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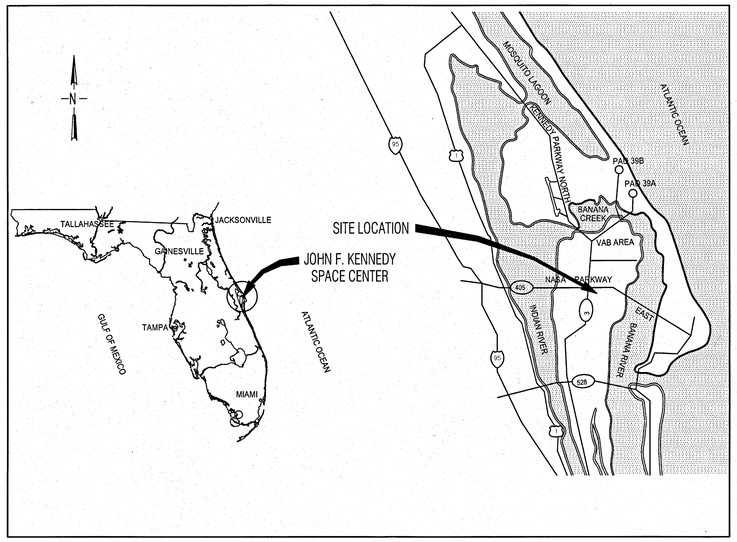

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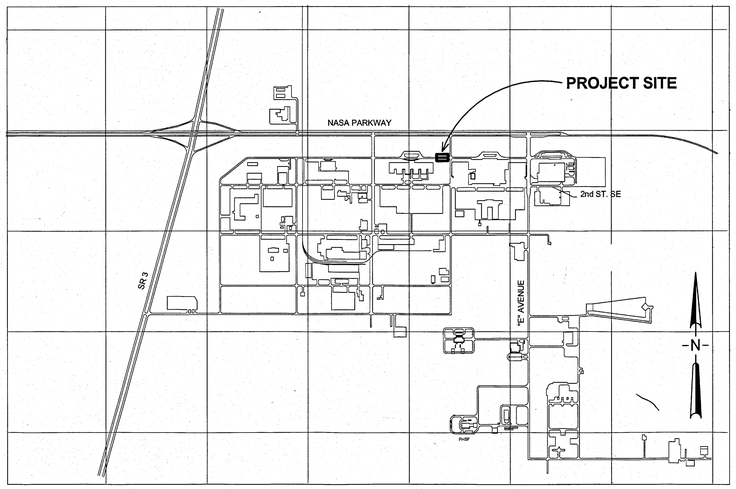

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163	W113	SIGNAGE LOCATION FLOOR PLAN - 1ST LEVEL AREA 3	■
164	W121	SIGNAGE LOCATION FLOOR PLAN - 2ND LEVEL AREA 1	■
165	W131	SIGNAGE LOCATION FLOOR PLAN - 3RD LEVEL AREA 1	■
166	W141	SIGNAGE LOCATION FLOOR PLAN - 4TH LEVEL AREA 1	■
167	W151	SIGNAGE LOCATION FLOOR PLAN - 5TH LEVEL AREA 1	■
168	W161	SIGNAGE LOCATION FLOOR PLAN - 6TH LEVEL AREA 1	■
169	W171	SIGNAGE LOCATION FLOOR PLAN - 7TH LEVEL AREA 1	■
170	W181	SIGNAGE LOCATION ROOF PLAN	■
171	W204	EXTERIOR BUILDING MOUNTED SIGNAGE	■
172	W301	SIGNAGE DETAILS	■
173	W302	SIGNAGE DETAILS	■
174	W303	SIGNAGE DETAILS	■
175	W304	SIGNAGE DETAILS	■
176	W305	SIGNAGE DETAILS	■
177	W306	SIGNAGE DETAILS	■
178	W307	SIGNAGE DETAILS	■

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

DRAWING INDEX VOL. 4

FILE NO. C-12070.00 | SIZE F | DWG. NO. 79K39622 VOL 4
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SINGLE-LINE DIAGRAM SYMBOLS

- FA — FIRE ALARM
- 3 PHASE, 3 WIRE DELTA
- 3 PHASE, WYE GROUNDED
- EARTH GROUND
- FUSE
- XP, XXX/XXX — FUSE DISCONNECT SWITCH, SIZE AS INDICATED
  XXX/XX = SWITCH SIZE/FUSE SIZE (AMPS)
  XP = NUMBER OF POLES
- XP, XXX/- — NON-FUSED DISCONNECT SWITCH, SIZE AS INDICATED
  XXX/- = SWITCH SIZE/NO FUSE(S)
  XP = NUMBER OF POLES
- MOTOR
- Y, X — COMBINATION MOTOR STARTER
  X=HOA OR SS
  Y=STARTER SIZE
- LCX — LIGHTING CONTROL CONTACTOR
  X = CONTACTOR NUMBER
- CONTACTS
- S — CIRCUIT BREAKER WITH SHUNT TRIP
- XX, Y — LIGHTNING ARRESTOR
  XX = SIZE (KV)
  Y = NO. OF ARRESTORS
- TRANSFORMER, SIZE AND TYPE AS INDICATED
- TRANSFORMER, SHIELDED, SIZE AND TYPE AS INDICATED
- XP, XXX/XXX — DRAW OUT TYPE CIRCUIT BREAKER
  XXX/XX = FRAME SIZE/TRIP SETTING
  XP = NUMBER OF POLES
- XP, XXX/XXX — THERMAL MAGNETIC CIRCUIT BREAKER
  XXX/XX = FRAME SIZE/TRIP SETTING
  XP = NUMBER OF POLES
- 15KV LOAD BREAK SWITCH

EQUIPMENT AND WIRING

- DISTRIBUTION PANELBOARD - SURFACE MOUNTED
- NORMAL POWER BRANCH PANELBOARD - SURFACE MOUNTED
- NORMAL POWER BRANCH PANELBOARD - FLUSH MOUNTED
- EMERGENCY/STANDBY POWER BRANCH PANELBOARD - SURFACE MOUNTED
- UPS POWER BRANCH PANELBOARD - SURFACE MOUNTED
- CB — CIRCUIT BREAKER ENCLOSURE
- MOTOR CONTROL CENTER
- T — TRANSFORMER
- XXX/- XP — NON-FUSED DISCONNECT SWITCH
  XXX/- = SWITCH SIZE/NO FUSE(S)
  XP = NO. OF POLES
- XXX/XXX XP — FUSED DISCONNECT SWITCH
  XXX/- = SWITCH SIZE/FUSE SIZE (AMPS)
  XP = NO. OF POLES
- B — BREAKER DISCONNECT SWITCH
- MAGNETIC MOTOR STARTER
- COMBINATION MOTOR STARTER
- M — MANUAL MOTOR STARTER WITH OVERLOAD PROTECTION
- NAC — FIRE ALARM NOTIFICATION APPLIANCE CABINET (REFER TO FIRE ALARM DRAWINGS)
- MOTOR CONNECTION
- J — JUNCTION BOX, CEILING OR WALL MOUNTED
- LIGHTNING PROTECTION AIR TERMINAL
- GROUND ROD CONNECTION
- GROUND ROD CONNECTION WITH TEST WELL
- NEW WORK CONNECTION TO EXISTING WORK
- G — UNDERGROUND GROUND CONDUCTOR
- L — LIGHTNING PROTECTION CONDUCTOR
- WIRING CONCEALED IN CEILING OR WALLS
- WIRING CONCEALED IN FLOOR OR UNDERGROUND
- A (XX) — HOMERUN
  PANEL A, CIRCUIT XX
  WIRING IS (2) #12, (1)#12G IN 3/4"C UNO

RECEPTACLES

- DUPLEX RECEPTACLE, NEMA 5-20R, 120V, 20A, 60Hz, 1PH, 3W, 2P
- EMERGENCY DUPLEX RECEPTACLE, NEMA 5-20R, 120V, 20A, 60Hz, 1PH, 3W, 2P
- DOUBLE DUPLEX RECEPTACLE, (2) NEMA 5-20R, 120V, 20A, 60Hz, 1PH, 3W, 2P
- DUPLEX RECEPTACLE, MOUNTED ABOVE CASEWORK OR 2" ABOVE BACKSPLASH - NEMA 5-20R, 120V, 20A, 60Hz, 1PH, 3W, 2P
- DUPLEX RECEPTACLE, FLOOR MOUNTED - NEMA 5-20R, 120V, 20A, 60Hz, 1PH, 3W, 2P
- DUPLEX RECEPTACLE, CEILING MOUNTED - NEMA 5-20R, 120V, 20A, 60Hz, 1PH, 3W, 2P
- POWER OUTLET (CONNECTOR TYPE AS NOTED)
- EMERGENCY POWER OUTLET (CONNECTOR TYPE AS NOTED)
- FIXED EQUIPMENT CONNECTION
- EMERGENCY FIXED EQUIPMENT CONNECTION

LIGHTING

TYPE — CIRCUIT — SWITCH

- 2x4 RECESSED GRID MOUNTED FLUORESCENT BASKET FIXTURE MOUNTING LOCATION: CEILING
- 1x4 RECESSED GRID MOUNTED FLUORESCENT BASKET FIXTURE MOUNTING LOCATION: CEILING
- 2x4 RECESSED GRID MOUNTED FLUORESCENT FIXTURE MOUNTING LOCATION: CEILING
- 2x2 RECESSED GRID MOUNTED FLUORESCENT FIXTURE MOUNTING LOCATION: CEILING
- PENDANT MOUNTED FLUORESCENT LIGHT FIXTURE MOUNTING LOCATION: CEILING
- RECESS MOUNTED COMPACT FLUORESCENT/LED DOWNLIGHT, MOUNTING LOCATION: CEILING
- 4 FT SURFACE MOUNTED LINEAR FLUORESCENT MOUNTING LOCATION: WALL
- 2 FT SURFACE MOUNTED LINEAR FLUORESCENT MOUNTING LOCATION: WALL
- EMERGENCY 2x4 RECESSED GRID MOUNTED FLUORESCENT BASKET FIXTURE, MOUNTING LOCATION: CEILING
- EMERGENCY 1x4 RECESSED GRID MOUNTED FLUORESCENT BASKET FIXTURE, MOUNTING LOCATION: CEILING
- EMERGENCY 2x4 RECESSED GRID MOUNTED FLUORESCENT FIXTURE, MOUNTING LOCATION: CEILING
- EMERGENCY 2x2 RECESSED GRID MOUNTED FLUORESCENT FIXTURE, MOUNTING LOCATION: CEILING
- EMERGENCY PENDANT MOUNTED FLUORESCENT LIGHT FIXTURE, MOUNTING LOCATION: CEILING
- EMERGENCY RECESS MOUNTED COMPACT FLUORESCENT/LED DOWNLIGHT, MOUNTING LOCATION: CEILING
- EMERGENCY 4 FT SURFACE MOUNTED LINEAR FLUORESCENT MOUNTING LOCATION: WALL
- EMERGENCY 2 FT SURFACE MOUNTED LINEAR FLUORESCENT MOUNTING LOCATION: WALL
- SURFACE MOUNTED COMPACT FLUORESCENT/LED MOUNTING LOCATION: WALL
- POLE FIXTURE, ONE HEAD
- OUTDOOR WALL PACK FIXTURE WALL MOUNTED
- EMERGENCY OUTDOOR WALL PACK FIXTURE WALL MOUNTED
- EXIT LIGHT, SINGLE OR DOUBLE FACE

SWITCHES

- PC — PHOTO CELL
- RC — LIGHTING ROOM CONTROLLER
- EC — EMERGENCY LIGHTING CONTROLLER
- a — SINGLE POLE SWITCH
  a = SWITCH DESIGNATION
- 3 — THREE WAY SWITCH
- 4 — FOUR WAY SWITCH
- ET — EMERGENCY LIGHTING TEST SWITCH
- D — DIMMER SWITCH
- S PIR — OCCUPANCY SENSOR - WALL MOUNTED
  MOUNTING HEIGHT: 7'-6" AFF, UNO
  PIR = PASSIVE INFRARED
  U = ULTRASONIC
  DT = DUAL TECHNOLOGY
- S PIR — OCCUPANCY SENSOR - CEILING MOUNTED
  PIR = PASSIVE INFRARED
  U = ULTRASONIC
  DT = DUAL TECHNOLOGY
- S AL — AMBIENT LIGHT SENSOR

ABBREVIATIONS

A	- AMPERES
AC	- ALTERNATING CURRENT
AF	- AMPERE FRAME
AFF	- ABOVE FINISHED FLOOR
AHU	- AIR HANDLING UNIT
AIC	- AMP INTERRUPTING CAPACITY
ALT	- ALTERNATE
AT	- AMPERE TRIP
ATS	- AUTOMATIC TRANSFER SWITCH
AWG	- AMERICAN WIRE GUAGE
BC	- BARE COPPER
BLDG	- BUILDING
BRKR	- BREAKER
C	- CONDUIT
CB	- CIRCUIT BREAKER
CKT	- CIRCUIT
CLNG	- CEILING
CORR	- CORRIDOR
CR	- CONTROL RELAY
CT	- CURRENT TRANSFORMER
DC	- DIRECT CURRENT
DIA	- DIAMETER
DISC	- DISCONNECT
DN	- DOWN
EDB	- ELECTRIC DUCT BANK
EF	- EXHAUST FAN
EG	- EQUIPMENT GROUND
EGS	- ENGINE GENERATOR SET
ELEC	- ELECTRIC/ELECTRICAL
EMER	- EMERGENCY
EMT	- ELECTRICAL METALLIC TUBING
EQUIP	- EQUIPMENT
EWC	- ELECTRIC WATER COOLER
FA	- FIRE ALARM
FAA	- FIRE ALARM ANNUNCIATOR PANEL
FACP	- FIRE ALARM CONTROL PANEL
FCU	- FAN COIL UNIT
FDR	- FEEDER
FIXT	- FIXTURE
FLA	- FULL LOAD AMPERES
FLEX	- FLEXIBLE
FLR	- FLOOR
FP	- FIRE PUMP
FS	- FLOW SWITCH
FT	- FEET
FVNR	- FULL VOLTAGE NON-REVERSING
GFCI	- GROUND FAULT CIRCUIT INTERRUPTER
GFP	- GROUND FAULT PROTECTION
GND	- GROUND
GEN	- GENERATOR
GFI	- GROUND FAULT INTERRUPTER
GRC	- GALVANIZED RIGID CONDUIT
HH	- HANDHOLE
HOA	- HAND OFF AUTOMATIC
HP	- HORSEPOWER
HV	- HIGH VOLTAGE
IMC	- INTERMEDIATE METAL CONDUIT
JB	- JUNCTION BOX
JP	- JOCKEY PUMP
KV	- KILOVOLT
KVA	- KILOVOLT-AMPERES
KW	- KILOWATTS
LSIG	- LONG-TIME, SHORT-TIME, INSTANTANEOUS, GROUND FAULT
LTG	- LIGHTING
LTS	- LTS
LV	- LOW VOLTAGE
MCB	- MAIN CIRCUIT BREAKER
MCC	- MOTOR CONTROL CENTER
MCP	- MOTOR CIRCUIT PROTECTION
MDP	- MAIN DISTRIBUTION PANEL
MLO	- MAIN LUGS ONLY
MH	- MANHOLE
MTD	- MOUNTED
MTG	- MOUNTING
MTR	- MOTOR
NA	- NOT APPLICABLE
NC	- NORMALLY CLOSED
NEU	- NEUTRAL
NIC	- NOT IN CONTRACT
NO	- NORMALLY OPEN
NTS	- NOT TO SCALE
OC	- ON CENTER
P	- POLE
PB	- PULL BOX/PUSH BUTTON
PC	- PHOTOCELL
PH	- PHASE
PNL	- PANEL
PT	- POTENTIAL TRANSFORMER
PWR	- POWER
REC	- RECEPTACLE
RECEP	- RECEPTACLE
SHT	- SHEET
SIG	- SIGNAL
SPD	- SURGE PROTECTION DEVICE
SPEC	- SPECIFICATION
STA	- STATION
STR	- STARTER
SW	- SWITCH
SWBD	- SWITCHBOARD
SWGR	- SWITCHGEAR
TGB	- TELECOMMUNICATIONS GROUNDING BUSBAR
TMGB	- TELECOMMUNICATIONS MAIN GROUNDING BUSBAR
TS	- TAMPER SWITCH
TV	- TELEVISION
TYP	- TYPICAL
UC	- UNDER COUNTER
UG	- UNDERGROUND
UNO	- UNLESS NOTED OTHERWISE
UPS	- UNINTERRUPTED POWER SUPPLY
V	- VOLTAGE
VFD	- VARIABLE FREQUENCY DRIVE
W	- WIRE
WP	- WEATHERPROOF
WT	- WATER TIGHT
XFMR	- TRANSFORMER

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

ELECTRICAL SYMBOLS & ABBREVIATIONS

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GENERAL NOTES:

