PANELBOARD: ELEV-1A

SERVICE: 208/120V, 3PH, 4W + GND

BUS SIZE: 60A | LOAD: | NOTES: CIRCUIT BREAKER PANEL

MAIN DEVICE: 60A | CONN 3.0 kVA | DEM. 3.0 kVA | DEM. 8.3 Amps

CKT #	TRIP/ POLE	Floor Serving	CIRCUIT DESCRIPTION	CONNECTED LOAD (VA) PHASE A		PHASE B		PHASE C		CIRCUIT DESCRIPTION	Floor Serving	TRIP/ POLE	CKT #
1	20/1		ELEV. #112 CAB LIGHTS	250	1,000					ELEV. #112 CONTROLLER		20/1	2
3	20/1		ELEV. MACH RM REC.			180	528			CUH-1.1		20/1	4
5	20/1		ELEV. RM SECURITY					500	528	EF-1.4		20/1	6
7	20/1		SPARE	0	0					SPARE		20/1	8
9	20/1		SPARE			0	0			SPARE		20/1	10
11	20/1		SPARE					0	0	SPARE		20/1	12
13	20/1		SPARE	0	0					SPARE		20/1	14
15	20/1		SPARE			0	0			SPARE		20/1	16
17	20/1		SPARE					0	0	SPARE		20/1	18
TOTAL CONNECTED LOADS:				250	1,000	180	528	500	528				

PANELBOARD: ELEV-1B

SERVICE: 208/120V, 3PH, 4W + GND

BUS SIZE: 60A | LOAD: | NOTES: CIRCUIT BREAKER PANEL

MAIN DEVICE: 60A | CONN 2.9 kVA | DEM. 2.9 kVA | DEM. 8.2 Amps

CKT #	TRIP/ POLE	Floor Serving	CIRCUIT DESCRIPTION	CONNECTED LOAD (VA) PHASE A		PHASE B		PHASE C		CIRCUIT DESCRIPTION	Floor Serving	TRIP/ POLE	CKT #
1	20/1		ELEV. #124 CAB LIGHTS	250	1,000					ELEV. #124 CONTROLLER		20/1	2
3	20/1		ELEV. MACH RM REC.			180	336						4
5	20/1		ELEV. RM SECURITY					500	336	AC-1.2		15/3	6
7	20/1		SPARE	0	336								8
9	20/1		SPARE			0	0			SPARE		20/1	10
11	20/1		SPARE					0	0	SPARE		20/1	12
13	20/1		SPARE	0	0					SPARE		20/1	14
15	20/1		SPARE			0	0			SPARE		20/1	16
17	20/1		SPARE					0	0	SPARE		20/1	18
TOTAL CONNECTED LOADS:				250	1,336	180	336	500	336				

PANELBOARD: ELEV-1C

SERVICE: 208/120V, 3PH, 4W + GND

BUS SIZE: 60A | LOAD: | NOTES: CIRCUIT BREAKER PANEL

MAIN DEVICE: 60A | CONN 2.9 kVA | DEM. 2.9 kVA | DEM. 8.2 Amps

CKT #	TRIP/ POLE	Floor Serving	CIRCUIT DESCRIPTION	CONNECTED LOAD (VA) PHASE A		PHASE B		PHASE C		CIRCUIT DESCRIPTION	Floor Serving	TRIP/ POLE	CKT #
1	20/1		ELEV. #105 CAB LIGHTS	250	1,000					ELEV. #105 CONTROLLER		20/1	2
3	20/1		ELEV. MACH RM REC.			180	336						4
5	20/1		ELEV. RM SECURITY					500	336	AC-1.1		15/3	6
7	20/1		SPARE	0	336								8
9	20/1		SPARE			0	0			SPARE		20/1	10
11	20/1		SPARE					0	0	SPARE		20/1	12
13	20/1		SPARE	0	0					SPARE		20/1	14
15	20/1		SPARE			0	0			SPARE		20/1	16
17	20/1		SPARE					0	0	SPARE		20/1	18
TOTAL CONNECTED LOADS:				250	1,336	180	336	500	336				

