



ADDENDUM #8

Project: Brighton Recovery Campus-Building B
Project No: 20160686

From: Jason Worthen
Date: April 12, 2016

DISCIPLINES

Mechanical Engineering
Electrical Engineering
Technology Design
Acoustical Engineering
Lighting Design
Theatre Design
Fire Protection Engineering
Building Commissioning

BUILDING B DRAWINGS

EP601 (see attached sheet)

1. Changed one-line diagram to shown the grounding electrode conductors for Building A as new.
2. Added grounding electrodes and grounding electrode conductors for the panels in buildings B, C, D, E and F.

CENTERS OF ENGINEERING EXCELLENCE

Healthcare
Higher Education
K-12 Education
Government
Houses of Worship
Special Projects

SALT LAKE CITY

324 S. State Street
Suite 400
Salt Lake City, UT 84111
phone: 801-328-5151
fax: 801-328-5155

PHOENIX

1501 W. Fountainhead Parkway
Suite 340
Tempe, AZ 85282
phone: 480-621-3444
fax: 480-621-3445

www.spectrum-engineers.com
800-678-7077

FAULT CURRENT TABLE

BUS	FAULT CURRENT
METER/CT	25,008 SCA
MDP	24,762 SCA
LA	23,147 SCA
LB	10,931 SCA
LC	7,729 SCA
LD	8,216 SCA
LE	7,572 SCA
LF	9,682 SCA

PROVIDE FULLY RATED CIRCUIT BREAKERS IN PANELBOARDS FOR THE FAULT CURRENT SHOWN. SERIES RATINGS WITH NEXT LEVEL UPSTREAM OVERCURRENT PROTECTIVE DEVICES ARE PERMITTED SUBJECT TO FACTORY UL DOCUMENTATION OF SERIES RATING SUBMITTED TO ENGINEER. IF DEVICE OR EQUIPMENT FAULT CURRENT RATING IS NOT SHOWN, ASSUME 100,000 AIC.

EQUIPMENT SCHEDULE

MARK	ITEM DESCRIPTION	LOAD DATA						WIRE AND CONDUIT SIZE	COND. AND CONDUIT SCHED.	OVERCURRENT PROTECTION		DISCONNECT		STARTER DATA										NOTES	MARK			
		HP	MVA	FLA	VOL.1	PH	14			FURN BY	DEVICE	LOCATION	FURN BY	DEVICE	LOCATION	FURN BY	DEVICE	LOCATION	SIZE	SPEED	CTRL. VOLT.	SELECTOR SWITCH	PUSH BUTTON			PILOT LAMP	NORMALLY OPEN CONTACTS	NORMALLY CLOSED CONTACTS
EUH-1	ELECTRIC UNIT HEATER WATER ENTRIES	3.3	20	15.88	208	1	60	2 #12 #12 GR 0.75" CND	1	E	20A/2P CB	PANEL	E	THERMAL SWITCH	ADJ TO EQUIP	E												EUH-1
EUH-2	ELECTRIC UNIT HEATER EXIT DOORS	2.0	12	9.6	208	1	60	2 #12 #12 GR 0.75" CND	1	E	20A/2P CB	PANEL	E	THERMAL SWITCH	ADJ TO EQUIP	E												EUH-2
EUH-3	ELECTRIC UNIT HEATER CUSTODIAN	1.5	9	7.2	208	1	60	2 #12 #12 GR 0.75" CND	1	E	20A/2P CB	PANEL	E	THERMAL SWITCH	ADJ TO EQUIP	E												EUH-3
EF-1	EXHAUST FAN PRIVATE UNIT BATHROOMS	.06			120	1	60	2 #12 #12 GR 0.75" CND	1	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ TO EQUIP	E												AC-1
EF-2	EXHAUST FAN PRIVATE UNIT BATHROOMS	.01			120	1	60	2 #12 #12 GR 0.75" CND	1	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ TO EQUIP	E												AC-1
GEF-1	EXHAUST FAN	2	9.5	7.5	208	3	60	3 #12 #12 GR 0.75" CND	2	E	20A/3P CB	PANEL	E	30A/3P FRN-10	ADJ TO EQUIP	E	FVNR	ADJ TO EQUIP	0	HOA		R.G	2	2				GEF-1
RTU-1	ROOF TOP UNIT BUILDING ROOFS		19.1		208	3	60	4 #8 #10 GR 1" CND	6	E	30A/3P CB	PANEL	E	30A/3P NON-FUSED	ADJ TO EQUIP	E											1	RTU-1
RTU-2	ROOF TOP UNIT BUILDING ROOFS		28.9		208	3	60	4 #8 #10 GR 1" CND	9	E	40A/3P CB	PANEL	E	50A/3P	ADJ TO EQUIP	E	FVNR	ADJ TO EQUIP									1	RTU-2
MAU-1	MAKE UP AIR UNIT	1.5		10.2	6.8	208	3	60	3 #12 #12 GR 0.75" CND	2	E	20A/3P CB	PANEL	E	30A/3P FRN-9	ADJ TO EQUIP	E	FVNR	ADJ TO EQUIP	60	HOA		R.G	2	2			MAU-1
DSS-1	SPLIT SYSTEM INDOOR UNIT			0.25	208	1	60	2 #12 #12 GR 0.75" CND	1	E	20A/3P CB	PANEL	E	30A/3P FRN-2	ADJ TO EQUIP	E												DSS-1
CU-1	SPLIT SYSTEM OUTDOOR UNIT		16	12.8	208	1	60	2 #12 #12 GR 0.75" CND	1	E	20A/3P CB	PANEL	E	30A/3P FRN-20	ADJ TO EQUIP	E												CU-1
DSS-2	SPLIT SYSTEM INDOOR UNIT			0.4	208	1	60	2 #12 #12 GR 0.75" CND	1	E	20A/3P CB	PANEL	E	30A/3P FRN-2	ADJ TO EQUIP	E												DSS-2
CU-2	SPLIT SYSTEM OUTDOOR UNIT		20	16	208	1	60	2 #10 #10 GR 0.75" CND	4	E	30A/3P CB	PANEL	E	30A/3P FRN-25	ADJ TO EQUIP	E												CU-2