1. LIGHT FIXTURES ON EMERGENCY CIRCUITS TO BE 120V INSTEAD OF 277V. PROVIDE PROPER BALLAST AS NECESSARY.

LIGHTING FIXTURE SCHEDULE

FIXTURE SYMBOL	TYPE	DESCRIPTION	MANUFACTURER	MODEL	LAMP QTY	LAMP TYPE	LAMP WATTS	VOLTS	BALLAST QTY	BALLAST TYPE	MOUNTING TYPE	OPTION L-4 LED ALTERNATES MANUFACTURER	MODEL	LAMP QTY	LAMP TYPE	LAMP WATTS	VOLTS
	C1	4.5" SQUARE APERTURE RECESSED COMPACT FLUORESCENT SQUARE DOWNLIGHT; GALVANIZED STEEL FRAME HOUSING; SPUN ALUMINUM UPPER REFLECTOR; HIGH REFLECTANCE WHITE POWDER COAT FINISH; SPUN ALUMINUM TRIM; SELF-FLANGED; CLEAR DIFFUSE FINISH; HORIZONTAL 1-LAMP CROSS SECTION; COMPATIBLE WITH SPECIALTY CEILING (ARMSTRONG TECHZONE OR SIMILAR)	FOCAL POINT PHILIPS OMEGA	FC44FT SERIES OM4-1H SERIES	1	26TRT 41K	26	277	1	PROGRAM START	RECESSED	FOCAL POINT	FL6D SERIES	1	13LED 40K	20	277
	C2	6" APERTURE RECESSED COMPACT FLUORESCENT DOWNLIGHT; GALVANIZED STEEL FRAME HOUSING; SPUN ALUMINUM UPPER REFLECTOR; HIGH REFLECTANCE WHITE POWDER COAT FINISH; SPUN ALUMINUM TRIM; SELF-FLANGED; CLEAR DIFFUSE FINISH; HORIZONTAL 1-LAMP CROSS SECTION; TOTAL EFFICIENCY 58% OR BETTER	FOCAL POINT PHILIPS OMEGA	FC6D SERIES OM6-1H SERIES	1	32TRT 41K	32	277	1	PROGRAM START	RECESSED	FOCAL POINT	FC6D SERIES	1	20LED 40K	31	277
	C2C	SAME AS TYPE C2, EXCEPT WITH CUSTOM COLOR AS SELECTED BY ARCHITECT	FOCAL POINT PHILIPS OMEGA	FC6D SERIES OM6-1H SERIES	1	32TRT 41K	32	277	1	PROGRAM START	RECESSED	FOCAL POINT	FC6D SERIES	1	20LED 40K	31	277
	C2D	SAME AS TYPE C2, EXCEPT WITH DIMMING BALLAST	FOCAL POINT PHILIPS OMEGA	FC6D SERIES OM6-1H SERIES	1	32TRT 41K	32	277	1	DIMMING	RECESSED	FOCAL POINT	FC6D SERIES	1	20LED 40K	31	277
	C3	6" APERTURE RECESSED COMPACT FLUORESCENT SHOWER DOWNLIGHT; GALVANIZED STEEL FRAME HOUSING; ALUMINUM CLEAR UPPER REFLECTOR; WHITE SPLAY FRESNEL LENS; HORIZONTAL 1-LAMP CROSS SECTION; UL LISTED WET LOCATION	LITHONIA PHILIPS LIGHTOLIER	LF6N SERIES	1	26TRT 41K	26	UNV	1	PROGRAM START	RECESSED						
	C4	FLEXIBLE FLUORESCENT STRIPLIGHT; 3.6"W x 4.5"H; EXTRUDED HIGH-GRADE ALLOY ALUMINUM HOUSING; HIGH-REFLECTANCE WHITE POWDER COAT FINISH; FLEXIBLE JOINERS BETWEEN LAMP MODULES; LAMP SPACING 8" ON CENTER, OVERLAP LAMPS; LENGTHS PER PLAN.	BARTCO CELESTIAL LIGHTING ELECTRIX	BC137 SERIES VIRGO BXOX 18 SERIES MX-18-FM SERIES	1	18W 2G11	18	277		PROGRAM START	SURFACE CEILING	PHILIPS	EW COVE QLX POWERCORE	1	LED	6W/FT	120
	D1	FLEXIBLE LOW-VOLTAGE SYSTEM WITH BARE SWIVEL HEAD; SATIN NICKEL FINISH; 3" STEM LENGTH ON TRACK HEAD	TECH LIGHTING LBL LIGHTING	700MOAE SERIES HDMR16 SERIES	1	50W MR16	50				PENDANT TRACK	LBL LIGHTING	HDMR16 SERIES	1	MR16 LED	6	
	F1	4' PENDANT MOUNT; HEAVY DUTY INDUSTRIAL FLUORESCENT; HEAVY STEEL CONSTRUCTION; 2-LAMP CROSS SECTION; CORROSION RESISTANT, HIGH REFLECTANCE, BAKED WHITE ENAMEL REFLECTOR FINISH; WIDE DISTRIBUTION OPTICAL SYSTEM WITH 10% UPLIGHT; TOTAL LUMINAIRE EFFICIENCY 89% OR BETTER; MOUNT AT 10'-0" AFF UNLESS NOTED OTHERWISE	LITHONIA COLUMBIA LIGHTING PHILIPS DAYBRITE	AFP SERIES KL4 SERIES 1FD SERIES	2	F28T5 41K	28	UNV	1	PROGRAM START	PENDANT	CREE	CS14 SERIES	1	LED 40K	36	UNV
	F2	4'Lx6"Wx5"D SURFACE MOUNT WRAP-AROUND FLUORESCENT; COLD-ROLLED STEEL HOUSING; ACRYLIC PRISMATIC DIFFUSER; HIGH REFLECTIVE WHITE POWDER COAT FINISH; 1-LAMP CROSS SECTION; UL LISTED DRY OR DAMP LOCATION; TOTAL LUMINAIRE EFFICIENCY 78% OR BETTER; MOUNT ABOVE DOOR OR AT 8'-0" ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE	LITHONIA PHILIPS DAYBRITE	WC SERIES WB SERIES	1	F28T5 41K	28	UNV	1	PROGRAM START	SURFACE - WALL MOUNT ABOVE DOOR OR +8'-0" AFF UNO	LITHONIA	WL SERIES	1	25L LED 40K	24	UNV
	F3	2'x4' RECESSED LENSED FLUORESCENT; COLD-ROLLED STEEL HOUSING; EXTRUDED ALUMINUM DOOR FRAME WITH MITERED CORNERS; SPRING-LOADED CAM LATCHES; STEEL HINGE; HIGH REFLECTIVE WHITE POWDER COAT FINISH; 2-LAMP CROSS SECTION; TOTAL LUMINAIRE EFFICIENCY 81% OR BETTER	LITHONIA H.E. WILLIAMS	2SP SERIES 50 SERIES	2	F28T5 41K	28	UNV	1	PROGRAM START	RECESSED	LIGHTOLIER	SP SERIES	1	43A LED 40K	53	UNV
	F4	2'x4' RECESSED LENSED FLUORESCENT; COLD-ROLLED STEEL HOUSING; EXTRUDED ALUMINUM DOOR FRAME WITH MITERED CORNERS; SPRING-LOADED CAM LATCHES; STEEL HINGE; HIGH REFLECTIVE WHITE POWDER COAT FINISH; FULLY-GASKETED DOOR; UL LISTED WET LOCATION; 2-LAMP CROSS SECTION; TOTAL LUMINAIRE EFFICIENCY 81% OR BETTER	LITHONIA H.E. WILLIAMS	WRT SERIES EP SERIES	2	F28T5 41K	28	UNV	1	PROGRAM START	RECESSED	COOPER METALUX	2GC SERIES	1	48 LED 40K	47	UNV
	F5	2'x4' RECESSED HIGH EFFICIENCY ARCHITECTURAL DIRECT/INDIRECT FLUORESCENT; COLD-ROLLED STEEL HOUSING; HIGH REFLECTIVE WHITE FINISH; LINEAR PRISM OPTIC BACK BY HIGH TRANSMISSION LAMP OBSCURING OVERLAY, PROFILED TO A PRECISION CURVE; 2-LAMP CROSS SECTION; TOTAL LUMINAIRE EFFICIENCY 96% OR BETTER	LITHONIA PHILIPS DAYBRITE	2VT5 SERIES SOFTRACE 2ST SERIES	2	F28T5 41K	28	UNV	1	PROGRAM START	RECESSED	FOCAL POINT	FEQL SERIES	1	LL2 35K	65	UNV
	F5D	SAME AS TYPE F5, EXCEPT WITH DIMMING BALLAST	LITHONIA PHILIPS DAYBRITE	2VT5 SERIES SOFTRACE 2ST SERIES	2	F28T5 41K	28	UNV	1	DIMMING	RECESSED	FOCAL POINT	FEQL SERIES	1	LL2 35K	65	UNV
	F6	9"Wx4'L INDIRECT/DIRECT PENDANT LUMINAIRE; DIE-FORMED STEEL HOUSING; ALUMINUM DIE-CAST CURVED ENDCAP; STANDARD 91% REFLECTIVE DIE-FORMED, PRE-PAINTED ALUMINUM, REFLECTIVE WHITE; OPEN UPLIGHT OPTICAL CONTROL; WHITE RADIAL BLADE BAFFLE; 60% UPLIGHT, 40% DOWNLIGHT; 2-LAMP CROSS SECTION; FULL ADJUSTABLE AIRCRAFT CABLE; TWO 1-LAMP BALLASTS FOR MULTI-LEVEL SWITCHING; 88% EFFICIENCY OR BETTER	FOCAL POINT FINELITE	FV4S SERIES S12-ID SERIES	2	F28T5 41K	28	277	2	PROGRAM START	PENDANT	COOPER CORELITE	E1 SERIES	1	LED 40K	75	UNV
	F6A	SAME AS TYPE F6, EXCEPT WITH CLEAR ALUMINUM FINISH	FOCAL POINT FINELITE	FV4S SERIES S12-ID SERIES	2	F28T5 41K	28	277	2	PROGRAM START	PENDANT	COOPER CORELITE	E1 SERIES	1	LED 40K	75	UNV
	F6D	SAME AS TYPE F6, EXCEPT WITH DIMMING BALLAST	FOCAL POINT FINELITE	FV4S SERIES S12-ID SERIES	2	F28T5 41K	28	277	2	DIMMING	PENDANT	COOPER CORELITE	E1 SERIES	1	LED 40K	75	UNV
	F7	9"Wx4'L INDIRECT/DIRECT PENDANT LUMINAIRE; DIE-FORMED STEEL HOUSING; ALUMINUM DIE-CAST CURVED ENDCAP; STANDARD 91% REFLECTIVE DIE-FORMED, PRE-PAINTED ALUMINUM, REFLECTIVE WHITE; OPEN UPLIGHT OPTICAL CONTROL; WHITE RADIAL BLADE BAFFLE; 20% UPLIGHT, 80% DOWNLIGHT; 1-LAMP CROSS SECTION; FULL ADJUSTABLE AIRCRAFT CABLE; STEP DIM; 95% EFFICIENCY OR BETTER	FOCAL POINT FINELITE	FV4S SERIES S12-ID SERIES	1	F54T5HO 41K	54	277	1	PROGRAM START	PENDANT	COOPER CORELITE	E1 SERIES	1	LED 40K	75	UNV
	F7A	SAME AS TYPE F7, EXCEPT WITH CLEAR ALUMINUM FINISH	FOCAL POINT FINELITE	FV4S SERIES S12-ID SERIES	1	F54T5HO 41K	54	277	1	PROGRAM START	PENDANT	COOPER CORELITE	E1 SERIES	1	LED 40K	75	UNV
	F7D	SAME AS TYPE F7, EXCEPT WITH DIMMING BALLAST	FOCAL POINT FINELITE	FV4S SERIES S12-ID SERIES	1	F54T5HO 41K	54	277	1	DIMMING	PENDANT	COOPER CORELITE	E1 SERIES	1	LED 40K	75	UNV
	F8	2" ROUND x 24"L RECTILINEAR LIGHT BAR; CLEAR ACRYLIC DIFFUSER WITH MATTE WHITE FINISH; VERTICAL MOUNT; ADA-COMPLIANT; LED WITH INTEGRAL POWER SUPPLY	VISA LIGHTING	VOILA CB1986 SERIES	1	LED 35K	28	UNV	1	LED DRIVER	SURFACE WALL	VISA LIGHTING	VOILA CB1986 SERIES	1	LED 35K		UNV
	F9	12"Wx4'L RECESSED DIRECT/INDIRECT LUMINAIRE; EXTRUDED ALUMINUM HOUSING; EXTRUDED ALUMINUM REFLECTOR; HIGH REFLECTIVE WHITE POWDER COAT FINISH; FROSTED FLAT ACRYLIC LENS; 1-LAMP CROSS SECTION; TOTAL LUMINAIRE EFFICIENCY 80% OR BETTER	FOCAL POINT AXIS LIGHTING LEDALITE	FVR SERIES TEK12 SERIES VECTRA 9714 SERIES	1	F28T5 41K	28	UNV	1	PROGRAM START	RECESSED	FOCAL POINT LEDALITE	FRVL SERIES 9414 PUREFX SERIES	1	LED 40K	44	277
	F9D	SAME AS TYPE F9, EXCEPT WITH DIMMING BALLAST	FOCAL POINT AXIS LIGHTING LEDALITE	FVR SERIES TEK12 SERIES VECTRA 9714 SERIES	1	F28T5 41K	28	UNV	1	DIMMING	RECESSED	FOCAL POINT LEDALITE	FRVL SERIES 9414 PUREFX SERIES	1	LED 40K	44	277
	F10	17" DIAMETER SURFACE MOUNT WALL SCONCE; ROUND OPAL DIFFUSER; 20-GAUGE STEEL HOUSING; MATTE SATIN WHITE POWDER COAT FINISH; 3.96" DEPTH, ADA COMPLIANT	FOCAL POINT PRUDENTIAL	FMN MONDANA SERIES P59-A6 SERIES	1	22WT5C 41K	25	277	1	PROGRAM START	SURFACE WALL MOUNT CL AT +6'-6" AFF						
	F11	5"Wx4"Hx4'L WALL-MOUNT LUMINAIRE; 20-GAUGE STEEL HOUSING; TEXTURED MATTE WHITE POWDER PAINT FINISH; HIGH IMPACT ACRYLIC LINEAR-FACETED REFRACTOR SECURED WITH TAMPER-PROOF SCREWS; LOCATED AT STAIR FLOOR AND INTERMEDIATE LANDINGS; 2-LAMP CROSS SECTION; INTEGRAL OCCUPANCY SENSOR TO DIM LIGHTS TO 50% WHEN STAIRWELL IS UNOCCUPIED	LITHONIA PRUDENTIAL	WT5 SERIES WAL14 SERIES	2	F54T5HO 41K	54	UNV	1	PROGRAM START	SURFACE - WALL MOUNT ABOVE DOOR OR +8'-0" AFF UNO	LITHONIA	WL SERIES	1	41L LED 40K	43	UNV
	F12	2'x2' RECESSED LENSED FLUORESCENT; DIE-FORMED STEEL HOUSING, HEAVY DUTY DOOR FRAME WITH MITERED CORNERS; HIGH REFLECTANCE BAKED WHITE ENAMEL FINISH; #12 ACRYLIC PRISMATIC LENS; 2-LAMP CROSS SECTION;	LITHONIA COLUMBIA PHILIPS DAYBRITE	2SP SERIES 4PS22 SERIES DPG SERIES	2	F14T5 41K	14	UNV	1	PROGRAM START	RECESSED						
	F13	2'Lx5"Hx4"D WALL-MOUNT LUMINAIRE; 20-GAUGE STEEL HOUSING; TEXTURED MATTE WHITE POWDER PAINT FINISH; HIGH IMPACT ACRYLIC LINEAR-FACETED REFRACTOR SECURED WITH TAMPER-PROOF SCREWS; 1-LAMP CROSS SECTION	LITHONIA PRUDENTIAL	WT5 SERIES WAL14 SERIES	1	F14T5 41K	14	UNV	1	PROGRAM START	SURFACE WALL MOUNT CL AT +7'-0" AFF	LITHONIA	WL SERIES	1	18L LED 40K	20	UNV
	F14	2'Lx8"Hx6"D SURFACE MOUNTED FLUORESCENT; ENCLOSED AND GASKETED UV-STABILIZED IMPACT-RESISTANT FIBERGLASS REINFORCED INDUSTRIAL FIXTURE; UL LISTED FOR WET LOCATIONS	COLUMBIA PHILIPS DAYBRITE	XEM SERIES LW VAPORLUME SERIES	2	F14T5 41K	14	UNV	1	PROGRAM START	SURFACE WALL						
	F15	4'Lx6"W RECESSED FLUORESCENT; COMPATIBLE WITH SPECIALTY CEILINGS (ARMSTRONG TECHZONE OR SIMILAR); FLUSH FROSTED ACRYLIC LENS; ONE-PIECE 20-GAUGE STEEL HOUSING	FOCAL POINT LIGHTOLIER	FAV6 SERIES LIA6 SERIES	2	F28T5 41K	28	277	1	PROGRAM START	RECESSED	FOCAL POINT	FAV6L SERIES	1	LL3 LED 40K	42	277
	F16	SAME AS F15 EXCEPT SINGLE LAMP	FOCAL POINT LIGHTOLIER	FAV6 SERIES LIA6 SERIES	1	F28T5 41K	28	277	1	PROGRAM START	RECESSED	FOCAL POINT	FAV6 SERIES	1	LL2 LED 40K	31	277
	F17	SAME AS F6 EXCEPT WITH TOTALLY DIRECT OPTICS FOR 100% DOWNLIGHT, NO UPLIGHT AND SINGLE 2-LAMP BALLAST	FOCAL POINT FINELITE	FV4S SERIES S12-ID SERIES	2	F28T5 41K	28	277	1	PROGRAM START	PENDANT	FOCAL POINT	FAV6 SERIES	1	LL2 LED 40K	31	277

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

ELECTRICAL LUMINAIRE SCHEDULE

FILE NO.	SIZE	DWG. NO.
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E011

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GENERAL NOTES:

