

STATE OF CALIFORNIA

Indoor Lighting

NRCC-LTI-E (Created 7/18)

CALIFORNIA ENERGY COMMISSION

NRCC-LTI-E

CERTIFICATE OF COMPLIANCE

This document is used to demonstrate compliance with requirements in §110.9, §130.0, §130.1, §140.6, and §141.0(b)2 for indoor lighting scopes using the prescriptive path.

Project Name: Ross Store Phase 2

Report Page: Page 1 of 6

Project Address:

Date Prepared: 9/25/2019

A. GENERAL INFORMATION

01 Project Location (city)

Shafter

04 Total Conditioned Floor Area (ft²)

23,882

02 Climate Zone

13

05 Total Unconditioned Floor Area (ft²)

0

03 Occupancy Types Within Project (select all that apply):

06 # of Stories (Habitable Above Grade)

1

☐ Office

☐ Retail

☒ Warehouse

☐ Hotel/Motel

☐ School

☒ Support Areas

☐ Parking Garage

☐ High-Rise Residential

☐ Relocatable

☐ Other (write in):

B. PROJECT SCOPE

Table Instructions: Include any lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.6 or §141.0(b)2 for alterations. WARNING: Changing the Calculation Method in this table will result in the deletion of data previously input. If you need to change the calculation method, please open a new form or use "Save As".

Scope of Work

Conditioned Spaces

Unconditioned Spaces

01

02

03

04

05

My Project Consists of (check all that apply):

Calculation Method

Area (ft²)

Calculation Method

Area (ft²)

☒ New Lighting System

Area Category

23,882

Area Category

0

☐ Altered Lighting System

Total Area of Work (ft²)

23,882

0

C. COMPLIANCE RESULTS

Table Instructions: If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance.

Lighting in conditioned and unconditioned spaces must not be combined for compliance per §140.6(b)1.

01

02

03

04

05

Complete Building §140.6(c)1

Area Category §140.6(c)2

Area Category Footnotes §140.6(c)2G (+)

Tailored §140.6(c)3 (+)

=

Total Allowed (Watts)

≥

06 Total Designed (Watts)

07 Portable Lighting §140.6(a)1

08 PAF Control Credits §140.6(a)2 (-)

=

Total Actual (Watts) Includes Adjustments

09

10

(See Table I)

(See Table I)

(See Table K)

(See Table L)

=

14,329.2

≥

12,225

(See Table F)

(See Table J)

(See Table R)

=

12,225

COMPLIES

Conditioned:

Unconditioned:

Controls Compliance (See Table H for Details)

COMPLIES with Exceptional Conditions

Rated Power Reduction Compliance (See Table S for Details)

Not Applicable

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance: <http://www.energy.ca.gov/title24/2016standards>

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D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

Table H. Indoor Lighting Controls Permit Applicant Notes:
Conveyor Belt: Existing Warehouse controls

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

Existing Warehouse controls

F. INDOOR LIGHTING FIXTURE SCHEDULE

Table Instructions: Include all permanent designed lighting and all portable lighting in offices.

01

02

03

04

05

06

07

08

09

Name or Item Tag

Complete Luminaire Description

Specialized Luminaire Types

Track

Portable

Watts per luminaire¹

How Wattage is determined

Total number luminaires

Exempt per §140.6(a)3

Design Watts

Field Inspector

D

(D) Recessed LED Columbia

☐

☐

36

NA8 Default

10

☐

360

☐

☐

E

(E) Strip Light

☐

☐

105

NA8 Default

113

☐

11,865

☐

☐

Total Designed Watts CONDITIONED SPACES:

12,225

NOTES: Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per §130.0(c). Wattage used must be the maximum rated for the luminaire, not the lamp.

G. TRACK LIGHTING

This Section Does Not Apply

H. INDOOR LIGHTING CONTROLS (Not Including PAFs)

Table Instructions: Please include lighting controls for conditioned and unconditioned spaces in this table. When an option having a "1" is selected, the notes section of this table must be completed. The lighting controls section of the Compliance Summary Table on the first page will show "DOES NOT COMPLY" if the notes are left blank.

Area Level Controls

Table Continued

Building Level Controls

01

02

03

Mandatory Demand Response §130.1(e)

Shut-off Controls §130.1(c)

Field Inspector

Not Required < 10,000 SF

See Area Level Controls

☐

☐

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance: <http://www.energy.ca.gov/title24/2016standards>

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04

05

06

07

08

09

10

11

12

Area Description

Complete Building or Area Category Primary Function Area

Area Controls §130.1(a)

Multi-Level Controls §130.1(b)

Shut-Off Controls §130.1(c)

Primary/Skylit Daylighting §130.1(d)

Secondary Daylighting §140.6(d)

Interlocked Systems §140.6(a)1

Field Inspector

R.R.

Corridor/Restroom/Support

Manual ON/OFF

Bi-level Switch

Occ Sensor

N/A

N/A

☐

☐

☐

R.R.

Corridor/Restroom/Support

Manual ON/OFF

Bi-level Switch

Occ Sensor

N/A

N/A

☐

☐

☐

Closet

Corridor/Restroom/Support

Manual ON/OFF

Dimmer

Auto Timeswitch

N/A

N/A

☐

☐

☐

Conveyor Belt

Comm/Industrial Storage Bldg

Manual ON/OFF

Other *

Auto Timeswitch

N/A

N/A

☐

☐

☐

*NOTES: Controls with a * require a note in the space below explaining how compliance is achieved.

EX: Conference 1: Primary/Skylight Daylighting: Exempt because less than 120 watts of general lighting; EXCEPTION 1 to §130.1(d)2

Conveyor Belt Existing Warehouse controls

13

Plan Sheet Showing Daylit Zones:

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

Table Instructions: Complete the table for each area complying using the Complete Building or Area Category Methods per §140.6(b). Indicate if additional lighting power allowances per §140.6(c) or adjustments per §140.6(a) are being used.

Conditioned Spaces

01

02

03

04

05

06

Area Description

Complete Building or Area Category Primary Function Area

Allowed Density (W/ft²)

Area (ft²)

Allowed Wattage (Watts)

Additional Allowances / Adjustments

Footnotes

PAF

Portable Ltg

Facility

Commercial and Industrial Storage

0.6

23,000

13,800

☐

☐

☐

Restroom

Corridor, Restrm, Stair, Support

0.6

882

529.2

☐

☐

☐

TOTAL:

23,882

14,329.2

See Tables J, K, R for detail

J. POWER ADJUSTMENT: PORTABLE LIGHTING IN OFFICES

This Section Does Not Apply

K. ADDITIONAL LIGHTING ALLOWANCE: AREA CATEGORY METHOD FOOTNOTES

This Section Does Not Apply

L. TAILORED METHOD GENERAL LIGHTING POWER ALLOWANCE

This Section Does Not Apply

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M. ADDITIONAL LIGHTING ALLOWANCE: TAILORED SPECIAL FUNCTION AREAS

This Section Does Not Apply

N. ADDITIONAL LIGHTING ALLOWANCE: TAILORED WALL DISPLAY

This Section Does Not Apply

O. ADDITIONAL LIGHTING ALLOWANCE: TAILORED FLOOR AND TASK LIGHTING

This Section Does Not Apply

P. ADDITIONAL LIGHTING ALLOWANCE: TAILORED ORNAMENTAL/SPECIAL EFFECTS

This Section Does Not Apply

Q. ADDITIONAL LIGHTING ALLOWANCE: TAILORED VERY VALUABLE MERCHANDISE

This Section Does Not Apply

R. POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (PAF)

This Section Does Not Apply

S. RATED POWER REDUCTION COMPLIANCE BY SPACE

This Section Does Not Apply

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance: <http://www.energy.ca.gov/title24/2016standards>

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CERTIFICATE OF COMPLIANCE

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Project Address:

Date Prepared: 9/25/2019

T. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Table Instructions: Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at <http://www.energy.ca.gov/2015publications/CEC-400-2015-033/appendices/forms/NRCL>

YES

NO

Form/Title

Field Inspector

Pass

Fail

☒

☐

NRCL-LTI-01-E - Must be submitted for all buildings

☐

☐

☒

☐

NRCL-LTI-02-E - Must be submitted for a lighting control system, or for an Energy Management Control System (EMCS), to be recognized for compliance.

☐

☐

☐

☒

NRCL-LTI-03-E - Must be submitted for a line-voltage track lighting integral current limiter, or for a supplementary overcurrent protection panel used to energize only line-voltage track lighting, to be recognized for compliance.

☐

☐

☐

☒

NRCL-LTI-04-E - Must be submitted for two interlocked systems serving an auditorium, a convention center, a conference room, a multipurpose room, or a theater to be recognized for compliance.

☐

☐

☐

☒

NRCL-LTI-05-E - Must be submitted for a Power Adjustment Factor (PAF) to be recognized for compliance.

☐

☐

☐

☒

NRCL-LTI-06-E - Must be submitted for additional wattage installed in a video conferencing studio to be recognized for compliance.

☐

☐

U. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Table Instructions: Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: <http://www.energy.ca.gov/title24/atttcp/providers.html>

YES

NO

Form/Title

Field Inspector

Pass

Fail

☒

☐

NRCA-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.

☐

☐

☐

☒

NRCA-LTI-03-A - Must be submitted for automatic daylight controls.

☐

☐

☐

☒

NRCA-LTI-04-A - Must be submitted for demand responsive lighting controls.

☐

☐

☐

☒

NRCA-LTI-05-A - Must be submitted for institutional tuning power adjustment factor (PAF).

☐

☐

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance: <http://www.energy.ca.gov/title24/2016standards>

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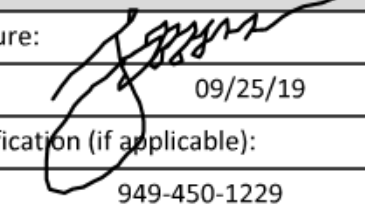
Report Page: Page 6 of 6

Project Address:

Date Prepared: 9/25/2019

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

Documentation Author Name: Raymond Phua

Documentation Author Signature: 

Company: RPM Engineers, Inc.

Signature Date: 09/25/19

Address: 102 Discovery

CEA/HERS Certification Identification (if applicable):

City/State/Zip: Irvine, CA 92618

Phone: 949-450-1229

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.

2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).

3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.

4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.

5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:

Responsible Designer Signature:

Company:

Date Signed:

Address:

License:

City/State/Zip:

Phone:

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance: <http://www.energy.ca.gov/title24/2016standards>

July 2018

Warning: It is a violation of the law for any person, unless, acting under the direction of a licensed architect/engineer, to alter an item in any way.

No.	Date	Description
B	09/27/2019	ISSUE FOR PERMIT

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Architects / Engineers, Inc.
50 Security Drive Jackson, Tennessee 38305
Telephone: (731) 664-6300 Fax: (731) 664-6339

SCALE	As Indicated
DRAWN	A/E PM
Author	Checker Approver
SHEET TITLE	

PROJECT BUILDING IMPROVEMENTS FOR MHE UPGRADES
ROSS DISTRIBUTION CENTER
SHAFTER, CA

CALIFORNIA TITLE 24 DOCUMENTATION

PROJECT NUMBER 19034
SHEET NUMBER
2E-0.1
PLOT DATE 9/26/2019 11:28:53 AM

LOAD CALCULATIONS

Transformer TE1 1500KVA (Service #1)

Panel "H27R"		KW	KW	Demand	KW Demand
Load		(Existing)	(New)	Factor	
400a. MLO	Lighting	22.5	26.1	1.00	26.10
	Dock Fans	24.6	24.6	1.00	24.60
	Space Heaters	11.7	11.7	1.00	11.70
	Over-head Doors	7.2	7.2	0.80	5.76
	Conveyor Motors	2.4	5.4	0.80	4.32
	HVLS Fans	10.8	10.8	1.00	10.80
	Condensate pump	0.0	0.9	0.80	0.72
	120/208 Transformer	75.0	105.0	0.54	56.70
	TOTAL	154.2	191.7		140.70

Panel "H32R"		KW	KW	Demand	KW Demand
Load		(Existing)	(New)	Factor	
400a. MLO	Lighting	25.2	28.9	1.00	28.90
	Dock Fans	27.3	27.3	1.00	27.30
	Over-head Doors	2.4	2.4	0.80	1.92
	HVLS Fans	7.8	10.5	1.00	10.50
	Heaters	10.0	10.0	1.00	10.00
	Condensate pump	0.0	0.9	0.80	0.72
	120/208 Transformer	105.0	105.0	0.53	55.65
	TOTAL	177.7	185.0		134.99

Panel "H37R"		KW	KW	Demand	KW Demand
Load		(Existing)	(New)	Factor	
400a. MLO	Lighting	22.2	25.2	1.00	25.20
	Dock Fans	9.9	10.2	1.00	10.20
	Space Heaters	11.7	11.7	1.00	11.70
	Over-head Doors	4.8	4.8	0.80	3.84
	HVLS Fans	14.1	11.4	1.00	11.40
	Condensate pump	0.0	1.8	0.80	1.44
	120/208 Transformer	75.0	135.0	0.54	72.90
	TOTAL	137.7	200.1		136.68

MSB #1		KW	KW	Demand	KW Demand
Load		(Existing)	(New)	Factor	
2500a. MCB	Panel "H27R"	154.20	191.70	1.00	191.70
	Panel "H32R"	177.70	185.00	1.00	185.00
	Panel "H37R"	137.70	200.10	1.00	200.10
	Panel "HOL1"	84.70	84.70	1.00	84.70
	ATOs	0.00	992.70	0.80	794.16
		554.30	1,654.20		1,495.66

Transformer TE6 1500KVA (Service #6)

Panel "H27A"		KW	KW	Demand	KW Demand
Load		(Existing)	(New)	Factor	
400a. MLO	Lighting	22.8	22.8	1.00	22.80
	Dock Fans	5.1	5.1	1.00	5.10
	Space Heaters	11.7	11.7	1.00	11.70
	Over-head Doors	7.2	7.2	0.80	5.76
	Conveyor Motors	5.4	5.4	0.80	4.32
	HVLS Fans	10.8	10.8	1.00	10.80
	120/208 Transformer	75.0	135.0	0.54	72.90
	TOTAL	138.0	198.0		133.38

Panel "H32A"		KW	KW	Demand	KW Demand
Load		(Existing)	(New)	Factor	
400a. MLO	Lighting	26.3	26.3	1.00	26.30
	Dock Fans	4.5	4.5	1.00	4.50
	Over-head Doors	2.4	2.4	0.80	1.92
	HVLS Fans	12.6	12.6	1.00	12.60
	Water Heater	0.0	9.1	1.00	9.10
	120/208 Transformer	180.0	240.0	0.53	127.20
	TOTAL	225.8	294.9		181.62

Panel "H37A"		KW	KW	Demand	KW Demand
Load		(Existing)	(New)	Factor	
400a. MLO	Lighting	22.3	22.3	1.00	22.30
	Dock Fans	6.0	6.0	1.00	6.00
	Space Heaters	11.7	11.7	1.00	11.70
	Over-head Doors	4.8	4.8	0.80	3.84
	HVLS Fans	8.7	8.7	1.00	8.70
	Condensate pump	0.0	0.9	0.80	0.72
	120/208 Transformer	75.0	135.0	0.56	75.60
	TOTAL	128.5	189.4		128.86

Panel "HE5"		KW	KW	Demand	KW Demand
Load		(Existing)	(New)	Factor	
400a. MLO	Lighting	26.3	26.3	1.00	22.20
	Panel "HE6"	26.0	27.3	1.00	27.30
	TOTAL	52.3	53.6		49.50

Panel "HE6"		KW	KW	Demand	KW Demand
Load		(Existing)	(New)	Factor	
400a. MLO	Lighting	26.0	27.3	1.00	22.20
	TOTAL	26.0	27.3		22.20

MSB #6		KW	KW	Demand	KW Demand
Load		(Existing)	(New)	Factor	
2500a. MCB	Panel "H27A"	138.00	198.00	1.00	125.97
	Panel "H32A"	225.80	294.90	1.00	125.97
	Panel "H37A"	128.50	189.40	1.00	135.90
	Panel "HGH"	32.40	32.40	1.00	32.40
	Panel "HOL4"	84.70	84.70	1.00	84.70
	Panel "HE5"	52.30	53.60	1.00	69.70
	ATOs	0.00	992.70	0.80	794.16
		661.70	1,845.70		1,368.80

Transformer TE1A 3000 KVA (New Service #1A)

MSB#1A		KW	Demand	KW Demand
Load		(New)	Factor	
4000a. MCB	CP Panels	1523.10	0.80	1,218.48
	200a Panels (Process)	664.00	0.80	531.20
	Air Compressors	192.60	1.00	192.60
	DPCP	539.10	0.80	431.28
		2,918.80		2,373.56

VOLTAGE DROP CALCULATIONS

PANEL	CIRCUIT	VOLTAGE	PHASE	ONE WAY DISTANCE (FT)	MINIMUM WIRE SIZE (AWG)	MAXIMUM % DROP
H27R	79, 81, 83	480	3 PHASE	410	6	3%
H27A	79, 81, 83	480	3 PHASE	380	6	3%
H37R	74, 76, 78	480	3 PHASE	380	6	3%
	79, 81, 83	480	3 PHASE	470	6	3%
MSB-1	13	480	3 PHASE	950	4	5%
MSB-6	8	480	3 PHASE	950	4	5%



Warning: It is a violation of the law for any person, unless, acting under the direction of a licensed architect/engineer, to alter an item in any way.

No.	Date	Description
B	09/27/2019	ISSUE FOR PERMIT

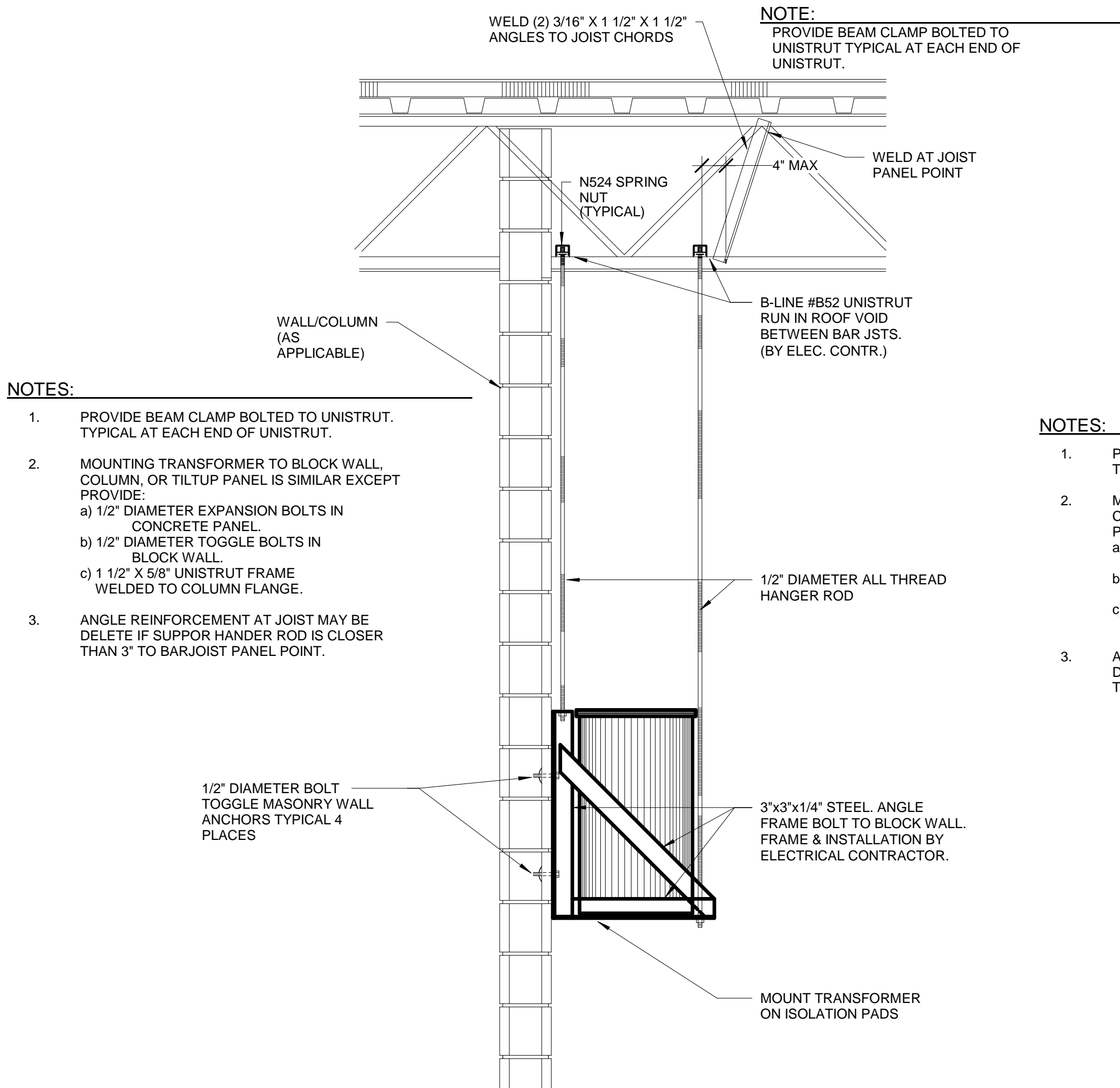
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SCALE			PROJECT	BUILDING IMPROVEMENTS FOR MHE UPGRADES	PROJECT NUMBER
As Indicated					19034
DRAWN	A/E	PM	ROSS DISTRIBUTION CENTER		SHEET NUMBER
Author	Checker	Approver			SHAFTER, CA
SHEET TITLE			VOLTAGE DROP CALCULATIONS		PLOT DATE
					9/26/2019 11:29:54 AM

