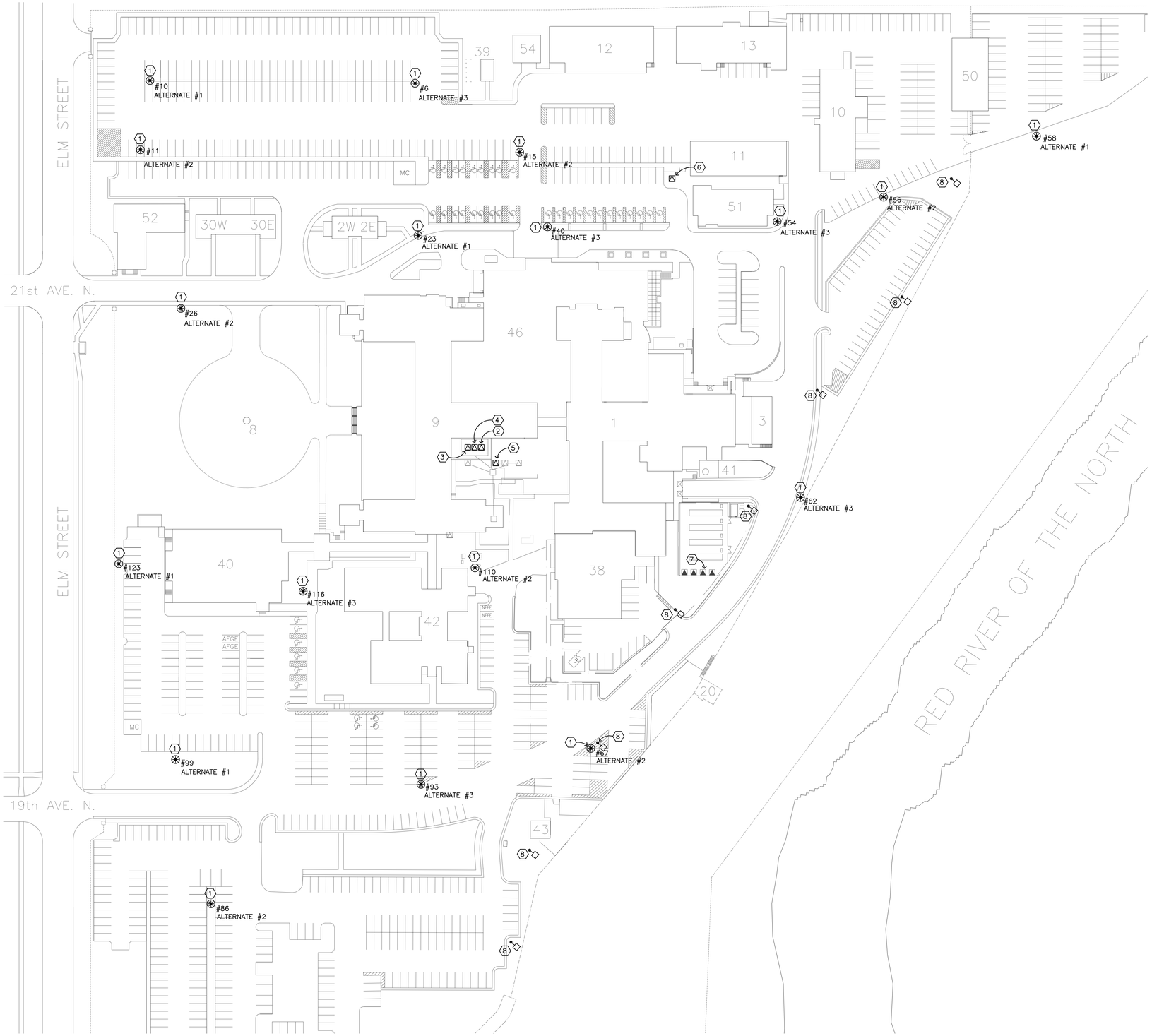


1 E1 SITE PLAN - ELECTRICAL

0' 25' 50' 100'

GENERAL PROJECT NOTES:

1. ALL WORK SHALL BE SCHEDULED WITH THE VA PROJECT ENGINEER IN ADVANCE. NO WORK MAY COMMENCE WITHOUT PERMISSION FROM THE VA PROJECT ENGINEER.
2. ALL WORK SHALL BE PHASED TO CREATE MINIMAL ELECTRICAL SERVICE DISRUPTION TO DAILY OPERATIONS OF THE HOSPITAL. BRANCH CIRCUIT SWITCH OVERS FROM NORMAL TO EMERGENCY POWER ON CRITICAL DEVICES OR EQUIPMENT WILL REQUIRE ADVANCE NOTICE AND OUTAGES WILL NEED TO OCCUR OUTSIDE NORMAL WORKING HOURS.
3. PHASING FOR ELECTRICAL OUTAGES TO BE COORDINATED AT LEAST 2 WEEKS IN ADVANCE WITH THE VA PROJECT ENGINEER AND DOWN TIME SHALL BE MINIMIZED. TEMPORARY CONNECTIONS WILL BE REQUIRED FOR CRITICAL PIECES OF EQUIPMENT. SEE SPECIFICATION SECTION 26 05 12.

PLAN NOTES:

(1) REMOVE EXISTING LIGHT FIXTURE AND POLE, PROVIDE AND INSTALL NEW LED AREA LIGHT FIXTURE AND POLE ON EXISTING CONCRETE BASE.

LIGHTING FIXTURE: HALOPHANE UTILITY POSTTOP SERIES LUMINAIRE. 70 WATT, 4K COLOR TEMPERATURE, ANODIZED ALUMINUM FINISH. CAST ALUMINUM HOUSING, GASKETED, SEALED OPTICAL COMPARTMENT WITH TYPE V SQUARE DISTRIBUTION. CAST ALUMINUM COVER WITH BALL FINIAL.

POLE: 12'-3" HALOPHANE 4 INCH TO 3 INCH TAPERED ALUMINUM POLE WITH ANODIZED ALUMINUM FINISH. HALOPHANE MANCHESTER SERIES BASE, 19 INCH DIAMETER. PROVIDE ANCHOR BOLT PATTERN TO MATCH EXISTING ANCHOR BOLTS.

BATTERY BACK UP: NATIONAL SOLAR TECHNOLOGIES SOLAR POWERED BATTERY BACK-UP, SEALED LEAD ACID BATTERY, MAINTENANCE FREE, 12 VOLT DC. BATTERY AND CONTROLLER TO BE MOUNTED IN POLE BASE. BATTERY BACKUP TO PROVIDE 90 MINUTE BACKUP IN THE EVENT OF A POWER OUTAGE. PROVIDE ALUMINUM MOUNTING ARMS TO MOUNT SOLAR PANEL TO LIGHT POLE ON SOUTH SIDE OF POLE. SOLAR PANEL TO CHARGE BATTERY DURING DAYLIGHT HOURS. CONTROLLER TO PASS POWER THROUGH TO FIXTURE NORMALLY AND SWITCH TO BATTERY BACKUP DURING A POWER OUTAGE AT NIGHT.

LIGHT FIXTURES TO BE REMOVED AS PART OF DEDUCT ALTERNATE #1, #2 AND #3 AS NOTED.

(2) RE-PAINT EXTERIOR OF TRANSFORMER T-9E.

(3) REPLACE B PHASE PRIMARY ELBOW/BOOT IN TRANSFORMER T9-XRAY. WORK TO OCCUR ON WEEKENDS, COORDINATE TIME WITH VA PROJECT ENGINEER.

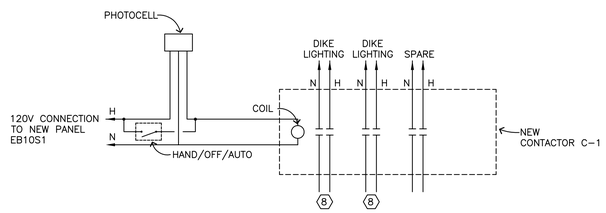
(4) REPLACE C PHASE PRIMARY ELBOW/BOOT IN TRANSFORMER T-9W. WORK TO OCCUR ON WEEKENDS, COORDINATE TIME WITH VA PROJECT ENGINEER.

(5) REPLACE C PHASE PRIMARY ELBOW/BOOT IN TRANSFORMER T-46W. WORK TO OCCUR ON WEEKENDS, COORDINATE TIME WITH VA PROJECT ENGINEER.

(6) REINSTALL/TIGHTEN PHASE B SECONDARY CABLES IN TRANSFORMER T-11. WORK TO OCCUR ON WEEKENDS, COORDINATE TIME WITH VA PROJECT ENGINEER. PROVIDE INFRARED CAMERA TESTING AND SUBMIT INFRARED PHOTOS TO CONFIRM WORK HAS BEEN SATISFACTORILY COMPLETED.

(7) INSTALL LIGHTNING ARRESTORS (3 TOTAL) ON CHILLER T-3 TRANSFORMER FEED THRU BUSHINGS. ARRESTORS TO BE RATED FOR A 23.9/13.8KV SYSTEM.

(8) PROVIDE EMERGENCY POWER TO EXISTING DIKE LIGHTING FIXTURES. RE-CIRCUIT TO NEW EQUIPMENT BRANCH PANEL EB10S1 IN ROOM 61G. NEW CONDUCTORS TO MATCH EXISTING, PROVIDE #6 MINIMUM. SEE DETAIL 2/E1 AND FLOOR PLAN 6/E2. CONTRACTOR TO CONFIRM LOCATION OF EXISTING HOMERUNS TO BUILDING 1 SWITCHBOARD AND REROUTE TO NEW PANEL EB10S1.



2 E1 DIKE LIGHTING CONTROL DETAIL

NO SCALE

Revisions	Date

Dept. of Veterans Affairs
Medical Center
2101 Elm Street North
Fargo, ND 58102

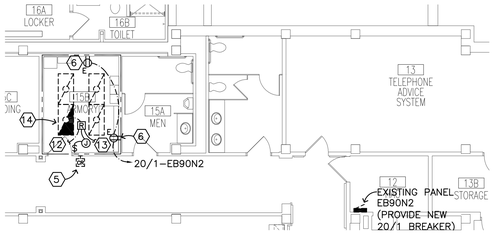
IMAGE GROUP
IMAGE GROUP INC.
403 CENTER AVENUE, SUITE 300
MOORHEAD, MN 56560

IMAGE GROUP INC., Architecture & Interiors
MBN ENGINEERING, Electrical Engineers

Drawing Title: SITE PLAN - ELECTRICAL REMODELING		Project Title: VA MEDICAL CENTER CORRECT IDENTIFIED ELECTRICAL SYSTEM ISSUES			Date: May 17, 2012
					Scale: AS SHOWN
VA Project No.: 437-12-102	Contract No.: VA263-P-1217 VA263-C-	Designed By: MB	Checked By: MB	Drawn By: TP	Drawing No.: E1
Building No.: SITE	AutoCAD File Name: 11-173 E1.DWG	Location: VA MEDICAL CENTER FARGO, ND			Dwg. 2 of 13

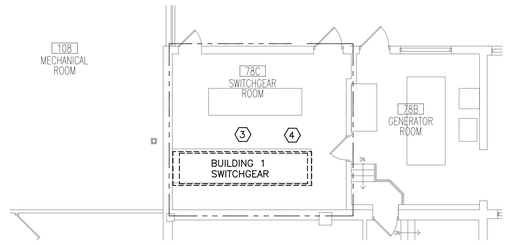
Department of Veterans Affairs

J:\Projects\2011\11-173\Dwgs\11-173 E1.dwg May 16, 2012 - 4:08pm



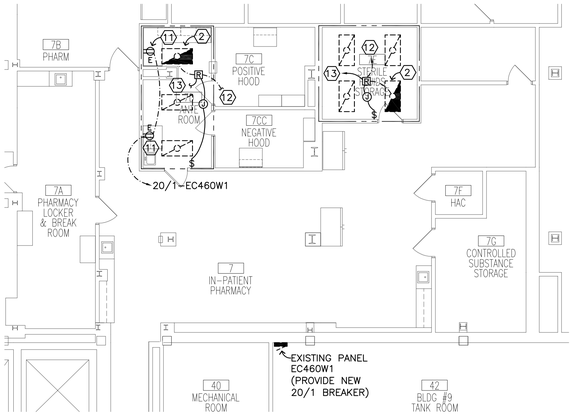
1 / E2 BASEMENT PLAN - 'AREA 'A' - ELECTRICAL

0' 4' 8' 16'



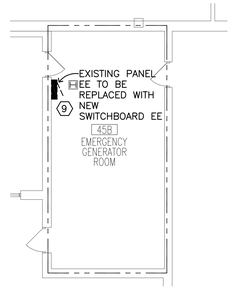
2 / E2 BASEMENT PLAN - 'AREA 'B' - ELECTRICAL

0' 4' 8' 16'



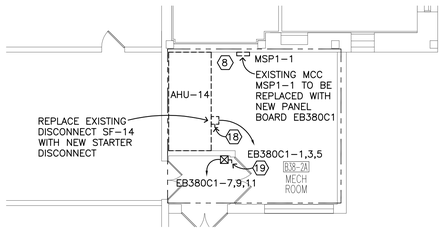
3 / E2 BASEMENT PLAN - 'AREA 'C' - ELECTRICAL

0' 4' 8' 16'



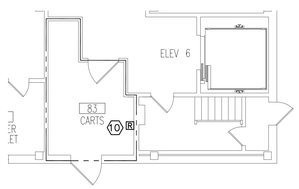
4 / E2 BASEMENT PLAN - 'AREA 'D' - ELECTRICAL

0' 4' 8' 16'



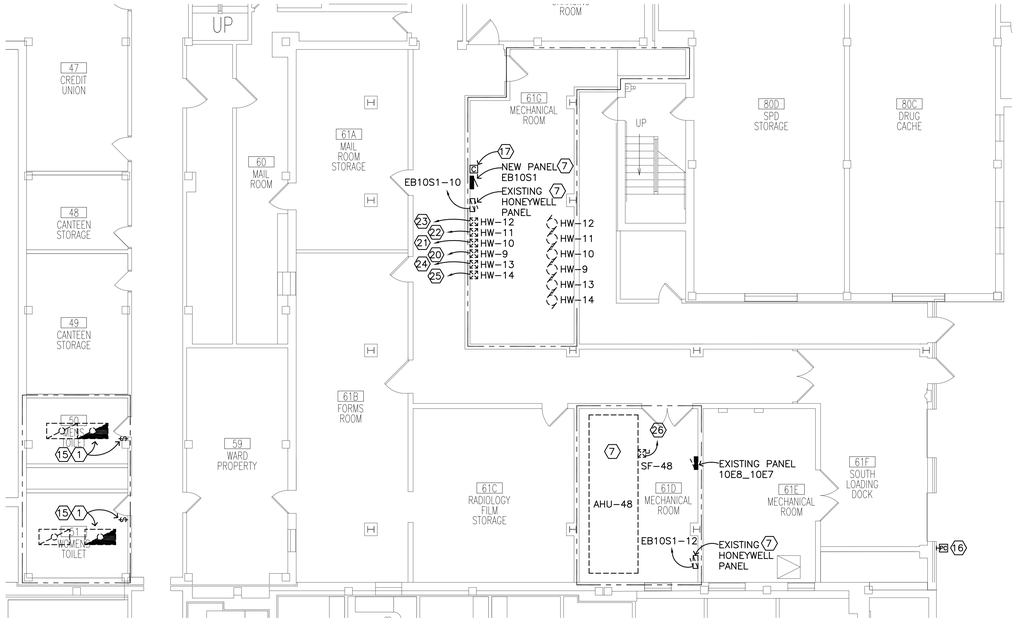
5 / E2 BASEMENT PLAN - 'AREA 'E' - ELECTRICAL

0' 4' 8' 16'



7 / E2 BASEMENT PLAN - 'AREA 'G' - ELECTRICAL

0' 4' 8' 16'



6 / E2 BASEMENT PLAN - 'AREA 'F' - ELECTRICAL

0' 4' 8' 16'

GENERAL PROJECT NOTES:

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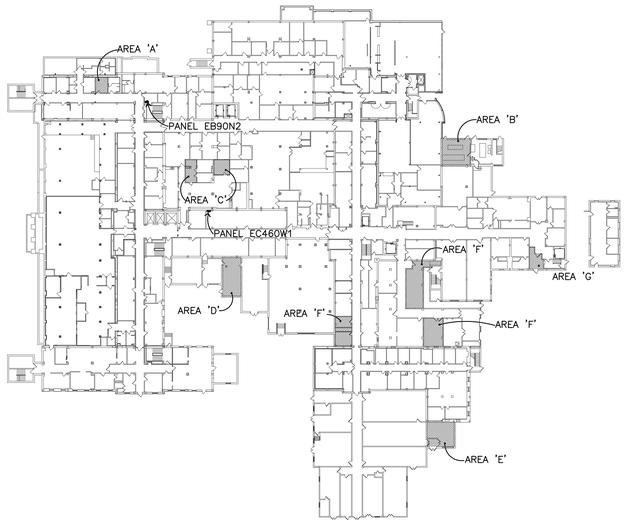
3. PHASING FOR ELECTRICAL OUTAGES TO BE COORDINATED AT LEAST 2 WEEKS IN ADVANCE WITH THE VA PROJECT ENGINEER AND DOWN TIME SHALL BE MINIMIZED. TEMPORARY CONNECTIONS WILL BE REQUIRED FOR CRITICAL PIECES OF EQUIPMENT. SEE SPECIFICATION SECTION 26 05 12.