1. LIGHT FIXTURES ON EMERGENCY CIRCUITS TO BE 120V INSTEAD OF 277V. PROVIDE PROPER BALLAST AS NECESSARY.

LIGHTING FIXTURE SCHEDULE

FIXTURE SYMBOL	TYPE	DESCRIPTION	MANUFACTURER	MODEL	LAMP QTY	LAMP TYPE	LAMP WATTS	VOLTS	BALLAST QTY	BALLAST TYPE	MOUNTING TYPE
	FR1	8' DIAMETER RECESSED ROUND RING FLUORESCENT; OPAL ACRYLIC FLUSH LENS; 8 SECTIONS, 1 LAMP AND 1 LENS PER SECTION; PROVIDE ROD SUSPENSION HANGER TO STRUCTURE ABOVE CONTAINS (8) 1-LAMP SECTIONS	WINONA BETA CALCO	6200 FC SERIES ROUND RS SERIES	8	F21T5 41K	168	277	8	PROGRAM START	RECESSED
	FR2	12' DIAMETER RECESSED ROUND RING FLUORESCENT; OPAL ACRYLIC FLUSH LENS; 8 SECTIONS, 2 LAMPS AND 1 LENS PER SECTION; PROVIDE ROD SUSPENSION HANGER TO STRUCTURE ABOVE CONTAINS (8) 2-LAMP SECTIONS	WINONA BETA CALCO	6200 FC SERIES ROUND RS SERIES	16	F24T5HO 41K	384	277	8	PROGRAM START	RECESSED
	FR3	24' DIAMETER RECESSED ROUND RING FLUORESCENT; OPAL ACRYLIC FLUSH LENS; 12 SECTIONS, 2 LAMPS AND 1 LENS PER SECTION; PROVIDE ROD SUSPENSION HANGER TO STRUCTURE ABOVE PROVIDE PARTIAL CIRCLE AS INDICATED ON PLANS - ONLY (7) 2-LAMP SECTIONS INSTEAD OF (12) SECTIONS	WINONA BETA CALCO	6200 FC SERIES ROUND RS SERIES	14	F21T5 41K	294	277	7	PROGRAM START	RECESSED
	L1	6" APERTURE RECESSED LED DOWNLIGHT; GALVANIZED STEEL FRAME HOUSING; SPUN ALUMINUM UPPER REFLECTOR; CLEAR DIFFUSE FINISH; HIGHLY TRANSMISSIVE LENS; 3,000 LUMENS; 30-DEGREE BEAM ANGLE; CLEAR ANODIZED TRIM RING TURTLE-FRIENDLY AMBER LIGHT AT 580 NANOMETER WAVELENGTH	GOTHAM PHILIPS OMEGA	INCITO SERIES OM6LED SERIES	1	LED	42	277		LED DRIVER	RECESSED
	L2	6" APERTURE RECESSED LED DOWNLIGHT; GALVANIZED STEEL FRAME HOUSING; SPUN ALUMINUM UPPER REFLECTOR; CLEAR DIFFUSE FINISH; HIGHLY TRANSMISSIVE LENS; 4,000 LUMENS; 30-DEGREE BEAM ANGLE; CLEAR ANODIZED TRIM RING TURTLE-FRIENDLY AMBER LIGHT AT 580 NANOMETER WAVELENGTH	GOTHAM PHILIPS OMEGA	INCITO SERIES OM6LED SERIES	1	LED	27	UNV		LED DRIVER	RECESSED
	L3	6" APERTURE RECESSED LED DOWNLIGHT; GALVANIZED STEEL FRAME HOUSING; SPUN ALUMINUM UPPER REFLECTOR; CLEAR DIFFUSE FINISH; HIGHLY TRANSMISSIVE LENS; 2,000 LUMENS; 40-DEGREE BEAM ANGLE; WHITE TRIM RING	GOTHAM PHILIPS OMEGA	INCITO SERIES OM6LED SERIES	1	LED 4000K	28	277		LED DRIVER	RECESSED
	L4	2" APERTURE RECESSED LED MR16 DOWNLIGHT; 20 GAUGE COLD ROLLED STELL HOUSING; SPUN ALUMINUM REFLECTOR; BLACK SPECULAR FINISH; SLOTTED REFLECTOR CONE FOR GLARE FREE OPTICS; CUSTOM COLOR FACEPLATE FINISH; 24-DEGREE LAMP; CUSTOM COLOR TRIM RING	FOCAL POINT DASAL ARCH LIGHTING	FL4 SERIES AURORA XIC SERIES	1	LED MR16 3000K	10	277		LED DRIVER	RECESSED
	L5	4.5" APERTURE RECESSED LED DOWNLIGHT; DIE-FORMED HOUSING WITH INTEGRAL JUNCTION BOX; SPUN ALUMINUM REFLECTOR; CLEAR DIFFUSE FINISH; BLACK TRIM RING	FOCAL POINT INTENSE LIGHTING	FL4D SERIES IL-DRTR-NC SERIES	1	13LED 4000K	20	277		LED DRIVER	RECESSED
	L5C	SAME AS L5, EXCEPT WITH CUSTOM COLOR AS SELECTED BY ARCHITECT	FOCAL POINT INTENSE LIGHTING	FL4D SERIES IL-DRTR-NC SERIES	1	13LED 4000K	20	277		LED DRIVER	RECESSED
	L6	6" APERTURE RECESSED LED DOWNLIGHT; GALVANIZED STEEL FRAME HOUSING; SPUN ALUMINUM UPPER REFLECTOR; CLEAR DIFFUSE FINISH; HIGHLY TRANSMISSIVE LENS; 4,000 LUMENS; 60-DEGREE BEAM ANGLE; CUSTOM COLOR TRIM RING	GOTHAM PHILIPS OMEGA	INCITO SERIES OM6LED SERIES	1	LED 4000K	64	277		LED DRIVER	RECESSED
	L7	1"Wx1"H LINEAR SURFACE LED STRIP; FIXED MOUNTING WITH 100-DEGREE BEAM SPREAD; SEMI-GLOSS WHITE PAINT; NON-DIMMING 24V WITH 500W TRANSFORMER; PRE-CONFIGURED NOMINAL RUN LENGTH OF 7' (TWO 42" SECTIONS)	WINONA COLOR KINETICS	WSL 104 SERIES EW COVE EC	1	LED 4000K	22	277		LED DRIVER	SURFACE WALL
	L8	1.3"Wx1.3"H LINEAR SURFACE LED COVE; FIXED MOUNTING WITH 130-DEGREE BEAM SPREAD; NATURAL ANODIZED ALUMINUM FINISH; NON-DIMMING 24V WITH 300W TRANSFORMER; RECESS BOTTOM FEED; PROVIDE 42" AND 48" LONG SECTIONS AS INDICATED ON DRAWINGS	WINONA COLOR KINETICS	WCV 212 SERIES EW COVE MX	1	LED 4000K	13	277		LED DRIVER	SURFACE COVE
	S1	LED WALL-MOUNTED FIXTURE WITH SILVER FINISH; FULL CUTOFF; DOWNWARD DIRECTED LIGHT OUTPUT DIE-CAST ALUMINUM HOUSING; HINGED DOOR FRAME; CLEAR, HEATED IMPACT RESISTANT GLASS LENS; SILICONE GASKET SEAL TRIM ASSEMBLY; HIGH EFFICIENCY TYPE II OPTICAL DISTRIBUTION; IESNA FULL CUTOFF; TURTLE-FRIENDLY AMBER LIGHT AT 580 NANOMETER WAVELENGTH	LITHONIA CREE GARDCO	DSXW1LED SERIES SEC-EDG SERIES 121 LED SCONCE SERIES	1	LED	36	UNV		LED DRIVER	SURFACE WALL 8'-6" AFG
	S2	EXTERIOR SITE PEDESTRIAN FIXTURE; LOW PROFILE CAST ALUMINUM WITH INTEGRAL WEATHER-TIGHT LED DRIVER; MINIMUM 70 CRI; THD <20%; SILVER FINISH; TYPE IV MEDIUM DISTRIBUTION WITH BACKLIGHT CONTROL; TURTLE-FRIENDLY AMBER LIGHT AT 580 NANOMETER WAVELENGTH; 20 LED PANEL; ALUMINUM POLE	LITHONIA CREE	DSX0LED SERIES ARE-EDG SERIES	1	LED PANEL	35	UNV		LED DRIVER	POLE 25'-0" AFG
	S3	EXTERIOR SITE FIXTURE; LOW PROFILE CAST ALUMINUM WITH INTEGRAL WEATHER-TIGHT LED DRIVER; MINIMUM 70 CRI; THD <20%; SILVER FINISH; TYPE III MEDIUM DISTRIBUTION WITH BACKLIGHT CONTROL; TURTLE-FRIENDLY AMBER LIGHT AT 580 NANOMETER WAVELENGTH; ALUMINUM POLE	LITHONIA CREE GARDCO	DSX2LED SERIES ARE-EDG SERIES ECOFORM SERIES	1	LED PANEL	175	UNV		LED DRIVER	POLE 25'-0" AFG
	S4	SAME AS S4 EXCEPT TYPE V MEDIUM DISTRIBUTION; NO BACKLIGHT CONTROL	LITHONIA CREE GARDCO	DSX2LED SERIES ARE-EDG SERIES ECOFORM SERIES	1	LED PANEL	175	UNV		LED DRIVER	POLE 25'-0" AFG
	X1	ARCHITECTURAL LED EDGE-LIT EXIT SIGN; DIE-CAST ALUMINUM HOUSING WITH UNIVERSAL MOUNTING CAPABILITY; KO PATTERN IN TOP AND END; INJECTION-MOLDED CLEAR ACRYLIC PANELS WITH CHAMFERED EDGES; SILK SCREENED LETTERS; AC ONLY; GREEN LED; SELF-TESTING DIAGNOSTICS CHEVRONS AS INDICATED ON PLANS	LIGHTOLIER	LG SERIES	1	LED PANEL	1.5	MVOLT			SURFACE UNIVERSAL

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PHASE 1
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ELECTRICAL LUMINAIRE SCHEDULE

E012

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

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EQUIPMENT CONNECTION SCHEDULE

EQUIPMENT	LOCATION	ELECTRICAL UTILIZATION CHARACTERISTICS VOLTS / PHASE / HERTZ	HP OR KVA/kW	FULL LOAD AMPS OR RATED LOAD AMPS	MINIMUM CIRCUIT AMPACITY	PROVISION OF CONTROLS AND/OR CONTROLLERS: UNDER OTHER DIVISION	PROVISION OF CONTROLS AND/OR CONTROLLERS: UNDER DIVISION 26	PROVISION OF DISCONNECTING MEANS: UNDER OTHER DIVISION	PROVISION OF DISCONNECTING MEANS: UNDER DIVISION 26	FEEDER TO EQUIPMENT	REMARKS
AIR HANDLING UNIT AHU-1	MECHANICAL RM 1452	480 / 3 / 60	40 HP	52.0 FLA	65		PROVIDE VARIABLE FREQUENCY DRIVE		DISCONNECT PROVIDED WITH VFD	(3)#3, 1#8 GND IN 1-1/4" C	PROVIDE (1) 120V CIRCUIT FOR UV LIGHTS AND (1) 120V CIRCUIT FOR LIGHTS & RECEPTACLES.
AIR HANDLING UNIT AHU-2	MECHANICAL RM 1221	480 / 3 / 60	25 HP	34.0 FLA	42.5		PROVIDE VARIABLE FREQUENCY DRIVE		DISCONNECT PROVIDED WITH VFD	(3)#8, 1#10 GND IN 3/4" C	PROVIDE (1) 120V CIRCUIT FOR UV LIGHTS AND (1) 120V CIRCUIT FOR LIGHTS & RECEPTACLES.
AIR HANDLING UNIT AHU-3	MECHANICAL RM 1451	480 / 3 / 60	25 HP	34.0 FLA	42.5		PROVIDE VARIABLE FREQUENCY DRIVE		DISCONNECT PROVIDED WITH VFD	(3)#8, 1#10 GND IN 3/4" C	PROVIDE (1) 120V CIRCUIT FOR UV LIGHTS AND (1) 120V CIRCUIT FOR LIGHTS & RECEPTACLES.
AIR HANDLING UNIT AHU-4	MECHANICAL RM 1452	480 / 3 / 60	7-1/2 HP	11.0 FLA	13.75		PROVIDE VARIABLE FREQUENCY DRIVE		DISCONNECT PROVIDED WITH VFD	(3)#12, 1#12 GND IN 3/4" C	PROVIDE (1) 120V CIRCUIT FOR UV LIGHTS AND (1) 120V CIRCUIT FOR LIGHTS & RECEPTACLES.
AIR HANDLING UNIT AHU-5	MECHANICAL RM 2223	480 / 3 / 60	25 HP	34.0 FLA	42.5		PROVIDE VARIABLE FREQUENCY DRIVE		DISCONNECT PROVIDED WITH VFD	(3)#8, 1#10 GND IN 3/4" C	PROVIDE (1) 120V CIRCUIT FOR UV LIGHTS AND (1) 120V CIRCUIT FOR LIGHTS & RECEPTACLES.
AIR HANDLING UNIT AHU-6	MECHANICAL RM 3421	480 / 3 / 60	25 HP	34.0 FLA	42.5		PROVIDE VARIABLE FREQUENCY DRIVE		DISCONNECT PROVIDED WITH VFD	(3)#8, 1#10 GND IN 3/4" C	PROVIDE (1) 120V CIRCUIT FOR UV LIGHTS AND (1) 120V CIRCUIT FOR LIGHTS & RECEPTACLES.
AIR HANDLING UNIT AHU-7	MECHANICAL RM 4421	480 / 3 / 60	25 HP	34.0 FLA	42.5		PROVIDE VARIABLE FREQUENCY DRIVE		DISCONNECT PROVIDED WITH VFD	(3)#8, 1#10 GND IN 3/4" C	PROVIDE (1) 120V CIRCUIT FOR UV LIGHTS AND (1) 120V CIRCUIT FOR LIGHTS & RECEPTACLES.
AIR HANDLING UNIT AHU-8	MECHANICAL RM 5421	480 / 3 / 60	25 HP	34.0 FLA	42.5		PROVIDE VARIABLE FREQUENCY DRIVE		DISCONNECT PROVIDED WITH VFD	(3)#8, 1#10 GND IN 3/4" C	PROVIDE (1) 120V CIRCUIT FOR UV LIGHTS AND (1) 120V CIRCUIT FOR LIGHTS & RECEPTACLES.
AIR HANDLING UNIT AHU-9	MECHANICAL RM 6421	480 / 3 / 60	25 HP	34.0 FLA	42.5		PROVIDE VARIABLE FREQUENCY DRIVE		DISCONNECT PROVIDED WITH VFD	(3)#8, 1#10 GND IN 3/4" C	PROVIDE (1) 120V CIRCUIT FOR UV LIGHTS AND (1) 120V CIRCUIT FOR LIGHTS & RECEPTACLES.
AIR HANDLING UNIT AHU-10	MECHANICAL RM 7421	480 / 3 / 60	40 HP	52.0 FLA	65		PROVIDE VARIABLE FREQUENCY DRIVE		DISCONNECT PROVIDED WITH VFD	(3)#3, 1#8 GND IN 1-1/4" C	PROVIDE (1) 120V CIRCUIT FOR UV LIGHTS AND (1) 120V CIRCUIT FOR LIGHTS & RECEPTACLES.
BOILER B-1	PENTHOUSE 8200	120 / 1 / 60	-	13.6 FLA	17	INTEGRAL CONTROLS FURNISHED BY DIVISION 23				(3)#12, 1#12 GND IN 3/4" C	CONTROLS POWER
BOILER B-2	PENTHOUSE 8200	120 / 1 / 60	-	13.6 FLA	17	INTEGRAL CONTROLS FURNISHED BY DIVISION 23				(3)#12, 1#12 GND IN 3/4" C	CONTROLS POWER
CHILLED BEAM PUMP CBP-1	PENTHOUSE 8200	480 / 3 / 60	25 HP	34.0 FLA	42.5		PROVIDE VARIABLE FREQUENCY DRIVE		DISCONNECT PROVIDED WITH VFD	(3)#8, 1#10 GND IN 3/4" C	
CHILLED BEAM PUMP CBP-2	PENTHOUSE 8200	480 / 3 / 60	25 HP	34.0 FLA	42.5		PROVIDE VARIABLE FREQUENCY DRIVE		DISCONNECT PROVIDED WITH VFD	(3)#8, 1#10 GND IN 3/4" C	
CHILLED WATER PUMP CWP-1	MECHANICAL RM 1451	480 / 3 / 60	40 HP	52.0 FLA	65		PROVIDE VARIABLE FREQUENCY DRIVE		DISCONNECT PROVIDED WITH VFD	(3)#3, 1#8 GND IN 1-1/4" C	EMERGENCY POWER
CHILLED WATER PUMP CWP-2	MECHANICAL RM 1451	480 / 3 / 60	40 HP	52.0 FLA	65		PROVIDE VARIABLE FREQUENCY DRIVE		DISCONNECT PROVIDED WITH VFD	(3)#3, 1#8 GND IN 1-1/4" C	EMERGENCY POWER
CHILLED WATER PUMP CWP-3	MECHANICAL RM 1451	480 / 3 / 60	150 HP	180.0 FLA	225		PROVIDE VARIABLE FREQUENCY DRIVE		DISCONNECT PROVIDED WITH VFD	(3)#4/0, 1#4 GND IN 2" C	EMERGENCY POWER
CHILLED WATER PUMP CWP-4	MECHANICAL RM 1451	480 / 3 / 60	150 HP	180.0 FLA	225		PROVIDE VARIABLE FREQUENCY DRIVE		DISCONNECT PROVIDED WITH VFD	(3)#4/0, 1#4 GND IN 2" C	EMERGENCY POWER
CHILLED WATER PUMP CWP-5	MECHANICAL RM 1451	480 / 3 / 60	40 HP	52.0 FLA	65		PROVIDE VARIABLE FREQUENCY DRIVE		DISCONNECT PROVIDED WITH VFD	(3)#3, 1#8 GND IN 1-1/4" C	EMERGENCY POWER
CHILLED WATER PUMP CWP-6	MECHANICAL RM 1451	480 / 3 / 60	150 HP	180.0 FLA	225		PROVIDE VARIABLE FREQUENCY DRIVE		DISCONNECT PROVIDED WITH VFD	(3)#4/0, 1#4 GND IN 2" C	EMERGENCY POWER
EXHAUST FAN EF-1	PENTHOUSE 8200	480 / 3 / 60	7-1/2 HP	11.0 FLA	13.75		PROVIDE VARIABLE FREQUENCY DRIVE		DISCONNECT PROVIDED WITH VFD	(3)#12, 1#12 GND IN 3/4" C	
EXHAUST FAN EF-2	PENTHOUSE 8200	480 / 3 / 60	7-1/2 HP	11.0 FLA	13.75		PROVIDE VARIABLE FREQUENCY DRIVE		DISCONNECT PROVIDED WITH VFD	(3)#12, 1#12 GND IN 3/4" C	
EXHAUST FAN EF-3	PENTHOUSE 8200	480 / 3 / 60	7-1/2 HP	11.0 FLA	13.75		PROVIDE VARIABLE FREQUENCY DRIVE		DISCONNECT PROVIDED WITH VFD	(3)#12, 1#12 GND IN 3/4" C	
EXHAUST FAN EF-4	PENTHOUSE 8200	480 / 3 / 60	7-1/2 HP	11.0 FLA	13.75		PROVIDE VARIABLE FREQUENCY DRIVE		DISCONNECT PROVIDED WITH VFD	(3)#12, 1#12 GND IN 3/4" C	
EXHAUST FAN EF-5	1ST LEVEL ROOF	120 / 1 / 60	1/4 HP	5.8 FLA	7.25		PROVIDE MOTOR-RATED SWITCH	INTEGRAL DISCONNECT PROVIDED UNDER DIVISION 23		(2)#12, 1#12 GND IN 3/4" C	
FAN COIL UNIT FCU 1-1	ELECTRICAL RM 1211	208 / 3 / 60	3 HP	11.0 FLA	13.75		PROVIDE NEMA SIZE-1 STARTER IN NEMA 1 ENCLOSURE	INTEGRAL DISCONNECT PROVIDED BY DIVISION 23		(3)#12, 1#12 GND IN 3/4" C	EMERGENCY POWER
FAN COIL UNIT FCU 1-2	EMER. ELECTRICAL RM 1458	120 / 1 / 60	1 HP	16.0 FLA	20		PROVIDE MOTOR-RATED SWITCH	INTEGRAL DISCONNECT PROVIDED BY DIVISION 23		(2)#10, 1#10 GND IN 3/4" C	
FAN COIL UNIT FCU 1-3	ELECTRICAL RM 1454	120 / 1 / 60	1/3 HP	7.2 FLA	9		PROVIDE MOTOR-RATED SWITCH	INTEGRAL DISCONNECT PROVIDED BY DIVISION 23		(2)#12, 1#12 GND IN 3/4" C	
FAN COIL UNIT FCU 1-4	MECHANICAL RM 1451	208 / 3 /60	1 HP	4.8 FLA	6		PROVIDE NEMA SIZE-0 STARTER IN NEMA 1 ENCLOSURE	INTEGRAL DISCONNECT PROVIDED BY DIVISION 23		(3)#12, 1#12 GND IN 3/4" C	
FAN COIL UNIT FCU 1-5	MAIN ELECTRICAL RM 1457	120 / 1 / 60	1/3 HP	7.2 FLA	9		PROVIDE MOTOR-RATED SWITCH	INTEGRAL DISCONNECT PROVIDED BY DIVISION 23		(2)#12, 1#12 GND IN 3/4" C	
FAN COIL UNIT FCU 1-6	ELECTRICAL RM 1211	120 / 1 / 60	1/2 HP	9.8 FLA	12.25		PROVIDE MOTOR-RATED SWITCH	INTEGRAL DISCONNECT PROVIDED BY DIVISION 23		(2)#12, 1#12 GND IN 3/4" C	
FAN COIL UNIT FCU 1-7	TELECOM RM 1464	120 / 1 / 60	1/3 HP	7.2 FLA	9		PROVIDE MOTOR-RATED SWITCH	INTEGRAL DISCONNECT PROVIDED BY DIVISION 23		(2)#12, 1#12 GND IN 3/4" C	EMERGENCY POWER
FAN COIL UNIT FCU 1-8	FIRE PUMP RM 1260	120 / 1 / 60	1/3 HP	7.2 FLA	9		PROVIDE MOTOR-RATED SWITCH	INTEGRAL DISCONNECT PROVIDED BY DIVISION 23		(2)#12, 1#12 GND IN 3/4" C	
FAN COIL UNIT FCU 1-9	DRY STORAGE 1417P	120 / 1 / 60	1/3 HP	7.2 FLA	9		PROVIDE MOTOR-RATED SWITCH	INTEGRAL DISCONNECT PROVIDED BY DIVISION 23		(2)#12, 1#12 GND IN 3/4" C	
FAN COIL UNIT FCU 2-1	ELECTRICAL RM 2215	120 / 1 / 60	1/3 HP	7.2 FLA	9		PROVIDE MOTOR-RATED SWITCH	INTEGRAL DISCONNECT PROVIDED BY DIVISION 23		(2)#12, 1#12 GND IN 3/4" C	
FAN COIL UNIT FCU 2-2	HIGH DENSITY FILING RM 2406A	120 / 1 / 60	3/4 HP	13.8 FLA	17.25		PROVIDE MOTOR-RATED SWITCH	INTEGRAL DISCONNECT PROVIDED BY DIVISION 23		(2)#12, 1#12 GND IN 3/4" C	EMERGENCY POWER
FAN COIL UNIT FCU 3-1	ELECTRICAL RM 3213	120 / 1 / 60	1/3 HP	4.0 FLA	5		PROVIDE MOTOR-RATED SWITCH	INTEGRAL DISCONNECT PROVIDED BY DIVISION 23		(2)#12, 1#12 GND IN 3/4" C	
FAN COIL UNIT FCU 3-2	JANITOR RM 3413	120 / 1 / 60	3/4 HP	4.0 FLA	5		PROVIDE MOTOR-RATED SWITCH	INTEGRAL DISCONNECT PROVIDED BY DIVISION 23		(2)#12, 1#12 GND IN 3/4" C	EMERGENCY POWER
FAN COIL UNIT FCU 4-1	ELECTRICAL RM 4213	120 / 1 / 60	1/3 HP	4.0 FLA	5		PROVIDE MOTOR-RATED SWITCH	INTEGRAL DISCONNECT PROVIDED BY DIVISION 23		(2)#12, 1#12 GND IN 3/4" C	
FAN COIL UNIT FCU 4-2	JANITOR RM 4413	120 / 1 / 60	3/4 HP	6.0 FLA	7.5		PROVIDE MOTOR-RATED SWITCH	INTEGRAL DISCONNECT PROVIDED BY DIVISION 23		(2)#12, 1#12 GND IN 3/4" C	EMERGENCY POWER
FAN COIL UNIT FCU 5-1	ELECTRICAL RM 5213	120 / 1 / 60	1/3 HP	4.0 FLA	5		PROVIDE MOTOR-RATED SWITCH	INTEGRAL DISCONNECT PROVIDED BY DIVISION 23		(2)#12, 1#12 GND IN 3/4" C	
FAN COIL UNIT FCU 5-2	JANITOR RM 5413	120 / 1 / 60	3/4 HP	6.0 FLA	7.5		PROVIDE MOTOR-RATED SWITCH	INTEGRAL DISCONNECT PROVIDED BY DIVISION 23		(2)#12, 1#12 GND IN 3/4" C	EMERGENCY POWER
FAN COIL UNIT FCU 5-3	STORAGE RM 5434	120 / 1 / 60	1/3 HP	4.0 FLA	5		PROVIDE MOTOR-RATED SWITCH	INTEGRAL DISCONNECT PROVIDED BY DIVISION 23		(2)#12, 1#12 GND IN 3/4" C	EMERGENCY POWER