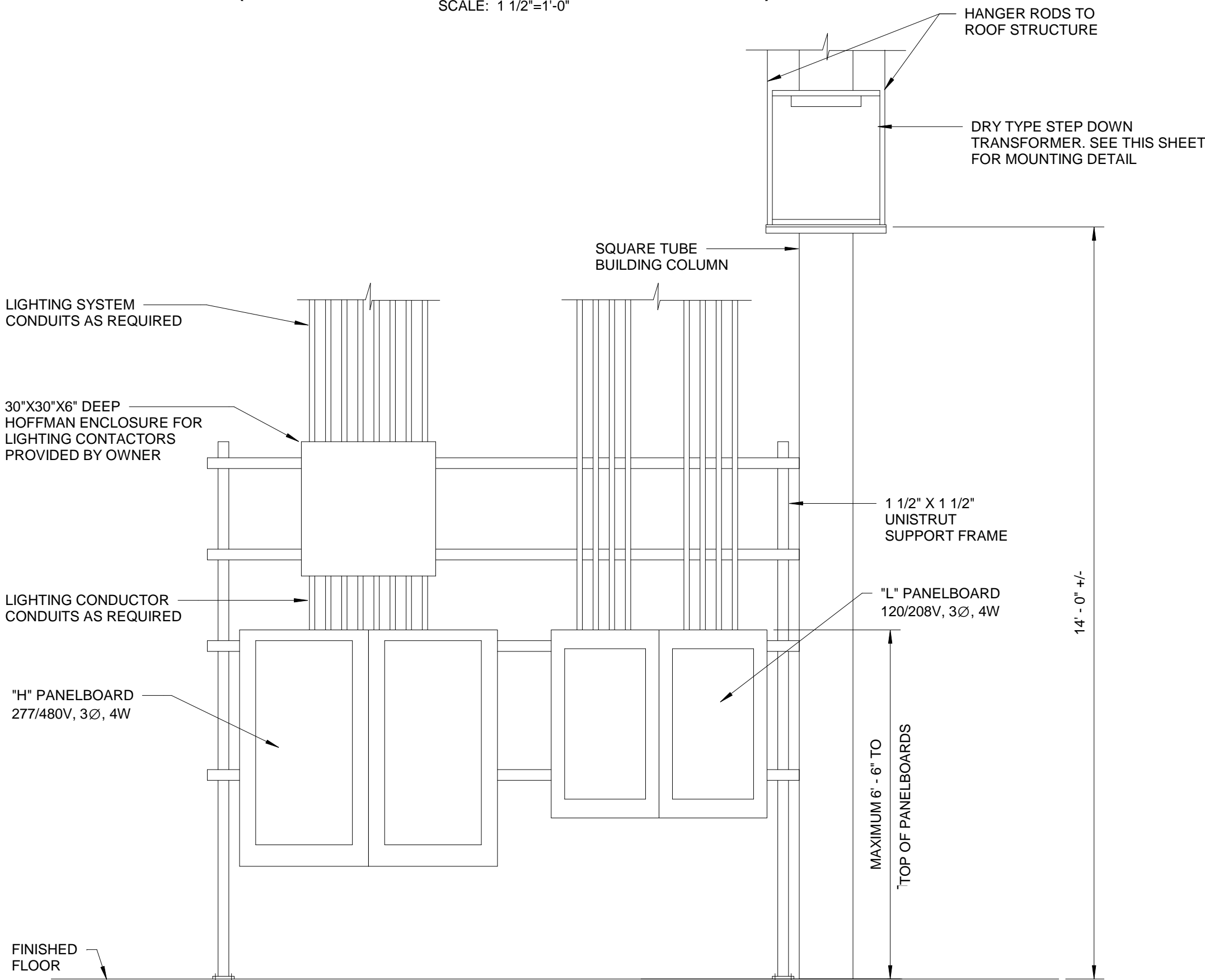
2 - LUMINAIRE SCHEDULE					
TYPE MARK	LAMPS	VOLTAGE	MOUNTING	FINISH	SPECIFICATIONS
D	LED	277	RECESSED	STANDARD	RECESSED LED COLUMBIA #LCAT24-35LWG-ED14-CS88
E	LED	277	SURFACE MOUNTED UNDER MEZZANINE	STANDARD	LC88-40HL-EDU 8 FT STRIP LIGHT



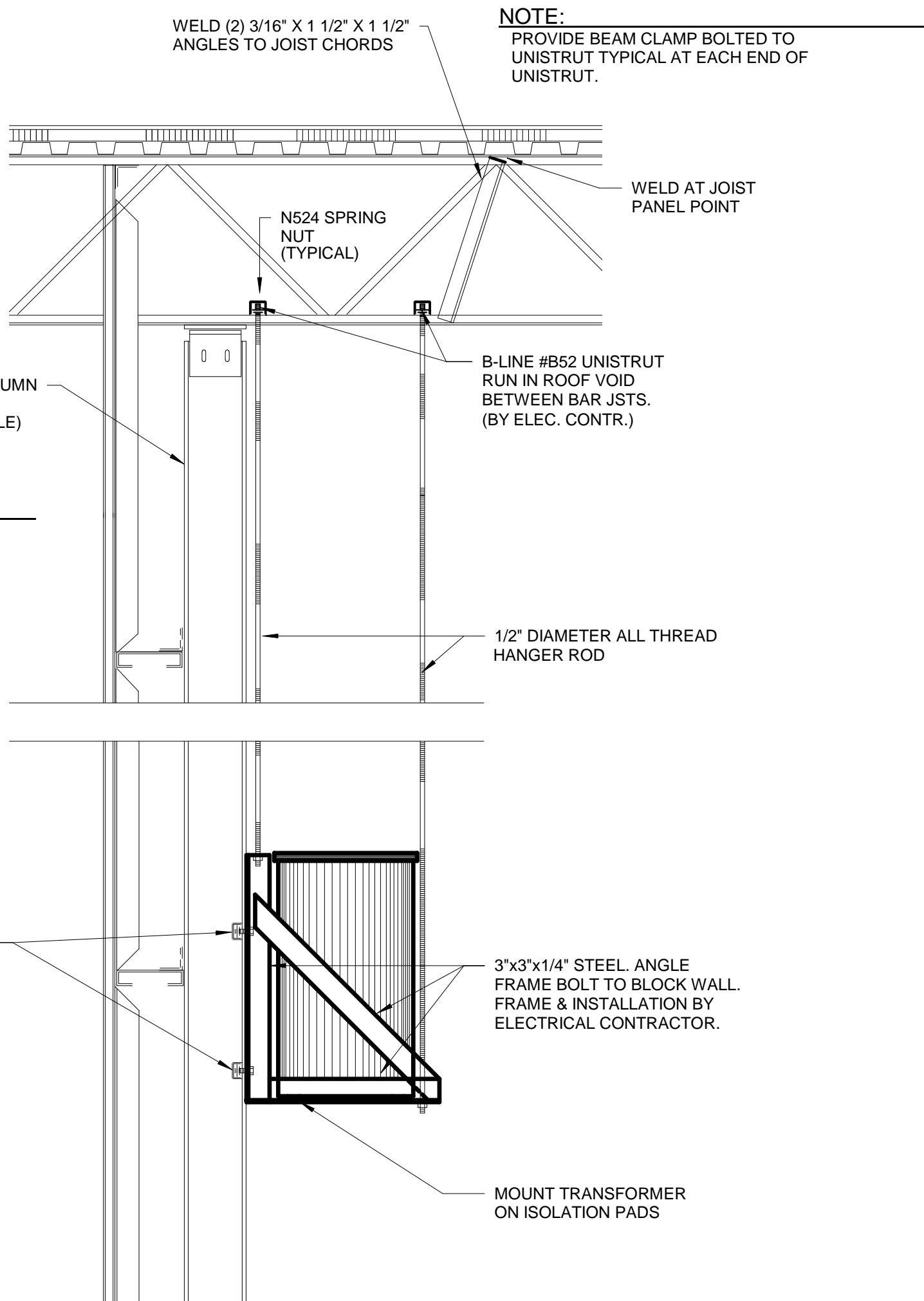
SPECIAL NOTE:
DETAIL APPLIES TO TRANSFORMERS 75 KVA AND SMALLER

TRANSFORMER MOUNTING DETAIL (TO CONCRETE BLOCK WALL)

SCALE: 1 1/2"=1'-0"



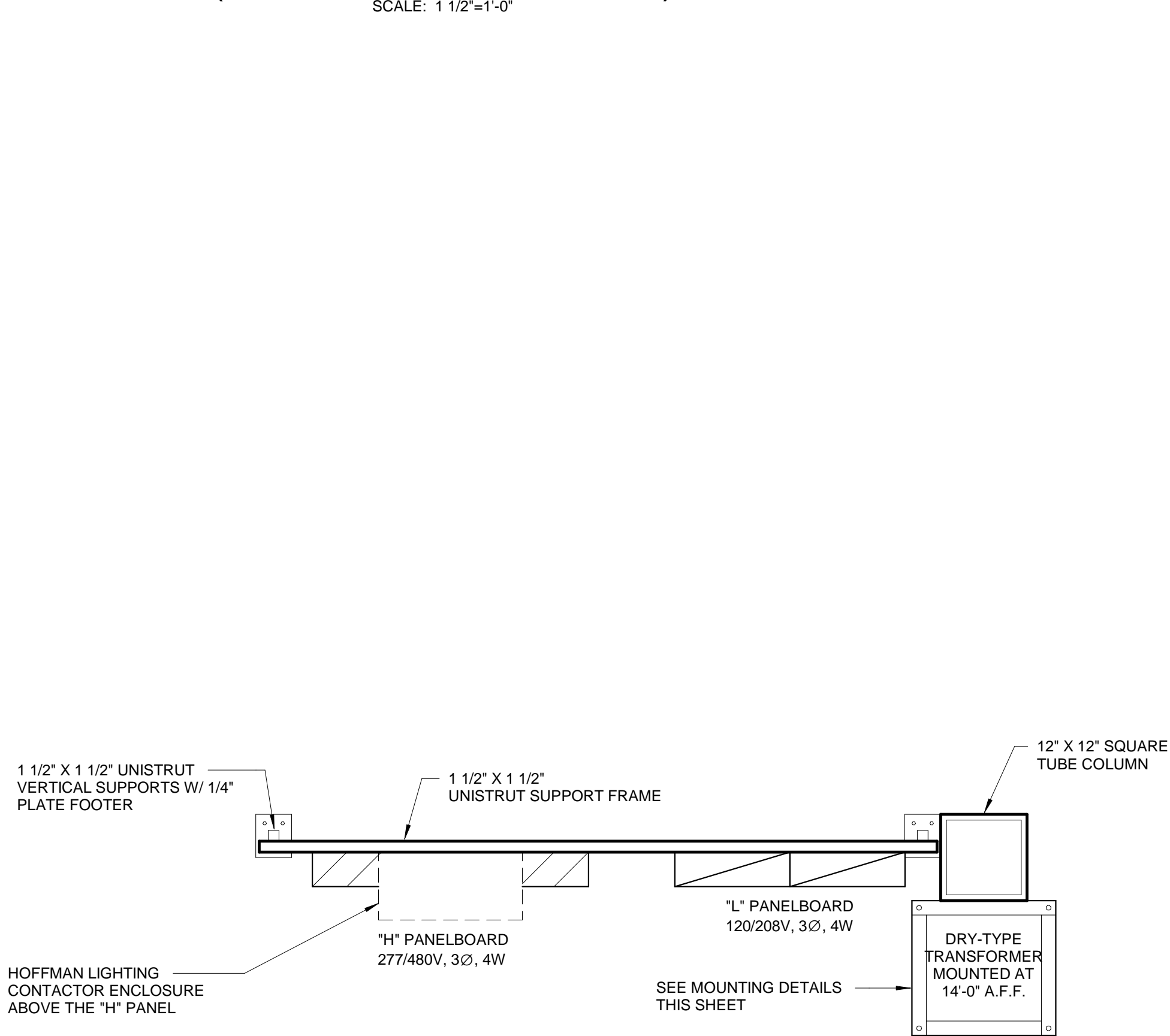
PANELBOARD MOUNTING DETAIL (ELEVATION)



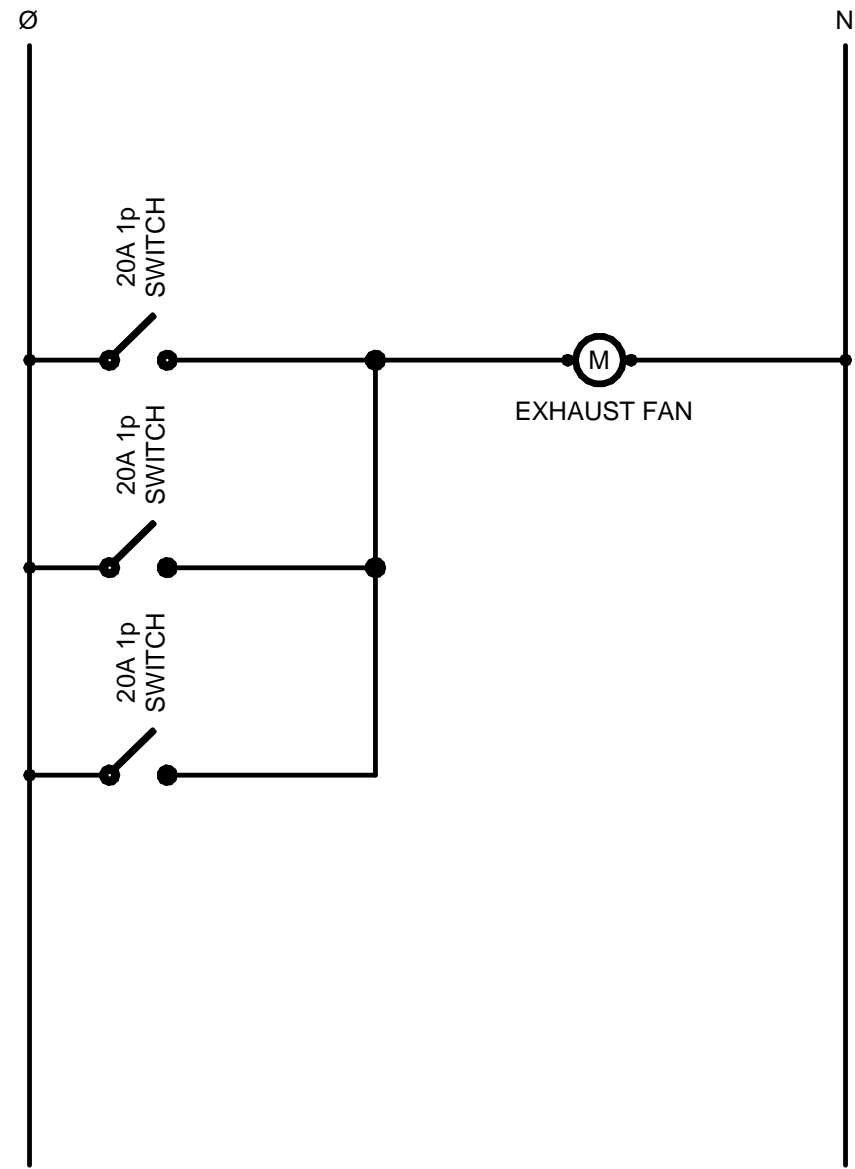
SPECIAL NOTE:
DETAIL APPLIES TO TRANSFORMERS 75 KVA AND SMALLER

TRANSFORMER MOUNTING DETAIL (TO BUILDING COLUMN)

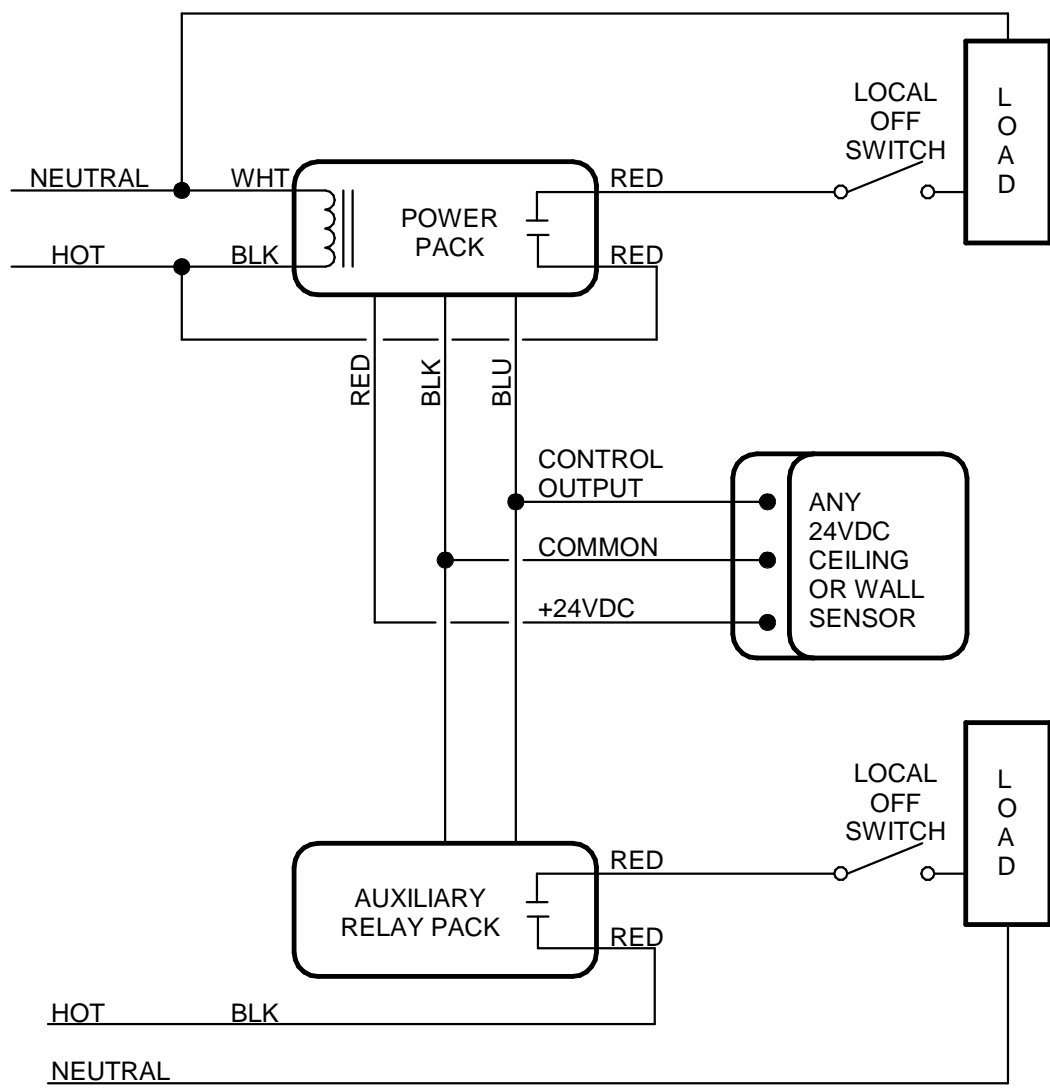
SCALE: 1 1/2"=1'-0"



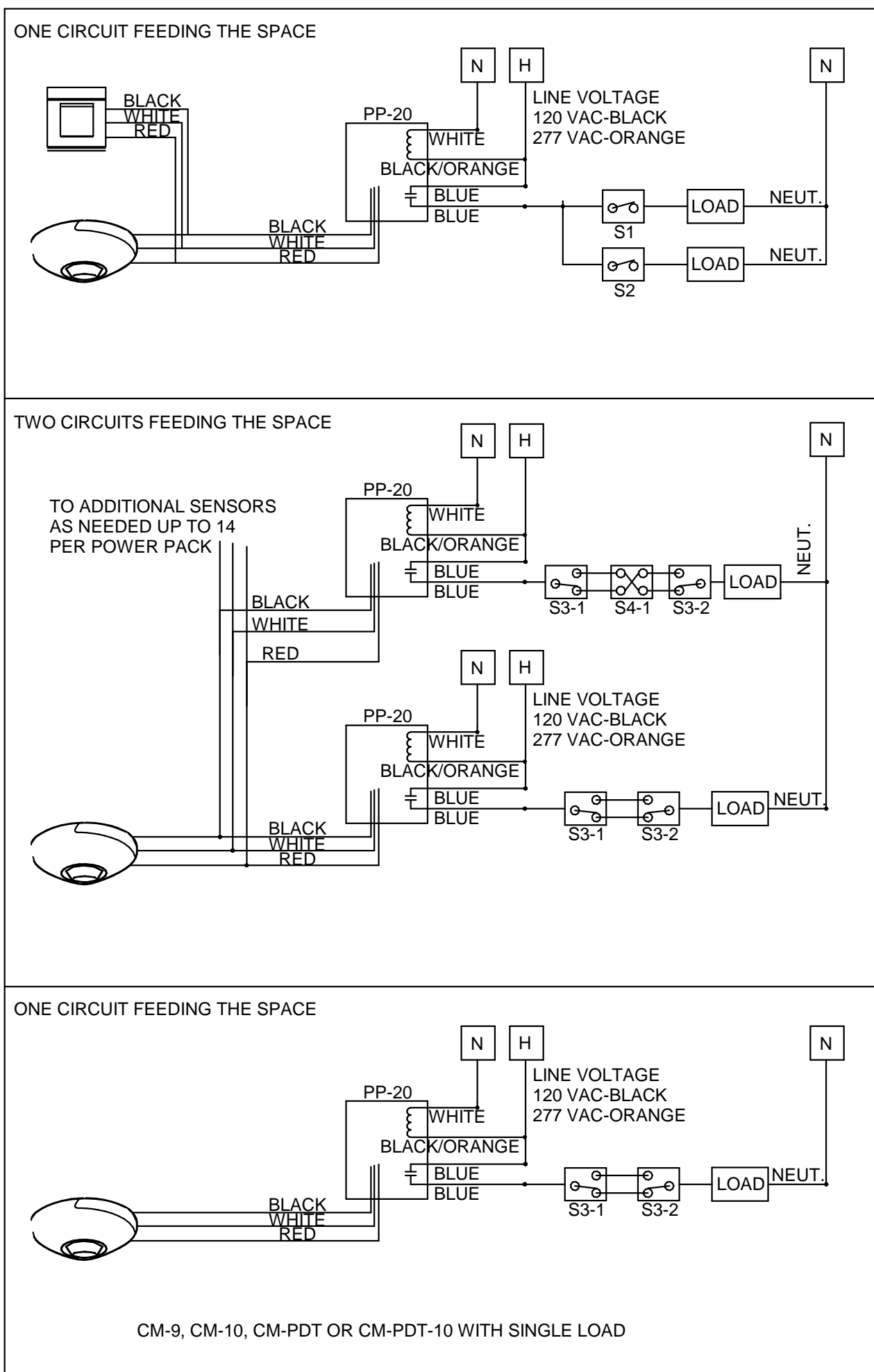
PANELBOARD MOUNTING DETAIL (PLAN)