PLAN NOTES:

1. CONNECT EXISTING LIGHT TO CORRIDOR EMERGENCY LIGHTING (LIFE SAFETY) CIRCUIT. REPLACE EXISTING SWITCH WITH NEW RED COLORED SWITCH.
2. CONNECT INDICATED LIGHT FIXTURE TO CRITICAL BRANCH LIGHTING CIRCUIT IN PHARMACY. PROVIDE NEW EMERGENCY LIGHTING RELAY, SEE 3/E7 FOR CONNECTION DETAILS.
3. REPLACE BUILDING 1 SWITCHBOARD 1600 AMP 3 POLE TIE BREAKER (TAGGED RED) IN SWITCHGEAR ROOM 78C. NEW BREAKER TO MATCH EXISTING. FIELD VERIFY MANUFACTURER AND MODEL.
4. REPLACE AMMETER (EAST MAIN) ON BUILDING 1 MAIN SWITCHBOARD IN SWITCHGEAR ROOM 78C.
5. CONNECT ELECTRIC STRIKE TO EXISTING ACCESS CONTROL PANEL TRANSFER SWITCH IN IRM ROOM 1069 LOCATED ON FIRST FLOOR ABOVE. STRIKE WILL THEN BE CONNECTED TO EMERGENCY EQUIPMENT BRANCH POWER.
6. PROVIDE NEW RECEPTACLES SHOWN FOR CHARGERS, CONNECT TO EMERGENCY POWER AS NOTED. VERIFY EXACT MOUNTING HEIGHTS AND LOCATION WITH PROJECT ENGINEER PRIOR TO ROUGH-IN. ALL NEW RECEPTACLES TO BE LABELED PER VA REQUIREMENTS.
7. M-AHU-48, HEATING WATER PUMPS ASSOCIATED CONTROLS AND HONEYWELL PANEL TO BE PLACED ON NEW EQUIPMENT BRANCH PANEL EB10S1. SEE PANEL BOARD SCHEDULE ON SHEET E3 AND ONE LINE ON SHEET E12.
8. REPLACE MCC MSP1-1 IN ELECTRICAL SHOP WITH NEW PANEL EB380C1.
9. REPLACE EXISTING PANEL EE WITH NEW SWITCHBOARD EE, SEE DETAIL 4/E7, PANEL BOARD ON SHEET E7 AND ONE-LINE DIAGRAM ON E11.
10. REPLACE EMERGENCY LIGHTING RELAY IN PLACE WITH NEW EMERGENCY LIGHTING RELAY. RELAY CONTROLS EMERGENCY LIGHTING IN ADJACENT STAIRWELL. SEE 3/E7.
11. PROVIDE NEW RECEPTACLES SHOWN FOR PRINTER AND LABEL MAKER, CONNECT TO EMERGENCY POWER AS NOTED. VERIFY EXACT MOUNTING HEIGHTS AND LOCATION WITH PROJECT ENGINEER PRIOR TO ROUGH-IN. ALL NEW RECEPTACLES TO BE LABELED PER VA REQUIREMENTS.
12. CONNECT TO NEAREST ADEQUATE CRITICAL BRANCH LIGHTING CIRCUIT.
13. CONNECT TO EXISTING NORMAL POWER CIRCUIT.
14. CONNECT INDICATED LIGHT FIXTURE TO LIFE SAFETY CIRCUIT IN CORRIDOR. PROVIDE NEW EMERGENCY LIGHTING RELAY, SEE 3/E7 FOR CONNECTION DETAILS.
15. DELETE UNDER DEDUCT ALTERNATE BID #4.
16. PROVIDE NEW PHOTOCELL FOR DIKE LIGHTING, SEE DETAIL 2/E1.
17. NEW CONTACTOR TO CONTROL DIKE LIGHTING, SEE DETAIL 2/E1.
18. DISCONNECT AND REMOVE EXISTING DISCONNECT SF-14. PROVIDE NEW STARTER DISCONNECT FOR 3 HP SUPPLY FAN SF-14, MOUNT ON EXISTING STRUT, CONNECT TO NEW PANEL EB380C1. REUSE EXISTING CONDUIT BACK TO PANEL, PROVIDE NEW CONDUCTORS, 3#12+#12GRD.
19. PROVIDE NEW STARTER DISCONNECT FOR 2 HP RETURN FAN RF-14, CONNECT TO NEW PANEL EB380C1 WITH 3#12+#12GRD IN 3/4 INCH CONDUIT.
20. DISCONNECT FROM EXISTING PANEL 10E8, REMOVE EXISTING HOMERUN AND CONNECT TO NEW PANEL EB10S1-7,9,11 WITH 3#12+#12GR IN 3/4 INCH CONDUIT.
21. DISCONNECT FROM EXISTING PANEL 10E8, REMOVE EXISTING HOMERUN AND CONNECT TO NEW PANEL EB10S1-13,15,17 WITH 3#12+#12GR IN 3/4 INCH CONDUIT.
22. DISCONNECT FROM EXISTING PANEL 10E8, REMOVE EXISTING HOMERUN AND CONNECT TO NEW PANEL EB10S1-19,21,23 WITH 3#12+#12GR IN 3/4 INCH CONDUIT.
23. DISCONNECT FROM EXISTING PANEL 10E8, REMOVE EXISTING HOMERUN AND CONNECT TO NEW PANEL EB10S1-25,27,29 WITH 3#12+#12GR IN 3/4 INCH CONDUIT.
24. DISCONNECT FROM EXISTING PANEL 10E8, REMOVE EXISTING HOMERUN AND CONNECT TO NEW PANEL EB10S1-31,33,35 WITH 3#12+#12GR IN 3/4 INCH CONDUIT.
25. DISCONNECT FROM EXISTING PANEL 10E8, REMOVE EXISTING HOMERUN AND CONNECT TO NEW PANEL EB10S1-37,39,41 WITH 3#12+#12GR IN 3/4 INCH CONDUIT.
26. DISCONNECT FROM EXISTING PANEL 10E8, REMOVE EXISTING HOMERUN AND CONNECT TO NEW PANEL EB10S1-1,3,5 WITH 3#4+#4GR IN 1 1/4 INCH CONDUIT.



BASEMENT PLAN - KEY PLAN

0' 25' 50' 100'

Revisions	Date

Dept. of Veterans Affairs
Medical Center
2101 Elm Street North
Fargo, ND 58102

IMAGE GROUP
IMAGE GROUP INC.
403 CENTER AVENUE, SUITE 300
MOORHEAD, MN 56560

IMAGE GROUP INC., Architecture & Interiors
MBN ENGINEERING, Electrical Engineers

Drawing Title: BASEMENT PLAN - ELECTRICAL REMODELING		Project Title: VA MEDICAL CENTER CORRECT IDENTIFIED ELECTRICAL SYSTEM ISSUES			Date: May 17, 2012
					Scale: AS SHOWN
VA Project No. 437-12-102	Contract No. VA263-P-1217 VA263-C-	Designed By MB	Checked By MB	Drawn By TP	Drawing No. E2
Building No. 1, 9, 38, 40,46	AutoCAD File Name 11-173 E2.DWG	Location VA MEDICAL CENTER FARGO, ND			Dwg. 3 of 13

Department of Veterans Affairs

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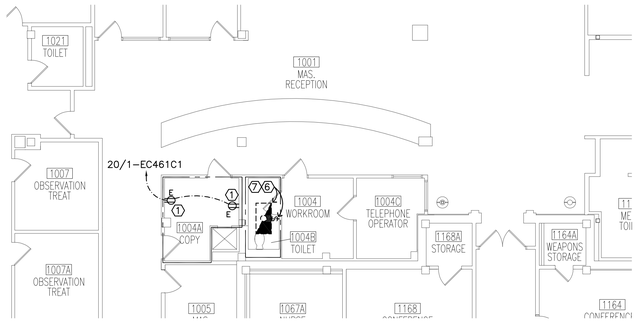
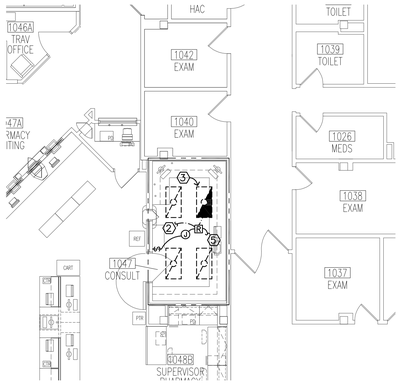


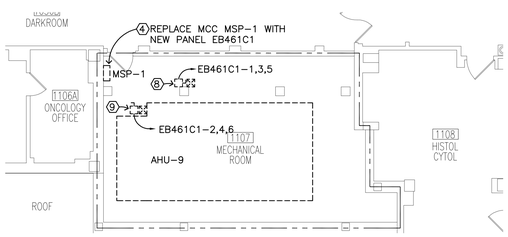
1 / E3 FIRST FLOOR PLAN - 'AREA 'A' - ELECTRICAL

0' 4' 8' 16'



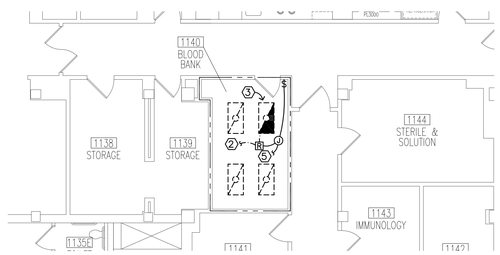
2 / E3 FIRST FLOOR PLAN - 'AREA 'B' - ELECTRICAL

0' 4' 8' 16'



3 / E3 FIRST FLOOR PLAN - 'AREA 'C' - ELECTRICAL

0' 4' 8' 16'



4 / E3 FIRST FLOOR PLAN - 'AREA D' - ELECTRICAL

0' 4' 8' 16'

PANELBOARD LOAD SCHEDULE

PANEL: EB461C1 | MAIN: MLO | VOLTS: 208Y/120, 3 PH., 4W. | ENCLOSURE: NEMA 1 | LOCATION: 1107
RATING: 100 AMP | AIC RATING: 22,000 | MOUNTING: SURFACE | FED FROM: B46 EB

CKT #	TRIP AMPS	POLE	LOAD IN VOLT-AMPERES: LIGHTING	RECPT	MOTORS	KITCHEN	HEAT/AC	LOAD DESCRIPTION	PH	LOAD DESCRIPTION	HEAT/AC	KITCHEN	MOTORS	RECPT	LIGHTING	TRIP AMPS	POLE	CKT #
1	15				828			RF-9	A	SF-9			3894			50		2
3					828				B				3894					4
5		3			828				C				3894				3	6
7	50							SPARE	A	SPARE						50		8
9									B									10
11		3							C								3	12
13	30							SPARE	A	SPARE						30		14
15									B									16
17		3							C								3	18
19	20							SPARE	A	SPARE						20		20
21									B									22
23		3							C								3	24
25								SPACE	A	SPACE								26
27								SPACE	B	SPACE								28
29								SPACE	C	SPACE								30
31								SPACE	A	SPACE								32
33								SPACE	B	SPACE								34
35								SPACE	C	SPACE								36
37								SPACE	A	SPACE								38
39								SPACE	B	SPACE								40
41								SPACE	C	SPACE								42

LOAD CALCULATIONS

LOAD TYPE	VA / PHASE A	B	C	TOTAL VA	DEMAND FACTOR	DIVERSIFIED LOAD
LIGHTING	0	0	0	0	1.00	0
RECEPTACLES	0	0	0	0	0.50	0
MOTORS	4722	4722	4722	14166	0.90	12749
KITCHEN EQUIP.	0	0	0	0	0.65	0
HEAT / AC	0	0	0	0	0.90	0
TOTAL AMPS:	35			TOTAL VA:		12749

NOTES:

PANELBOARD LOAD SCHEDULE

PANEL: EB10S1 | MAIN: MLO | VOLTS: 208Y/120, 3 PH., 4W. | ENCLOSURE: NEMA 1 | LOCATION: 61G
RATING: 225 AMP | AIC RATING: 22,000 | MOUNTING: SURFACE | FED FROM: B1 EB

CKT #	TRIP AMPS	POLE	LOAD IN VOLT-AMPERES: LIGHTING	RECPT	MOTORS	KITCHEN	HEAT/AC	LOAD DESCRIPTION	PH	LOAD DESCRIPTION	HEAT/AC	KITCHEN	MOTORS	RECPT	LIGHTING	TRIP AMPS	POLE	CKT #
1	80				5796			M-AHU-48	A	DIKE LIGHTING					1200	30		2
3					5796			M-SF-48	B						1200		2	4
5		3			5796				C	DIKE LIGHTING					1200	30		6
7	20				1320			HW-9	A						1200		2	8
9					1320				B	HONEYWELL PNL			500			20	1	10
11		3			1320				C	HONEYWELL PNL			500			20	1	12
13	20				1320			HW-10	A	SPARE						15		14
15					1320				B									16
17		3			1320				C								3	18
19	20				1320			HW-11	A	SPARE						15		20
21					1320				B									22
23		3			1320				C								3	24
25	20				1320			HW-12	A	SPARE						20		26
27					1320				B									28
29		3			1320				C								3	30
31	20				1320			HW-13	A	SPARE						20		32
33					1320				B									34
35		3			1320				C								3	36
37	20				1320			HW-14	A	SPARE						30		38
39					1320				B									40
41		3			1320				C								3	42

LOAD CALCULATIONS

LOAD TYPE	VA / PHASE A	B	C	TOTAL VA	DEMAND FACTOR	DIVERSIFIED LOAD
LIGHTING	2400	1200	1200	4800	1.00	4800
RECEPTACLES	0	0	0	0	0.50	0
MOTORS	13716	14216	14216	42148	0.90	37933
KITCHEN EQUIP.	0	0	0	0	0.65	0
HEAT / AC	0	0	0	0	0.90	0
TOTAL AMPS:	119			TOTAL VA:		42733

NOTES:

PANELBOARD LOAD SCHEDULE

PANEL: EB380C1 | MAIN: MLO | VOLTS: 208Y/120, 3 PH., 4W. | ENCLOSURE: NEMA 1 | LOCATION: B38-2A
RATING: 225 AMP | AIC RATING: 22,000 | MOUNTING: SURFACE | FED FROM: MCC B3

CKT #	TRIP AMPS	POLE	LOAD IN VOLT-AMPERES: LIGHTING	RECPT	MOTORS	KITCHEN	HEAT/AC	LOAD DESCRIPTION	PH	LOAD DESCRIPTION	HEAT/AC	KITCHEN	MOTORS	RECPT	LIGHTING	TRIP AMPS	POLE	CKT #
1	20				1320			M-RAF-14	A	M-RAF-11			936			15		2
3					1320				B				936					4
5		3			1320				C				936				3	6
7	20				1320			M-AHU-14	A	M-AHU-11			5796			80		8
9					1320				B				5796					10
11		3			1320				C				5796				3	12
13	15							SPARE	A	SPARE						30		14
15									B									16
17		3							C								3	18
19	15							SPARE	A	SPARE						30		20
21									B									22
23		3							C								3	24
25								SPACE	A	SPACE								26
27								SPACE	B	SPACE								28
29								SPACE	C	SPACE								30
31								SPACE	A	SPACE								32
33								SPACE	B	SPACE								34
35								SPACE	C	SPACE								36
37								SPACE	A	SPACE								38
39								SPACE	B	SPACE								40
41								SPACE	C	SPACE								42

LOAD CALCULATIONS

LOAD TYPE	VA / PHASE A	B	C	TOTAL VA	DEMAND FACTOR	DIVERSIFIED LOAD
LIGHTING	0	0	0	0	1.00	0
RECEPTACLES	0	0	0	0	0.50	0
MOTORS	9372	9372	9372	28116	0.90	25304
KITCHEN EQUIP.	0	0	0	0	0.65	0
HEAT / AC	0	0	0	0	0.90	0
TOTAL AMPS:	70			TOTAL VA:		25304

NOTES:

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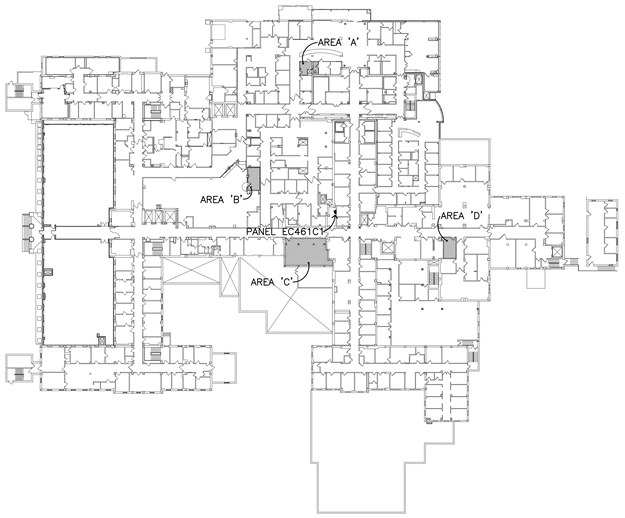
3. PHASING FOR ELECTRICAL OUTAGES TO BE COORDINATED AT LEAST 2 WEEKS IN ADVANCE WITH THE VA PROJECT ENGINEER AND DOWN TIME SHALL BE MINIMIZED. TEMPORARY CONNECTIONS WILL BE REQUIRED FOR CRITICAL PIECES OF EQUIPMENT. SEE SPECIFICATION SECTION 26 05 12.