OPTION M-1

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

EQUIPMENT CONNECTION SCHEDULE

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 9

E021

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EQUIPMENT CONNECTION SCHEDULE

EQUIPMENT	LOCATION	ELECTRICAL UTILIZATION CHARACTERISTICS VOLTS / PHASE / HERTZ	HP OR KVA	FULL LOAD AMPS OR RATED LOAD AMPS	MINIMUM CIRCUIT AMPACITY	PROVISION OF CONTROLS AND/OR CONTROLLERS		PROVISION OF DISCONNECTING MEANS		FEEDER TO EQUIPMENT	REMARKS
						UNDER OTHER DIVISION	UNDER DIVISION 26	UNDER OTHER DIVISION	UNDER DIVISION 26		
FAN COIL UNIT FCU 6-1	ELECTRICAL RM 6213	120 / 1 / 60	1/3 HP	4.0 FLA	5		PROVIDE MOTOR-RATED SWITCH	INTEGRAL DISCONNECT PROVIDED BY DIVISION 23		(2)#12, 1#12 GND IN 3/4" C	
FAN COIL UNIT FCU 6-2	JANITOR RM 6413	120 / 1 / 60	3/4 HP	6.0 FLA	7.5		PROVIDE MOTOR-RATED SWITCH	INTEGRAL DISCONNECT PROVIDED BY DIVISION 23		(2)#12, 1#12 GND IN 3/4" C	EMERGENCY POWER
FAN COIL UNIT FCU 6-3	STORAGE RM 6434	120 / 1 / 60	1/3 HP	4.0 FLA	5		PROVIDE MOTOR-RATED SWITCH	INTEGRAL DISCONNECT PROVIDED BY DIVISION 23		(2)#12, 1#12 GND IN 3/4" C	EMERGENCY POWER
FAN COIL UNIT FCU 7-1	ELECTRICAL RM 7215	120 / 1 / 60	1/3 HP	4.0 FLA	5		PROVIDE MOTOR-RATED SWITCH	INTEGRAL DISCONNECT PROVIDED BY DIVISION 23		(2)#12, 1#12 GND IN 3/4" C	
FAN COIL UNIT FCU 7-2	JANITOR RM 7413	120 / 1 / 60	3/4 HP	6.0 FLA	7.5		PROVIDE MOTOR-RATED SWITCH	INTEGRAL DISCONNECT PROVIDED BY DIVISION 23		(2)#12, 1#12 GND IN 3/4" C	EMERGENCY POWER
FAN COIL UNIT FCU 8-1	PENTHOUSE 8200	208 / 3 /60	3 HP	8.7 FLA	10.875		PROVIDE NEMA SIZE-1 STARTER IN NEMA 1 ENCLOSURE	INTEGRAL DISCONNECT PROVIDED BY DIVISION 23		(3)#12, 1#12 GND IN 3/4" C	
FAN COIL UNIT FCU 8-2	PENTHOUSE 8200	208 / 3 /60	3 HP	8.7 FLA	10.875		PROVIDE NEMA SIZE-1 STARTER IN NEMA 1 ENCLOSURE	INTEGRAL DISCONNECT PROVIDED BY DIVISION 23		(3)#12, 1#12 GND IN 3/4" C	
FAN COIL UNIT FCU 8-3	ELEVATOR EQUIPMENT RM 8208	120 / 1 / 60	1/2 HP	3.6 FLA	4.5		PROVIDE MOTOR-RATED SWITCH	INTEGRAL DISCONNECT PROVIDED BY DIVISION 23		(2)#12, 1#12 GND IN 3/4" C	
HOT WATER PUMP HWP-1	PENTHOUSE 8200	480 / 3 / 60	50 HP	65.0 FLA	81.3		PROVIDE VARIABLE FREQUENCY DRIVE		DISCONNECT PROVIDED WITH VFD	(3)#3, 1#8 GND IN 1-1/4" C	
HOT WATER PUMP HWP-2	PENTHOUSE 8200	480 / 3 / 60	50 HP	65.0 FLA	81.3		PROVIDE VARIABLE FREQUENCY DRIVE		DISCONNECT PROVIDED WITH VFD	(3)#3, 1#8 GND IN 1-1/4" C	
SUPPLY FAN SF-1	PENTHOUSE 8200	480 / 3 / 60	10 HP	14.0 FLA	17.5		PROVIDE VARIABLE FREQUENCY DRIVE		DISCONNECT PROVIDED WITH VFD	(3)#12, 1#12 GND IN 3/4" C	
SUPPLY FAN SF-2	PENTHOUSE 8200	480 / 3 / 60	10 HP	14.0 FLA	17.5		PROVIDE VARIABLE FREQUENCY DRIVE		DISCONNECT PROVIDED WITH VFD	(3)#12, 1#12 GND IN 3/4" C	
SUPPLY FAN SF-3	PENTHOUSE 8200	480 / 3 / 60	10 HP	14.0 FLA	17.5		PROVIDE VARIABLE FREQUENCY DRIVE		DISCONNECT PROVIDED WITH VFD	(3)#12, 1#12 GND IN 3/4" C	
SUPPLY FAN SF-4	PENTHOUSE 8200	480 / 3 / 60	10 HP	14.0 FLA	17.5		PROVIDE VARIABLE FREQUENCY DRIVE		DISCONNECT PROVIDED WITH VFD	(3)#12, 1#12 GND IN 3/4" C	
SUPPLY FAN SF-5	EQUIPMENT RM 8206	480 / 3 / 60	3 HP	4.8 FLA	6		PROVIDE VARIABLE FREQUENCY DRIVE		DISCONNECT PROVIDED WITH VFD	(3)#12, 1#12 GND IN 3/4" C	EMERGENCY POWER
SUPPLY FAN SF-6	WEST STAIR 8431	480 / 3 / 60	10 HP	14.0 RLA	17.5		PROVIDE VARIABLE FREQUENCY DRIVE		DISCONNECT PROVIDED WITH VFD	(3)#12, 1#12 GND IN 3/4" C	EMERGENCY POWER
SUPPLY FAN SF-7	PENTHOUSE 8200	480 / 3 / 60	7-1/2 HP	11.0 FLA	13.75		PROVIDE VARIABLE FREQUENCY DRIVE		DISCONNECT PROVIDED WITH VFD	(3)#12, 1#12 GND IN 3/4" C	EMERGENCY POWER
SUPPLY FAN SF-8	7TH LEVEL ROOF	480 / 3 / 60	7-1/2 HP	11.0 FLA	13.8		PROVIDE VARIABLE FREQUENCY DRIVE		DISCONNECT PROVIDED WITH VFD	(3)#12, 1#12 GND IN 3/4" C	EMERGENCY POWER
BOOSTER PUMP BP-1	MECHANICAL RM 1451	480 / 3 / 60	7-1/2 HP	11.0 FLA	13.8	INTEGRAL CONTROLS PROVIDED WITH UNIT UNDER DIVISION 22		DISCONNECT PROVIDED WITH UNIT UNDER DIVISION 22		(3)#12, 1#12 GND IN 3/4" C	
CIRCULATING PUMP CP-1	MECHANICAL RM 1451	120 / 1 / 60	3/4 HP	7.2 FLA	9		PROVIDE MOTOR-RATED SWITCH			(2)#12, 1#12 GND IN 3/4" C	
CIRCULATING PUMP CP-2	MECHANICAL RM 1451	120 / 1 / 60	1/12 HP	3.0 FLA	3.75		PROVIDE MOTOR-RATED SWITCH			(2)#12, 1#12 GND IN 3/4" C	
CIRCULATING PUMP CP-3	PENTHOUSE 8200	120 / 1 / 60	1/12 HP	3.0 FLA	3.75		PROVIDE MOTOR-RATED SWITCH			(2)#12, 1#12 GND IN 3/4" C	
FIRE PUMP FP-1	FIRE PUMP RM 1260	480 / 3 / 60	100 HP	124.0 FLA	155	FIRE PUMP CONTROLLER FURNISHED BY DIVISION 22		DISCONNECT FURNISHED WITH CONTROLLER		SEE RISER DIAGRAM	
JOCKEY PUMP JP-1	FIRE PUMP RM 1260	480 / 3 / 60	5 HP	7.6 FLA	9.5	JOCKEY PUMP CONTROLLER FURNISHED BY DIVISION 22		DISCONNECT FURNISHED WITH CONTROLLER		(3)#12, 1#12 GND IN 3/4" C	
TRAP PRIMER MANIFOLD ETP-1	PENTHOUSE 8200 WEST	120 / 1 / 60	-					PROVIDED WITH CORD AND PLUG		(2)#12, 1#12 GND IN 3/4" C	
TRAP PRIMER MANIFOLD ETP-2	PENTHOUSE 8200 EAST	120 / 1 / 60	-					PROVIDED WITH CORD AND PLUG		(2)#12, 1#12 GND IN 3/4" C	
TRAP PRIMER MANIFOLD ETP-3	MECHANICAL RM 1451	120 / 1 / 60	-					PROVIDED WITH CORD AND PLUG		(2)#12, 1#12 GND IN 3/4" C	
TRAP PRIMER MANIFOLD ETP-4	MECHANICAL RM 1451	120 / 1 / 60	-					PROVIDED WITH CORD AND PLUG		(2)#12, 1#12 GND IN 3/4" C	
TRAP PRIMER MANIFOLD ETP-5	PREP 3 RM 1417A	120 / 1 / 60	-					PROVIDED WITH CORD AND PLUG		(2)#12, 1#12 GND IN 3/4" C	
TRAP PRIMER MANIFOLD ETP-6	PREP 2 RM 1417E	120 / 1 / 60	-					PROVIDED WITH CORD AND PLUG		(2)#12, 1#12 GND IN 3/4" C	
SUMP PUMP SP-1	ELEVATOR 5 & 6 PIT	120 / 1 / 60	-					PROVIDED WITH CORD AND PLUG		(2)#12, 1#12 GND IN 3/4" C	
SUMP PUMP SP-2	ELEVATOR 1 & 2 PIT	120 / 1 / 60	-					PROVIDED WITH CORD AND PLUG		(2)#12, 1#12 GND IN 3/4" C	
SUMP PUMP SP-3	ELEVATOR 3 & 4 PIT	120 / 1 / 60	-					PROVIDED WITH CORD AND PLUG		(2)#12, 1#12 GND IN 3/4" C	
WATER HEATER WH-1	MECHANICAL RM 1451	120 / 1 / 60	-							(2)#12, 1#12 GND IN 3/4" C	PROVIDE 120V CONTROL POWER
WATER HEATER WH-2	MECHANICAL RM 1451	120 / 1 / 60	-							(2)#12, 1#12 GND IN 3/4" C	PROVIDE 120V CONTROL POWER
WATER HEATER WH-3	PENTHOUSE 8200	120 / 1 / 60	-							(2)#12, 1#12 GND IN 3/4" C	PROVIDE 120V CONTROL POWER
WATER SOFTENER WS-1	MECHANICAL RM 1452	120 / 1 / 60	-					PROVIDED WITH CORD AND PLUG		(2)#12, 1#12 GND IN 3/4" C	
KITCHEN EXHAUST FAN KEF-1 (FOOD SERVICE EQUIP)	1ST LEVEL ROOF	208 / 3 / 60	3 HP	9.5 FLA	11.9					(3)#12, 1#12 GND IN 3/4" C	
KITCHEN EXHAUST FAN KEF-2 (FOOD SERVICE EQUIP)	1ST LEVEL ROOF	208 / 3 / 60	1-1/2 HP	4.7 FLA	5.9					(3)#12, 1#12 GND IN 3/4" C	
KITCHEN EXHAUST FAN KEF-3 (FOOD SERVICE EQUIP)	1ST LEVEL ROOF	208 / 3 / 60	2 HP	6.2 FLA	7.75					(3)#12, 1#12 GND IN 3/4" C	
KITCHEN EXHAUST FAN KEF-4 (FOOD SERVICE EQUIP)	1ST LEVEL ROOF	120 / 1 / 60	1/4 HP	4.0 FLA	5					(2)#12, 1#12 GND IN 3/4" C	
MAKE-UP AIR UNIT MUA-5 (FOOD SERVICE EQUIP)	1ST LEVEL ROOF	208 / 3 / 60	1-1/2 HP	4.7 FLA	5.9					(3)#12, 1#12 GND IN 3/4" C	
MAKE-UP AIR UNIT MUA-6 (FOOD SERVICE EQUIP)	1ST LEVEL ROOF	208 / 3 / 60	3/4 HP	2.7 FLA	3.4					(3)#12, 1#12 GND IN 3/4" C	