120V EXHAUST FAN CONTROL



TWO CIRCUIT OR TWO LOAD SENSOR CONTROL



OFFICE MOTION SENSOR LIGHTING CONTROL WIRING DIAGRAMS

NO SCALE



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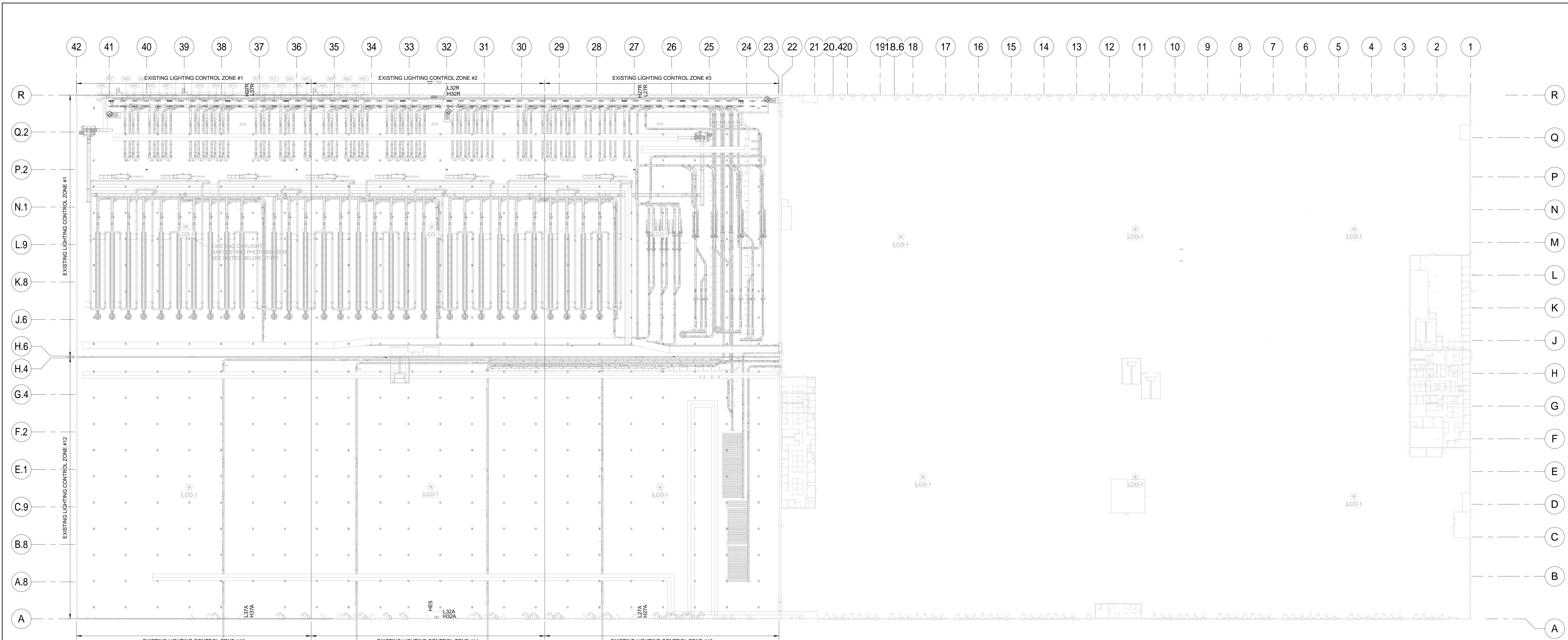
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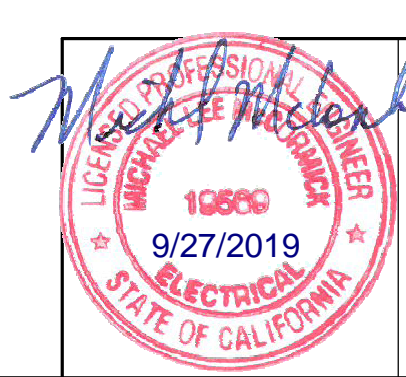
LUMINAIRE SCHEDULE, NOTES, AND DETAILS

PROJECT NUMBER	19034
SHEET NUMBER	2E-2.0
PLOT DATE	9/26/2019 11:28:55 AM



2 - FACILITY LIGHTING CONTROL PLAN
1" = 60'-0"


RETROFIT LIGHTING CONTROL SEQUENCE OF OPERATION:
LIGHTING UNDER NEW SORTER PLATFORM SHALL BE CONTROLLED VIA SMART BREAKER AND BMS SCHEDULING. DIGITAL SWITCH NETWORK TO PROVIDE TIMED MANUAL LOCAL OVERRIDE CONTROL.



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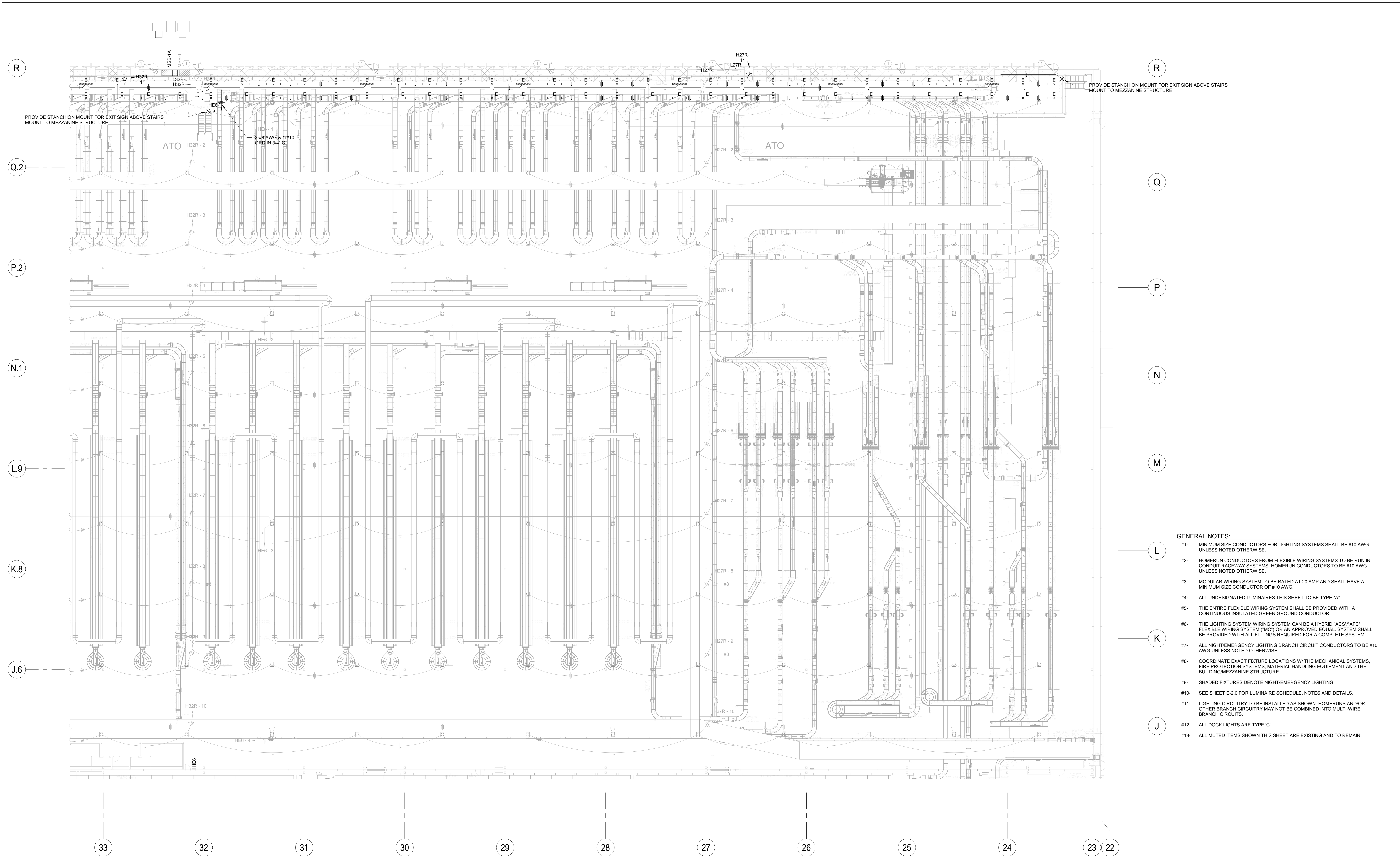
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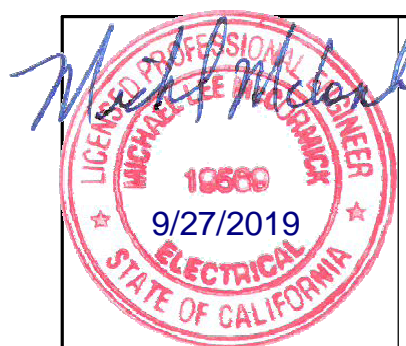
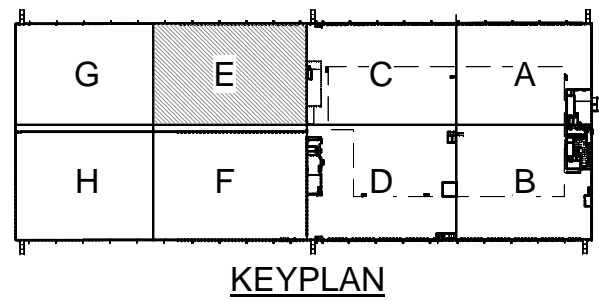
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SCALE As Indicated			PROJECT BUILDING IMPROVEMENTS FOR MHE UPGRADES ROSS DISTRIBUTION CENTER SHAFTER, CA	PROJECT NUMBER 19034
DRAWN Author	A/E Checker	PM Approver		SHEET NUMBER 2E-2.0.1
SHEET TITLE FACILITY LIGHTING CONTROL SENSOR & ZONE PLAN				PLOT DATE 9/26/2019 11:29:29 AM



2 - ENLARGED AREA E LIGHTING PLAN
1" = 20'-0"

- GENERAL NOTES:**
- #1- MINIMUM SIZE CONDUCTORS FOR LIGHTING SYSTEMS SHALL BE #10 AWG UNLESS NOTED OTHERWISE.
 - #2- HOMERUN CONDUCTORS FROM FLEXIBLE WIRING SYSTEMS TO BE RUN IN CONDUIT RACEWAY SYSTEMS. HOMERUN CONDUCTORS TO BE #10 AWG UNLESS NOTED OTHERWISE.
 - #3- MODULAR WIRING SYSTEM TO BE RATED AT 20 AMP AND SHALL HAVE A MINIMUM SIZE CONDUCTOR OF #10 AWG.
 - #4- ALL UNDESIGNATED LUMINAIRES THIS SHEET TO BE TYPE 'A'.
 - #5- THE ENTIRE FLEXIBLE WIRING SYSTEM SHALL BE PROVIDED WITH A CONTINUOUS INSULATED GREEN GROUND CONDUCTOR.
 - #6- THE LIGHTING SYSTEM WIRING SYSTEM CAN BE A HYBRID 'ACS'/AFC' FLEXIBLE WIRING SYSTEM ('MC') OR AN APPROVED EQUAL. SYSTEM SHALL BE PROVIDED WITH ALL FITTINGS REQUIRED FOR A COMPLETE SYSTEM.
 - #7- ALL NIGHT/EMERGENCY LIGHTING BRANCH CIRCUIT CONDUCTORS TO BE #10 AWG UNLESS NOTED OTHERWISE.
 - #8- COORDINATE EXACT FIXTURE LOCATIONS W/ THE MECHANICAL SYSTEMS, FIRE PROTECTION SYSTEMS, MATERIAL HANDLING EQUIPMENT AND THE BUILDING/MEZZANINE STRUCTURE.
 - #9- SHADED FIXTURES DENOTE NIGHT/EMERGENCY LIGHTING.
 - #10- SEE SHEET E-2.0 FOR LUMINAIRE SCHEDULE, NOTES AND DETAILS.
 - #11- LIGHTING CIRCUITRY TO BE INSTALLED AS SHOWN. HOMERUNS AND/OR OTHER BRANCH CIRCUITRY MAY NOT BE COMBINED INTO MULTI-WIRE BRANCH CIRCUITS.
 - #12- ALL DOCK LIGHTS ARE TYPE 'C'.
 - #13- ALL MUTED ITEMS SHOWN THIS SHEET ARE EXISTING AND TO REMAIN.

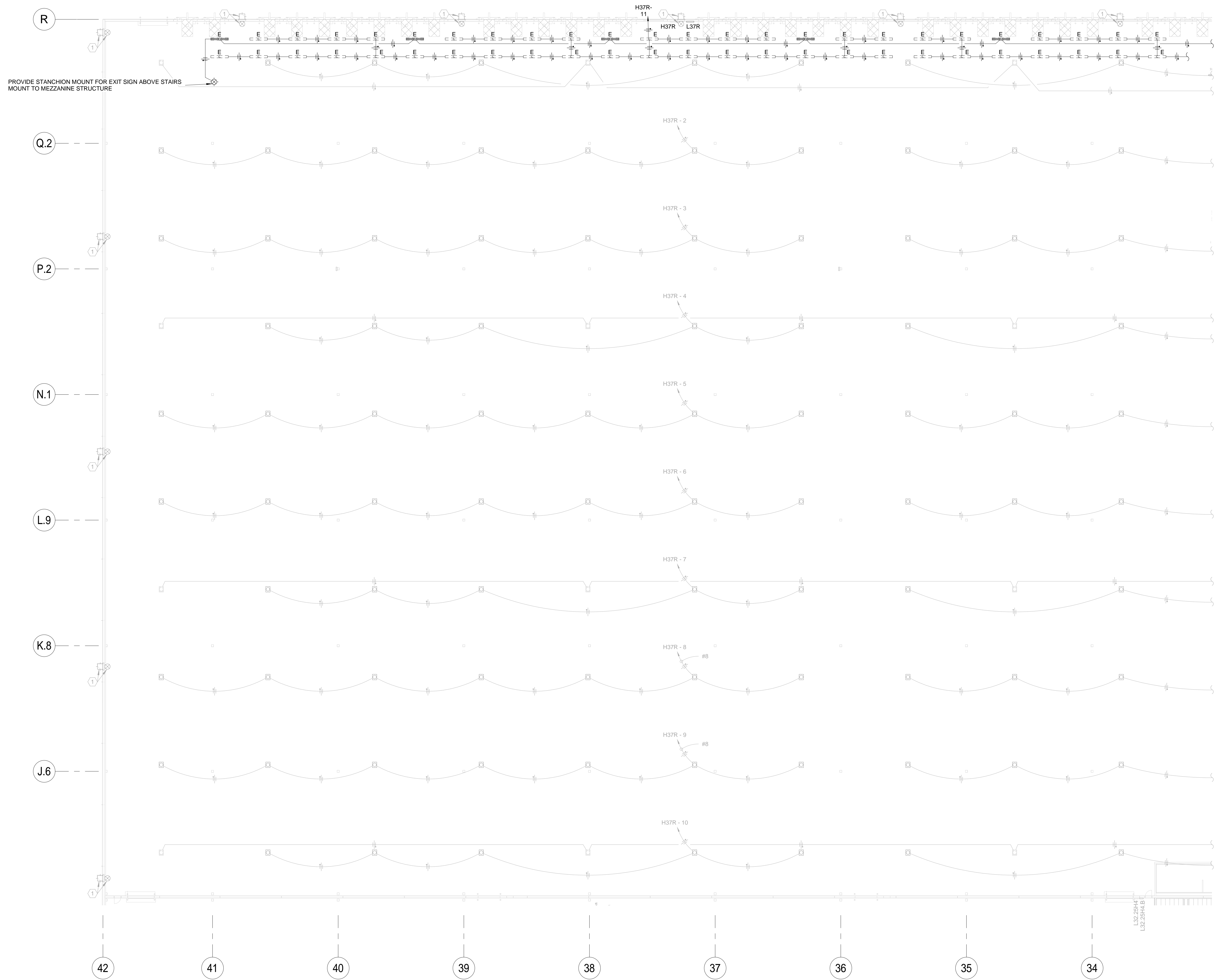


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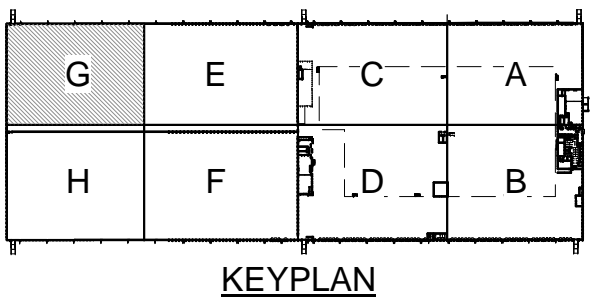
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Author	Checker	Approver	SHAFTER, CA	PLOT DATE	9/26/2019 11:29:57 AM
SHEET TITLE	ENLARGED AREA 'E' LIGHTING PLAN				



- GENERAL NOTES:**
- #1- MINIMUM SIZE CONDUCTORS FOR LIGHTING SYSTEMS SHALL BE #10 AWG UNLESS NOTED OTHERWISE.
 - #2- HOMERUN CONDUCTORS FROM FLEXIBLE WIRING SYSTEMS TO BE RUN IN CONDUIT RACEWAY SYSTEMS. HOMERUN CONDUCTORS TO BE #10 AWG UNLESS NOTED OTHERWISE.
 - #3- MODULAR WIRING SYSTEM TO BE RATED AT 20 AMP AND SHALL HAVE A MINIMUM SIZE CONDUCTOR OF #10 AWG.
 - #4- ALL UNDESIGNATED LUMINAIRES THIS SHEET TO BE TYPE "A".
 - #5- THE ENTIRE FLEXIBLE WIRING SYSTEM SHALL BE PROVIDED WITH A CONTINUOUS INSULATED GREEN GROUND CONDUCTOR.
 - #6- THE LIGHTING SYSTEM WIRING SYSTEM CAN BE A HYBRID "ACS"/"AFC" FLEXIBLE WIRING SYSTEM ("MC") OR AN APPROVED EQUAL SYSTEM SHALL BE PROVIDED WITH ALL FITTINGS REQUIRED FOR A COMPLETE SYSTEM.
 - #7- ALL NIGHT/EMERGENCY LIGHTING BRANCH CIRCUIT CONDUCTORS TO BE #10 AWG UNLESS NOTED OTHERWISE.
 - #8- COORDINATE EXACT FIXTURE LOCATIONS W/ THE MECHANICAL SYSTEMS, FIRE PROTECTION SYSTEMS, MATERIAL HANDLING EQUIPMENT AND THE BUILDING/MEZZANINE STRUCTURE.
 - #9- SHADED FIXTURES DENOTE NIGHT/EMERGENCY LIGHTING & ARE TYPE "AE".
 - #10- SEE SHEET E-2.0 FOR LUMINAIRE SCHEDULE, NOTES AND DETAILS.
 - #11- LIGHTING CIRCUITRY TO BE INSTALLED AS SHOWN. HOMERUNS AND/OR OTHER BRANCH CIRCUITRY MAY NOT BE COMBINED INTO MULTI-WIRE BRANCH CIRCUITS.
 - #12- ALL DOCK LIGHTS ARE TYPE "C".

