

SAMUEL MAHELONA MEMORIAL HOSPITAL

ELECTRICAL UPGRADES PHASE 2

4800 KAWAIHAU RD

KAPAA, KAUAI, HAWAII

TAX MAP KEY: (4) 4-6-014: 113

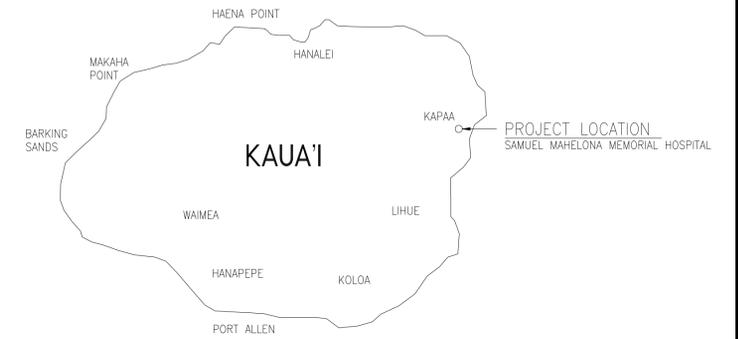
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LOCATION MAP



LOCATION MAP
NOT TO SCALE

SITE MAP



SITE MAP
NOT TO SCALE

REVISIONS	BY

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[Signature]
 EXPIRATION DATE: 04/30/2022

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SAMUEL MAHELONA
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 ELECTRICAL UPGRADES PHASE 2
 KAPAA, KAUAI, HAWAII

TITLE SHEET

Designed	IK
Drawn	CAD
Checked	RT
Date	03/15/2022
Job No.	21039
Sheet	T-1

1 of 44 Sheets

ELECTRICAL SYMBOL LIST / MOUNTING HEIGHT SCHEDULE

MOUNTING HEIGHT FROM FLOOR TO		(SPECIAL MOUNTING HEIGHTS INDICATED ON PLAN)		DESCRIPTION
		SYMBOL		
TOP	CL	EXISTING	NEW	
				JUNCTION BOX, LARGE, WALL MOUNTED
				JUNCTION BOX, LARGE, HORIZONTALLY MOUNTED
				JUNCTION BOX, HORIZONTALLY MOUNTED
				JUNCTION BOX, WALL MOUNTED
				ENCLOSED CIRCUIT BREAKER
				TRANSFORMER, PAD OR FLOOR MOUNTED
				PANELBOARD
				HOMERUN ARROW TO PANELBOARD. LETTER INDICATES PANELBOARD, NUMBERS INDICATES CIRCUITS.
				INTERIOR WORK: CONCEALED CONDUIT IN FINISHED FLOOR OR BELOW GRADE (NO HASHMARKS INDICATE 2 CURRENT CARRYING CONDUCTORS AND 1 GROUND CONDUCTOR WITHIN, ALL OTHERS SIMILAR).
				EXTERIOR WORK: CONCRETE ENCASED UNDERGROUND DUCT LINE, SEE DUCT SECTION INDICATOR AND SCHEDULE.
				CONCEALED CONDUIT IN CEILING OR WALLS, (HASHMARKS INDICATE 3-WIRES WITHIN, ALL OTHERS SIMILAR).
				EXPOSED RACEWAY, PROVIDE STRAP 8'-0" ON CENTER MAXIMUM
				LIQUID-TIGHT FLEXIBLE CONDUIT
				CONDUIT STUB, 3/4" MINIMUM CONDUIT UNLESS OTHERWISE NOTED
				POWER TRANSFORMER
				GROUND
				CIRCUIT BREAKER
				NON-FUSED DISCONNECT SWITCH
				FUSED DISCONNECT SWITCH
				POTENTIAL TRANSFORMER
				CURRENT TRANSFORMER
				METER SOCKET AND KILOWATT HOUR METER WITH DEMAND REGISTER
				DENOTES DEMOLITION/REMOVAL
				NOTE INDICATOR
				ELECTRICAL/SIGNAL DUCTLINE & DESIGNATOR

ELECTRICAL ABBREVIATIONS

AA	AIR-TO-AIR	MH	MANHOLE
AIC	AMPERE-INTERRUPTING CAPACITY	MIN	MINIMUM
AMP, A	AMPERE	MLO	MAIN LUGS ONLY
ADD'L	ADDITIONAL	MTD	MOUNT OR MOUNTED
AFF	ABOVE FINISHED FLOOR	MTG	MOUNTING
ATC	AIR TERMINAL CHAMBER	MM	MULTI-MODE
BC	BARE COPPER	NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
BKR	BREAKER	NEC	NATIONAL ELECTRICAL CODE
BKBD	BACKBOARD	NO, #	NUMBER
BLDG	BUILDING	O.A.	OUTSIDE AIR
BTR	BUILDING TELECOMMUNICATIONS ROOM	O.C.D.	ON CENTER
C	CONDUIT, CONDUCTOR	OCPD	OVER CURRENT PROTECTION DEVICE
CKT	CIRCUIT	PFB	PROVISION FOR FUTURE BREAKER
D	DEPTH	PNL	PANEL
DISC	DISCONNECT	PVC	POLYVINYL CHLORIDE
DIST	DISTRIBUTION	RM	ROOM
E, EM	EMERGENCY	SN	SOLID NEUTRAL
EHH	ELECTRIC HANDHOLE	SURF	SURFACE
EPB	ELECTRIC PULLBOX	SW	SWITCH
ENCL	ENCLOSURE	S/S	316 STAINLESS STEEL
EXIST	EXISTING	THK	THICK
GFI	GROUND FAULT INTERRUPTER	TP	TWISTED PAIR
FA	FORCED AIR	TYP	TYPICAL
FLA	FULL LOAD AMPERE	U/G	UNDERGROUND
FO	FIBER OPTIC	UON	UNLESS OTHERWISE NOTED
GRD	GROUND	V	VOLTS
GRS	GALVANIZED RIGID STEEL	VCB	VACUUM CIRCUIT BREAKER
H	HIGH	W	WIRE, WIDE, WATTS
HH	HANDHOLE	WP	WEATHERPROOF, NEMA 4X, 316 S/S
HECO	HAWAIIAN ELECTRIC COMPANY	XFMR	TRANSFORMER
HP	HORSEPOWER	Ø	PHASE
HT	HEIGHT	'	FOOT, FEET
JB	JUNCTION BOX	"	INCH, INCHES
KVA	KILO-VOLT AMPERE	&	AND
KV	KILO-VOLT		OHM
KW	KILOWATT		

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EXP. DATE 04/30/2022



SAMUEL MAHELONA
 MEMORIAL HOSPITAL
 ELECTRICAL UPGRADES PHASE 2
 KAPAA, KAUAI, HAWAII
 ELECTRICAL SYMBOLS AND ABBREVIATIONS

Designed: IK
 Drawn: CAD
 Checked: RT
 Date: 03/15/2022
 Job No.: 21039
 Sheet: E-002

PHASING PLAN NOTES AND SEQUENCE:

GENERAL

1. THIS PHASING PLAN IS A SUGGESTED METHOD OF INSTALLING THE ELECTRICAL EQUIPMENT. THE SEQUENCE MAY NEED REVISION OR INTERMEDIATE STEPS MAY BE REQUIRED. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY TO INSTALL ALL EQUIPMENT BY FOLLOWING THIS SUGGESTED PHASING OR DEVELOP HIS OWN METHOD OF PHASING THE WORK TO MINIMIZE THE DOWNTIME OF ANY AND ALL ELECTRICAL LOADS. CONTRACTOR SHALL PROVIDE THEIR OWN MEANS AND METHODS TO ACCOMPLISH THE INDICATED REQUIREMENTS.
2. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES AND SHALL CHECK ALL DIMENSIONS. ALL DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE CONSTRUCTION ENGINEER AND SHALL BE RESOLVED PRIOR TO PROCEEDING WITH ANY WORK OR ORDERING OF MATERIALS.
3. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR FOR ALL EXCAVATION PROCEDURES INCLUDING PROTECTION OF ADJACENT STRUCTURES, ROADWAYS AND UTILITIES.
4. CONTRACTOR SHALL PROVIDE ALL NECESSARY FUEL AND PERSONNEL TO RUN GENERATORS 24/7 TO PROVIDE TEMPORARY POWER WHILE TRANSFERRING LOADS.
5. SEE ELECTRICAL DRAWINGS FOR NUMBER AND LOCATION OF ELECTRICAL PANELS REQUIRING TEMPORARY POWER.
6. IF OUTAGES ARE REQUIRED, COORDINATE OUTAGE WITH THE HOSPITAL AND PROVIDE A MINIMUM 2 WEEK NOTICE BEFORE ANY OUTAGE.
7. CONTRACTOR SHALL SUBMIT A DETAILED PHASING PLAN FOR REVIEW AND APPROVAL PRIOR TO COMMENCING WITH THE WORK.

SUGGESTED SEQUENCE OF CONSTRUCTION AND PHASING:

STEP 1: INSTALL TEMPORARY SWITCHBOARD (208V) AND GENERATOR.

STEP 2: INSTALL NEW MSB-4, MSB-2, XFMR, AND ALL INTERCONNECTING CIRCUITING TO THE FULLEST EXTEND POSSIBLE.

STEP 3: INSTALL TEMPORARY CABLES FROM TEMPORARY SWITCHBOARD TO EXIST PANELBOARDS (208V), INTERCEPT EXISTING FEEDERS WITH A JUNCTION BOX, AND POWER THE EXIST PANELBOARDS WITH THE TEMPORARY GENERATOR.

STEP 4: REMOVE THE EXISTING PANEL FEEDERS AND CONDUITS TO PROVIDE SPACE TO ROUTE THE NEW CONDUITS.

STEP 5: INSTALL NEW PANELBOARDS, AND CONDUIT & FEEDERS FROM NEW MSB-2 (208V) TO NEW PANELBOARDS.

STEP 6: INSTALL AS MUCH OF THE NEW SERVICE INSTALLATION AS POSSIBLE IN PREPARATION FOR KIUC SERVICE RECONFIGURATION WORK.

STEP 7: TRANSFER 480V POWER TO EXIST MSB-4 FROM KIUC UTILITY POWER TO EXIST GENERATOR GEN-2 POWER.

STEP 8: INTERCEPT KIUC CONDUCTORS AND REROUTE THEM TO NEW METER AND ENERGIZE NEW MSB-4 (480V).

STEP 9: INTERCEPT EXIST MSB-4 LOADS (AC PANEL, XRAY) AND EXTEND CIRCUITS TO NEW MSB-4.

STEP 10: INTERCEPT EXIST MSB-2 LOADS THAT ARE NOT BEING FED BY THE TEMPORARY SWITCHBOARD AND TRANSFER FEEDERS TO NEW MSB-2.

STEP 11: TRANSFER ALL CIRCUITS FROM EXIST PANELBOARDS TO NEW PANELBOARDS FED FROM NEW MSB-2.

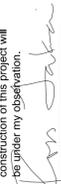
STEP 12: REMOVE PANELBOARDS THAT HAVE NOT BEEN CONVERTED INTO A JUNCTION BOX.

STEP 13: REMOVE TEMPORARY CABLES, SWITCHBOARD AND GENERATOR.

STEP 14: INTERCEPT EXIST GENERATOR FEEDERS AT EXIST JUNCTION AND REROUTE THEM TO NEW MSB-4.

STEP 15: REMOVE EXIST MSB-4, MSB-2, AND 225 XFMR.

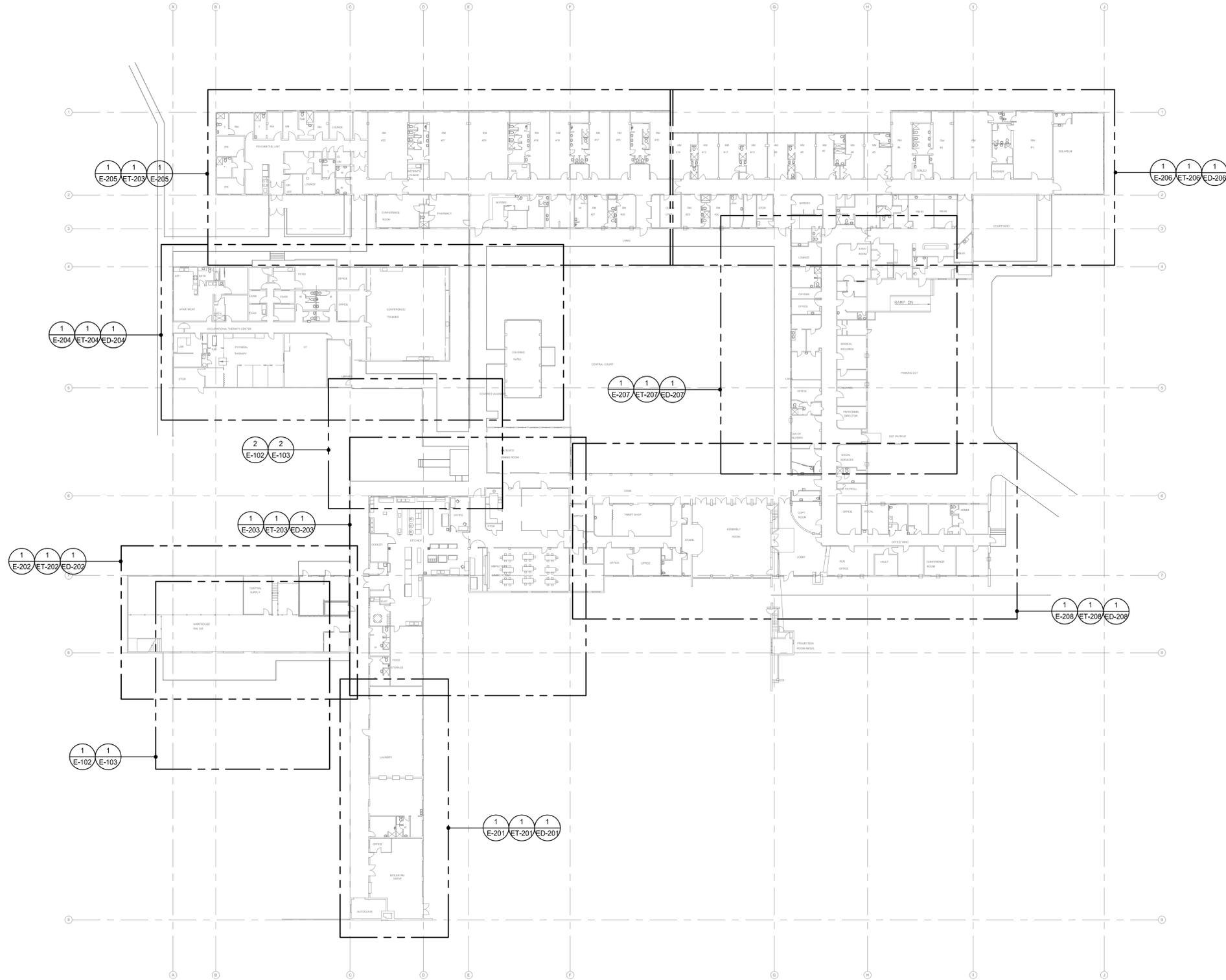
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 ELECTRICAL UPGRADES PHASE 2
 KAPAA, KAUAI, HAWAII
 PHASING NOTES AND SEQUENCE

Designed	IK
Drawn	CAD
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Date	03/15/2022
Job No.	21039
Sheet	E-003



1 OVERALL ELECTRICAL PLAN
SCALE: 1" = 30'-0"



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 KAPAA, KAUAI, HAWAII
 OVERALL ELECTRICAL PLAN

Designed	IK
Drawn	CAD
Checked	RT
Date	03/15/2022
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Sheet	E-101

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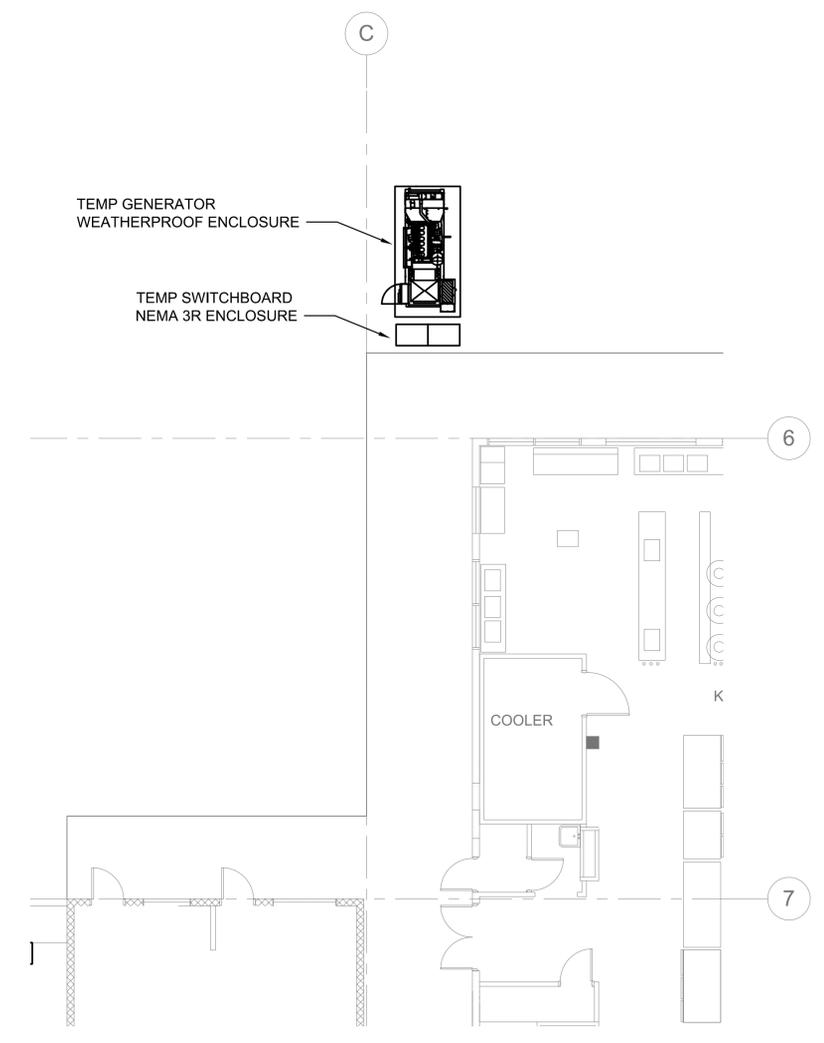
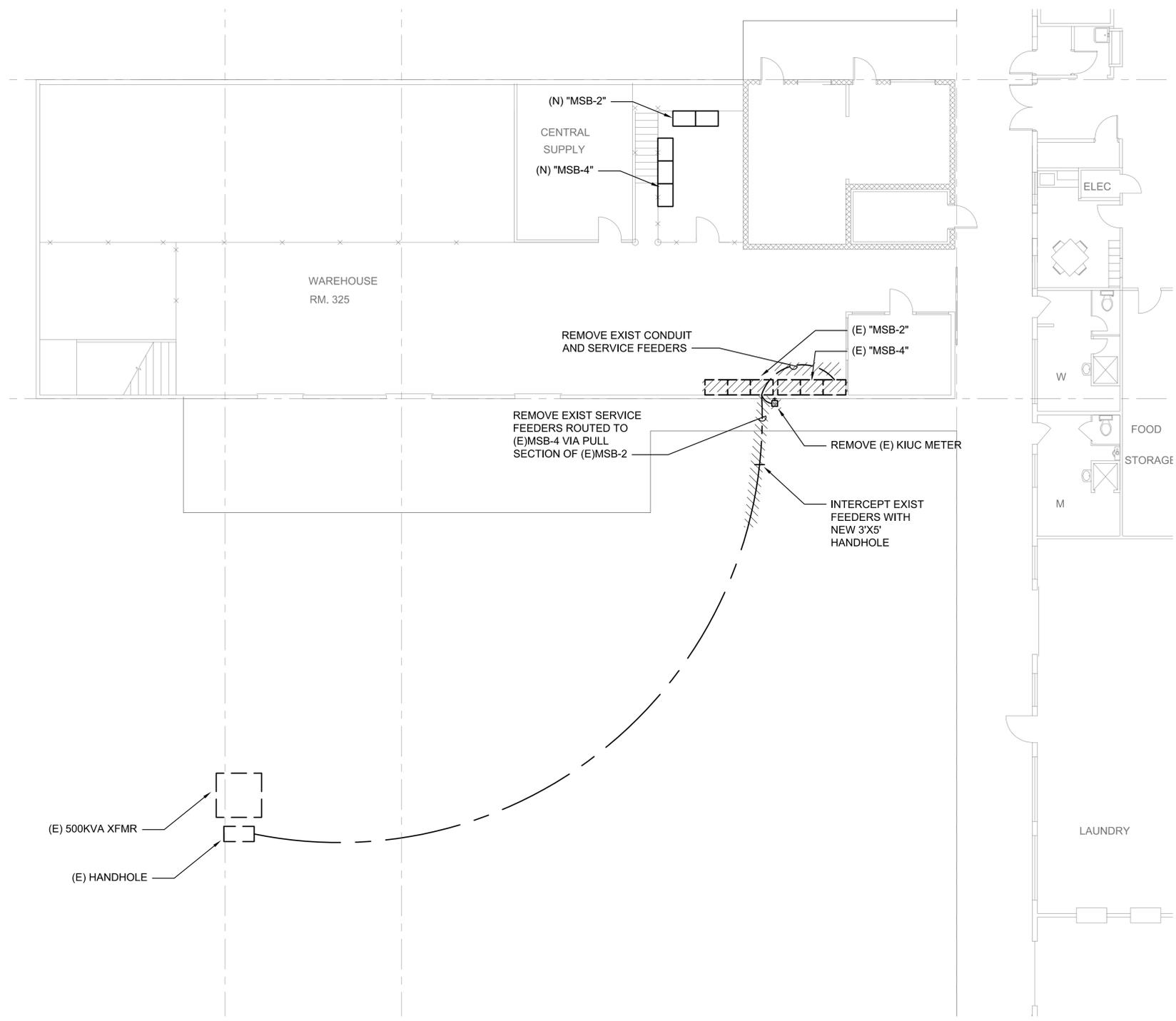
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 KAPAA, KAUAI, HAWAII

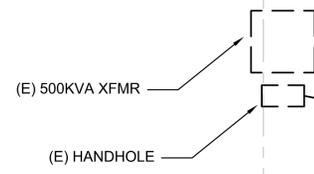
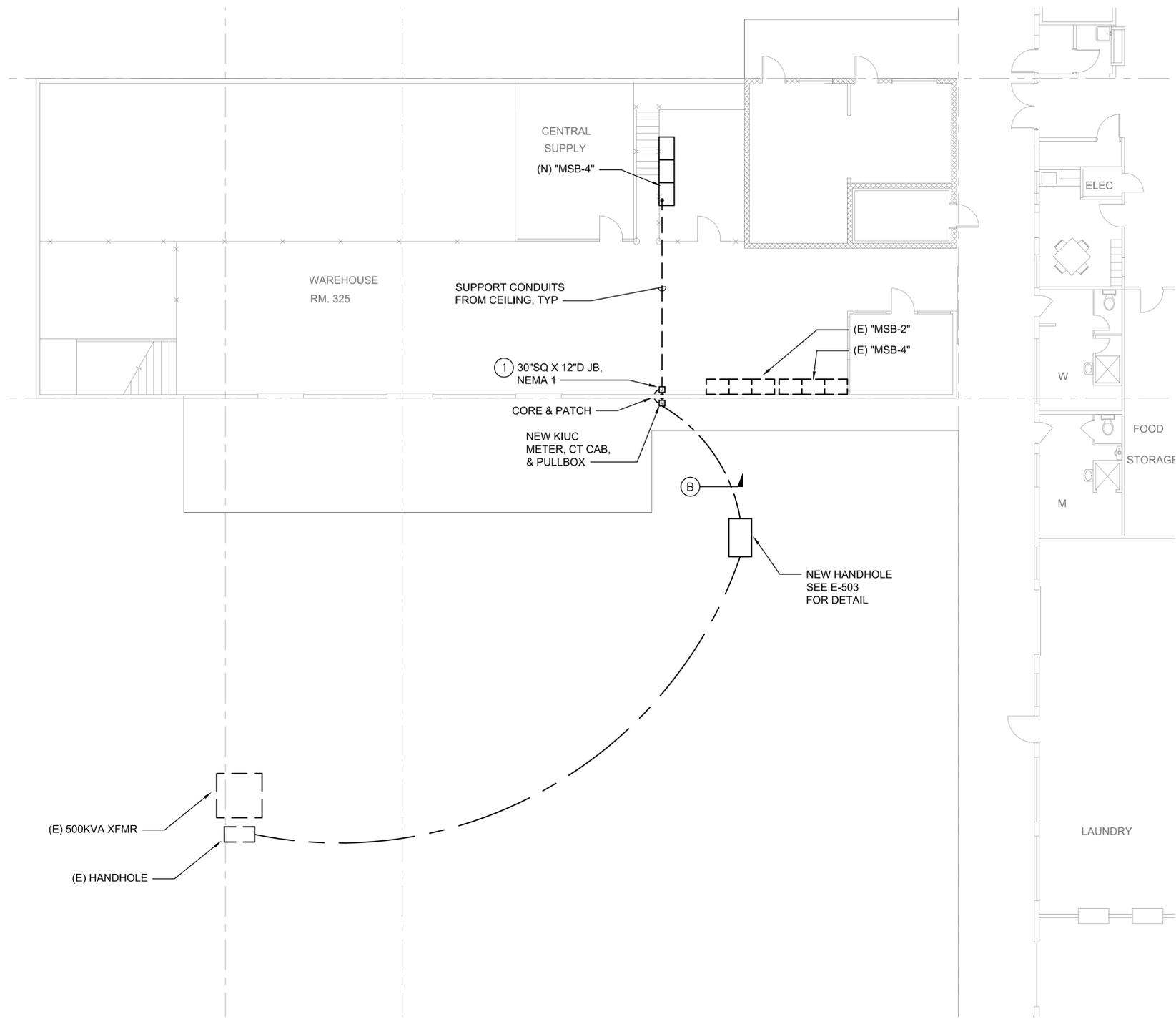
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Date	03/15/2022
Job No.	21039
Sheet	E-102

SHEET NOTES:
 1. SEE SHEET E-003 FOR SUGGESTED SEQUENCE OF CONSTRUCTION PRIOR TO THE DISCONNECTION AND REMOVAL OF THE EXIST SERVICE EQUIPMENT AND FEEDERS TO MINIMIZE THE DOWNTIME OF THE FACILITY AND LOADS.

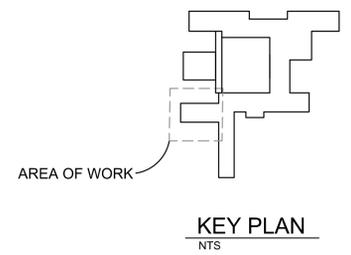
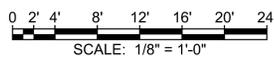


1 PARTIAL SITE DEMOLITION PLAN
 SCALE: 1" = 30'-0"
 0 2' 4' 8' 12' 16' 20' 24'
 SCALE: 1/8" = 1'-0"

2 PARTIAL SITE TEMPORARY POWER EQUIPMENT
 SCALE: 1" = 30'-0"
 0 2' 4' 8' 12' 16' 20' 24'
 SCALE: 1/8" = 1'-0"



1 PARTIAL SITE PLAN
SCALE: 1" = 30'-0"



KEY PLAN
NTS

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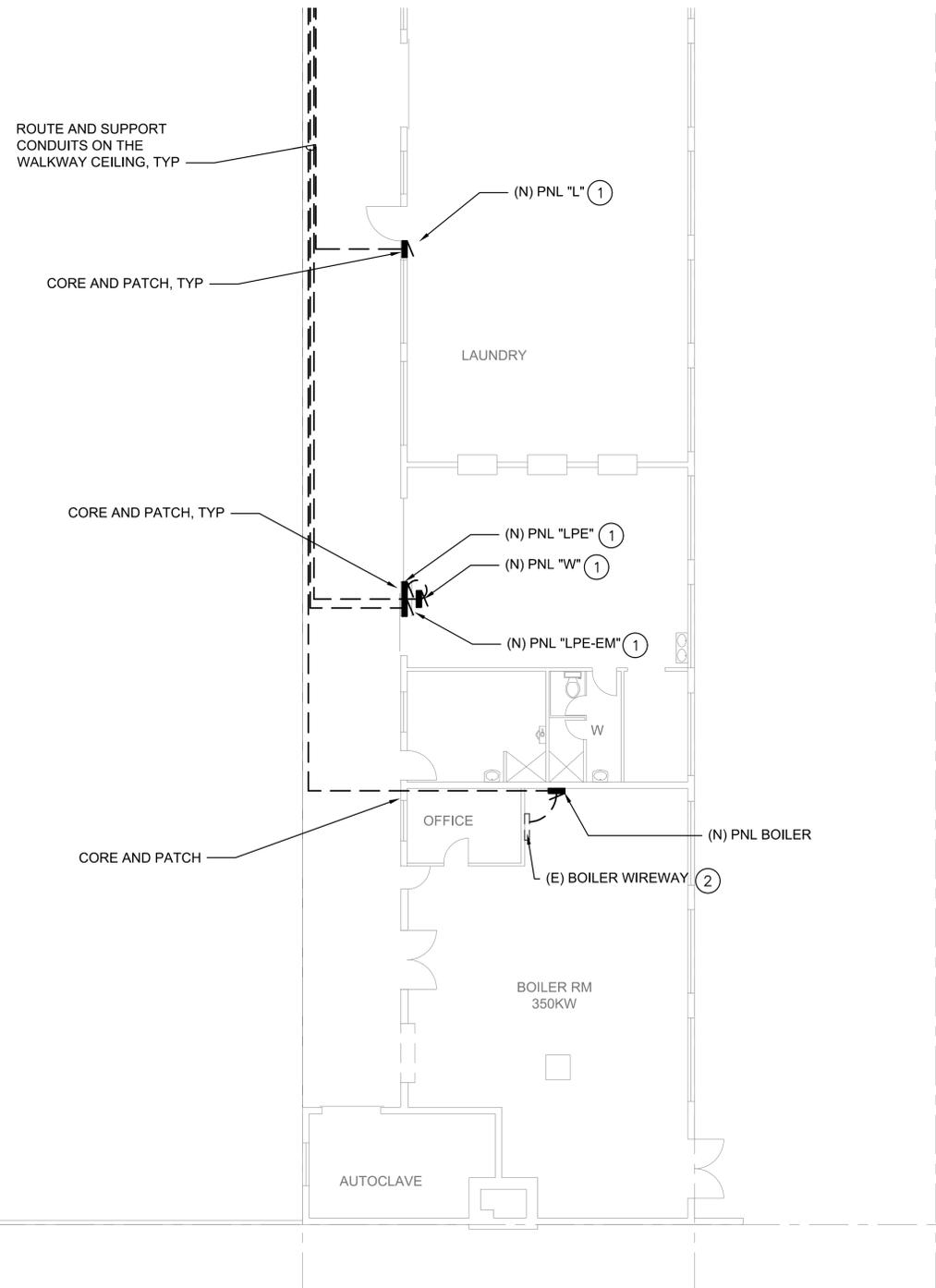
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KAPAA, KAUAI, HAWAII

PARTIAL SITE PLAN AND TEMPORARY POWER EQUIPMENT

Designed	IK
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Date	03/15/2022
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Sheet	E-103



- SHEET NOTES:
- SEE SHEET E-003 FOR SUGGESTED SEQUENCE OF CONSTRUCTION PRIOR TO START OF WORK TO MINIMIZE THE DOWNTIME OF THE FACILITY AND LOADS.
 - INSTALL NEW PANEL AT THE EXIST PANEL'S LOCATION.
 - EXTEND EXIST CIRCUITS TO NEW PANEL. SEE PANEL SCHEDULE FOR EXIST CIRCUITS. NO MORE THAN 3-1P20A CIRCUITS IN A SINGLE CONDUIT. EACH 2P OR 3P CIRCUIT SHALL BE RUN IN A DEDICATED CONDUIT.

