC		1.00									
LARGEST MOTOR		1.25			24.75						
NONCONT. + 1.25%CONT.											
TOTAL LOAD KVA		47.40			59.25						
AMPERES @ 480V		57			71						

NOTES:
 1. 28 CIRCUIT PANEL ONLY
 2. ALL BOLD ITEM ARE NEW ADDED LOADS

HA1 PANELBOARD										
LOCATION:		EXISTING		480Y/277V 3PH 4W 200A MLO 14KA SHORT CIRCUIT FULLY RATED GROUND BUS COPPER BUS						
CKT NO.	DESCRIPTION	BRKR	P	KVA	PH	KVA	P	BRKR	DESCRIPTION	CKT NO.
1				6.23	A	2.90				2
3	TRANSFORMER 'T1'	125	3	6.23	B	2.90	3	20	RTU-5 EXISTING	4
5				6.23	C	2.90				6
7					A	4.43				8
9					B	4.43	3	25	RTU-4	10
11					C	4.43				12
13					A	18.20				14
15					B	18.20	3	100	RTU-2 EXISTING	16
17					C	18.20				18
19					A					20
21					B					22
23					C					24
25					A					26
27					B					28
29					C					30
31					A					32
33					B					34
35					C					36
37					A					38
39					B					40
41					C					42
LOAD		KVA	FACTOR	DEMAND	KVA	CONNECTED LOAD				
LIGHTING			1.25		31.76	PHASE A				
RECEPTACLES			1.00		31.76	PHASE B				
			0.50		31.76	PHASE C				
KITCHEN					35.28	TOTAL CONNECTED LOAD				
ELEC. HEAT		1.00			115	AMPERES				
MOTOR & HVAC		13.29	1.00		13.29					
LARGEST MOTOR		54.60	1.25		68.25					
NONCONT. + 1.25%CONT.		8.70			10.88					
TOTAL LOAD KVA		76.59			92.42					
AMPERES @ 480V		92			111					

NOTES:
 1. THIS PANEL IS NEW
 2. ELECTRICAL CONTRACTOR TO VERIFY ALL REQUIREMENTS ON EXISTING UNITS PRIOR TO ROUGH-IN

L PANELBOARD											
LOCATION:		EXISTING		208Y/120V 3PH 4W 125A MCB 10KA SHORT CIRCUIT FULLY RATED GROUND BUS COPPER BUS							
CKT NO.	DESCRIPTION	BRKR	P	KVA	PH	KVA	P	BRKR	DESCRIPTION	CKT NO.	
1	CONTROL	20	1	1.00	A	1.00	1	20	FIRE ALARM	2	
3	RECEPTACLES	20	1	0.90	B	0.16	1	20	TAMP RECEPTACLE	4	
5	RECEPTACLES	20	1	0.90	C			1	20	CIRCULATING PUMP	6
7	BLANK	20	1		A	1		1	20	WATER HEATER BLOWER	8
9	BLANK	20	1		B			1	20	WATER HEATER IGN	10
11	BLANK	20	1		C	0.50	1	20	TIME CLOCK	12	
13	BLANK	20	1		A			1	20	BLANK	14
15	BLANK	20	1		B			1	20	BLANK	16
17	BLANK	20	1		C			1	20	BLANK	18
19					A					20	
21	MAIN	30	3		B					22	
23					C					24	
LOAD		KVA	FACTOR	DEMAND	KVA	CONNECTED LOAD					
LIGHTING		1.50	1.25	1.88	2.00	PHASE A					
RECEPTACLES		1.98	1.00	1.98	1.08	PHASE B					
			0.50		1.40	PHASE C					
KITCHEN					4.48	TOTAL CONNECTED LOAD					
ELEC. HEAT		1.00			12	AMPERES					
MOTOR & HVAC		1.00									
LARGEST MOTOR		1.25									
NONCONT. + 1.25%CONT.		1.00			1.25						
TOTAL LOAD KVA		4.48			5.11						
AMPERES @ 208V		12			14						