PLAN NOTES:

1. PROVIDE NEW RECEPTACLES SHOWN FOR COPIER/PRINTER, CONNECT TO EMERGENCY POWER AS NOTED. VERIFY EXACT MOUNTING HEIGHTS AND LOCATION WITH PROJECT ENGINEER PRIOR TO ROUGH-IN. ALL NEW RECEPTACLES TO BE LABELED PER VA REQUIREMENTS.
2. TO NEAREST ADEQUATE CRITICAL BRANCH CIRCUIT.
3. CONNECT INDICATED LIGHT FIXTURE TO NEAREST ADEQUATE CRITICAL BRANCH CIRCUIT. PROVIDE NEW EMERGENCY LIGHTING RELAY, SEE 3/E7 FOR CONNECTION DETAILS.
4. REPLACE MCC MSP#1 IN MECHANICAL ROOM 1107 WITH NEW PANEL EB461C1. SEE ONE LINE DIAGRAM ON SHEET E11 AND PANEL BOARD SCHEDULE THIS SHEET FOR MORE INFORMATION.
5. TO EXISTING NORMAL POWER CIRCUIT.
6. CONNECT EXISTING LIGHT TO CORRIDOR EMERGENCY LIGHTING (LIFE SAFETY) CIRCUIT. REPLACE EXISTING SWITCH WITH NEW RED COLORED SWITCH.
7. DELETE UNDER DEDUCT ALTERNATE BID #4.
8. PROVIDE CONNECTION TO NEW PANEL EB461C1 WITH NEW CONDUCTORS, 3#12+12GRD, IN EXISTING CONDUIT. REROUTE CONDUIT AS REQUIRED.
9. PROVIDE CONNECTION TO NEW PANEL EB461C1 WITH NEW CONDUCTORS, 3#6+6GRD, IN EXISTING CONDUIT. REROUTE CONDUIT AS REQUIRED.



FIRST FLOOR PLAN - KEY PLAN

0' 25' 50' 100'

Revisions	Date

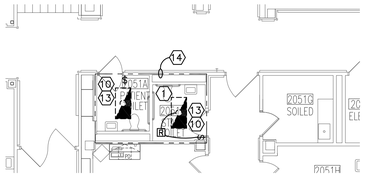
Dept. of Veterans Affairs
Medical Center
2101 Elm Street North
Fargo, ND 58102

IMAGE GROUP INC.
403 CENTER AVENUE, SUITE 300
MOORHEAD, MN 56560

IMAGE GROUP INC., Architecture & Interiors
MBN ENGINEERING, Electrical Engineers

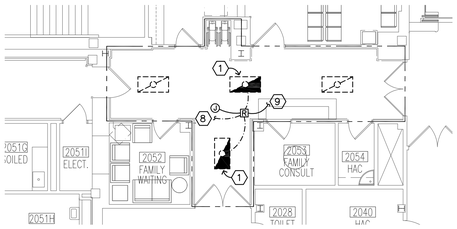
Drawing Title: FIRST FLOOR PLAN - ELECTRICAL REMODELING
Project Title: VA MEDICAL CENTER CORRECT IDENTIFIED ELECTRICAL SYSTEM ISSUES
Date: May 17, 2012
Scale: AS SHOWN
VA Project No.: 437-12-102
Contract No.: VA263-P-1217 VA263-C-
Designed By: MB
Checked By: MB
Drawn By: TP
Drawing No.: E3
Building No.: 1, 46
AutoCAD File Name: 11-173 E3.DWG
Location: VA MEDICAL CENTER FARGO, ND
Dwg. 4 of 13
Department of Veterans Affairs

J:\Projects\2011\11-173\Dwgs\11-173 E3.dwg May 16, 2012 - 4:06pm



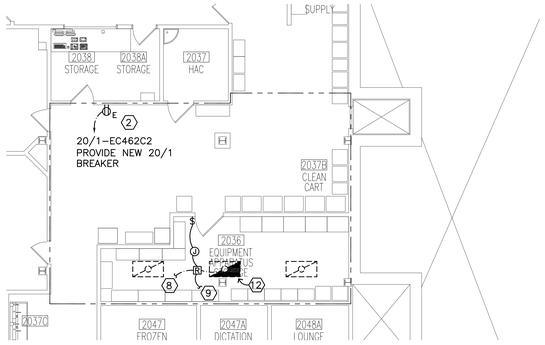
1 / E4 SECOND FLOOR PLAN - 'AREA 'A' - ELECTRICAL

0' 4' 8' 16'



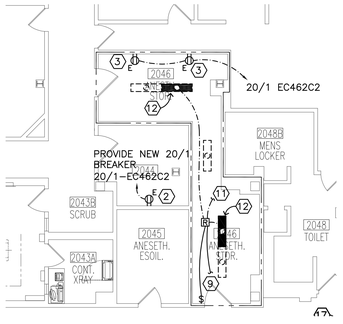
2 / E4 SECOND FLOOR PLAN - 'AREA 'B' - ELECTRICAL

0' 4' 8' 16'



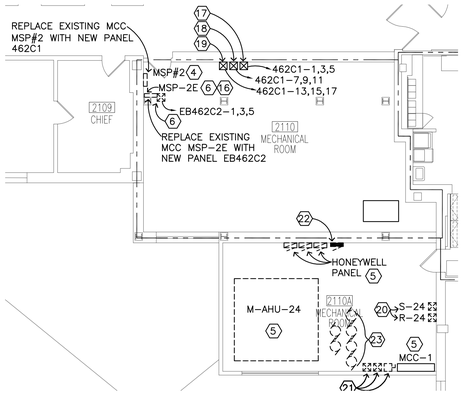
3 / E4 SECOND FLOOR PLAN - 'AREA 'C' - ELECTRICAL

0' 4' 8' 16'



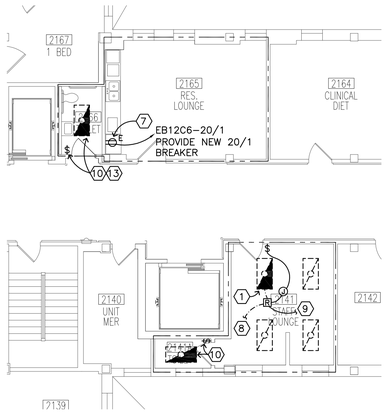
4 / E4 SECOND FLOOR PLAN - 'AREA 'D' - ELECTRICAL

0' 4' 8' 16'



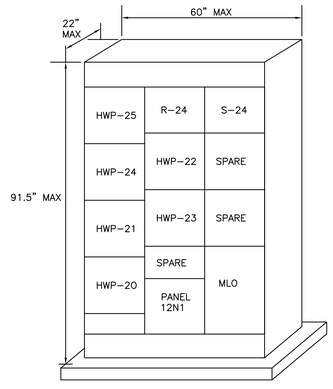
5 / E4 SECOND FLOOR PLAN - 'AREA 'E' - ELECTRICAL

0' 4' 8' 16'



6 / E4 SECOND FLOOR PLAN - 'AREA 'F' - ELECTRICAL

0' 4' 8' 16'



7 / E4 MCC-EB462C1 ELEVATION

NO SCALE

GENERAL PROJECT NOTES:

1. ALL WORK SHALL BE SCHEDULED WITH THE VA PROJECT ENGINEER IN ADVANCE. NO WORK MAY COMMENCE WITHOUT PERMISSION FROM THE VA PROJECT ENGINEER.
2. ALL WORK SHALL BE PHASED TO CREATE MINIMAL ELECTRICAL SERVICE DISRUPTION TO DAILY OPERATIONS OF THE HOSPITAL. BRANCH CIRCUIT SWITCH OVERS FROM NORMAL TO EMERGENCY POWER ON CRITICAL DEVICES OR EQUIPMENT WILL REQUIRE ADVANCE NOTICE AND OUTAGES WILL NEED TO OCCUR OUTSIDE OF NORMAL WORKING HOURS.
3. PHASING FOR ELECTRICAL OUTAGES TO BE COORDINATED AT LEAST 2 WEEKS IN ADVANCE WITH THE VA PROJECT ENGINEER AND DOWN TIME SHALL BE MINIMIZED. TEMPORARY CONNECTIONS WILL BE REQUIRED FOR CRITICAL PIECES OF EQUIPMENT. SEE SPECIFICATION SECTION 26 05 12.

PLAN NOTES:

(1) CONNECT INDICATED LIGHT FIXTURE TO NEAREST ADEQUATE LIFE SAFETY CIRCUIT. PROVIDE NEW EMERGENCY LIGHTING RELAY, SEE 3/E7 FOR CONNECTION DETAILS.

(2) PROVIDE NEW RECEPTACLES SHOWN FOR FLUID WARMER, CONNECT TO EMERGENCY POWER AS NOTED. VERIFY EXACT MOUNTING HEIGHTS AND LOCATION WITH PROJECT ENGINEER PRIOR TO ROUGH-IN. ALL NEW RECEPTACLES TO BE LABELED PER VA REQUIREMENTS.

(3) PROVIDE NEW RECEPTACLES, CONNECT TO EMERGENCY POWER AS NOTED. VERIFY EXACT MOUNTING HEIGHTS AND LOCATION WITH PROJECT ENGINEER PRIOR TO ROUGH-IN. ALL NEW RECEPTACLES TO BE LABELED PER VA REQUIREMENTS.

(4) REMOVE MCC MSP#2 AND FEEDER CONDUCTORS AND INSTALL NEW PANEL 462C1 AT LOCATION OF MCC MSP#2. DISCONNECT LOADS FROM EXISTING MCC MSP#2 AND TEMPORARILY CONNECT TO EXISTING MCC-2E DURING SWITCHOVER. REMOVE MCC MSP#2 AND INSTALL NEW PANEL 462C1. CONNECT MOTOR BRANCH CONDUCTORS TO NEW PANEL 462C1 ONE AT A TIME TO MINIMIZE SERVICE DISRUPTION. SEE ONE LINE ON SHEET E10 AND E11 AND PANEL BOARD SCHEDULE ON SHEET E6. PROVIDE TEMPORARY PANEL DURING SWITCHOVER IF REQUIRED. SEE SPECIFICATION SECTION 26 05 12.

(5) AIR HANDLER M-AHU-24, HEAT PUMPS M-HWP-20 THRU M-HWP-25 AND ALL ASSOCIATED CONTROLS TO BE PLACED ON NEW EQUIPMENT BRANCH MCC-EB462C1. MCC-EB462C1 TO REPLACE MCC-1. SEE DETAIL 7/E4 AND MCC SCHEDULE THIS SHEET.

(6) REMOVE MCC MSP-2E AND FEEDER CONDUCTORS AND INSTALL NEW PANEL EB462C2 AT LOCATION OF MCC MSP-2E. DISCONNECT LOADS FROM EXISTING MCC MSP-2E AND TEMPORARILY CONNECT TO NEW PANEL 462C1 DURING SWITCHOVER. REMOVE MCC MSP-2E AND INSTALL NEW PANEL EB462C2. CONNECT MOTOR BRANCH CONDUCTORS TO NEW PANEL EB462C2 ONE AT A TIME TO MINIMIZE SERVICE DISRUPTION. SEE ONE LINE ON SHEET E10 AND E11 AND PANEL BOARD SCHEDULE ON SHEET E6. PROVIDE TEMPORARY PANEL DURING SWITCHOVER IF REQUIRED. SEE SPECIFICATION SECTION 26 05 12.

PLAN NOTES (CONTINUED):

(7) CONNECT NUTRITION REFRIGERATOR TO EMERGENCY BRANCH CIRCUIT IN PANEL EB12C6.

(8) CONNECT TO NEAREST ADEQUATE LIFE SAFETY BRANCH CIRCUIT.

(9) CONNECT TO EXISTING NORMAL POWER CIRCUIT.

(10) CONNECT EXISTING LIGHT TO CORRIDOR EMERGENCY LIGHTING (LIFE SAFETY) CIRCUIT. REPLACE EXISTING SWITCH WITH NEW RED COLORED SWITCH.

(11) CONNECT TO NEAREST ADEQUATE CRITICAL BRANCH CIRCUIT.

(12) CONNECT INDICATED LIGHT FIXTURE TO NEAREST ADEQUATE LIFE SAFETY CIRCUIT. PROVIDE NEW EMERGENCY LIGHTING RELAY, SEE 3/E7 FOR CONNECTION DETAILS.

(13) DELETE UNDER DEDUCT ALTERNATE BID #4.

(14) THIS AREA TO BE RECONSTRUCTED AS PART OF OPERATING ROOM REPLACEMENT PROJECT. COORDINATE INDICATED WORK WITH CONTRACTOR FROM OPERATING ROOM REPLACEMENT PROJECT.

(15) CONNECT TO NEW PANEL EB462C2-1,3,5 WITH 3#3+#3GR IN 1 1/4 INCH CONDUIT.

(16) CONNECT BREAKERS 7,9,11 IN NEW PANEL EB462C2 TO 7.5 HP EXHAUST FAN M-EF-77 STARTER, LOCATED IN ROOM 3110 DIRECTLY ABOVE, WITH 3#12+#12GRD IN EXISTING CONDUIT.

(17) PROVIDE NEW STARTER/DISCONNECT FOR EXISTING 3 HP EXHAUST FAN M-EF-15. CONNECT TO NEW PANEL 462C1 WITH 3#12+#12GRD IN 3/4 INCH CONDUIT. REROUTE CONDUIT AND WIRING FROM EXHAUST FAN TO NEW STARTER DISCONNECT.

(18) PROVIDE NEW STARTER/DISCONNECT FOR EXISTING 7.5 HP EXHAUST FAN M-EF-14. CONNECT TO NEW PANEL 462C1 WITH 3#10+#10GRD IN 3/4 INCH CONDUIT. REROUTE CONDUIT AND WIRING FROM EXHAUST FAN TO NEW STARTER DISCONNECT.