E022

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

EQUIPMENT CONNECTION SCHEDULE

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 10

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VARIABLE FREQUENCY DRIVES

MARK	LOCATION	SERVICE	MAX HP	INPUT ELECTRICAL CHARACTERISTICS			HARMONIC MITIGATION	BASED ON	REMARKS
				VOLTS	FREQUENCY	PHASE			
VFD-AHU-1	MECHANICAL RM 1452	AHU-1	40	460	60	3	6-PULSE	-	-
VFD-AHU-2	MECHANICAL RM 1221	AHU-2	25	460	60	3	6-PULSE	-	-
VFD-AHU-3	MECHANICAL RM 1451	AHU-3	25	460	60	3	6-PULSE	-	-
VFD-AHU-4	MECHANICAL RM 1452	AHU-4	7-1/2	460	60	3	6-PULSE	-	-
VFD-AHU-5	MECHANICAL RM 2223	AHU-5	25	460	60	3	6-PULSE	-	-
VFD-AHU-6	MECHANICAL RM 3421	AHU-6	25	460	60	3	6-PULSE	-	-
VFD-AHU-7	MECHANICAL RM 4421	AHU-7	25	460	60	3	6-PULSE	-	-
VFD-AHU-8	MECHANICAL RM 5421	AHU-8	25	460	60	3	6-PULSE	-	-
VFD-AHU-9	MECHANICAL RM 6421	AHU-9	25	460	60	3	6-PULSE	-	-
VFD-AHU-10	MECHANICAL RM 7421	AHU-10	40	460	60	3	6-PULSE	-	-
VFD-SF-1	PENTHOUSE 8200	SF-1	10	460	60	3	6-PULSE	-	-
VFD-SF-2	PENTHOUSE 8200	SF-2	10	460	60	3	6-PULSE	-	-
VFD-SF-3	PENTHOUSE 8200	SF-3	10	460	60	3	6-PULSE	-	-
VFD-SF-4	PENTHOUSE 8200	SF-4	10	460	60	3	6-PULSE	-	-
VFD-SF-5	EQUIPMENT RM 8206	SF-5	3	460	60	3	6-PULSE	-	-
VFD-SF-6	WEST STAIR 8431	SF-6	10	460	60	3	6-PULSE	-	-
VFD-SF-7	PENTHOUSE 8200	SF-7	7-1/2	460	60	3	6-PULSE	-	-
VFD-SF-8	7TH LEVEL ROOF	SF-8	7-1/2	460	60	3	6-PULSE	-	-
VFD-EF-1	PENTHOUSE 8200	EF-1	7-1/2	460	60	3	6-PULSE	-	-
VFD-EF-2	PENTHOUSE 8200	EF-2	7-1/2	460	60	3	6-PULSE	-	-
VFD-EF-3	PENTHOUSE 8200	EF-3	7-1/2	460	60	3	6-PULSE	-	-
VFD-EF-4	PENTHOUSE 8200	EF-4	7-1/2	460	60	3	6-PULSE	-	-
VFD-CWP-1	MECHANICAL RM 1451	CWP-1	40	460	60	3	6-PULSE	-	-
VFD-CWP-2	MECHANICAL RM 1451	CWP-2	40	460	60	3	6-PULSE	-	-
VFD-CWP-3	MECHANICAL RM 1451	CWP-3	150	460	60	3	18-PULSE	-	-
VFD-CWP-4	MECHANICAL RM 1451	CWP-4	150	460	60	3	18-PULSE	-	-
VFD-CWP-5	MECHANICAL RM 1451	CWP-1	40	460	60	3	6-PULSE	-	(1)
VFD-CWP-6	MECHANICAL RM 1451	CWP-3	150	460	60	3	18-PULSE	-	(1)
VFD-CBP-1	PENTHOUSE 8200	CBP-1	25	460	60	3	6-PULSE	-	-
VFD-CBP-2	PENTHOUSE 8200	CBP-2	25	460	60	3	6-PULSE	-	-
VFD-HWP-1	PENTHOUSE 8200	HWP-1	50	460	60	3	12-PULSE	-	-
VFD-HWP-2	PENTHOUSE 8200	HWP-2	50	460	60	3	12-PULSE	-	-

NOTES:
1. EQUIPMENT ASSOCIATED WITH OPTION M-1. REFER TO ARCHITECTURAL DRAWINGS.

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PHASE 1
VOL. 4 OF 4

VARIABLE FREQUENCY DRIVE (VFD) SCHEDULE

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

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E023

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FOOD SERVICE EQUIPMENT ELECTRICAL CONNECTION SCHEDULE

NO	QTY	EQUIPMENT DESCRIPTION	VOLTS	PHASE	FLA	KVA	WIRE SIZE (NOTE 1)	CONNECTION TYPE HARDWIRE/RECEPTACLE TYPE	HEIGHT AFF (IN)	NOTES
1	2	AIR CURTAIN	120	1	6.0	0.7	(2) #12, (1) #12 GND. IN 3/4" C	HARDWIRE		
6	1	ICE MACHINE & BIN	208	3	14.0	5.0	(3) #12, (1) #12 GND. IN 3/4" C	HARDWIRE		MAX. FUSE SIZE = 20A
15	1	DISHWASHER, HIGH TEMP	208	3	46.0	16.6	(3) #6, (1) #10 GND. IN 1" C	HARDWIRE		MCA = 60A; MOPD = 60A
21	4	LIGHTS/DOOR HEATERS FOR WALK-IN COOLER/FREEZER	120	1	15.0	1.8	(2) #12, (1) #12 GND. IN 3/4" C	HARDWIRE		
22	2	MED TEMP EVAP COIL	120	1	7.0	0.8	(2) #12, (1) #12 GND. IN 3/4" C	HARDWIRE		
23	1	REMOTE CONDENSER, MED TEMP	208	1	13.0	2.7	(2) #12, (1) #12 GND. IN 3/4" C	HARDWIRE		MCA = 13.6A; MOPD = 20A
24	2	LOW TEMP EVAP COIL	208	1	13.0	2.7	(2) #12, (1) #12 GND. IN 3/4" C	HARDWIRE		
25	1	REMOTE CONDENSER, LOW TEMP	208	1	22.0	4.6	(2) #8, (1) #10 GND. IN 3/4" C	HARDWIRE		MCA = 25.7A; MOPD = 45A
33	1	TILTING KETTLE AND STAND	208	3	28.0	10.1	(3) #8, (1) #10 GND. IN 3/4" C	HARDWIRE		
35	1	EXHAUST HOOD (HOOD LIGHTS ONLY)	120	1	15.0	1.8	(2) #12, (1) #12 GND. IN 3/4" C	HARDWIRE		
36	1	FRYER BATTERY	120	1	15.0	1.8	(2) #12, (1) #12 GND. IN 3/4" C	NEMA 5-20R		
37	1	TILT SKILLET (CONTROLS ONLY)	120	1	2.0	0.2	(2) #12, (1) #12 GND. IN 3/4" C	NEMA 5-20R		
38	1	COMBI OVEN	120	1	5.0	0.6	(2) #12, (1) #12 GND. IN 3/4" C	NEMA 5-20R		DO NOT CONNECT TO GFCI OUTLET
39	2	CONVECTION OVEN, DOUBLE DECK	120	1	12.0	1.4	(2) #12, (1) #12 GND. IN 3/4" C	NEMA 5-20R		
50	1	EXHAUST HOOD (HOOD LIGHTS ONLY)	120	1	15.0	1.8	(2) #12, (1) #12 GND. IN 3/4" C	HARDWIRE		HOOD LIGHTS ONLY
52	1	REFRIGERATED DRAWER BASE	120	1	10.0	1.2	(2) #12, (1) #12 GND. IN 3/4" C	NEMA 5-20R		
55	1	REFRIGERATED PREP TABLE, MOBILE	120	1	12.0	1.4	(2) #12, (1) #12 GND. IN 3/4" C	NEMA 5-20R		
60	1	WALK-IN COOLER (SUBWAY)	120	1	15.0	1.8	(2) #12, (1) #12 GND. IN 3/4" C	HARDWIRE		15A POWER LOAD FOR LIGHTS & DOOR HEATER ONLY
61	1	MED TEMP EVAP COIL	120	1	5.0	0.6	(2) #12, (1) #12 GND. IN 3/4" C	HARDWIRE		
62	1	REMOTE CONDENSER	208	3	10.0	3.6	(3) #12, (1) #12 GND. IN 3/4" C	HARDWIRE		
65	2	ICE/BEVERAGE DISPENSER	120	1	3.0	0.4	(2) #12, (1) #12 GND. IN 3/4" C	NEMA 5-20R		
66	2	ICE MAKER	208	1	14.0	2.9	(2) #12, (1) #12 GND. IN 3/4" C	NEMA 6-20R		
69	2	COLD PAN UNIT	120	1	12.0	1.4	(2) #12, (1) #12 GND. IN 3/4" C	NEMA 5-20R		
70	1	HOT FOOD TOASTING STATION	120	1	15.0	1.8	(2) #12, (1) #12 GND. IN 3/4" C	NEMA 5-20R		
74	1	POS REGISTER	120	1	5.0	0.6	(2) #12, (1) #12 GND. IN 3/4" C	NEMA 5-20R		
76	1	DISPLAY REFRIGERATOR	120	1	6.0	0.7	(2) #12, (1) #12 GND. IN 3/4" C	NEMA 5-20R		
78	1	BACK COUNTER, REFRIGERATOR 60"	120	1	12.0	1.4	(2) #12, (1) #12 GND. IN 3/4" C	NEMA 5-20R		
79	1	MERRY CHEF OVEN	208	1	28.0	5.8	(2) #8, (1) #10 GND. IN 3/4" C			
81	1	BREAD OVEN	208	3	32.0	11.5	(3) #8, (1) #10 GND. IN 3/4" C	HARDWIRE		
85	1	CARBONATOR	120	1	10.0	1.2	(2) #12, (1) #12 GND. IN 3/4" C	NEMA 5-20R		

NOTE 1: MINIMUM 1" CONDUIT FOR UNDERGROUND INSTALLATION

PRINTING EQUIPMENT ELECTRICAL CONNECTION SCHEDULE

NO	EQUIPMENT DESCRIPTION	VOLTS	PHASE	FLA	KVA	WIRE SIZE (NOTE 1)	CONNECTION TYPE HARDWIRE/RECEPTACLE TYPE	NOTES
	BINDERY EQUIPMENT							
B1	PAPER CUTTER	208	3	30.0	10.8	(3) #8, (1) #10GND IN 3/4" C	HARDWIRE	PROVIDE 60A/3P DISCONNECT SWITCH
B2	PAPER DRILL - SMALL	120	1	15.0	1.8	(2) #12, (1) #12GND IN 3/4"C	NEMA 5-20R	
B3	PAPER DRILL - LARGE	208	3	12.3	4.9	(3) #12, (1) #12GND IN 3/4"C	HARDWIRE	PROVIDE 30A/3P DISCONNECT SWITCH
B4	STITCHER	120	1	15.0	1.8	(2) #12, (1) #12GND IN 3/4"C	NEMA 5-20R	
B5	TYER	120	1	15.0	1.8	(2) #12, (1) #12GND IN 3/4"C	NEMA 5-20R	
	GRAPHICS EQUIPMENT							
G2	MAT CUTTER							
G3	NETWORK PRINTER	120	1		1.2	(2) #12, (1) #12GND IN 3/4"C	NEMA 5-20R	
G4	PAPER CUTTER							
G5	SMALL LAMINATOR	120	1	15.0	1.8	(2) #12, (1) #12GND IN 3/4"C	NEMA 5-20R	
G6	SMALL PRESS - HGP360	208	1	20.0	4.2	(2) #10, (1) #10GND IN 3/4"C	NEMA L6-30R	
G9	LAMINATOR 1	220	1	40.0	8.5	(2) #6, (1) #10GND IN 3/4" C	NEMA 6-50R	PROVIDE BUCK BOOST TRANSFORMER
G11	LARGE PRESS - HGP560	208	1		5.2	(2) #10, (1) #10GND IN 3/4"C	NEMA L6-30R	
G13	WALL CUTTER							
G14	XEROX MFD	120	1		1.2	(2) #12, (1) #12GND IN 3/4"C	NEMA 5-20R	
	MICRO-IMAGING EQUIPMENT							
M1	KIP 7900 WIDE FORMAT SCANNER	208	1	15.6	3.6	(2) #12, (1) #12GND IN 3/4"C	NEMA 6-20R	
M2	STITCHER	120	1	15.0	1.8	(2) #12, (1) #12GND IN 3/4"C	NEMA 5-20R	
	PRINTING EQUIPMENT							
P1	OCE 6150	208	3		14.0	(3) #8, (1) #10GND IN 3/4"C	NEMA 15-50R	
P2	XEROX 4127 PRINT ENGINE	208	1		1.4	(2) #12, (1) #12GND IN 3/4"C	(1) NEMA 6-15R (2) NEMA 5-20R	
	XEROX 4127 BYPASS TRAY & HCF	120	1		0.1	(2) #12, (1) #12GND IN 3/4"C		
	XEROX 4127 BOOKLET MAKER FINISHER	120	1		0.1	(2) #12, (1) #12GND IN 3/4"C		
	XEROX 4127 SQUARE FOLD TRIMMER MODULE	120	1		0.1	(2) #12, (1) #12GND IN 3/4"C		
	XEROX 4127 PRINT SERVER	120	1		0.1	(2) #12, (1) #12GND IN 3/4"C		
P3	XEROX 8000 DIGITAL PRESS	120/208	3		4.2	(3) #10, (1) #10GND IN 3/4"C	(1) NEMA 14-30R (2) NEMA 5-20R	
	XEROX 8000 PAPER TRAY 1 & 2 MODULE							
	XEROX 8000 HIGH CAPACITY STACKER HCS80	120	1		1.0	(2) #12, (1) #12GND IN 3/4"C		
	XEROX 8000 COLOR SERVER DOCUSP CONTROLLER	120	1		1.2	(2) #12, (1) #12GND IN 3/4"C		
P4	XEROX 700 DIGITAL PRESS	208	1		2.2	(2) #12, (1) #12GND IN 3/4"C	(1) NEMA 6-15R (2) NEMA 5-20R	
	XEROX 700 OVERSIZED HIGH CAPACITY FEEDER (OHCF)	120	1		0.1	(2) #12, (1) #12GND IN 3/4"C		
	XEROX 700 INTERFACE MODULE	120	1		0.1	(2) #12, (1) #12GND IN 3/4"C		
	XEROX 700 HIGH CAPACITY STACKER (HCS)	120	1		0.1	(2) #12, (1) #12GND IN 3/4"C		
	XEROX 700 PRINT SERVER	120	1	1.2	0.1	(2) #12, (1) #12GND IN 3/4"C		

NOTE 1: MINIMUM 1" CONDUIT FOR UNDERGROUND INSTALLATION

SYM	ZONE		DATE	APPROVED

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APPROVED Scott Robinson	12.18.13
Dung Trinh	12/19/13

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

FOOD SERVICE & PRINTING EQUIP. CONNECTION SCHEDULES

E031

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 12

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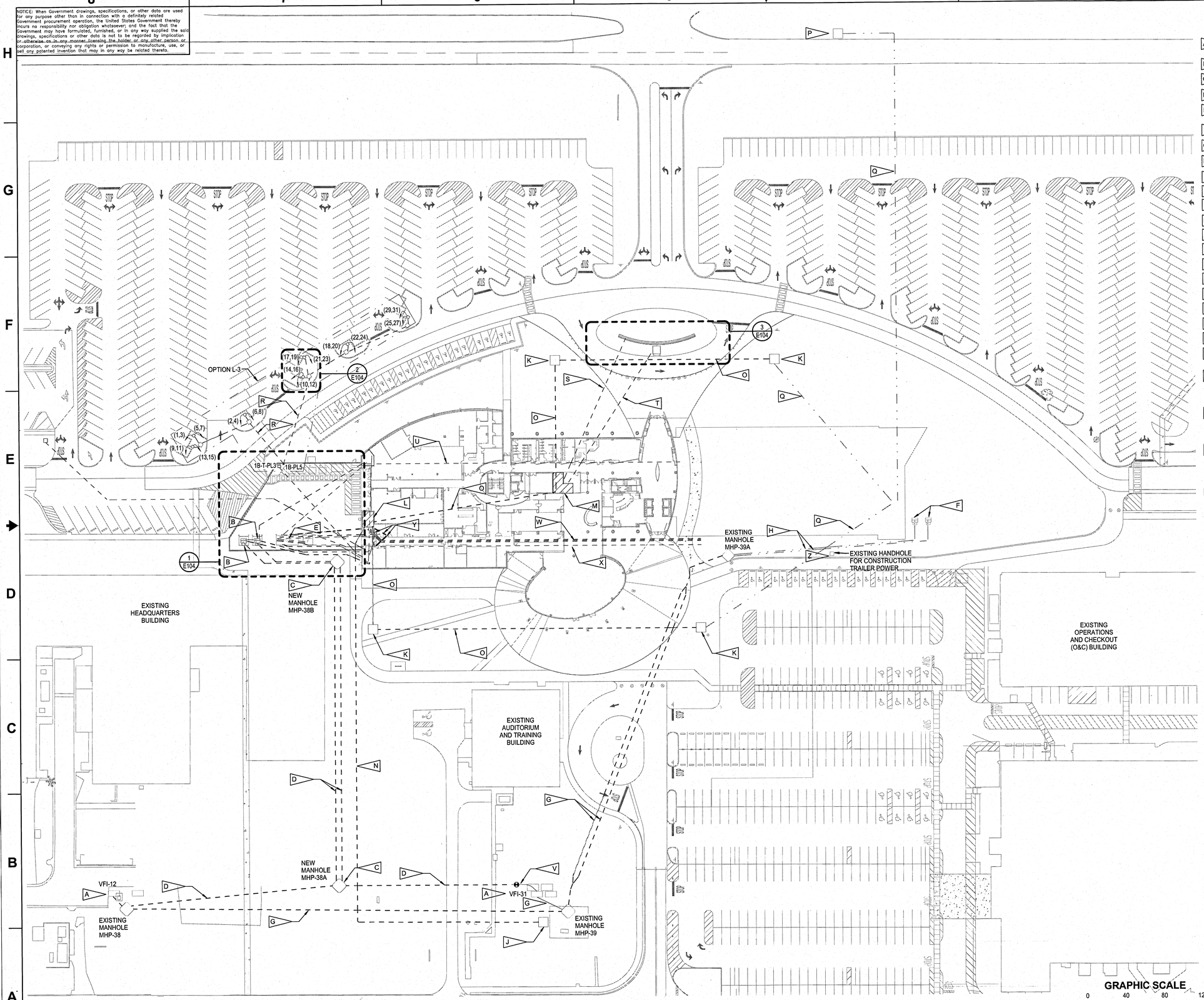