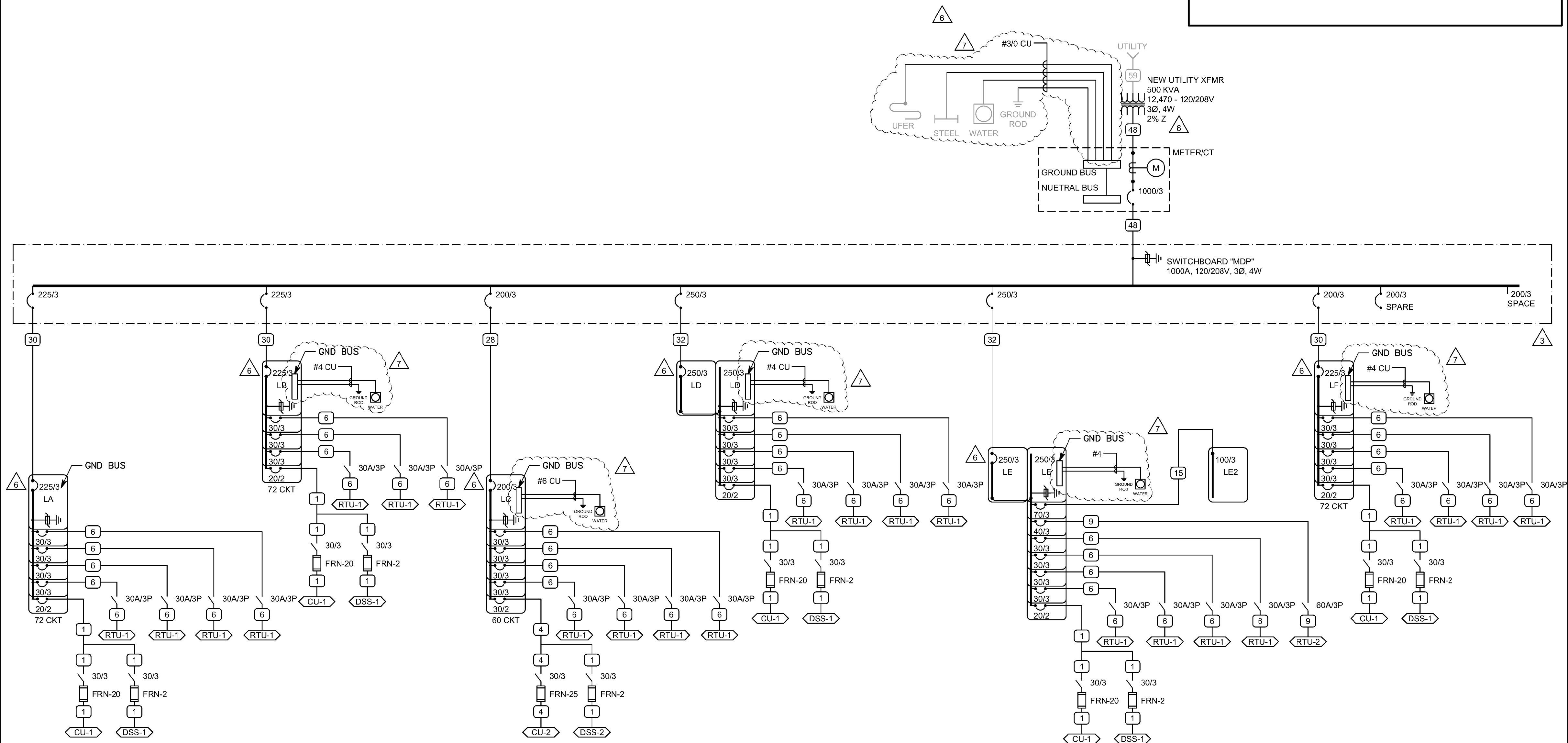
1 120V convenience outlet integral to unit.