2 - ENLARGED AREA G LIGHTING PLAN
1" = 20'-0"



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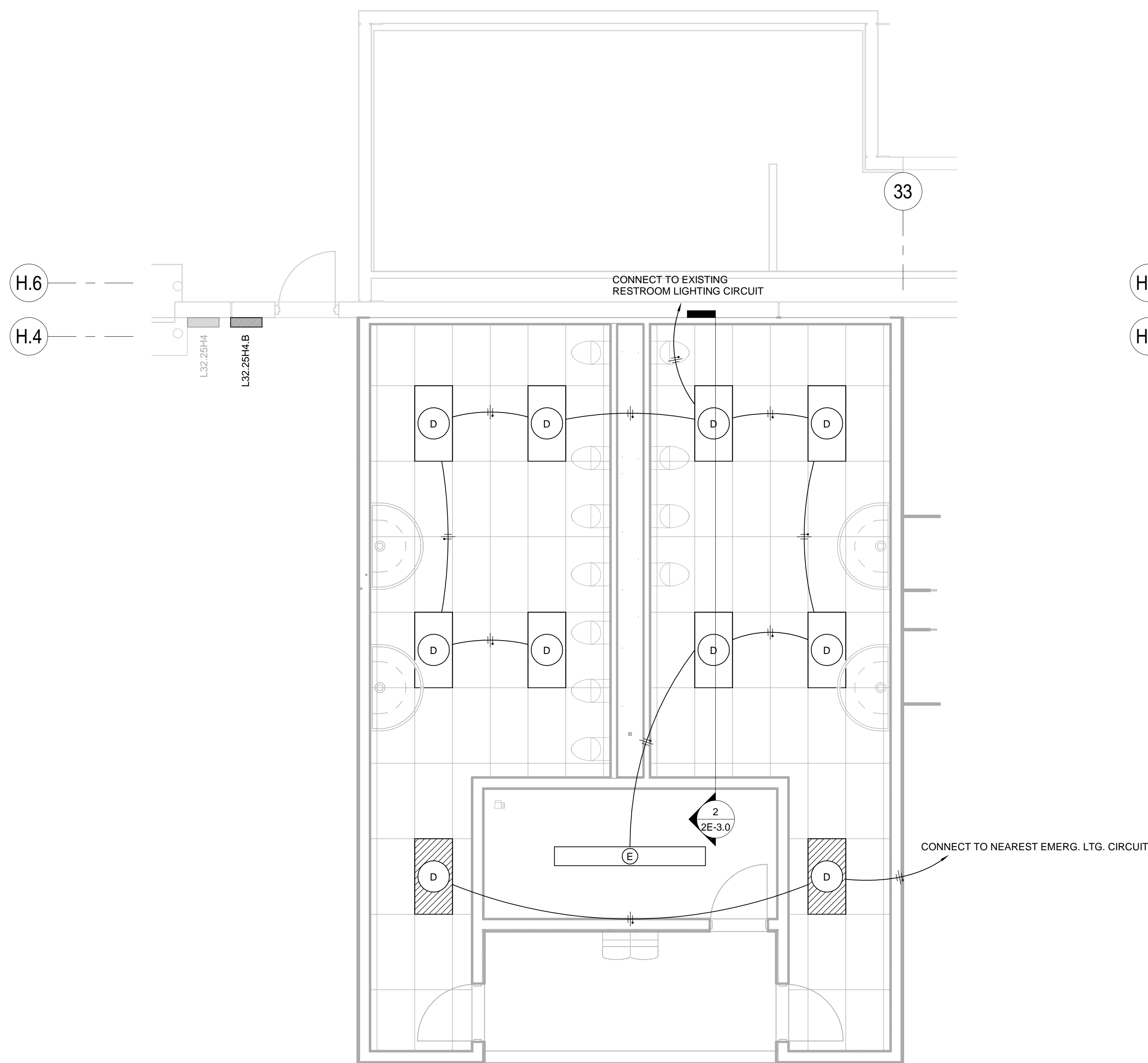
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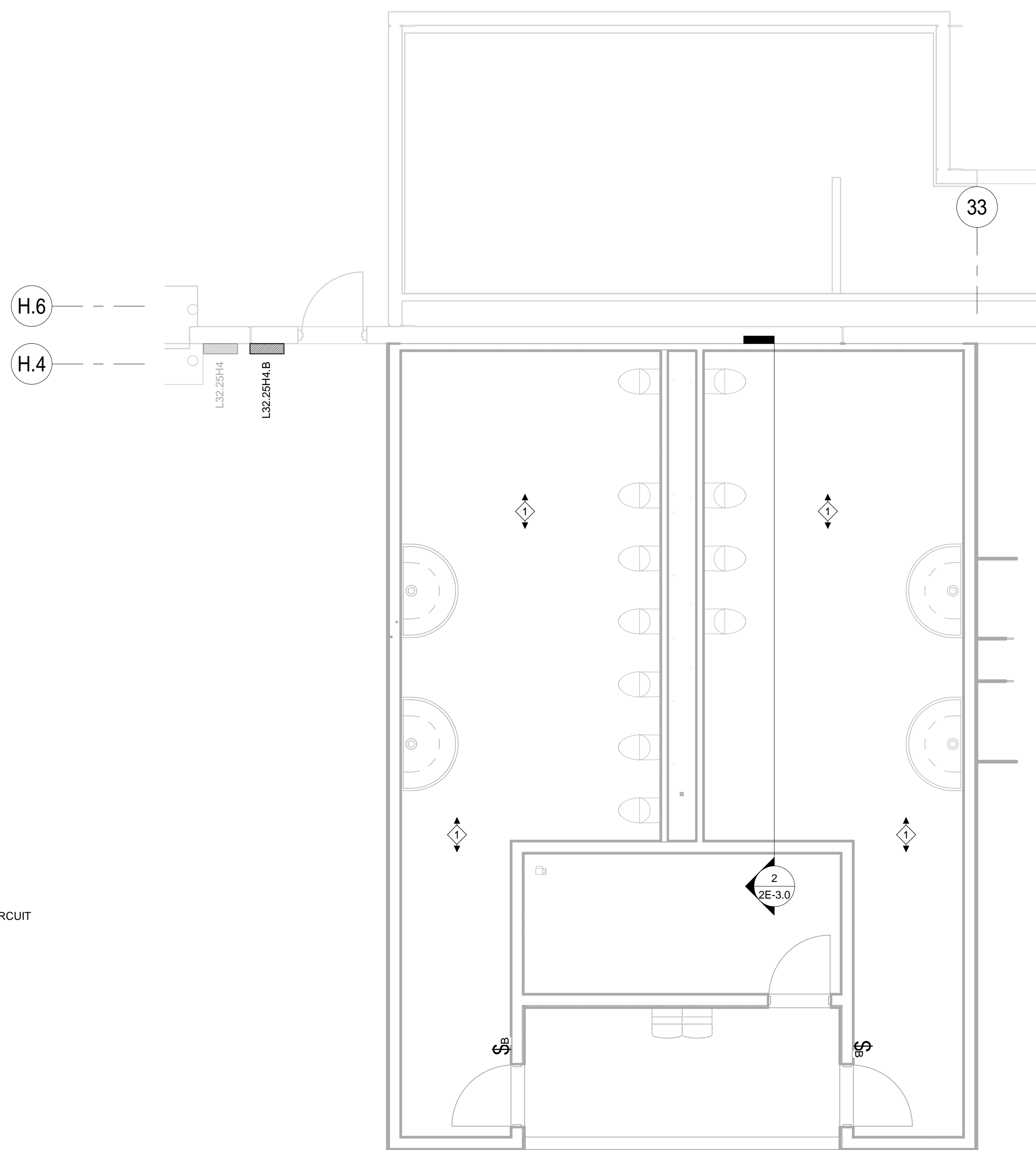
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ENLARGED AREA 'G' LIGHTING PLAN

PROJECT NUMBER 19034
SHEET NUMBER **2E-2.8**
PLOT DATE 9/26/2019 11:31:43 AM



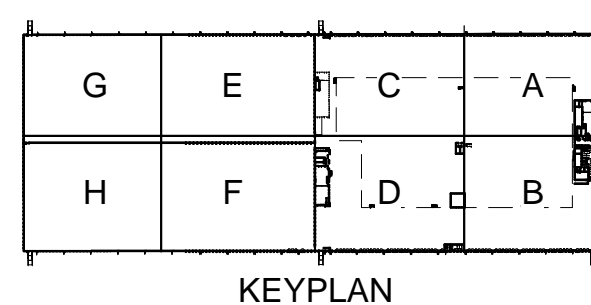
2 - ENLARGED RESTROOM LIGHTING PLAN
1/4" = 1'-0"



2 - ENLARGED RESTROOM LIGHTING CONTROLS PLAN
1/4" = 1'-0"

- GENERAL NOTES:**
- #1- MINIMUM SIZE CONDUCTORS FOR LIGHTING SYSTEMS SHALL BE #10 AWG UNLESS NOTED OTHERWISE.
 - #2- HOMERUN CONDUCTORS FROM FLEXIBLE WIRING SYSTEMS TO BE RUN IN CONDUIT RACEWAY SYSTEMS. HOMERUN CONDUCTORS TO BE #10 AWG UNLESS NOTED OTHERWISE.
 - #3- MODULAR WIRING SYSTEM TO BE RATED AT 20 AMP AND SHALL HAVE A MINIMUM SIZE CONDUCTOR OF #10 AWG.
 - #4- THE ENTIRE FLEXIBLE WIRING SYSTEM SHALL BE PROVIDED WITH A CONTINUOUS INSULATED GREEN GROUND CONDUCTOR.
 - #5- THE LIGHTING WIRING SYSTEM CAN BE A HYBRID "ACS"/"AFC" FLEXIBLE WIRING SYSTEM ("MC") OR AN APPROVED EQUAL SYSTEM SHALL BE PROVIDED WITH ALL FITTINGS REQUIRED FOR A COMPLETE SYSTEM.
 - #6- ALL NIGHT/EMERGENCY LIGHTING BRANCH CIRCUIT CONDUCTORS TO BE #10 AWG UNLESS NOTED OTHERWISE.
 - #7- COORDINATE EXACT FIXTURE LOCATIONS W/ THE MECHANICAL SYSTEMS, FIRE PROTECTION SYSTEMS, MATERIAL HANDLING EQUIPMENT AND THE BUILDING/MEZZANINE STRUCTURE.
 - #8- SHADED FIXTURES DENOTE NIGHT/EMERGENCY LIGHTING.
 - #9- SEE SHEET E-2.0 FOR LUMINAIRE SCHEDULE, NOTES AND DETAILS.
 - #10- LIGHTING CIRCUITRY TO BE INSTALLED AS SHOWN. HOMERUNS AND/OR OTHER BRANCH CIRCUITRY MAY NOT BE COMBINED INTO MULTI-WIRE BRANCH CIRCUITS.
 - #11- EVERY EFFORT HAS BEEN MADE ON THE PART OF THE MANUFACTURER TO INDICATE THE PROPER SELECTION OF THE PRODUCT AND MOUNTING LOCATIONS. FINAL DETERMINATION OF CIRCUITING, VOLTAGE, AND QUANTITY OF POWER PACKS REQUIRED, AND SETTING OF SENSITIVITY/TIME ADJUSTMENTS ARE THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR AND/OR COMMISSIONING AGENT. MANUFACTURERS INSTALLATION INSTRUCTIONS SHOULD BE ADHERED TO.
 - #12- ALL SENSOR LOCATIONS ARE APPROXIMATE. REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS PRIOR TO INSTALLATION.
 - #13- ULTRASONIC CEILING MOUNT SENSORS REQUIRE THEY BE LOCATED NO CLOSER THAN 6" FROM AIR SUPPLY/RETURN REGISTERS.
 - #14- CONTRACTOR IS RESPONSIBLE FOR: PROPER SENSITIVITY AND TIME DELAY SETTINGS AND MANUFACTURERS RECOMMENDED PLACEMENT, FIELD VERIFICATION OF CIRCUITS WITH RESPECT TO POWER PACK PLACEMENT.
 - #15- CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF REQUIRED NUMBER OF POWER PACKS.
 - #16- ONE POWER PACK IS REQUIRED FOR EACH CIRCUIT THAT IS TO CONTROLLED.
 - #17- DEPENDING ON THE TYPE OF SENSOR UP TO 3 SENSORS CAN BE WIRED IN PARALLEL TO A SINGLE POWER PACK.

SUPPLEMENTARY LEGEND	
$\$B$	DENOTES SWITCHES FOR BALANCE SWITCHING. CONNECT ALTERNATE FIXTURES ROWS. PROVIDE AS MANY SWITCHES AS REQUIRED BY NUMBER OF CIRCUITS.
\diamond	WATTSTOPPER MODEL #WT-1100 (CEILING MOTION)
T_s	WATTSTOPPER MODEL #TS-400 (TIMER SWITCH)



KEYPLAN



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Author	Checker	Approver			
SHEET TITLE			SHAFTER, CA		
ENLARGED RESTROOM LIGHTING AND CONTROLS PLAN			SHEET NUMBER		
			19034		
			2E-2.10		
			PLOT DATE		
			9/26/2019 11:29:32 AM		

SYMBOL SCHEDULE

SYMBOL	DESCRIPTION	NOTES
	MOTOR CONNECTION (NUMBER IN CENTER INDICATES HORSEPOWER)	
	DUPLEX 20A 125V RECEPTACLE. INSTALL @ 1'-6" A.F.F. IN FINISHED AREAS AND @ 4'-0" IN UNFINISHED AREAS.	2
	DUPLEX 20A 125V RECEPTACLE. INSTALL @ ROOF DECKING FOR SECURITY CAMERA	
	QUAD (2-DUPLEXES UNDER 1 COVER) 20A 125V RECEPTACLE. INSTALL @ 1'-6" A.F.F. IN FINISHED AREAS.	2
	SINGLE 30A 125V RECEPTACLE. INSTALL @ 1'-6" A.F.F. IN FINISHED AREAS AND @ 4'-0" IN UNFINISHED AREAS.	2
	20 AMP 208 VOLT 1Ø RECEPTACLE. INSTALL @ 1'-6" A.F.F.	2
	3Ø 3W WELDING OUTLET. SEE PLAN FOR AMPERAGE	2
	EMPTY 2" X 4" J-BOX W 3/4" CONDUIT STUBBED INTO CEILING SPACE OR BAR JOIST AREA. INSTALL @ 1'-6" A.F.F.	2
	TELEPHONE OUTLET W 3/4" CONDUIT STUBBED INTO CEILING SPACE. INSTALL @ 1'-6" A.F.F.	2
	TELEPHONE/DATA OUTLET W 3/4" CONDUIT STUB INTO CEILING SPACE OR BAR JOIST AREA. INSTALL @ 1'-6" A.F.F.	2
	SPST 20A 125 OR 277V WALL SWITCH. INSTALL @ 44" A.F.F.	1
	DPST 20A 125 OR 277V WALL SWITCH. INSTALL @ 44" A.F.F.	1
	20A 125 OR 277V 3 WAY WALL SWITCH. INSTALL @ 44" A.F.F.	1
	20A 125 OR 277V 4WAY WALL SWITCH. INSTALL @ 44" A.F.F.	1
	SPST 20A 125 WALL SWITCH WITH PILOT LIGHT. INSTALL @ 44" A.F.F.	1
	480V, 3Ø SPEED CONTROLLER FOR HVLSF (BAF) FANS. INSTALL @ 44" A.F.F.	1
	ENCLOSED 30A 3PST 600 VOLT SWITCH W/ LOCKOUT DEVICE	
	REMOTE PUSH BUTTON CONTROL STATION WITH PILOT LIGHT.	
	3Ø MANUAL MOTOR STARTER WITH PILOT LIGHT.	
	3Ø MANUAL MOTOR STARTER WITH REMOTE CONTROL STATION.	
	3Ø MANUAL MOTOR STARTER AND DISCONNECT SWITCH.	
	SAFETY DISCONNECT SWITCH. NF (NON-FUSED)	
	THERMOSTAT. 2" X 4" J-BOX W 3/4" CONDUIT STUBBED INTO CEILING SPACE OR ROOF JOIST AREA. INSTALL @ 44" A.F.F.	1
	HUMIDISTAT. 2" X 4" J-BOX W 3/4" CONDUIT STUBBED INTO CEILING SPACE OR ROOF JOIST AREA. INSTALL @ 44" A.F.F.	1
	CO2 SENSOR. 2" X 4" J-BOX W 3/4" CONDUIT STUBBED INTO CEILING SPACE. INSTALL @ 44" A.F.F.	1
	JUNCTION OR PULLBOX. SIZE AS REQUIRED.	
	PHOTO ELECTRIC CELL LIGHTING CONTROL. MOUNTED ON ROOF.	
	DRY TYPE TRANSFORMER 1Ø OR 3Ø. SIZE AS NOTED ON THE PLANS.	
	CEILING MOUNTED LOCATION FOR TELEVISION OUTLET WITH 3/4" EMPTY CONDUIT. VERIFY EXACT LOCATION.	
	CARD READER.	1
	EMPTY 2" X 4" J-BOX W 1/2" CONDUIT STUBBED INTO CEILING SPACE. INSTALL @ 44" A.F.F.	1
	DOOR SECURITY POWER SUPPLY BY OTHER.	
	L' PANEL. 120/208V, 3Ø, 4W LOW VOLTAGE LIGHTING AND POWER DISTRIBUTION PANEL.	
	H' PANEL 277/480V, 3Ø, 4W LIGHTING AND POWER DISTRIBUTION PANEL.	
	3Ø, 3W PLUG IN BUS DUCT. SIZE AS NOTED ON PLANS.	
	3Ø, BUS PLUG. SIZE AND FUSE AS NOTED ON PLANS.	
	RACEWAY WITH CONDUCTORS RUN CONCEALED IN FLOOR SLAB, IN WALLS OR IN EARTH.	
	RACEWAY WITH CONDUCTORS RUN EXPOSED. RUN PARALLEL AND AT RIGHT ANGLES TO BUILDING STRUCTURE.	
	RACEWAY FOR TELEPHONE CABLES INSTALLED BY TELEPHONE COMPANY.	
	BARE GROUND CONDUCTOR UNDERGROUND. SIZE AS NOTED ON PLANS.	
	RACEWAY WITH CONDUCTORS RUN CONCEALED ABOVE CEILING, IN WALLS OR IN FURRED SPACES.	
	INSULATED GREEN GROUND CONDUCTOR. SAME SIZE AS PHASE WIRE UNLESS NOTED.	
	3/4"Ø x 10'-0" GROUND ROD WITH #3Ø JUMPER	
	ABOVE FINISHED FLOOR	
	ABOVE FINISHED GRADE	
	WEATHER PROOF	
	ELECTRIC SOLENOID VALVE	
	EXHAUST FAN	
	FULL LOAD AMPS	
	SPACE HEATER	
	ROOF TOP HEATING AND AIR CONDITIONING UNIT	
	COMPUTER ROOM HEATING AND AIR CONDITIONING UNIT	
	CONDENSING UNIT	
	SUPPLY FAN	
	FIRE ALARM CONTROL PANEL	
	UNIT HEATER (GAS FIRED UNLESS NOTED)	
	ELECTRIC UNIT HEATER	
	TIME CLOCK	
	SECURITY CAMERA	
	WATER HEATER	
	GROUND FAULT INTERRUPT	
	HAND DRYER	
	ELECTRIC WATER COOLER	
	FIRE ALARM SYSTEM HORN/STROBE POWER SUPPLY	
	SMOKE DAMPER	
	RADIO FREQUENCY ANTENNA	
	AUTOMATED TELLER MACHINE	
	INDEPENDENT GROUND	
	SPACE HEATER CONTROL UNIT. VERIFY LOCATION	
	AVAILABLE FAULT CURRENT	
	SPRINKLER RISER BELL	
	FIRE ALARM DEVICE. SEE 5 SERIES FOR DETAILS	
	VENDING	

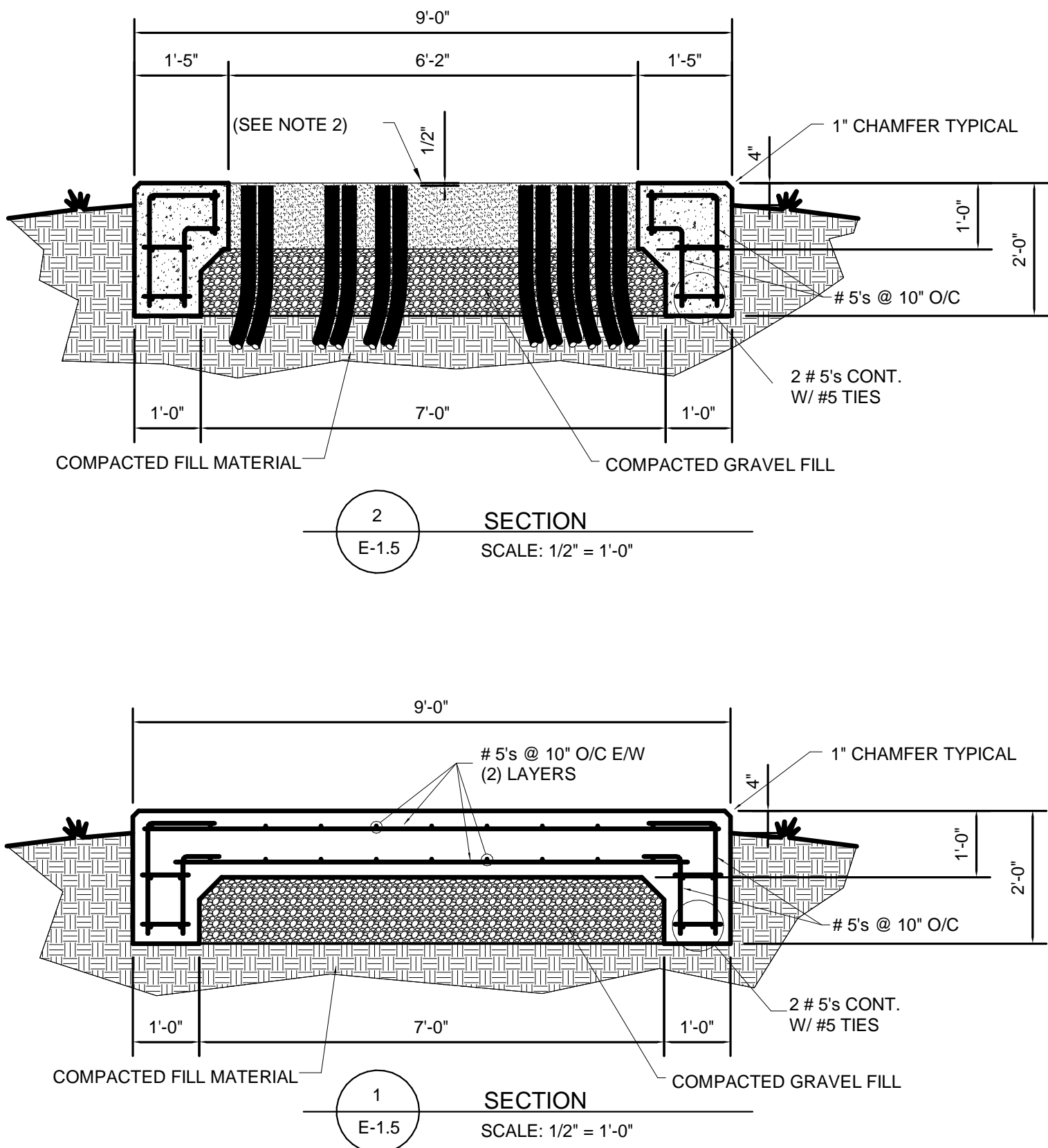
NOTES: THIS IS A STANDARD SYMBOLS SCHEDULE. ALL SYMBOLS SHOWN ON THIS SCHEDULE MAY NOT APPEAR IN THIS SET OF DRAWINGS.