NOTES:
 1. ALL BOLD ITEM ARE NEW ADDED LOADS

LA PANELBOARD										
LOCATION:		EXISTING		208Y/120V 3PH 4W 200A MCB 10KA SHORT CIRCUIT FULLY RATED GROUND BUS COPPER BUS						
CKT NO.	DESCRIPTION	BRKR	P	KVA	PH	KVA	P	BRKR	DESCRIPTION	CKT NO.
1	RECEPTACLES COM. AREA	20	1	1.08	A	1.28	1	20	RECEPTACLES HALLWAY	2
3	RECEPTACLES OFFICE	20	1	1.80	B	1.20	1	20	SIGN LIGHT	4
5	RECEPTACLES OFFICE	20	1	1.44	C	1.53	1	20	RECEPT. HALLWAY/LIGHTS	6
7	RECEPTACLES OFFICE	20	1	1.44	A	0.54	1	20	RECEPTACLES CEILING	8
9	RECEPTACLES OFFICE	20	1	1.08	B	1.62	1	20	RECEPTACLES YOUTH	10
11	RECEPTACLES BATHRM	20	1	1.40	C	0.44	1	20	ROPE LIGHTS	12
13					A	1.00	1	20	CIRCULATING PUMP	14
15					B	0.54	1	20	RECEPTACLES 107	16
17					C	0.54	1	20	RECEPTACLES 107	18
19					A	0.54	1	20	RECEPTACLES 107	20
21					B	1.50	1	20	BASE BOARD HEATER	22
23					C	1.50	1	20	BASE BOARD HEATER	24
25					A	0.72	1	20	REST ROOM RECEPTACLES	26
27					B					28
29					C					30
31					A					32
33					B					34
35					C					36
37					A					38
39					B					40
41					C					42
LOAD		KVA	FACTOR	DEMAND	KVA	CONNECTED LOAD				
LIGHTING		1.84	1.25	2.05	6.58	PHASE A				
RECEPTACLES		10.00	1.00	10.00	7.74	PHASE B				
			0.50		6.65	PHASE C				
KITCHEN					21.17	TOTAL CONNECTED LOAD				
ELEC. HEAT		1.00			59	AMPERES				
MOTOR & HVAC		1.50	1.00		1.50					
LARGEST MOTOR		1.50	1.25		1.88					
NONCONT. + 1.25%CONT.										
TOTAL LOAD KVA		21.17			18.69					
AMPERES @ 208V		59			52					

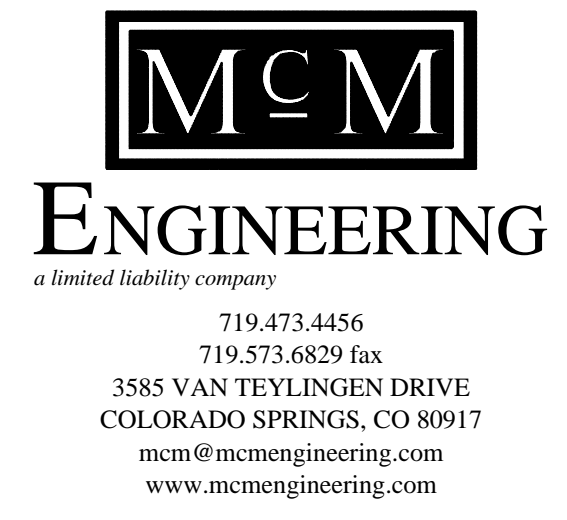
NOTES:
 1. NOT CONNECTED AT THIS TIME PANEL TO BE RECONNECTED AS PART OF CONSTRUCTION WITH NEW MAIN
 2. ALL LOADS SHOWN HERE ARE NEW

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CALVARY FELLOWSHIP
 AT THE MART FOUNTAIN
 6436 South Highway 85-87
 Fountain, Colorado 80817

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E401
 ELEC. SPEC.
 Scale
 NONE



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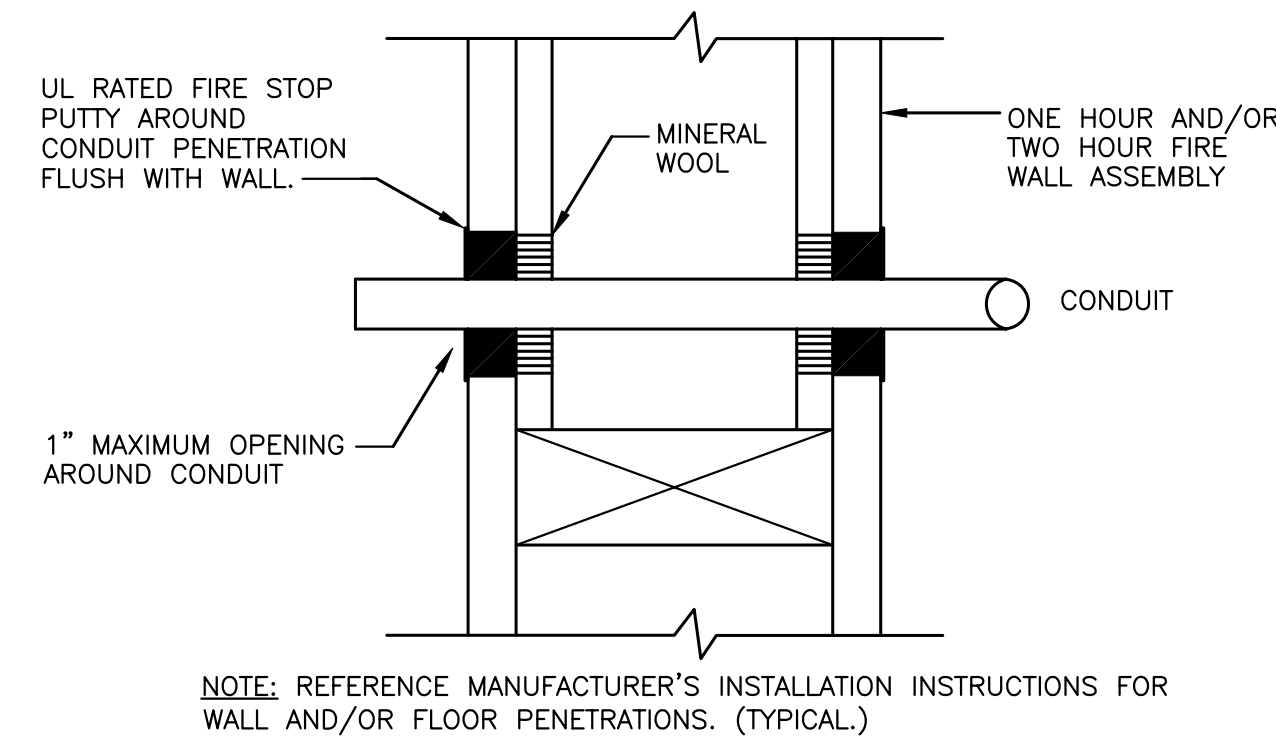
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E501
 ELEC. SPEC.

