NOTIFICATION APPLIANCE CIRCUIT VOLTAGE DROP & POWER REQUIREMENTS

76L – AV6 CKT DESCRIPTION	QTY	CURRENT PER ITEM (AMPS)	TOTAL CURRENT PER ITEM
WHEELOCK STROBE 15 cd	–	0.5010	0.0000
WHEELOCK HORN/STROBE 15cd	–	0.0000	0.0000
WHEELOCK STROBE 30 cd	–	0.0300	0.0000
WHEELOCK HORN/STROBE 30 cd	–	0.0450	0.0000
WHEELOCK STROBE 75 cd	–	0.1650	0.0000
WHEELOCK HORN/STROBE 75 cd	–	0.1100	0.0000
WHEELOCK STROBE 110 cd	1	0.2200	0.2200
WHEELOCK HORN/STROBE 110 cd	–	0.1750	0.0000
WHEELOCK HORN	1	0.0870	0.0870
AUTOCALL BELL	1	0.0500	0.0500
AUTOCALL BELL/STORBE 75 cd	–	0.0215	0.0000
TOTAL NOTIFICATION APPLIANCES CURRENT			0.4070

VOLTAGE DROP (VD) CALCULATIONS

VD = {(I) (D) (21.6)}/CM
WHERE: I = CIRCUIT CURRENT
D = CONDUCTOR LENGTH (FT) ONE WAY
21.6 = CONSTANT
CM = WIRE CROSS-SECTIONAL AREA (CIRCULAR MILS)

VD = {(0.407 A) (150 FT) (21.64)}/4110 = 0.321 V

%VD = {0.321 V / 24V} X 100 = 1.337 %

REMAINING VOLTS = 23.679

WIRE SIZE	CIRCULAR MILS
12AWG	6530
14AWG	4110
16AWG	2580
18AWG	1620
20AWG	1020

NOTIFICATION APPLIANCE CIRCUIT VOLTAGE DROP & POWER REQUIREMENTS

CKT AV4: 76 1ST FLR DESCRIPTION	QTY	CURRENT PER ITEM (AMPS)	TOTAL CURRENT PER ITEM
WHEELOCK STROBE 15 cd	–	0.5010	0.0000
WHEELOCK HORN/STROBE 15cd	–	0.0000	0.0000
WHEELOCK STROBE 30 cd	–	0.0300	0.0000
WHEELOCK HORN/STROBE 30 cd	–	0.0450	0.0000
WHEELOCK STROBE 75 cd	–	0.1650	0.0000
WHEELOCK HORN/STROBE 75 cd	–	0.1100	0.0000
WHEELOCK STROBE 110 cd	4	0.2200	0.8800
WHEELOCK HORN/STROBE 110 cd	–	0.1750	0.0000
WHEELOCK HORN	5	0.0870	0.4350
AUTOCALL BELL	–	0.0500	0.0000
TOTAL NOTIFICATION APPLIANCES CURRENT			1.3150

VOLTAGE DROP (VD) CALCULATIONS

VD = {(I) (D) (21.6)}/CM
WHERE: I = CIRCUIT CURRENT
D = CONDUCTOR LENGTH (FT) ONE WAY
21.6 = CONSTANT
CM = WIRE CROSS-SECTIONAL AREA (CIRCULAR MILS)

VD = {(1.315 A) (240 FT) (21.64)}/4110 = 1.659 V

%VD = {1.659 V / 24V} X 100 = 6.911 %

REMAINING VOLTS = 22.341

WIRE SIZE	CIRCULAR MILS
12AWG	6530
14AWG	4110
16AWG	2580
18AWG	1620
20AWG	1020

NOTIFICATION APPLIANCE CIRCUIT VOLTAGE DROP & POWER REQUIREMENTS

CKT AV5: 78 & 76K DESCRIPTION	QTY	CURRENT PER ITEM (AMPS)	TOTAL CURRENT PER ITEM
WHEELOCK STROBE 15 cd	–	0.5010	0.0000
WHEELOCK HORN/STROBE 15cd	–	0.0000	0.0000
WHEELOCK STROBE 30 cd	–	0.0300	0.0000
WHEELOCK HORN/STROBE 30 cd	–	0.0450	0.0000
WHEELOCK STROBE 75 cd	–	0.1650	0.0000
WHEELOCK HORN/STROBE 75 cd	–	0.1100	0.0000
WHEELOCK STROBE 110 cd	5	0.2200	1.1000
WHEELOCK HORN/STROBE 110 cd	–	0.1750	0.0000
WHEELOCK HORN	5	0.0870	0.435
AUTOCALL BELL	1	0.0500	0.0500
AUTOCALL BELL/STROBE 75 cd	–	0.2150	0.0000
TOTAL NOTIFICATION APPLIANCES CURRENT			1.5850

VOLTAGE DROP (VD) CALCULATIONS

VD = {(I) (D) (21.6)}/CM
WHERE: I = CIRCUIT CURRENT
D = CONDUCTOR LENGTH (FT) ONE WAY
21.6 = CONSTANT
CM = WIRE CROSS-SECTIONAL AREA (CIRCULAR MILS)

VD = {(1.585 A) (285 FT) (21.64)}/4110 = 2.374 V

%VD = {2.374 V / 24V} X 100 = 9.892 %

REMAINING VOLTS = 21.626

WIRE SIZE	CIRCULAR MILS
12AWG	6530
14AWG	4110
16AWG	2580
18AWG	1620
20AWG	1020

PROFESSIONAL SEAL (IF REVISION, APPLIES ONLY TO REVISED WORK)

ISSUE (PROGRESS, ESTIMATE, BID, CONSTRUCTION, CONFORMED, REVISION, RECORD)

AS BUILT
–
–
10/21/13

REVISION NUMBER	DRAWN BY	CHECKED BY	APPR'D BY	DATE	REMARKS
–	LDD	LDD	MCD	10/21/13	AS BUILT

BLDG 76 FIRE ALARM
76 TRAILERS, 78
CALCULATIONS

UNIVERSITY OF CALIFORNIA
LAWRENCE BERKELEY NATIONAL LABORATORY
FACILITIES DIVISION

		DATE
DRAWN BY	LDD	10/21/2013
CHECKED BY	LDD	10/21/2013
APPROVED BY	MCD	10/21/2013
SCALE	AS NOTED	
DRAWING NO.	4B76E090_	SHEET FA
PROJECT NO.	000000	2 OF 2