SYMBOL LEGEND REFERENCED NOTES:

- 1 THE 2010 CALIFORNIA BUILDING CODE, SECTION 1117B.6, ITEM #5.1 NOW REQUIRES CONTROLS AND SWITCHES INTENDED TO BE USED BY OCCUPANTS OF THE ROOM OR AREA TO BE LOCATED:
- 1.1 NO MORE THAN 48 INCHES, MEASURED FROM THE TOP OF THE OUTLET BOX, AND;
1.2 NO LESS THAN 15 INCHES, MEASURED FROM THE BOTTOM OF THE OUTLET BOX, TO THE LEVEL OF THE FINISHED FLOOR OR WORKING PLATFORM.
- 2 THE 2010 CALIFORNIA BUILDING CODE, SECTION 1117B.6, ITEM #5.2 NOW REQUIRES ELECTRICAL RECEPTACLE OUTLETS ON BRANCH CIRCUITS OF 30 AMPERES OR LESS AND COMMUNICATION SYSTEM RECEPTACLES TO BE LOCATED:
- 1.1 NO MORE THAN 48 INCHES, MEASURED FROM THE TOP OF THE RECEPTACLE OUTLET BOX OR RECEPTACLE HOUSING, AND;
1.2 NO LESS THAN 15 INCHES, MEASURED FROM THE BOTTOM OF THE RECEPTACLE OUTLET BOX OR RECEPTACLE HOUSING, TO THE LEVEL OF THE FINISHED FLOOR OR WORKING PLATFORM.

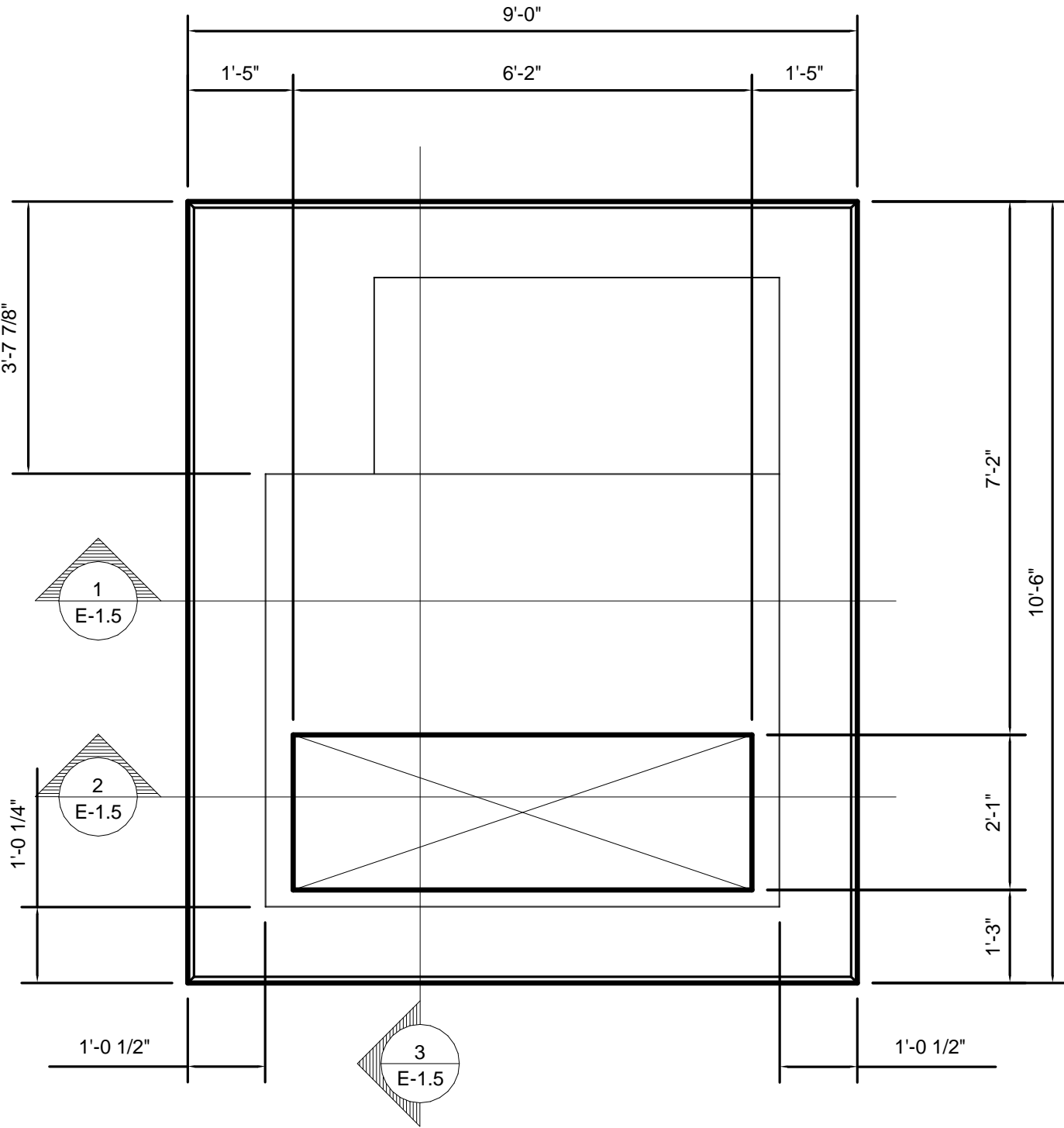
OVERALL POWER NOTES:

- #1- ELECTRICAL SWITCHBOARDS, PANELBOARDS, TRANSFORMERS, CONDUIT BANKS, ETC. SHALL BE SEISMICALLY BRACED WITH AN IMPORTANCE FACTOR OF 1.5 IN ALL CALCULATIONS FOR BRACING MEMBERS, ANCHORS, BOLTS, ETC.
- #2- VERIFY EXACT LOCATION AND POINTS OF CONNECTION TO ALL MECHANICAL EQUIPMENT WITH THE MECHANICAL CONTRACTOR BEFORE CONDUIT ROUGH-IN.
- #3- ELECTRICAL CONTRACTOR SHALL INSTALL ALL BRANCH CIRCUITS AS DIAGRAMMED ON PLANS. MULTIWIRED BRANCH CIRCUITS SHALL NOT BE ALLOWED.
- #4- ALL SWITCHBOARDS, PANELBOARDS, DISCONNECTS AND ALL OTHER ELECTRICAL EQUIPMENT, CONDUCTORS, CONDUIT, ETC. SHALL BE LISTED AND SO LABELED BY A NATIONALLY RECOGNIZED TESTING LABORATORY.



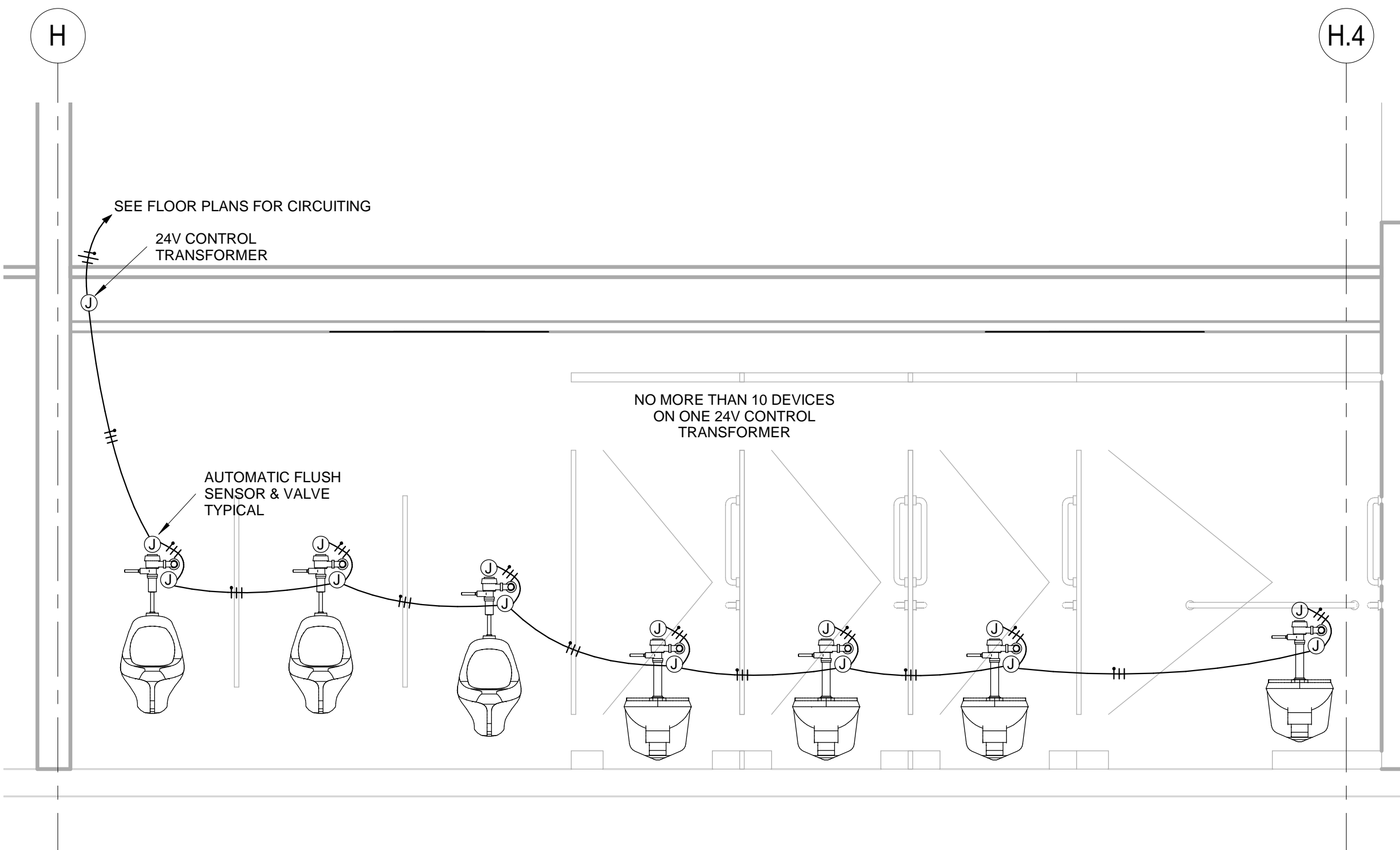
DETAIL NOTES:

1. CONCRETE SHALL BE AIR-ENTRAINED WITH CEMENT MIX FOR 3500 PSI CAPACITY.
2. CONDUIT TO BE LOCATED NOT MORE THAN 1/2" FROM TOP SURFACE OF PAD.
3. VERIFY PAD DIMENSIONS, OPENINGS AND PRIMARY CONDUIT ROUGH-IN WITH MANUFACTURER'S SHOP DRAWINGS PRIOR TO CONSTRUCTION.



CONCRETE TRANSFORMER PAD

SCALE: 1/2" = 1'-0"
TOTAL LOADED WEIGHT # 15,190
FIELD LOCATE BY CENTERING CONDUIT GROUP IN BLOCKOUT SPACE IN BOTH DIRECTIONS



DETAIL NOTES:

COORDINATE INSTALLATION OF ALL RESTROOM SENSOR SYSTEMS W/ THE MECHANICAL CONTRACTOR. ELECTRICAL CONTRACTOR TO PROVIDE JUNCTION BOXES AND MC CABLE FOR ALL DEVICES. EC TO INSTALL AND CONNECT MC FURNISHED SINK, URINAL, AND WATER CLOSET SENSORS, TRANSFORMERS AND SOLENOID VALVES. VERIFY EXACT LOCATION AND QUANTITY OF SENSORS, SOLENOIDS AND CONTROL TRANSFORMERS.

RESTROOM SENSORS SECTION

1/2" = 1'-0"



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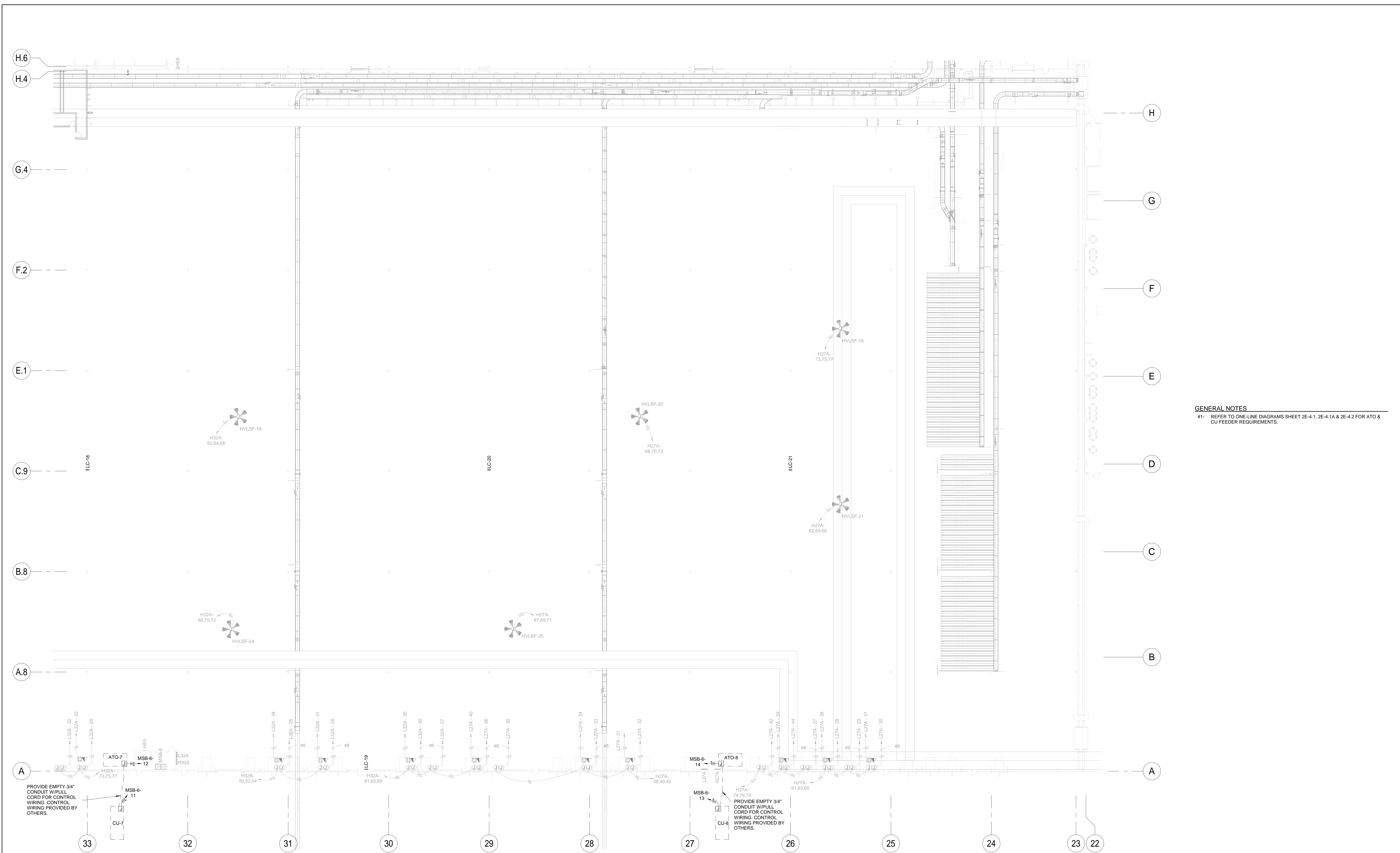
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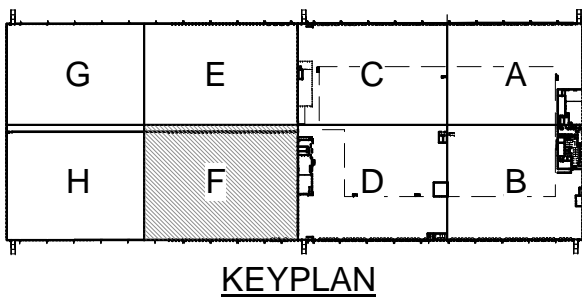
POWER NOTES AND DETAILS

PROJECT NUMBER	19034
SHEET NUMBER	2E-3.0
PLOT DATE	9/26/2019 11:54:52 AM



GENERAL NOTES
#1- REFER TO ONE-LINE DIAGRAMS SHEET 2E-4.1, 2E-4.1A & 2E-4.2 FOR ATO & CU FEEDER REQUIREMENTS.

2 - ENLARGED AREA F POWER PLAN
1" = 20'-0"



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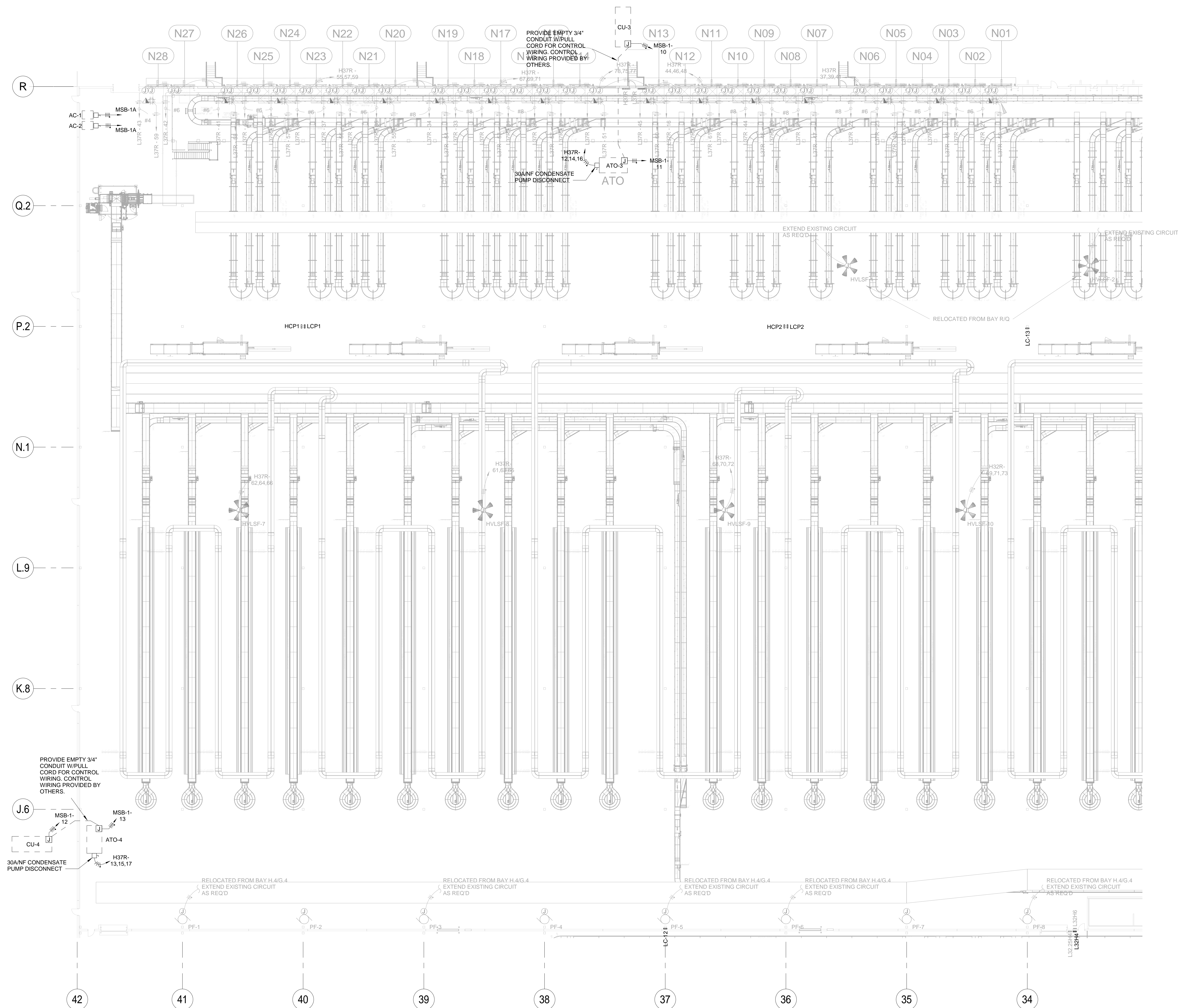
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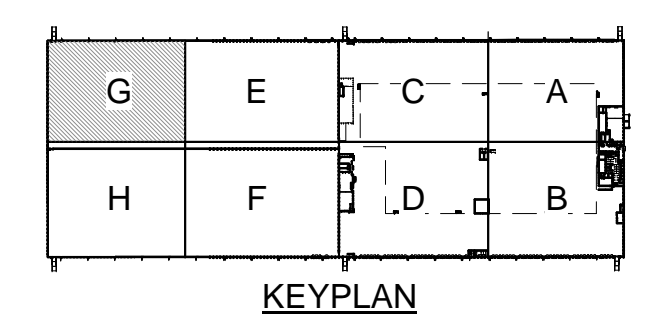
PROJECT BUILDING IMPROVEMENTS FOR MHE UPGRADES
ROSS DISTRIBUTION CENTER
SHAFTER, CA
ENLARGED AREA 'F' POWER PLAN