PANELBOARD: EPP-1D

SERVICE: 208/120V, 3PH, 4W + GND

BUS SIZE: 100A | LOAD: | NOTES: PLUG FUSE PANEL

MAIN DEVICE: 100A | CONN 3.6 kVA | DEM. 3.6 kVA | DEM. 10.0 Amps

CKT #	TRIP/ POLE		CIRCUIT DESCRIPTION	CONNECTED LOAD (VA) PHASE A		PHASE B		PHASE C		CIRCUIT DESCRIPTION		TRIP/ POLE	CKT #
1	20/1		FIRE BELL	500	400					ACCESS CNTRL-FLR 1		20/1	2
3	20/1		ACCESS CNRL-FLR 1			400	400			ACCESS CNTRL-FLR 1		20/1	4
5	20/1		ACCESS CNRL-FLR 1					400	300	ACCESS CNTRL-FLR 2		20/1	6
7	20/1		ACCESS CNRL-FLR 2	400	300					ACCESS CNTRL-FLR 2		20/1	8
9	20/1		ACCESS CNRL-FLR 2			400				SPARE		20/1	10
11	20/1		SPARE						100	ACCESS CNTRL-FLR 3		20/1	12
13	20/1		SPARE							SPARE		20/1	14
15	20/1		SPARE							SPARE		20/1	16
17	20/1		SPARE							SPARE		20/1	18
19	20/1		SPARE							SPARE		20/1	20
21	20/1		SPARE							SPARE		20/1	22
23	20/1		SPARE							SPARE		20/1	24
25	20/1		SPARE							SPARE		20/1	26
27	20/1		SPARE							SPARE		20/1	28
29	20/1		SPARE							SPARE		20/1	30
31	20/1		SPARE							SPARE		20/1	32
33	20/1		SPARE							SPARE		20/1	34
35	20/1		SPARE							SPARE		20/1	36
37	20/1		SPARE							SPARE		20/1	38
39	20/1		SPARE							SPARE		20/1	40
41	20/1		SPARE							SPARE		20/1	42
TOTAL CONNECTED LOADS:				900	700	800	400	400	400				

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PANELBOARD: ERP-1A - PNL W/TVSS, 200% NEUTRAL & ISO GRD

SERVICE: 208/120V, 3PH, 4W + GND

BUS SIZE: 200A | LOAD: | NOTES: CIRCUIT BREAKER PANEL

MAIN DEVICE: 200A | CONN 6.0 kVA | DEM. 6.0 kVA | DEM. 16.7 Amps | 1-PROVIDE EMON METER FOR CIRCUIT

CKT #	TRIP/ POLE	NOTES	CIRCUIT DESCRIPTION	CONNECTED LOAD (VA) PHASE A		PHASE B		PHASE C		CIRCUIT DESCRIPTION		TRIP/ POLE	CKT #
1	20/1		REC-XRAY PODIUM	750	500					FIRE BELL		20/1	2
3	20/1		REC-CASHIER			250	0			SPARE		20/1	4
5	20/1		SPARE					0	0	SPARE		20/1	6
7	20/1		SPARE	0	0					SPARE		20/1	8
9	20/1		REC COMP-OFFICE			250	0			SPARE		20/1	10
11	20/1		REC-INTERVIEW					250	0	SPARE		20/1	12
13	20/1		REC-ADIT RM	250	0					SPARE		20/1	14
15	20/1		REC-INTERVIEW			250	250			REC-OFFICE		20/1	16
17	20/1		REC-ROVER					250	500	REC-SEC XRAY		20/1	18
19	20/1		REC-ROVER	250	500					REC-SEC XRAY		20/1	20
21	20/1		REC-ROVER			250	0			SPARE		20/1	22
23	20/1		REC-ROVER					250	0	SPARE		20/1	24
25	20/1		REC-ROVER	250	0					SPARE		20/1	26
27	20/1		REC-ROVER			250	0			SPARE		20/1	28
29	20/1		REC-ROVER					250	0	SPARE		20/1	30
31	20/1		REC-ROVER	250	0					SPARE		20/1	32
33	20/1		REC-ROVER			250	0			SPARE		20/1	34
35	20/1		SPARE					0	0	SPARE		20/1	36
37	20/1		SPARE	0	0								38
39	20/1		SPARE			0	0			TVSS		60/3	40
41	20/1		SPARE					0	0				42
TOTAL CONNECTED LOADS:				1,750	1,000	1,500	250	1,000	500				