ELECTRICAL SITE PLAN

1" = 40'-0"

FLAG NOTES:

- A — EXISTING MEDIUM-VOLTAGE (MV) SWITCH. CONNECT NEW MV CABLE TO EXISTING VACUUM FAULT INTERRUPTER. REFER TO 79K39135 DRAWINGS FOR MORE INFORMATION.
- B — NEW PAD-MOUNTED MV TRANSFORMER. REFER TO RISER DIAGRAM FOR MORE INFORMATION.
- C — NEW ELECTRICAL MANHOLE.
- D — UNDERGROUND MV CABLE IN NEW 2-WAY 5" CONCRETE-ENCASED PVC.
- E — NEW DIESEL GENERATOR WITH WEATHERPROOF, SOUND-ATTENUATED WALK-IN ENCLOSURE. REFER TO RISER DIAGRAM.
- F — FUTURE PHASE 2 PAD-MOUNT MV TRANSFORMER.
- G — FUTURE PHASE 2 MV CABLE ROUTED IN EXISTING SPARE CONDUIT IN DUCTBANK.
- H — FUTURE PHASE 2 MV CABLE ROUTED IN CONCRETE-ENCASED PVC.
- J — EXISTING COMMUNICATIONS MANHOLE MH-030.
- K — NEW COMMUNICATIONS HANDHOLE, REFER TO TELECOMM DRAWINGS FOR DETAILS.
- L — SERVICE ENTRANCE FACILITY 1A, REFER TO TELECOMM DRAWINGS.
- M — MDF ROOM 1B (TELECOM 1219), REFER TO TELECOMM DRAWINGS.
- N — PROVIDE EIGHT (8) 4" PVC CONDUITS IN CONCRETE-ENCASED DUCTBANK FOR TELECOMM.
- O — PROVIDE FOUR (4) 4" PVC CONDUITS IN CONCRETE-ENCASED DUCTBANK FOR TELECOMM.
- P — EXISTING COMMUNICATIONS MANHOLE MH-008.
- Q — FUTURE COMMUNICATIONS CONDUITS TO PHASE 2.
- R — (4) 2" CONDUITS FOR ELECTRIC VEHICLE CHARGING STATIONS BURIED MINIMUM 24" BFG.
- S — 1" CONDUIT FOR MONUMENT SIGN LIGHT BURIED MINIMUM 24" BFG.
- T — 1" CONDUIT FOR FLAGPOLE LIGHTING BURIED MINIMUM 24" BFG.
- U — (3) 2" CONDUITS FOR FUTURE FIRE ALARM CONNECTIONS.
- V — EXISTING MV DUCTBANK STUBBED-OUT OUT APPROXIMATELY 20' FROM VFI-31 FOR PHASE 1 CONNECTION. FIELD LOCATE STUB-OUT FOR NEW CONNECTION.
- W — (6) 4" CONDUITS FOR FUTURE ATS-5, ATS-6, AND ATS-7. STUB UP TWO CONDUITS IN EMERGENCY SECTION OF EMSB AND FOUR IN STANDBY SECTION. TERMINATE IN GRASSY AREA AT EAST END OF BUILDING. CAP AND LABEL EACH CONDUIT AND PROVIDE FLUSH GRADE MARKER AS WELL AS BURIED ELECTRONIC BALL MARKER.
- X — (4) 2" CONDUITS FOR GENERATOR CONTROLS AND START CIRCUITS FOR PHASE 2. ROUTE FROM GENERATOR/ ATS INTERFACE CABINET AND TERMINATE IN GRASSY AREA AT EAST END OF BUILDING. CAP AND LABEL EACH CONDUIT AND PROVIDE FLUSH GRADE MARKER AS WELL AS BURIED ELECTRONIC BALL MARKER.
- Y — 4" CONDUITS BETWEEN ELECTRICAL ROOMS. PROVIDE (2) 4" CONDUITS FROM MAIN ELECTRICAL ROOM (1457) TO ELECTRICAL ROOM (1454), (2) 4" CONDUITS FROM MAIN ELECTRICAL ROOM (1457) TO EMERGENCY ELECTRICAL ROOM (1458), AND (2) 4" CONDUITS FROM ELECTRICAL ROOM (1454) TO EMERGENCY ELECTRICAL ROOM (1458). STUB UP 6" ABOVE FINISHED FLOOR IN EACH ROOM. CAP, AND LABEL AS FUTURE.
- Z — CONSTRUCTION TRAILER POWER AVAILABLE IN EXISTING HANDHOLE. POWER IS FED FROM DISCONNECT SWITCH IN ELECTRICAL ROOM IN O&C BUILDING.

GENERAL NOTES:

1. REFER TO MEDIUM VOLTAGE RISER DIAGRAM ON SHEET E-501 FOR MORE INFORMATION.
2. PROVIDE PULLWIRE IN ALL EMPTY CONDUITS.

SYM	ZONE	REVISIONS	DATE	APPROVED

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David Fang	12/19/13

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

ELECTRICAL SITE PLAN

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 13

E101

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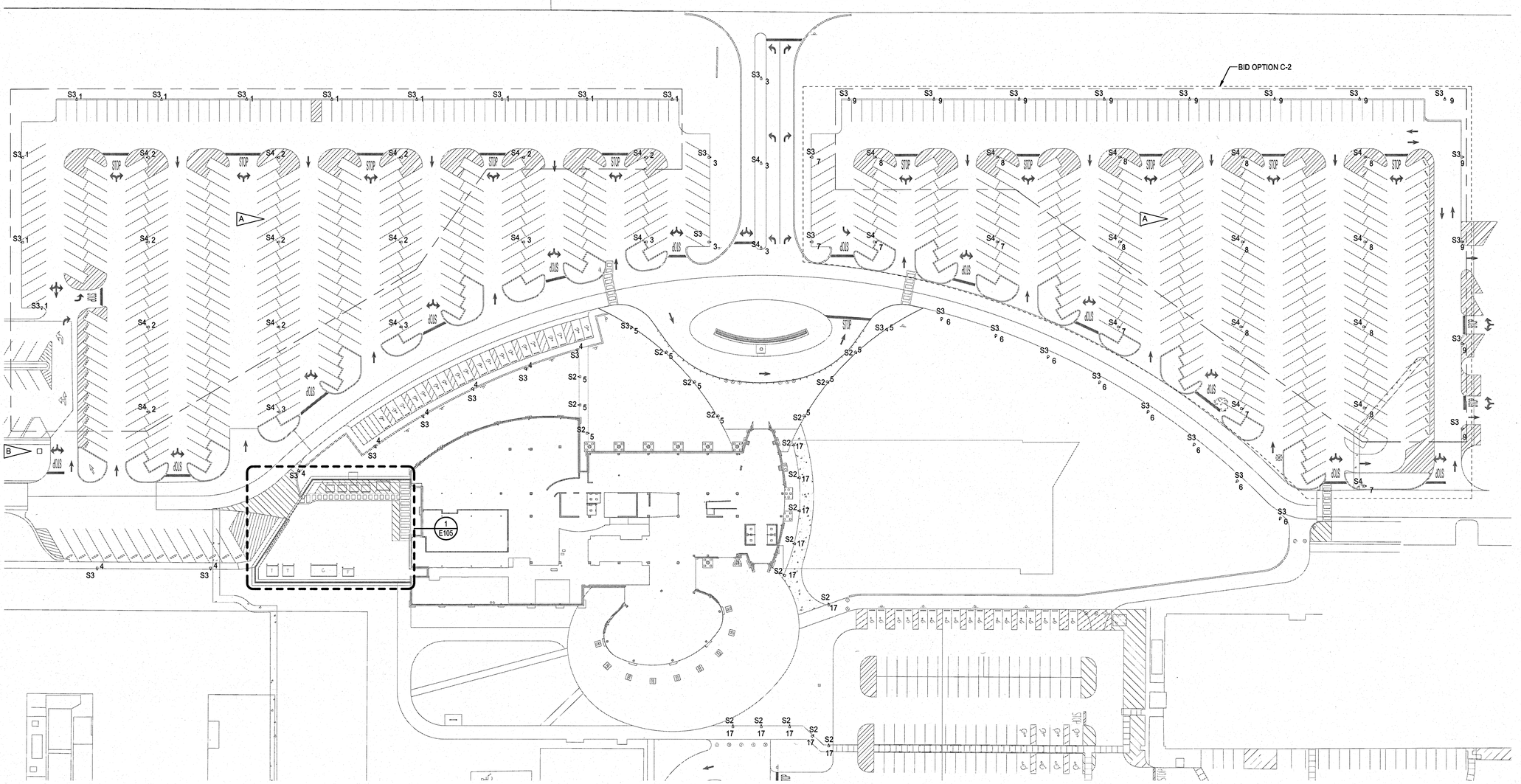

ELECTRICAL SITE LIGHTING PLAN

1" = 40'-0"

GENERAL NOTES:

1. EXTERIOR SITE LIGHTING FIXTURES TO BE CIRCUITED TO PANEL 1B-LH1, CIRCUIT NUMBER SHOWN. SITE LIGHTING FIXTURES (TYPE "S2") TO BE CONTROLLED VIA PHOTOCELL AND TIMECLOCK.
2. PARKING LOT LIGHT FIXTURES (TYPE "S3" AND "S4") TO HAVE INTEGRAL PHOTOCELLS MOTION DETECTORS. LIGHTS WILL TURN ON AT DUSK AND OFF AT DAWN. DURING UNOCCUPIED TIMES, LIGHTS WILL DIM TO APPROXIMATELY 35% NORMAL LEVEL AND WILL RETURN TO FULL BRIGHT UPON DETECTOR ACTIVATION.

FLAG NOTES:

A — LIGHTS IN THIS AREA TO BE CIRCUITED VIA TIMECLOCK. AFTER PRE-SET TIME, LIGHTS ON THESE CIRCUITS WILL TURN OFF FOR REMAINDER OF NIGHT. PROVIDE #8 AWG CONDUCTORS FOR THESE CIRCUITS.

B — PROVIDE HANDHOLE AND 2" SPARE CONDUIT FROM PANEL 1B-LH1 TO RE-FEED EXISTING PARKING LOT LIGHTS DURING DEMOLITION OF EXISTING HQ BUILDING.

GRAPHIC SCALE
0 40 80 120
SCALE IN FEET
1" = 40' - 0"

-N-

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LICENSE NO. 71672	
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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

ELECTRICAL SITE LIGHTING PLAN

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 14

E102

KSC FORM 1-11 (3/76)(C/G 3/94)

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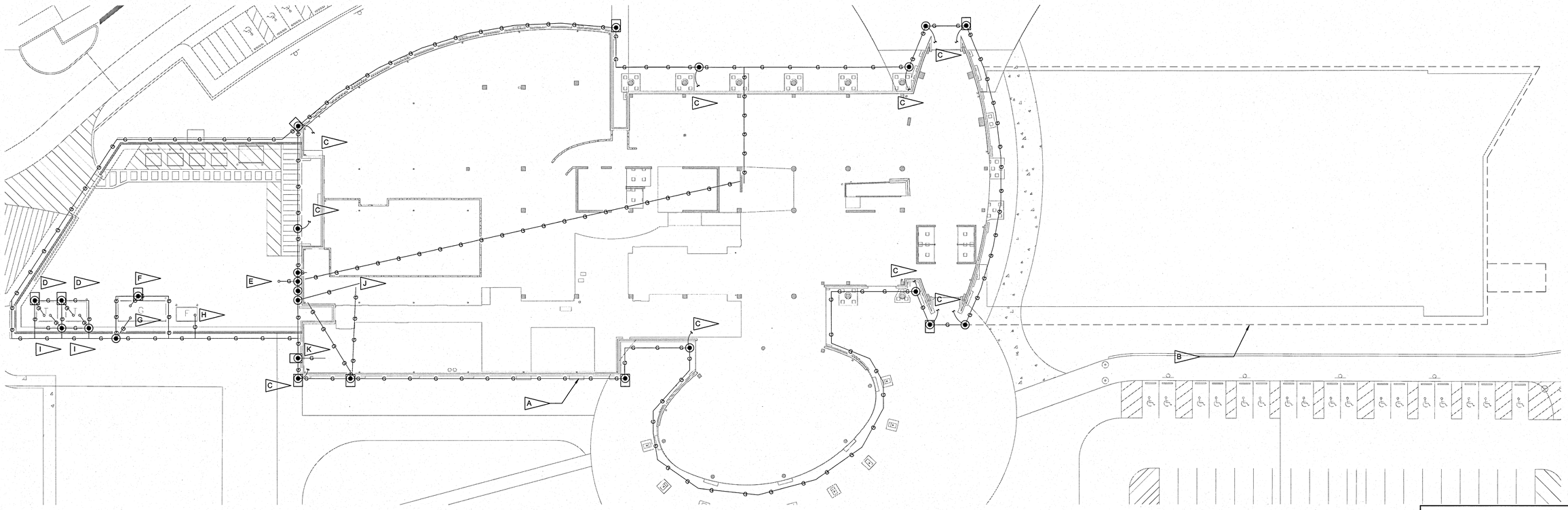

ELECTRICAL SITE GROUNDING PLAN

1" = 20'-0"

GENERAL NOTES:

1. ALL GROUNDED MEDIA AND BURIED METALLIC PIPES, CONDUITS, ETC. SHALL BE BONDED TO THE BURIED GROUND LOOP CONDUCTOR (COUNTERPOISE) AT POINTS OF CROSSING.
2. ALL BELOW-GRADE CABLE-TO-CABLE AND CABLE-TO-ROD CONNECTIONS SHALL BE EXOTHERMIC WELDS EXCEPT AT TEST WELLS WHERE MECHANICAL CONNECTORS SHALL BE USED TO ALLOW DISCONNECTION FOR TESTING PURPOSES.
3. COORDINATE FINAL STUB UP LOCATIONS FOR ALL GROUNDING RISER CONDUCTORS WITH THE SPECIFIC EQUIPMENT SHOP DRAWINGS.
4. WHERE LIGHTNING PROTECTION SYSTEM COMPONENTS INTERFACE WITH ROOF CONSTRUCTION, USE ONLY ADHESIVES, SEALANTS, FITTINGS, AND MATERIALS APPROVED BY THE ROOFING MANUFACTURER. THE INSTALLATION SHALL NOT VIOLATE ANY ROOFING WARRANTIES.
5. REFER TO GROUNDING RISER DIAGRAM, SHEET E601, FOR ADDITIONAL INFORMATION.

FLAG NOTES:

- A — BURIED GROUND RING AROUND BUILDING. REFER TO GROUNDING RISER DIAGRAM, SHEET E601.
- B — FUTURE GROUND RING FOR PHASE 2 BUILDING EXPANSION.
- C — LIGHTNING PROTECTION DOWN CONDUCTOR RUN 24" BELOW GRADE TO GROUND ROD AT COUNTERPOISE.
- D — BOND TRANSFORMER SECONDARY COMPARTMENT GROUND PAD AND BONDING JUMPER NEUTRAL BUSHING TO BURIED GROUND RING.
- E — PROVIDE 6' PIGTAIL AT GENERATOR TAP BOX FOR CONNECTION TO EQUIPMENT.
- F — BOND GENERATOR NEUTRAL AND BONDING JUMPER TO EQUIPMENT GROUND.
- G — BOND GENERATOR FRAME TO BURIED GROUND RING.
- H — BOND GENERATOR FUEL TANK TO BURIED GROUND RING.
- I — BOND ELECTRICAL DUCT BANK GROUND CONDUCTOR, TRANSFORMER PRIMARY COMPARTMENT GROUND PAD, AND MEDIUM VOLTAGE CABLE TERMINATION CONCENTRIC NEUTRALS TO BURIED GROUND RING.
- J — BOND UPS INVERTER OUTPUT TO BURIED GROUND RING.
- K — BOND MAIN SWITCHBOARD GROUND-NEUTRAL BOND TO BURIED GROUND RING.