PROJECT NUMBER 19034
SHEET NUMBER 2E-3.7
PLOT DATE 9/26/2019 11:32:42 AM



GENERAL NOTES

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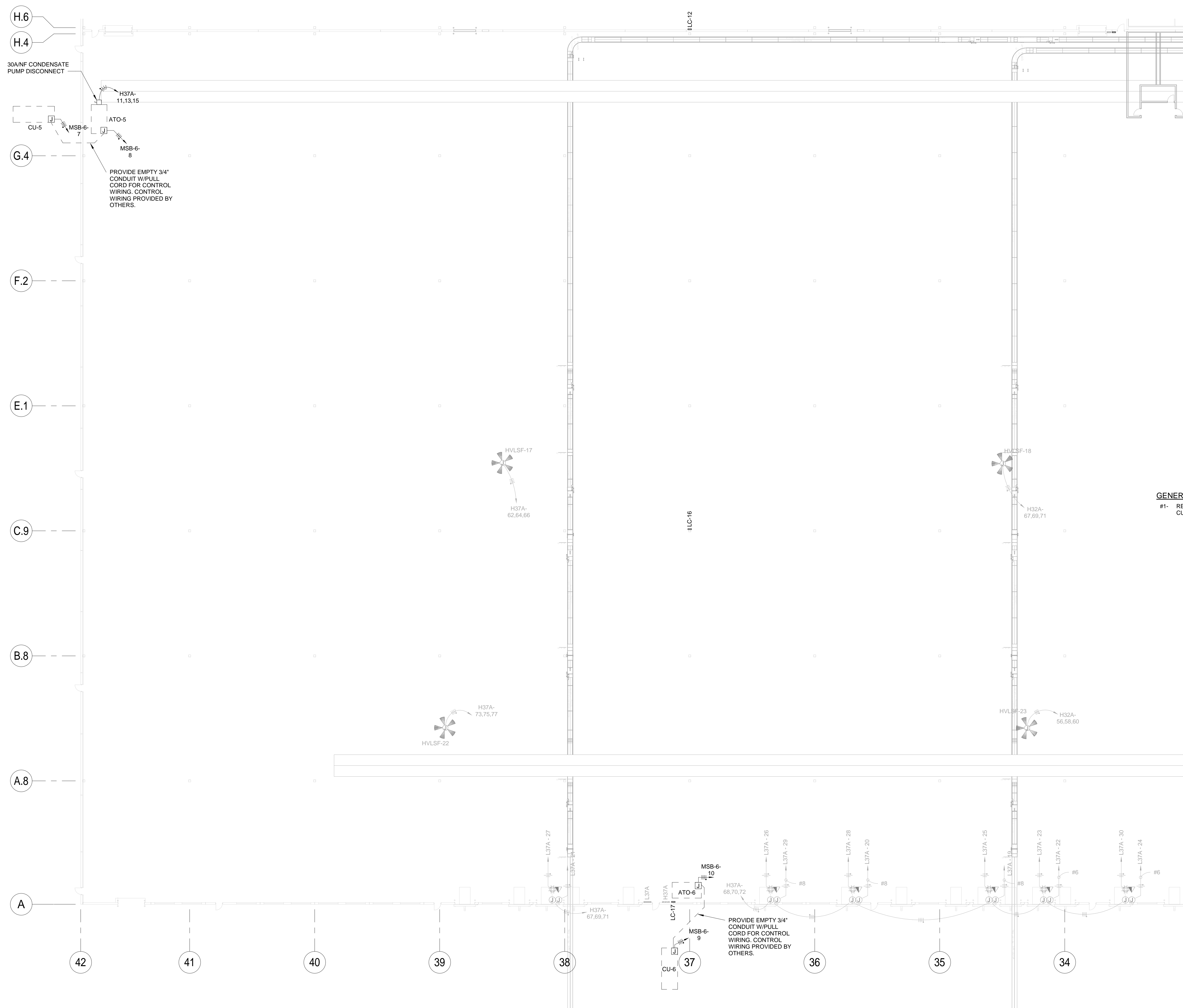
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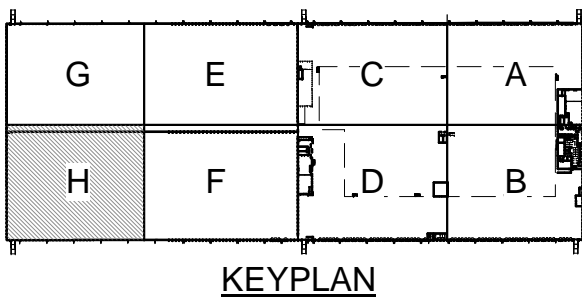
PROJECT BUILDING IMPROVEMENTS FOR MHE UPGRADES
ROSS DISTRIBUTION CENTER
SHAFTER, CA
ENLARGED AREA 'G' POWER PLAN

PROJECT NUMBER 19034
SHEET NUMBER 2E-3.8
PLOT DATE 9/26/2019 11:33:10 AM



GENERAL NOTES
#1- REFER TO ONE-LINE DIAGRAMS SHEET 2E-4.1, 2E-4.1A & 2E-4.2 FOR ATO & CU FEEDER REQUIREMENTS.

2 - ENLARGED AREA H POWER PLAN
1" = 20'-0"



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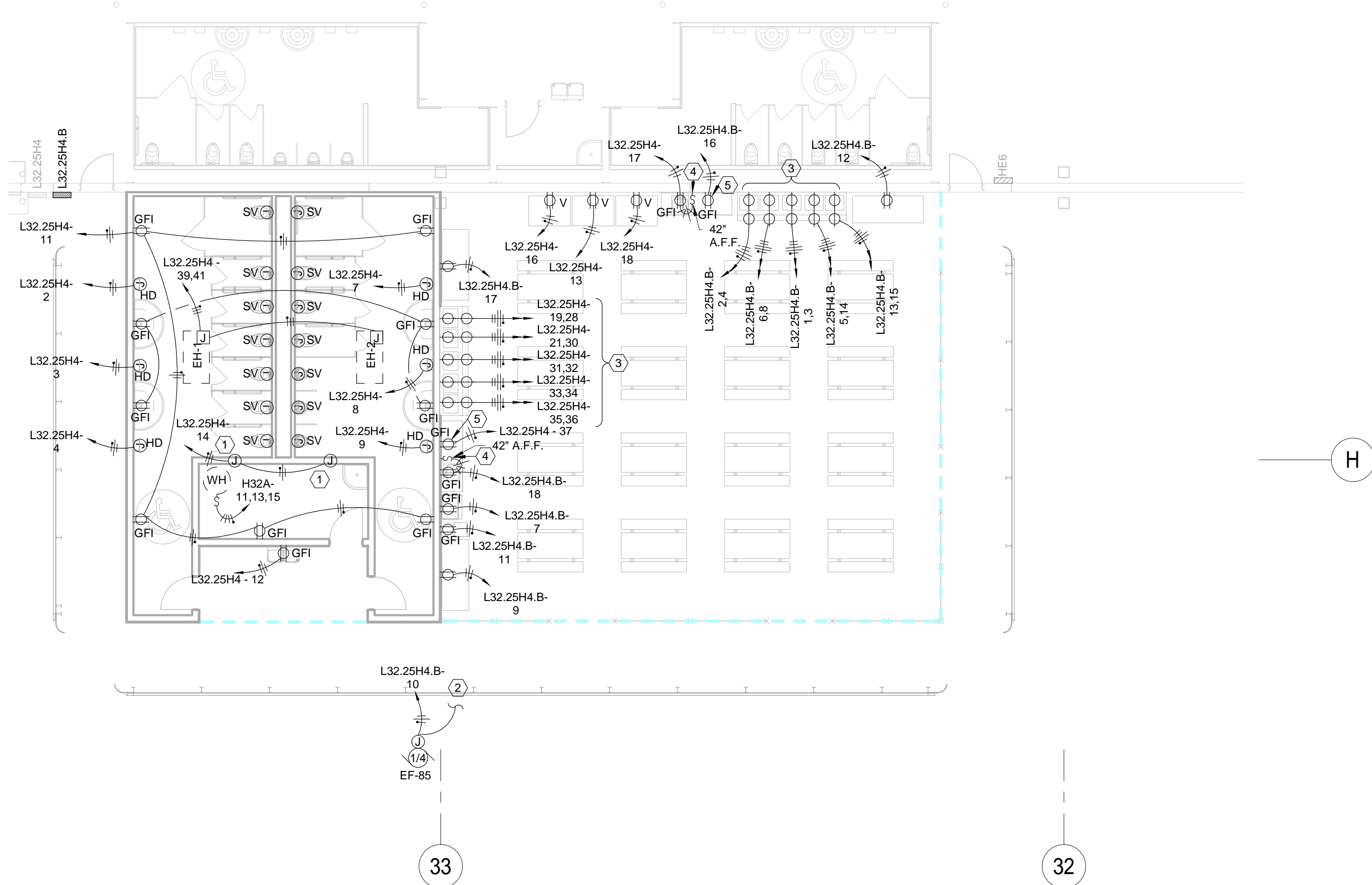
SHAFTER, CA

ENLARGED AREA 'H' POWER PLAN

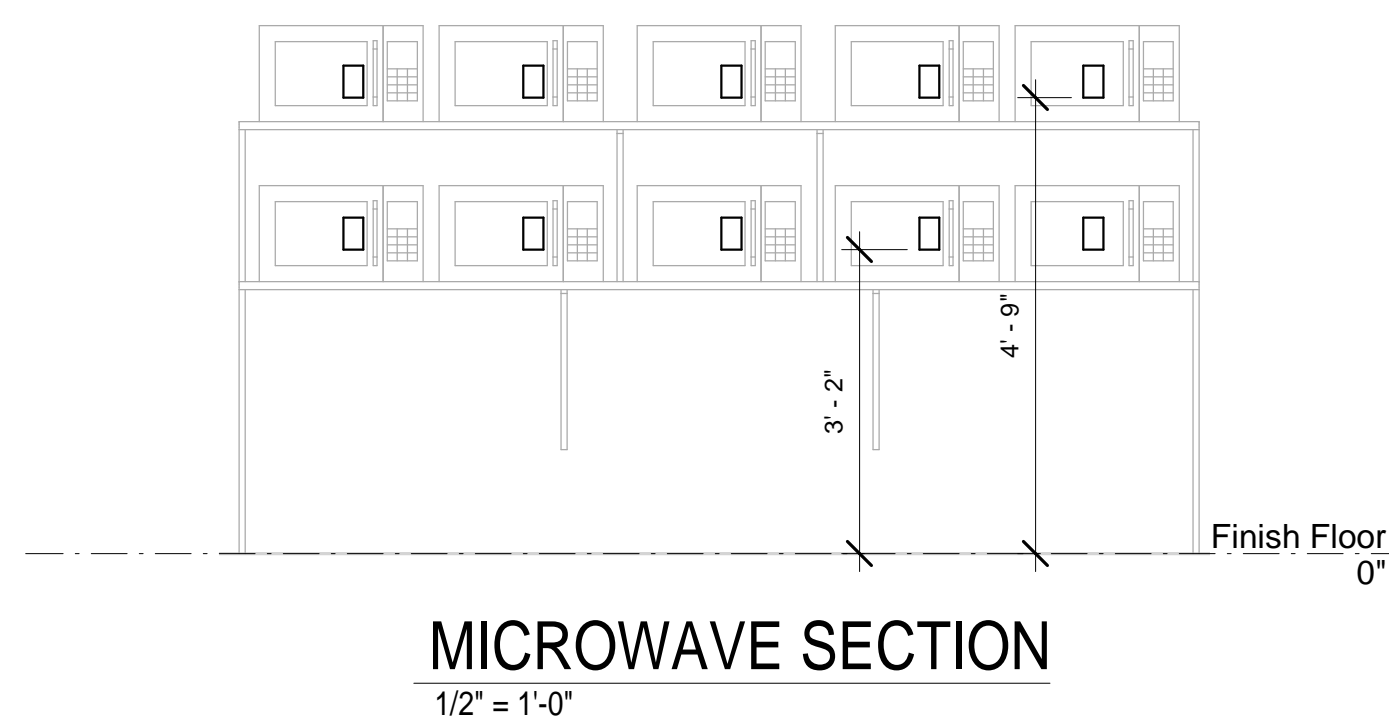
PROJECT NUMBER 19034

SHEET NUMBER 2E-3.9

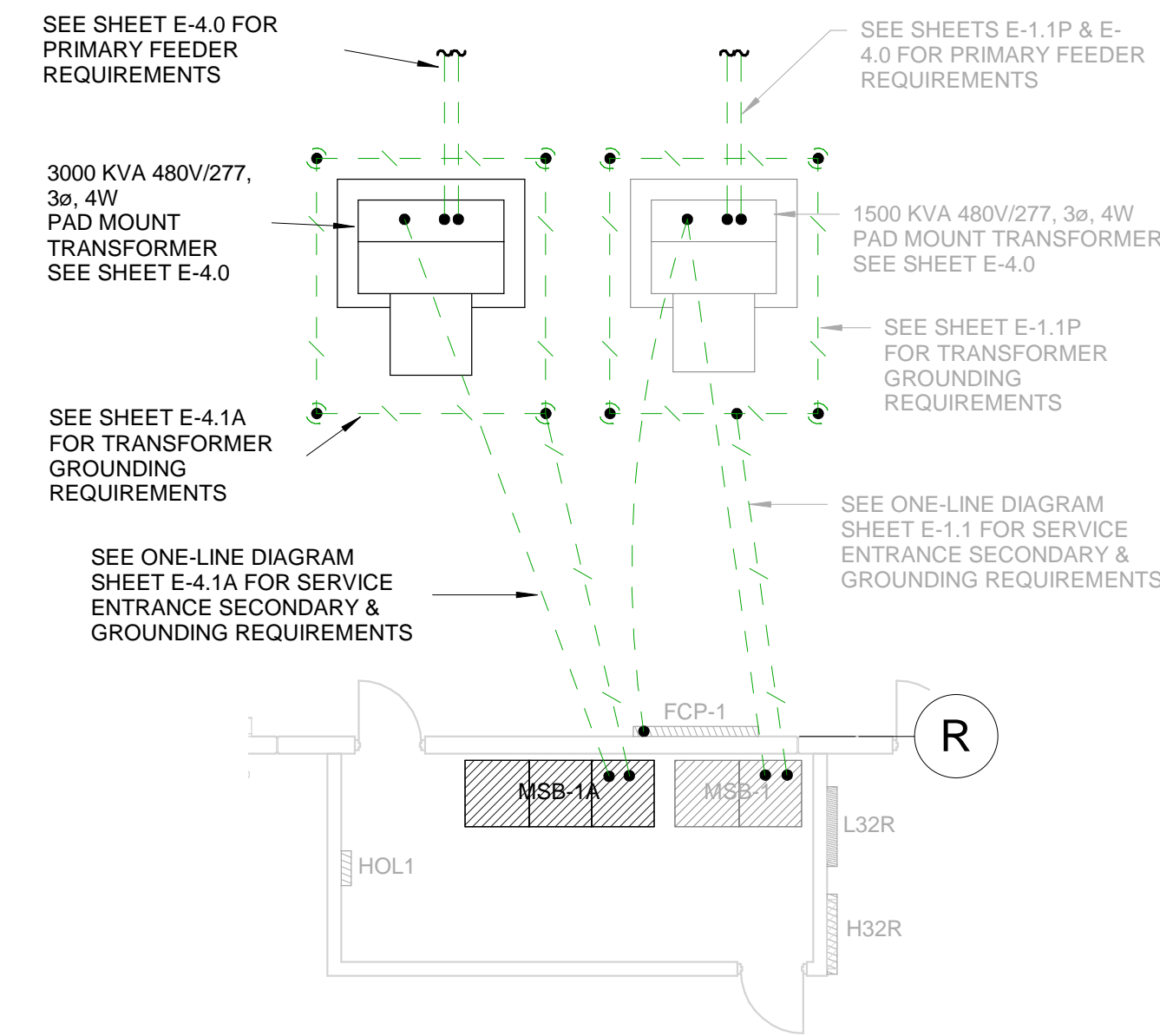
PLOT DATE 9/26/2019 11:33:32 AM



2 - ENLARGED BREAKROOM & RESTROOM POWER PLAN
1/8" = 1'-0"



MICROWAVE SECTION
1/2" = 1'-0"



2 - ENLARGED SERVICE ENTRANCE PLAN
1/8" = 1'-0"

- NOTES**
- #1- HALF-TONE ITEMS ARE EXISTING AND ARE TO REMAIN.
- #2- ALL BRANCH CIRCUIT CONDUCTORS SHOWN THIS SHEET ARE TO BE #10 AWG UNLESS NOTED OTHERWISE.

- NOTES BY SYMBOL:**
- ① PLUMBING INFRARED CONTROL TRANSFORMER FURNISHED BY MECHANICAL CONTRACTOR AND INSTALLED AND CONNECTED BY ELECTRICAL CONTRACTOR. COORDINATE INSTALLATION AND REQUIREMENTS W/ MECHANICAL CONTRACTOR. SEE DETAIL ON SHEET 2E-3.0.
- ② EXHAUST FAN TO BE WIRED TO LIGHTING CONTROLS IN RESTROOMS SHOWN ON THIS PLAN.
- ③ INSTALL ONE ROW OF (5) RECEPTACLES AT 38" A.F.F. AND ANOTHER ROW OF (5) RECEPTACLES AT 57" A.F.F. TO BOTTOM OF RECEPTACLE FOR MICROWAVES. SEE MICROWAVE SECTION DETAIL, THIS SHEET.
- ④ PROVIDE GFI RECEPTACLE UNDER COUNTER CONTROLLED BY SPST SWITCH ABOVE COUNTER FOR FOOD DISPOSAL UNIT.
- ⑤ MOUNT RECEPTACLE AT 44" A.F.F. FOR ABOVE COUNTER USE.



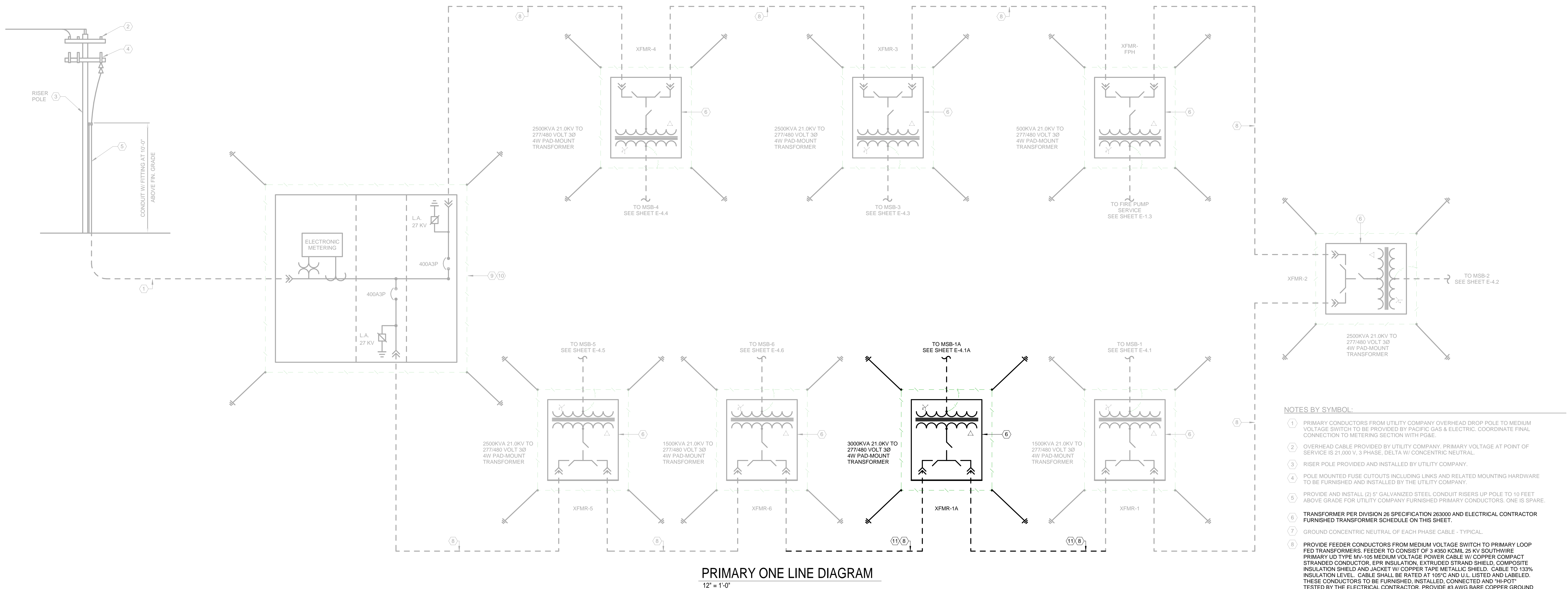
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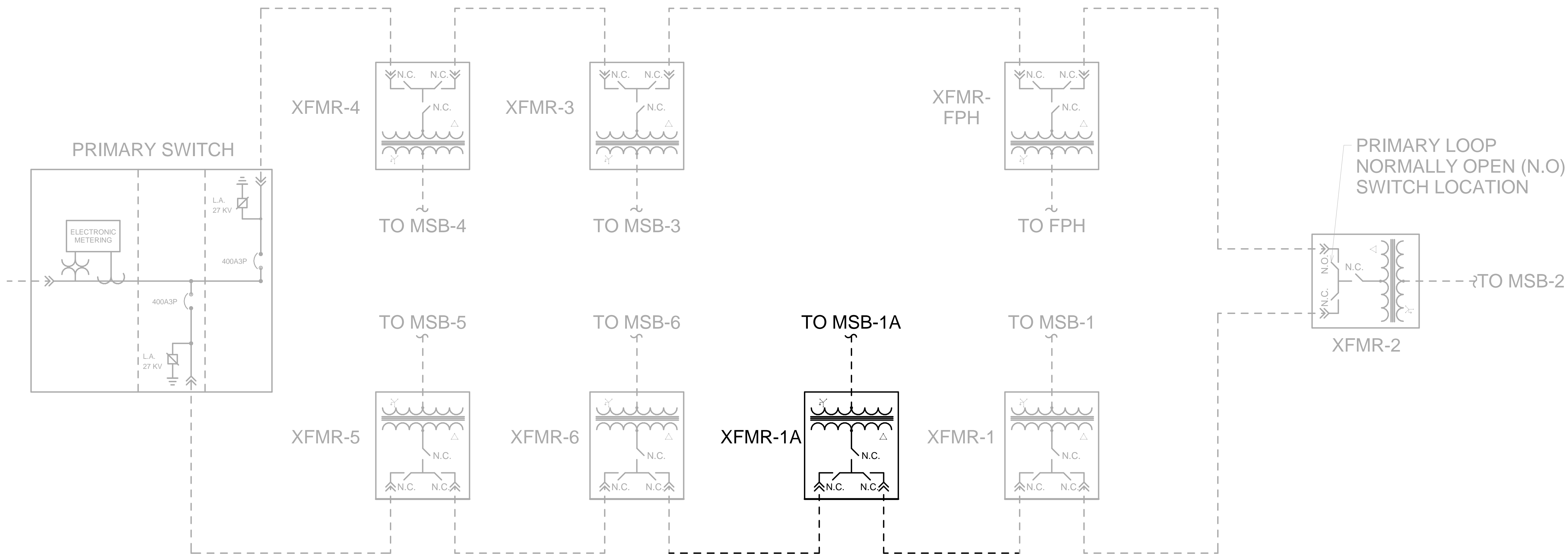
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SCALE			PROJECT BUILDING IMPROVEMENTS FOR MHE UPGRADES ROSS DISTRIBUTION CENTER SHAFTER, CA	PROJECT NUMBER 19034 SHEET NUMBER 2E-3.10 PLOT DATE 9/26/2019 11:31:52 AM
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SHEET TITLE			ENLARGED RESTROOM & BREAK AREA POWER PLAN	