EQUIPMENT SCHEDULE KEY

E	DIVISION 26
Q	FURNISHED WITH THE EQUIPMENT
*	COORDINATE WITH THE DIVISION 23 TEMPERATURE CONTROL INSTALLER
**	AUTOMATIC CONTROL WIRING BY DIVISION 23

GENERAL SHEET NOTES

- ALL OVERCURRENT PROTECTIVE DEVICES SHALL HAVE THE SAME AIC RATING AS THE PANEL OR GEAR THEY ARE LOCATED WITHIN.
- ALL ELECTRICAL EQUIPMENT SHALL BE FIELD MARKED WITH THE CALCULATED AVAILABLE FAULT CURRENT PER NEC 110.24(A).



COPPER CONDUCTOR AND CONDUIT SCHEDULE

SCHEDULE NUMBER (E.G.) 5 IG

SUBSCRIPT (NOTE 5)

SYM	AMP	CONDUIT SIZE	CONDUCTOR(NOTE 1)		QTY	SIZE	G	IG/HH	SBJ	NOTES
1	20	.75	2	12	12	12	8	2		
2	20	.75	3	12	12	12	8	2,3		
3	20	.75	4	12	12	12	8	2,3		
4	30	.75	2	10	10	10	8	2		
5	30	.75	3	10	10	10	8	2		
6	30	.75	4	10	10	10	8	2		
7	40	1	2	8	10	8	6	2		
8	40	1	3	8	10	8	6	2		
9	40	1	4	8	10	8	6	2		
10	55	1	2	6	10	8	4	2		
11	55	1	3	6	10	8	4	2		
12	55	1.25	4	6	10	8	4	2		
13	70	1	2	4	8	4	2	2		
14	70	1.25	3	4	8	4	2	2		
15	70	1.25	4	4	8	4	2	2		
16	85	1.25	2	3	8	3	2	2		
17	85	1.25	3	3	8	3	2	2		
18	85	1.25	4	3	8	3	2	2		
19	95	1.25	3	2	8	2	2	2		
20	95	1.50	4	2	8	2	2	2		
21	130	1.50	3	1	6	2	2	2		
22	130	1.50	4	1	6	2	2	2		
23	150	2	3	1/0	6	2	1/0	2		
24	150	2	4	1/0	6	2	1/0	2		
25	175	2	3	2/0	6	2	2/0	2		
26	175	2	4	2/0	6	2	2/0	2		
27	200	2	3	3/0	6	2	2/0	2		
28	200	2.50	4	3/0	6	2	2/0	2		
29	230	2.50	3	4/0	4	2	2/0	2		
30	230	2.50	4	4/0	4	2	2/0	2		
31	255	2.50	3	250	4	1	2/0	2		
32	255	2.50	4	250	4	1	2/0	2		
33	310	3	3	350	3	1/0	3/0	2		
34	310	3	4	350	3	1/0	3/0	2		
35	380	3.50	3	500	3	3/0	3/0	2		
36	380	4	4	500	3	3/0	3/0	2		
37	400	2 EA 2	3	3/0	3	3/0	3/0	2		
38	400	2 EA 2.50	4	3/0	3	3/0	3/0	2		
39	510	2 EA 2.50	3	250	1	4/0	3/0	2		
40	510	2 EA 3	4	250	1	4/0	3/0	2		
41	620	2 EA 3	3	350	1/0	4/0	3/0	2,4		
42	620	2 EA 3	4	350	1/0	4/0	3/0	2,4		
43	760	2 EA 3.50	3	500	1/0	4/0	3/0	2,4		
44	760	2 EA 4	4	500	1/0	4/0	3/0	2,4		
45	855	3 EA 3	3	300	2/0	4/0	3/0	2,4		
46	855	3 EA 3	4	300	2/0	4/0	3/0	2,4		
47	1000	3 EA 3.50	3	400	2/0	4/0	3/0	4		
48	1000	3 EA 3.50	4	400	2/0	4/0	3/0	4		
49	1140	3 EA 4	3	500	3/0	4/0	3/0	4		
50	1140	3 EA 4	4	500	3/0	4/0	3/0	4		
51	1240	4 EA 3	3	350	3/0	4/0	3/0	4		
52	1240	4 EA 3	4	350	3/0	4/0	3/0	4		
53	1675	5 EA 4	4	400	4/0	4/0	4/0	4		
54	2010	6 EA 4	4	400	250	250	250	4		
55	2660	7 EA 4	4	500	350	350	350	4		
56	3040	8 EA 4	4	500	500	500	500	4		
57	4180	11 EA 4	4	500	500	500	500	4		
58		5 EA 4						6		
59		5						6		
60		10 EA 4						6		