(19) PROVIDE NEW STARTER/DISCONNECT FOR EXISTING 1.5 HP EXHAUST FAN M-EF-13. CONNECT TO NEW PANEL 462C1 WITH 3#12+#12GRD IN 3/4 INCH CONDUIT. REROUTE CONDUIT AND WIRING FROM EXHAUST FAN TO NEW STARTER DISCONNECT.

(20) CONNECT EXISTING R-24 AND S-24 VFD'S TO NEW BREAKERS IN MCC-1.

(21) DISCONNECT AND REMOVE EXISTING STARTERS AND DISCONNECT FOR HEATING PUMPS M-HWP-23 AND M-HWP-22, REMOVE ALL CONDUCTORS BACK TO SOURCE.

(22) RENAME EXISTING PANEL 12M1 EB12C1, PROVIDE NEW TYPED DIRECTORY AND PANEL LABEL PER VA SPECIFICATIONS.

(23) CONNECT HEAT PUMPS M-HWP-20 THRU M-HWP-25 TO NEW MCC-EB462C1 WITH 3#12+#12GR IN EXISTING CONDUIT.

MOTOR CONTROL CENTER SCHEDULE

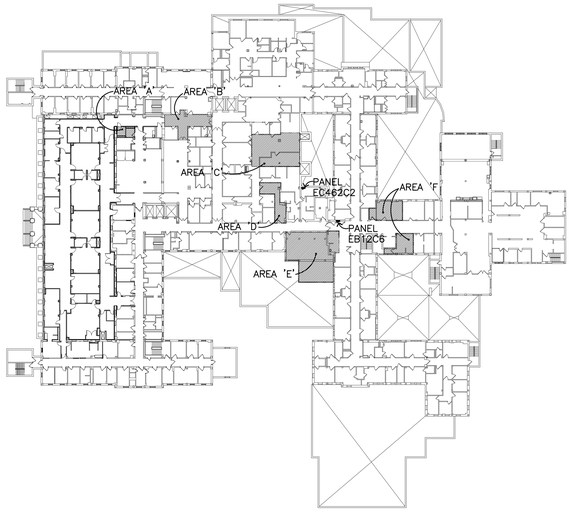
NAME: MCC-EB462C1 — AIC RATING: 35,000 AMPERES — MAIN DEVICE: MLO

VOLTS: 208/120, 3 PH, 4W — BUS RATING: 600 AMPERES — NEUTRAL BUS RATING: FULL

NO.	LOAD IDENTIFICATION	HP OR FLA	OVERCURRENT DEVICE FUSE	MAG C/B	C/B	O/C RATING	POLE	CONTROLLER TYPE	SIZE	CONNECTED LOAD (KVA)	DEMAND FACTOR	DEMAND LOAD (KVA)	REMARKS
1	M-HWP-25	1 HP			X	15 A	3	FVNR	1	1.75	1.00	1.75	
2	M-HWP-24	1 HP			X	15 A	3	FVNR	1	1.75	1.00	1.75	
3	M-HWP-21	3/4 HP			X	15 A	3	FVNR	1	1.50	1.00	1.50	
4	M-HWP-20	1 HP			X	15 A	3	FVNR	1	1.75	1.00	1.75	
5	R-24	5 HP			X	100 A	3	C/B		6.30	1.00	6.30	
6	M-HWP-22	1 HP			X	15 A	3	FVNR	1	1.75	1.00	1.75	
7	M-HWP-23	3/4 HP			X	15 A	3	FVNR	1	1.75	1.00	1.75	
8	SPARE				X	20 A	3	C/B			1.00		
9	PANEL 12N1				X	100 A	3	C/B		15	1.00	15	
10	S-24	15 HP			X	100 A	3	C/B		17.50	1.00	17.50	
11	SPARE				X	30 A	3	FVNR	1		1.00		
12	SPARE				X	30 A	3	C/B			1.00		
13													
14													
								LARGEST MOTOR:		17.5	0.25	4	
								TOTAL LOAD:		53.4	1.00	53.4	

ABBREVIATIONS:

FVNR – FULL VOLTAGE NON REVERSING
FVR – FULL VOLTAGE REVERSING
SSRV – SOLID STATE REDUCED VOLTAGE
VFD – VARIABLE FREQUENCY DRIVE
HP – HORSEPOWER
FLA – FULL LOAD AMPS
O/C – OVERCURRENT
C / B – CIRCUIT BREAKER



SECOND FLOOR PLAN - KEY PLAN

NO SCALE

Revisions	Date

Dept. of Veterans Affairs
Medical Center
2101 Elm Street North
Fargo, ND 58102

IMAGE GROUP INC.
403 CENTER AVENUE, SUITE 300
MOORHEAD, MN 56560

IMAGE GROUP INC., Architecture & Interiors
MBN ENGINEERING, Electrical Engineers

Drawing Title: SECOND FLOOR PLAN - ELECTRICAL REMODELING	Project Title: VA MEDICAL CENTER CORRECT IDENTIFIED ELECTRICAL SYSTEM ISSUES		Date: May 17, 2012
			Scale: AS SHOWN
VA Project No.: 437-12-102	Contract No.: VA263-P-1217 / VA263-C-	Designed By: MB / Checked By: MB / Drawn By: TP	Drawing No.: E4
Building No.: 1, 9, 46	AutoCAD File Name: 11-173 E4.DWG	Location: VA MEDICAL CENTER FARGO, ND	Dwg. 5 of 13

Department of Veterans Affairs

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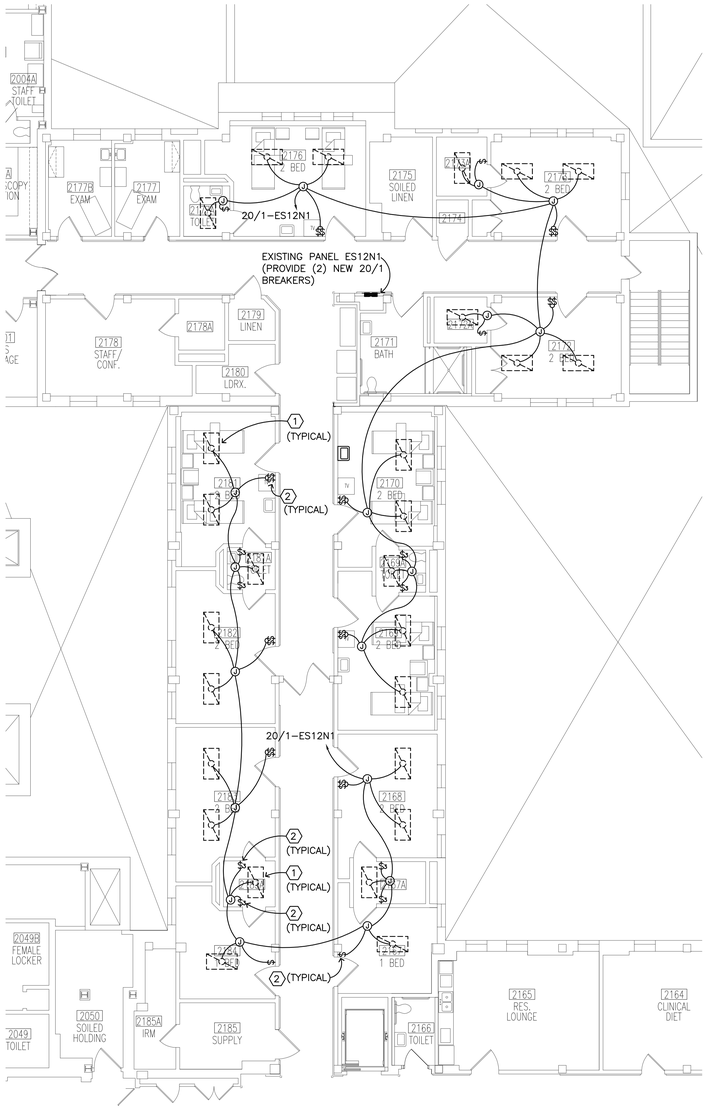
GENERAL PROJECT NOTES:

1. ALL WORK SHALL BE SCHEDULED WITH THE VA PROJECT ENGINEER IN ADVANCE. NO WORK MAY COMMENCE WITHOUT PERMISSION FROM THE VA PROJECT ENGINEER.
2. ALL WORK SHALL BE PHASED TO CREATE MINIMAL ELECTRICAL SERVICE DISRUPTION TO DAILY OPERATIONS OF THE HOSPITAL. BRANCH CIRCUIT SWITCH OVERS FROM NORMAL TO EMERGENCY POWER ON CRITICAL DEVICES OR EQUIPMENT WILL REQUIRE ADVANCE NOTICE AND OUTAGES WILL NEED TO OCCUR OUTSIDE OF NORMAL WORKING HOURS.
3. PHASING FOR ELECTRICAL OUTAGES TO BE COORDINATED AT LEAST 2 WEEKS IN ADVANCE WITH THE VA PROJECT ENGINEER AND DOWN TIME SHALL BE MINIMIZED. TEMPORARY CONNECTIONS WILL BE REQUIRED FOR CRITICAL PIECES OF EQUIPMENT. SEE SPECIFICATION SECTION 26 05 12.

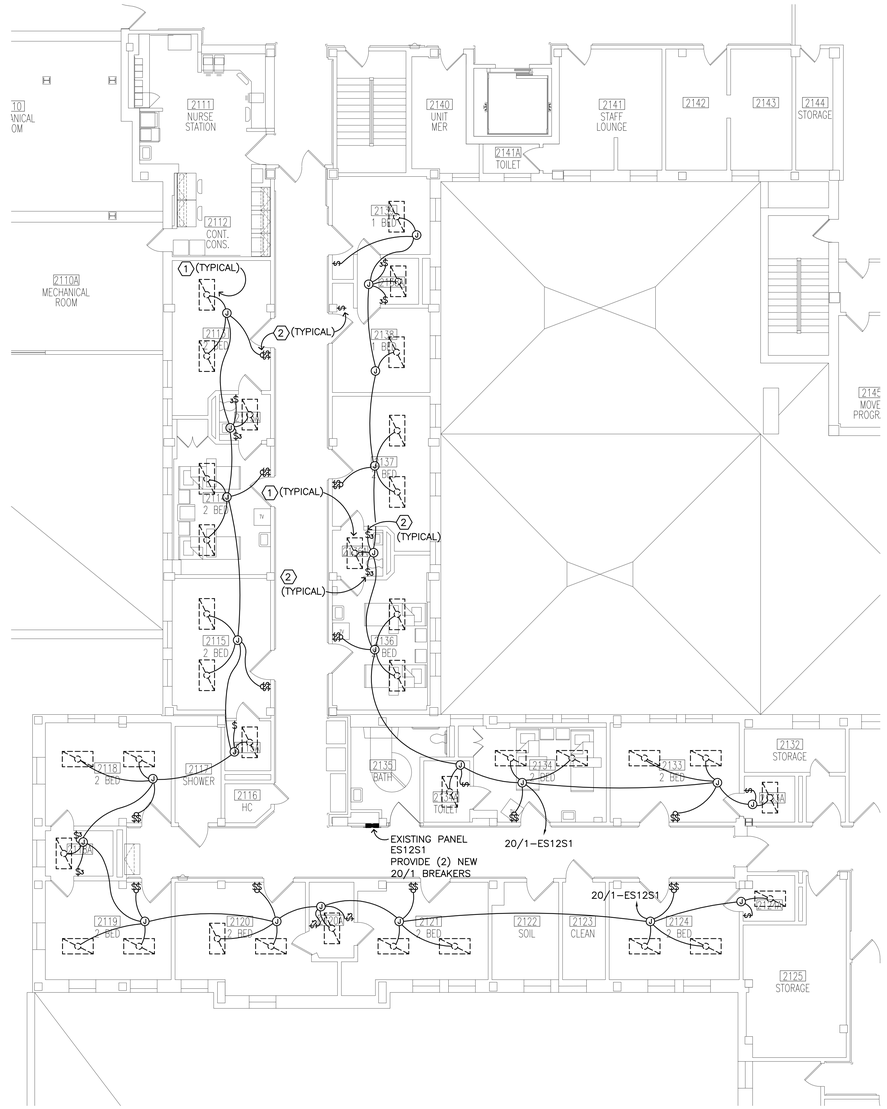
PLAN NOTES:

1. CONNECT INDICATED EXISTING LIGHT FIXTURE(S) TO EMERGENCY LIGHTING (LIFE SAFETY) CIRCUIT AS SHOWN.
2. REPLACE EXISTING SWITCH(ES) WITH NEW RED COLORED SWITCH(ES).



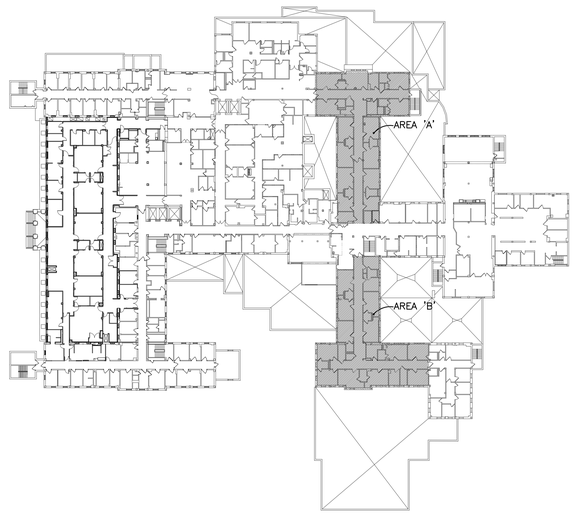
1 E5 SECOND FLOOR PLAN - 'AREA 'A' - ELECTRICAL

0' 4' 8' 16'



2 E5 SECOND FLOOR PLAN - 'AREA 'B' - ELECTRICAL

0' 4' 8' 16'



SECOND FLOOR PLAN - KEY PLAN

NO SCALE

Revisions	Date

Dept. of Veterans Affairs
Medical Center
2101 Elm Street North
Fargo, ND 58102

IMAGE GROUP
IMAGE GROUP INC.
403 CENTER AVENUE, SUITE 300
MOORHEAD, MN 56560

IMAGE GROUP INC., Architecture & Interiors
MBN ENGINEERING, Electrical Engineers

Drawing Title: SECOND FLOOR PLAN - ELECTRICAL REMODELING		Project Title: VA MEDICAL CENTER CORRECT IDENTIFIED ELECTRICAL SYSTEM ISSUES		Date: May 17, 2012
				Scale: AS SHOWN
VA Project No. 437-12-102	Contract No. VA263-P-1217 VA263-C-	Designed By MB	Checked By MB	Drawn By TP
Building No. 1	AutoCAD File Name 11-173 E5.DWG	Location VA MEDICAL CENTER FARGO, ND		Drawing No. E5 Dwg. 6 of 13

Department of Veterans Affairs

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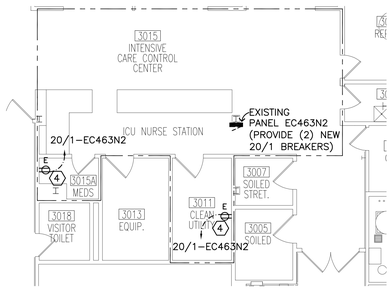
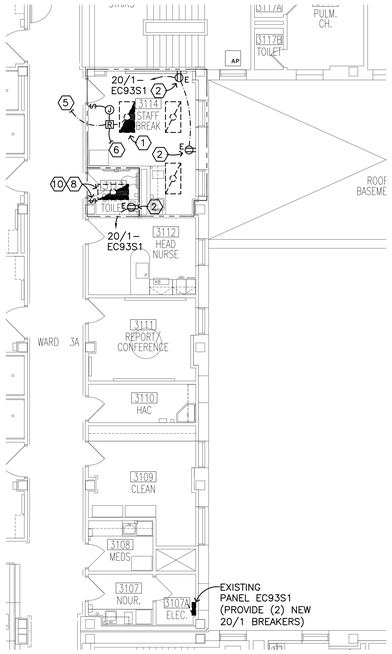


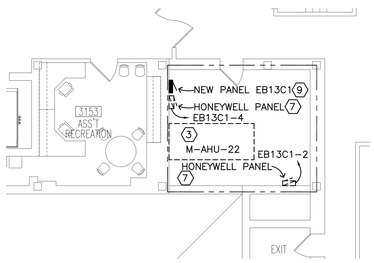
1/E6 THIRD FLOOR PLAN - AREA 'A' - ELECTRICAL