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PANELBOARD: ERP-1B - PNL W/TVSS, 200% NEUTRAL & ISO GRD

SERVICE: 208/120V, 3PH, 4W + GND

BUS SIZE: 200A | LOAD: | NOTES: CIRCUIT BREAKER PANEL

MAIN DEVICE: 200A | CONN 11.9 kVA | DEM. 11.9 kVA | DEM. 32.9 Amps

CKT #	TRIP/ POLE	NOTES	CIRCUIT DESCRIPTION	CONNECTED LOAD (VA) PHASE A		PHASE B		PHASE C		CIRCUIT DESCRIPTION		TRIP/ POLE	CKT #
1	20/1		REC OFFICE	250	250					REC-COMM. RM		20/1	2
3	20/1		REC-CLG DUPLEX			500	250			REC-COMM. RM		20/1	4
5	20/1		REC-CLG DUPLEX					500	250	REC-COMM. RM		20/1	6
7	20/1		SPARE	0	250					REC-COMM. RM		20/1	8
9	20/1		REC-OFFICE			250	250			REC-COMM. RM		20/1	10
11	20/1		REC-OPS					500	250	REC-COMM. RM		20/1	12
13	20/1		REC-RAC 1	750	250					REC-COMM. RM		20/1	14
15	20/1		REC-RAC 2			750	250			REC-COMM. RM		20/1	16
17	20/1		REC-RAC 3					750	0	SPARE		20/1	18
19	20/1		BAG VIEW STAT.	500	0					SPARE		20/1	20
21	20/1		FIELD DATA RECORD			500	180			REC-RAC 4		20/1	22
23	20/1		REC-CLG DUPLEX					500	180	REC-RAC 5		20/1	24
25	20/1		REC-CLG DUPLEX	500	500					REC-EDT WRKSTAT.		20/1	26
27	20/1		REC-CLG DUPLEX			500	250			REC-EDT WRKSTAT.		20/1	28
29	20/1		REC-CLG DUPLEX					500	0	SPARE		20/1	30
31	20/1		REC-CLG DUPLEX	500	0					SPARE		20/1	32
33	20/1		REC-CLG DUPLEX			500	0			SPARE		20/1	34
35	20/1		REC-CLG DUPLEX					500	0	SPARE		20/1	36
37	20/1		SPARE	0	0								38
39	20/1		SPARE			0	0			TVSS		60/3	40
41	20/1		SPARE					0	0				42
TOTAL CONNECTED LOADS:				2,500	1,250	3,000	1,180	3,250	680				

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PANELBOARD: ERP-1C - PNL W/TVSS, 200% NEUTRAL & ISO GRD