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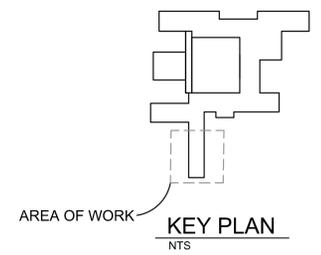
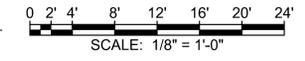
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 KAPAA, KAUAI, HAWAII

ENLARGED ELECTRICAL PLAN 1

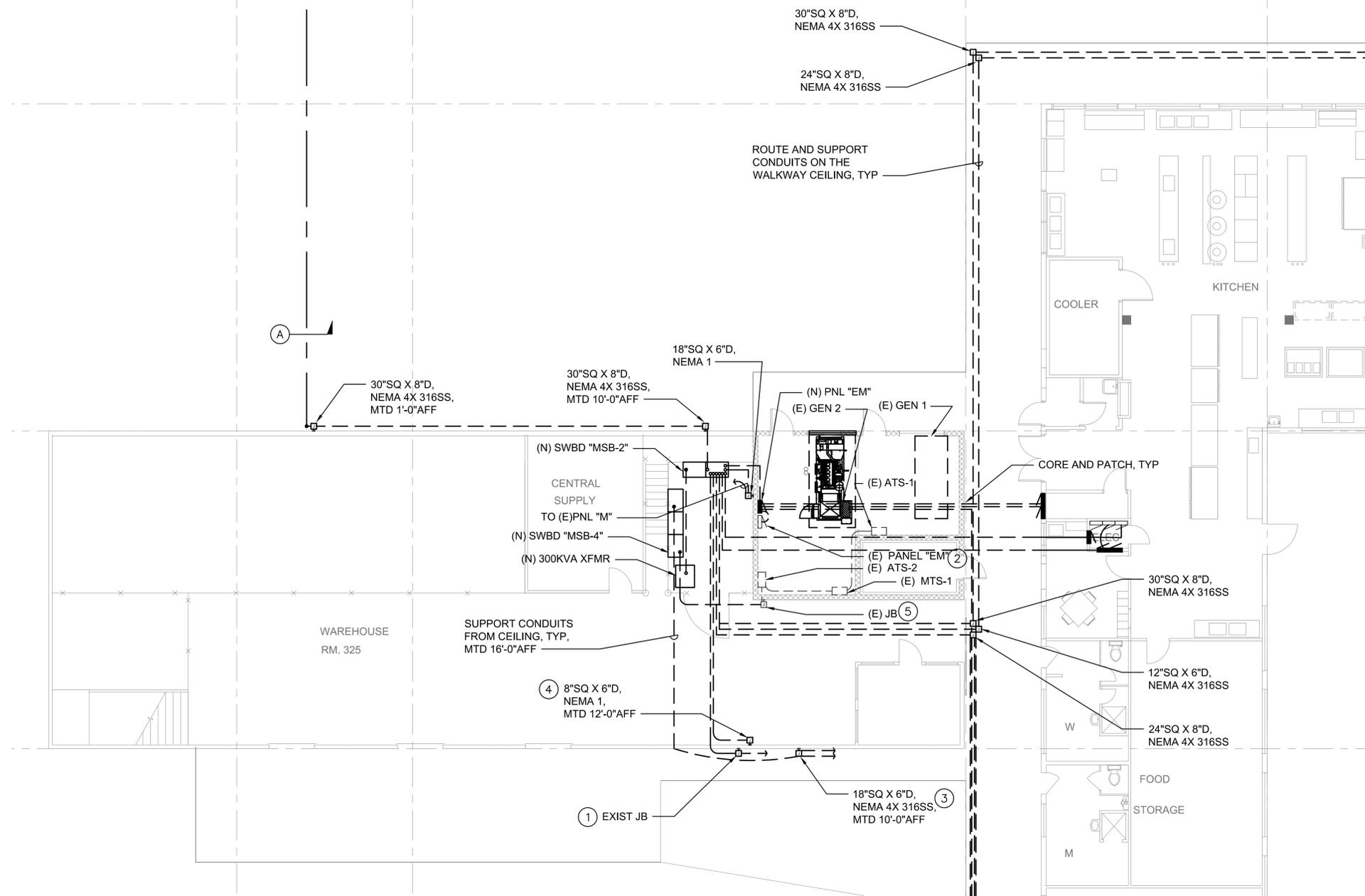
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Sheet	E-201

PLAN NORTH
 TRUE NORTH

1 ENLARGED ELECTRICAL PLAN 1
 SCALE: 1/8" = 1'-0"



SEE SHEET E-204 FOR CONTINUATION



SHEET NOTES:

1. SEE SHEET E-003 FOR SUGGESTED SEQUENCE OF CONSTRUCTION PRIOR TO START OF WORK TO MINIMIZE THE DOWNTIME OF THE FACILITY AND LOADS.
- ① INTERCEPT EXIST FEEDERS FOR PNL "EM" AT EXIST JB AND EXTEND FEEDERS TO NEW SWBD MSB-2.
- ② CONVERT EXIST PANEL TO JB. EXTEND EXIST CIRCUITS TO NEW PANEL. SEE PANEL SCHEDULE FOR EXIST CIRCUITS. NO MORE THAN 3-1P20A CIRCUITS IN A SINGLE CONDUIT. EACH 2P OR 3P CIRCUIT SHALL BE RUN IN A DEDICATED CONDUIT.
- ③ INTERCEPT EXIST CONDUITS FOR (E)PNL AC & (E)XRAY WITH JB AND EXTEND CIRCUITS FOR EXIST LOADS TO (N)MSB-4.
- ④ INTERCEPT EXIST CONDUIT & FEEDERS FOR PNL "XRAY" AND EXTEND FEEDERS TO (N)MSB-2.
- ⑤ INTERCEPT EXIST GENERATOR FEEDERS AT EXIST JB AND EXTEND FEEDERS TO (N)MSB-4. SEE PHASING SEQUENCE FOR DETAILS.

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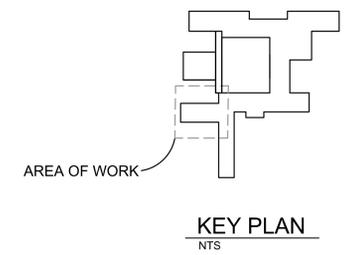
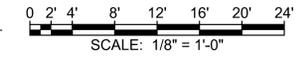
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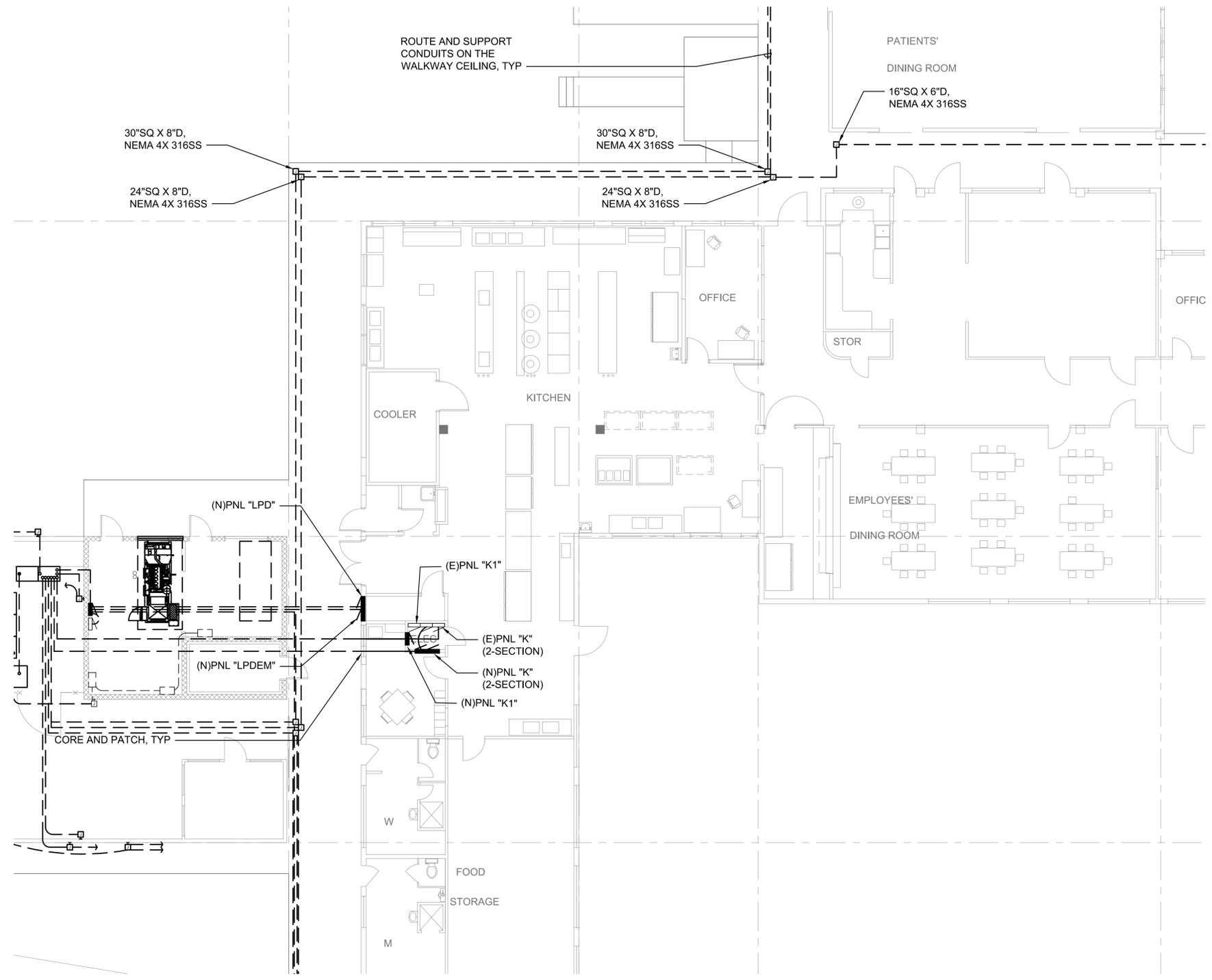
ENLARGED ELECTRICAL PLAN 2

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Sheet	E-202

PLAN NORTH
TRUE NORTH

1 ENLARGED ELECTRICAL PLAN 2
SCALE: 1/8" = 1'-0"





- SHEET NOTES:
- SEE SHEET E-003 FOR SUGGESTED SEQUENCE OF CONSTRUCTION PRIOR TO START OF WORK TO MINIMIZE THE DOWNTIME OF THE FACILITY AND LOADS.
 - ① CONVERT EXIST PANEL TO NEW PANEL. SEE PANEL SCHEDULE FOR EXIST CIRCUITS. NO MORE THAN 3-1P20A CIRCUITS IN A SINGLE CONDUIT. EACH 2P OR 3P CIRCUIT SHALL BE RUN IN A DEDICATED CONDUIT.
 - ② INSTALL NEW PANEL AT THE EXIST PANEL'S LOCATION.

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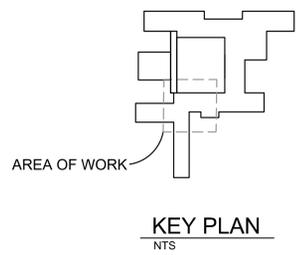
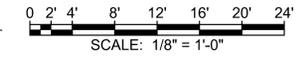
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 KAPAA, KAUAI, HAWAII
 ENLARGED ELECTRICAL PLAN 3

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PLAN NORTH
 TRUE NORTH
 1 ENLARGED ELECTRICAL PLAN 3
 SCALE: 1/8" = 1'-0"



REVISIONS	BY

- SHEET NOTES:
- SEE SHEET E-003 FOR SUGGESTED SEQUENCE OF CONSTRUCTION PRIOR TO START OF WORK TO MINIMIZE THE DOWNTIME OF THE FACILITY AND LOADS.
 - CONVERT EXIST PANEL TO JB. EXTEND EXIST CIRCUITS TO NEW PANEL. SEE PANEL SCHEDULE FOR EXIST CIRCUITS. NO MORE THAN 3-1P20A CIRCUITS IN A SINGLE CONDUIT. EACH 2P OR 3P CIRCUIT SHALL BE RUN IN A DEDICATED CONDUIT.

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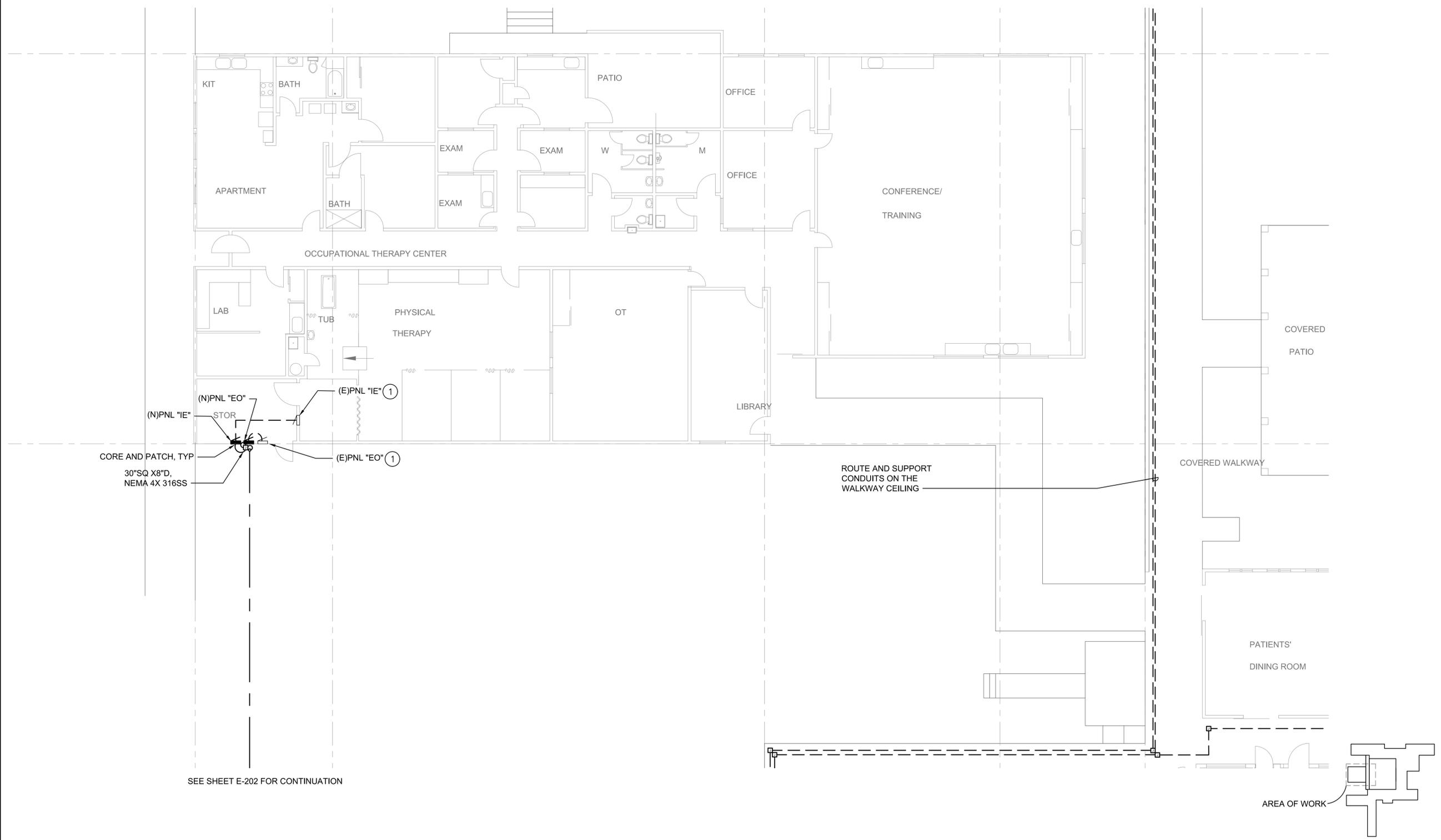
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 KAPAA, KAUAI, HAWAII
 ENLARGED ELECTRICAL PLAN 4

Designed	IK
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Sheet	E-204



SEE SHEET E-202 FOR CONTINUATION

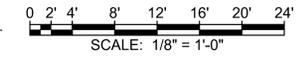
ROUTE AND SUPPORT CONDUITS ON THE WALKWAY CEILING

AREA OF WORK

KEY PLAN
NTS



1 ENLARGED ELECTRICAL PLAN 4
SCALE: 1/8" = 1'-0"



REVISIONS	BY

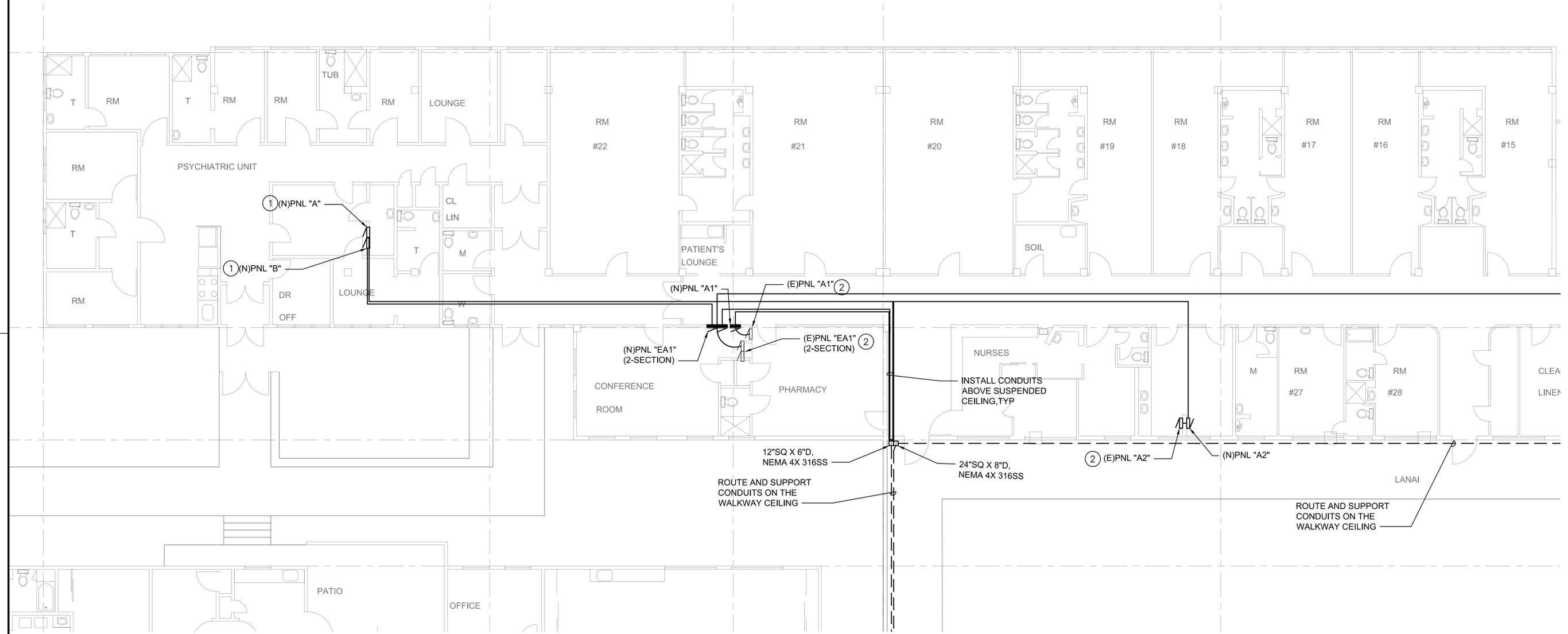
- SHEET NOTES:
- SEE SHEET E-003 FOR SUGGESTED SEQUENCE OF CONSTRUCTION PRIOR TO START OF WORK TO MINIMIZE THE DOWNTIME OF THE FACILITY AND LOADS.
 - INSTALL NEW PANEL AT THE EXIST PANEL'S LOCATION.
 - CONVERT EXIST PANEL TO JB. EXTEND EXIST CIRCUITS TO NEW PANEL. SEE PANEL SCHEDULE FOR EXIST CIRCUITS. NO MORE THAN 3-1P20A CIRCUITS IN A SINGLE CONDUIT. EACH 2P OR 3P CIRCUIT SHALL BE RUN IN A DEDICATED CONDUIT.

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Ross N. Takai

ROSS N. TAKAI
LICENSED PROFESSIONAL ENGINEER
No. 10940-E
HAWAII, U.S.A.

EXPIRATION DATE 04/30/2022



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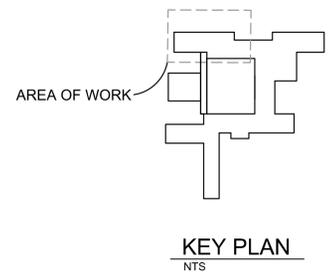
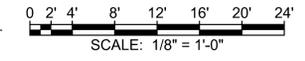
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MEMORIAL HOSPITAL
ELECTRICAL UPGRADES PHASE 2
KAPAA, KAUAI, HAWAII

ENLARGED ELECTRICAL PLAN 5

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Drawn	CAD
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Date	03/15/2022
Job No.	21039
Sheet	E-205

PLAN NORTH
TRUE NORTH

1 ENLARGED ELECTRICAL PLAN 5
SCALE: 1/8" = 1'-0"



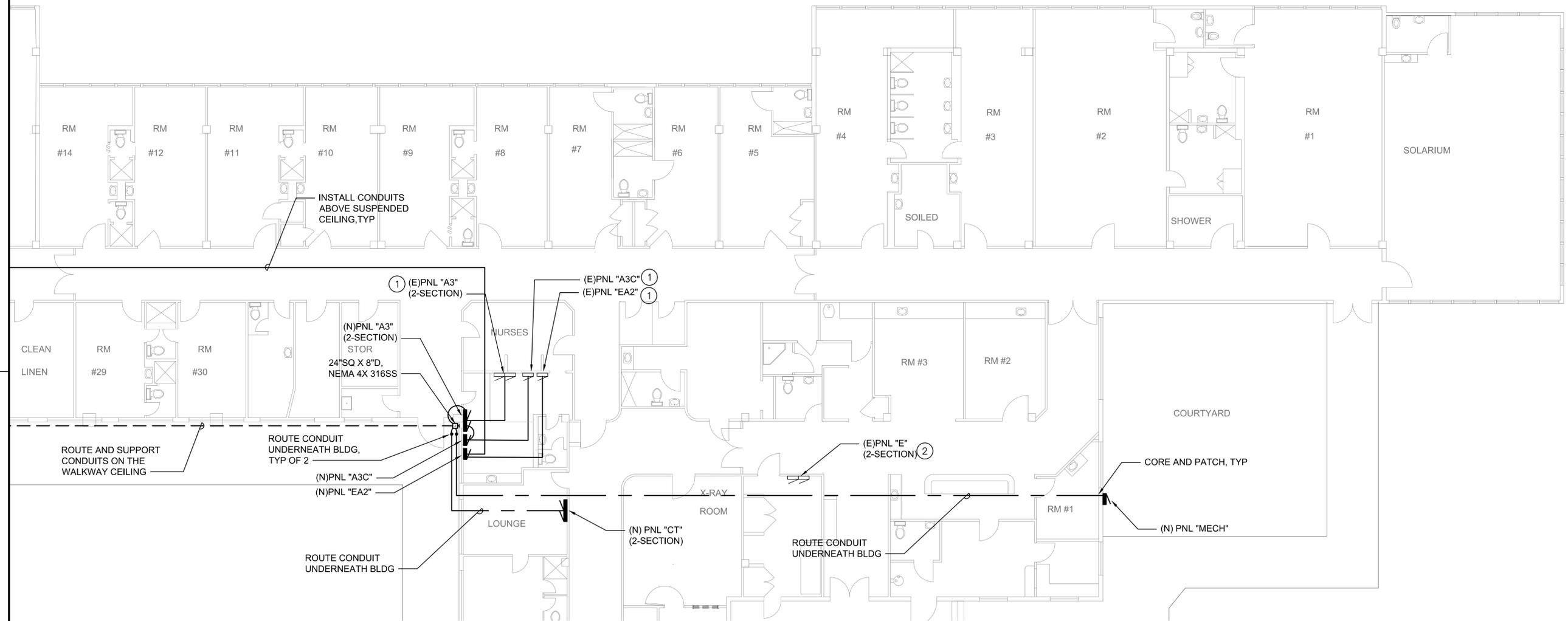
REVISIONS	BY

- SHEET NOTES:
- SEE SHEET E-003 FOR SUGGESTED SEQUENCE OF CONSTRUCTION PRIOR TO START OF WORK TO MINIMIZE THE DOWNTIME OF THE FACILITY AND LOADS.
 - ① CONVERT EXIST PANEL TO JB. EXTEND EXIST CIRCUITS TO NEW PANEL. SEE PANEL SCHEDULE FOR EXIST CIRCUITS. NO MORE THAN 3-1P20A CIRCUITS IN A SINGLE CONDUIT. EACH 2P OR 3P CIRCUIT SHALL BE RUN IN A DEDICATED CONDUIT.
 - ② EXIST PANEL FEEDERS EXTENDED FROM (E)MSB-2 TO (N)MSB-2. SEE SHEET E-202 FOR LOCATION.

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ROSS N TAKAI
 LICENSED PROFESSIONAL ENGINEER
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 HAWAII, U.S.A.

EXPIRATION DATE 04/30/2022



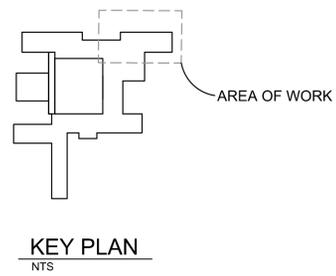
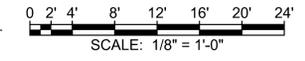
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ENLARGED ELECTRICAL PLAN 6

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Date	03/15/2022
Job No.	21039
Sheet	E-206

PLAN NORTH
 TRUE NORTH
 ① ENLARGED ELECTRICAL PLAN 6
 SCALE: 1/8" = 1'-0"



REVISIONS	BY

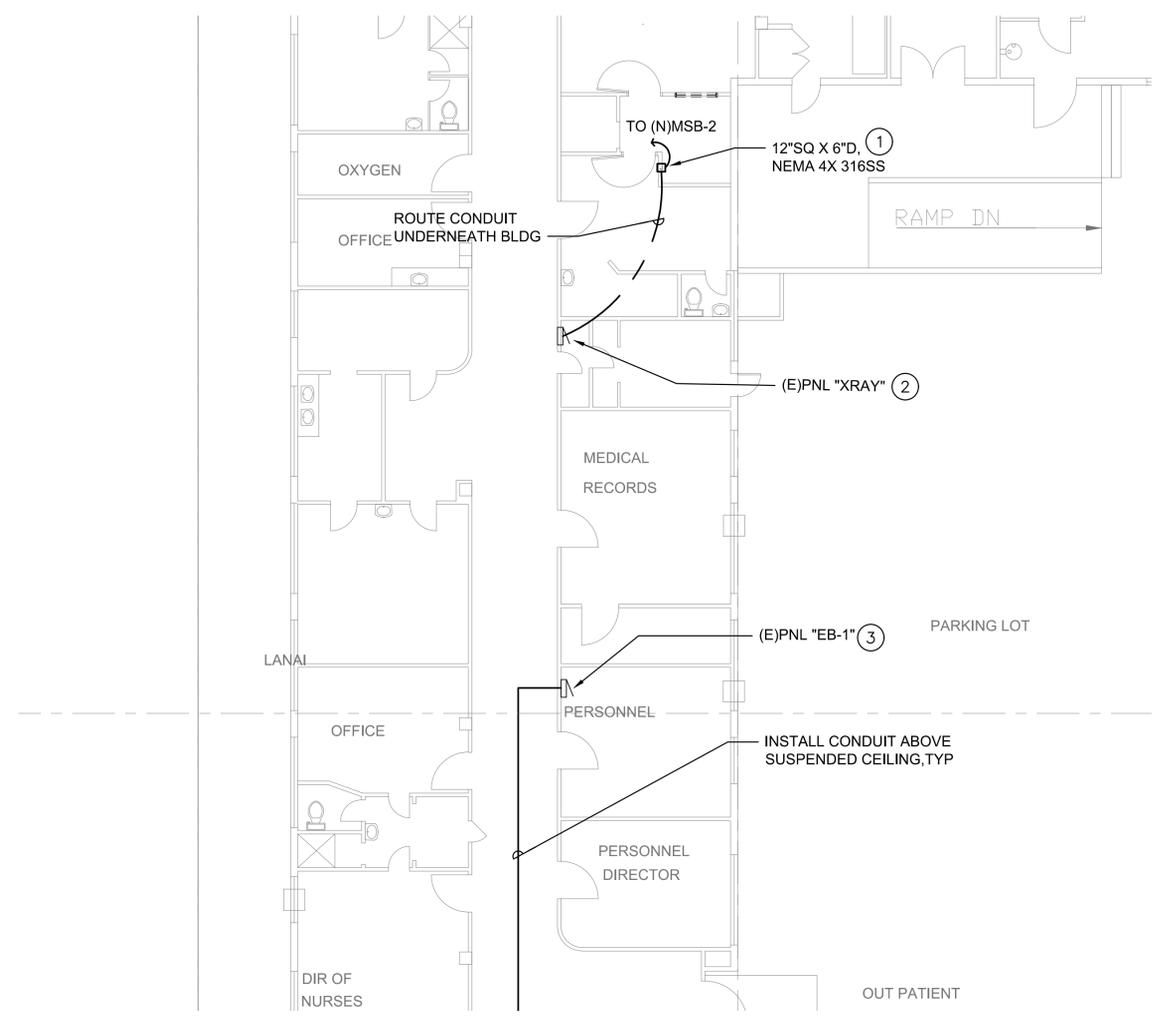
- SHEET NOTES:
- SEE SHEET E-003 FOR SUGGESTED SEQUENCE OF CONSTRUCTION PRIOR TO START OF WORK TO MINIMIZE THE DOWNTIME OF THE FACILITY AND LOADS.
 - INTERCEPT EXISTING FEEDER WITH NEW JUNCTION BOX IN THE CRAWL SPACE BELOW THE FLOOR. EXTEND THE EXISTING FEEDER TO THE RELOCATED EXISTING PANEL "XRAY".
 - RELOCATE EXISTING PANEL TO THIS LOCATION. PANEL TO BE FLUSH-MOUNTED INTO EXIST WALL.
 - INSTALL NEW PANEL AT THE EXIST PANEL'S LOCATION.

This work was prepared by me or under my supervision and construction of this project will be under my observation.

[Signature]

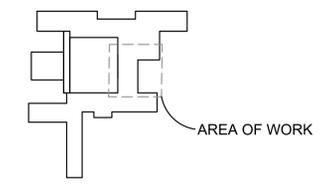
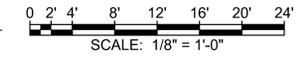
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HAWAII, U.S.A.



1 ENLARGED ELECTRICAL PLAN 7

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



KEY PLAN
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ENLARGED ELECTRICAL PLAN 7

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Date	03/15/2022
Job No.	21039
Sheet	E-207

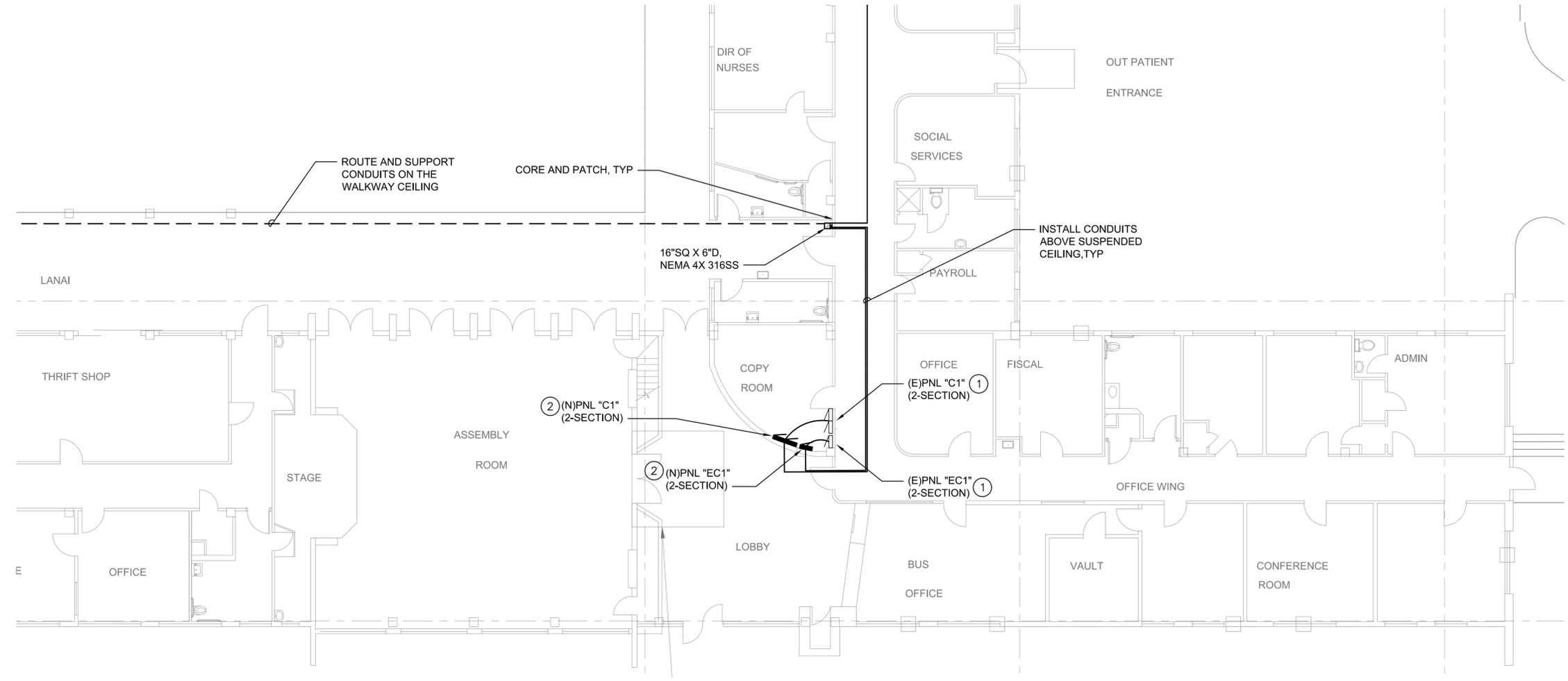
REVISIONS	BY

- SHEET NOTES:
- SEE SHEET E-003 FOR SUGGESTED SEQUENCE OF CONSTRUCTION PRIOR TO START OF WORK TO MINIMIZE THE DOWNTIME OF THE FACILITY AND LOADS.
 - ① CONVERT EXIST PANEL TO JB. EXTEND EXIST CIRCUITS TO NEW PANEL. SEE PANEL SCHEDULE FOR EXIST CIRCUITS. NO MORE THAN 3-1P20A CIRCUITS IN A SINGLE CONDUIT. EACH 2P OR 3P CIRCUIT SHALL BE RUN IN A DEDICATED CONDUIT.
 - ② CONTRACTOR TO PROVIDE SUPPORTS AS NEEDED TO FACILITATE THE INSTALLATION OF THE NEW PANEL(S) ON EXIST CURVED WALL.