0' 4' 8' 16'



2/E6 THIRD FLOOR PLAN - AREA 'B' - ELECTRICAL

0' 4' 8' 16'



3/E6 THIRD FLOOR PLAN - AREA 'C' - ELECTRICAL

0' 4' 8' 16'

PANELBOARD LOAD SCHEDULE

PANEL: 462C1 | MAIN: MLO | VOLTS: 208Y/120, 3 PH., 4W. | ENCLOSURE: NEMA 1 | LOCATION: 2110
RATING: 100 AMP | AIC RATING: 22,000 | MOUNTING: SURFACE | FED FROM: B1 SWITCHGEAR

CKT #	TRIP AMPS	POLE	LOAD IN VOLT-AMPERES LIGHTING	RECPT	MOTORS	KITCHEN	HEAT/AC	LOAD DESCRIPTION	PH	LOAD DESCRIPTION	HEAT/AC	KITCHEN	MOTORS	RECPT	LIGHTING	TRIP AMPS	POLE	CKT #
1	20				1320			M-EF-15	A	M-AHU-6			3036			50		2
3					1320				B	SF-6			3036					4
5		3			1320				C				3036				3	6
7	50				3036			M-EF-14	A	RAF-6			828			15		8
9					3036				B				828					10
11		3			3036				C				828				3	12
13	15				828			M-EF-13	A	SPARE						15		14
15					828				B									16
17		3			828				C								3	18
19	15							SPARE	A	SPARE						30		20
21									B									22
23		3							C								3	24
25								SPACE	A	SPACE								26
27								SPACE	B	SPACE								28
29								SPACE	C	SPACE								30
31								SPACE	A	SPACE								32
33								SPACE	B	SPACE								34
35								SPACE	C	SPACE								36
37								SPACE	A	SPACE								38
39								SPACE	B	SPACE								40
41								SPACE	C	SPACE								42

LOAD CALCULATIONS

LOAD TYPE	VA / PHASE A	B	C	TOTAL VA	DEMAND FACTOR	DIVERSIFIED LOAD
LIGHTING	0	0	0	0	1.00	0
RECEPTACLES	0	0	0	0	0.50	0
MOTORS	9048	9048	9048	27144	0.90	24430
KITCHEN EQUIP.	0	0	0	0	0.65	0
HEAT / AC	0	0	0	0	0.90	0
TOTAL AMPS:		68		TOTAL VA:		24430

NOTES:

PANELBOARD LOAD SCHEDULE

PANEL: EB462C2 | MAIN: MLO | VOLTS: 208Y/120, 3 PH., 4W. | ENCLOSURE: NEMA 1 | LOCATION: 2110
RATING: 200 AMP | AIC RATING: 22,000 | MOUNTING: SURFACE | FED FROM: B46 EB

CKT #	TRIP AMPS	POLE	LOAD IN VOLT-AMPERES LIGHTING	RECPT	MOTORS	KITCHEN	HEAT/AC	LOAD DESCRIPTION	PH	LOAD DESCRIPTION	HEAT/AC	KITCHEN	MOTORS	RECPT	LIGHTING	TRIP AMPS	POLE	CKT #
1	100				7452			SF-5	A	LIFT 3-15			3036			60		2
3					7452			M-AHU-5	B				3036					4
5		3			7452				C				3036				3	6
7	50				3036			M-EF-77	A	LIFT 3-14			5796			80		8
9					3036				B				5796					10
11		3			3036				C				5796				3	12
13	50							SPARE	A	SPARE						50		14
15									B									16
17		3							C								3	18
19	20							SPARE	A	SPARE						20		20
21									B									22
23		3							C								3	24
25								SPACE	A	SPACE								26
27								SPACE	B	SPACE								28
29								SPACE	C	SPACE								30
31								SPACE	A	SPACE								32
33								SPACE	B	SPACE								34
35								SPACE	C	SPACE								36
37								SPACE	A	SPACE								38
39								SPACE	B	SPACE								40
41								SPACE	C	SPACE								42

LOAD CALCULATIONS

LOAD TYPE	VA / PHASE A	B	C	TOTAL VA	DEMAND FACTOR	DIVERSIFIED LOAD
LIGHTING	0	0	0	0	1.00	0
RECEPTACLES	0	0	0	0	0.50	0
MOTORS	19320	19320	19320	57960	0.90	52164
KITCHEN EQUIP.	0	0	0	0	0.65	0
HEAT / AC	0	0	0	0	0.90	0
TOTAL AMPS:		145		TOTAL VA:		52164

NOTES:

PANELBOARD LOAD SCHEDULE

PANEL: EB13C1 | MAIN: MLO | VOLTS: 208Y/120, 3 PH., 4W. | ENCLOSURE: NEMA 1 | LOCATION: 3153A
RATING: 100 AMP | AIC RATING: 22,000 | MOUNTING: SURFACE | FED FROM: EB10C1

CKT #	TRIP AMPS	POLE	LOAD IN VOLT-AMPERES LIGHTING	RECPT	MOTORS	KITCHEN	HEAT/AC	LOAD DESCRIPTION	PH	LOAD DESCRIPTION	HEAT/AC	KITCHEN	MOTORS	RECPT	LIGHTING	TRIP AMPS	POLE	CKT #
1	90				7452			M-AHU-22	A	HONEYWELL PNL			500			20	1	2
3					7452				B	HONEYWELL PNL			500			20	1	4
5		3			7452				C	SPARE						20	1	6
7	30							SPARE	A	SPARE						20		8
9									B									10
11		3							C								3	12
13	50							SPARE	A	SPARE						30		14
15									B									16
17		3							C								3	18
19								SPACE	A	SPACE								20
21								SPACE	B	SPACE								22
23								SPACE	C	SPACE								24
25								SPACE	A	SPACE								26
27								SPACE	B	SPACE								28
29								SPACE	C	SPACE								30
31								SPACE	A	SPACE								32
33								SPACE	B	SPACE								34
35								SPACE	C	SPACE								36
37								SPACE	A	SPACE								38
39								SPACE	B	SPACE								40
41								SPACE	C	SPACE								42

LOAD CALCULATIONS

LOAD TYPE	VA / PHASE A	B	C	TOTAL VA	DEMAND FACTOR	DIVERSIFIED LOAD
LIGHTING	0	0	0	0	1.00	0
RECEPTACLES	0	0	0	0	0.50	0
MOTORS	7952	7952	7452	23356	0.90	21020
KITCHEN EQUIP.	0	0	0	0	0.65	0
HEAT / AC	0	0	0	0	0.90	0
TOTAL AMPS:		58		TOTAL VA:		21020

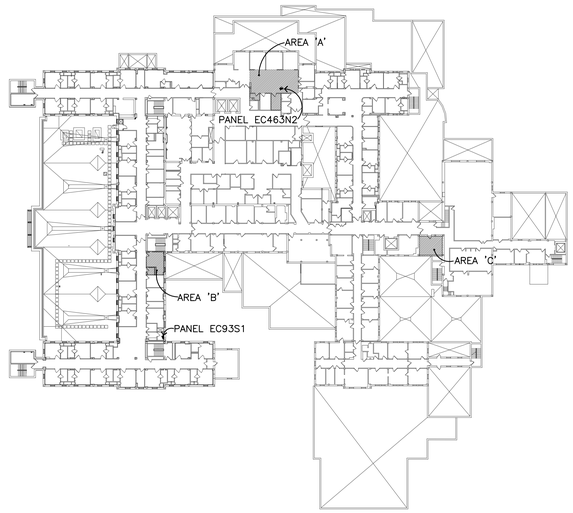
NOTES:

PLAN NOTES:

1. CONNECT INDICATED LIGHT FIXTURE TO LIFE SAFETY BRANCH CIRCUIT IN CORRIDOR. PROVIDE NEW EMERGENCY LIGHTING RELAY, SEE 3/E7 FOR CONNECTION DETAILS.
2. PROVIDE NEW RECEPTACLES SHOWN IN STAFF BREAK ROOM AND STAFF TOILET, CONNECT TO EMERGENCY POWER AS NOTED. VERIFY EXACT MOUNTING HEIGHTS AND LOCATIONS WITH PROJECT ENGINEER PRIOR TO ROUGH-IN. ALL NEW RECEPTACLES TO BE LABELED PER VA REQUIREMENTS.
3. CONNECT THE EXISTING VFD SF-22 FOR M-AHU-22 TO NEW EQUIPMENT BRANCH PANEL EB13C1 WITH 3#4+#4 GRD IN 1 INCH CONDUIT. REMOVE EXISTING CONDUCTORS TO PANEL 12E5P IN ROOM 2147. SEE PANEL BOARD SCHEDULE THIS SHEET AND RISER DIAGRAM ON SHEET E12.
4. PROVIDE NEW RECEPTACLES SHOWN FOR NUTRITIONAL REFRIGERATORS, CONNECT TO EMERGENCY POWER AS NOTED. VERIFY EXACT MOUNTING HEIGHTS AND LOCATION WITH PROJECT ENGINEER PRIOR TO ROUGH-IN. ALL NEW RECEPTACLES TO BE LABELED PER VA REQUIREMENTS. PROVIDE NEW BREAKERS IN PANEL NOTED.
5. CONNECT TO NEAREST ADEQUATE LIFE SAFETY CIRCUIT.
6. CONNECT TO EXISTING NORMAL POWER CIRCUIT.
7. CONNECT EXISTING HONEYWELL PANEL TO NEW EQUIPMENT BRANCH PANEL EB13C1.
8. CONNECT EXISTING LIGHT TO CORRIDOR EMERGENCY LIGHTING (LIFE SAFETY) CIRCUIT. REPLACE EXISTING SWITCH WITH NEW RED COLORED SWITCH.
9. PROVIDE NEW 200 AMP 208 VOLT, 3 PHASE, 4 WIRE PANEL. CONNECT TO EQUIPMENT BRANCH SWITCHGEAR IN BUILDING 1. SEE PANEL BOARD SCHEDULE THIS SHEET AND RISER DIAGRAM ON SHEET E12.
10. DELETE UNDER DEDUCT ALTERNATE BID #4.

GENERAL PROJECT NOTES:

1. ALL WORK SHALL BE SCHEDULED WITH THE VA PROJECT ENGINEER IN ADVANCE. NO WORK MAY COMMENCE WITHOUT PERMISSION FROM THE VA PROJECT ENGINEER.
2. ALL WORK SHALL BE PHASED TO CREATE MINIMAL ELECTRICAL SERVICE DISRUPTION TO DAILY OPERATIONS OF THE HOSPITAL. BRANCH CIRCUIT SWITCH OVERS FROM NORMAL TO EMERGENCY POWER ON CRITICAL DEVICES OR EQUIPMENT WILL REQUIRE ADVANCE NOTICE AND OUTAGES WILL NEED TO OCCUR OUTSIDE OF NORMAL WORKING HOURS.
3. PHASING FOR ELECTRICAL OUTAGES TO BE COORDINATED AT LEAST 2 WEEKS IN ADVANCE WITH THE VA PROJECT ENGINEER AND DOWN TIME SHALL BE MINIMIZED. TEMPORARY CONNECTIONS WILL BE REQUIRED FOR CRITICAL PIECES OF EQUIPMENT. SEE SPECIFICATION SECTION 26 05 12.



THIRD FLOOR PLAN - KEY PLAN

NO SCALE

Revisions	Date

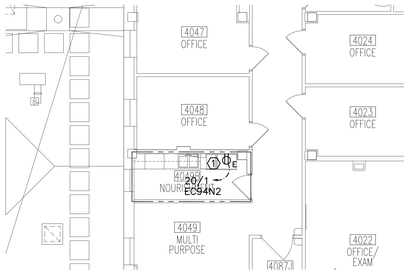
Dept. of Veterans Affairs
Medical Center
2101 Elm Street North
Fargo, ND 58102

IMAGE GROUP INC.
403 CENTER AVENUE, SUITE 300
MOORHEAD, MN 56560

IMAGE GROUP INC., Architecture & Interiors
MBN ENGINEERING, Electrical Engineers

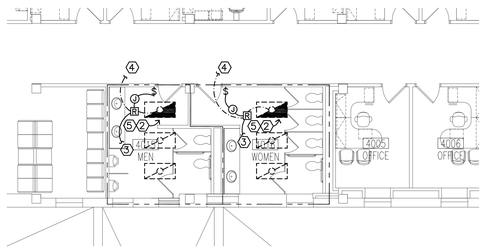
Drawing Title: THIRD FLOOR PLAN - ELECTRICAL REMODELING
Project Title: VA MEDICAL CENTER CORRECT IDENTIFIED ELECTRICAL SYSTEM ISSUES
Date: May 17, 2012
Scale: AS SHOWN
VA Project No.: 437-12-102
Contract No.: VA263-P-1217 VA263-C-
Designed By: MB
Checked By: MB
Drawn By: TP
Drawing No.: E6
Building No.: 1, 9
AutoCAD File Name: 11-173 E6.DWG
Location: VA MEDICAL CENTER FARGO, ND
Dwg. 7 of 13
Department of Veterans Affairs

J:\Projects\2011\11-173\Dwgs\11-173 E6.dwg May 16, 2012 - 4:05pm



1/E7 FOURTH FLOOR PLAN - 'AREA 'A' - ELECTRICAL

0' 4' 8' 16'



2/E7 FOURTH FLOOR PLAN - 'AREA 'B' - ELECTRICAL

0' 4' 8' 16'

SWITCHBOARD SCHEDULE

NAME: EE MAIN: MLO ENCLOSURE: NEMA 1 LOCATION: 45B

RATING: 1600 AMP AIC RATING: 35,000 VOLTS: 208/120, 3 PH, 4W FED FROM: GENERATOR-ATS

NO	LOAD DESCRIPTION	BREAKER FRAME SIZE OR SWITCH SIZE	POLE	TRIP RATING OR FUSE SIZE	LOAD IN VOLT AMPERES							REMARKS
					LIGHTING	KITCHEN EQUIPMENT	RECEPT	MOTOR LOAD	AIR COND	HEATING	MISC.	
1	FIRE PUMP	1200	3					100000				LSI BREAKER
2	SPARE	125	3									LSI BREAKER
3	PANEL CBE	400	3									LSI BREAKER
4	PANEL LSE	100	3		20000		30000					LSI BREAKER
5	PANEL EBE	800	3		10000			200000				LSI BREAKER
6												
	TOTAL				30,000	0.0	30,000.0	300,000.0	0.0	0.0	0.0	

LOAD CALCULATIONS

LOAD TYPE	CONNECTED LOAD IN KVA	DEMAND FACTOR	DIVERSIFIED LOAD IN KVA
LIGHTING	30.0	1.00	30.0
RECEPTACLES	30.0	0.35	10.5
MOTORS	300.0	0.75	225.0
KITCHEN EQUIP.	0.0	0.65	0.0
HEAT	0.0	0.80	0.0
AIR COND	0.0	0.80	0.0
MISC.	0.0	1.00	0.0
LARGEST MOTOR	0.0	0.25	0.0
TOTAL CONNECTED:	360.00	DIV. KVA:	265.50
	TOTAL AMPS:		

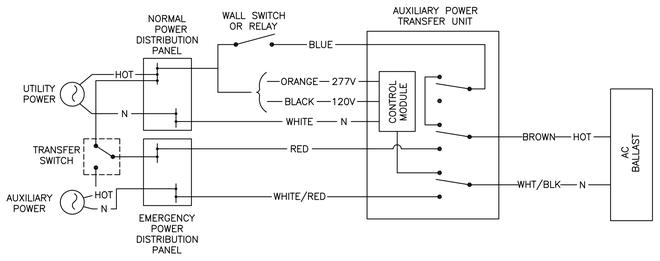
NOTES:
1
2
3

GENERAL PROJECT NOTES:

1. ALL WORK SHALL BE SCHEDULED WITH THE VA PROJECT ENGINEER IN ADVANCE. NO WORK MAY COMMENCE WITHOUT PERMISSION FROM THE VA PROJECT ENGINEER.
2. ALL WORK SHALL BE PHASED TO CREATE MINIMAL ELECTRICAL SERVICE DISRUPTION TO DAILY OPERATIONS OF THE HOSPITAL. BRANCH CIRCUIT SWITCH OVERS FROM NORMAL TO EMERGENCY POWER ON CRITICAL DEVICES OR EQUIPMENT WILL REQUIRE ADVANCE NOTICE AND OUTAGES WILL NEED TO OCCUR OUTSIDE NORMAL WORKING HOURS.
3. PHASING FOR ELECTRICAL OUTAGES TO BE COORDINATED AT LEAST 2 WEEKS IN ADVANCE WITH THE VA PROJECT ENGINEER AND DOWN TIME SHALL BE MINIMIZED. TEMPORARY CONNECTIONS WILL BE REQUIRED FOR CRITICAL PIECES OF EQUIPMENT. SEE SPECIFICATION SECTION 26 05 12.