Scale
 NONE



FIRE WALL PENETRATION

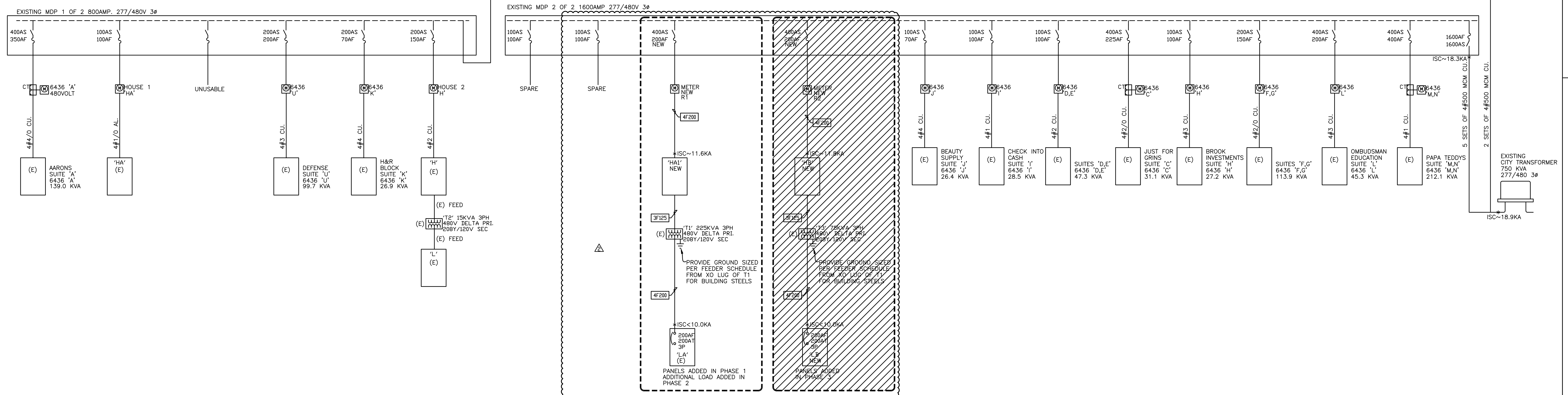
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FEEDER SCHEDULE					
KEY	NO. OF SETS	CONDUCTORS, COPPER	SIZE	GND	CONDUIT SIZE
4F250	1	4	250kcmil	4	2 1/2
4F200	1	4	3/0	6	2
4F100	1	4	3	8	1 1/4
3F125	1	3	1	2	1 1/4
3F90	1	3	4	8	1
3F30	1	3	12	12	1/2
3F25	1	3	12	12	1/2
3F20	1	3	12	12	1/2

disconnect. It is for reference only. It is not a conductor to be installed between service point and service entrance equipment.