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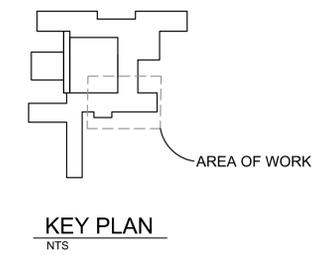
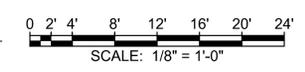
ROSS N TAKAI
 LICENSED PROFESSIONAL ENGINEER
 No. 10940-E
 HAWAII, U.S.A.

EXPIRATION DATE 04/30/2022



PLAN NORTH
 TRUE NORTH

① ENLARGED ELECTRICAL PLAN 8
 SCALE: 1/8" = 1'-0"

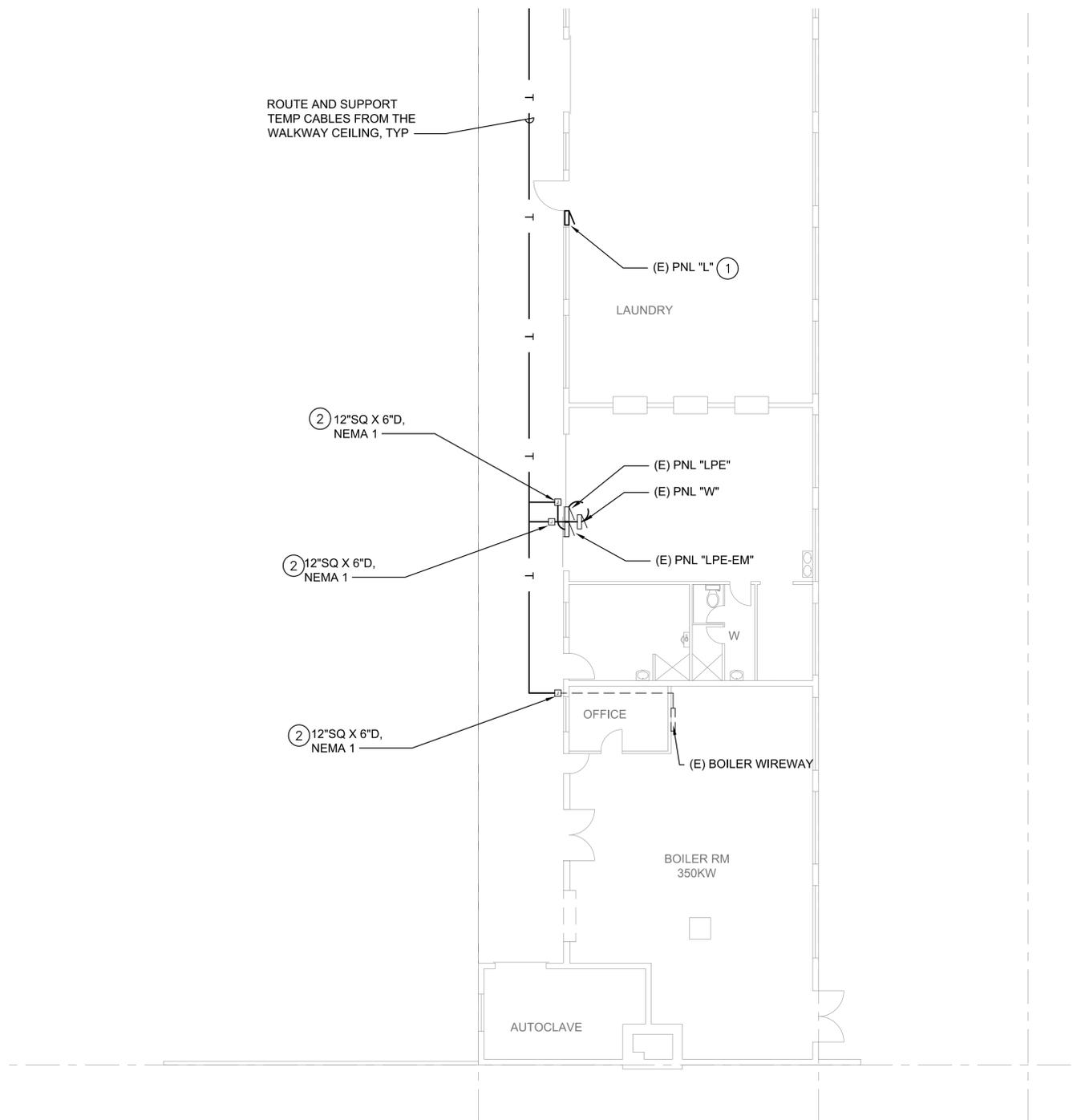


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ENLARGED ELECTRICAL PLAN 8

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Date	03/15/2022
Job No.	21039
Sheet	E-208



ROUTE AND SUPPORT
TEMP CABLES FROM THE
WALKWAY CEILING, TYP

(E) PNL "L" ①

LAUNDRY

② 12"SQ X 6"D,
NEMA 1

(E) PNL "LPE"

(E) PNL "W"

② 12"SQ X 6"D,
NEMA 1

(E) PNL "LPE-EM"

OFFICE

(E) BOILER WIREWAY

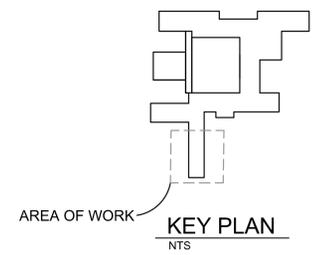
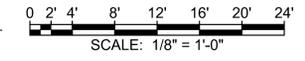
BOILER RM
350KW

AUTOCLAVE



① ENLARGED TEMPORARY ELECTRICAL PLAN 1

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



- SHEET NOTES:
1. VERIFY EXIST PANELS ARE FULLY OPERATIONAL ON TEMP POWER PRIOR TO REMOVAL OF THE EXIST CONDUIT AND FEEDERS TO MINIMIZE THE DOWNTIME OF THE FACILITY AND LOADS.
 - ① EXIST PANEL TO HAVE POWER TRANSFERRED FROM UTILITY TO (E)GEN-2 UNTIL REPLACED IN SAME LOCATION WITH NEW PANEL.
 - ② INTERCEPT EXIST PANEL FEEDER WITH JB. CONNECT TEMP FEEDER TO EXIST PANEL FEEDER AND PROVIDE POWER TO EXIST PANEL FROM THE TEMP GENERATOR DURING THE CONSTRUCTION PERIOD.

REVISIONS	BY

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[Signature]

EXPIRATION DATE 04/30/2022

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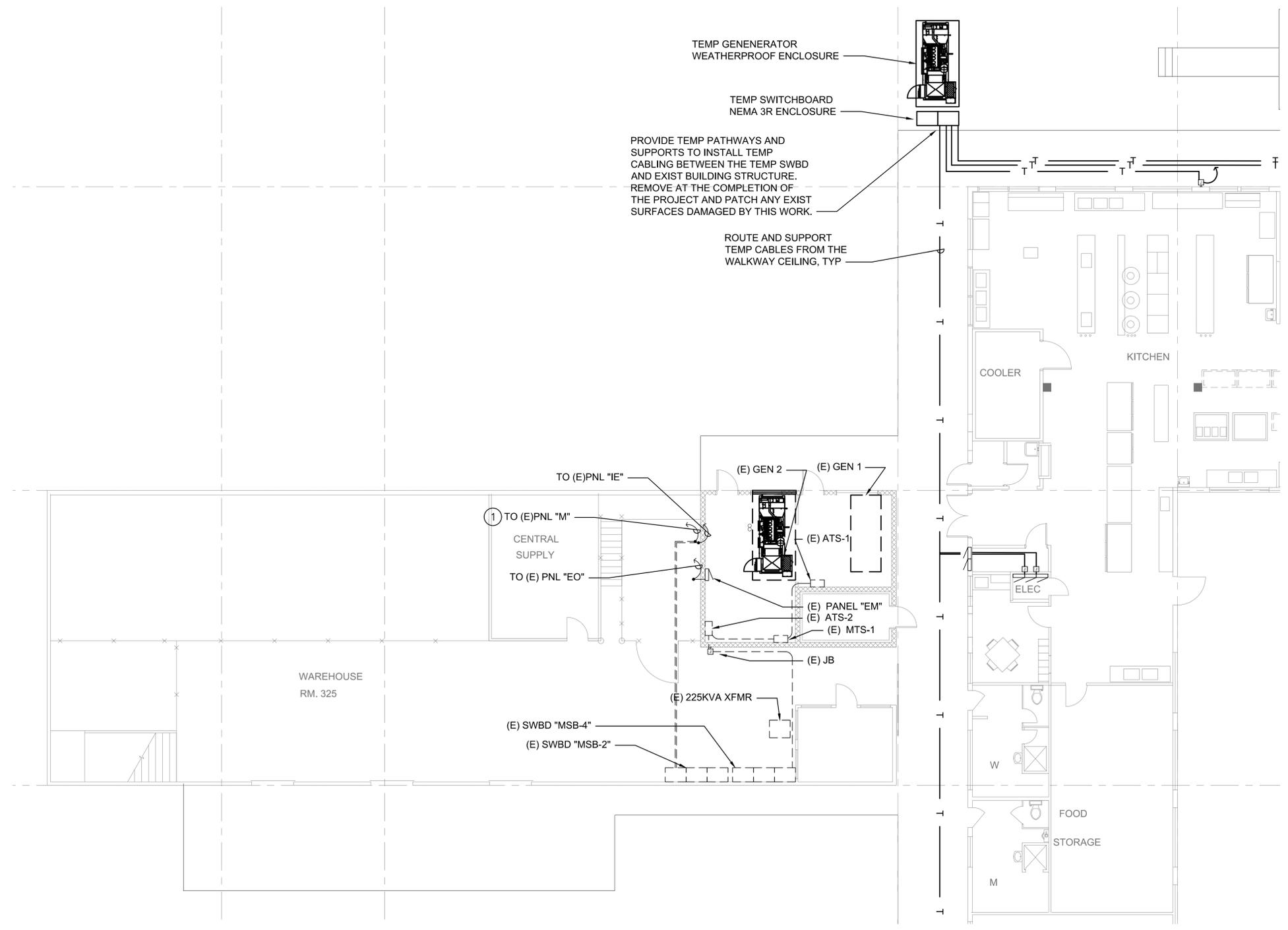
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 KAPAA, KAUAI, HAWAII

ENLARGED TEMPORARY ELECTRICAL PLAN 1

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Date	03/15/2022
Job No.	21039
Sheet	ET-201



- SHEET NOTES:
1. VERIFY EXIST PANELS ARE FULLY OPERATIONAL ON TEMP POWER PRIOR TO REMOVAL OF THE EXIST CONDUIT AND FEEDERS TO MINIMIZE THE DOWNTIME OF THE FACILITY AND LOADS.
 - 1 EXIST PANEL TO HAVE POWER TRANSFERRED FROM UTILITY TO (E)GEN-2 UNTIL FED FROM (N)MSB-2.

REVISIONS	BY

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LICENSED PROFESSIONAL ENGINEER
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EXPIRATION DATE 04/30/2022

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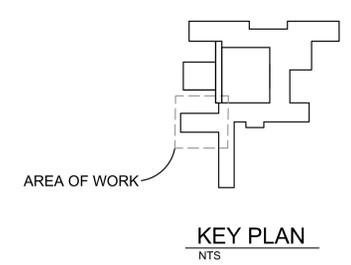
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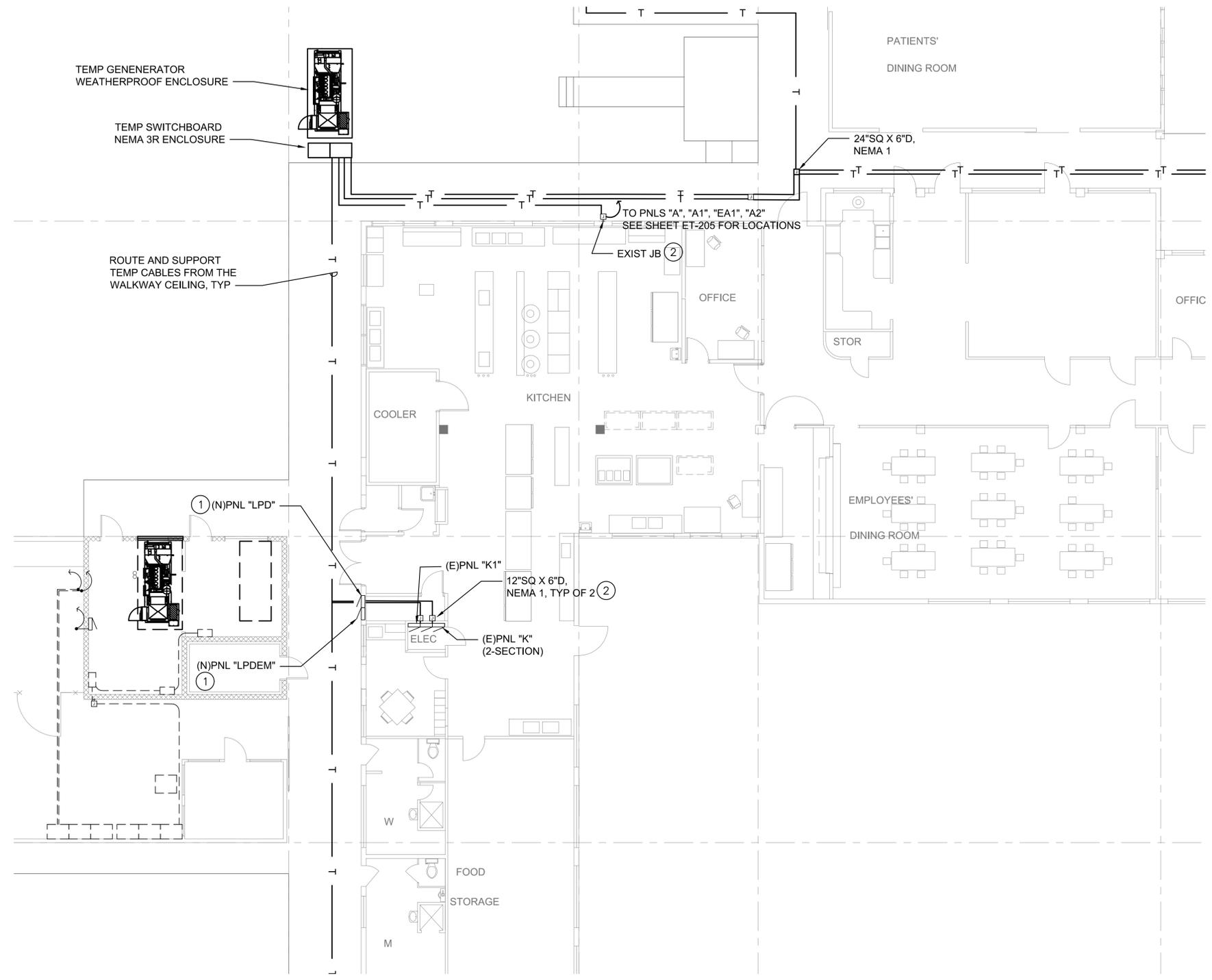
ENLARGED TEMPORARY ELECTRICAL PLAN 2

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Date	03/15/2022
Job No.	21039
Sheet	ET-202

PLAN NORTH
TRUE NORTH

1 ENLARGED TEMPORARY ELECTRICAL PLAN 2
SCALE: 1/8" = 1'-0"





- SHEET NOTES:
1. VERIFY EXIST PANELS ARE FULLY OPERATIONAL ON TEMP POWER PRIOR TO REMOVAL OF THE EXIST CONDUIT AND FEEDERS TO MINIMIZE THE DOWNTIME OF THE FACILITY AND LOADS.
 - ① EXIST PANEL TO HAVE POWER TRANSFERRED FROM UTILITY TO (E)GEN-2 UNTIL REPLACED IN SAME LOCATION WITH NEW PANEL.
 - ② INTERCEPT EXIST PANEL FEEDER WITH JB. CONNECT TEMP FEEDER TO EXIST PANEL FEEDER AND PROVIDE POWER TO EXIST PANEL FROM THE TEMP GENERATOR DURING THE CONSTRUCTION PERIOD.

REVISIONS	BY

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LICENSED PROFESSIONAL ENGINEER
No. 10940-E
HAWAII, U.S.A.

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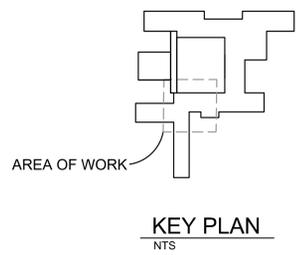
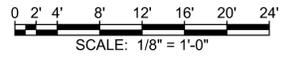
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ELECTRICAL UPGRADES PHASE 2
KAPAA, KAUAI, HAWAII

ENLARGED TEMPORARY ELECTRICAL PLAN 3

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Sheet	ET-203



1 ENLARGED TEMPORARY ELECTRICAL PLAN 3
SCALE: 1/8" = 1'-0"



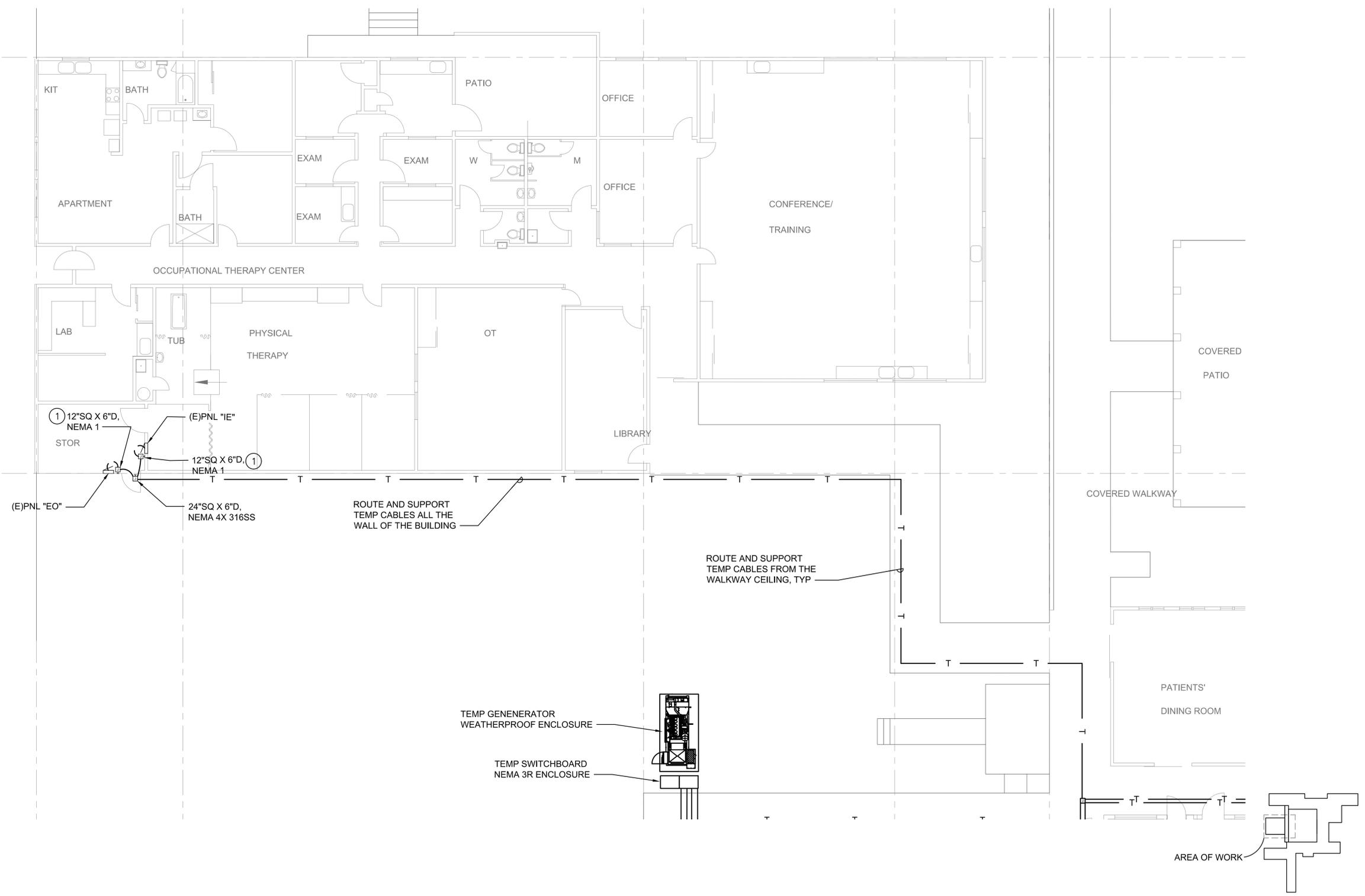
REVISIONS	BY

- SHEET NOTES:
- VERIFY EXIST PANELS ARE FULLY OPERATIONAL ON TEMP POWER PRIOR TO REMOVAL OF THE EXIST CONDUIT AND FEEDERS TO MINIMIZE THE DOWNTIME OF THE FACILITY AND LOADS.
 - INTERCEPT EXIST PANEL FEEDER WITH JB. CONNECT TEMP FEEDER TO EXIST PANEL FEEDER AND PROVIDE POWER TO EXIST PANEL FROM THE TEMP GENERATOR DURING THE CONSTRUCTION PERIOD.

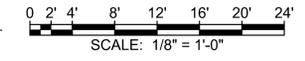
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 LICENSED PROFESSIONAL ENGINEER
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 HAWAII, U.S.A.

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1 ENLARGED TEMPORARY ELECTRICAL PLAN 4
 SCALE: 1/8" = 1'-0"



KEY PLAN
 NTS

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 ENLARGED TEMPORARY ELECTRICAL PLAN 4

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Date	03/15/2022
Job No.	21039
Sheet	ET-204

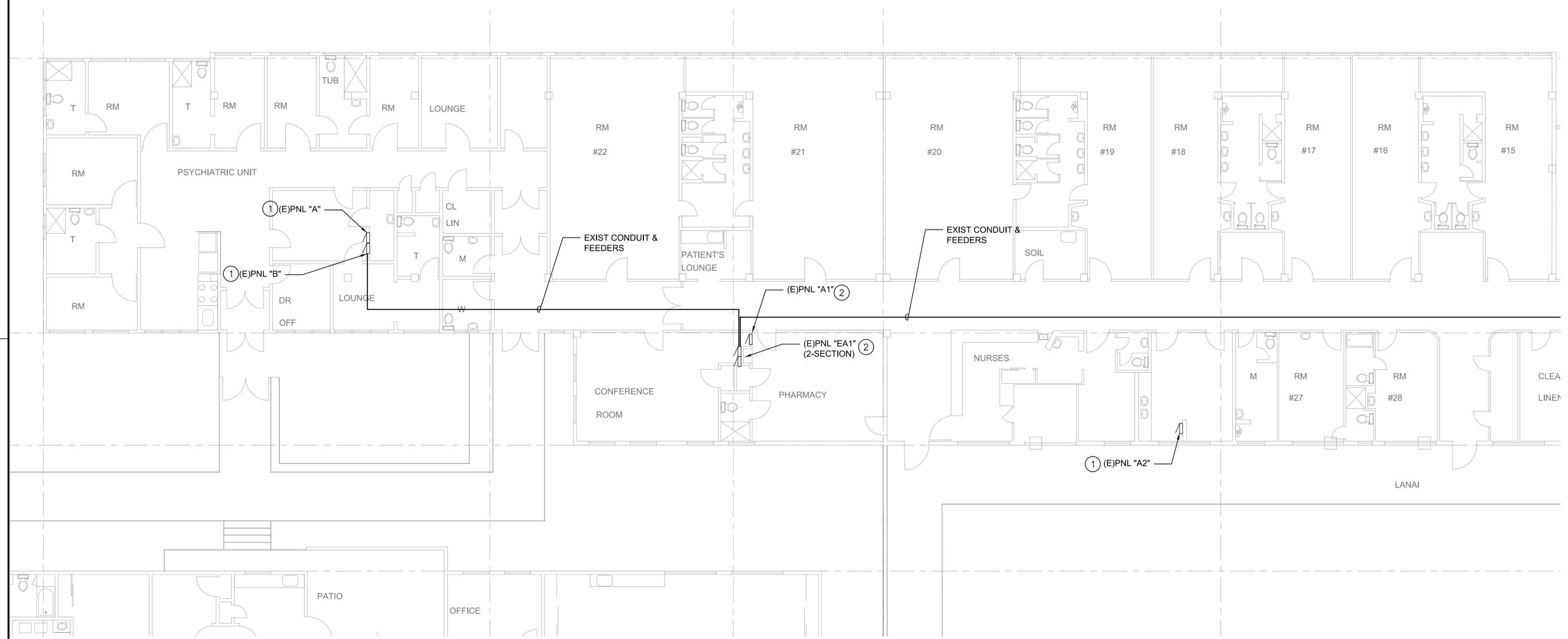
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- SHEET NOTES:
1. VERIFY EXIST PANELS ARE FULLY OPERATIONAL ON TEMP POWER PRIOR TO REMOVAL OF THE EXIST CONDUIT AND FEEDERS TO MINIMIZE THE DOWNTIME OF THE FACILITY AND LOADS.
 - 1 EXIST PANEL TO HAVE POWER TRANSFERRED FROM UTILITY TO TEMP GENERATOR UNTIL REPLACED IN SAME LOCATION WITH NEW PANEL.
 - 2 EXIST PANEL TO HAVE POWER TRANSFERRED FROM UTILITY TO TEMP GENERATOR UNTIL CONVERTED TO JB.

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 HAWAII, U.S.A.

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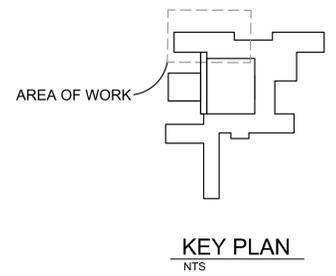
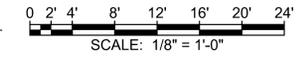
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 MEMORIAL HOSPITAL
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 ENLARGED TEMPORARY ELECTRICAL PLAN 5

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Date	03/15/2022
Job No.	21039
Sheet	ET-205



1 ENLARGED TEMPORARY ELECTRICAL PLAN 5
 SCALE: 1/8" = 1'-0"



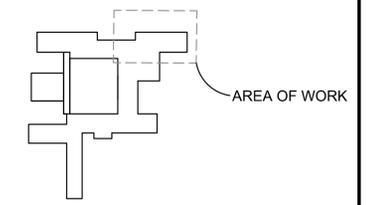
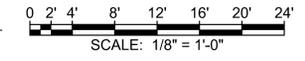
SHEET NOTES:

1. VERIFY EXIST PANELS ARE FULLY OPERATIONAL ON TEMP POWER PRIOR TO REMOVAL OF THE EXIST CONDUIT AND FEEDERS TO MINIMIZE THE DOWNTIME OF THE FACILITY AND LOADS.
- ① EXIST PANEL TO HAVE POWER TRANSFERRED FROM UTILITY TO TEMP GENERATOR UNTIL CONVERTED TO JB.
- ② EXIST PANEL TO HAVE POWER TRANSFERRED FROM UTILITY TO (E)GEN-2 UNTIL FEEDERS ARE INTERCEPTED AND EXTENDED FROM (E)MSB-2 TO (N)MSB-2.



① ENLARGED TEMPORARY ELECTRICAL PLAN 6

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



KEY PLAN
NTS

REVISIONS	BY

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KAPAA, KAUAI, HAWAII

ENLARGED TEMPORARY ELECTRICAL PLAN 6

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Date	03/15/2022
Job No.	21039
Sheet	ET-206

SHEET NOTES:

1. VERIFY EXIST PANELS ARE FULLY OPERATIONAL ON TEMP POWER PRIOR TO REMOVAL OF THE EXIST CONDUIT AND FEEDERS TO MINIMIZE THE DOWNTIME OF THE FACILITY AND LOADS.
- ① EXIST PANEL TO HAVE POWER TRANSFERRED FROM UTILITY TO (E)GEN-2 UNTIL REPLACED IN SAME LOCATION WITH NEW PANEL.
- ② EXIST PANEL DOES NOT REQUIRE TEMP POWER.

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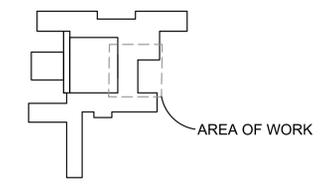
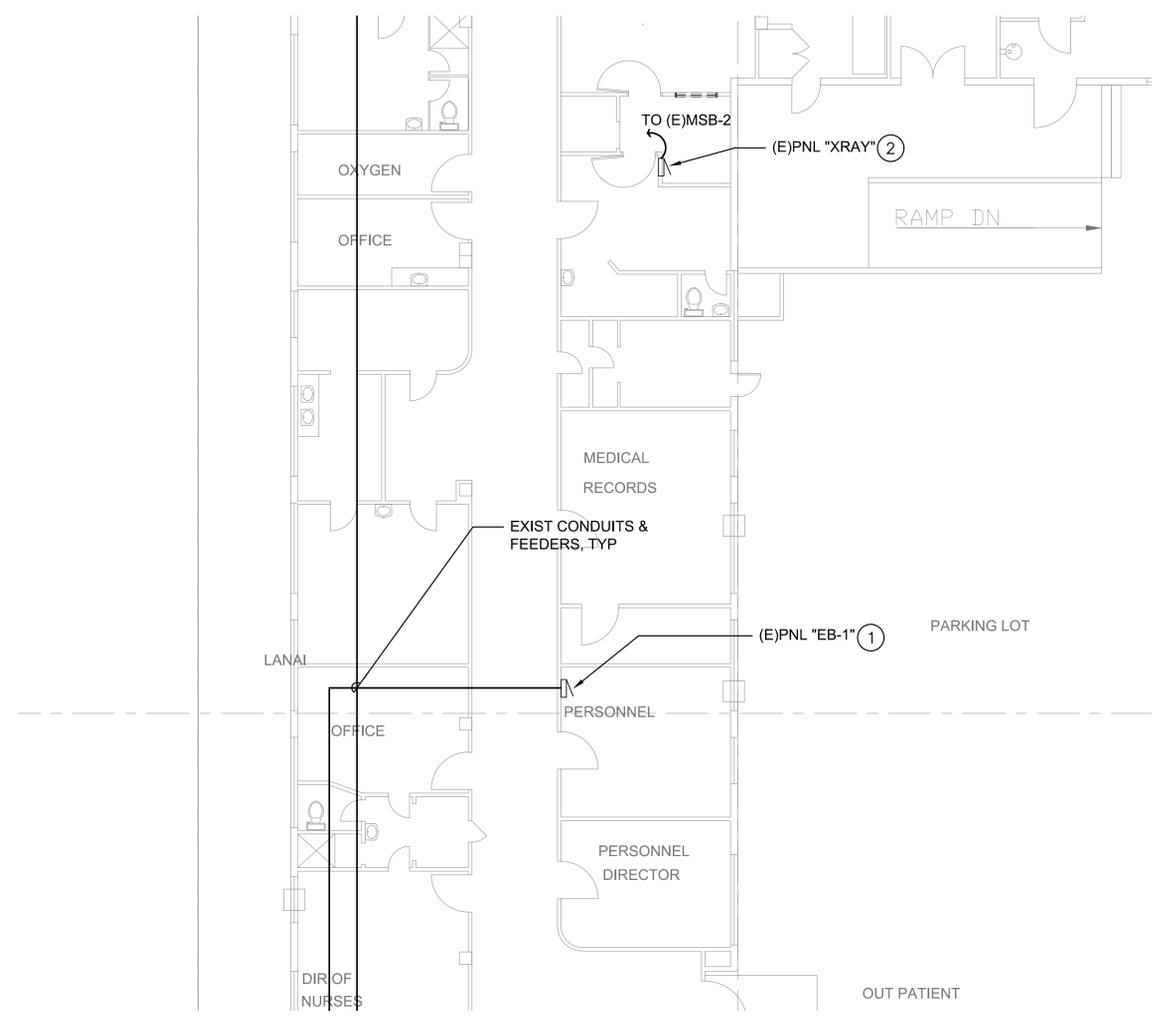
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SAMUEL MAHELONA
 MEMORIAL HOSPITAL
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 KAPAA, KAUAI, HAWAII
 ENLARGED TEMPORARY ELECTRICAL PLAN 7

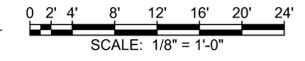
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Job No.	21039
Sheet	ET-207

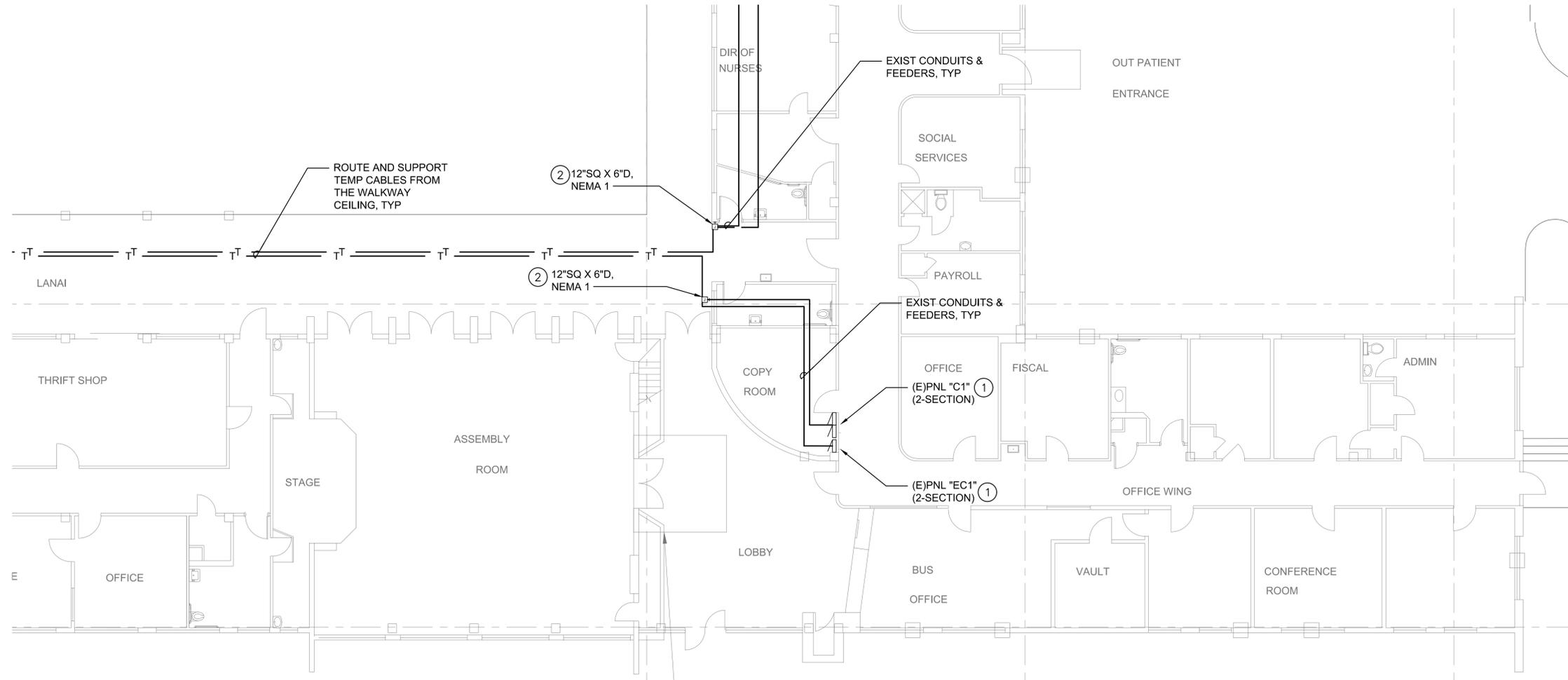


KEY PLAN
 NTS



1 ENLARGED TEMPORARY ELECTRICAL PLAN 7
 SCALE: 1/8" = 1'-0"





- SHEET NOTES:
- VERIFY EXIST PANELS ARE FULLY OPERATIONAL ON TEMP POWER PRIOR TO REMOVAL OF THE EXIST CONDUIT AND FEEDERS TO MINIMIZE THE DOWNTIME OF THE FACILITY AND LOADS.
 - EXIST PANEL TO HAVE POWER TRANSFERRED FROM UTILITY TO (E)GEN-2 UNTIL REPLACED IN SAME LOCATION WITH NEW PANEL.
 - INTERCEPT EXIST PANEL FEEDER WITH JB. CONNECT TEMP FEEDER TO EXIST PANEL FEEDER AND PROVIDE POWER TO EXIST PANEL FROM THE TEMP GENERATOR DURING THE CONSTRUCTION PERIOD.