PLAN NOTES:

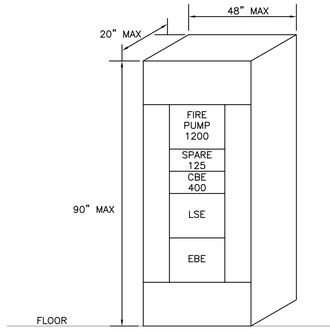
1. PROVIDE CRITICAL BRANCH POWER TO RECEPTACLE AT NUTRITION REFRIGERATOR IN ROOM 4049B.
2. CONNECT INDICATED LIGHT FIXTURE TO LIFE SAFETY BRANCH CIRCUIT IN CORRIDOR. PROVIDE NEW EMERGENCY LIGHTING RELAY, SEE 3/E7 FOR CONNECTION DETAILS.
3. CONNECT TO EXISTING NORMAL POWER CIRCUIT.
4. CONNECT TO NEAREST ADEQUATE LIFE SAFETY CIRCUIT.
5. DELETE UNDER DEDUCT ALTERNATE #4.



NOTE:
THE WALL SWITCH IS WIRED TO THE RELAY TO CONTROL WHETHER THE FIXTURE IS ON OR OFF. THE RELAY IS INTENDED TO PROVIDE THE FIXTURE POWER FROM A NORMAL PANEL DURING NORMAL OPERATING CONDITIONS. IN THE EVENT OF LOSS OF POWER, THE RELAY IS TO PROVIDE POWER FROM A LIFE SAFETY PANEL NO MATTER THE POSITION OF THE WALL SWITCH. WHEN NORMAL POWER RETURNS, THE RELAY IS TO RETURN NORMAL POWER TO THE FIXTURE.

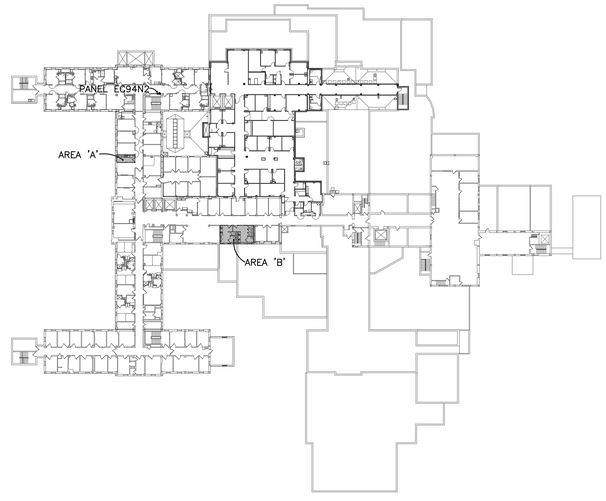
3/E7 EMERGENCY RELAY ONE-LINE DIAGRAM

NO SCALE



4/E7 NEW SWBD 'EE' ELEVATION

NO SCALE



FOURTH FLOOR PLAN - KEY PLAN

NO SCALE

Revisions	Date

Dept. of Veterans Affairs
Medical Center
2101 Elm Street North
Fargo, ND 58102

IMAGE GROUP
IMAGE GROUP INC.
403 CENTER AVENUE, SUITE 300
MOORHEAD, MN 56560

IMAGE GROUP INC., Architecture & Interiors
MBN ENGINEERING, Electrical Engineers

Drawing Title: FOURTH FLOOR PLAN - ELECTRICAL REMODELING	Project Title: VA MEDICAL CENTER CORRECT IDENTIFIED ELECTRICAL SYSTEM ISSUES		Date: May 17, 2012
			Scale: AS SHOWN
VA Project No.: 437-12-102	Contract No.: VA263-P-1217 / VA263-C-	Designed By: MB / Checked By: MB / Drawn By: TP	Drawing No.: E7
Building No.: 9, 46	AutoCAD File Name: 11-173 E7.DWG	Location: VA MEDICAL CENTER FARGO, ND	Dwg. 8 of 13

Department of Veterans Affairs

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PANELBOARD LOAD SCHEDULE

PANEL: EB465C3 | MAIN: MLO | VOLTS: 208Y/120, 3 PH., 4W. | ENCLOSURE: NEMA 1 | LOCATION: 1107

RATING: 100 AMP | AIC RATING: 22,000 | MOUNTING: SURFACE | FED FROM: B46 EB

CKT #	TRIP AMPS	POLE	LOAD IN VOLT-AMPERES: LIGHTING	RECPT	MOTORS	KITCHEN	HEAT/AC	LOAD DESCRIPTION	PH	LOAD DESCRIPTION	HEAT/AC	KITCHEN	MOTORS	RECPT	LIGHTING	TRIP AMPS	POLE	CKT #
1	50				3036			M-EF-37	A	SPARE						15		2
3					3036				B									4
5		3			3036				C								3	6
7	50				1500			PANEL EB465C1	A	SPARE						30		8
9					1500				B									10
11		3			1500				C								3	12
13	15							SPARE	A	SPARE						30		14
15									B									16
17		3							C								3	18
19								SPACE	A	SPACE								20
21								SPACE	B	SPACE								22
23								SPACE	C	SPACE								24
25								SPACE	A	SPACE								26
27								SPACE	B	SPACE								28
29								SPACE	C	SPACE								30
31								SPACE	A	SPACE								32
33								SPACE	B	SPACE								34
35								SPACE	C	SPACE								36
37								SPACE	A	SPACE								38
39								SPACE	B	SPACE								40
41								SPACE	C	SPACE								42

LOAD CALCULATIONS

LOAD TYPE	VA / PHASE A	B	C	TOTAL VA	DEMAND FACTOR	DIVERSIFIED LOAD
LIGHTING	0	0	0	0	1.00	0
RECEPTACLES	0	0	0	0	0.50	0
MOTORS	4536	4536	4536	13608	0.90	12247
KITCHEN EQUIP.	0	0	0	0	0.65	0
HEAT / AC	0	0	0	0	0.90	0
TOTAL AMPS:	34			TOTAL VA:		12247

NOTES:

PANELBOARD LOAD SCHEDULE

PANEL: 465C2 | MAIN: MLO | VOLTS: 208Y/120, 3 PH., 4W. | ENCLOSURE: NEMA 1 | LOCATION: PENTHOUSE

RATING: 200A | AIC RATING: 22,000 | MOUNTING: SURFACE | FED FROM: B46 SWITCHGEAR

CKT #	TRIP AMPS	POLE	LOAD IN VOLT-AMPERES: LIGHTING	RECPT	MOTORS	KITCHEN	HEAT/AC	LOAD DESCRIPTION	PH	LOAD DESCRIPTION	HEAT/AC	KITCHEN	MOTORS	RECPT	LIGHTING	TRIP AMPS	POLE	CKT #
1	20				1320			M-EF-36	A	RAF-7			1320			20		2
3					1320				B				1320					4
5		3			1320				C				1320				3	6
7	20				1320			M-EF-39	A	AHU-7			5796			80		8
9					1320				B				5796					10
11		3			1320				C				5796				3	12
13	20				1320			M-EF-76	A	RAF-4			1320			20		14
15					1320				B				1320					16
17		3			1320				C				1320				3	18
19	50							PANEL 465C1	A	AHU-4			5796			80		20
21									B				5796					22
23		3							C				5796				3	24
25	30							SPARE	A	SPARE						30		26
27									B									28
29		3							C								3	30
31								SPACE	A	SPACE								32
33								SPACE	B	SPACE								34
35								SPACE	C	SPACE								36
37								SPACE	A	SPACE								38
39								SPACE	B	SPACE								40
41								SPACE	C	SPACE								42

LOAD CALCULATIONS

LOAD TYPE	VA / PHASE A	B	C	TOTAL VA	DEMAND FACTOR	DIVERSIFIED LOAD
LIGHTING	0	0	0	0	1.00	0
RECEPTACLES	0	0	0	0	0.50	0
MOTORS	18192	18192	18192	54576	0.90	49118
KITCHEN EQUIP.	0	0	0	0	0.65	0
HEAT / AC	0	0	0	0	0.90	0
TOTAL AMPS:	136			TOTAL VA:		49118

NOTES:

GENERAL PROJECT NOTES:

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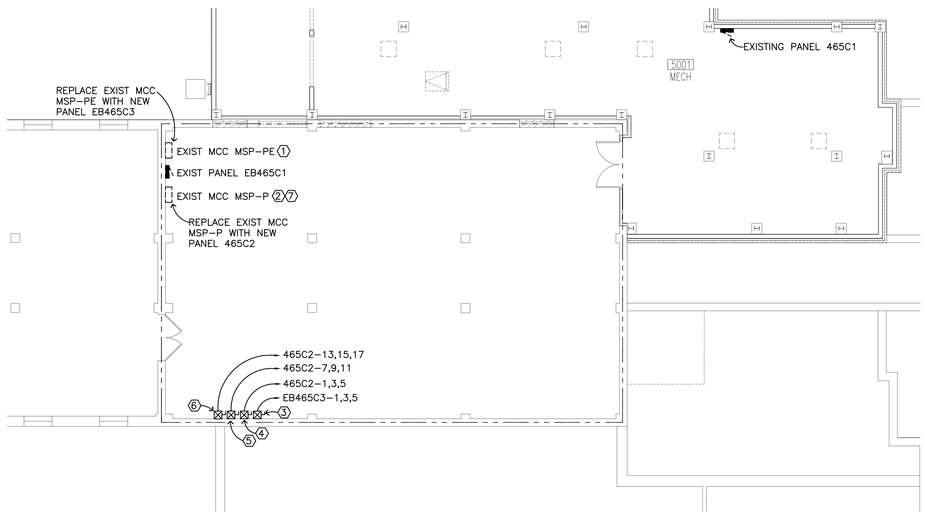
2. ALL WORK SHALL BE PHASED TO CREATE MINIMAL ELECTRICAL SERVICE DISRUPTION TO DAILY OPERATIONS OF THE HOSPITAL. BRANCH CIRCUIT SWITCH OVERS FROM NORMAL TO EMERGENCY POWER ON CRITICAL DEVICES OR EQUIPMENT WILL REQUIRE ADVANCE NOTICE AND OUTAGES WILL NEED TO OCCUR OUTSIDE OF NORMAL WORKING HOURS.
3. PHASING FOR ELECTRICAL OUTAGES TO BE COORDINATED AT LEAST 2 WEEKS IN ADVANCE WITH THE VA PROJECT ENGINEER AND DOWN TIME SHALL BE MINIMIZED. TEMPORARY CONNECTIONS WILL BE REQUIRED FOR CRITICAL PIECES OF EQUIPMENT. SEE SPECIFICATION SECTION 26 05 12.

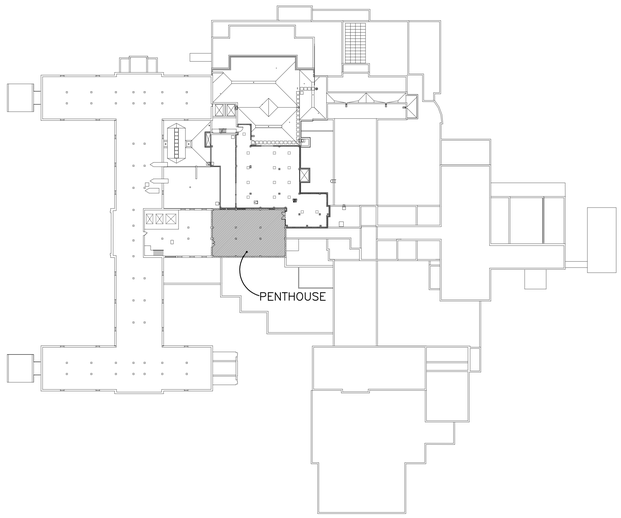
PLAN NOTES:

1. REMOVE MCC MSP-PE AND FEEDER CONDUCTORS AND INSTALL NEW PANEL EB465C3 AT LOCATION OF MCC MSP-PE. DISCONNECT LOADS FROM EXISTING MCC MSP-PE AND TEMPORARILY CONNECT TO EXISTING MCC MSP-P DURING SWITCHOVER. REMOVE MCC MSP-PE AND INSTALL NEW PANEL EB465C3. CONNECT MOTOR CIRCUIT CONDUCTORS TO NEW PANEL EB465C3 ONE AT A TIME TO MINIMIZE SERVICE DISRUPTION. SEE ONE LINE ON SHEET E10 AND E11 AND PANEL BOARD SCHEDULE ON THIS SHEET.
2. REMOVE MCC MSP-P AND FEEDER CONDUCTORS AND INSTALL NEW PANEL 465C2 AT LOCATION OF MCC MSP-P. DISCONNECT LOADS FROM EXISTING MCC MSP-P AND TEMPORARILY CONNECT TO NEW PANEL EB465C3 DURING SWITCHOVER. REMOVE MCC MSP-P AND INSTALL NEW PANEL 465C2. CONNECT MOTOR CIRCUIT CONDUCTORS TO NEW PANEL 465C2 ONE AT A TIME TO MINIMIZE SERVICE DISRUPTION. SEE ONE LINE ON SHEET E10 AND E11 AND PANEL BOARD SCHEDULE ON THIS SHEET.
3. PROVIDE STARTER FOR EXHAUST FAN M-EF-37, CONNECT TO NEW PANEL EB465C3 USING 3#12+#12GRD IN 3/4 INCH CONDUIT.
4. PROVIDE STARTER/DISCONNECT RATED FOR 3 HP EXHAUST FAN M-EF-36, CONNECT TO NEW PANEL 465C2 USING 3#12+#12GRD IN 3/4 INCH CONDUIT. REROUTE CONDUIT AND WIRING FROM EXHAUST FAN TO NEW STARTER/DISCONNECT LOCATION.
5. PROVIDE STARTER/DISCONNECT RATED FOR 3 HP EXHAUST FAN M-EF-39, CONNECT TO NEW PANEL 465C2 USING 3#12+#12GRD IN 3/4 INCH CONDUIT. REROUTE CONDUIT AND WIRING FROM EXHAUST FAN TO NEW STARTER/DISCONNECT LOCATION.
6. PROVIDE STARTER/DISCONNECT RATED FOR 3 HP EXHAUST FAN M-EF-76, CONNECT TO NEW PANEL 465C2 USING 3#12+#12GRD IN 3/4 INCH CONDUIT. REROUTE CONDUIT AND WIRING FROM EXHAUST FAN TO NEW STARTER/DISCONNECT LOCATION.
7. PROVIDE CONNECTION TO EXISTING PANEL 465C1 WITH 3#6+#8GR IN EXISTING CONDUIT.



