LEGEND

SYMBOL	DESCRIPTION	MOUNTING HEIGHT
	LIGHTING	
5	DESIGNATES FIXTURE TYPE - SEE LIGHTING FIXTURE SCHEDULE	
5	ALL FIXTURES IN THIS SPACE SHALL BE THE SAME TYPE INDICATED	
	NORMAL BRANCH SURFACE OR RECESSED FLUORESCENT FIXTURE (TYPE DETERMINES MOUNTING)	
	CRITICAL OR EQUIPMENT BRANCH SURFACE OR RECESSED FLUORESCENT FIXTURE (TYPE DETERMINES MOUNTING)	
	LIFE-SAFETY BRANCH SURFACE OR RECESSED FLUORESCENT FIXTURE (TYPE DETERMINES MOUNTING)	
	NORMAL BRANCH SURFACE OR RECESSED FIXTURE (TYPE DETERMINES MOUNTING)	
	CRITICAL OR EQUIPMENT BRANCH SURFACE OR RECESSED FIXTURE (TYPE DETERMINES MOUNTING)	
	LIFE-SAFETY BRANCH SURFACE OR RECESSED FIXTURE (TYPE DETERMINES MOUNTING)	
	NORMAL BRANCH SURFACE OR SUSPENDED FLUORESCENT FIXTURE (TYPE DETERMINES MOUNTING)	
	CRITICAL OR EQUIPMENT BRANCH SURFACE OR SUSPENDED FLUORESCENT FIXTURE (TYPE DETERMINES MOUNTING)	
	LIFE-SAFETY BRANCH SURFACE OR SUSPENDED FLUORESCENT FIXTURE (TYPE DETERMINES MOUNTING)	
	NORMAL BRANCH WALL BRACKET FIXTURE	
	CRITICAL OR EQUIPMENT BRANCH WALL BRACKET FIXTURE	
	LIFE-SAFETY BRANCH WALL BRACKET FIXTURE	
	EXIT LIGHT, PROVIDE DIRECTIONAL ARROWS AS INDICATED ON PLANS	
	BATTERY POWERED EMERGENCY LIGHT	
	TRACK LIGHTING	
	GROUND AND POLE MOUNTED SITE FIXTURES	
	POWER - RECEPTACLES	
	120V. DUPLEX RECEPTACLE - IVORY (REFER TO RECEPTACLE ABBREVIATIONS FOR EXCEPTIONS)	1'-6" AFF TO CL.
	120V. DUPLEX RECEPTACLE - IVORY - SPECIAL MOUNTING HEIGHT (REFER TO RECEPTACLE ABBREVIATIONS FOR EXCEPTIONS)	AS NOTED OR SEE SPECS
	120V. QUADPLEX RECEPTACLE - IVORY (REFER TO RECEPTACLE ABBREVIATIONS FOR EXCEPTIONS)	1'-6" AFF TO CL.
	120V. QUADPLEX RECEPTACLE - IVORY - SPECIAL MOUNTING HEIGHT (REFER TO RECEPTACLE ABBREVIATIONS FOR EXCEPTIONS)	AS NOTED OR SEE SPECS
	120V. GFI RECEPTACLE - IVORY	1'-6" AFF TO CL.
	120V. GFI RECEPTACLE - IVORY (SPECIAL MOUNTING HEIGHT)	AS NOTED OR SEE SPECS
	120V. DUPLEX RECEPTACLE - CRITICAL, RED (REFER TO RECEPTACLE ABBREVIATIONS FOR EXCEPTIONS)	1'-6" AFF TO CL.
	120V. DUPLEX RECEPTACLE - CRITICAL, RED - SPECIAL MOUNTING HEIGHT (REFER TO RECEPTACLE ABBREVIATIONS FOR EXCEPTIONS)	AS NOTED OR SEE SPECS
	120V. QUADPLEX RECEPTACLE - CRITICAL, RED (REFER TO RECEPTACLE ABBREVIATIONS FOR EXCEPTIONS)	1'-6" AFF TO CL.
	120V. QUADPLEX RECEPTACLE - CRITICAL, RED - SPECIAL MOUNTING HEIGHT (REFER TO RECEPTACLE ABBREVIATIONS FOR EXCEPTIONS)	AS NOTED OR SEE SPECS
	120V. GFI RECEPTACLE - CRITICAL, RED	1'-6" AFF TO CL.
	120V. GFI RECEPTACLE - CRITICAL, RED (SPECIAL MOUNTING HEIGHT)	AS NOTED OR SEE SPECS
	SINGLE RECEPTACLE (TYPE AS NOTED ON PLANS) (REFER TO RECEPTACLE ABBREVIATIONS FOR EXCEPTIONS)	1'-6" AFF TO CL
	SINGLE RECEPTACLE- CRITICAL, RED- (TYPE AS NOTED ON PLANS) (REFER TO RECEPTACLE ABBREVIATIONS FOR EXCEPTIONS)	1'-6" AFF TO CL
	120V. QUADPLEX RECEPTACLE - IVORY - FLUSH TYPE FLOOR BOX (REFER TO RECEPTACLE ABBREVIATIONS FOR EXCEPTIONS)	
	120V. QUADPLEX RECEPTACLE - CRITICAL, RED - FLUSH TYPE FLOOR BOX (REFER TO RECEPTACLE ABBREVIATIONS FOR EXCEPTIONS)	
	SURFACE METAL RACEWAY	