GRAPHIC SCALE

0 20 40 60

SCALE IN FEET
1" = 20' - 0"

-N-

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

ELECTRICAL SITE GROUNDING PLAN

E103

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 15

KSC FORM 1-11 (3/76)(C/G 3/94)

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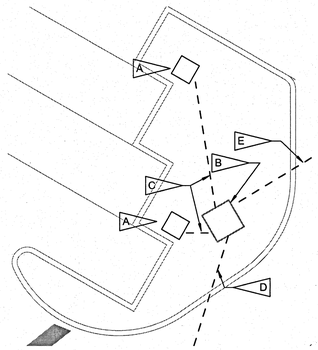
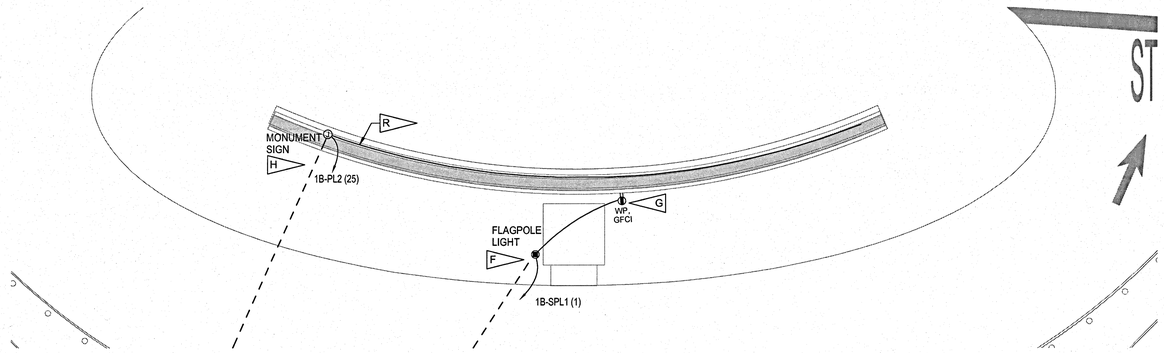


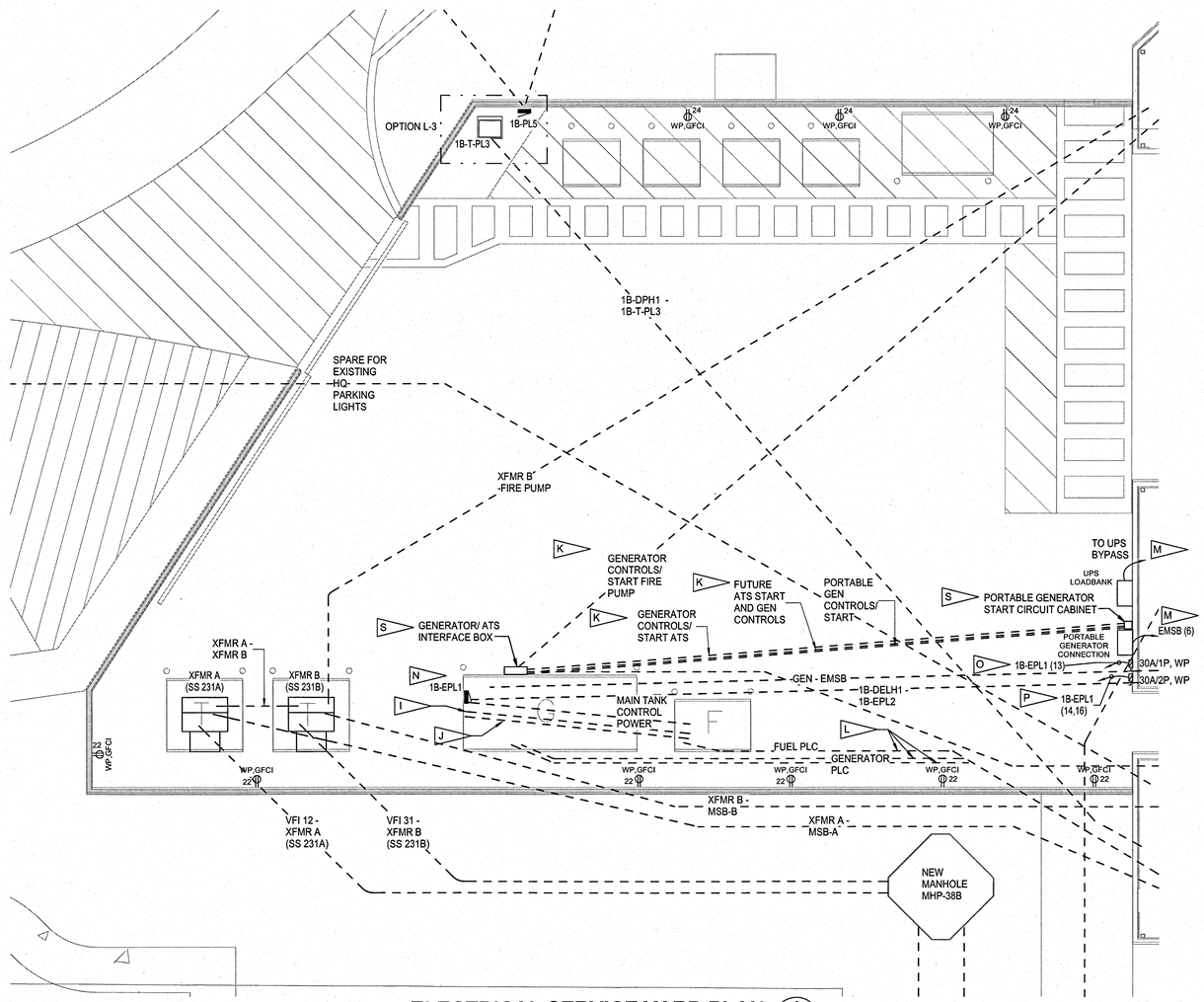
ENLARGED ELECTRIC VEHICLE CHARGING STATION PLAN (2 / E101)

1/8" = 1'-0"



ENLARGED MONUMENT SIGN POWER PLAN (3 / E101)

1/8" = 1'-0"



ELECTRICAL SERVICE YARD PLAN (1 / E101)

1/8" = 1'-0"

GENERAL NOTES:

1. SERVICE YARD RECEPTACLES TO BE CIRCUITED TO PANEL 1B-PL1, CIRCUIT NUMBER SHOWN.

FLAG NOTES:

- A — DUAL PORT LEVEL 2 PEDESTAL-MOUNTED ELECTRIC VEHICLE CHARGING STATION, CHARGEPOINT CT4021 DUAL PORT BOLLARD STATION OR APPROVED EQUAL. PROVIDE (2) 208V, 45A2P CONNECTIONS TO EACH STATION. PROVIDE (2) SETS OF (3#6, 1#10G) TO EACH CHARGING STATION.
- B — PROVIDE HANDHOLE FOR CONNECTION TO CHARGING STATIONS.
- C — 2" CONDUIT FROM HANDHOLE TO CHARGING STATION.
- D — (4) 2" CONDUITS FROM ELECTRICAL PANEL TO HANDHOLE.
- E — (2) 2" CONDUITS TO NEXT HANDHOLE.
- F — PROVIDE 120V CONNECTION TO FLAGPOLE LIGHT. PROVIDE (2) #10, (1) # 10G IN 1" CONDUIT.
- G — PROVIDE SURFACE-MOUNTED RECEPTACLE WITH WEATHERPROOF WHILE-IN-USE COVER ON BACK SIDE OF MONUMENT SIGN.
- H — PROVIDE 120V CONNECTION TO MONUMENT SIGN. PROVIDE (2) #10, (1) # 10G IN 1" CONDUIT.
- I — (2) 1" CONDUIT FOR ALARM SIGNAL WIRING BETWEEN MAIN FUEL TANK CONTROL PANEL AND GENERATOR CONTROL PANEL.
- J — (1) 2" SPARE CONDUIT.
- K — 2" CONDUITS FOR GENERATOR START CIRCUITS. REFER TO EMERGENCY POWER RISER DIAGRAM, SHEET E503, GENERATOR START CIRCUIT WIRING DETAIL, SHEET E402, AND GENERATOR CONTROL/ SIGNAL WIRING DIAGRAM, SHEET E401, FOR MORE INFORMATION.
- L — 2" CONDUITS FOR PLC CONNECTIONS AT GENERATOR, DAY TANK, FUEL TANK, AND BATTERY CHARGER. ROUTE (4) 2" CONDUITS FROM PLC TO GENERATOR FOR CONTROL CONNECTIONS. REFER TO GENERATOR CONTROL/ SIGNAL WIRING DIAGRAM, SHEET E401, AND KCCS NETWORK DIAGRAM, SHEET E403, FOR MORE INFORMATION.
- M — REFER TO EMERGENCY POWER RISER DIAGRAM, SHEET E503, FOR CONDUIT AND WIRE SIZES.
- N — REFER TO PANEL SCHEDULE 1B-EPL1 FOR CONNECTIONS. PROVIDE (3) #12, (1)#12G FOR DAY TANK FUEL PUMP AND (2)#10, (1)#10G FOR ENGINE BLOCK HEATER, ENCLOSURE HEATER, AND PORTABLE GENERATOR HEATER.
- O — PROVIDE (2)#10, (1)#10G IN 3/4" CONDUIT.
- P — PROVIDE (3)#10, (1)#10G IN 3/4" CONDUIT.
- R — PROVIDE 1" CONDUIT ALONG BACKSIDE OF PRECAST WALL FOR MULTIPLE FEEDS TO SIGNAGE. FOR EACH LETTER OF THE SIGNAGE, PROVIDE (1) JUNCTION BOX AND (1) CONDUIT PENETRATION THROUGH PRECAST WALL. COORDINATE EXACT LOCATIONS OF JUNCTION BOXES AND CONDUIT PENETRATIONS WITH SIGNAGE VENDOR. REFER TO ARCHITECTURAL SHEET A103 FOR MORE DETAILS.
- S — REFER TO GENERATOR CONTROL/ SIGNAL WIRING DIAGRAM, SHEET E401, AND GENERATOR START CIRCUIT WIRING DIAGRAM, SHEET E402, FOR ADDITIONAL INFORMATION.

SYM	ZONE		DATE	APPROVED

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SUBMITTED: MECHANICS OF RECORD Toby S. Smith	12/18/13
ST of LICENSURE: FL LICENSE NO. 71672	
APPROVED Scott Robinson	12.18.13
Duhg Trang	12/19/13

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KSC CENTRAL CAMPUS
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PHASE 1
VOL. 4 OF 4

ELECTRICAL SERVICE YARD PLAN

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a — SHEET 16

E104

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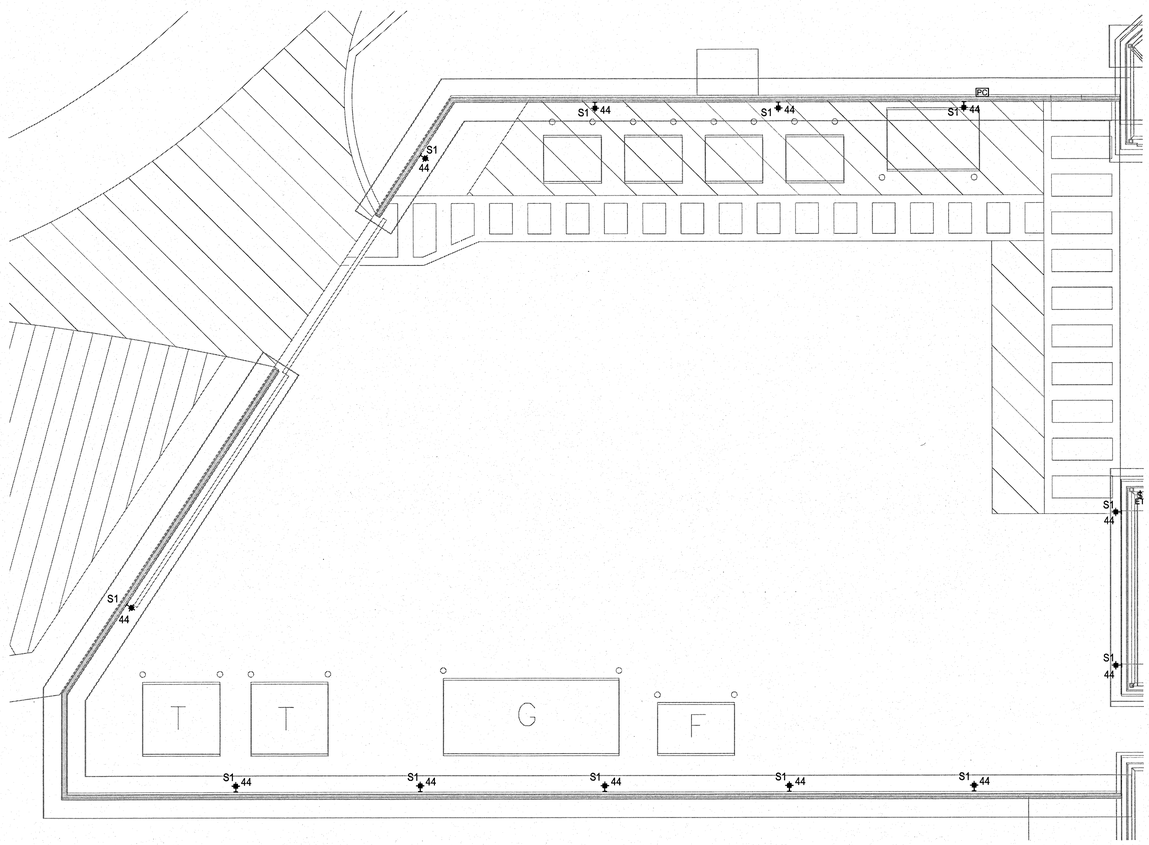
GENERAL NOTES:

1. SERVICE YARD LIGHT FIXTURES TO BE CIRCUITED TO PANEL 1B-ELL1. CIRCUIT DESIGNATION INDICATED AT LIGHT FIXTURE.



ELECTRICAL SERVICE YARD LIGHTING PLAN (1 / E102)

1/8" = 1'-0"

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ELECTRICAL SERVICE YARD LIGHTING PLAN

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 17

E105

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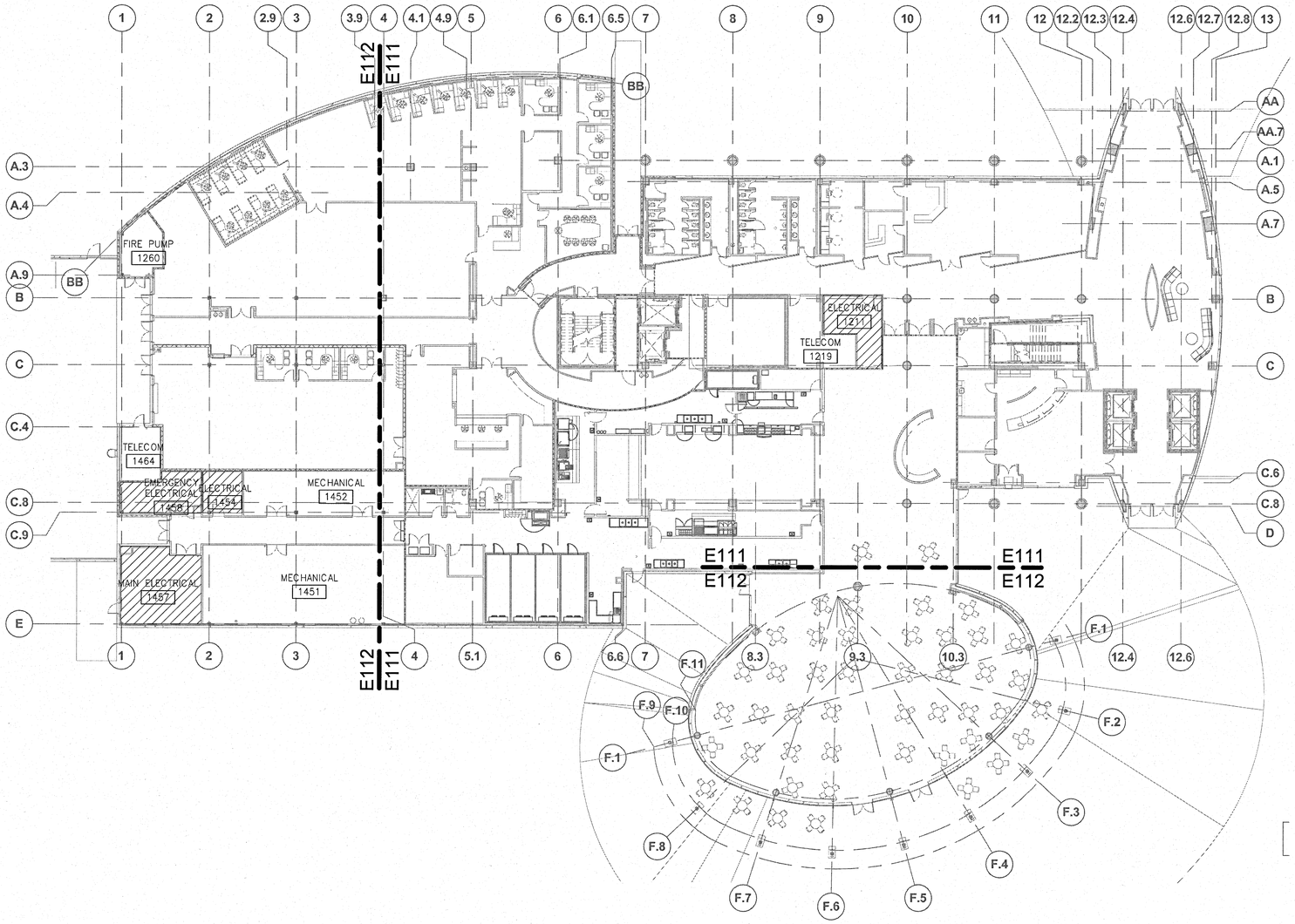

POWER PLAN - 1ST LEVEL OVERALL

1/16" = 1'-0"

GRAPHIC SCALE

0 16 32 48

SCALE IN FEET
1/16" = 1' - 0"

E110

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POWER PLAN - 1ST LEVEL OVERALL

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 18

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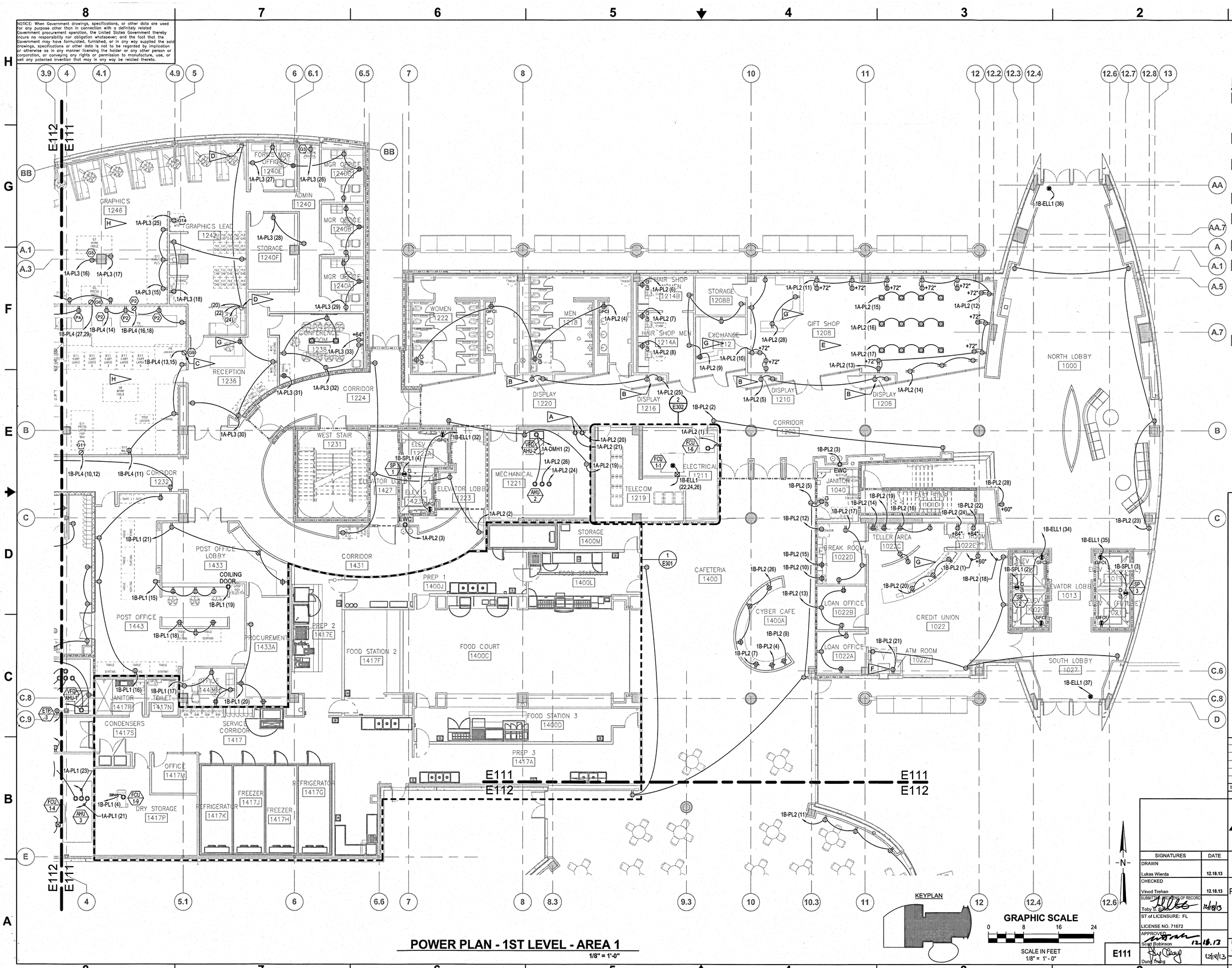