SERVICE: 208/120V, 3PH, 4W + GND

BUS SIZE: 200A | LOAD: | NOTES: CIRCUIT BREAKER PANEL

MAIN DEVICE: 200A | CONN 22.1 kVA | DEM. 22.1 kVA | DEM. 61.4 Amps | 1-PROVIDE EMON METER FOR CIRCUIT

CKT #	TRIP/ POLE	NOTES	CIRCUIT DESCRIPTION	CONNECTED LOAD (VA) PHASE A		PHASE B		PHASE C		CIRCUIT DESCRIPTION		TRIP/ POLE	CKT #
1	30/2		SPARE	0	2,400					EDS MACH.	1	30/2	2
3						0	2,400						4
5	30/2	1	EDS MACH.					2,400	250	REC-CHECK IN CNTR		20/1	6
7				2,400	250					REC-CHECK IN CNTR		20/1	8
9	20/1		SPARE			0	250			REC-CHECK IN CNTR		20/1	10
11	20/1		SPARE					0	250	REC-CHECK IN CNTR		20/1	12
13	20/1		REC-OFFICE	750	250					REC-CHECK IN CNTR		20/1	14
15	20/1		REC-OPS			750	250			REC-CHECK IN CNTR		20/1	16
17	20/1		REC-OPS					500	250	REC-CHECK IN CNTR		20/1	18
19	20/1		REC-OFFICE	750	1,000					REC-CHECK IN		20/1	20
21	20/1		REC-OPS			500	1,000			REC-CHECK IN		20/1	22
23	20/1		REC-OPS					500	1,000	REC-CHECK IN		20/1	24
25	20/1		REC-OPS	500	500					REC-ATM MACH.		20/1	26
27	20/1		REC-OPS			500	250			REC-CHECK IN CNTR		20/1	28
29	20/1		REC-OPS					500	0	SPARE		20/1	30
31	20/1		REC-OPS	500	0					SPARE		20/1	32
33	20/1		REC-OPS			500	0			SPARE		20/1	34
35	20/1		REC-OFFICE					750	0	SPARE		20/1	36
37	20/1		SPARE	0	0								38
39	20/1		SPARE			0	0			TVSS		60/3	40
41	20/1		SPARE					0	0				42
TOTAL CONNECTED LOADS:				4,900	4,400	2,250	4,150	4,650	1,750				

PANELBOARD: EMLP-1A

SERVICE: 480/277V, 3PH, 4W + GND

BUS SIZE: 200A | LOAD: | NOTES:

MAIN DEVICE: 150A | CONN 23.1 kVA | DEM. 23.1 kVA | DEM. 27.8 Amps | FUSE PANEL

CKT #	TRIP/ POLE		CIRCUIT DESCRIPTION	CONNECTED LOAD (VA) PHASE A		PHASE B		PHASE C		CIRCUIT DESCRIPTION		TRIP/ POLE	CKT #
1	20/1		EXIT SIGNS - 1ST FLR	366	186					EXIT SIGNS - 3RD FLR		20/1	2
3	20/1		EM LTG-RAMP/TUNNEL			1,740	2,364			EM LTG - 3RD FLR		20/1	4
5	20/1		EM LTG-EXTERIOR					560		SPARE		20/1	6
7	20/1		EM LTG-FLR 1 WEST	3,197						SPARE		20/1	8
9	20/1		EM LTG-FLR 1 EAST			1,587				SPARE		20/1	10
11	20/1		EXIT SIGNS - 2ND FLR					324		SPARE		20/1	12
13	20/1		EM LTG-FLR 2 NORTH	2,295						SPARE		20/1	14
15	20/1		EM LTG-FLR 2 MIDDLE			3,166				SPARE		20/1	16
17	20/1		EM LTG-FLR 2 SOUTH					3,225		SPARE		20/1	18
19	20/1		SPARE							SPARE		20/1	20
21	20/1		SPARE							SPARE		20/1	22
23	20/1		SPARE							SPARE		20/1	24
25	20/1		SPARE							SPARE		20/1	26
27	20/1		SPARE							SPARE		20/1	28
29	20/1		SPARE							SPARE		20/1	30
31	20/1		SPARE							SPARE		20/1	32
33	20/1		SPARE							SPARE		20/1	34
35	20/1		SPARE							SPARE		20/1	36
37	20/1		SPARE	0	1,620								38
39	20/1		SPARE			0	1,190			XMFR "ET-1A"	60A S/50AF		40
41	20/1		SPARE					0	1,260		3P		42
TOTAL CONNECTED LOADS:				5,858	1,806	6,493	3,554	4,109	1,260				