SWITCHES

NORMAL	CRITICAL		
S	$	SINGLE POLE SWITCH	3'-10" AFF TO CL
S_2	$$_2$	DOUBLE POLE SWITCH - CENTER OFF	3'-10" AFF TO CL
S_3	$$_3$	THREE WAY SWITCH	3'-10" AFF TO CL
S_4	$$_4$	FOUR WAY SWITCH	3'-10" AFF TO CL
S_K	$$_K$	SINGLE POLE SWITCH	3'-10" AFF TO CL
S_D	$$_D$	DIMMER SWITCH	3'-10" AFF TO CL
S_V	$$_V$	VARIABLE INTENSITY CONTROL	3'-10" AFF TO CL
S_{IT}	$$_{IT}$	INTERVAL TIMER CONTROL SWITCH	3'-10" AFF TO CL
S_P	$$_P$	SINGLE POLE SWITCH WITH PILOT LIGHT	3'-10" AFF TO CL
S_{OC}	$$_{OC}$	OCCUPANCY SENSOR SWITCH	3'-10" AFF TO CL
S_J	$$_J$	JOG SWITCH	3'-10" AFF TO CL
S_M	$$_M$	MOTOR RATED SWITCH WITH THERMAL OVERLOAD	
		PUSH BUTTON SWITCH (MUSHROOM BUTTON)	3'-10" AFF TO CL