1 E8 PENTHOUSE PLAN - ELECTRICAL

0' 4' 8' 16'



PENTHOUSE PLAN - KEY PLAN

0' 25' 50' 100'

J:\Projects\2011\11-173\Dwgs\11-173 E8.dwg May 16, 2012 - 4:04pm

Revisions	Date

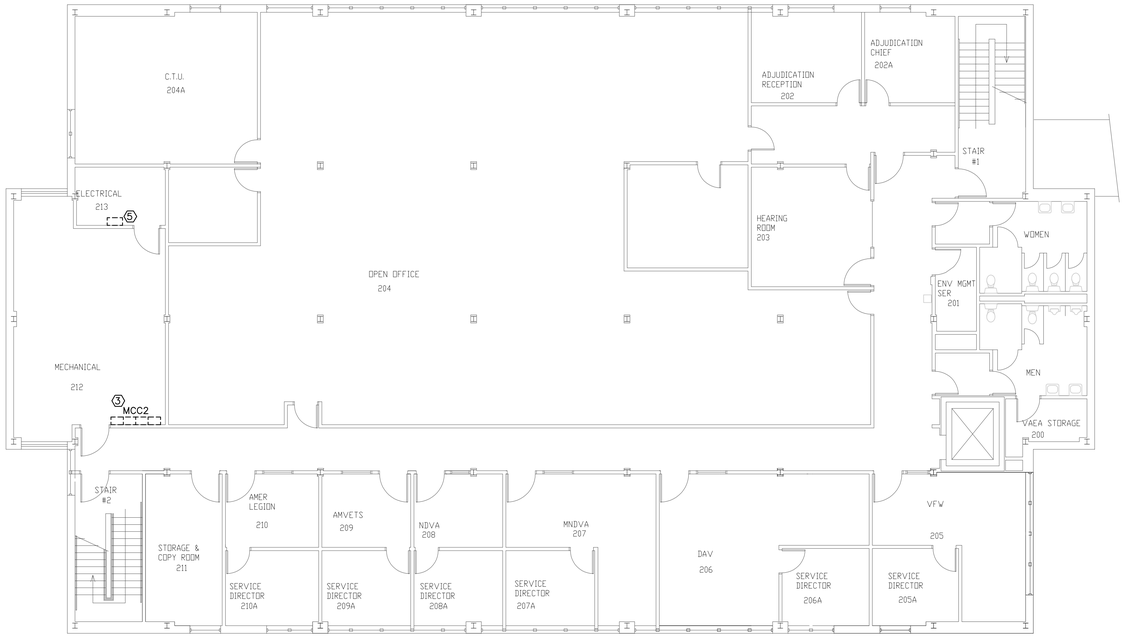
Dept. of Veterans Affairs
Medical Center
2101 Elm Street North
Fargo, ND 58102

IMAGE GROUP
IMAGE GROUP INC.
403 CENTER AVENUE, SUITE 300
MOORHEAD, MN 56560

IMAGE GROUP INC., Architecture & Interiors
MBN ENGINEERING, Electrical Engineers

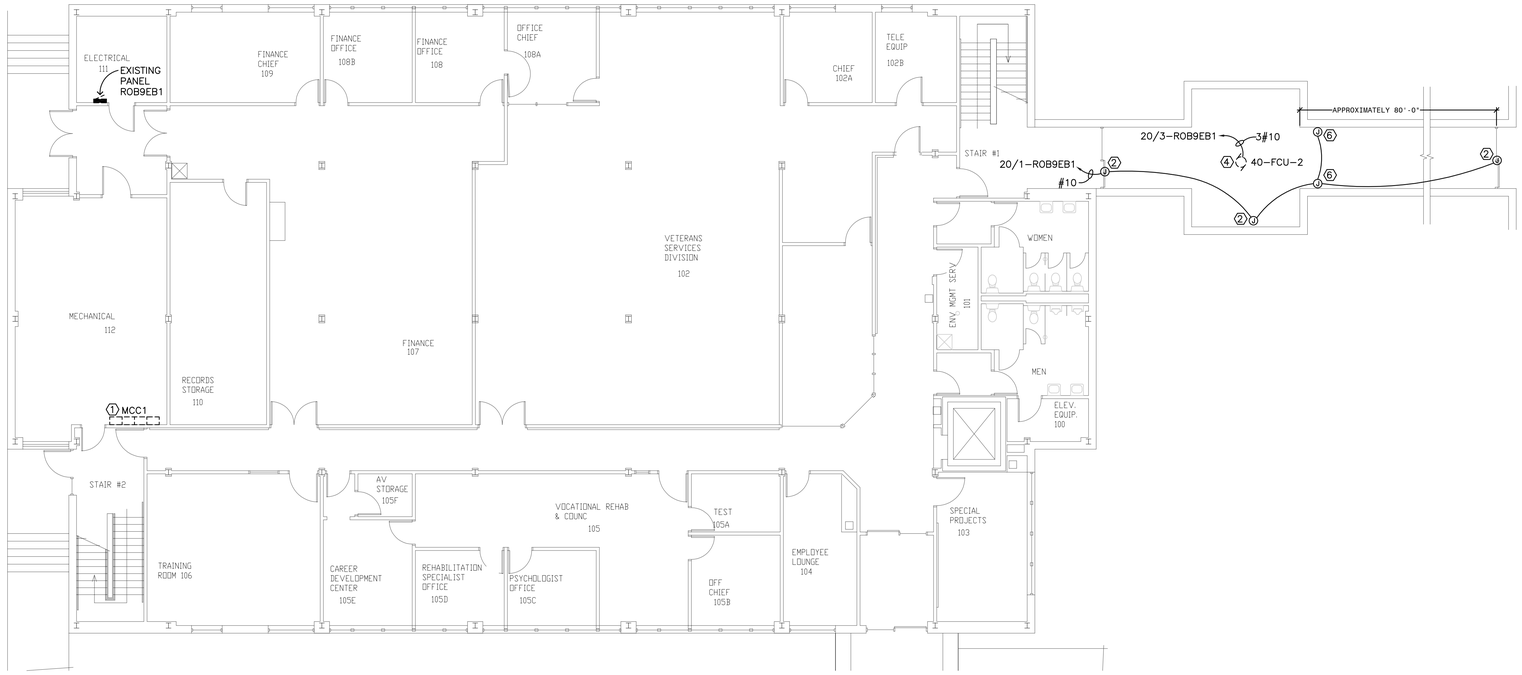
Drawing Title: PENTHOUSE PLAN - ELECTRICAL REMODELING	Project Title: VA MEDICAL CENTER CORRECT IDENTIFIED ELECTRICAL SYSTEM ISSUES		Date: May 17, 2012
			Scale: AS SHOWN
VA Project No.: 437-12-102	Contract No.: VA263-P-1217 / VA263-C-	Designed By: MB / Checked By: MB / Drawn By: TP	Drawing No.: E8
Building No.: 46	AutoCAD File Name: 11-173 E8.DWG	Location: VA MEDICAL CENTER FARGO, ND	Dwg. 9 of 13

Department of Veterans Affairs



1 / E9 SECOND FLOOR PLAN - ELECTRICAL

0' 4' 8' 16'



2 / E9 FIRST FLOOR PLAN - ELECTRICAL

0' 4' 8' 16'

GENERAL PROJECT NOTES:

1. ALL WORK SHALL BE SCHEDULED WITH THE VA PROJECT ENGINEER IN ADVANCE. NO WORK MAY COMMENCE WITHOUT PERMISSION FROM THE VA PROJECT ENGINEER.
2. ALL WORK SHALL BE PHASED TO CREATE MINIMAL ELECTRICAL SERVICE DISRUPTION TO DAILY OPERATIONS OF THE HOSPITAL. BRANCH CIRCUIT SWITCH OVERS FROM NORMAL TO EMERGENCY POWER ON CRITICAL DEVICES OR EQUIPMENT WILL REQUIRE ADVANCE NOTICE AND OUTAGES WILL NEED TO OCCUR OUTSIDE OF NORMAL WORKING HOURS.
3. PHASING FOR ELECTRICAL OUTAGES TO BE COORDINATED AT LEAST 2 WEEKS IN ADVANCE WITH THE VA PROJECT ENGINEER AND DOWN TIME SHALL BE MINIMIZED. TEMPORARY CONNECTIONS WILL BE REQUIRED FOR CRITICAL PIECES OF EQUIPMENT. SEE SPECIFICATION SECTION 26 05 12.

PLAN NOTES:

1. REPLACE ALL INDICATOR LIGHTS ON MCC1 IN ROOM 112 WITH NEW LED STYLE. MATCH EXISTING COLORS.
2. CONNECT EXISTING DOOR OPERATOR TO EMERGENCY POWER, CIRCUIT AS SHOWN.
3. REPLACE ALL INDICATOR LIGHTS ON MCC2 IN ROOM 212 WITH NEW LED STYLE. MATCH EXISTING COLORS.
4. PROVIDE EQUIPMENT BRANCH POWER TO FAN HEATING COIL 40-FCU-2. CIRCUIT TO PANEL ROB9EB1, PROVIDE NEW 20/3 BREAKER.
5. REPLACE EXISTING 200A 3 POLE AUTOMATIC TRANSFER SWITCH WITH BY-PASS WITH NEW 200 A4-POLE AUTOMATIC TRANSFER SWITCH WITH BY-PASS. CONTRACTOR TO PROVIDE NEW 4 POLE MECHANISM TO REPLACE EXISTING OR REPLACE ENTIRE SWITCH WITH NEW IF REQUIRED.
6. CONNECT EXISTING DOOR HOLD OPENS TO EMERGENCY POWER, CIRCUIT AS SHOWN.

Revisions	Date

Dept. of Veterans Affairs
Medical Center
2101 Elm Street North
Fargo, ND 58102

IMAGE GROUP
IMAGE GROUP INC.
403 CENTER AVENUE, SUITE 300
MOORHEAD, MN 56560

IMAGE GROUP INC., Architecture & Interiors
MBN ENGINEERING, Electrical Engineers

Drawing Title: FIRST FLOOR PLAN - ELECTRICAL REMODELING; SECOND FLOOR PLAN - ELECTRICAL REMODELING		Project Title: VA MEDICAL CENTER CORRECT IDENTIFIED ELECTRICAL SYSTEM ISSUES	Date: May 17, 2012
VA Project No.: 437-12-102	Contract No.: VA263-P-1217 VA263-C-	Designed By: MB / Checked By: MB / Drawn By: TP	Scale: AS SHOWN
Building No.: 40	AutoCAD File Name: 11-173 E9.DWG	Location: VA MEDICAL CENTER FARGO, ND	Drawing No.: E9 — Dwg. 10 of 13

Department of Veterans Affairs

J:\Projects\2011\11-173\Dwgs\11-173 E9.dwg May 16, 2012 - 4:04pm

GENERAL PROJECT NOTES:

1. ALL WORK SHALL BE SCHEDULED WITH THE VA PROJECT ENGINEER IN ADVANCE. NO WORK MAY COMMENCE WITHOUT PERMISSION FROM THE VA PROJECT ENGINEER.
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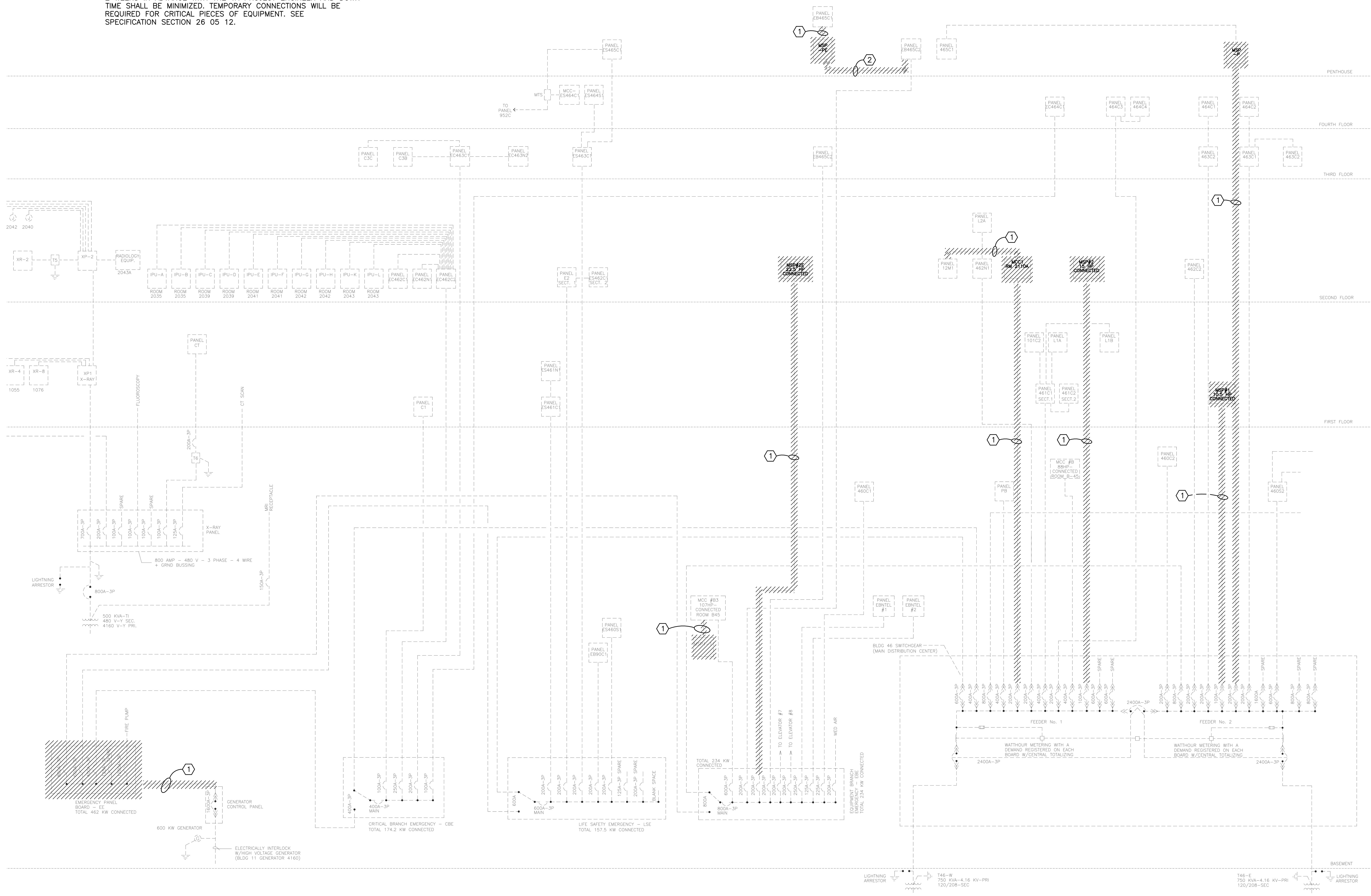
3. PHASING FOR ELECTRICAL OUTAGES TO BE COORDINATED AT LEAST 2 WEEKS IN ADVANCE WITH THE VA PROJECT ENGINEER AND DOWN TIME SHALL BE MINIMIZED. TEMPORARY CONNECTIONS WILL BE REQUIRED FOR CRITICAL PIECES OF EQUIPMENT. SEE SPECIFICATION SECTION 26 05 12.

PLAN NOTES:

(1) REMOVE EXISTING CONDUCTORS, CONDUIT TO REMAIN.

(2) REMOVE EXISTING CONDUIT AND CONDUCTORS.