REVISIONS BY

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 HAWAII, U.S.A.

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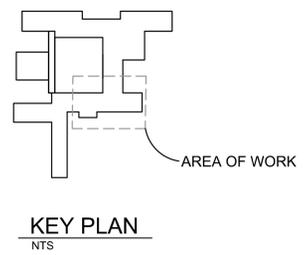
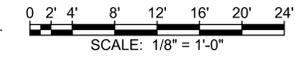
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 ENLARGED TEMPORARY ELECTRICAL PLAN 8

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 Checked RT
 Date 03/15/2022
 Job No. 21039
 Sheet

ET-208
 23 of 44 Sheets

PLAN NORTH
 TRUE NORTH
1 ENLARGED TEMPORARY ELECTRICAL PLAN 8
 SCALE: 1/8" = 1'-0"



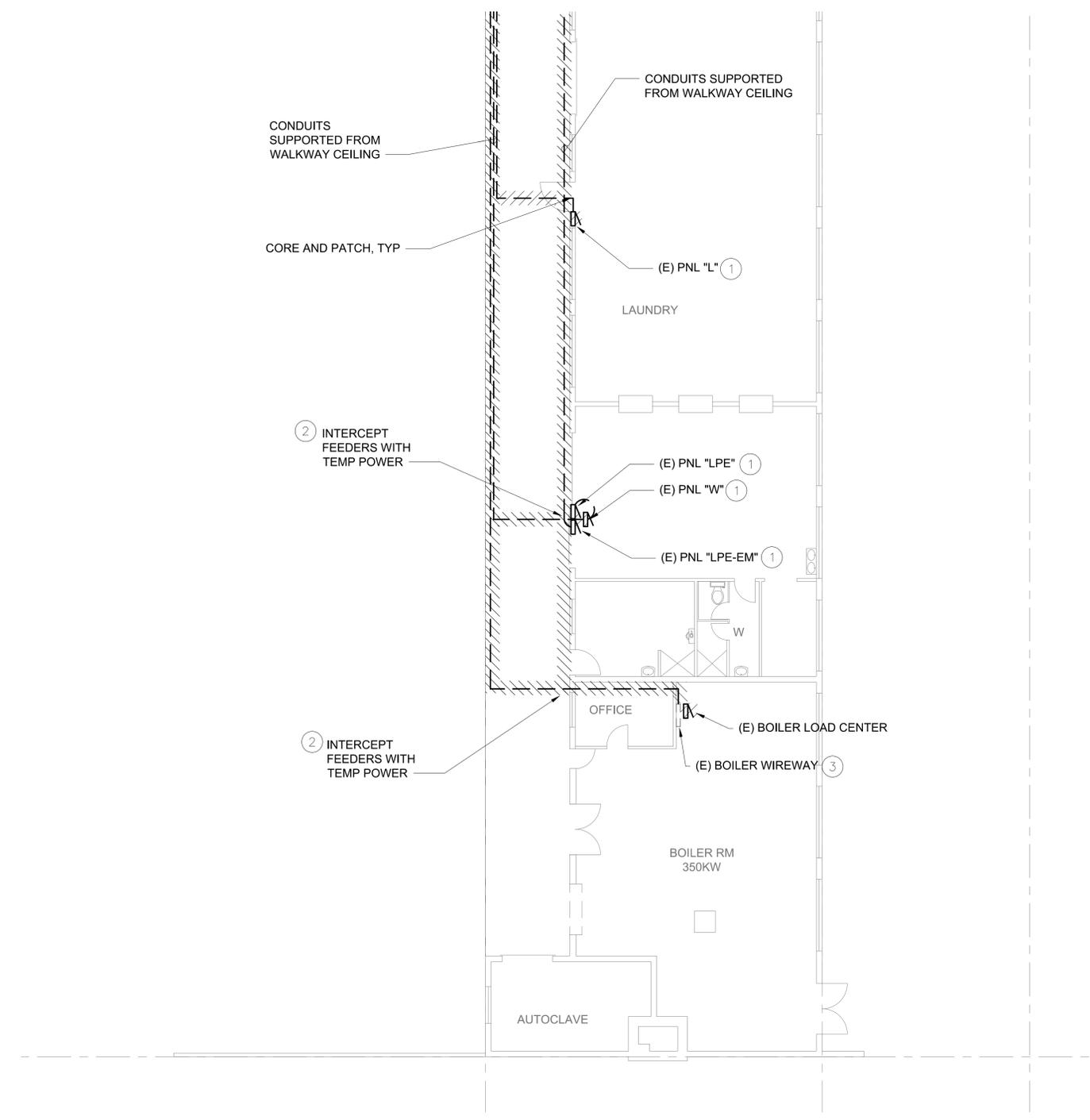
REVISIONS	BY

- SHEET NOTES:
1. VERIFY EXIST PANELS ARE FULLY OPERATIONAL ON TEMP POWER PRIOR TO REMOVAL OF THE EXIST CONDUIT AND FEEDERS TO MINIMIZE THE DOWNTIME OF THE FACILITY AND LOADS.
 - 1 EXIST PANEL TO HAVE POWER TRANSFERRED FROM UTILITY TO (E)GEN-2 UNTIL REPLACED IN SAME LOCATION WITH NEW PANEL.
 - 2 INTERCEPT EXIST PANEL FEEDER WITH JB. CONNECT TEMP FEEDER TO EXIST PANEL FEEDER AND PROVIDE POWER TO EXIST PANEL FROM THE TEMP GENERATOR DURING THE CONSTRUCTION PERIOD.
 - 3 EQUIPMENT TO REMAIN.

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 LICENSED PROFESSIONAL ENGINEER
 No. 10940-E
 HAWAII, U.S.A.

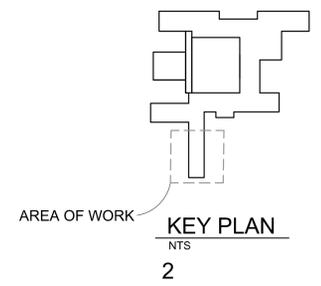
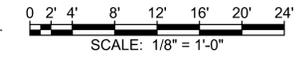
EXPIRATION DATE 04/30/2022



PLAN NORTH

1 ENLARGED ELECTRICAL DEMOLITION PLAN 1

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



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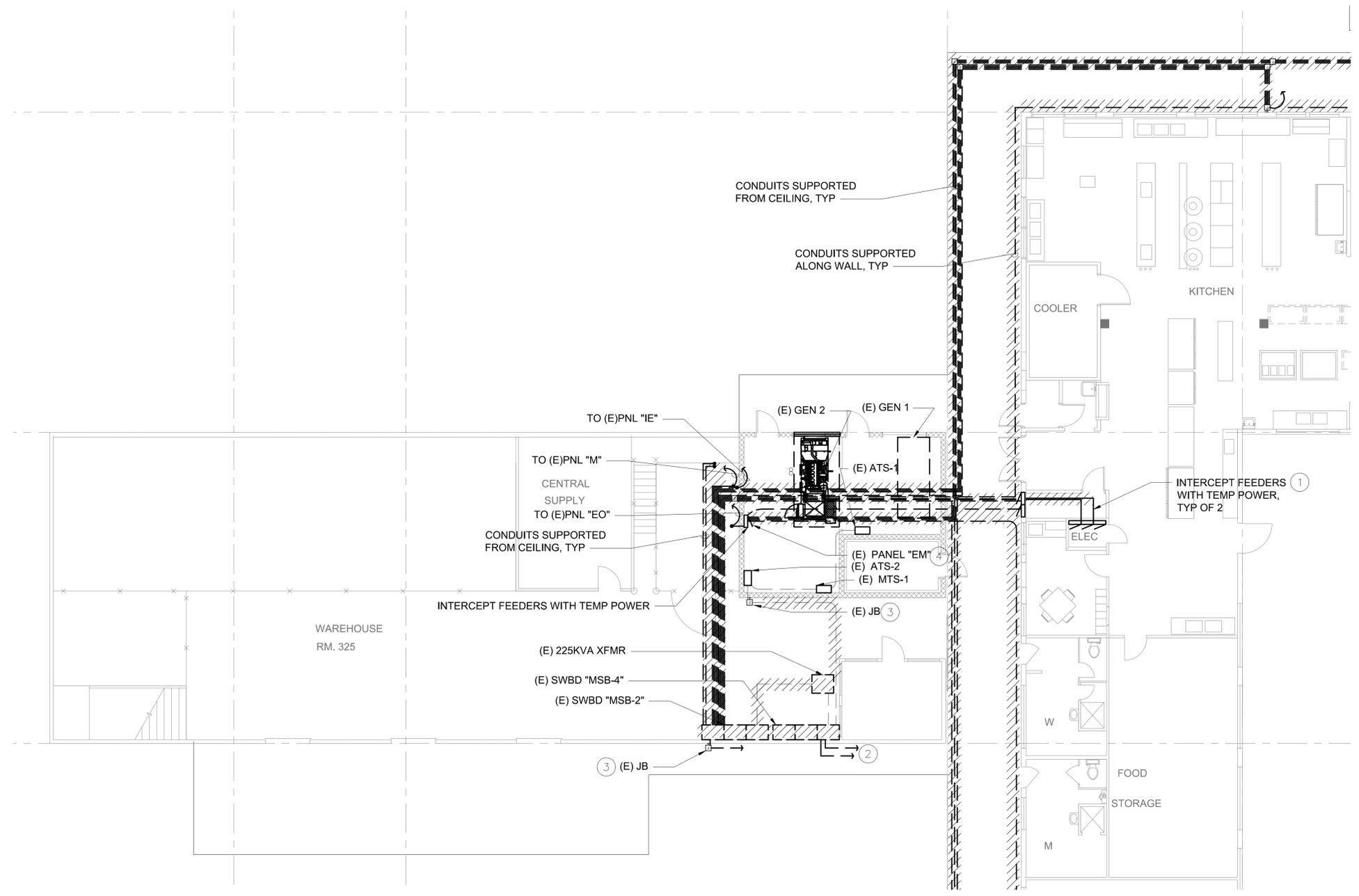
Phone: (808) 521-3773 Fax: (808) 521-3965

SAMUEL MAHELONA
 MEMORIAL HOSPITAL
 ELECTRICAL UPGRADES PHASE 2
 KAPAA, KAUAI, HAWAII

ENLARGED ELECTRICAL DEMOLITION PLAN 1

Designed	IK
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Job No.	21039
Sheet	ED-201

24 of 44 Sheets



- SHEET NOTES:
1. VERIFY EXIST PANELS ARE FULLY OPERATIONAL ON TEMP POWER PRIOR TO REMOVAL OF THE EXIST CONDUIT AND FEEDERS TO MINIMIZE THE DOWNTIME OF THE FACILITY AND LOADS.
 - 1 INTERCEPT EXIST PANEL FEEDER WITH JB. SEE ELECTRICAL TEMP PLANS FOR JB SIZING AND EXTENSION OF TEMP FEEDERS.
 - 2 INTERCEPT EXIST CONDUITS & FEEDERS FOR (E)PNL AC & (E)XRAY WITH NEW JB. SEE ELECTRICAL PLANS FOR JB SIZING AND EXTENSION OF THE FEEDERS TO (N)MSB-4.
 - 3 JB TO REMAIN.
 - 4 CONVERT EXIST PANEL TO JB.
 - 5 INTERCEPT EXIST CONDUIT & FEEDERS FOR WITH NEW JB. SEE ELECTRICAL PLANS FOR JB SIZING AND EXTENSION OF THE FEEDERS TO (N)MSB-2.

REVISIONS	BY

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LICENSED PROFESSIONAL ENGINEER
No. 10940-E
HAWAII, U.S.A.

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ENLARGED ELECTRICAL DEMOLITION PLAN 2

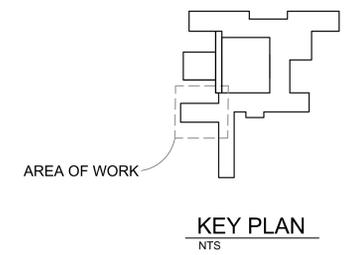
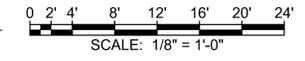
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Drawn	CAD
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Date	03/15/2022
Job No.	21039
Sheet	ED-202

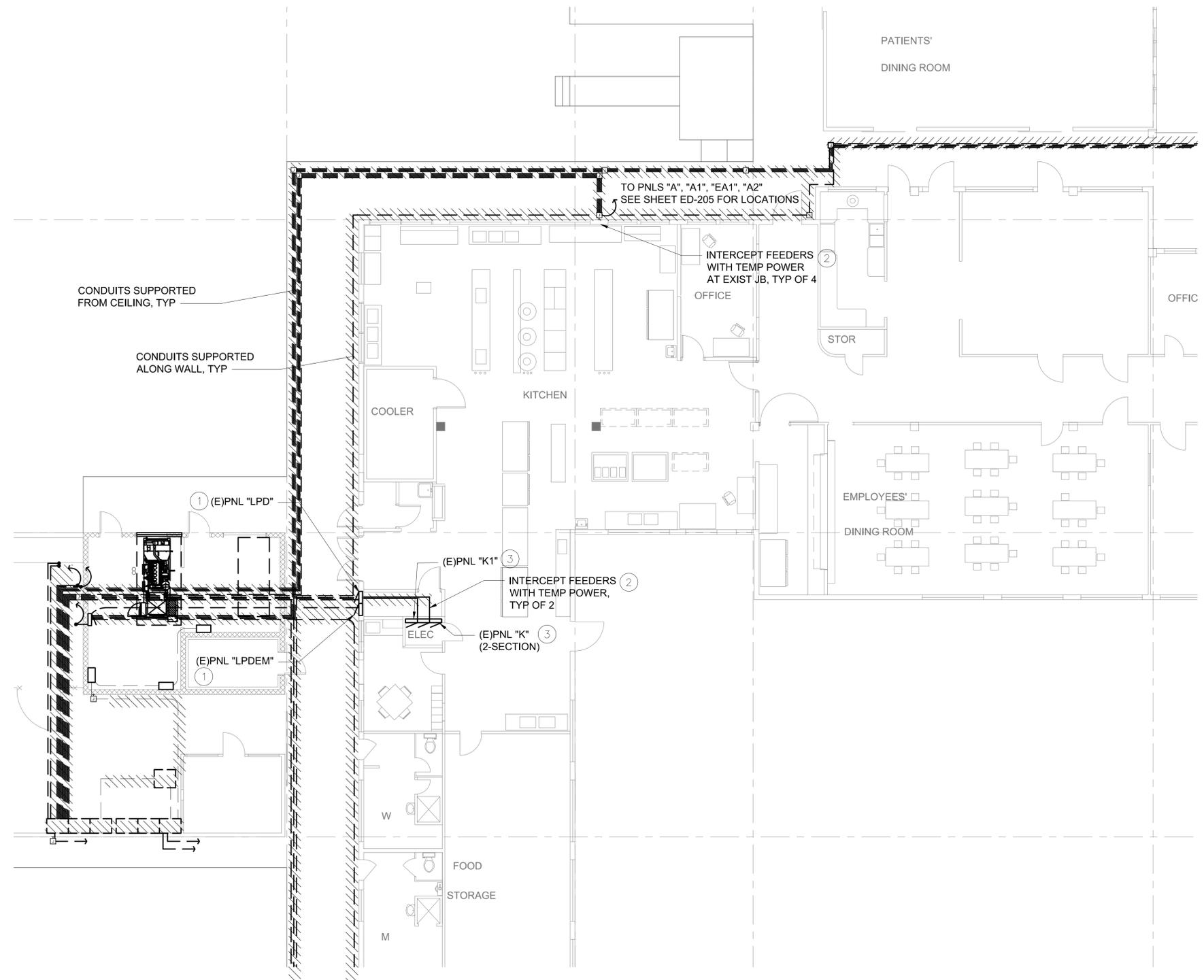
25 of 44 Sheets

PLAN NORTH

1 ENLARGED ELECTRICAL DEMOLITION PLAN 2

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





- SHEET NOTES:
1. VERIFY EXIST PANELS ARE FULLY OPERATIONAL ON TEMP POWER PRIOR TO REMOVAL OF THE EXIST CONDUIT AND FEEDERS TO MINIMIZE THE DOWNTIME OF THE FACILITY AND LOADS.
 - 1 EXIST PANEL TO HAVE POWER TRANSFERRED FROM UTILITY TO (E)GEN-2 UNTIL REPLACED IN SAME LOCATION WITH NEW PANEL.
 - 2 INTERCEPT EXIST PANEL FEEDER WITH JB. SEE ELECTRICAL TEMP PLANS FOR JB SIZING AND EXTENSION OF TEMP FEEDERS.
 - 3 CONVERT EXIST PANEL TO JB.

REVISIONS	BY

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ROSS N TAKAI
LICENSED PROFESSIONAL ENGINEER
No. 10940-E
HAWAII, U.S.A.

EXPIRATION DATE 04/30/2022

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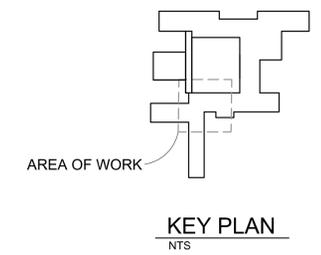
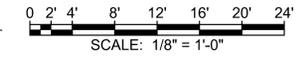
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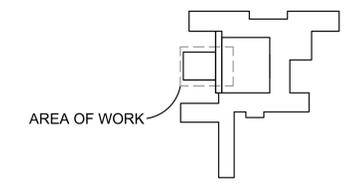
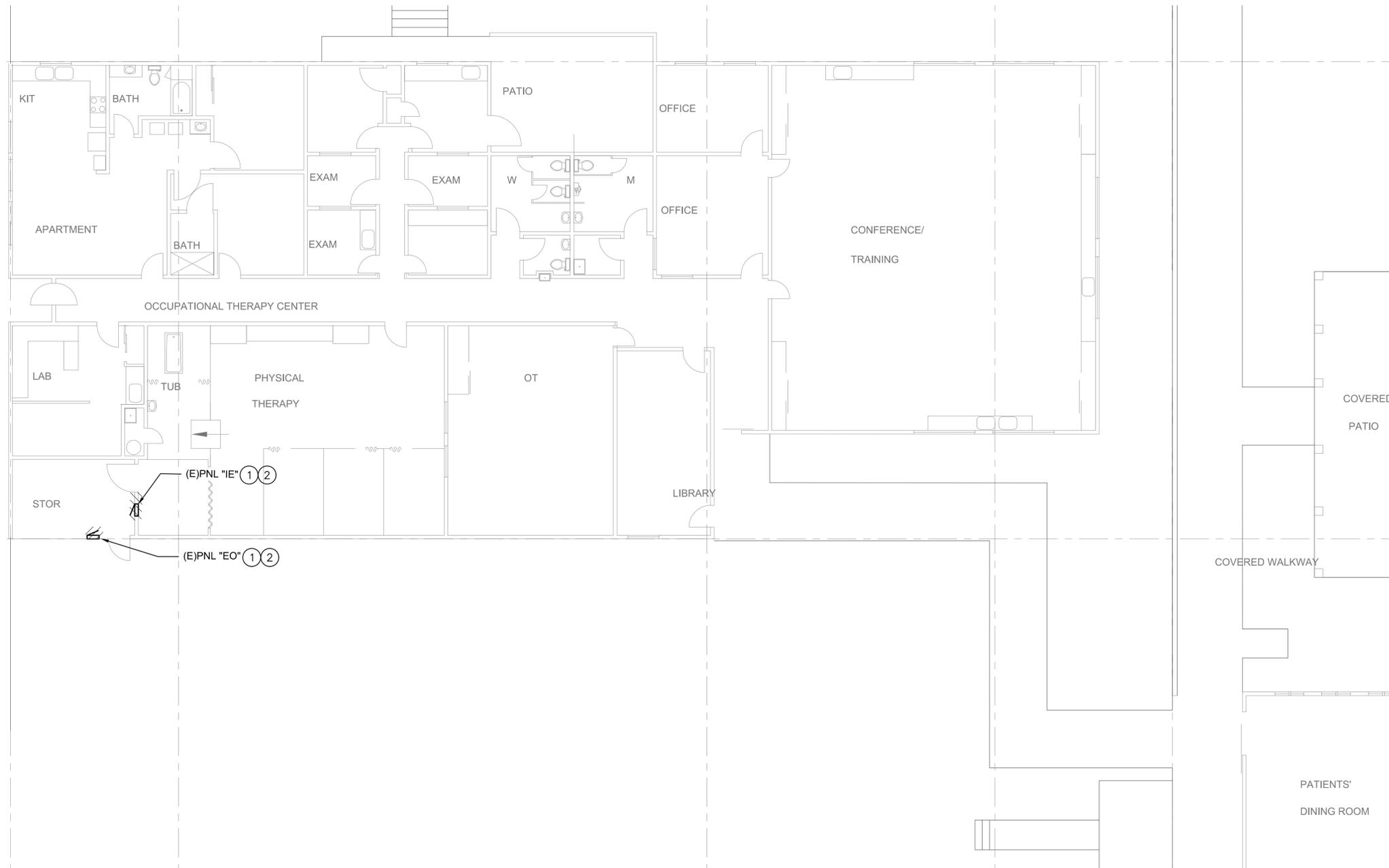
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KAPAA, KAUAI, HAWAII
ENLARGED ELECTRICAL DEMOLITION PLAN 3

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Job No.	21039
Sheet	ED-203

PLAN NORTH
1 ENLARGED ELECTRICAL DEMOLITION PLAN 3
SCALE: 1/8" = 1'-0"

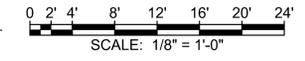


- SHEET NOTES:
1. VERIFY EXIST PANELS ARE FULLY OPERATIONAL ON TEMP POWER PRIOR TO REMOVAL OF THE EXIST CONDUIT AND FEEDERS TO MINIMIZE THE DOWNTIME OF THE FACILITY AND LOADS.
 - 1 INTERCEPT EXIST PANEL FEEDER WITH JB. SEE ELECTRICAL TEMP PLANS FOR JB SIZING AND EXTENSION OF TEMP FEEDERS.
 - 2 CONVERT EXIST PANEL TO JB.



1 ENLARGED ELECTRICAL DEMOLITION PLAN 4

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



KEY PLAN
NTS

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[Signature]

ROSS N. TAKAI
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ENLARGED ELECTRICAL DEMOLITION PLAN 4

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Drawn	CAD
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Date	03/15/2022
Job No.	21039
Sheet	ED-204

SHEET NOTES:

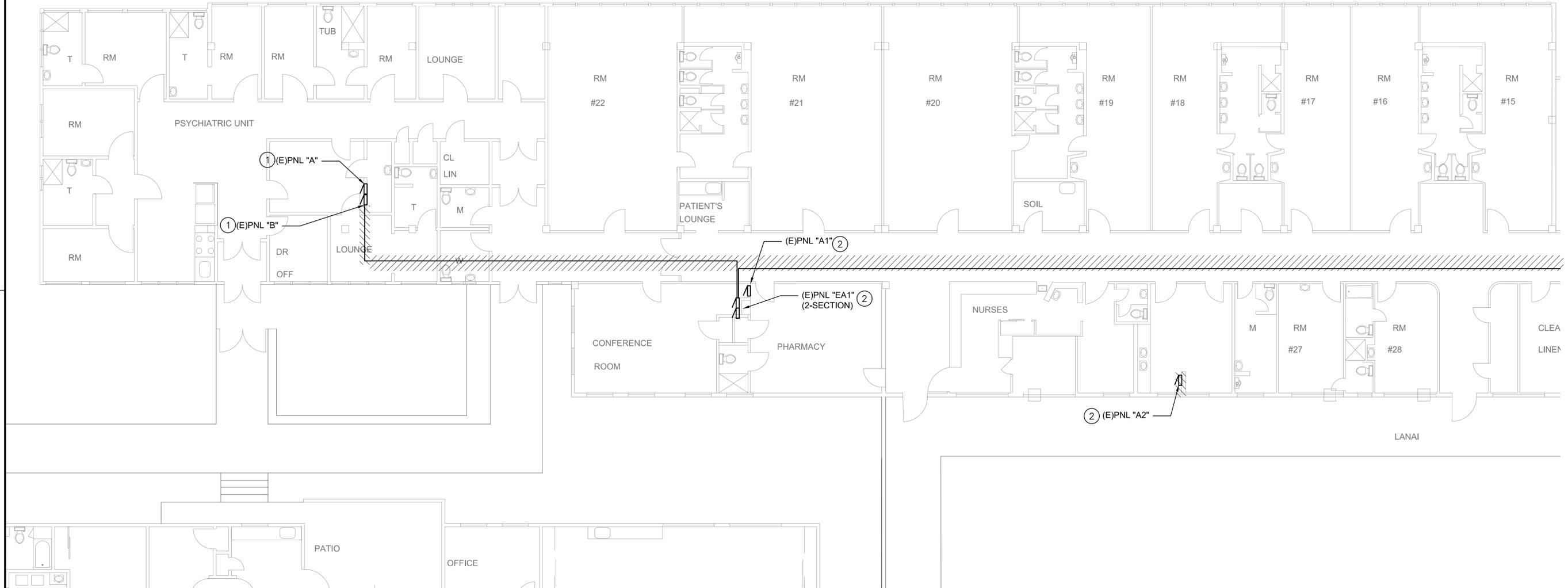
1. VERIFY EXIST PANELS ARE FULLY OPERATIONAL ON TEMP POWER PRIOR TO REMOVAL OF THE EXIST CONDUIT AND FEEDERS TO MINIMIZE THE DOWNTIME OF THE FACILITY AND LOADS.
- ① EXIST PANEL TO HAVE POWER TRANSFERRED FROM UTILITY TO TEMP GEN UNTIL REPLACED IN SAME LOCATION WITH NEW PANEL.
- ② CONVERT EXIST PANEL TO JB.

REVISIONS	BY

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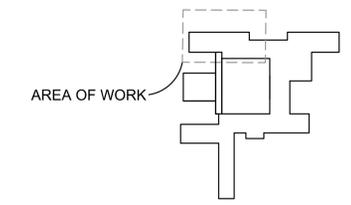
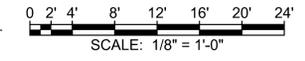
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① ENLARGED ELECTRICAL DEMOLITION PLAN 5

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



KEY PLAN
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ENLARGED ELECTRICAL DEMOLITION PLAN 5

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Date	03/15/2022
Job No.	21039
Sheet	ED-205

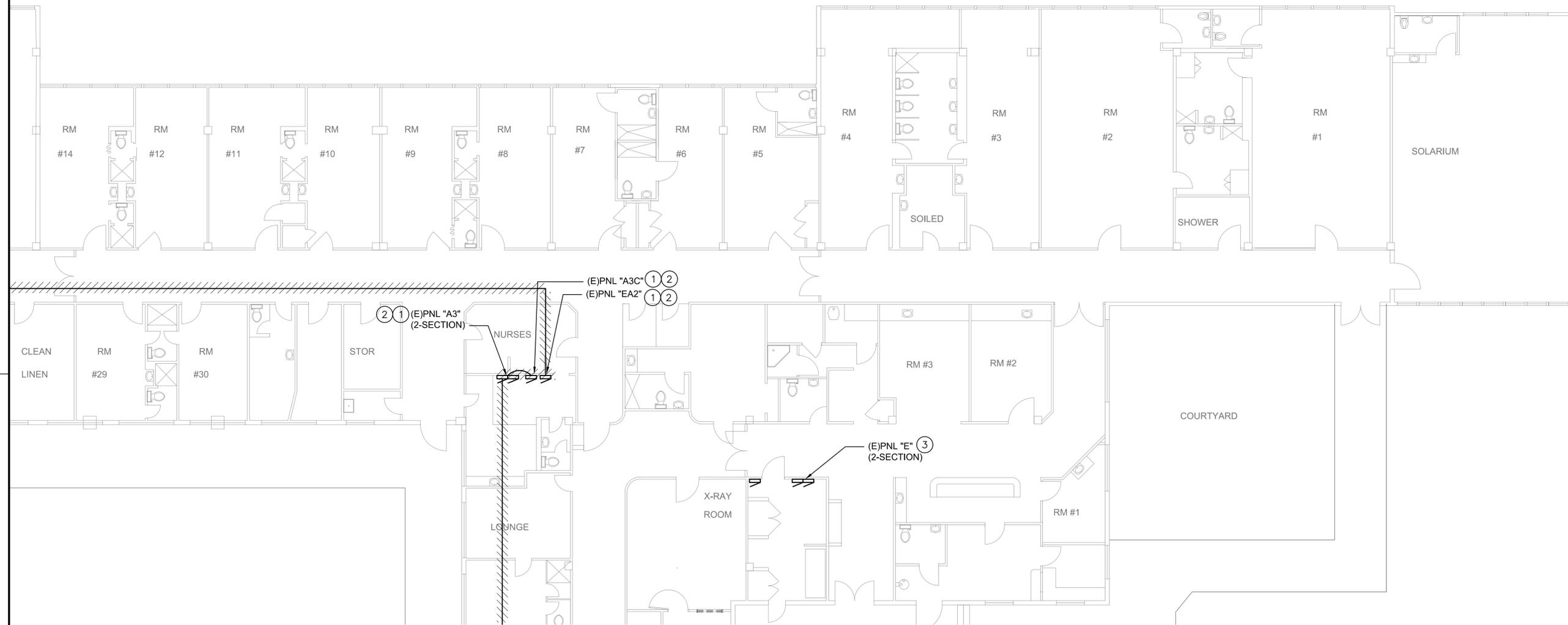
- SHEET NOTES:
- TEST AND INSTALL NEW EQUIPMENT BEFORE THE DISCONNECTION AND REMOVAL OF THE EXIST EQUIPMENT TO MINIMIZE THE DOWNTIME OF THE FACILITY AND LOADS.
 - CONNECT TEMP FEEDER TO EXIST PANEL FEEDER AND PROVIDE POWER TO EXIST PANEL FROM THE TEMP GENERATOR DURING THE CONSTRUCTION PERIOD.
 - CONVERT EXIST PANEL TO JB.
 - EXIST PANEL TO HAVE POWER TRANSFERRED FROM UTILITY TO (E)GEN-2 UNTIL FEEDERS ARE EXTENDED TO (N)MSB-2.