LEGEND

SYMBOL	DESCRIPTION	MOUNTING HEIGHT
	FIRE ALARM	
	FIRE ALARM VISUAL STATION - LIGHT ONLY	
	FIRE ALARM AUDIO DEVICE	
	FIRE ALARM AUDIO DEVICE WITH STROBE	
	FIRE ALARM HORN	
	FIRE ALARM HORN WITH STROBE	
FS	FIRE ALARM CEILING MOUNT SPEAKER	
F	FIRE ALARM MANUAL PULL STATION	
S	FIRE ALARM SMOKE DETECTOR	
H	HEAT DETECTOR	
	FIRE ALARM DUCT SMOKE DETECTOR SUBSCRIPT AS FOLLOWS: S=SUPPLY; R=RETURN	
	GAS DETECTOR	
	FLAME DETECTOR	
	BEAM DETECTOR SUBSCRIPT AS FOLLOWS: T=TRANSMITTER; R=RECEIVER	
CM	FIRE ALARM CONTROL MODULE	
MM	FIRE ALARM MONTIOR MODULE	
FS	FLOW SWITCH	
TS	TAMPER SWITCH	
F	FIREFIGHTER'S TELEPHONE JACK	
	MAGNETIC DOOR HOLDER	
RI	SMOKE DETECTOR REMOTE INDICATOR / TEST SWITCH	
FACP	FIRE ALARM CONTROL PANEL	
FAAP	FIRE ALARM ANNUNCIATOR PANEL	
FEP	FIRE ALARM EXTENDER PANEL	
DACT	FIRE ALARM DIALER	
SCPP	SMOKE CONTROL AND PRESSURE PANEL	
	MISCELLANEOUS	
	NON-FUSIBLE SAFETY SWITCH, SIZE AS NOTED (AMP RATING/POLES)	
	FUSIBLE SAFETY SWITCH, SIZE AS NOTED (AMP RATING/POLES)	
	COMBINATION MOTOR STARTER	
	FACTORY WIRED CONTROLLER OR EQUIPMENT	
X	MOTOR CONNECTION	
	DUCT HEATER CONNECTION	
J	JUNCTION BOX	
	PANELBOARD - FLUSH MOUNTED	
	PANELBOARD - SURFACE MOUNTED	
RX	X-RAY ISOLATION PANEL LINE ISOLATION MONITOR	AS NOTED
R	ISOLATION PANEL LINE ISOLATION MONITOR	AS NOTED
C	CLOCK, SINGLE FACE - CLOCK AND RECEPTACLE AS SPECIFIED	7'-0" AFF TO CL
C2	CLOCK, DOUBLE FACE - CLOCK AND RECEPTACLE AS SPECIFIED	7'-0" AFF TO CL
CIT	INTERVAL TIMER	7'-0" AFF TO CL
MGAP	MEDICAL GAS ALARM PANEL	
SP	SECURITY SYSTEM CONTROL PANEL	
DC	DOOR SWITCH MOUNTED IN DOOR JAMB	6'-6" TO CENTERLINE
DR	DOOR RELEASE PUSH BUTTON	
CR	CARD READER	
KP	ELECTRONIC KEY PAD	
DS	DOOR SWITCH (CONNECTED TO XRAY EQUIPMENT FOR SHUT-DOWN)	
PC	PHOTOCELL	
OS	OCCUPANCY SENSOR - CEILING MOUNT	
VFD	VARIABLE FREQUENCY DRIVE	

LEGEND

SYMBOL	DESCRIPTION	MOUNTING HEIGHT
	ABBREVIATIONS	
ABC	ABOVE COUNTER	
ADO	AUTOMATIC DOOR OPENER	
AFF	ABOVE FINISHED FLOOR	
AFG	ABOVE FINISHED GRADE	
C	CRITICAL BRANCH	
COF	COFFEE MACHINE	
CLG	CEILING	
EWB	ELECTRONIC WHITE BOARD	
EQ	EQUIPMENT SYSTEM	
EWC	ELECTRIC WATER COOLER	
FBO	FURNISHED BY OTHERS	
FI	FILM ILLUMINATOR (VIEW BOX)	
FLR	RECESSED FLUSH IN THE FLOOR	
ICE	ICE MACHINE/MAKER	
IG	ISOLATED GROUND	
LS	LIFE SAFETY BRANCH	
MW	MICROWAVE	
REF	REFRIGERATOR	
S	SAFETY TYPE	
SMH	SPECIAL MOUNTING HEIGHT - AS NOTED OR SEE SPECS	
TC	TIME CLOCK	
TV	TELEVISION	
UR	UNDERCOUNTER REFRIGERATOR	
WP	WEATHERPROOF	