1/E10 PARTIAL BUILDING 46 EXISTING ONE-LINE DIAGRAM
NO SCALE

Revisions	Date

Dept. of Veterans Affairs
Medical Center
2101 Elm Street North
Fargo, ND 58102

IMAGE GROUP

IMAGE GROUP INC.
403 CENTER AVENUE, SUITE 300
MOORHEAD, MN 56560

IMAGE GROUP INC., Architecture & Interiors
MBN ENGINEERING, Electrical Engineers

Drawing Title	BUILDING 46 EXISTING ONE-LINE DIAGRAM
VA Project No.	437-12-102
Contract No.	VA263-P-1217 / VA263-C-
Building No.	46
AutoCAD File Name	11-173 E10.DWG
Project Title	VA MEDICAL CENTER CORRECT IDENTIFIED ELECTRICAL SYSTEM ISSUES
Designed By	MB
Checked By	MB
Drawn By	TP
Location	VA MEDICAL CENTER FARGO, ND
Date	May 17, 2012
Scale:	AS SHOWN
Drawing No.	E10
Dwg.	11 of 13

Department of Veterans Affairs

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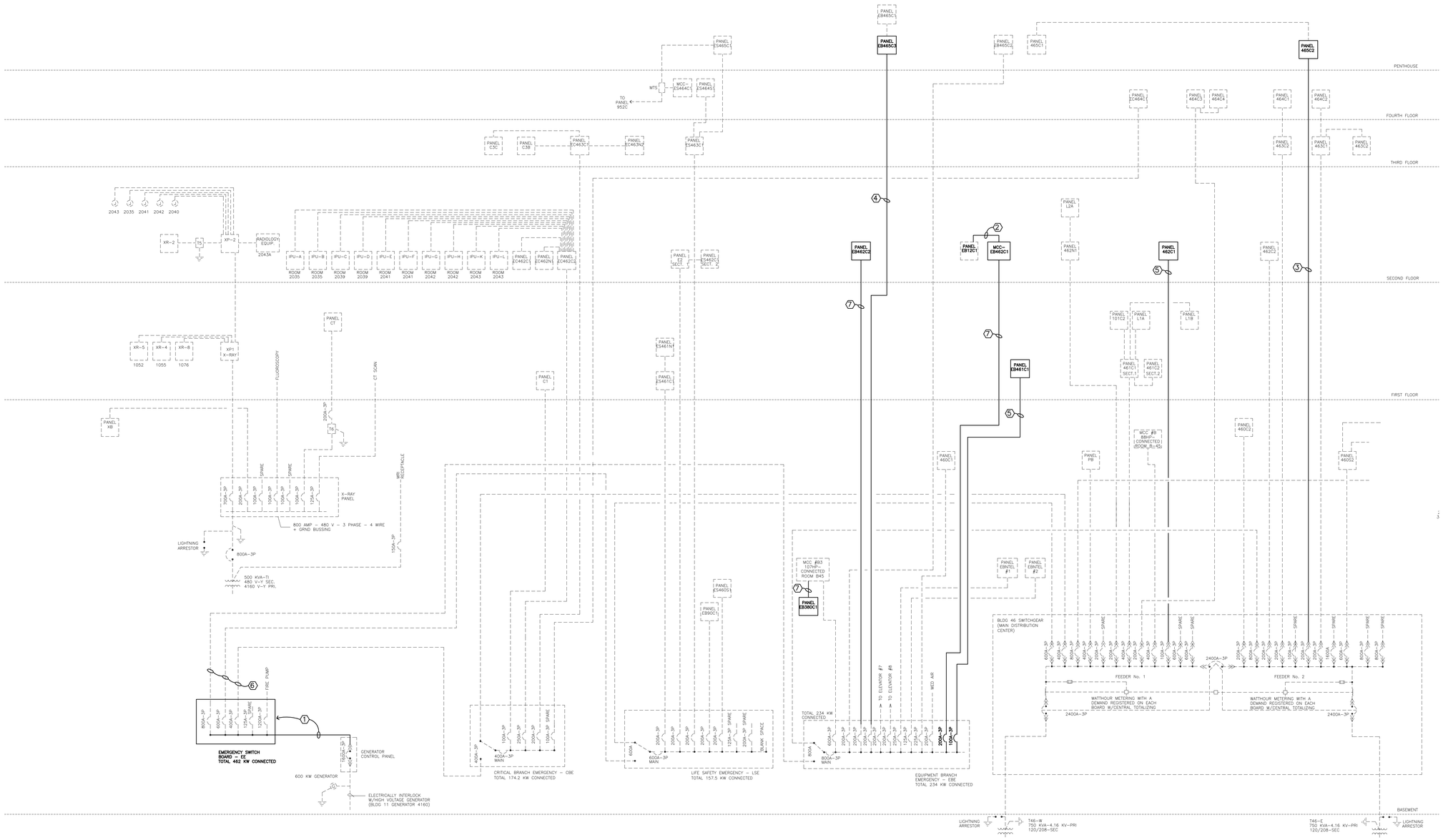
GENERAL PROJECT NOTES:

1. ALL WORK SHALL BE SCHEDULED WITH THE VA PROJECT ENGINEER IN ADVANCE. NO WORK MAY COMMENCE WITHOUT PERMISSION FROM THE VA PROJECT ENGINEER.
2. ALL WORK SHALL BE PHASED TO CREATE MINIMAL ELECTRICAL SERVICE DISRUPTION TO DAILY OPERATIONS OF THE HOSPITAL. BRANCH CIRCUIT SWITCH OVERS FROM NORMAL TO EMERGENCY POWER ON CRITICAL DEVICES Or EQUIPMENT WILL REQUIRE ADVANCE NOTICE AND OUTAGES WILL NEED TO OCCUR OUTSIDE NORMAL WORKING HOURS.
3. PHASING FOR ELECTRICAL OUTAGES TO BE COORDINATED AT LEAST 2 WEEKS IN ADVANCE WITH THE VA PROJECT ENGINEER AND DOWN TIME SHALL BE MINIMIZED. TEMPORARY CONNECTIONS WILL BE REQUIRED FOR CRITICAL PIECES OF EQUIPMENT. SEE SPECIFICATION SECTION 26 05 12.

PLAN NOTES:

1. PROVIDE NEW SWITCHBOARD 'EE' AND NEW FEEDER CONDUCTORS SIZED TO MATCH EXISTING AT 1600 AMPERES IN EXISTING CONDUIT.
2. PROVIDE NEW CONDUCTORS IN EXISTING CONDUIT, CONDUCTORS TO MATCH EXISTING.
3. 4#250kcmil+#4GROUND IN EXISTING CONDUIT.
4. 4#1/0+#6 GROUND IN NEW 2 INCH CONDUIT.
5. 4#2+#6 GROUND IN EXISTING CONDUIT.
6. RECONNECT FEEDERS TO NEW SWITCHBOARD.
7. 4#4/0+#6GROUND IN EXISTING CONDUIT.



1 / E11 BUILDING 46 REVISED ONE-LINE DIAGRAM
NO SCALE

Revisions	Date

Dept. of Veterans Affairs
Medical Center
2101 Elm Street North
Fargo, ND 58102

IMAGE GROUP
IMAGE GROUP INC.
403 CENTER AVENUE, SUITE 300
MOORHEAD, MN 56560

IMAGE GROUP INC., Architecture & Interiors
MBN ENGINEERING, Electrical Engineers

Drawing Title: BUILDING 46 REVISED ONE-LINE DIAGRAM		Project Title: VA MEDICAL CENTER CORRECT IDENTIFIED ELECTRICAL SYSTEM ISSUES	Date: May 17, 2012
			Scale: AS SHOWN
VA Project No.: 437-12-102	Contract No.: VA263-P-1217 / VA263-C-	Designed By: MB / Checked By: MB / Drawn By: TP	Drawing No.: E11
Building No.: 46	AutoCAD File Name: 11-173 E11.DWG	Location: VA MEDICAL CENTER FARGO, ND	Dwg. 12 of 13

Department of Veterans Affairs

J:\Projects\2011\11-173\Dwgs\11-173 E11.dwg May 16, 2012 - 4:02pm

GENERAL PROJECT NOTES:

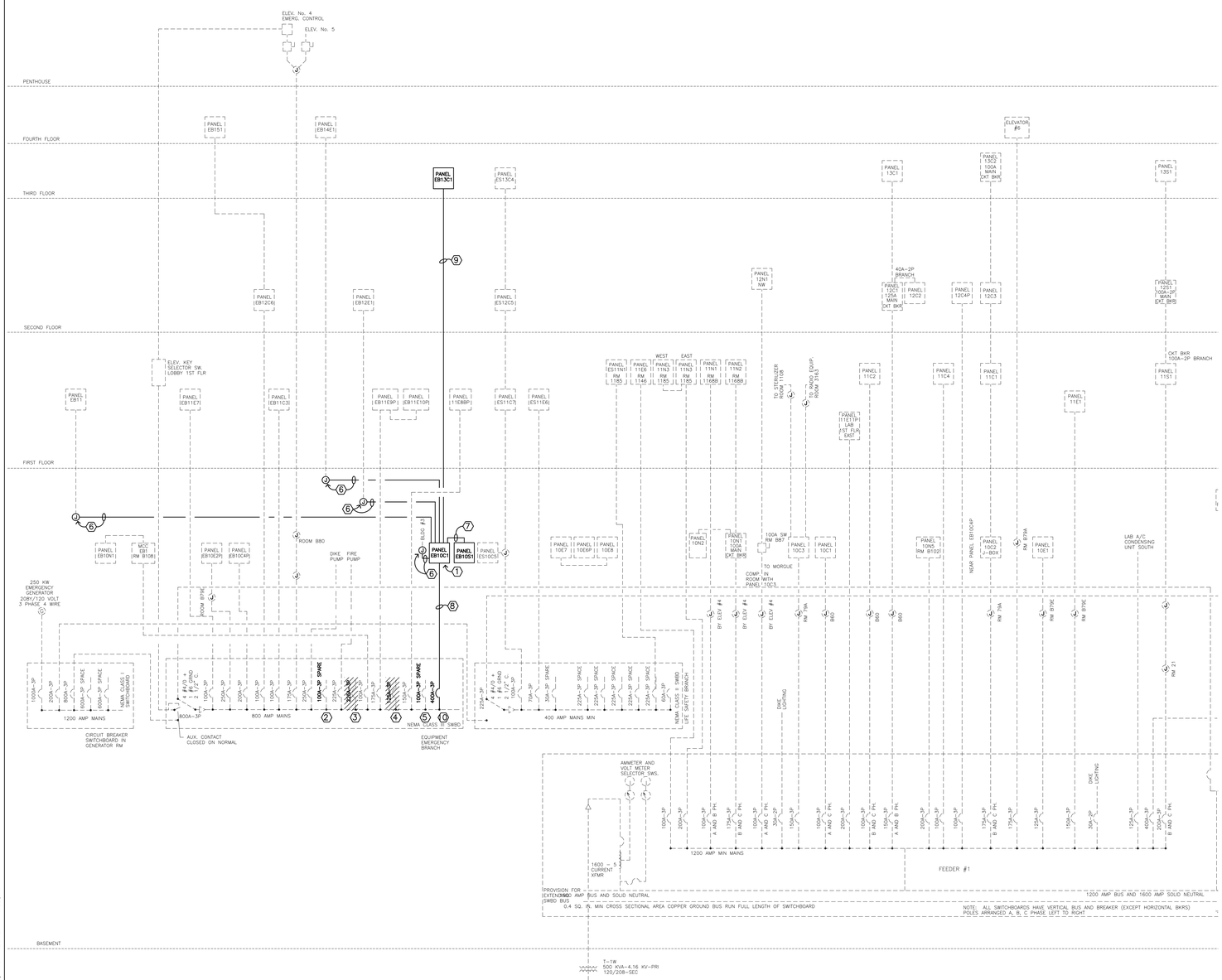
1. ALL WORK SHALL BE SCHEDULED WITH THE VA PROJECT ENGINEER IN ADVANCE. NO WORK MAY COMMENCE WITHOUT PERMISSION FROM THE VA PROJECT ENGINEER.
2. ALL WORK SHALL BE PHASED TO CREATE MINIMAL ELECTRICAL SERVICE DISRUPTION TO DAILY OPERATIONS OF THE HOSPITAL. BRANCH CIRCUIT SWITCH OVERS FROM NORMAL TO EMERGENCY POWER ON CRITICAL DEVICES OR EQUIPMENT WILL REQUIRE ADVANCE NOTICE AND OUTAGES WILL NEED TO OCCUR OUTSIDE OF NORMAL WORKING HOURS.
3. PHASING FOR ELECTRICAL OUTAGES TO BE COORDINATED AT LEAST 2 WEEKS IN ADVANCE WITH THE VA PROJECT ENGINEER AND DOWN TIME SHALL BE MINIMIZED. TEMPORARY CONNECTIONS WILL BE REQUIRED FOR CRITICAL PIECES OF EQUIPMENT. SEE SPECIFICATION SECTION 26 05 12.

PLAN NOTES:

1. NEW PANEL EB10C1 TO BE MOUNTED ON SIDE OF EXISTING BUILDING 1 EQUIPMENT BRANCH SWITCHGEAR, SEE 2/E12. SEE KEY PLAN AREA 'B' ON SHEET E2 FOR ROOM LOCATION.
2. 100/3 BREAKER PREVIOUSLY FED PANEL EB11 AND IS TO REMAIN AND BE USED AS A SPARE BREAKER.
3. 225/3 BREAKER PREVIOUSLY FED PANEL EB12E1 AND IS TO BE REMOVED FROM SWITCHGEAR TO MAKE ROOM FOR NEW 400/3 BREAKER TO FEED NEW PANEL EB10C1.
4. 125/3 BREAKER PREVIOUSLY FED PANEL EB14E1 AND IS TO BE REMOVED FROM SWITCHGEAR TO MAKE ROOM FOR NEW 400/3 BREAKER TO FEED NEW PANEL EB10C1.

PLAN NOTES (CONTINUED):

5. 100/3 BREAKER PREVIOUSLY FED BUILDING 3 AND IS TO REMAIN AND BE USED AS A SPARE BREAKER.
6. INTERCEPT EXISTING FEED IN SWITCHGEAR ROOM 78C. PROVIDE JUNCTION BOX AND CONNECT TO NEW PANEL EB10C1, MATCH EXISTING CONDUCTORS AND CONDUIT.
7. NEW 2 1/2 INCH CONDUIT WITH #4 4/0+#6GROUND.
8. NEW 4 INCH CONDUIT WITH 4#500kcmil + #3 GROUND.
9. NEW 2 INCH CONDUIT WITH 4# 1/0+#6GROUND.
10. PROVIDE NEW 400 AMP 3 POLE BREAKER.



1 E12 BUILDING 1 REVISED PARTIAL ONE-LINE DIAGRAM
NO SCALE

PANELBOARD LOAD SCHEDULE

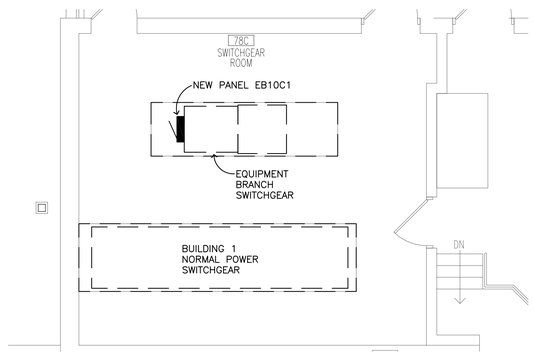
PANEL: EB10C1 | MAIN: MLO | ENCLOSURE: NEMA 1 | LOCATION: 78C
VOLTS: 208Y/120, 3 PH., 4W.
RATING: 400 AMP | AIC RATING: 50,000 | MOUNTING: SURFACE | FED FROM: B1 EB

CKT #	TRIP AMPS	POLE	LOAD IN VOLT-AMPERES: LIGHTING	RECPT	MOTORS	KITCHEN	HEAT/AC	LOAD DESCRIPTION	PH	LOAD DESCRIPTION	HEAT/AC	KITCHEN	MOTORS	RECPT	LIGHTING	TRIP AMPS	POLE	CKT #
1	200							EB10S1	A	EB14E1						125		2
3									B									4
5		3							C								3	6
7	100							BUILDING 3	A	EB12E1						225		8
9									B									10
11		3							C								3	12
13	100							EB11	A	EB13C1						100		14
15									B									16
17		3							C								3	18
19	100							SPARE	A	SPARE						70		20
21									B									22
23		3							C								3	24
25	50							SPARE	A	SPARE						50		26
27									B									28
29									C								3	30
31								SPACE	A	SPACE								32
33								SPACE	B	SPACE								34
35								SPACE	C	SPACE								36
37								SPACE	A	SPACE								38
39								SPACE	B	SPACE								40
41								SPACE	C	SPACE								42

LOAD CALCULATIONS

LOAD TYPE	VA / PHASE A	B	C	TOTAL VA	DEMAND FACTOR	DIVERSIFIED LOAD
LIGHTING	0	0	0	0	1.00	0
RECEPTACLES	0	0	0	0	0.50	0
MOTORS	0	0	0	0	0.90	0
KITCHEN EQUIP.	0	0	0	0	0.65	0
HEAT / AC	0	0	0	0	0.90	0
TOTAL AMPS:	0			TOTAL VA:		0

NOTES:



2 E12 SWITCHGEAR ROOM 78C
NO SCALE

Revisions	Date

Dept. of Veterans Affairs
Medical Center
2101 Elm Street North
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Date: May 17, 2012
Scale: AS SHOWN
VA Project No.: 437-12-102
Contract No.: VA263-P-1217 VA263-C-
Designed By: MB
Checked By: MB
Drawn By: TP
Building No.: 1
AutoCAD File Name: 11-173 E12.DWG
Location: VA MEDICAL CENTER FARGO, ND
Drawing No.: E12
Dwg. 13 of 13

Department of Veterans Affairs

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