PRIMARY ONE LINE DIAGRAM
12" = 1'-0"



PRIMARY ONE LINE PLACARD DIAGRAM
12" = 1'-0"

- NOTES BY SYMBOL:
- PRIMARY CONDUCTORS FROM UTILITY COMPANY OVERHEAD DROP POLE TO MEDIUM VOLTAGE SWITCH TO BE PROVIDED BY PACIFIC GAS & ELECTRIC. COORDINATE FINAL CONNECTION TO METERING SECTION WITH PG&E.
 - OVERHEAD CABLE PROVIDED BY UTILITY COMPANY. PRIMARY VOLTAGE AT POINT OF SERVICE IS 21,000 V, 3 PHASE, DELTA W/ CONCENTRIC NEUTRAL.
 - RISER POLE PROVIDED AND INSTALLED BY UTILITY COMPANY.
 - POLE MOUNTED FUSE CUTOUPS INCLUDING LINKS AND RELATED MOUNTING HARDWARE TO BE FURNISHED AND INSTALLED BY THE UTILITY COMPANY.
 - PROVIDE AND INSTALL (2) 5" GALVANIZED STEEL CONDUIT RISERS UP POLE TO 10 FEET ABOVE GRADE FOR UTILITY COMPANY FURNISHED PRIMARY CONDUCTORS. ONE IS SPARE.
 - TRANSFORMER PER DIVISION 26 SPECIFICATION 263000 AND ELECTRICAL CONTRACTOR FURNISHED TRANSFORMER SCHEDULE ON THIS SHEET.
 - GROUND CONCENTRIC NEUTRAL OF EACH PHASE CABLE - TYPICAL.
 - PROVIDE FEEDER CONDUCTORS FROM MEDIUM VOLTAGE SWITCH TO PRIMARY LOOP FED TRANSFORMERS. FEEDER TO CONSIST OF 3 #350 KCMIL 25 KV SOUTHWIRE PRIMARY UD TYPE MV-105 MEDIUM VOLTAGE POWER CABLE W/ COPPER COMPACT STRANDED CONDUCTOR, EPR INSULATION, EXTRUDED STRAND SHIELD, COMPOSITE INSULATION SHIELD AND JACKET W/ COPPER TAPE METALLIC SHIELD. CABLE TO 133% INSULATION LEVEL. CABLE SHALL BE RATED AT 105°C AND U.L. LISTED AND LABELED. THESE CONDUCTORS TO BE FURNISHED, INSTALLED, CONNECTED AND HI-POT TESTED BY THE ELECTRICAL CONTRACTOR. PROVIDE #3 AWG BARE COPPER GROUND CONDUCTOR W/ PHASE CONDUCTORS. THE ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL ALL CABLE 600 AMP DEAD-BREAK ELBOWS AND TERMINATION LUGS AS REQUIRED. THESE CONDUCTORS TO BE IN ONE OF THE 5" CONDUITS.
 - MEDIUM VOLTAGE SWITCH PER DIVISION 26 SPECIFICATION 263000. PROVIDE TWO (2) 600A FRAMES @ 25KV VACUUM FAULT INTERRUPTING BREAKERS.
 - PROVIDE UTILITY METER SECTION FOR 25KV SWITCHING CENTER PER PACIFIC GAS & ELECTRIC METER STANDARDS. 25KV SWITCH PAD TO BE FURNISHED BY THE CONCRETE CONTRACTOR. ELECTRICAL CONTRACTOR TO COORDINATE INSTALLATION OF PAD AND SWITCH.
 - CUT EXISTING PRIMARY FEEDER AND RE-USE SLACK ON THE TRANSFORMER END TO RECONNECT TO NEW TRANSFORMER T-1A
 - PROVIDE NEW 25KV FEEDER FROM NEW TRANSFORMER T-1A LOCATION TO EXISTING TRANSFORMER T-1.

TRANSFORMER SCHEDULE

DESTINATION	DESCRIPTION
T-2 T-4 T-5	21,000V - 480/277V, DELTA/WYE, 3 PHASE, 4 WIRE, 2500KVA, 5.75% IMPEDANCE, PAD MOUNTED, OIL-FILLED TRANSFORMER WITH "LOOP FEED" TERMINATIONS AS INDICATED. VFI ELECTRONIC BREAKER.
T-1 T-6	21,000V - 480/277V, DELTA/WYE, 3 PHASE, 4 WIRE, 1500KVA, 5.75% IMPEDANCE, PAD MOUNTED, OIL-FILLED TRANSFORMER WITH "LOOP FEED" TERMINATIONS AS INDICATED. VFI ELECTRONIC BREAKER.
T-FPH	21,000V - 480/277V, DELTA/WYE, 3 PHASE, 4 WIRE, 500KVA, 5.75% IMPEDANCE, PAD MOUNTED, OIL-FILLED TRANSFORMER WITH "LOOP FEED" TERMINATIONS AS INDICATED. VFI ELECTRONIC BREAKER.
T-1A	21,000V - 480/277V, DELTA/WYE, 3 PHASE, 4 WIRE, 3000KVA, 5.75% IMPEDANCE, PAD MOUNTED, OIL-FILLED TRANSFORMER WITH "LOOP FEED" TERMINATIONS AS INDICATED. VFI ELECTRONIC BREAKER.

- NOTES:
- ALL MEDIUM VOLTAGE CABLE AND TERMINATION SYSTEMS SHALL BE HI-POT TESTED IN ACCORDANCE WITH CABLE AND TERMINATION EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS AND PRESCRIBED PROCEDURES OF THE IEEE, NEMA AND CABLE MANUFACTURER ASSOCIATION.
 - ALL MEDIUM VOLTAGE CABLES, TERMINATORS, AND LOAD BREAK ELBOWS AND INSTALLATION OF ALL EQUIPMENT SHALL BE IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.
 - ALL CONCRETE PAD, SIZE, AND DIMENSIONS, AND LOCATION ARE TO BE COORDINATED WITH CONSTRUCTION MANAGER AND CONCRETE CONTRACTOR PRIOR TO PAD INSTALLATION.
 - ALL MEDIUM VOLTAGE EQUIPMENT INCLUDING SWITCHES, TRANSFORMERS, AND RUBBER GOODS SHALL BE MANUFACTURED IN ACCORDANCE WITH ANSI/IEEE STANDARDS.
 - PROVIDE PLASTIC ENGRAVED SIGNAGE AT EACH OF THE EIGHT (8) TRANSFORMER LOCATIONS AND AT THE PRIMARY SWITCH FOR SYSTEM DIAGRAM. SEE PLACARD DETAIL THIS SHEET.



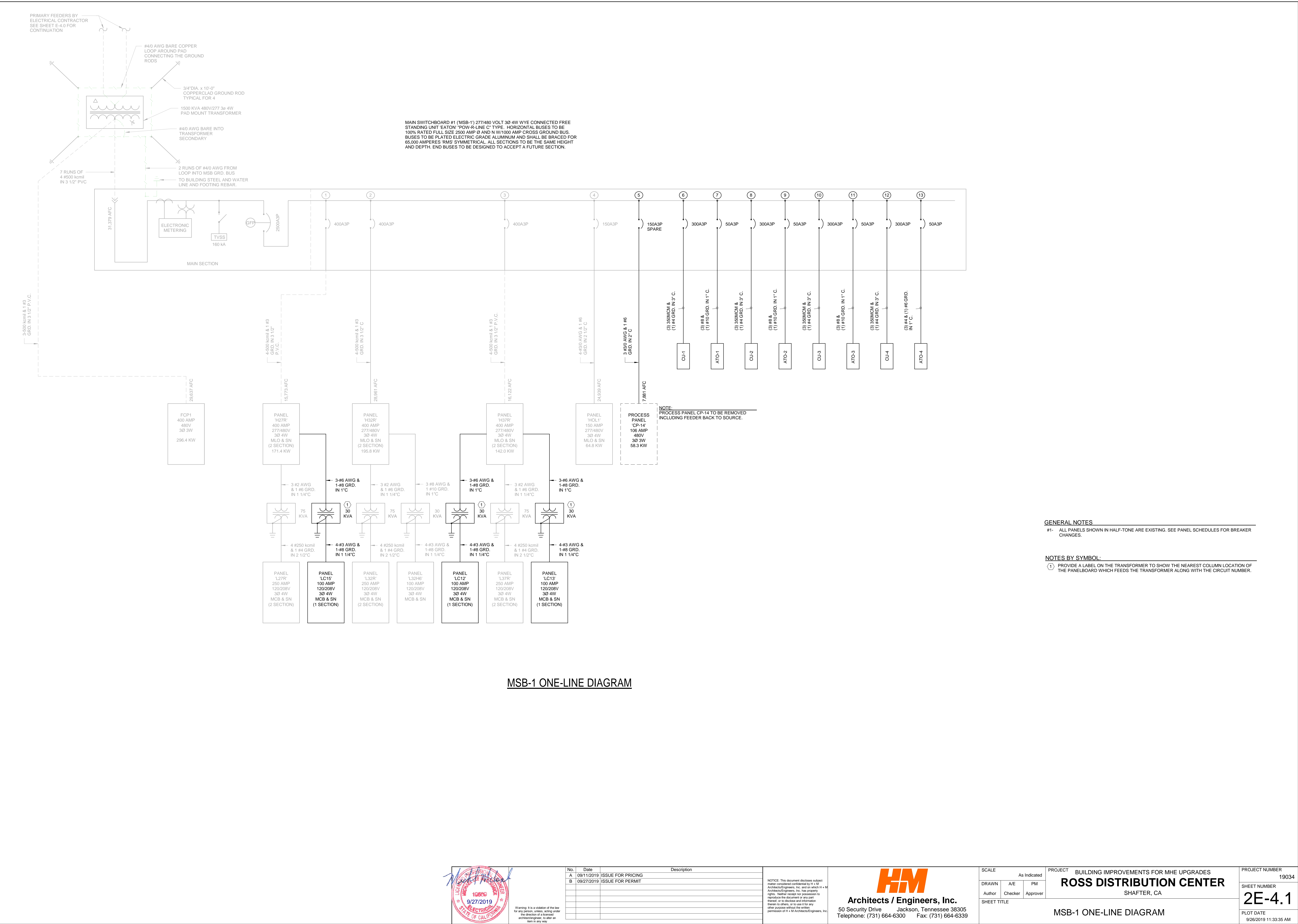
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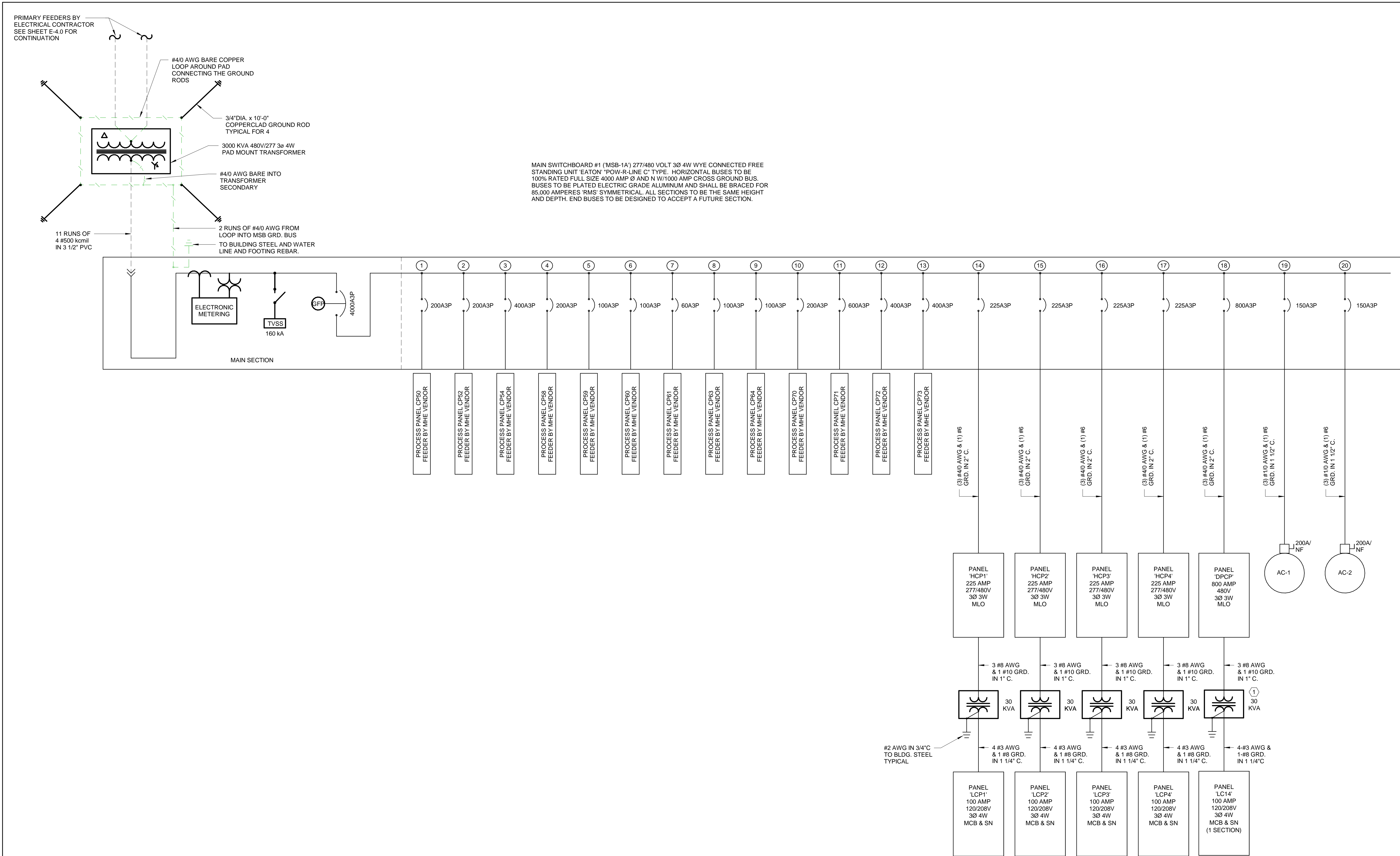
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SCALE	As Indicated	PROJECT	BUILDING IMPROVEMENTS FOR MHE UPGRADES	PROJECT NUMBER	19034
DRAWN	A/E	Author	Checker	Approver	Author
SHEET TITLE	PRIMARY ONE-LINE DIAGRAM	ROSS DISTRIBUTION CENTER	SHAFTER, CA	SHEET NUMBER	2E-4.0
				PLOT DATE	9/26/2019 11:33:34 AM





MSB-1A ONE-LINE DIAGRAM

GENERAL NOTES

- #1- MAIN CIRCUIT BREAKER TO BE TYPE "MAGNUM SB" UNIT FOR 400A W/LONG, SHORT, INSTANTANEOUS, GFP TRIP UNIT AMMETER-LSIG, TRUE "RMS" SENSING, LONG TIME, SHORT TIME, INSTANTANEOUS ADJUSTABLE RATING PLUS, THERMAL IMAGING, AUXILIARY CONTACTS AND ARC REDUCTION MAINTENANCE SWITCH.
- #2- ELECTRONIC METERING PACKAGE TO BE A #PXM2280 COMPLETE WITH ALL REQUIRED METERING AND CONTROL TRANSFORMERS, ALL INTERCONNECTING WIRING AND FUSES. ANY ALTERNATE METER MUST BE BACNET COMPATIBLE.
- #3- "TVSS" UNIT TO BE A "SPD SERIES" 160KA PEAK SURGE RATING.
- #4- DISTRIBUTION CIRCUIT BREAKER FRAME TYPE SHALL BE BASED ON MAIN SWITCHBOARD AIC BRACING REQUIREMENTS.
- #5- CONDUCTOR SIZES #12 AWG THRU 500 KCMIL SHALL BE STRANDED ANNEALED COPPER WITH TYPE "THHN-THWN" 90 DEG C - DRY / 75 DEG C - WET LOCATION, MOSTURE AND HEAT RESISTANT THERMOPLASTIC NYLON JACKETED INSULATION.
- #6- VERIFY SECONDARY VOLTAGE ON ALL DRY-TYPE TRANSFORMERS UNDER LOAD. SET TAPS AS REQUIRED FOR PROPER VOLTAGE.
- #7- "AFC" IS AVAILABLE FAULT CURRENT AT LOCATION. FAULT CURRENT IS CALCULATED BASED ON INFINITE PRIMARY FAULT CURRENT.
- #8- HORIZONTAL PORTIONS OF UNDERGROUND FEEDERS CAN BE SCH. 40 RIGID P.V.C. ELBOWS SHALL BE LONG RADIUS SCH. 80 RIGID P.V.C. VERTICAL PORTIONS SHALL BE SCH. 80 P.V.C. ALL CONDUIT ABOVE THE CONCRETE FLOOR INTO BOTTOM OF PANELS OR SWITCHBOARDS. NO PORTION OF FEEDER ELBOWS SHALL COME OUT OF THE CONCRETE FLOOR.
- #9- "MSB" TO HAVE ALL SERIES RATED BRANCH CIRCUIT DISTRIBUTION BREAKERS TO LIMIT FAULT CURRENT TO DOWN STREAM DEVICES. PROVIDE BRANCH CIRCUIT DISTRIBUTION BREAKER COORDINATION STUDY FOR SETTING OF BREAKERS. ALL SERIES RATED COMPONENTS SHALL BE LABELED AND THE SERIES RATING INTERRUPTING CURRENT SHALL APPEAR ON LABEL IN COMPLIANCE WITH CEC SECTION 110.22 FOR SERIES RATED SYSTEMS. THE FOLLOWING NOTE FROM THE MANUFACTURER SHALL APPEAR ON ALL TESTED SERIES COMBINATION SYSTEMS:
- CAUTION-SERIES COMBINATION SYSTEM
RATED _____ AMPERES, IDENTIFIED
REPLACEMENT COMPONENTS REQUIRED.
- #10- ALL CONVEYOR PANELS ("CP") SHOWN ON ONE-LINE DIAGRAMS ARE PROVIDED AND INSTALLED, INCLUDING FEEDERS, BY THE OWNER'S MATERIAL HANDLING EQUIPMENT (MHE) VENDOR.
- #11- ACTUAL DEMAND LOADS FOR EACH MAIN SERVICE ENTRANCE SHALL NOT EXCEED THE CAPACITY OF THE INSTALLED ELECTRICAL DISTRIBUTION EQUIPMENT.
- #12- PROVIDE 6" H X 12" W PLASTIC ENGRAVED PLAQUE AT EACH MAIN SWITCHBOARD LOCATION DENOTING LOCATION OF ALL SERVICE ENTRANCE LOCATIONS IN THE BUILDING AS WELL AS AREA(S) SERVED BY EACH INDIVIDUAL SWITCHBOARD. REFER TO DIAGRAM THIS SHEET FOR CUSTOMIZED PLAQUE FOR THIS SWITCHBOARD.

NOTES BY SYMBOL:

- (1) PROVIDE A LABEL ON THE TRANSFORMER TO SHOW THE NEAREST COLUMN LOCATION OF THE PANELBOARD WHICH FEEDS THE TRANSFORMER ALONG WITH THE CIRCUIT NUMBER.



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PROJECT	BUILDING IMPROVEMENTS FOR MHE UPGRADES
ROSS DISTRIBUTION CENTER	SHAFTER, CA
MSB-1A ONE LINE DIAGRAM	

PROJECT NUMBER	19034
SHEET NUMBER	2E-4.1A
PLOT DATE	9/26/2019 11:33:37 AM



#1- ALL PANELS SHOWN IN HALF-TONE ARE EXISTING. SEE PANEL SCHEDULES FOR BREAK
CHANGES.

1 PROVIDE A STICKER ON THE TRANSFORMER TO SHOW THE NEAREST COLUMN LOCATION OF THE PANELBOARD WHICH FEEDS THE TRANSFORMER ALONG WITH THE CIRCUIT NUMBER.