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PANELBOARD: ERP-1D - PNL W/TVSS, 200% NEUTRAL & ISO GRD

SERVICE: 208/120V, 3PH, 4W + GND

BUS SIZE: 200A | LOAD: | NOTES: CIRCUIT BREAKER PANEL

MAIN DEVICE: 200A | CONN 11.5 kVA | DEM. 11.5 kVA | DEM. 31.9 Amps

CKT #	TRIP/ POLE	NOTES	CIRCUIT DESCRIPTION	CONNECTED LOAD (VA) PHASE A		PHASE B		PHASE C		CIRCUIT DESCRIPTION		TRIP/ POLE	CKT #
1	20/1		REC-CLG TWISTLK	500	1,000					REC-UPS		30/2	2
3	20/1		REC-CLG TWISTLK			500	1,000						4
5	20/1		REC-CLG TWISTLK					500	1,000	REC-UPS		30/2	6
7	20/1		REC-CLG TWISTLK	500	1,000								8
9	20/1		REC-CLG TWISTLK			500	1,000			REC-UPS		30/2	10
11	20/1		REC-CLG TWISTLK					500	1,000				12
13	20/1		REC-CLG TWISTLK	500	1,000					REC-UPS		30/2	14
15	20/1		REC-CLG TWISTLK			500	0						16
17	20/1		REC-CLG TWISTLK					500	0	SPARE		20/1	18
19	20/1		SPARE	0	0					SPARE		20/1	20
21	20/1		SPARE			0	0			SPARE		20/1	22
23	20/1		SPARE					0	0	SPARE		20/1	24
25	20/1		SPARE	0	0					SPARE		20/1	26
27	20/1		SPARE			0	0			SPARE		20/1	28
29	20/1		SPARE					0	0	SPARE		20/1	30
31	20/1		SPARE	0	0					SPARE		20/1	32
33	20/1		SPARE			0	0			SPARE		20/1	34
35	20/1		SPARE					0	0	SPARE		20/1	36
37	20/1		SPARE	0	0								38
39	20/1		SPARE			0	0			TVSS		60/3	40
41	20/1		SPARE					0	0				42
TOTAL CONNECTED LOADS:				1,500	3,000	1,500	2,000	1,500	2,000				

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4525 Airport Approach Rd, Ste A
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218-722-1227 Fax: 218-722-1052
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DULUTH INTERNATIONAL AIRPORT DULUTH, MN

NEW PASSENGER TERMINAL

CONSULTANTS

Interior Architects:
SJA ARCHITECTS
11 E Superior Street Se 340, Duluth MN 55802
TEL: (218) 724-8578 / FAX: (218) 724-8717

Structural Engineers:
MBJ CONSULTING ENG.
501 Lake Avenue South, Suite 300, Duluth MN 55802
TEL: (218) 722-1056 / FAX: (218) 722-9306

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1 South Wacker Drive, 37th Floor, Chicago IL 60606
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Landscaping Consultants:
APPOLD DESIGN
2432 East First Street, Duluth MN 55812
TEL: (218) 591-5079

ENGINEER CERTIFICATION

I hereby certify that the engineerinhg plans, specifications or report was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: Douglas C. Mass

Signature:

Date: 08/16/10 Reg. No.: 21067

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM 1	6.11.10
	CONFORMANCE SET	7.12.10
3	PERMIT REVISIONS	7.23.10
	BUILDING PERMIT	8.16.10
	100% REVIEW	12.17.10
	BID PACKAGE 2A	1.24.11
1	BP2A ADDENDUM 2	2.25.11

DATE ISSUED: 02-25-11
REVIEWED BY: XXX
DRAWN BY: JK
DESIGNED BY: JK

AEP PROJECT NUMBER
213-1882-091

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SHEET TITLE
PANEL SCHEDULES

SHEET NUMBER
E407

BID PACKAGE 2A
ADDENDUM 2