CONDUCTOR AND CONDUIT SCHEDULE NOTES

- CONDUCTORS SHOWN ARE SHOWN FOR EACH CONDUIT WITH MODIFICATIONS AS NOTED IN NOTE 5. ALL CONDUCTORS SHOWN ARE THWN UNLESS OTHERWISE NOTED.
- PROVIDE EQUIPMENT GROUND CONDUCTORS PER TABLE 250-122 WHEN CIRCUIT BREAKERS ARE SIZED GREATER THAN AMPERE RATING SHOWN IN TABLE.
- PROVIDE #10 NEUTRALS FOR MULTI-WIRE BRANCH CIRCUITS SERVING COMPUTERS.
- GROUND CONDUCTOR SHALL BE OMITTED BETWEEN THE UTILITY TRANSFORMER AND THE FIRST OVERCURRENT PROTECTIVE DEVICE.
- SYMBOL SUBSCRIPTS:
 - "2N": INCLUDE TWO NEUTRAL CONDUCTORS, SIZED AS SCHEDULED FOR PHASED AND NEUTRAL CONDUCTORS.
 - "FG": FULL SIZE GROUND, SIZE EQUIPMENT GROUNDING CONDUCTOR TO BE THE SAME SIZE AS THE PHASE CONDUCTORS.
 - "HH": NEUTRAL CURRENTS EXIST DUE TO HIGH HARMONIC "NONLINEAR" LOADS. CURRENT CARRYING CONDUCTORS DERATED ACCORDINGLY. PROVIDE THE IG/HH SIZE FOR THE EQUIPMENT GROUNDING CONDUCTOR.
 - "IG": INCLUDE IG (INSULATED/ISOLATED GROUND CONDUCTOR) SCHEDULED ALONG WITH GROUND OF EQUIPMENT GROUND CONDUCTOR.
 - "SBJ": SUBSTITUTE "SBJ" CONDUCTOR FOR "G" CONDUCTOR SHOWN, WHICH IS SIZED FOR THE SYSTEM BONDING JUMPER OF THE SEPARATELY DERIVED SYSTEM.
- RACEWAY ONLY. CONDUCTORS PROVIDED BY UTILITY.

Donald L. Welch
Architect
7533 Sandy Land Lane
Midvale, Utah 84047
801.346.6391
dwelch5977@msn.com

THE DESIGNS SHOWN AND DESCRIBED HEREIN INCLUDING ALL TECHNICAL DRAWINGS, GRAPHIC REPRESENTATION & MODELS THEREOF, ARE PROPRIETARY & CAN NOT BE COPIED, DUPLICATED, OR COMMERCIALY EXPLOITED IN WHOLE OR IN PART WITHOUT THE SOLE AND EXPRESS WRITTEN PERMISSION FROM DONALD L. WELCH ARCHITECT

THESE DRAWINGS ARE AVAILABLE FOR LIMITED REVIEW AND EVALUATION BY CLIENTS CONSULTANTS, CONTRACTORS, GOVERNMENT AGENCIES, VENDORS, AND OFFICE PERSONNEL ONLY IN ACCORDANCE WITH THIS NOTICE.

consultant:



project:

**Tenant Finish
for New
Brighton
Recovery
Campus**
4905, 4911, 4915, 4925,
4931, & 4953 South 900
East
Salt Lake County, Utah

date

January 04, 2017

revisions

- PERMIT SET-December 28, 2016
- ADDENDUM #2-January 06, 2017
- ADDENDUM #3-January 11, 2017
- ADDENDUM #4-January 17, 2017
- ADDENDUM #5-January 19, 2017
- ADDENDUM #7-March 20, 2017
- ADDENDUM #8-April 12, 2017

data

project no:

drawn by:

checked by:

title

ONE LINE
DIAGRAM

sheet

EP601