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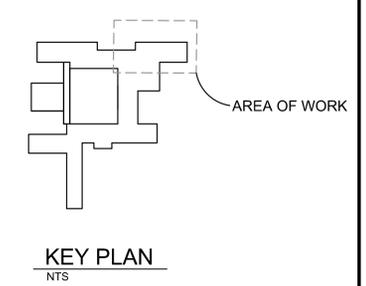
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ENLARGED ELECTRICAL DEMOLITION PLAN 6

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Date	03/15/2022
Job No.	21039
Sheet	ED-206

29 of 44 Sheets

PLAN NORTH
TRUE NORTH
1 ENLARGED ELECTRICAL DEMOLITION PLAN 6
SCALE: 1/8" = 1'-0"



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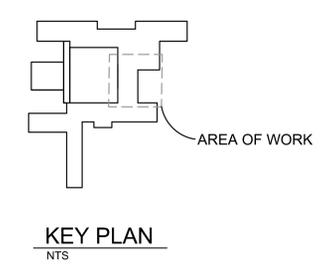
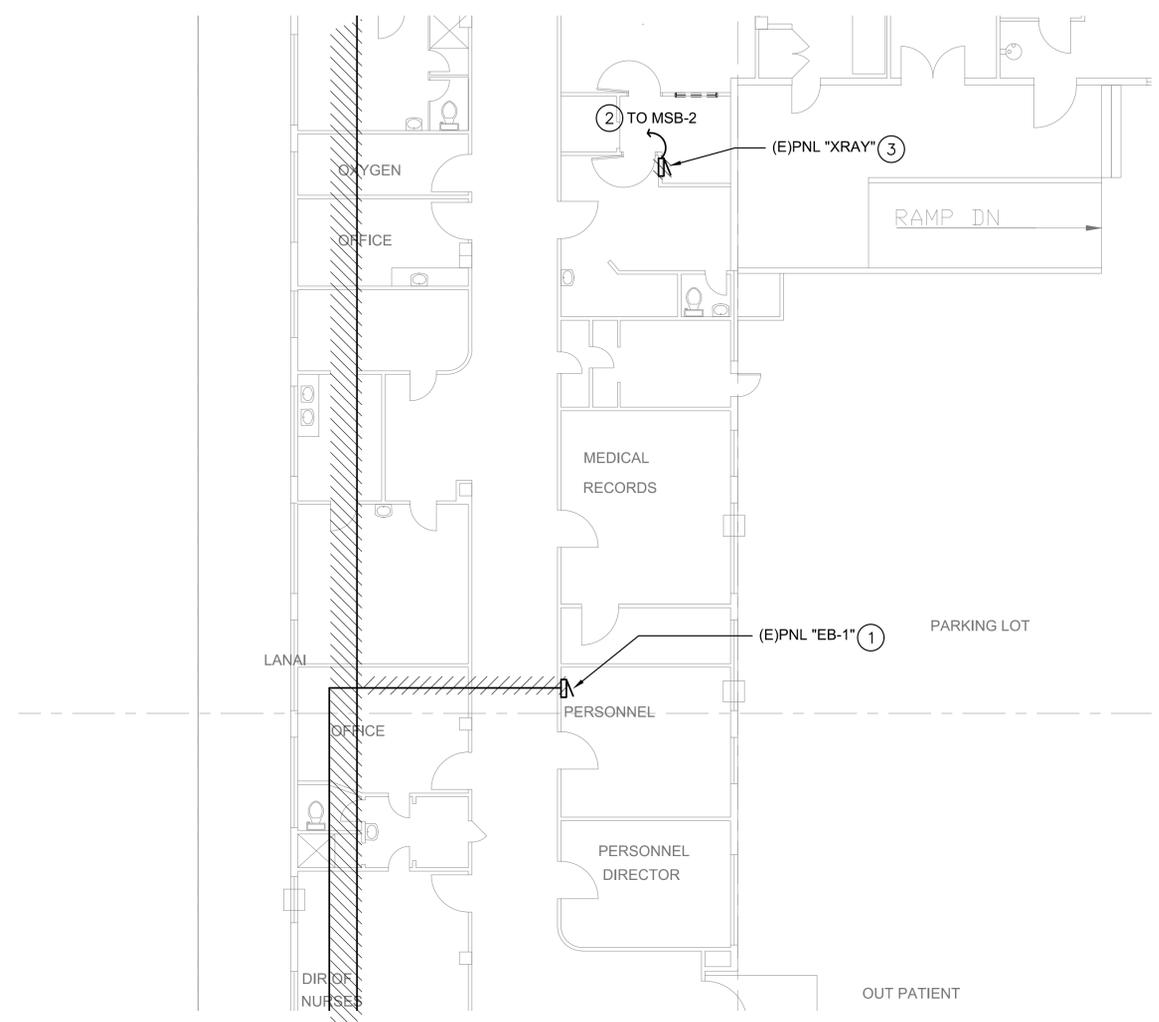
- SHEET NOTES:
1. VERIFY EXIST PANELS ARE FULLY OPERATIONAL ON TEMP POWER PRIOR TO REMOVAL OF THE EXIST CONDUIT AND FEEDERS TO MINIMIZE THE DOWNTIME OF THE FACILITY AND LOADS.
 - ① EXIST PANEL TO HAVE POWER TRANSFERRED FROM UTILITY TO TEMP GENERATOR UNTIL REPLACED IN SAME LOCATION WITH NEW PANEL.
 - ② INTERCEPT EXIST PANEL FEEDER WITH JB IN THE CRAWL SPACE BELOW THE FLOOR.
 - ③ EXIST PANEL TO REMAIN BE RELOCATED. SEE SHEET E-207 FOR EXACT LOCATION.

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[Signature]

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LICENSED PROFESSIONAL ENGINEER
No. 10940-E
HAWAII, U.S.A.



PLAN NORTH
TRUE NORTH

1 ENLARGED ELECTRICAL DEMOLITION PLAN 7
SCALE: 1/8" = 1'-0"



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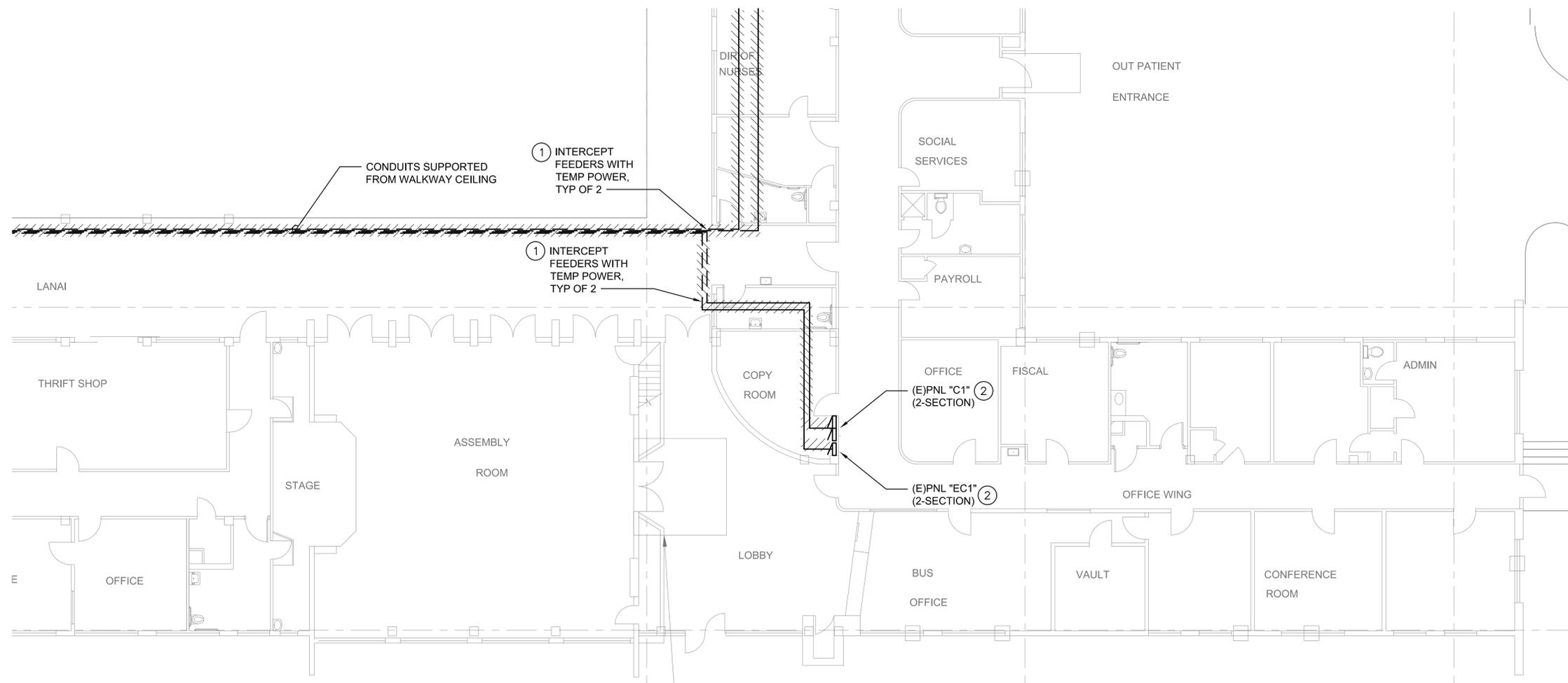
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ENLARGED ELECTRICAL DEMOLITION PLAN 7

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Date	03/15/2022
Job No.	21039
Sheet	ED-207

30 of 44 Sheets



- SHEET NOTES:
- TEST AND INSTALL NEW EQUIPMENT BEFORE THE DISCONNECTION AND REMOVAL OF THE EXIST EQUIPMENT TO MINIMIZE THE DOWNTIME OF THE FACILITY AND LOADS.
 - INTERCEPT EXIST PANEL FEEDER WITH JB. CONNECT TEMP FEEDER TO EXIST PANEL FEEDER AND PROVIDE POWER TO EXIST PANEL FROM THE TEMP GENERATOR DURING THE CONSTRUCTION PERIOD.
 - CONVERT EXIST PANEL TO JB.

REVISIONS BY

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 LICENSED PROFESSIONAL ENGINEER
 No. 10940-E
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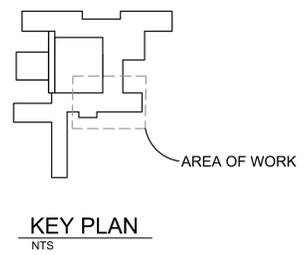
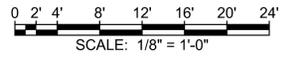
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 KAPAA, KAUAI, HAWAII
 ENLARGED ELECTRICAL DEMOLITION PLAN 8

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Date	03/15/2022
Job No.	21039
Sheet	ED-208

PLAN NORTH
 TRUE NORTH
 1 ENLARGED ELECTRICAL PLAN 8
 SCALE: 1/8" = 1'-0"



FEEDER SCHEDULE: (UNLESS OTHERWISE NOTED)

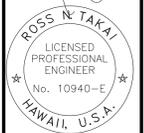
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 40/N/G = 1", 3#8, 1#8 NEUTRAL & 1#8 GND
 50/N/G = 1", 3#8, 1#8 NEUTRAL & 1#8 GND
 60/N/G = 1", 3#6, 1#6 NEUTRAL & 1#8 GND
 70/N/G = 1 1/4"C, 3#4, 1#4 NEUTRAL
 70/N/G = 1 1/4"C, 3#4, 1#4 NEUTRAL & 1#6 GND
 100/N/G = 1.25", 3#2, 1#2 NEUTRAL & 1#8 GND
 125/-/G = 1.5", 3#1, 1#6 GND
 125/N/G = 1.5", 3#1, 1#1 NEUTRAL & 1#6 GND
 150/N/G = 1.5", 3#1/0, 1#1/0 NEUTRAL & 1#6 GND
 175/N/G = 2", 3#2/0 & 1#2/0 NEUTRAL
 175/N/G = 2", 3#2/0, 1#2/0 NEUTRAL & 1#4 GND
 200/N/G = 2.5", 3#3/0, 1#3/0 NEUTRAL & 1#6 GND
 225/-/G = 2.5", 3#4/0 & 1#4 GND
 225/N/G = 2.5", 3#4/0, 1#4/0 NEUTRAL & 1#4 GND
 250/N/G = 3", 3#250, 1#250 NEUTRAL & 1#2 GND
 300/N/G = 3", 3#350, 1#350 NEUTRAL & 1#4 GND
 350/N/G = 4", 3#500, 1#500 NEUTRAL & 1#1/0 GND
 400/-/G = 4", 3#500 & 1#1/0 GND
 400/N/G = 4", 3#500, 1#500 NEUTRAL & 1#1/0 GND
 500/-/G = 2 SETS 3", 3#250 & 1#2 GND
 500/N/G = 2 SETS 3", 3#250, 1#250 NEUTRAL & 1#2 GND
 600/-/G = 2 SETS 4", 3#350 & 1#2/0 GND
 600/N/G = 2 SETS 4", 3#350, 1#350 NEUTRAL & 1#2/0 GND
 800/N/G = 2 SETS 4", 3#500, 1#500 NEUTRAL & 1#2/0 GND
 1000/N/G = 3 SETS 4", 3#500, 1#500 NEUTRAL & 1#3/0 GND
 1200/N/G = 4 SETS 4", 3#350, 1#350 NEUTRAL & 1#3/0 GND

SHEET NOTES:

- SEE SHEET E-003 FOR SUGGESTED SEQUENCE OF CONSTRUCTION PRIOR TO START OF WORK TO MINIMIZE THE DOWNTIME OF THE FACILITY AND LOADS.
- (E)MSB-4 ONLY TO BE REMOVED AFTER ALL CIRCUITS HAVE BEEN ENERGIZED BY (N)MSB-4
- (E)MSB-4 ONLY TO BE REMOVED AFTER ALL CIRCUITS HAVE BEEN ENERGIZED BY (N)MSB-4
- INTERCEPT EXIST CONDUITS & FEEDERS FOR WITH NEW JB. SEE NEW ONE-LINE FOR JB SIZING AND EXTENSION OF THE FEEDERS TO (N)MSB-4.

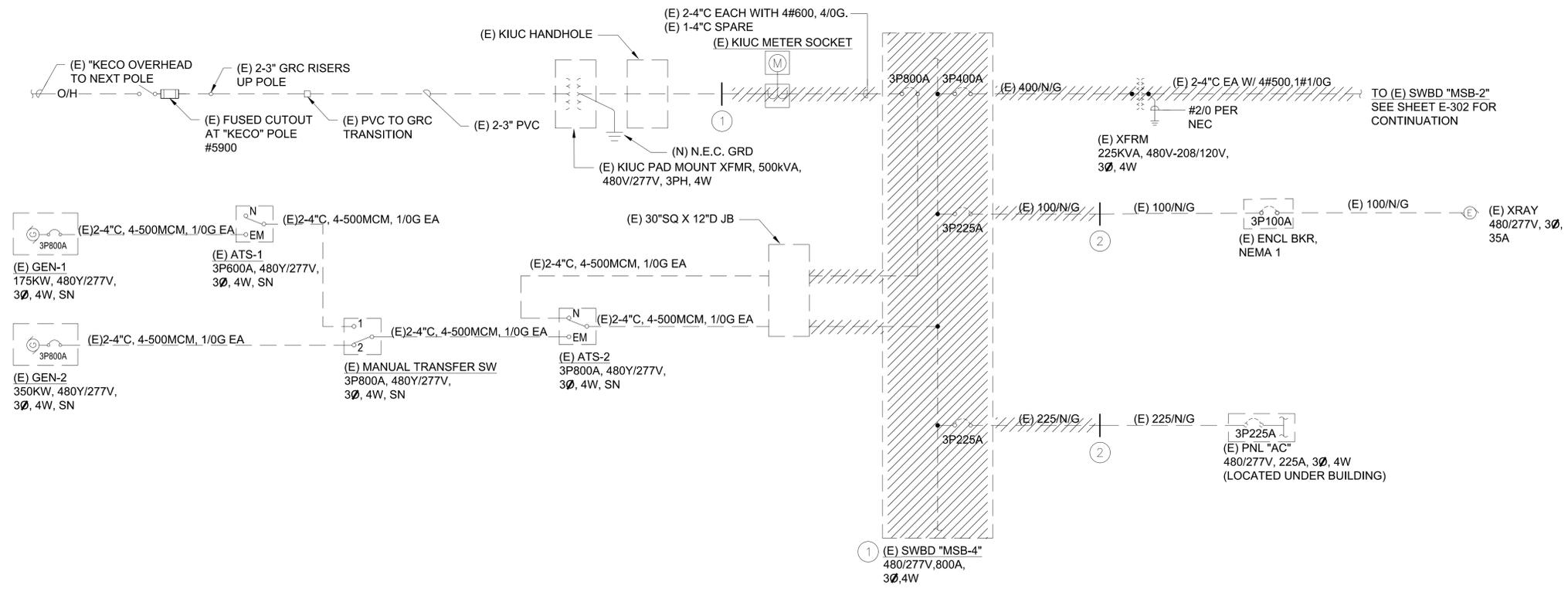
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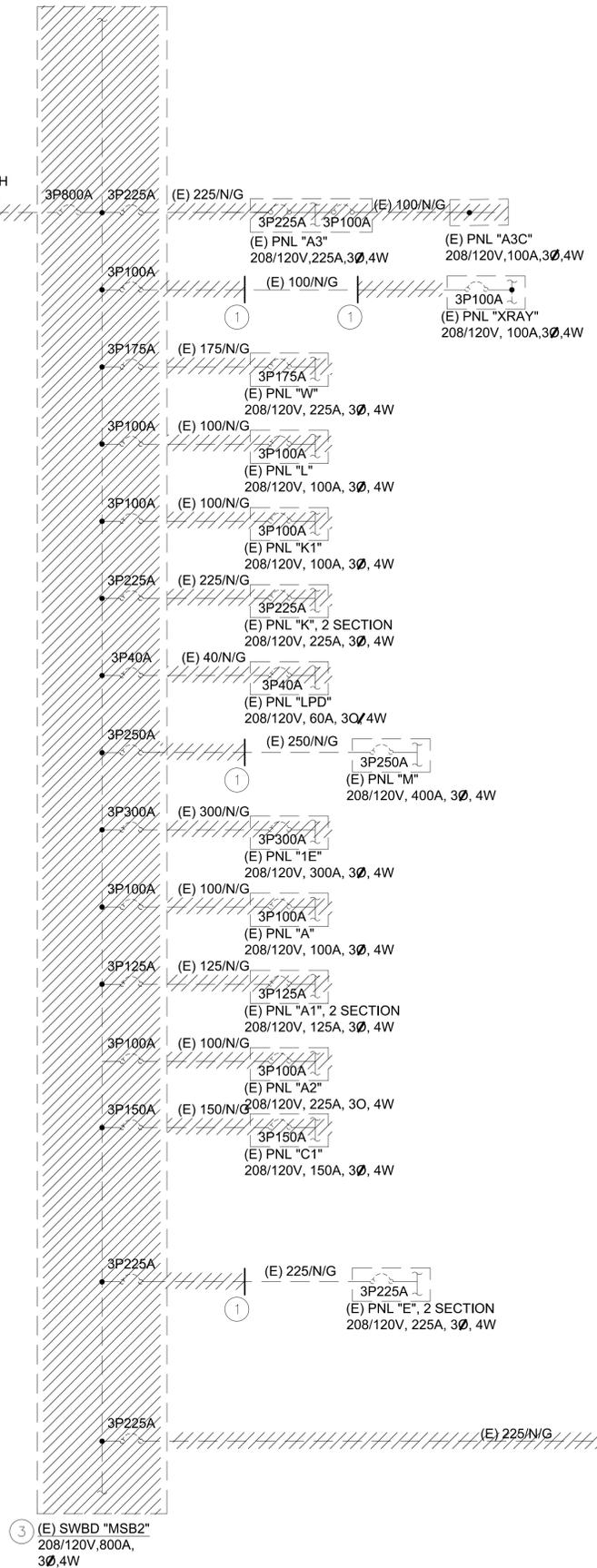


SAMUEL MAHELONA
 MEMORIAL HOSPITAL
 ELECTRICAL UPGRADES PHASE 2
 KAPAA, KAUAI, HAWAII
 ELECTRICAL DEMOLITION ONE-LINE DIAGRAM 1

Designed	IK
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Checked	RT
Date	03/15/2022
Job No.	21039
Sheet	E-301

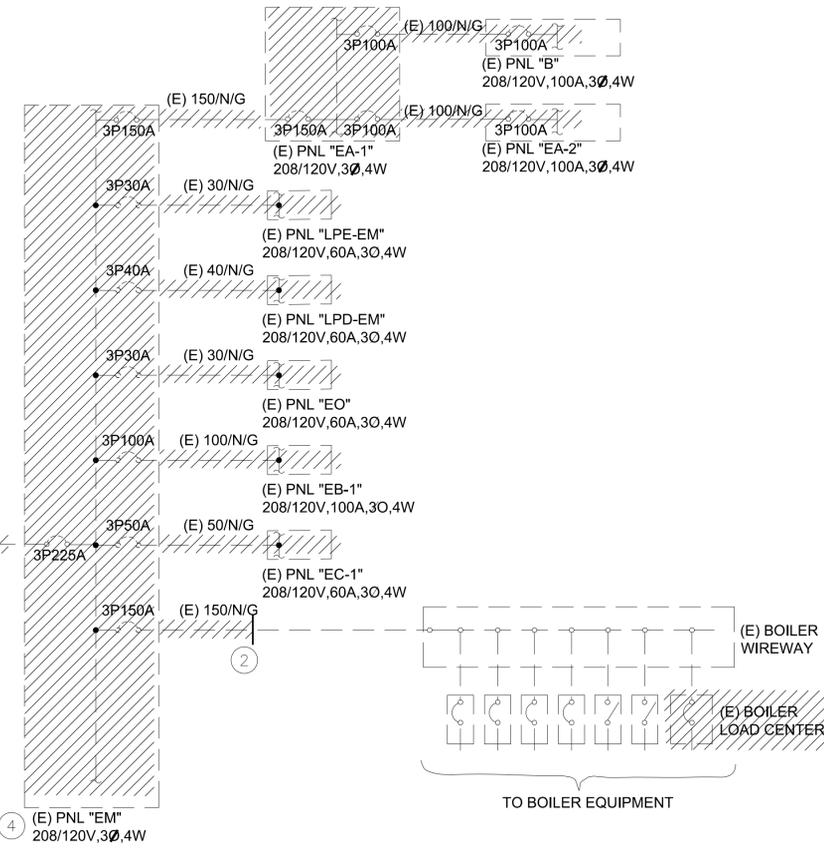


TO (E) XFMR 225KV, SEE SHEET E-301
 2-4°C EA WITH 4#500, 1#1/0G



FEEDER SCHEDULE: (UNLESS OTHERWISE NOTED)

30/N/G = 1", 3#10, 1#10 NEUTRAL & 1#10 GND
40/N/G = 1", 3#8, 1#8 NEUTRAL & 1#8 GND
50/N/G = 1", 3#8, 1#8 NEUTRAL & 1#8 GND
60/N/G = 1", 3#6, 1#6 NEUTRAL & 1#8 GND
70/N/G = 1 1/4"C, 3#4 & 1#4 NEUTRAL
70/N/G = 1 1/4"C, 3#4, 1#4 NEUTRAL & 1#6 GND
100/N/G = 1.25", 3#2, 1#2 NEUTRAL & 1#8 GND
125/-/G = 1.5", 3#1, 1#6 GND
125/N/G = 1.5", 3#1, 1#1 NEUTRAL & 1#6 GND
150/N/G = 1.5", 3#1/0, 1#1/0 NEUTRAL & 1#6 GND
175/N/G = 2", 3#2/0 & 1#2/0 NEUTRAL
175/N/G = 2", 3#2/0, 1#2/0 NEUTRAL & 1#4 GND
200/N/G = 2.5", 3#3/0, 1#3/0 NEUTRAL & 1#6 GND
225/-/G = 2.5", 3#4/0 & 1#4 GND
225/N/G = 2.5", 3#4/0, 1#4/0 NEUTRAL & 1#4 GND
250/N/G = 3", 3#250, 1#250 NEUTRAL & 1#2 GND
300/N/G = 3", 3#350, 1#350 NEUTRAL & 1#4 GND
350/N/G = 4", 3#500, 1#500 NEUTRAL & 1#1/0 GND
400/-/G = 4", 3#500 & 1#1/0 GND
400/N/G = 4", 3#500, 1#500 NEUTRAL & 1#1/0 GND
500/-/G = 2 SETS 3", 3#250 & 1#2 GND
500/N/G = 2 SETS 3", 3#250, 1#250 NEUTRAL & 1#2 GND
600/-/G = 2 SETS 4", 3#350 & 1#2/0 GND
600/N/G = 2 SETS 4", 3#350, 1#350 NEUTRAL & 1#2/0 GND
800/N/G = 2 SETS 4", 3#500, 1#500 NEUTRAL & 1#2/0 GND
1000/N/G = 3 SETS 4", 3#500, 1#500 NEUTRAL & 1#3/0 GND
1200/N/G = 4 SETS 4", 3#350, 1#350 NEUTRAL & 1#3/0 GND



- SHEET NOTES:**
- SEE SHEET E-003 FOR SUGGESTED SEQUENCE OF CONSTRUCTION PRIOR TO START OF WORK TO MINIMIZE THE DOWNTIME OF THE FACILITY AND LOADS.
 - INTERCEPT EXIST CONDUITS & FEEDERS WITH NEW JB. SEE NEW ONE-LINE FOR JB SIZING AND EXTENSION OF THE FEEDERS TO (N)MSB-2.
 - INTERCEPT EXIST CONDUITS & FEEDERS WITH NEW JB. SEE NEW ONE-LINE FOR JB SIZING AND EXTENSION OF THE FEEDERS TO NEW PANEL "EM".
 - (E)MSB-2 ONLY TO BE REMOVED AFTER ALL CIRCUITS HAVE BEEN ENERGIZED BY (N)MSB-2.
 - EXIST PANEL "EM" TO BE GUTTED AND CONVERTED TO A JB.

REVISIONS	BY

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ROSS N. TAKAI
 LICENSED PROFESSIONAL ENGINEER
 No. 10940-E
 HAWAII, U.S.A.

EXPIRATION DATE: 04/30/2022

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 ELECTRICAL UPGRADES PHASE 2
 KAPAA, KAUAI, HAWAII

ELECTRICAL DEMOLITION ONE-LINE DIAGRAM 2

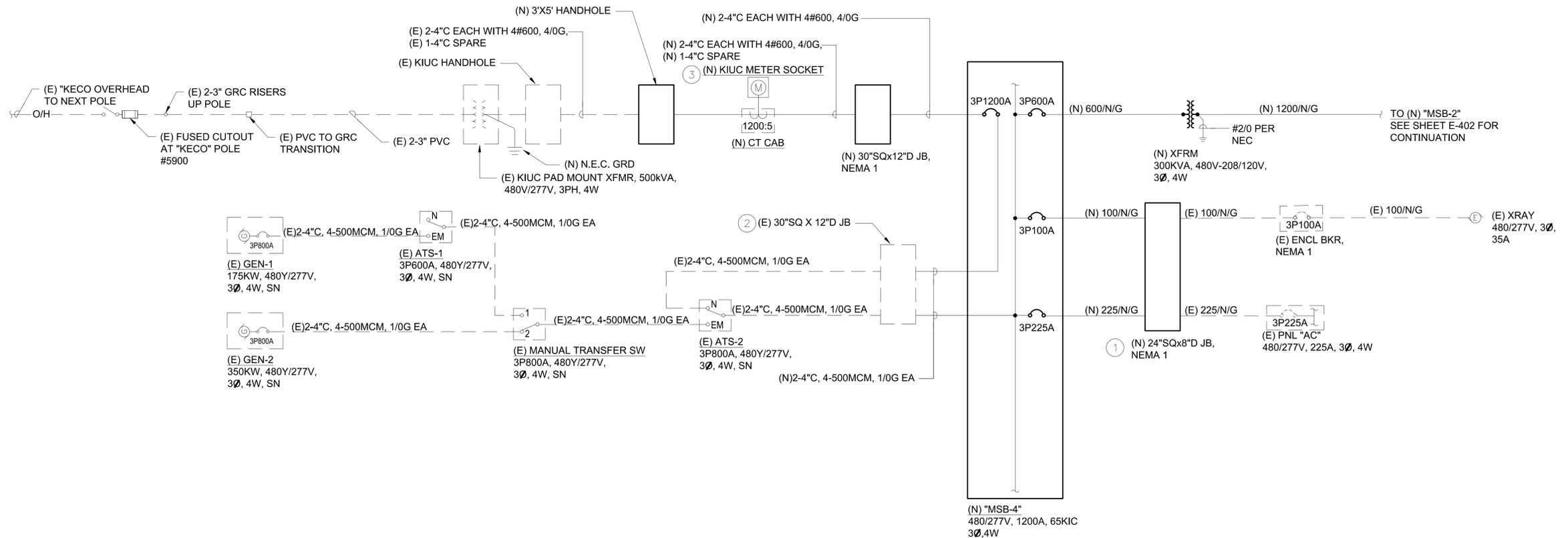
Designed	IK
Drawn	CAD
Checked	RT
Date	03/15/2022
Job No.	21039
Sheet	E-302

FEEDER SCHEDULE: (UNLESS OTHERWISE NOTED)

50/N/G = 1", 3#8, 1#8 NEUTRAL & 1#8 GND
 60/N/G = 1", 3#6, 1#6 NEUTRAL & 1#8 GND
 70/N/- = 1 1/4"C, 3#4, 1#4 NEUTRAL
 70/N/G = 1 1/4"C, 3#4, 1#4 NEUTRAL & 1#6 GND
 100/N/G = 1.25", 3#2, 1#2 NEUTRAL & 1#8 GND
 125-/G = 1.5", 3#1, 1#6 GND
 125/N/G = 1.5", 3#1, 1#1 NEUTRAL & 1#6 GND
 150/N/G = 1.5", 3#1/0, 1#1/0 NEUTRAL & 1#6 GND
 175/N/- = 2", 3#2/0 & 1#2/0 NEUTRAL
 175/N/G = 2", 3#2/0, 1#2/0 NEUTRAL & 1#4 GND
 200/N/G = 2.5", 3#3/0, 1#3/0 NEUTRAL & 1#6 GND
 225-/G = 2.5", 3#4/0 & 1#4 GND
 225/N/G = 2.5", 3#4/0, 1#4/0 NEUTRAL & 1#4 GND
 250/N/G = 3", 3#250, 1#250 NEUTRAL & 1#2 GND
 300/N/G = 3", 3#350, 1#350 NEUTRAL & 1#4 GND
 350/N/G = 4", 3#500, 1#500 NEUTRAL & 1#1/0 GND
 400-/G = 4", 3#500 & 1#1/0 GND
 400/N/G = 4", 3#500, 1#500 NEUTRAL & 1#1/0 GND
 500-/G = 2 SETS 3", 3#250 & 1#2 GND
 500/N/G = 2 SETS 3", 3#250, 1#250 NEUTRAL & 1#2 GND
 600-/G = 2 SETS 4", 3#350 & 1#2/0 GND
 600/N/G = 2 SETS 4", 3#350, 1#350 NEUTRAL & 1#2/0 GND
 800/N/G = 2 SETS 4", 3#500, 1#500 NEUTRAL & 1#2/0 GND
 1000/N/G = 3 SETS 4", 3#500, 1#500 NEUTRAL & 1#3/0 GND
 1200/N/G = 4 SETS 4", 3#350, 1#350 NEUTRAL & 1#3/0 GND

SHEET NOTES:

- SEE SHEET E-003 FOR SUGGESTED SEQUENCE OF CONSTRUCTION PRIOR TO START OF WORK TO MINIMIZE THE DOWNTIME OF THE FACILITY AND LOADS.
- INTERCEPT EXIST CONDUITS WITH JB AND EXTEND FEEDERS FOR EXIST LOADS TO (N)MSB-4.
- EXTEND GENERATOR FEEDERS FROM EXIST JB TO (N)MSB-4.
- METER SOCKET: 13-JAW, 1200A, 480Y/277V, 3Ø,4W W/ TEST BY-PASS FACILITIES, SEALABLE.