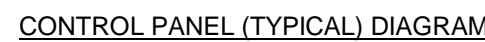
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PROJECT BUILDING IMPROVEMENTS FOR MHE UPGRADES
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MSB-6 ONE-LINE DIAGRAM

PROJECT NUMBER	19034
SHEET NUMBER	2E-4.2
PLOT DATE	9/26/2019 11:33:38 AM



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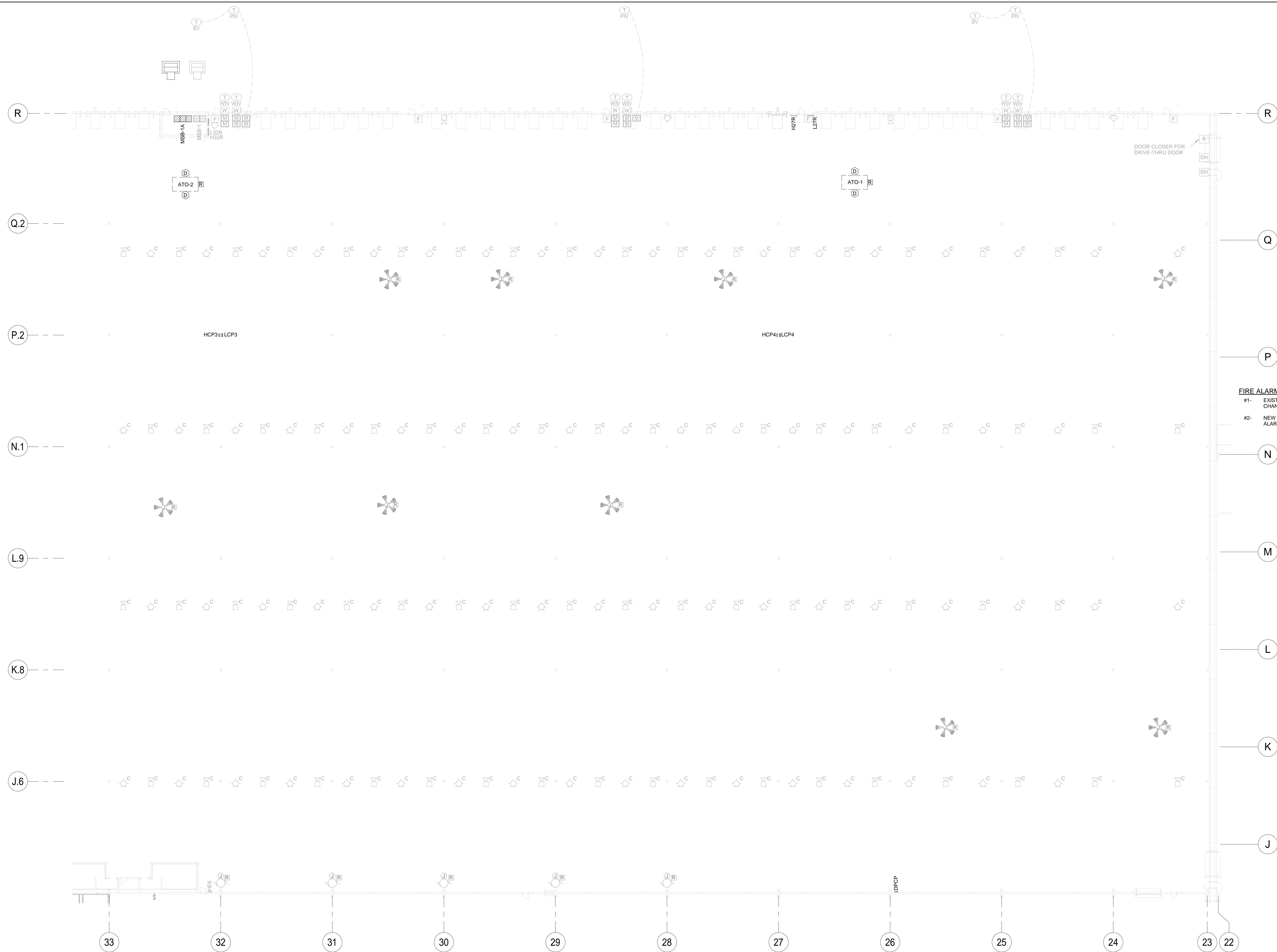
- #2- NUMBERS TYPES AND SIZES OF CONDUCTORS, AND FINAL CONNECTIONS TO ALL DEVICES TO BE AS REQUIRED BY SYSTEM EQUIPMENT SUPPLIER.
- #3- EQUIPMENT SUPPLIER TO PROVIDE SHOP DRAWING FOR ROUTING OF CONDUCTORS AND ROUGH-IN REQUIREMENTS FOR ALL DEVICES.
- #4- HORIZONTAL CABLES AND CONDUCTORS IN THE ROOF STRUCTURE OF THE DISTRIBUTION CENTER AND RACK STORAGE ARE TO BE RUN IN THE RAFT JOIST SPACE. THESE CAN BE RUN OPEN AND SUPPORTED W/ BRIDLE RINGS PER MANUFACTURER'S RECOMMENDATIONS. ALL VERTICAL CABLE DROPS TO DEVICES, PANELS, ETC. AND LOWER HORIZONTAL CABLES TO BE RUN IN CONDUIT.
- #5- ALL SYSTEM DEVICES TO BE MOUNTED IN STEEL BOXES. ANY CABLE SPICES OF TAPS TO BE MADE IN STEEL JUNCTION BOXES.
- #6- ALL SYSTEMS CONDUCTORS AND CABLES NOT IN CONDUITS AND ABOVE CEILINGS TO BE PLENUM RATED FOR AIR DISTRIBUTION / RETURN SPACES.
- #7- FINAL LOCATIONS OF ALL EQUIPMENT TO BE COORDINATED WITH MATERIAL HANDLING EQUIPMENT AND OWNER.
- #8- CONDUCTORS FROM MONITOR MODULES TO P.I.V., SECTIONAL VALVES, AND PIT VALVES TO BE RUN IN UNDERGROUND CONDUIT.
- #9- UNDERGROUND CONDUCTORS TO HAVE SURGE PROTECTION INSTALLED.
- #10- ALL CONDUITS PASSING THROUGH THE 2-HOUR RATED FIRE BARRIER BETWEEN THE FLAMMABLE STORAGE AND WAREHOUSE AREAS MUST BE FIRE CABLEED WITH AN APPROVED UL LISTED CABLE FOR THE APPLICATION.

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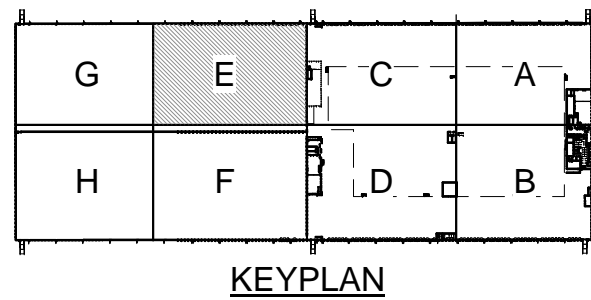
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FIRE ALARM NOTES AND SYMBOL SCHEDULE



- FIRE ALARM NOTES:**
- #1- EXISTING FIRE ALARM SYSTEM TO REMAIN INTACT. MAKE MINOR FIELD CHANGES IF REQUIRED BY CONSTRUCTION.
 - #2- NEW FIRE ALARM DEVICES SHOWN SHALL BE CONNECTED TO EXISTING FIRE ALARM SYSTEM.

2 - ENLARGED AREA E FIRE ALARM PLAN
1" = 20'-0"



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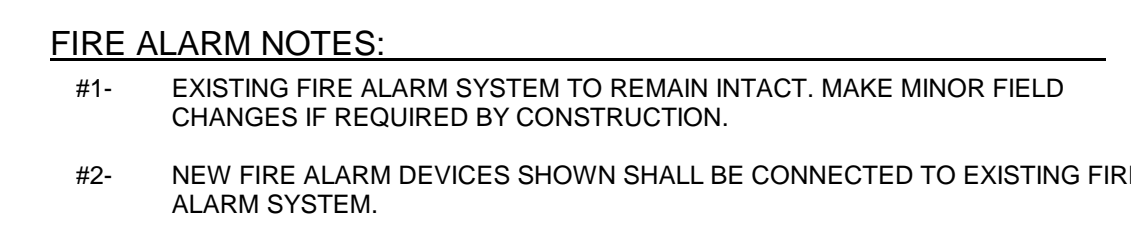
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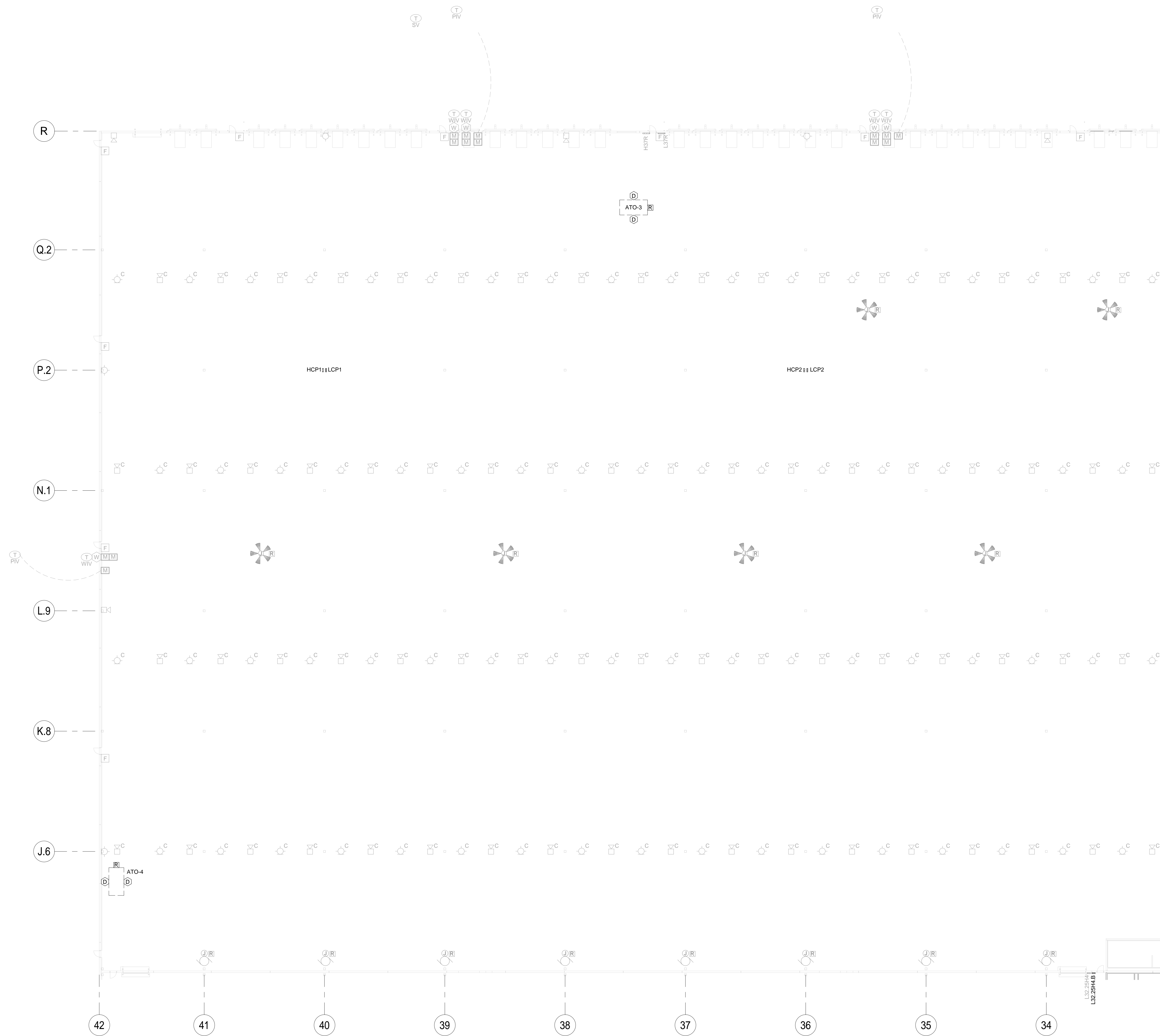
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ROSS DISTRIBUTION CENTER
SHAFTER, CA
ENLARGED AREA 'E' FIRE ALARM PLAN

PROJECT NUMBER 19034
SHEET NUMBER **2E-5.6**
PLOT DATE 9/26/2019 11:34:00 AM



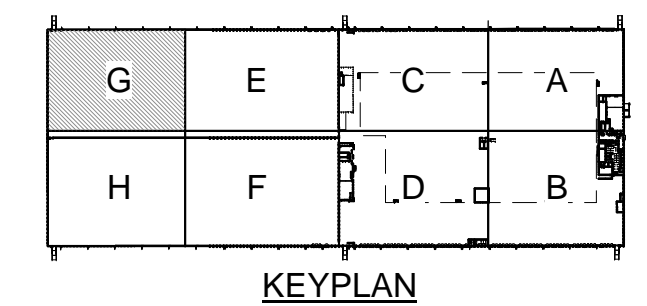
KEYPLAN

PROJECT NUMBER	19034
SHEET NUMBER	2E-5.7
PLOT DATE	9/26/2019 11:34:04 AM



- FIRE ALARM NOTES:**
- #1- EXISTING FIRE ALARM SYSTEM TO REMAIN INTACT. MAKE MINOR FIELD CHANGES IF REQUIRED BY CONSTRUCTION.
 - #2- NEW FIRE ALARM DEVICES SHOWN SHALL BE CONNECTED TO EXISTING FIRE ALARM SYSTEM.

2 - ENLARGED AREA G FIRE ALARM PLAN
1" = 20'-0"

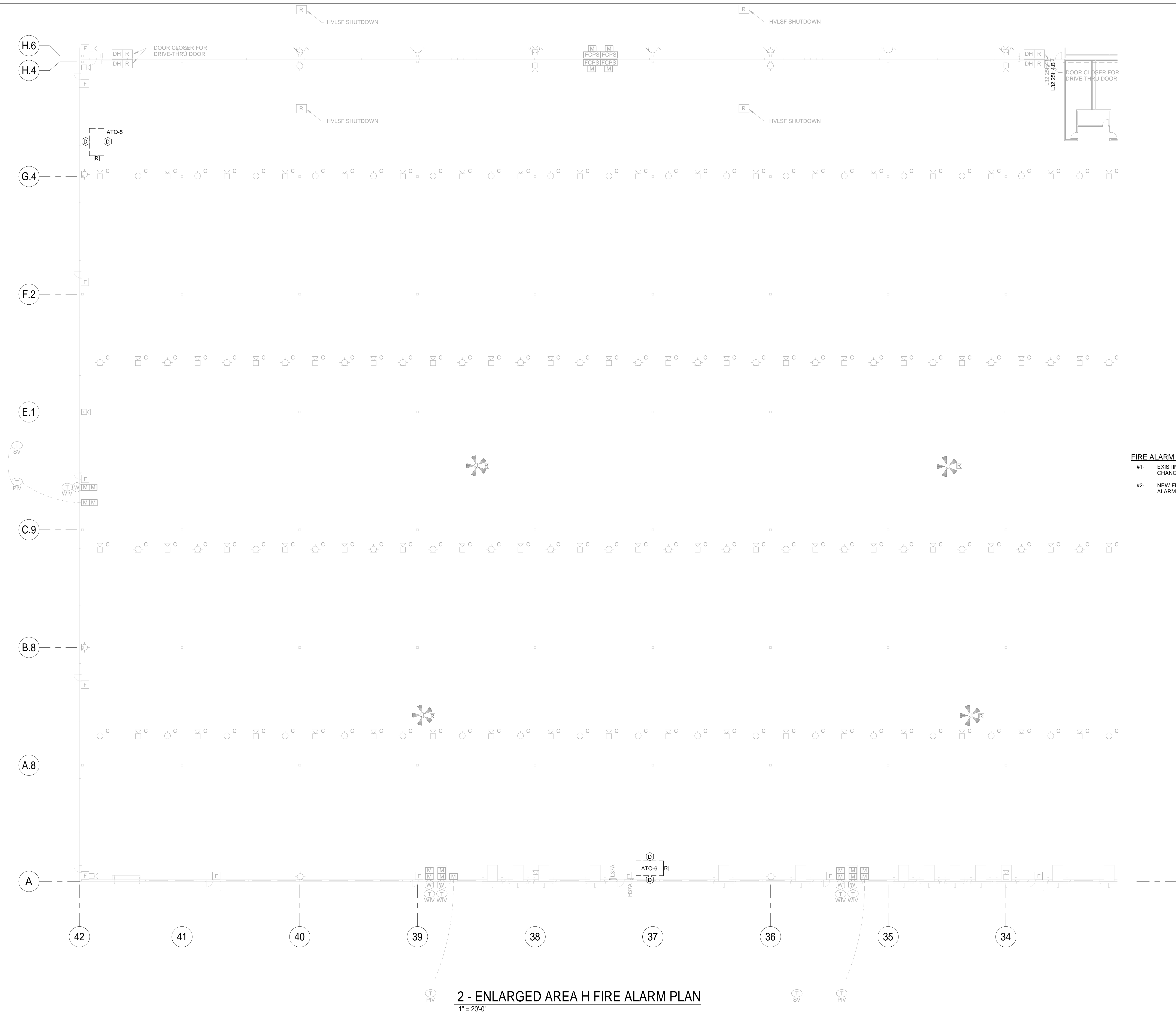


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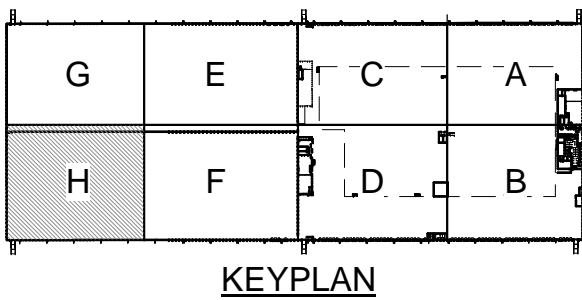
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As Indicated					19034		
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Author	Checker	Approver				SHAFTER, CA	
SHEET TITLE						SHEET NUMBER	
ENLARGED AREA 'G' FIRE ALARM PLAN						2E-5.8	
						PLOT DATE	
						9/26/2019 11:34:07 AM	



- FIRE ALARM NOTES:**
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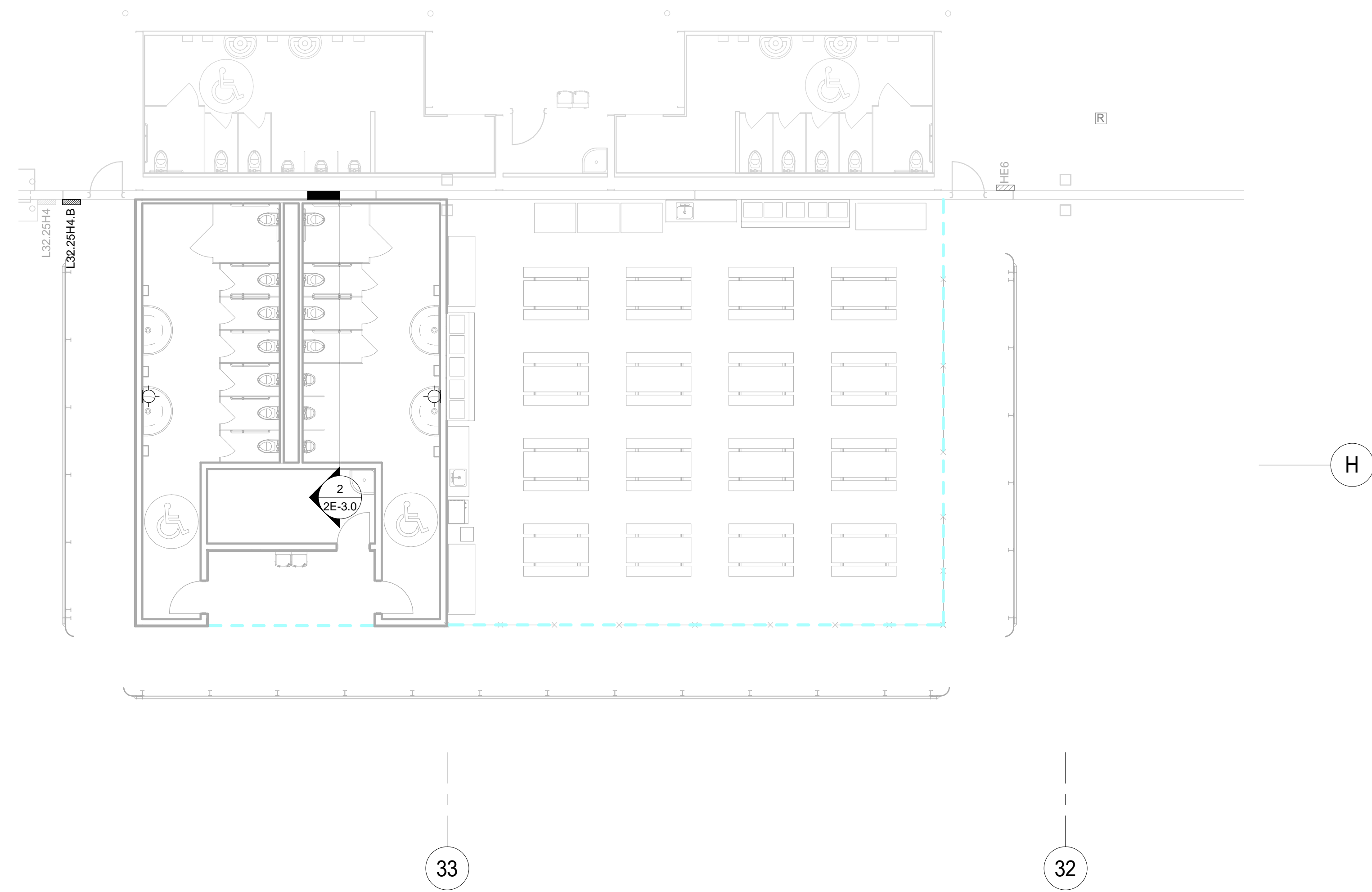


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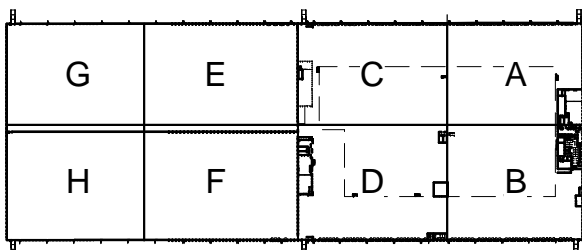
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Author	Checker	Approver		2E-5.9	
SHEET TITLE					
ENLARGED AREA 'H' FIRE ALARM PLAN					9/26/2019 11:34:09 AM



ENLARGED BREAKROOM & RESTROOM FIRE ALARM PLAN
1/8" = 1'-0"

- FIRE ALARM NOTES:**
- #1- EXISTING FIRE ALARM SYSTEM TO REMAIN INTACT. MAKE MINOR FIELD CHANGES IF REQUIRED BY CONSTRUCTION.
 - #2- NEW FIRE ALARM DEVICES SHOWN SHALL BE CONNECTED TO EXISTING FIRE ALARM SYSTEM.



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ENLARGED RESTROOM & BREAK AREA FIRE ALARM PLAN

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