	RACEWAY	
	CONDUIT & BRANCH CIRCUIT WIRING	
	BRANCH CIRCUIT RACEWAY CONCEALED IN OR BELOW FLOOR SLAB OR BELOW GRADE	
	FEEDER RACEWAY CONCEALED IN OR BELOW FLOOR SLAB OR BELOW GRADE	
	RACEWAY TURNING UP AS VIEWED FROM THE LOAD	
	RACEWAY TURNING DOWN AS VIEWED FROM THE LOAD	
	RACEWAY VERTICAL RISER WITH HORIZONTAL CONTINUATION AT TWO LEVELS SHOWN	
	CAPPED RACEWAY	
	CIRCUIT CONTINUATION	
	HOMERUN TO PANELBOARD - NUMBER OF ARROWHEADS INDICATES NUMBER OF #12 AWG PHASE CONDUCTORS. FOR MINIMUM CONDUIT REFER TO SPECIFICATION. NOTES: 1. #12 AWG NEUTRAL CONDUCTOR, ALTHOUGH NOT INDICATED, SHALL BE INCLUDED IN EACH RACEWAY UNLESS OTHERWISE NOTED. 2. #12 AWG GREEN GROUND CONDUCTOR, ALTHOUGH NOT INDICATED, SHALL BE INCLUDED IN EACH RACEWAY UNLESS OTHERWISE NOTED. 3. HOMERUNS TO PANELBOARDS SHALL HAVE A MAXIMUM OF THREE (3) PHASE CONDUCTORS (ONE PER PHASE) PLUS NEUTRAL AND GROUND CONDUCTORS IN EACH CONDUIT.	

SHEET INDEX

DRAWING NUMBER	DRAWING NAME
ES-001	ELECTRICAL LEGENDS, INDEX AND NOTES
ED-101	SECOND FLOOR DEMOLITON - ELECTRICAL
ES-201	SECOND FLOOR NEW - LIGHTING
ES-301	SECOND FLOOR NEW - POWER
ES-401	SECOND FLOOR NEW - FIRE ALARM
ES-501	SECOND FLOOR NEW - TECHNOLOGY
ES-601	ELECTRICAL DIAGRAMS
ES-701	ELECTRICAL ENLARGED PLANS

GENERAL ELECTRICAL CONSTRUCTION NOTES:

1. PROVIDE TYPED DIRECTORY CARDS UNDER PLASTIC DOORS OF BRANCH CIRCUIT PANELBOARDS. DIRECTORIES SHALL INDICATE DEVICES BEING SERVED INCLUDING SPACE NUMBERS IN WHICH DEVICES OR FIXTURES ARE LOCATED. SPACE NAMES AND NUMBERS SHALL MATCH THE GRAPHICS INSTALLED IF DIFFERENT FROM THE SPACE NAMES AND NUMBERS ON THE DRAWINGS.
2. ALL RECEPTACLES SHALL BE 20A HOSPITAL GRADE. ALL SWITCHES SHALL BE 20A QUIET TYPE.
3. REFER TO THE ELECTRICAL SPECIFICATIONS FOR ADDITIONAL DESIGN STANDARDS. THE ELECTRICAL SPECIFICATIONS ARE A BINDING PART OF THE CONSTRUCTION DOCUMENTS.
4. ALL SWITCHES AND RECEPTACLES (EMERGENCY AND NORMAL) SHALL BE PROVIDED WITH ENGRAVED FACEPLATES.
5. PROVIDE CODE COMPLIANT PENETRATIONS FOR ALL CONDUITS ENTERING/EXITING FIRE RATED WALLS. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS OF ALL FIRE RATED WALLS.
6. ALL PANELS SHALL HAVE HINGED COVERS.
7. REFER TO MECHANICAL PLANS FOR EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS, AS WELL AS MOTOR SIZE, VOLTAGE AND LOCATION. PROVIDE STARTER/BREAKER/WIRE/CONDUIT SIZE ETC... AS INDICATED ON MOTOR BRANCH CIRCUIT SCHEDULES LOCATED ON THIS SHEET.
8. REFER TO ARCHITECTURAL PLANS FOR RATED WALLS AND UL LISTED FIRE RATED DETAILS.
9. ALL ELECTRICAL SYSTEM RELOCATION AND SHUT-DOWNS THAT WILL INTERRUPT SERVICE TO OCCUPIED AREAS BEYOND THE LIMITS OF CONSTRUCTION SHALL BE COMPLETED START TO FINISH IN IMMEDIATE SUCCESSION TO LIMIT UN-OCCUPANCY. WORK IN NON-PATIENT ROOMS SHALL START AFTER NORMAL BUSINESS HOURS TO MINIMIZE DISRUPTIONS. COORDINATE SHUT-DOWN TIME WITH COTR. NOTIFY COTR (2) WEEKS IN ADVANCE OF ALL UTILITY INTERRUPTIONS.
10. CONTRACTOR SHALL X-RAY SCAN THE FLOOR AT ALL FLOOR PENETRATION LOCATIONS AND COMPARE THE EXISTING SLUSH-IN DRAWINGS TO VERIFY THERE ARE NO OBSTRUCTIONS PRIOR TO MAKING ANY PENETRATIONS.
11. CONTRACTOR IS TO FIRE STOP AND SEAL ALL FLOOR AND WALL PENETRATIONS AT THE END OF EACH WORK SHIFT. IF FIRE STOPPING CANNOT BE PERFORMED AT THE END OF THE WORK SHIFT, THE HOLE NEEDS TO BE STUFFED WITH MINERAL WOOL INSULATION, TAGGED WITH AN ORANGE ILSM TAG INDICATING: PROJECT NAME, PRIME CONTRACTOR NAME AND PHONE NUMBER, CONTRACTOR PERFORMING CORING, DATE HOLE IS MADE, AND DATE HOLE WILL BE FIRE STOPPED (MAXIMUM OF 30 DAYS LATER).
12. IN CASE OF CONFLICTS OR DISCREPANCIES WITHIN OR AMONG THE CONTRACT DRAWINGS, THE BETTER QUALITY, MORE STRINGENT REQUIREMENTS OR GREATER QUANTITY OF WORK, AS DETERMINED BY THE GOVERNMENT, SHALL BE PROVIDED.