REVISIONS	BY

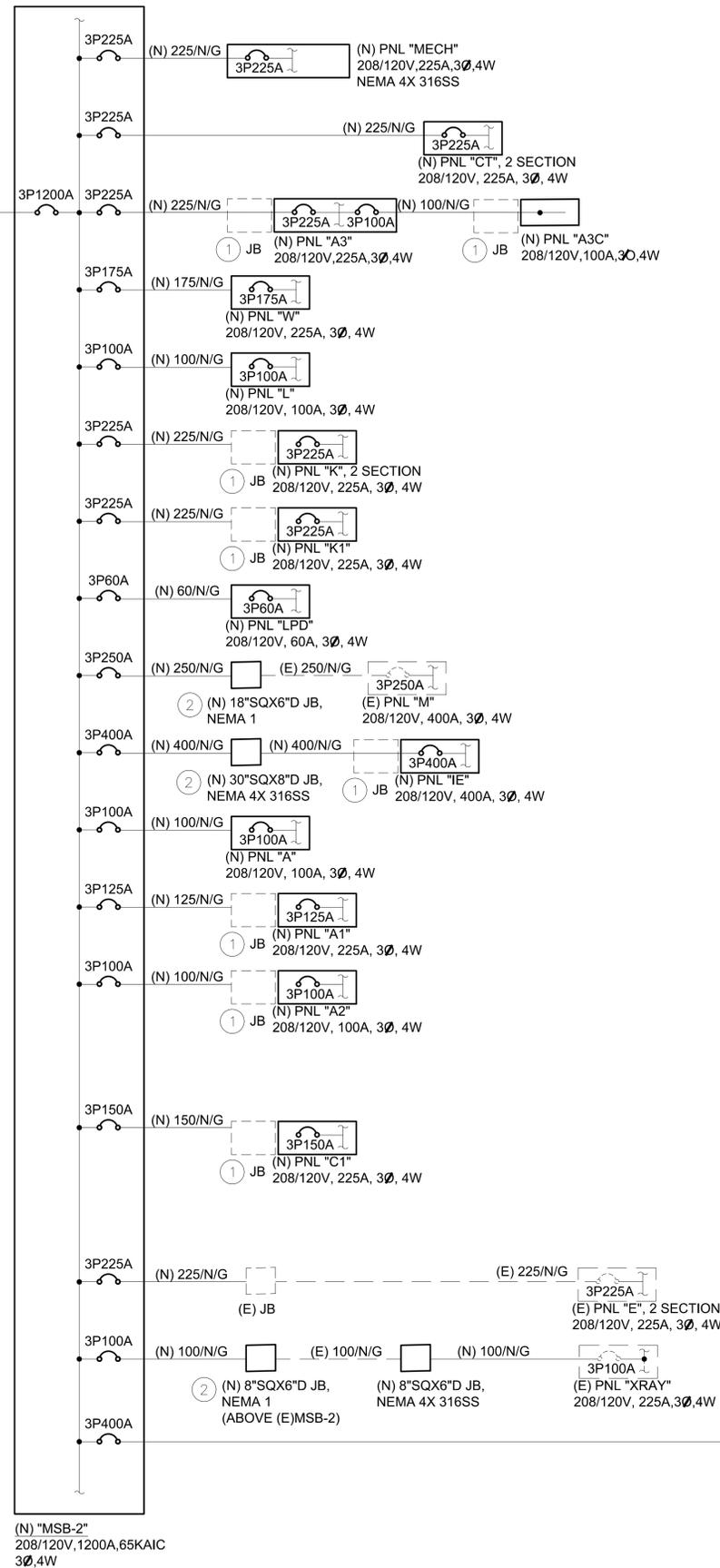
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 ROSS N. TAKAI
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 No. 10940-E
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 EXPIRATION DATE 04/30/2022

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SAMUEL MAHELELONA
 MEMORIAL HOSPITAL
 ELECTRICAL UPGRADES PHASE 2
 KAPAA, KAUAI, HAWAII
 ELECTRICAL ONE-LINE DIAGRAM 1

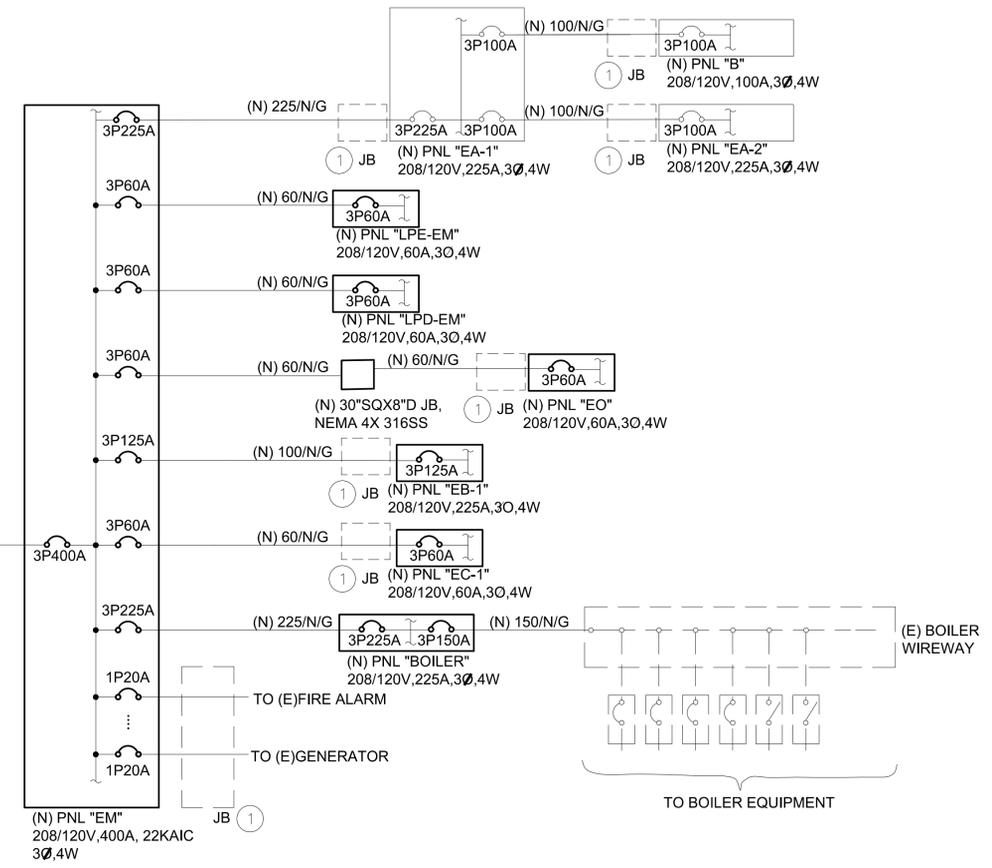
Designed	IK
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Checked	RT
Date	03/15/2022
Job No.	21039
Sheet	E-401
34 of 44 Sheets	

TO (N) XFMR 300KVA,
SEE SHEET E-301



FEEDER SCHEDULE: (UNLESS OTHERWISE NOTED)

50/N/G = 1", 3#8, 1#8 NEUTRAL & 1#8 GND
60/N/G = 1", 3#6, 1#6 NEUTRAL & 1#6 GND
70/N/G = 1 1/4"C, 3#4 & 1#4 NEUTRAL
70/N/G = 1 1/4"C, 3#4, 1#4 NEUTRAL & 1#6 GND
100/N/G = 1.25", 3#2, 1#2 NEUTRAL & 1#8 GND
125-/G = 1.5", 3#1, 1#6 GND
125/N/G = 1.5", 3#1, 1#1 NEUTRAL & 1#6 GND
150/N/G = 1.5", 3#1/0, 1#1/0 NEUTRAL & 1#6 GND
175/N/G = 2", 3#2/0 & 1#2/0 NEUTRAL
175/N/G = 2", 3#2/0, 1#2/0 NEUTRAL & 1#4 GND
200/N/G = 2.5", 3#3/0, 1#3/0 NEUTRAL & 1#6 GND
225-/G = 2.5", 3#4/0 & 1#4 GND
225/N/G = 2.5", 3#4/0, 1#4/0 NEUTRAL & 1#4 GND
250/N/G = 3", 3#250, 1#250 NEUTRAL & 1#2 GND
300/N/G = 3", 3#350, 1#350 NEUTRAL & 1#4 GND
350/N/G = 4", 3#500, 1#500 NEUTRAL & 1#1/0 GND
400-/G = 4", 3#500 & 1#1/0 GND
400/N/G = 4", 3#500, 1#500 NEUTRAL & 1#1/0 GND
500-/G = 2 SETS 3", 3#250 & 1#2 GND
500/N/G = 2 SETS 3", 3#250, 1#250 NEUTRAL & 1#2 GND
600-/G = 2 SETS 4", 3#350 & 1#2/0 GND
600/N/G = 2 SETS 4", 3#350, 1#350 NEUTRAL & 1#2/0 GND
800/N/G = 2 SETS 4", 3#500, 1#500 NEUTRAL & 1#2/0 GND
1000/N/G = 3 SETS 4", 3#500, 1#500 NEUTRAL & 1#3/0 GND
1200/N/G = 4 SETS 4", 3#350, 1#350 NEUTRAL & 1#3/0 GND



- SHEET NOTES:**
- SEE SHEET E-003 FOR SUGGESTED SEQUENCE OF CONSTRUCTION PRIOR TO START OF WORK TO MINIMIZE THE DOWNTIME OF THE FACILITY AND LOADS.
 - CONVERT EXIST PANEL INTO JB. EXTEND EXIST CIRCUITS TO NEW PANEL. NO MORE THAN 3-1P20A CIRCUITS IN A SINGLE CONDUIT. EACH 2P OR 3P CIRCUIT SHALL BE RUN IN A DEDICATED CONDUIT.
 - INTERCEPT EXIST CIRCUITS WITH JB AND EXTEND FEEDERS FOR EXIST LOADS FROM (E)MSB-2 TO (N)MSB-2.

REVISIONS	BY

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ELECTRICAL ONE-LINE DIAGRAM 2

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Date	03/15/2022
Job No.	21039
Sheet	E-402

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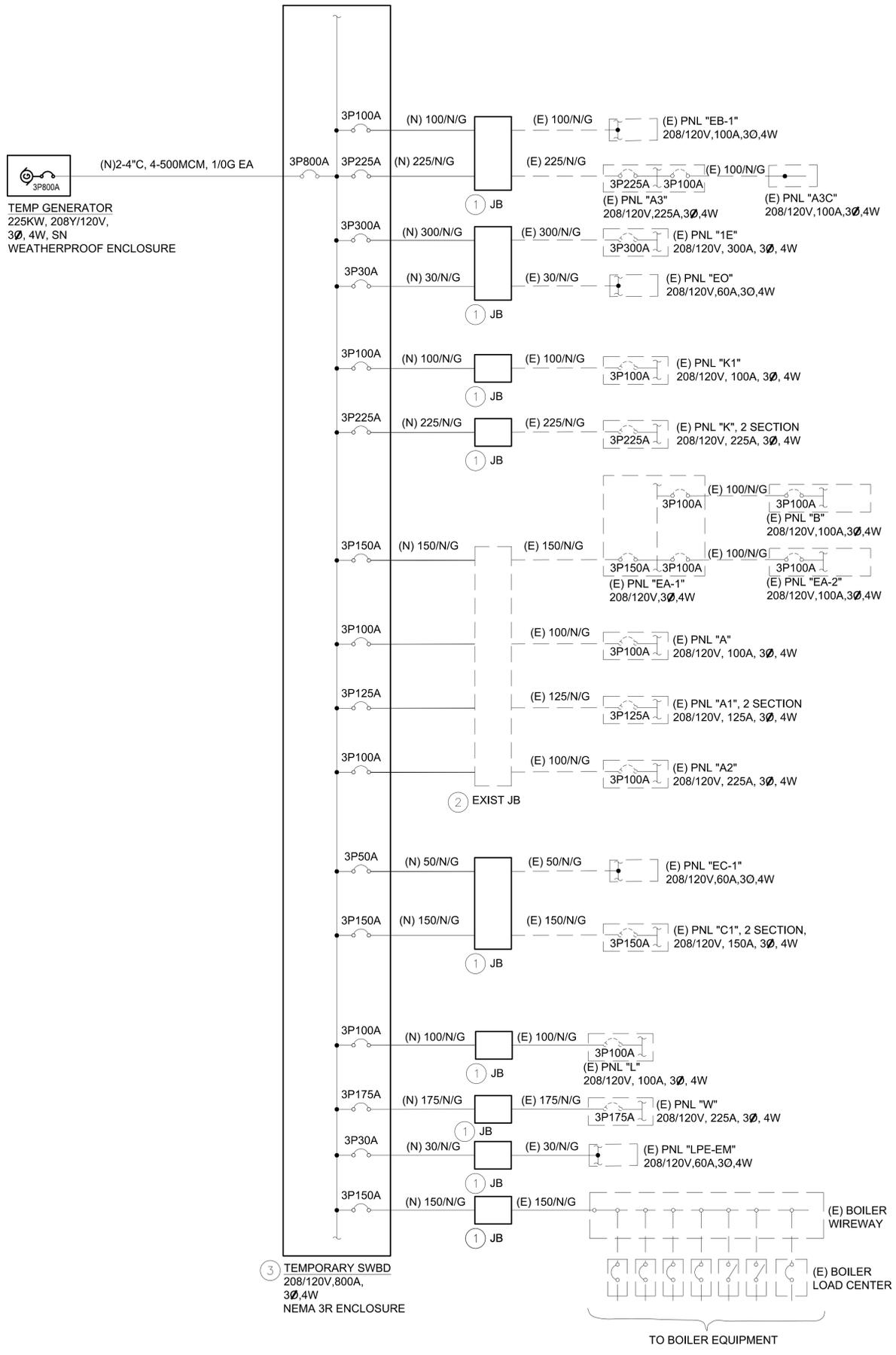
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SAMUEL MAHELONA
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 KAPAA, KAUAI, HAWAII

Designed IK
 Drawn CAD
 Checked RT
 Date 03/15/2022
 Job No. 21039
 Sheet

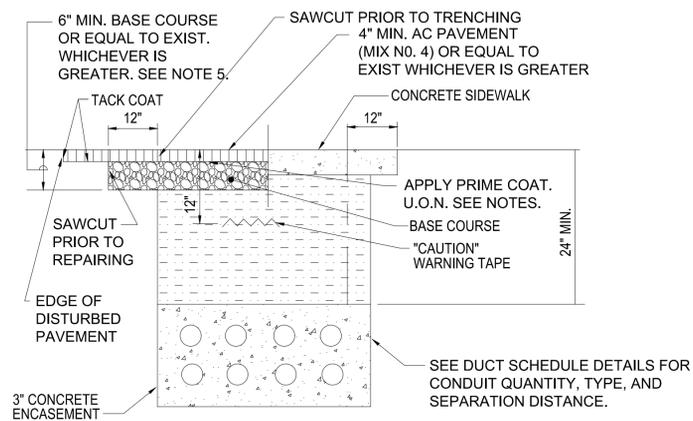
SHEET NOTES:

- SEE SHEET E-003 FOR SUGGESTED SEQUENCE OF CONSTRUCTION PRIOR TO START OF WORK TO MINIMIZE THE DOWNTIME OF THE FACILITY AND LOADS.
 - TEMPORARY CABLES TO BE PORTABLE CABLES.
 - ALL TEMPORARY ITEMS TO BE REMOVED UPON COMPLETION OF NEW WORK.
- ① INTERCEPT EXIST PANEL FEEDER WITH NEW JB. CONNECT TEMP FEEDER TO EXIST PANEL FEEDER AND PROVIDE POWER TO EXIST PANEL FROM THE TEMP GENERATOR DURING THE CONSTRUCTION PERIOD.
- ② INTERCEPT EXIST CONDUITS & FEEDERS IN EXIST JB. EXTEND FEEDERS FOR EXIST PNLS TO TEMP SWBD AND PROVIDE POWER TO EXIST PNLS FROM THE TEMP GENERATOR DURING THE CONSTRUCTION PERIOD.

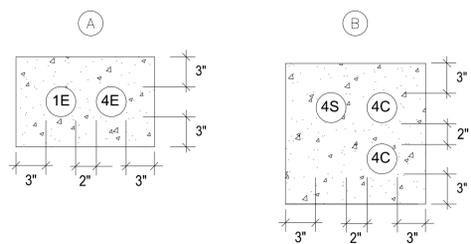


FEEDER SCHEDULE: (UNLESS OTHERWISE NOTED)

30/N/G = 3#10, 1#10 NEUTRAL & 1#10 GND
40/N/G = 1", 3#8, 1#8 NEUTRAL & 1#8 GND
50/N/G = 1", 3#8, 1#8 NEUTRAL & 1#8 GND
60/N/G = 1", 3#6, 1#6 NEUTRAL & 1#6 GND
70/N/G = 1 1/4"C, 3#4, 1#4 NEUTRAL
70/N/G = 1 1/4"C, 3#4, 1#4 NEUTRAL & 1#6 GND
100/N/G = 1.25", 3#2, 1#2 NEUTRAL & 1#8 GND
125/N/G = 1.5", 3#1, 1#6 GND
150/N/G = 1.5", 3#1, 1#1/0 NEUTRAL & 1#6 GND
150/N/G = 1.5", 3#1/0, 1#1/0 NEUTRAL & 1#6 GND
175/N/G = 2", 3#2/0 & 1#2/0 NEUTRAL
175/N/G = 2", 3#2/0, 1#2/0 NEUTRAL & 1#4 GND
200/N/G = 2.5", 3#3/0, 1#3/0 NEUTRAL & 1#6 GND
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225/N/G = 2.5", 3#4/0, 1#4/0 NEUTRAL & 1#4 GND
250/N/G = 3", 3#250, 1#250 NEUTRAL & 1#2 GND
300/N/G = 3", 3#350, 1#350 NEUTRAL & 1#4 GND
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500/N/G = 2 SETS 3", 3#250, 1#250 NEUTRAL & 1#2 GND
600/N/G = 2 SETS 4", 3#350 & 1#2/0 GND
600/N/G = 2 SETS 4", 3#350, 1#350 NEUTRAL & 1#2/0 GND
800/N/G = 2 SETS 4", 3#500, 1#500 NEUTRAL & 1#2/0 GND
1000/N/G = 3 SETS 4", 3#500, 1#500 NEUTRAL & 1#3/0 GND
1200/N/G = 4 SETS 4", 3#350, 1#350 NEUTRAL & 1#3/0 GND



TYPICAL DUCT DETAIL - CONCRETE ENCASED



DUCT SCHEDULE	
1E	SCH. 40 PVC, 1°C POWER
2E	SCH. 40 PVC, 2°C POWER
4E	SCH. 40 PVC, 4°C POWER
4S	SCH. 40 PVC, 4°C SPARE

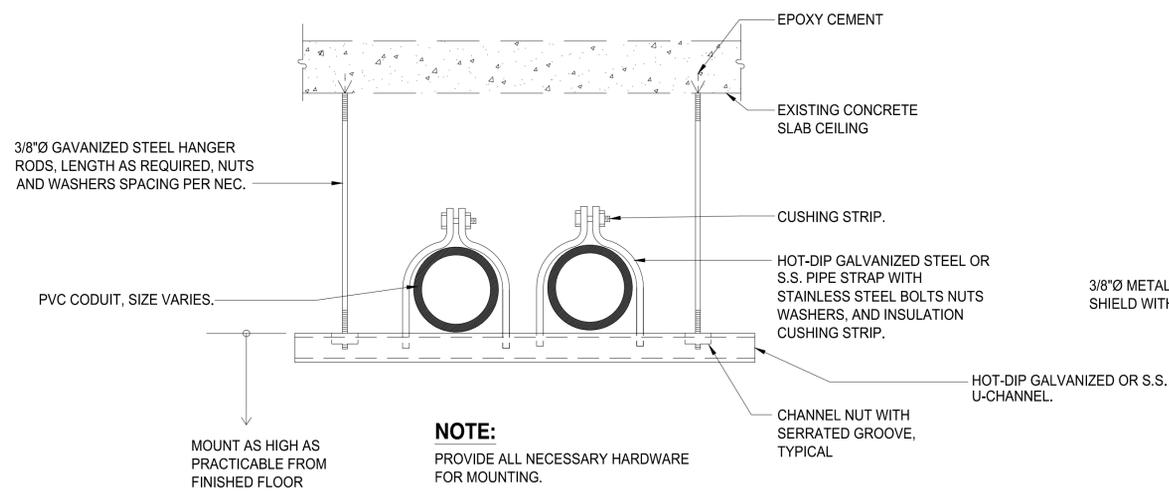
1 DUCT SECTION DETAILS
NOT TO SCALE

DUCT SECTION NOTES:

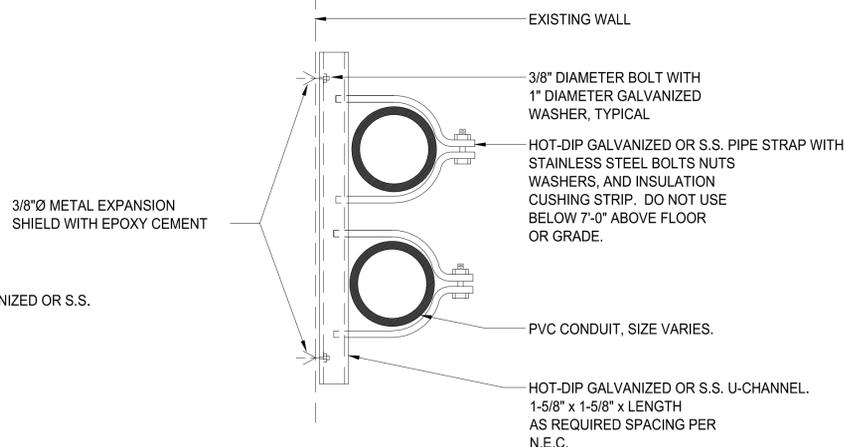
1. MAINTAIN 3" MINIMUM SPACING BETWEEN UNDERGROUND DUCTLINES OF DIFFERENT SYSTEMS. MAINTAIN 2" MINIMUM SPACING BETWEEN UNDERGROUND DUCTLINES OF SIMILAR SYSTEMS.
2. ALL UNDERGROUND CONCRETE ENCASED DUCTS SHALL BE PVC SCHEDULE 40, UNLESS OTHERWISE NOTED.
3. ELECTRICAL DUCTLINES SHALL CONTAIN A 200LB TENSILE STRENGTH NYLON CORD.

BACKFILL NOTES:

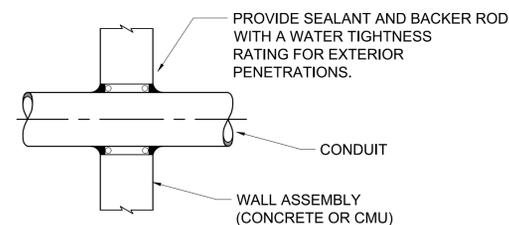
-  TYPE "A" BACKFILL - EARTH & GRAVEL. ROCK SIZE TO BE 1" MAX & THE MIXTURE TO CONTAIN NOT MORE THAN 50% BY VOLUME OF ROCK PARTICLES. 95% COMPACTION.
-  TYPE "B" BACKFILL - EARTH & GRAVEL. MIXTURE MUST PASS A 1/2" MESH SCREEN & CONTAIN NOT MORE THAN 20% BY VOLUME OF ROCK PARTICLES. 95% COMPACTION.
-  NOTE - IF NORMAL MATERIAL AT BOTTOM OF TRENCH IS NOT TYPE "B", AN ADDITIONAL 3" SHALL BE EXCAVATED & TYPE "B" BACKFILL PROVIDED.
-  CONCRETE - 3" ENCASEMENT, 2500 PSI COMPRESSIVE STRENGTH @ 28 DAYS.



2 TYPICAL HANGER CONDUIT SUPPORT DETAIL
NOT TO SCALE



3 TYPICAL WALL MOUNTED CONDUIT SUPPORT DETAIL
NOT TO SCALE



NOTES:

1. PAINT ALL PENETRATIONS THROUGH WALLS AND SLABS TO MATCH FINISH OF ADJACENT SURFACES.

4 TYPICAL EXTERIOR CONDUIT PENETRATION DETAIL
NOT TO SCALE

REVISIONS BY

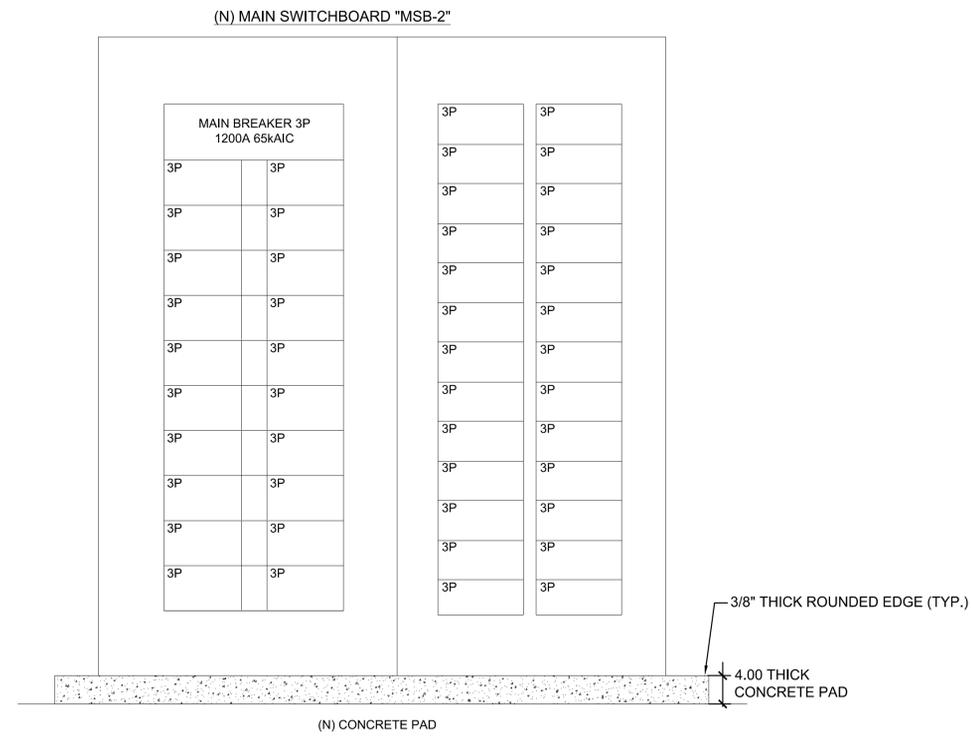
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ROSS N. TAKAI
EXPIRATION DATE 04/30/2022



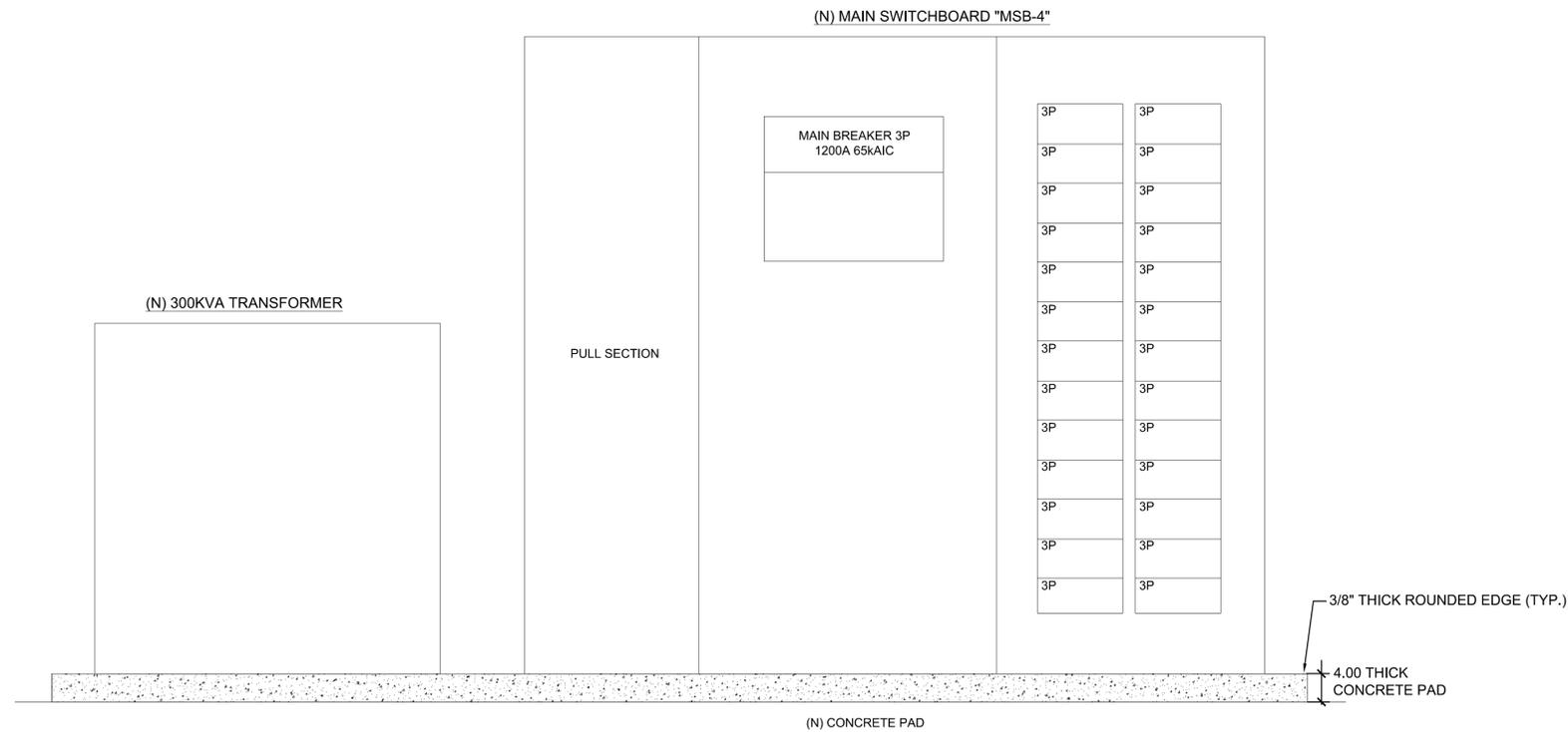
INSYNERGY ENGINEERING
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SAMUEL MAHELONA
MEMORIAL HOSPITAL
ELECTRICAL UPGRADES PHASE 2
KAPAA, KAUAI, HAWAII

Designed IK
Drawn CAD
Checked RT
Date 03/15/2022
Job No. 21039
Sheet



2 MAIN SWITCHBOARD "MSB-2" ELEVATION
NOT TO SCALE



1 MAIN SWITCHBOARD "MSB-4" ELEVATION
NOT TO SCALE

SHEET NOTES:

1. CONTRACTOR SHALL SUBMIT MANUFACTURER'S SHOP DRAWINGS OF SWITCHBOARD TO KIUC FOR REVIEW AND APPROVAL BEFORE FABRICATION. SWITCHBOARD SHALL BE DESIGNED IN ACCORDANCE WITH EUSERC DRAWINGS AND REQUIREMENTS.
2. PROVIDE A MINIMUM OF 4'-0" CLEAR AND LEVEL WORKSPACE CLEARANCE IN FRONT OF METERING AND SERVICE EQUIPMENT.
3. KIUC'S SERVICE CONDUCTORS SHALL BE SEPARATED BY SUITABLE BARRIERS FROM THE CUSTOMER'S LOAD CONDUCTORS. ALSO, THE CUSTOMER'S LOAD CONDUCTORS SHALL NOT PASS THROUGH KIUC'S SEALABLE SECTIONS OR COMPARTMENTS.

REVISIONS	BY

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ROSS N TAKAI
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EXPIRATION DATE 04/30/2022

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ELEVATIONS

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Date	03/15/2022
Job No.	21039
Sheet	E-502
38 of 44 Sheets	

STRUCTURAL NOTES FOR 3'x5' TRAFFIC HANDHOLE

GENERAL

- UNLESS OTHERWISE NOTED, ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", STATE OF HAWAII, 2005.
- CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES AND SHALL CHECK ALL DIMENSIONS. ALL DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE CONSTRUCTION ENGINEER AND SHALL BE RESOLVED PRIOR TO PROCEEDING WITH ANY WORK OR ORDERING OF MATERIALS.
- CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL EXCAVATION PROCEDURES INCLUDING LAGGING, SHORING AND PROTECTION OF ADJACENT STRUCTURES, ROADWAYS AND UTILITIES
- THE PRESENCE OF UNDERGROUND UTILITY LINES IF ANY, IN THE VICINITY OF THE NEW TRAFFIC HANDHOLES ARE NOT KNOWN. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS DURING EXCAVATION TO AVOID DAMAGING ANY UTILITY LINES. NOTIFY THE CONSTRUCTION ENGINEER OF ANY CONFLICT.
- GROUND WATER IS ANTICIPATED TO OCCUR WITHIN THE EXCAVATION. EXCAVATION SHALL BE KEPT DRY PRIOR TO PLACING REINFORCING STEEL AND DURING PLACEMENT OF CONCRETE. KEEP EXCAVATION DRY BY DRAINING, BAILING, PUMPING, OR DRIVING SHEATHINGS.
- SEE ELECTRICAL DRAWINGS FOR NUMBER AND PLAN LOCATION OF TRAFFIC HANDHOLES.
- AT CONTRACTOR'S OPTION, CONCRETE HANDHOLES MAY BE PRECAST.

FOUNDATION PREPARATION

- BOTTOM OF FOOTING EXCAVATION SHALL BE CLEANED OF LOOSE MATERIALS AND OVER-EXCAVATED AT LEAST 12 INCHES BELOW.
- PROVIDE AT LEAST A 12 INCH LAYER OF NO. 3B COURSE BASALTIC GRAVEL BED UNDER THE HANDHOLES. EXTEND THE GRAVEL BED AT LEAST 12 INCHES BEYOND THE LIMITS OF THE HANDHOLES. COMPACT GRAVEL BED TO A DENSE CONSISTENCY PRIOR TO PLACING REINFORCING STEEL OR PRIOR TO INSTALLING PRECAST HAND HOLES.

CONCRETE AND REINFORCING STEEL

- ALL CONCRETE SHALL BE 5000 PSI. WATER-CEMENT RATIO SHALL BE 0.40 MAXIMUM. SUBMIT CONCRETE MIX DESIGN FOR CONSTRUCTION ENGINEER'S REVIEW.
- THE USE OF ANY CALCIUM CHLORIDE IN ANY CONCRETE IS PROHIBITED.
- MINIMUM CLEAR COVER OF CONCRETE TO REINFORCING STEEL SHALL BE 3" UNLESS OTHERWISE NOTED.
- ALL REINFORCING BARS, ANCHOR BOLTS, DOWELS AND OTHER EMBEDDED ITEMS SHALL BE WELL SECURED IN POSITION PRIOR TO PLACEMENT OF CONCRETE.
- ALL REINFORCING STEEL SHALL BE ASTM A 615, GRADE 60. SPLICES IN REINFORCING STEEL SHALL BE MADE ONLY WHERE SPECIFICALLY SHOWN ON THE DRAWINGS.
- ALL REINFORCING BAR BENDS SHALL BE MADE COLD.
- WELDING OF REINFORCING STEEL SHALL NOT BE PERMITTED.
- ALL REINFORCING STEEL SHALL BE DETAILED AND PLACED IN CONFORMANCE WITH THE "ACI DETAILING MANUAL-1994" (SP-66) AS MODIFIED BY THE PROJECT DRAWINGS.
- FORMED CONCRETE SURFACES EXPOSED TO VIEW SHALL BE SMOOTH RUBBED FINISH. UNFORMED CONCRETE SURFACES EXPOSED TO VIEW SHALL BE SMOOTH STEEL TROWEL FINISH.