MDP 1 OF 2 LOADS	
NAMES	KVA
AARONS	139.00
HA	84.25
DEFENSE	99.70
H&R BLOCK	26.90
HOUSE	54.18
TOTAL LOAD KVA	384.03
TOTAL AMPS.	462

MDP 1 OF 2 LOADS	
NAMES	KVA
PAPA TEDDY'S	212.10
EDUCATION	45.30
SUITES F&G	113.90
BROOK INVESTMEN	27.20
JUST FOR GRINS	31.10
SUITES D&E	47.30
CHECK INT CASH	28.50
BEAUTY SUPPLY	26.40
HA1	92.42
TOTAL LOAD KVA	624.22
TOTAL AMPS.	751



EXISTING ONE-LINE DIAGRAM

SCALE: NONE





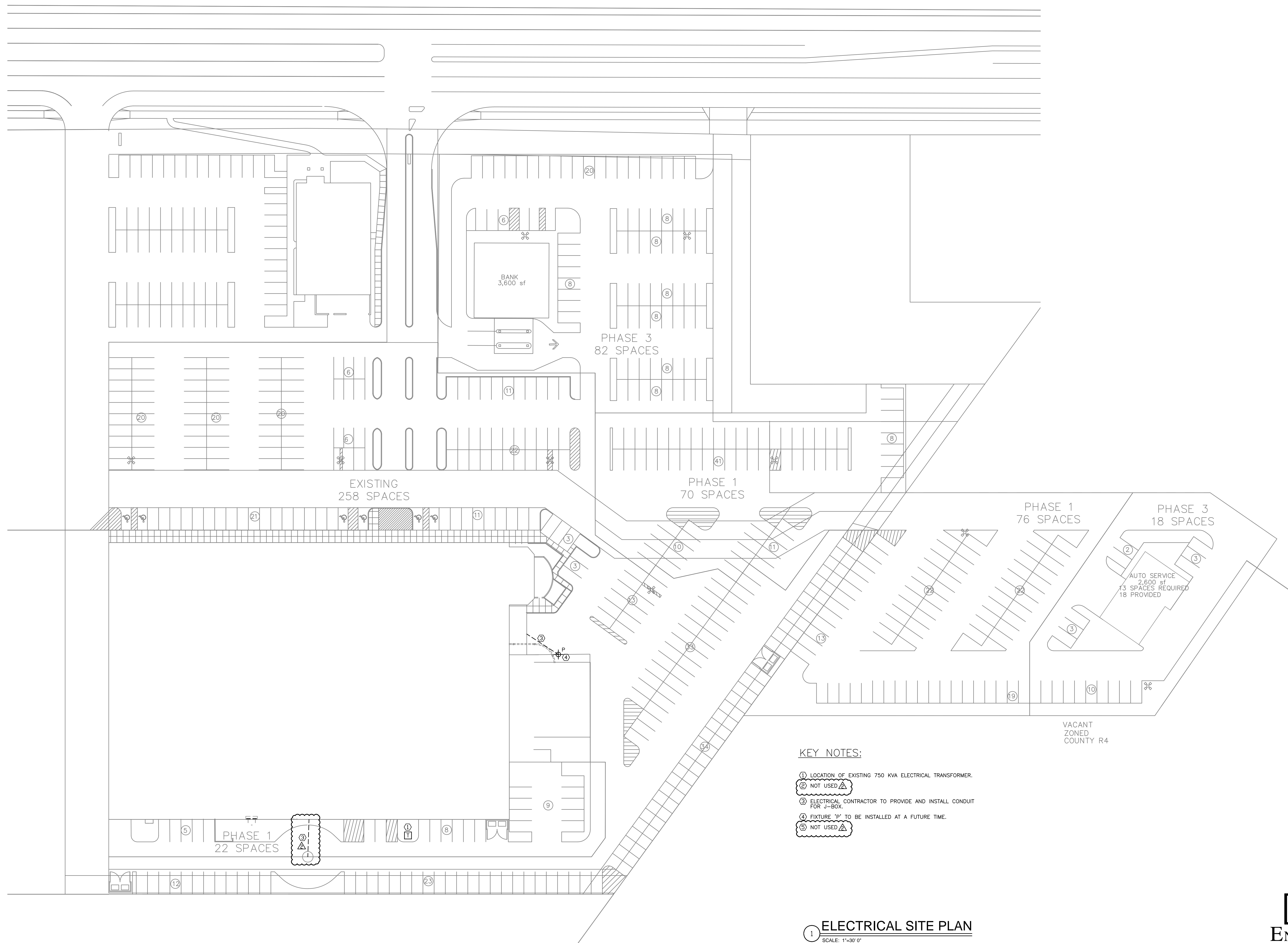
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E601
 ELEC. SPEC.
 Scale
 NONE



KEY NOTES:

- ① LOCATION OF EXISTING 750 KVA ELECTRICAL TRANSFORMER.
- ② NOT USED ▲
- ③ ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL CONDUIT FOR J-BOX.
- ④ FIXTURE "P" TO BE INSTALLED AT A FUTURE TIME.
- ⑤ NOT USED ▲

1 ELECTRICAL SITE PLAN
 SCALE: 1"=30' 0"

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