ELECTRICAL DEMOLITION NOTES

1. WHERE COMPLETE CIRCUITS ARE DEMOLISHED, THE WIRING AND RACEWAY SHALL BE DEMOLISHED BACK TO THE BRANCH CIRCUIT PANELBOARD. THE DEMOLISHED CIRCUIT'S BREAKER SHALL BE LABELED AS "SPARE" ON THE PANEL SCHEDULE.
2. WIRING AND RACEWAY SHALL BE PROVIDED AS NECESSARY TO RE-ENERGIZE EXISTING OUTLETS TO REMAIN WHEN POWER TO SUCH OUTLETS IS INTERRUPTED DUE TO DEMOLITION OF OTHER DEVICES ON THE SAME CIRCUIT.
3. CONTRACTOR SHALL USE CARE IN REMOVING DEVICES AND FIXTURES AND SHALL MAKE THEM AVAILABLE TO THE OWNER FOR FUTURE USE. ALL DEVICES AND FIXTURES NOT RETAINED BY THE OWNER SHALL BE DISPOSED OF BY THE CONTRACTOR IN ACCORDANCE WITH THE OWNER'S INSTRUCTIONS.
4. ALL PENETRATIONS OF FIRE RATED PARTITIONS DUE TO THE REMOVAL OF ELECTRICAL SYSTEMS SHALL BE SEALED TO MAINTAIN THE FIRE RATING OF THE WALL.
5. ALL EXISTING DEVICES AND EQUIPMENT MAY NOT BE SHOWN ON PLANS. CONTRACTOR SHALL VISIT THE SITE BEFORE SUBMITTING BID TO OBSERVE EXISTING CONDITIONS.
6. ALL FIRE ALARM SYSTEM DEVICES REMOVED FROM AREAS TO BE RENOVATED SHALL BE SALVAGED AND RE-USED IN THE SAME AREAS.

95% SUBMISSION - NOT FOR CONSTRUCTION

Revisions:	Date

Stamp / Seal

THESE DOCUMENTS ARE FOR INTERIM REVIEW AND NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES.
DATE: 2.14.2013
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Drawing Title	ELECTRICAL LEGENDS, INDEX AND NOTES
Project Name	111 RENOVATE X-RAY 5
Location	CLEMENT J. ZABLOCKI VA MEDICAL CENTER MILWAUKEE, WI
Building Number	111
Checked	DGC
Drawn	RDS
Project Number	695-12-195
Date	02.14.13
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