REMOVABLE STEEL COVERS AND BEAMS (INCLUDING EMBEDDED STEEL ANGLES)

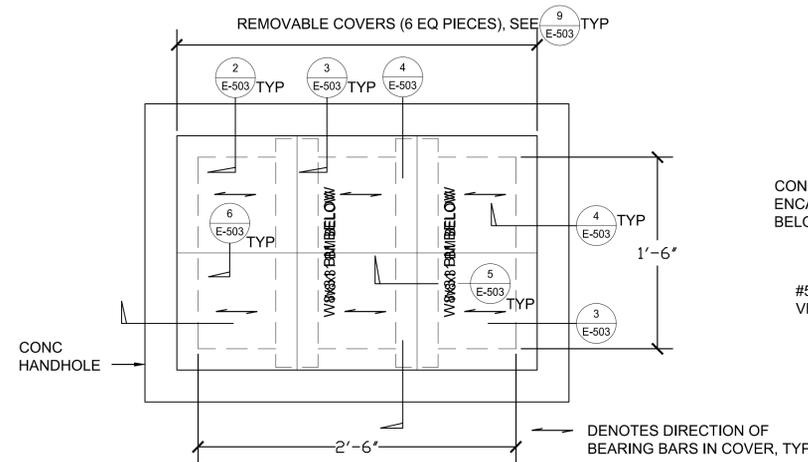
- STEEL SHAPES AND PLATES SHALL CONFORM TO ASTM A36. CONTRACTOR'S OPTION TO USE ASTM A 992. PROVIDE STAINLESS STEEL TYPE 304 WHERE INDICATED ON DRAWINGS.
- STEEL PIPES SHALL BE STAINLESS STEEL TYPE 316.
- ALL WELDS SHALL CONFORM TO AWS D1.1-92 OF THE AMERICAN WELDING SOCIETY. ELECTRODES SHALL BE E70 MINIMUM. GRIND SMOOTH ALL VISIBLE WELDS AND CLEAN WELDS BY CHIPPING OR WIRE BRUSHING.
- ALL STEEL SHAPES, PLATES, PIPES, STUDS, RODS, BOLTS, NUTS, ETC SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION PER ASTM A 123. REPAIR DAMAGED COATING WITH 3 COATS ZINC-RICH PAINT PER ASTM A 780.
- SUBMIT STEEL SHOP DRAWINGS FOR CONSTRUCTION ENGINEER'S REVIEW PRIOR TO FABRICATION OR ORDERING OF MATERIALS.
- BEARING PADS SHALL BE NEOPRENE CONFORMING TO AASHTO STANDARD.
- ALL WELDS SHALL BE 1/4" MINIMUM FILLET WELDS ALL AROUND, UNLESS OTHERWISE NOTED.

DESIGN DATA

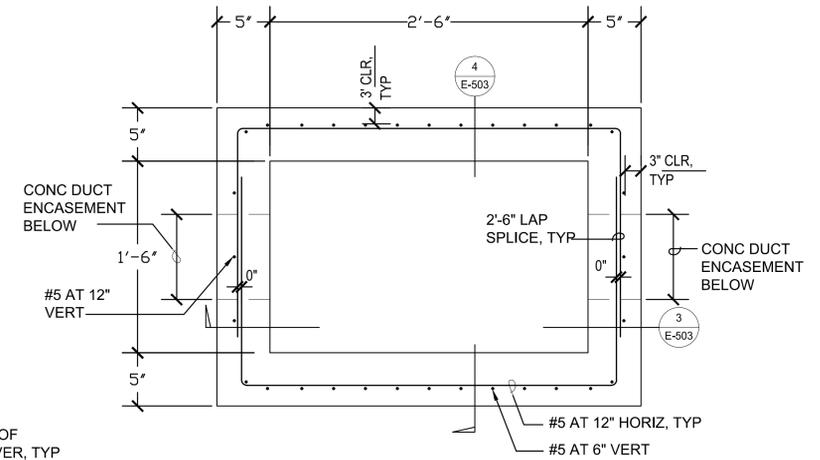
- CODE: AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION
- GROSS ALLOWABLE SOIL PRESSURE = 1000 PSF
- AT-REST LATERAL EARTH PRESSURE = 60 PSF PER FT
- EQUIVALENT AT-REST FLUID PRESSURE = 90 PSF PER FT (BELOW WATER TABLE)
- TRAFFIC LOAD = HS20 TRUCK (16,000 LBS MAX WHEEL LOAD)
- HIGH WATER TABLE ELEVATION = 3 FT BELOW TOP OF HANDHOLE

SPECIAL NOTES

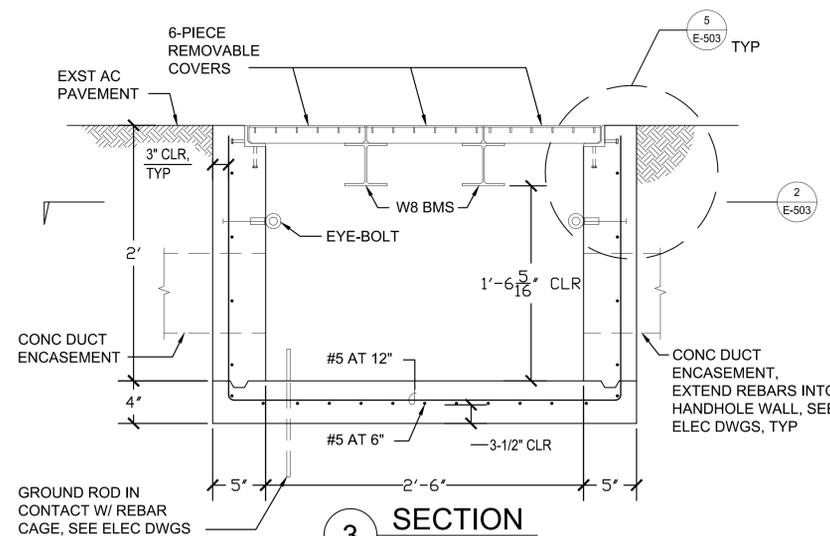
- 3' x 5' TRAFFIC HANDHOLES ARE RATED FOR AASHTO STANDARD HS20-44 TRUCK LOAD.
- TOPS OF ALL REMOVABLE COVERS, CONCRETE HANDHOLE WALLS, AND ADJACENT AC PAVEMENT SHALL BE AT SAME ELEVATION.



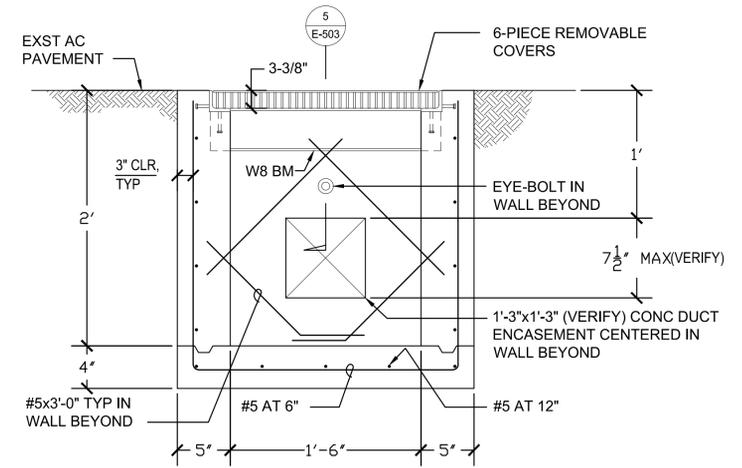
1 PLAN - 3' x 5' TRAFFIC HANDHOLE
NOT TO SCALE



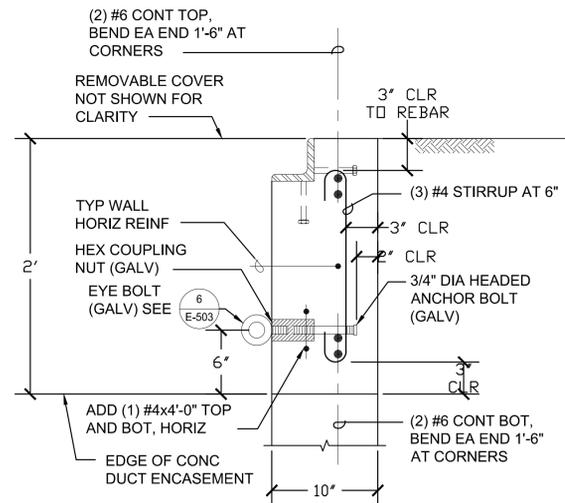
2 PLAN/SECTION
NOT TO SCALE



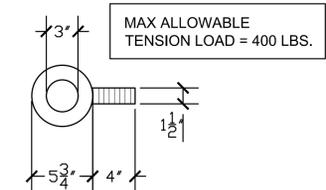
3 SECTION
NOT TO SCALE



4 SECTION
NOT TO SCALE



5 DETAIL
NOT TO SCALE



6 EYE-BOLT DETAIL
NOT TO SCALE

REVISIONS BY

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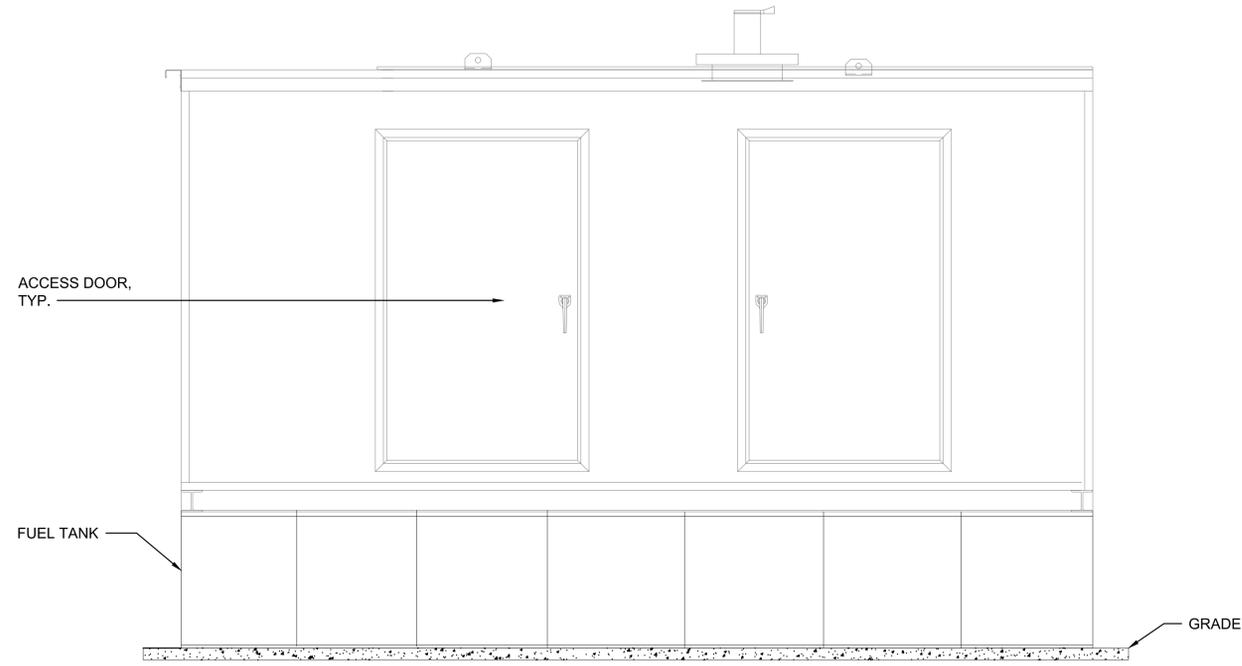
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ELECTRICAL UPGRADES PHASE 2
KAPAA, KAUAI, HAWAII

HANDHOLE DETAILS

Designed IK
Drawn CAD
Checked RT
Date 03/15/2022
Job No. 21039
Sheet

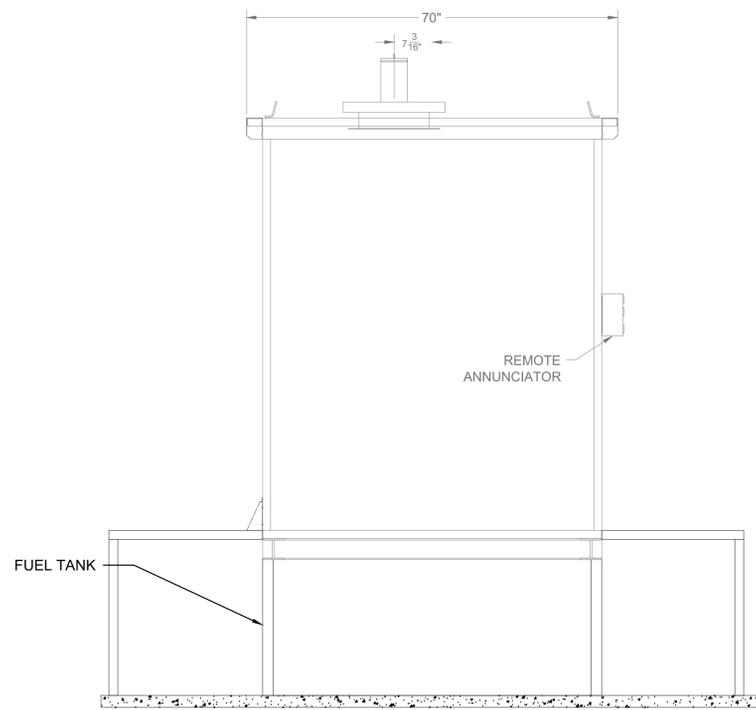
E-503
39 of 44 Sheets



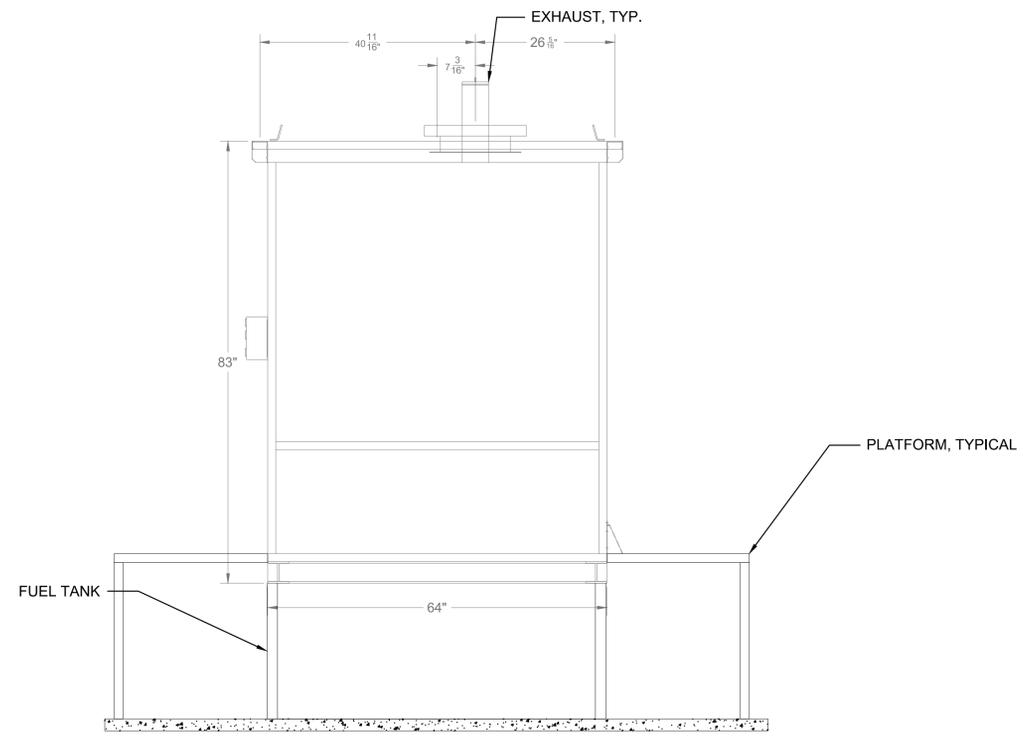
1 SIDE VIEW - TEMPORARY GENERATOR ENCLOSURE
NOT TO SCALE

NOTES:

1. PROVIDE A WEATHERPROOF STEEL ENCLOSURE WITH FACTORY-APPLIED PAINT RATED AT 75 dBA AT 23 FEET OR QUIETER.
2. SUB-BASE FUEL TANK TO HOLD 72 HOURS OF RUN-TIME FUEL AT 100% RATED GENERATOR CAPACITY.
3. DIMENSIONS SHOWN ON THE DRAWING ARE NOMINAL AND THE ACTUAL DIMENSIONS SHALL BE COORDINATED WITH THE ACTUAL EQUIPMENT SUPPLIED FOR THIS PROJECT.
4. PROVIDE AN ALUMINUM PLATFORM, 36" WIDE, RUNNING THE FULL LENGTH OF THE TWO LONGEST SIDES OF THE GENERATOR.
5. INSTALLATION SHALL BE PER GENSET MANUFACTURER'S RECOMMENDATION. PROVIDE NEOPRENE PADS BETWEEN GRADE AND GENERATOR MOUNTING RAILS.



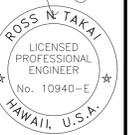
2 END VIEW - TEMPORARY GENERATOR ENCLOSURE
NOT TO SCALE



3 END VIEW - TEMPORARY GENERATOR ENCLOSURE
NOT TO SCALE

REVISIONS BY

This work was prepared by me or under my supervision and construction of this project will be under my observation.



INSYNERGY ENGINEERING
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SAMUEL MAHELONA
MEMORIAL HOSPITAL
ELECTRICAL UPGRADES PHASE 2
KAPAA, KAUAI, HAWAII
TEMPORARY GENERATOR DETAILS

Designed IK
Drawn CAD
Checked RT
Date 03/15/2022
Job No. 21039
Sheet

E-504

SWITCHBOARD: MSB-4		VOLTAGE: 480Y/277V			3 PHASE			POLES: 42		
MAIN BUS: 1200A		MAIN BKR: 1200A			4 WIRE			MIN. A.I.C. 65,000		
MOUNTING: SURFACE		BKR TYPE: BOLT-ON			CABINET WIDTH: 20"					
CKT NO.	DESCRIPTION	KVA			CKT NO.	DESCRIPTION	KVA			CKT BKR WIRE
		A	B	C			A	B	C	
1	MSB-2	252.4			2	SPARE				3P
3		247.1			4					
5			239.2		6					
7	PNL AC	10.0			8	SPARE				3P
9			10.0		10					
11			10.0		12					
13	XRAY	6.0			14	PFB				1P
15			6.0		16	PFB				1P
17			6.0		18	PFB				1P
19					20	PFB				1P
21					22	PFB				1P
23					24	PFB				1P
25					26	PFB				1P
27					28	PFB				1P
29					30	PFB				1P
31					32	PFB				1P
33					34	PFB				1P
35					36	PFB				1P
37					38	PFB				1P
39					40	PFB				1P
41					42	PFB				1P

TOTAL PHASE A, B, C 268.4 263.1 255.2
CONNECTED KVA: 786.7 KVA
DEMAND FACTOR: 53 %
DEMAND KVA: 417.4 KVA
DEMAND AMPS: 502 AMPS

DEMAND KVA A B C
142 140 136

NOTES:

SWITCHBOARD: MSB-2		VOLTAGE: 208Y/120V			3 PHASE			POLES: 42		
MAIN BUS: 1200A		MAIN BKR: 1200A			4 WIRE			MIN. A.I.C. 65,000		
MOUNTING: SURFACE		BKR TYPE: BOLT-ON			CABINET WIDTH: 20"					
CKT NO.	DESCRIPTION	KVA			CKT NO.	DESCRIPTION	KVA			CKT BKR WIRE
		A	B	C			A	B	C	
1	PNL MECH	11.0	11.0	11.0	2	R-CONFERENCE RM				1P20A #12
2	PNL CT	16.2	14.8	15.9	3	FIRE ALARM DOORS				1P20A #12
3	PNL A3	17.0	16.2	16.7	4	FIRE ALARM DOORS				1P20A #12
4	PNL W	9.0	9.5	5.5	5	EXIST LOADS				1P20A #12
5	PNL L	8.7	8.7	8.7	6	EXIST LOADS				1P20A #12
6	PNL K1	11.0	11.7	10.7	7	EXIST LOADS				1P20A #12
7	PNL LPD	2.0	2.0	2.0	8	EXIST LOADS				1P20A #12
8	PNL M	14.0	14.0	14.0	9	EXIST LOADS				1P20A #12
9	PNL IE	23.9	21.5	22.6	10	EXIST LOADS				1P20A #12
10	PNL A	6.5	7.0	6.0	11	EXIST LOADS				1P20A #12
11	PNL A1	16.1	19.0	17.5	12	EXIST LOADS				1P20A #12
12	PNL A2	8.0	7.0	7.0	13	EXIST LOADS				1P20A #12
13	PNL C1	5.0	5.0	5.0	14	EXIST LOADS				1P20A #12
14	PNL E	21.0	21.0	21.0	15	EXIST LOADS				1P20A #12
15	PNL XRAY	2.0	2.0	2.0	16	EXIST LOADS				1P20A #12
16	PNL EM	57.0	54.2	50.6	17	EXIST LOADS				1P20A #12
17	PNL K	24.0	22.5	23.0	18	EXIST LOADS				1P20A #12
18					19	EXIST LOADS				1P20A #12
19					20	EXIST LOADS				1P20A #12
20					21	EXIST LOADS				1P20A #12

TOTAL PHASE A, B, C 252.4 247.1 239.2
CONNECTED KVA: 738.7 KVA
DEMAND FACTOR: 40 %
DEMAND KVA: 295.5 KVA
DEMAND AMPS: 820 AMPS

DEMAND KVA A B C
100.96 98.8 95.7

NOTES:

PANEL: EM		VOLTAGE: 208Y/120V			3 PHASE			POLES: 42		
MAIN BUS: 400A		MAIN BKR: 400			4 WIRE			MIN. A.I.C. 22,000		
MOUNTING: SURFACE		BKR TYPE: BOLT-ON			CABINET WIDTH: 20"					
CKT NO.	DESCRIPTION	KVA			CKT NO.	DESCRIPTION	KVA			CKT BKR WIRE
		A	B	C			A	B	C	
1	PNL EA-1	24.0			2	PNL BOILER	10.5			3P225A 4/0
3		25.5			4		11.5			4/0
5			23.2		6		11.5			4/0
7	PNL EC-1	2.0			8	PNL EB-1	10.0			3P125A #2
9			2.0		10		9.7			#2
11			2.0		12		9.7			#2
13	PNL LPE-EM	1.0			14	PNL LPD-EM	2.0			3P60A #8
15			2.0		16		2.0			#8
17			2.0		18		2.0			#8
19	PNL EO	6.5			20	MAIN FIRE ALARM	1.0			1P20A #12
21			2.0		22	MAIN FIRE ALARM	1.0			1P20A #12
23			1.7		24	RECEPT				1P20A #12
25	L-EXTERIOR	0.5			26	R-SUPPLY RM	1.0			1P20A #12
27	L-EXTERIOR		0.5		28	R-MASTER CLOCK				1P20A #12
29	L-EXTERIOR		0.5		30	R-MASTER CLOCK				1P20A #12
31	FAN	1.0			32	R-FAR WALL	1.0			1P20A #12
33	FUEL CNTRL		1.0		34	R-UNDER PNL				1P20A #12
35	PFB				36	GENERATOR				0.5 2P20A
37	R-SUPPLY RM	1.0			38		0.5			1P
39	A/C SUB PNL		1.0		40	PFB				1P
41			1.0		42	PFB				1P

TOTAL PHASE A, B, C 62.0 59.2 55.6
CONNECTED KVA: 176.8 KVA
DEMAND FACTOR: 67 %
DEMAND KVA: 118.4 KVA
DEMAND AMPS: 329 AMPS

DEMAND KVA A B C
41.9 39.7 36.8

NOTES:

PANEL: IE		VOLTAGE: 208Y/120V			3 PHASE			POLES: 42		
MAIN BUS: 400A		MAIN BKR: 3P400A			4 WIRE			MIN. A.I.C. 10,000		
MOUNTING: SURFACE		BKR TYPE: BOLT-ON			CABINET WIDTH: 20"					
CKT NO.	DESCRIPTION	KVA			CKT NO.	DESCRIPTION	KVA			CKT BKR WIRE
		A	B	C			A	B	C	
1	LIGHTS	0.5			2	RECEPT	1.0			1P20A #12
3	LIGHTS		0.5		4	R-SINK		1.0		1P20A #12
5	LIGHTS			0.5	6	REFRIGERATOR			1.5	1P20A #12
7	LIGHTS	0.5			8	RECEPT	1.0			1P20A #12
9	LIGHTS		0.5		10	RECEPT		1.0		1P20A #12
11	LIGHTS			0.5	12	RECEPT			1.0	1P20A #12
13	LIGHTS	0.5			14	RECEPT	1.0			1P20A #12
15	LIGHTS		0.5		16	RECEPT		1.0		1P20A #12
17	LIGHTS			0.5	18	RECEPT			1.0	1P20A #12
19	LIGHTS	0.5			20	RECEPT	1.0			1P20A #12
21	LIGHTS		0.5		22	RECEPT		1.0		1P20A #12
23	LIGHTS			0.5	24	POTTERS WHEEL			1.0	1P20A #12
25	LIGHTS	0.5			26	RECEPT	1.0			1P20A #12
27	LIGHTS		0.5		28	RECEPT		1.0		1P20A #12
29	LIGHTS			0.5	30	RECEPT			1.0	1P20A #12
31	ELEC SLIDING DOOR	1.2			32	RECEPT	1.0			1P20A #12
33	RECEPT		1.0		34	RECEPT		1.0		1P20A #12
35	RECEPT			1.0	36	RECEPT			1.0	1P20A #12
37	WATER HEATER	1.2			38	RECEPT	1.0			1P20A #12
39	EXIST LOAD		0.5		40	RECEPT		1.0		1P20A #12
41	REFRIGERATOR			1.5	42	RECEPT			1.0	1P20A #12

SECTION 2 12.0 10.5 10.1
TOTAL PHASE A, B, C 23.9 21.5 22.6
CONNECTED KVA: 68.0 KVA
DEMAND FACTOR: 87 %
DEMAND KVA: 59.2 KVA
DEMAND AMPS: 164 AMPS

DEMAND KVA A B C
20.9 18.8 19.5

NOTES:

PANEL: A1		VOLTAGE: 208Y/120V			3 PHASE			POLES: 42		
MAIN BUS: 225A		MAIN BKR: 3P125A			4 WIRE			MIN. A.I.C. 10,000		
MOUNTING: SURFACE		BKR TYPE: BOLT-ON			CABINET WIDTH: 20"					
CKT NO.	DESCRIPTION	KVA			CKT NO.	DESCRIPTION	KVA			CKT BKR WIRE
		A	B	C			A	B	C	
1	SPARE				2	R-CONFERENCE RM	1.0			1P20A #12
3	SPARE				4	FIRE ALARM DOORS		1.0		1P20A #12
5	SPARE				6	FIRE ALARM DOORS			1.0	1P20A #12
7	EXIST LOADS	0.5			8	EXIST LOADS	0.5			1P20A #12
9	EXIST LOADS		0.5		10	EXIST LOADS		0.5		1P20A #12
11	EXIST LOADS			0.5	12	EXIST LOADS			0.5	1P20A #12
13	EXIST LOADS	0.5			14	EXIST LOADS	0.5			1P20A #12
15	A/C PHARMACY		2.0		16	EXIST LOADS		0.5		1P20A #12
17				2.0	18	EXIST LOADS			0.5	1P20A #12
19	R-STATION 11	1.0			20	EXIST LOADS	0.5			1P20A #12
21			1.0		22	EXIST LOADS		0.5		1P20A #12
23	EXIST LOADS			0.5	24	EXIST LOADS			0.5	1P20A #12
25	EXIST LOADS	0.5			26	CELLPHONE EQUIPMENT	1.0			1P20A #12
27	EXIST LOADS		0.5		28	R-FOOD WARMER		2.0		2P30A #10
29	EXIST LOADS			0.5	30				2.0	#10
31	SPARE				32	SPARE				1P20A
33	PFB				34	PFB				1P
35	PFB				36	PFB				1P
37	PFB				38	PFB				1P
39	PFB				40	PFB				1P
41	PFB				42	PFB				1P

SECTION 2 10.1 10.5 9.5
TOTAL PHASE A, B, C 16.1 19.0 17.5
CONNECTED KVA: 52.6 KVA
DEMAND FACTOR: 43 %
DEMAND KVA: 22.5 KVA
DEMAND AMPS: 62 AMPS

DEMAND KVA A B C
6 8.5 8

NOTES:

PANEL: A3		VOLTAGE: 208Y/120V			3 PHASE			POLES: 42		
MAIN BUS: 225A		MAIN BKR: 3P225A			4 WIRE			MIN. A.I.C. 10,000		
MOUNTING: SURFACE		BKR TYPE: BOLT-ON			CABINET WIDTH: 20"					
CKT NO.	DESCRIPTION	KVA			CKT NO.	DESCRIPTION	KVA			CKT BKR WIRE
		A	B	C			A	B	C	
1	R-RM 29	1.0			2	EXIST LOADS	0.5			1P20A #12
3	R-RM 30		1.0		4	EXIST LOADS		0.5		1P20A #12
5	EXIST LOADS			0.5	6	EXIST LOADS			0.5	1P20A #12
7	EXIST LOADS	0.5								

PANEL: A		VOLTAGE: 208Y/120V				3 PHASE				POLES: 42							
MAIN BUS: 100A		MAIN BKR: 3P100A				4 WIRE				MIN. A.I.C. 10,000							
MOUNTING: SURFACE		BKR TYPE: BOLT-ON				CABINET WIDTH: 20"											
CKT NO.	DESCRIPTION	KVA		CKT NO.	DESCRIPTION	KVA		CKT NO.	DESCRIPTION	KVA		CKT NO.	DESCRIPTION	KVA			
		A	B			C	A			B	C			A	B	C	
1	LTS	0.5			1P20A #12	2	LTS	0.5			1P20A #12	3	LTS	0.5			1P20A #12
3	LTS		0.5		1P20A #12	4	LTS		0.5		1P20A #12	5	LTS		0.5		1P20A #12
5	LTS			0.5	1P20A #12	6	LTS			0.5	1P20A #12	7	RECEPT	1.0			1P20A #12
9	R-WASHER		1.0		1P20A #12	8	R-LEFT WALL SOL 2	1.0			1P20A #12	9	R-WASHER		1.0		1P20A #12
11	L-RECREATION AREA			0.5	1P20A #12	10	WATER COOLER			1.0	1P20A #12	11	L-RECREATION AREA			0.5	1P20A #12
13	EXIST LOADS	0.5			1P20A #12	12	L-ENTRY			0.5	1P20A #12	13	EXIST LOADS	0.5			1P20A #12
15	R-BASEMENT		1.0		1P20A #12	14	SPARE			1.0	1P20A #12	15	R-BASEMENT		1.0		1P20A #12
17	DRYER			1.5	2P30A #10	16	FAN DESK			1.0	1P20A #12	17	DRYER			1.5	2P30A #10
19	-				-	18	RANGE			1.5	2P30A #10	19	-				-
21	NURSES CONF RM A/C		1.0		1P20A #12	20	-				-	21	NURSES CONF RM A/C		1.0		1P20A #12
23	SPARE				1P20A #12	22	NURSES LOUNGE A/C			1.0	1P20A #12	23	SPARE				1P20A #12
25	SPARE				1P20A #12	24	HEAD NURSE A/C			1.0	1P20A #12	25	SPARE				1P20A #12
27	SPARE				1P20A #12	26	SPARE				1P20A #12	27	SPARE				1P20A #12
29	SPARE				1P20A #12	28	SPARE				1P20A #12	29	SPARE				1P20A #12
31	PFB				1P	30	SPARE				1P20A #12	31	PFB				1P
33	PFB				1P	32	PFB				1P	33	PFB				1P
35	PFB				1P	34	PFB				1P	35	PFB				1P
37	PFB				1P	36	PFB				1P	37	PFB				1P
39	PFB				1P	38	PFB				1P	39	PFB				1P
41	PFB				1P	40	PFB				1P	41	PFB				1P
41	PFB				1P	42	PFB				1P	41	PFB				1P

TOTAL PHASE A, B, C
CONNECTED KVA: 19.5 KVA
DEMAND FACTOR: 100 %
DEMAND KVA: 19.5 KVA
DEMAND AMPS: 54 AMPS

DEMAND KVA
A B C
6.5 7 6

NOTES:

PANEL: A2		VOLTAGE: 208Y/120V				3 PHASE				POLES: 42							
MAIN BUS: 100A		MAIN BKR: 3P100A				4 WIRE				MIN. A.I.C. 10,000							
MOUNTING: SURFACE		BKR TYPE: BOLT-ON				CABINET WIDTH: 20"											
CKT NO.	DESCRIPTION	KVA		CKT NO.	DESCRIPTION	KVA		CKT NO.	DESCRIPTION	KVA		CKT NO.	DESCRIPTION	KVA			
		A	B			C	A			B	C			A	B	C	
1	R-STAFF	1.0			1P20A #12	2	R-PANTRY	1.0			1P20A #12	3	R-PHARMACY REF	1.0			1P20A #12
3	R-PHARMACY REF		1.0		1P20A #12	4	R-PANTRY		1.0		1P20A #12	5	ICE MAKER		1.0		1P20A #12
5	ICE MAKER			1.0	1P20A #12	6	R-PANTRY 208			1.0	2P20A #12	7	X-MAS	1.0			1P20A #12
9	R-FM 16 & 17		1.0		1P20A #12	8	-			1.0	2P40A #8	9	R-FM 16 & 17		1.0		1P20A #12
11	CIRC WATER PUMP BASEMT			1.0	2P20A #12	10	R-PSYCH SUPPLY RM			1.0	2P40A #8	11	CIRC WATER PUMP BASEMT			1.0	2P20A #12
13	-		1.0		-	12	-			1.0	-	13	-		1.0		-
15	ICE MAKER		1.0		2P20A #12	14	FOOD WARMER			1.0	2P20A #12	15	ICE MAKER		1.0		2P20A #12
17	-			1.0	-	16	-			1.0	-	17	-			1.0	-
19	R-A/C		1.0		1P20A #12	18	R-ICE			1.0	1P20A #12	19	R-A/C		1.0		1P20A #12
21	SPARE				1P20A #12	19	R-ICE			1.0	1P20A #12	21	SPARE				1P20A #12
23	EXIST LOADS			1.0	1P20A #12	20	ICEBOX			1.0	1P20A #12	23	EXIST LOADS			1.0	1P20A #12
25	SPARE				1P20A #12	22	ICEBOX				1P20A #12	25	SPARE				1P20A #12
27	SPARE				1P20A #12	24	SPARE				1P20A #12	27	SPARE				1P20A #12
29	SPARE				1P20A #12	26	SPARE				1P20A #12	29	SPARE				1P20A #12
31	PFB				1P	28	SPARE				1P20A #12	31	PFB				1P
33	PFB				1P	30	SPARE				1P20A #12	33	PFB				1P
35	PFB				1P	32	PFB				1P	35	PFB				1P
37	PFB				1P	34	PFB				1P	37	PFB				1P
39	PFB				1P	36	PFB				1P	39	PFB				1P
41	PFB				1P	38	PFB				1P	41	PFB				1P
41	PFB				1P	40	PFB				1P	41	PFB				1P
41	PFB				1P	42	PFB				1P	41	PFB				1P

TOTAL PHASE A, B, C
CONNECTED KVA: 22.0 KVA
DEMAND FACTOR: 100 %
DEMAND KVA: 22.0 KVA
DEMAND AMPS: 61 AMPS

DEMAND KVA
A B C
8 7 7

NOTES:

PANEL: A3C		VOLTAGE: 208Y/120V				3 PHASE				POLES: 30							
MAIN BUS: 100A		MAIN BKR: 3P100A				4 WIRE				MIN. A.I.C. 10,000							
MOUNTING: SURFACE		BKR TYPE: BOLT-ON				CABINET WIDTH: 20"											
CKT NO.	DESCRIPTION	KVA		CKT NO.	DESCRIPTION	KVA		CKT NO.	DESCRIPTION	KVA		CKT NO.	DESCRIPTION	KVA			
		A	B			C	A			B	C			A	B	C	
1	SPARE				1P20A #12	2	R-NURSE STA CTR	1.0			1P20A #12	3	SPARE			1.0	1P20A #12
3	SPARE				1P20A #12	4	R-PRINTER/COPIER			1.0	1P20A #12	5	SPARE			1.0	1P20A #12
5	SPARE				1P20A #12	6	R-WORK AREA			1.0	1P20A #12	7	R-NURSE STATION	1.0			1P20A #12
9	R-NURSE STATION		1.0		1P20A #12	8	R-ACCU MAINT			1.0	1P20A #12	9	R-NURSE STATION		1.0		1P20A #12
11	R-NURSE STATION			1.0	1P20A #12	10	SPARE				1P20A #12	11	R-NURSE STATION			1.0	1P20A #12
13	PFB				1P	12	R-IT			1.0	1P20A #12	13	PFB				1P
15	PFB				1P	14	R-IT			1.0	1P30A #10	15	PFB				1P20A #12
17	PFB				1P	16	SPARE				1P20A #12	17	PFB				1P20A #12
19	PFB				1P	18	SPARE				1P20A #12	19	PFB				1P20A #12
21	PFB				1P	20	SPARE				1P20A #12	21	PFB				1P20A #12
23	PFB				1P	22	ACCU COMP, FCU			1.2	2P30A #12	23	PFB				1P20A #12
25	PFB				1P	24	-			1.2	-	25	PFB				1P
27	PFB				1P	26	PFB				1P	27	PFB				1P
29	PFB				1P	28	PFB				1P	29	PFB				1P
29	PFB				1P	30	PFB				1P	29	PFB				1P

TOTAL PHASE A, B, C
CONNECTED KVA: 11.4 KVA
DEMAND FACTOR: 100 %
DEMAND KVA: 11.4 KVA
DEMAND AMPS: 32 AMPS

DEMAND KVA
A B C
4 3.2 4.2

NOTES:

PANEL: B		VOLTAGE: 208Y/120V				1 PHASE				POLES: 30							
MAIN BUS: 100A		MAIN BKR: 3P100A				3 WIRE				MIN. A.I.C. 10,000							
MOUNTING: SURFACE		BKR TYPE: BOLT-ON				CABINET WIDTH: 20"											
CKT NO.	DESCRIPTION	KVA		CKT NO.	DESCRIPTION	KVA		CKT NO.	DESCRIPTION	KVA		CKT NO.	DESCRIPTION	KVA			
		A	B			C	A			B	C			A	B	C	
1	LTS	0.5			1P20A #12	2	R-TV CAMERA	1.0			1P20A #12	3	LTS	0.5			1P20A #12
3	LTS		0.5		1P20A #12	4	R-NURSES LOUNGE MICRO			1.0	1P20A #12	5	RECEPT		1.0		1P20A #12
5	RECEPT			1.0	1P20A #12	6	RECEPT			1.0	1P20A #12	7	R-TV MONITORS	1.0			1P20A #12
7	R-TV MONITORS		1.0		1P20A #12	8	PRV-1 VENT			1.0	1P20A #12	9	SF-1		1.0		1P20A #12
9	SF-1			1.0	1P20A #12	10	L-SECLUSION			0.5	1P20A #12	11	SPARE				1P20A #12
11	SPARE				1P20A #12	12	DOORLOCKS			0.5	1P20A #12	13	SPARE				1P20A #12
13	SPARE				1P20A #12	14	SPARE				1P20A #12	15	SPARE				1P20A #12
15	SPARE				1P20A #12	16	SPARE				1P20A #12	17	PFB				1P
17	PFB				1P	18	SPARE				1P20A #12	19	PFB				1P
19	PFB				1P	20	PFB				1P	21	PFB				1P
21	PFB				1P	22	PFB				1P	23	PFB				1P
23	PFB				1P	24	PFB				1P	25	PFB				1P
25	PFB				1P	26	PFB				1P	27	PFB				1P
27	PFB				1P	28	PFB				1P	29	PFB				1P
29	PFB				1P	30	PFB				1P						

TOTAL PHASE A, B, C
CONNECTED KVA: 9.0 KVA
DEMAND FACTOR: 100 %
DEMAND KVA: 9.0 KVA
DEMAND AMPS: 43 AMPS

DEMAND KVA
A B C
3.5 3 2.5

NOTES:

PANEL: BOILER		VOLTAGE: 208Y/120V				3 PHASE				POLES: 42								
MAIN BUS: 225A		MAIN BKR: 225A				4 WIRE				MIN. A.I.C. 10,000								
MOUNTING: SURFACE		BKR TYPE: BOLT-ON				CABINET WIDTH: 20"												
CKT NO.	DESCRIPTION	KVA		CKT NO.	DESCRIPTION	KVA		CKT NO.	DESCRIPTION	KVA		CKT NO.	DESCRIPTION	KVA				
		A	B			C	A			B	C			A	B	C		
1	WIREWAY	5.0			3P150A 1/0	2	SPARE				1P20A #12	3	-		5.0		1P20A #12	
3	-			5.0	-	1/0	4	DIESEL PUMPS			1.0	1P20A #12	5	-		5.0		1P20A #12
5	-			5.0	-	1/0	6	BOILER2 CNTRL			0.5	1P20A #12	7	BOILER 1 CNTRL	0.5		1P20A #12	
7	BOILER 1 CNTRL		0.5		1P20A #12	8	FUEL PUMP			1.0	1P20A #12	9	BOILER FEED PUMP CNTRL		0.5		1P20A #12	
9	BOILER FEED PUMP CNTRL			0.5	1P20A #12	10	FUEL PUMP			1.0	1P20A #12	11	FURNACE		1.0		1P20A #12	
11	FURNACE			1.0	1P20A #12	12	FUEL PUMP			1.0	1P20A #12	13	BOILER FEED PUMP 1	2.0			3P40A #8	
13	BOILER FEED PUMP 1		2.0		3P40A #8	14	BOILER FEED PUMP 2			2.0	3P40A #8	15	-		2.0		#8	
15	-			2.0	#8	16	-			2.0	#8	17	-			2.0</		

PANEL: K1		VOLTAGE: 208Y/120V				3 PHASE				POLES: 42				
MAIN BUS: 225A		MAIN BKR: 3P225A				4 WIRE				MIN. A.I.C. 10,000				
MOUNTING: SURFACE		BKR TYPE: BOLT-ON				CABINET WIDTH: 20"								
CKT NO.	DESCRIPTION	KVA			CKT NO.	DESCRIPTION	KVA			CKT NO.	DESCRIPTION	KVA		
		A	B	C			A	B	C			A	B	C
1	EXIST LOADS	0.5			1P20A #12	2	EXIST LOADS	0.5			1P20A #12			
3	HAND DRYER		0.5		1P20A #12	4	EXIST LOADS		0.5		1P20A #12			
5	EXIST LOADS			0.5	1P20A #12	6	EXIST LOADS			0.5	1P20A #12			
7	EXIST LOADS	0.5			1P20A #12	8	R-MED	1.0			1P20A #12			
9	EXIST LOADS		1.2		2P35A #10	10	R-FAN DINING RM		1.0		1P20A #12			
11	EXIST LOADS			1.2	1P20A #12	12	COTTON CANDY			1.0	1P20A #12			
13	EXIST LOADS	1.0			2P30A #10	14	EXIST LOADS	0.5			2P25A #10			
15	-		1.0		- #10	16	-		0.5		- #10			
17	MULTIPURPOSE BLDG		2.0		3P60A #8	18	EXIST LOADS		0.5		2P25A #10			
19	-			2.0	- #8	20	-				- #10			
21	-				- #8	22	EXIST LOADS		1.0		2P30A #10			
23	R-TOASTER			1.0	1P20A #12	24	-			1.0	- #10			
25	EXIST LOADS	1.0			2P30A #10	26	EXIST LOADS	0.5			1P20A #12			
27	-		1.0		- #10	28	EXIST LOADS		0.5		1P20A #12			
29	EXIST LOADS			0.5	1P20A #12	30	EXIST LOADS			0.5	1P20A #12			
31	EXIST LOADS	1.0			1P30A #10	32	R-PAVILION	1.0			1P20A #12			
33	EXIST LOADS			0.5	1P20A #12	34	MIXER		1.0		1P20A #12			
35	EXIST LOADS			0.5	1P20A #12	36	EXIST LOADS			0.5	1P20A #12			
37	EXIST LOADS	0.5			1P20A #12	38	EXIST LOADS	0.5			1P20A #12			
39	EXIST LOADS		0.5		1P20A #12	40	EXIST LOADS		0.5		1P20A #12			
41	EXIST LOADS			0.5	1P20A #12	42	EXIST LOADS			0.5	1P20A #12			

TOTAL PHASE A, B, C
CONNECTED KVA: 11.0 11.7 10.7
DEMAND FACTOR: 33.4 KVA
DEMAND KVA: 97 %
DEMAND AMPS: 32.4 KVA
DEMAND AMPS: 90 AMPS

DEMAND KVA
A B C
10.5 11.2 10.7

NOTES:

PANEL: L		VOLTAGE: 208Y/120V				3 PHASE				POLES: 42				
MAIN BUS: 125A		MAIN BKR: 100A				4 WIRE				MIN. A.I.C. 10,000				
MOUNTING: SURFACE		BKR TYPE: BOLT-ON				CABINET WIDTH: 20"								
CKT NO.	DESCRIPTION	KVA			CKT NO.	DESCRIPTION	KVA			CKT NO.	DESCRIPTION	KVA		
		A	B	C			A	B	C			A	B	C
1	DRYER 3 & 4	1.0			3P20A #12	2	FOLDER	1.0			3P20A #12			
3	-		1.0		- #12	4	-		1.0		- #12			
5	-			1.0	- #12	6	-			1.0	- #12			
7	DRYER2	1.0			3P20A #12	8	AIR COMPRESSOR	1.0			3P20A #12			
9	-		1.0		- #12	10	-		1.0		- #12			
11	-			1.0	- #12	12	-			1.0	- #12			
13	IRONER	1.5			3P30A #10	14	FOLDER	1.0			3P20A #12			
15	-		1.5		- #10	16	-		1.0		- #12			
17	-			1.5	- #10	18	-			1.0	- #12			
19	DRYER1	1.0			3P20A #12	20	EXIST LOADS	1.2			3P30A #10			
21	-		1.0		- #12	22	-		1.2		- #10			
23	-			1.0	- #12	24	-			1.2	- #10			
25	SPARE				1P20A	26	SPARE				1P20A			
27	SPARE				1P20A	28	SPARE				1P20A			
29	SPARE				1P20A	30	SPARE				1P20A			
31	PFB				1P	32	PFB				1P			
33	PFB				1P	34	PFB				1P			
35	PFB				1P	36	PFB				1P			
37	PFB				1P	38	PFB				1P			
39	PFB				1P	40	PFB				1P			
41	PFB				1P	42	PFB				1P			

TOTAL PHASE A, B, C
CONNECTED KVA: 8.7 8.7 8.7
DEMAND FACTOR: 26.1 KVA
DEMAND KVA: 100 %
DEMAND AMPS: 26.1 KVA
DEMAND AMPS: 72 AMPS

DEMAND KVA
A B C
8.7 8.7 8.7

NOTES:

PANEL: LPD		VOLTAGE: 208Y/120V				3 PHASE				POLES: 30				
MAIN BUS: 100A		MAIN BKR: 3P60A				4 WIRE				MIN. A.I.C. 10,000				
MOUNTING: SURFACE		BKR TYPE: BOLT-ON				CABINET WIDTH: 20"								
CKT NO.	DESCRIPTION	KVA			CKT NO.	DESCRIPTION	KVA			CKT NO.	DESCRIPTION	KVA		
		A	B	C			A	B	C			A	B	C
1	EXIST LOADS	0.5			1P20A #12	2	EXIST LOADS	0.5			1P20A #12			
3	EXIST LOADS		0.5		1P20A #12	4	EXIST LOADS		0.5		1P20A #12			
5	EXIST LOADS			0.5	1P20A #12	6	EXIST LOADS			0.5	1P20A #12			
7	EXIST LOADS	0.5			1P20A #12	8	EXIST LOADS	0.5			1P20A #12			
9	EXIST LOADS		0.5		1P20A #12	10	EXIST LOADS		0.5		1P20A #12			
11	EXIST LOADS			0.5	1P20A #12	12	EXIST LOADS			0.5	1P20A #12			
13	SPARE				1P20A	14	SPARE				1P20A			
15	SPARE				1P20A	16	SPARE				1P20A			
17	SPARE				1P20A	18	SPARE				1P20A			
19	PFB				1P	20	PFB				1P			
21	PFB				1P	22	PFB				1P			
23	PFB				1P	24	PFB				1P			
25	PFB				1P	26	PFB				1P			
27	PFB				1P	28	PFB				1P			
29	PFB				1P	30	PFB				1P			

TOTAL PHASE A, B, C
CONNECTED KVA: 2.0 2.0 2.0
DEMAND FACTOR: 6.0 KVA
DEMAND KVA: 100 %
DEMAND AMPS: 6.0 KVA
DEMAND AMPS: 17 AMPS

DEMAND KVA
A B C
2 2 2

NOTES:

PANEL: LPE		VOLTAGE: 208Y/120V				3 PHASE				POLES: 30				
MAIN BUS: 100A		MAIN BKR: 175A				4 WIRE				MIN. A.I.C. 10,000				
MOUNTING: SURFACE		BKR TYPE: BOLT-ON				CABINET WIDTH: 20"								
CKT NO.	DESCRIPTION	KVA			CKT NO.	DESCRIPTION	KVA			CKT NO.	DESCRIPTION	KVA		
		A	B	C			A	B	C			A	B	C
1	EXIST LOADS	0.5			1P20A #12	2	EXIST LOADS	0.5			1P20A #12			
3	EXIST LOADS		0.5		1P20A #12	4	EXIST LOADS		0.5		1P15A #12			
5	SPARE				1P20A	6	SPARE				1P20A			
7	SPARE				1P20A	8	SPARE				1P20A			
9	SPARE				1P20A	10	SPARE				1P20A			
11	PFB				1P	12	PFB				1P			
13	PFB				1P	14	PFB				1P			
15	PFB				1P	16	PFB				1P			
17	PFB				1P	18	PFB				1P			
19	PFB				1P	20	PFB				1P			
21	PFB				1P	22	PFB				1P			
23	PFB				1P	24	PFB				1P			
25	PFB				1P	26	PFB				1P			
27	PFB				1P	28	PFB				1P			
29	PFB				1P	30	PFB				1P			

TOTAL PHASE A, B, C
CONNECTED KVA: 1.0 1.0 0.0
DEMAND FACTOR: 2.0 KVA
DEMAND KVA: 100 %
DEMAND AMPS: 2.0 KVA
DEMAND AMPS: 6 AMPS

DEMAND KVA
A B C
1 1 0

NOTES:

PANEL: M		VOLTAGE: 208Y/120V				3 PHASE				POLES: 42				
MAIN BUS: 225A		MAIN BKR: 125A				4 WIRE				MIN. A.I.C. 14,000				
MOUNTING: SURFACE		BKR TYPE: BOLT-ON				CABINET WIDTH: 20"								
CKT NO.	DESCRIPTION	KVA			CKT NO.	DESCRIPTION	KVA			CKT NO.	DESCRIPTION	KVA		
		A	B	C			A	B	C			A	B	C
1	-	1.0			1P20A #12	2	-		1.0		1P20A #12			
3	-		1.0		1P20A #12	4	-		1.0		1P20A #12			
5	-			1.0	1P20A #12	6	-		1.0		1P20A #12			
7	-		1.0		1P20A #12	8	-		1.0		1P20A #12			
9	-			1.0	1P20A #12	10	-		1.0		1P20A #12			
11	-			1.0	1P20A #12	12	-		1.0		1P20A #12			
13	-		1.0		1P20A #12	14	-		1.0		1P20A #12			
15	-			1.0	1P20A #12	16	-		1.0		1P20A #12			
17	-			1.0	1P20A #12	18	-		1.0		1P20A #12			
19	-		1.0		1P20A #12	20	-		1.0		1P20A #12			
21	-			1.0	1P20A #12	22	-		1.0		1P20A #12			
23	-			1.0	1P20A #12	24	-		1.0		1P20A #12			
25	-		1.0		1P20A #12	26	-		1.0		1P20A #12			
27	-			1.0	1P20A #12	28	-		1.0		1P20A #12			
29	-			1.0	1P20A #12	30	-		1.0		1P20A #12			
31	-		1.0		1P20A #12	32	-		1.0		1P20A #12			
33	-			1.0	1P20A #12	34	-		1.0		1P20A #12			
35	-			1.0	1P20A #12	36	-		1.0		1P20A #12			
37	-		1.0		1P20A #12	38	-		1.0		1P20A #12			
39	-			1.0	1P20A #12	40	-		1.0		1P20A #12			
41	-			1.0	1P20A #12	42	-		1.0		1P20A #12			

TOTAL PHASE A, B, C
CONNECTED KVA: 14.0 14.0 14.0
DEMAND FACTOR: 42.0 KVA
DEMAND KVA: 95 %
DEMAND AMPS: 40.0 KVA
DEMAND AMPS: 111 AMPS

DEMAND KVA
A B C
13 13 14

NOTES:

PANEL: W		VOLTAGE: 208Y/120V				3 PHASE				POLES: 42				
MAIN BUS: 225A		MAIN BKR: 175A				4 WIRE				MIN. A.I.C. 10,000				
MOUNTING: SURFACE		BKR TYPE: BOLT-ON				CABINET WIDTH: 20"								
CKT NO.	DESCRIPTION	KVA			CKT NO.	DESCRIPTION	KVA			CKT NO.	DESCRIPTION	KVA		
		A	B	C			A	B	C			A	B	C
1	PNL LPE	1.0			3P70A #12	2	SPARE				1P20A			
3	-		1.0		- #12	4	SPARE				1P20A			
5	-			0.0	- #12	6	SPARE				1P20A			
7	EXIST LOAD	2.0			3P70A #12	8	EXIST LOAD	1.0			2P40A #12			
9	-		2.0		- #12	10	-			1.0	- #12			

PANEL: EA-1		VOLTAGE: 208Y/120V		3 PHASE		POLES: 42		
MAIN BUS: 225A		MAIN BKR: 3P225A		4 WIRE		MIN. A.I.C. 10,000		
MOUNTING: SURFACE		BKR TYPE: BOLT-ON		CABINET WIDTH: 20"				
CKT NO.	DESCRIPTION	KVA		CKT NO.	DESCRIPTION	KVA		CKT WIRE
		A	B			A	B	
1	EXIT STATION	1.0		2	CD RADIO	1.0		1P20A #12
3	L-STA 2 DESK; R-CLOCK	1.0		4	L&R-CONFERENCE RM	1.0		1P20A #12
5	L-HALLWAY			6	R-PANTRY REFRIGERATOR	1.2		1P20A #12
7	L-PHONE RM	1.0		8	RECEPT	1.0		1P20A #12
9	L-WARD NIGHT LT	1.0		10	R-A/C CONFERENCE RM	1.5		1P20A #12
11	RECEPT			12	RECEPT	1.0		1P20A #12
13	LTS	1.0		14	R-CONFERENCE RM	1.0		1P20A #12
15	A/C TREATMENT RM	1.0		16	R-A/C CONFERENCE RM	1.5		1P20A #12
17	RECEPT			18	EXIST LOAD	1.0		1P20A #12
19	A/C CONFERENCE RM	1.0		20	EXIST LOAD	1.0		1P20A #12
21	AUTO DOOR	1.0		22	EXIST LOAD	1.0		1P20A #12
23	AUTO DOOR			24	EXIST LOAD	1.0		1P20A #12
25	EXIST LOAD	1.0		26	EXIST LOAD	1.0		1P20A #12
27	EXIST LOAD	1.0		28	EXIST LOAD	1.0		1P20A #12
29	EXIST LOAD			30	R-IT	1.0		1P20A #12
31	PNL EA-2	10.5		32	PNL B	3.5		3P60A #8
33	-			34	-	3.0		- #8
35	-			36	-			- #8
37	R-IT			38	PFB			1P
39	PFB			40	PFB			1P
41	PFB			42	PFB			1P

TOTAL PHASE A, B, C 24.0 25.5 23.2
CONNECTED KVA: 72.7 KVA
DEMAND FACTOR: 75 %
DEMAND KVA: 54.5 KVA
DEMAND AMPS: 151 AMPS

DEMAND KVA A B C
18 19.1 17.4

NOTES:

PANEL: EA-2		VOLTAGE: 208Y/120V		3 PHASE		POLES: 42		
MAIN BUS: 225A		MAIN BKR: 3P100A		4 WIRE		MIN. A.I.C. 10,000		
MOUNTING: SURFACE		BKR TYPE: BOLT-ON		CABINET WIDTH: 20"				
CKT NO.	DESCRIPTION	KVA		CKT NO.	DESCRIPTION	KVA		CKT WIRE
		A	B			A	B	
1	RECEPT	1.0		2	L-HALLWAY	0.5		1P20A #12
3	L-WARD NIGHT LT	0.5		4	R-TIME CLOCK	1.0		1P20A #12
5	XRAY RM, LAV, STOR, DARK	1.0		6	L-EXIT LT SOLARIUM RM	0.5		1P20A #12
7	L-JAN	0.5		8	RM 20 EX FAN	1.0		1P20A #12
9	L-INFIRMARY			10	RM 20 EX FAN	1.0		1P20A #12
11	EXIST LOADS			12	SPARE			1P20A
13	L-NURSE STATION	0.5		14	SPARE			1P20A
15	R-DIRTY UTILITY	1.0		16	SPARE			1P20A
17	RECEPT	1.0		18	WANDERING PNL	1.0		1P20A #12
19	-	1.0		20	XRAY			1P20A #12
21	EXIST LOADS	0.5		22	-			1P20A #12
23	EXIST LOADS			24	AUTO DOORS	1.0		1P20A #12
25	R-MED CART	1.0		26	AC COMP RM 15	1.0		1P20A #12
27	R-MED CART	1.0		28	AC COMP RM 16	1.0		1P20A #12
29	R-MED CART	1.0		30	AC COMP RM 18	1.0		1P20A #12
31	R-MED CART	1.0		32	AC COMP RM 18	1.0		1P20A #12
33	R-MED CART	1.0		34	AC COMP RM 19	1.0		1P20A #12
35	R-MED U/C FRIDGE	1.0		36	AC COMP RM 19	1.0		1P20A #12
37	RM 30 A/C	1.0		38	SPARE			1P20A
39	-			40	RM 29 A/C	1.0		2P20A #12
41	SPARE			42	-	1.0		- #12

TOTAL PHASE A, B, C 10.5 11.5 10.5
CONNECTED KVA: 32.5 KVA
DEMAND FACTOR: 75 %
DEMAND KVA: 23.6 KVA
DEMAND AMPS: 66 AMPS

DEMAND KVA A B C
7.88 7.88 7.88

NOTES:

PANEL: EB-1		VOLTAGE: 208Y/120V		3 PHASE		POLES: 42		
MAIN BUS: 225A		MAIN BKR: 3P125A		4 WIRE		MIN. A.I.C. 10,000		
MOUNTING: SURFACE		BKR TYPE: BOLT-ON		CABINET WIDTH: 20"				
CKT NO.	DESCRIPTION	KVA		CKT NO.	DESCRIPTION	KVA		CKT WIRE
		A	B			A	B	
1	R-FLOOR	1.0		2	R-LAB COUNTER	1.0		1P20A #12
3	A/C BLOWER	1.0		4	R-OPD	1.0		1P20A #12
5	R-DISTILLER	1.0		6	HOT PLATE	1.0		2P20A #12
7	XRAY DARK RM	1.0		8	-			- #12
9	R-A/C	1.0		10	R-KITCHEN COUNTER	1.0		1P20A #12
11	R-XRAY DARK RM	1.0		12	R-BACTERIA INCUBATOR	1.0		1P20A #12
13	EXIST LOADS	0.5		14	R-BACTERIA INCUBATOR	1.0		1P20A #12
15	-	0.5		16	WATER FOUNTAIN	1.0		1P20A #12
17	R-HIM COMPUTER	1.0		18	MEDICAL RECORD	1.0		1P20A #12
19	LAB	1.0		20	SDC SERVICE	1.0		1P20A #12
21	PERSONNEL CTR A/C	1.0		22	R-PAVILION	1.0		1P20A #12
23	DENTIST VACUUM	1.0		24	L-PAVILION	0.5		1P20A #12
25	-	1.0		26	R-PAVILION	1.0		1P20A #12
27	MED DIRECTOR A/C	1.0		28	DENTIST CHAIR	1.2		1P20A #12
29	MED DIRECTOR A/C	1.0		30	DENTIST COMP	1.2		1P20A #12
31	SPARE			32	L-PARKING LOT	0.5		1P20A #12
33	SPARE			34	SPARE			1P20A
35	SPARE			36	SPARE			1P20A
37	PFB			38	SPARE			1P20A
39	PFB			40	PFB			1P
41	PFB			42	PFB			1P

TOTAL PHASE A, B, C 10.0 9.7 9.7
CONNECTED KVA: 29.4 KVA
DEMAND FACTOR: 100 %
DEMAND KVA: 29.4 KVA
DEMAND AMPS: 82 AMPS

DEMAND KVA A B C
10 9.7 9.7

NOTES:

PANEL: EC-1		VOLTAGE: 208Y/120V		3 PHASE		POLES: 30		
MAIN BUS: 100A		MAIN BKR: 60A		4 WIRE		MIN. A.I.C. 10,000		
MOUNTING: SURFACE		BKR TYPE: BOLT-ON		CABINET WIDTH: 20"				
CKT NO.	DESCRIPTION	KVA		CKT NO.	DESCRIPTION	KVA		CKT WIRE
		A	B			A	B	
1	EXIST LOADS	0.5		2	EXIST LOADS	0.5		1P20A #12
3	EXIST LOADS			4	EXIST LOADS	0.5		1P20A #12
5	EXIST LOADS			6	EXIST LOADS	0.5		1P20A #12
7	EXIST LOADS	0.5		8	EXIST LOADS	0.5		1P20A #12
9	EXIST LOADS	0.5		10	EXIST LOADS	0.5		1P20A #12
11	EXIST LOADS			12	EXIST LOADS	0.5		1P20A #12
13	SPARE			14	SPARE			1P20A
15	SPARE			16	SPARE			1P20A
17	SPARE			18	SPARE			1P20A
19	PFB			20	PFB			1P
21	PFB			22	PFB			1P
23	PFB			24	PFB			1P
25	PFB			26	PFB			1P
27	PFB			28	PFB			1P
29	PFB			30	PFB			1P

TOTAL PHASE A, B, C 2.0 2.0 2.0
CONNECTED KVA: 6.0 KVA
DEMAND FACTOR: 100 %
DEMAND KVA: 6.0 KVA
DEMAND AMPS: 17 AMPS

DEMAND KVA A B C
2 2 2

NOTES:

PANEL: LPD-EM		VOLTAGE: 208Y/120V		3 PHASE		POLES: 42		
MAIN BUS: 100A		MAIN BKR: 3P60A		4 WIRE		MIN. A.I.C. 10,000		
MOUNTING: SURFACE		BKR TYPE: BOLT-ON		CABINET WIDTH: 20"				
CKT NO.	DESCRIPTION	KVA		CKT NO.	DESCRIPTION	KVA		CKT WIRE
		A	B			A	B	
1	EXIST LOADS	0.5		2	EXIST LOADS	0.5		1P20A #12
3	EXIST LOADS			4	EXIST LOADS	0.5		1P20A #12
5	EXIST LOADS			6	EXIST LOADS	0.5		1P20A #12
7	EXIST LOADS	0.5		8	EXIST LOADS	0.5		1P20A #12
9	EXIST LOADS	0.5		10	EXIST LOADS	0.5		1P20A #12
11	EXIST LOADS			12	EXIST LOADS	0.5		1P20A #12
13	SPARE			14	SPARE			1P20A
15	SPARE			16	SPARE			1P20A
17	SPARE			18	SPARE			1P20A
19	PFB			20	PFB			1P
21	PFB			22	PFB			1P
23	PFB			24	PFB			1P
25	PFB			26	PFB			1P
27	PFB			28	PFB			1P
29	PFB			30	PFB			1P

TOTAL PHASE A, B, C 2.0 2.0 2.0
CONNECTED KVA: 6.0 KVA
DEMAND FACTOR: 100 %
DEMAND KVA: 6.0 KVA
DEMAND AMPS: 17 AMPS

DEMAND KVA A B C
2 2 2

NOTES:

PANEL: LPE-EM		VOLTAGE: 208Y/120V		3 PHASE		POLES: 30		
MAIN BUS: 60A		MAIN BKR: 3P60A		4 WIRE		MIN. A.I.C. 10,000		
MOUNTING: SURFACE		BKR TYPE: BOLT-ON		CABINET WIDTH: 20"				
CKT NO.	DESCRIPTION	KVA		CKT NO.	DESCRIPTION	KVA		CKT WIRE
		A	B			A	B	
1	EXIST LOADS	0.5		2	SPARE			1P20A
3	EXIST LOADS			4	EXIST LOADS	0.5		1P20A #12
5	EXIST LOADS			6	EXIST LOADS	0.5		1P20A #12
7	EXIST LOADS	0.5		8	SPARE			1P20A
9	EXIST LOADS	0.5		10	EXIST LOADS	0.5		1P20A #12
11	EXIST LOADS			12	EXIST LOADS	0.5		1P20A #12
13	SPARE			14	SPARE			1P20A
15	SPARE			16	SPARE			1P20A
17	SPARE			18	SPARE			1P20A
19	PFB			20	PFB			1P
21	PFB			22	PFB			1P
23	PFB			24	PFB			1P
25	PFB			26	PFB			1P
27	PFB			28	PFB			1P
29	PFB			30	PFB			1P

TOTAL PHASE A, B, C 1.0 2.0 2.0
CONNECTED KVA: 5.0 KVA
DEMAND FACTOR: 100 %
DEMAND KVA: 5.0 KVA
DEMAND AMPS: 14 AMPS

DEMAND KVA A B C
1 2 2

NOTES:

REVISIONS BY

This work was prepared by me or under my supervision and construction of this project will be under my observation.

ROSS N TAKAI
LICENSED PROFESSIONAL ENGINEER
No. 10940-E
HAWAII, U.S.A.

EXPIRATION DATE 04/30/2022

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SAMUEL MAHELONA
MEMORIAL HOSPITAL
ELECTRICAL UPGRADES PHASE 2
KAPAA, KAUAI, HAWAII

PANEL SCHEDULES

Designed IK
Drawn CAD
Checked RT
Date 03/15/2022
Job No. 21039
Sheet E-604