POWER PLAN - 1ST LEVEL - AREA 1

1/8" = 1'-0"

FLAG NOTES:

- **A** PROVIDE 120V POWER TO BUILDING AUTOMATION SYSTEM (BAS) CONTROL PANEL, AS SHOWN. EXACT LOCATION OF PANEL TO BE COORDINATED WITH MECHANICAL CONTRACTOR.
- **B** COORDINATE LOCATION OF POWER AND DATA OUTLETS FOR TIMING AND COUNTDOWN IN DISPLAY WITH CONTRACTING OFFICER.
- **C** CIRCUIT LAMINATOR VIA BUCK-BOOST TRANSFORMER LOCATED IN MAIN ELECTRICAL ROOM 1457. REFER TO SHEET E302 FOR TRANSFORMER LOCATION.
- **D** FURNITURE FEED TO BE CIRCUITED TO PANEL 1A-PL3, CIRCUIT NUMBER SHOWN.
- **E** COORDINATE LOCATION OF ALL RECEPTACLES IN GIFT SHOP 1208 WITH GIFT SHOP VENDOR PRIOR TO ROUGH-IN.
- **F** COORDINATE LOCATION OF RECEPTACLE WITH ATM EQUIPMENT.
- **G** INSTALL RECEPTACLE IN CASEWORK. COORDINATION IN THE FIELD WITH GENERAL CONTRACTOR, TECHNOLOGY CONTRACTOR, ARCHITECT, AND OWNER'S PROJECT MANAGER IS CRITICAL AND SHALL BE COMPLETED PRIOR TO UNDERGROUND CONDUIT ROUGH-IN AND POURING OF FLOOR SLAB. ROUTE CONDUIT THROUGH WALLS AND INTO MILLWORK AS MUCH AS POSSIBLE TO MINIMIZE CONDUITS IN SLAB.
- **H** COORDINATE FINAL QUANTITIES AND LOCATIONS OF RECEPTACLES IN PRINTING AND GRAPHICS AREAS WITH OWNER PRIOR TO ROUGH-IN.

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PHASE 1
VOL. 4 OF 4

POWER PLAN - 1ST LEVEL AREA 1

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 19

E111

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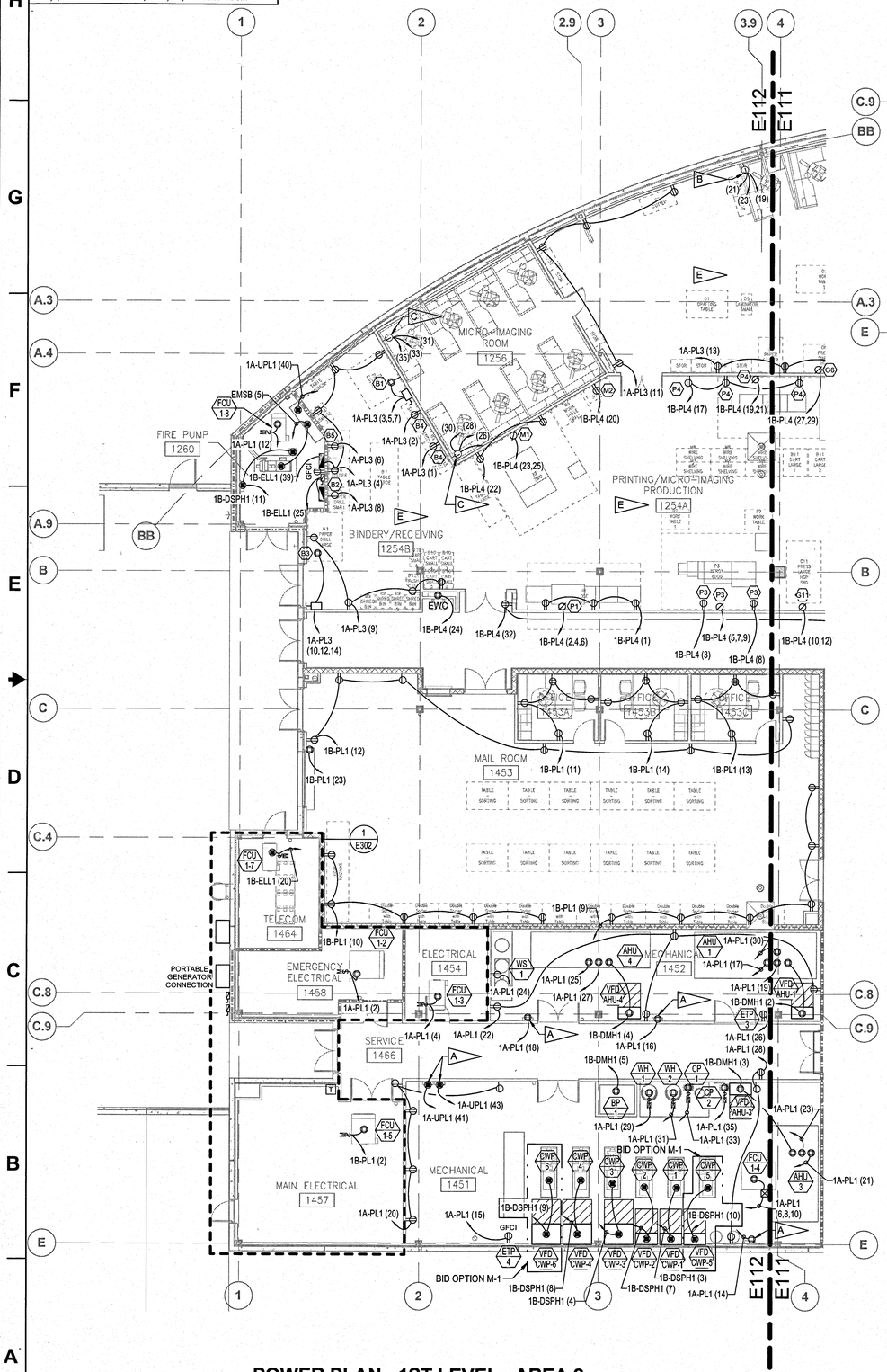
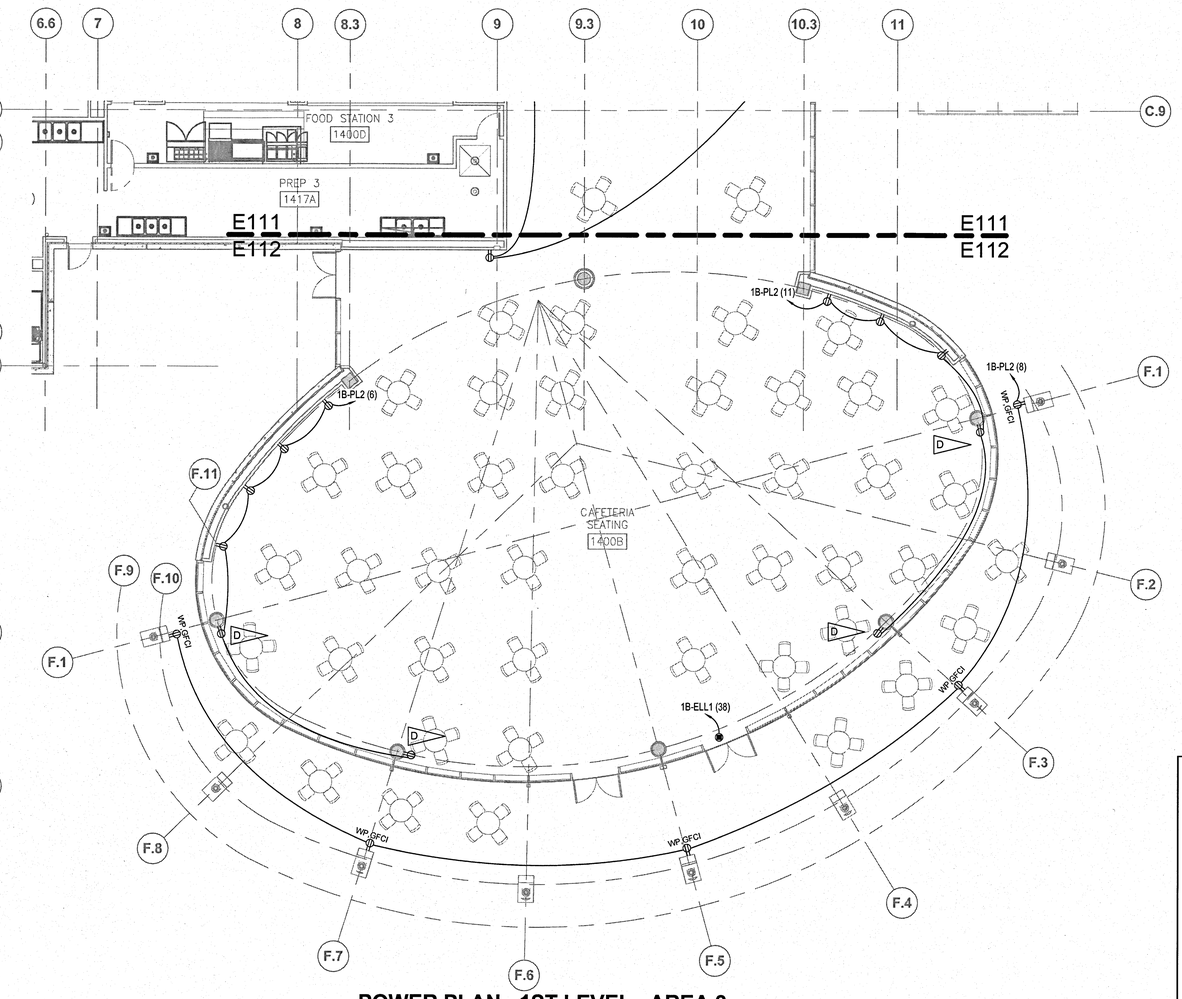


POWER PLAN - 1ST LEVEL - AREA 2

1/8" = 1'-0"



POWER PLAN - 1ST LEVEL - AREA 3

1/8" = 1'-0"

FLAG NOTES:

- A — PROVIDE 120V POWER TO BUILDING AUTOMATION SYSTEM (BAS) CONTROL PANEL, AS SHOWN. EXACT LOCATION OF PANEL TO BE COORDINATED WITH MECHANICAL CONTRACTOR.
- B — FURNITURE FEED TO BE CIRCUITED TO PANEL 1A-PL3, CIRCUIT NUMBER SHOWN.
- C — FURNITURE FEED TO BE CIRCUITED TO PANEL 1B-PL4, CIRCUIT NUMBER SHOWN.
- D — MOUNT RECEPTACLE IN COLUMN AT 18" AFF.
- E — COORDINATE FINAL QUANTITIES AND LOCATIONS OF RECEPTACLES IN PRINTING AND GRAPHICS AREAS WITH OWNER PRIOR TO ROUGH-IN.

KEYPLAN

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1' - 0"

SYM	ZONE		DATE	APPROVED

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Dung Trang	12/19/13

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PHASE 1
VOL. 4 OF 4

POWER PLAN - 1ST LEVEL AREA 2 & 3

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 20

E112

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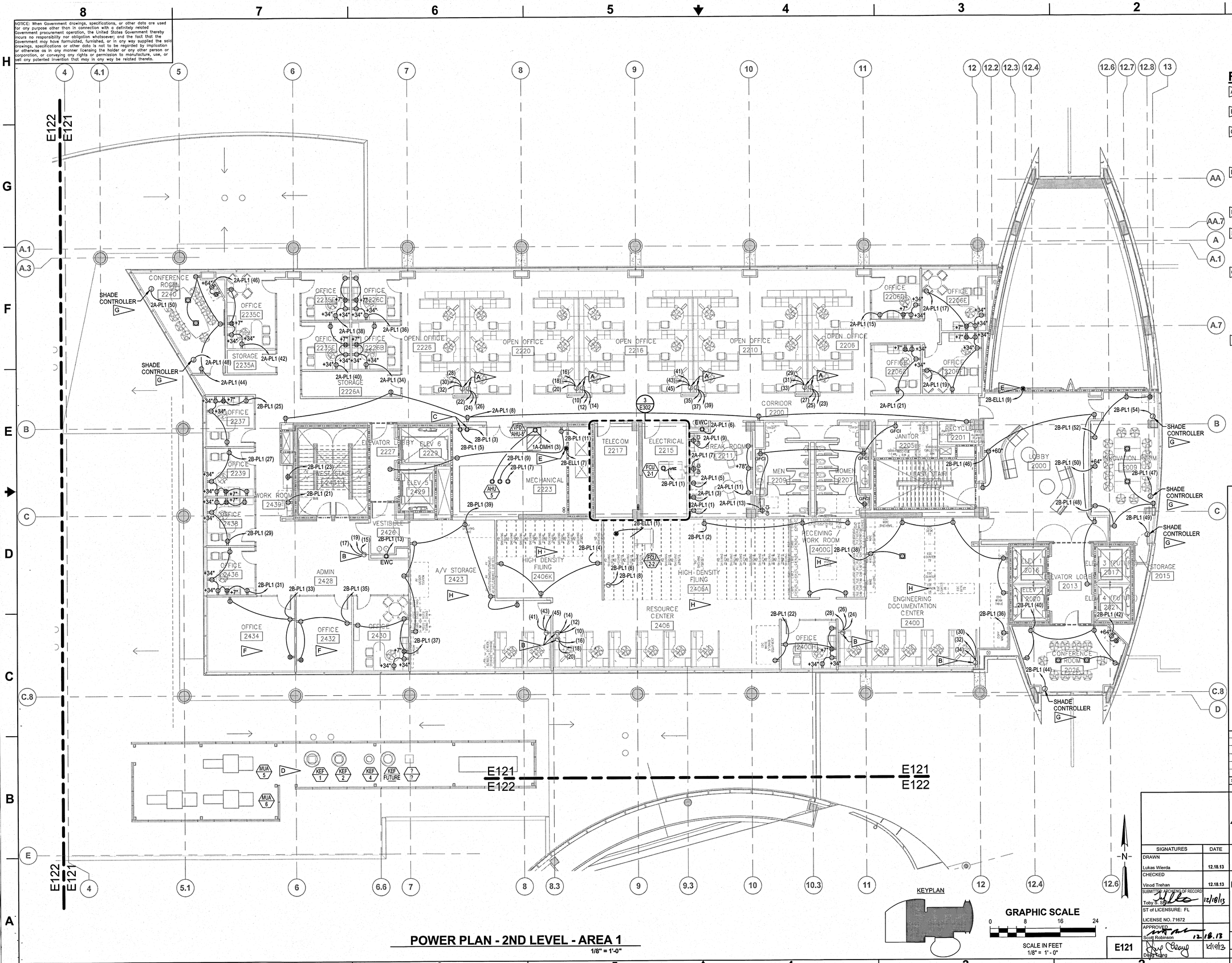

POWER PLAN - 2ND LEVEL - AREA 1

1/8" = 1'-0"

FLAG NOTES:

- A — FURNITURE FEED TO BE CIRCUITED TO PANEL 2A-PL1, CIRCUIT NUMBER SHOWN.
- B — FURNITURE FEED TO BE CIRCUITED TO PANEL 2B-PL1, CIRCUIT NUMBER SHOWN.
- C — PROVIDE 120V POWER TO BUILDING AUTOMATION SYSTEM (BAS) CONTROL PANEL, AS SHOWN. EXACT LOCATION OF PANEL TO BE COORDINATED WITH MECHANICAL CONTRACTOR.
- D — ROOF TOP FOOD SERVICE KITCHEN EQUIPMENT TO BE CIRCUITED VIA SHUNT TRIP CIRCUIT BREAKERS. REFER TO FOOD SERVICE ELECTRICAL DETAILS, SHEET E407, FOR CIRCUIT INFORMATION.
- E — PROVIDE 120V EMERGENCY POWER TO FIRE SMOKE DAMPER.
- F — EXISTING FURNITURE GOVERNMENT FURNISHED, GOVERNMENT INSTALLED. COORDINATE LOCATIONS OF ALL FLOOR, WALL AND CEILING DEVICES WITH GOVERNMENT.
- G — PROVIDE JUNCTION BOX AT EACH MOTORIZED SHADE MOTOR LOCATION. COORDINATE QUANTITIES AND LOCATIONS WITH MOTORIZED SHADE VENDOR. REFER TO DETAIL 5, SHEET E402 FOR MORE INFORMATION. COORDINATE LOCATION OF SWITCH FOR SHADE CONTROLLERS WITH LIGHTING CONTROLS. REFER TO LIGHTING PLANS (E200 SERIES) FOR LOCATION OF CONTROLS.
- H — COORDINATE QUANTITIES AND LOCATIONS OF RECEPTACLES IN THIS ROOM WITH OWNER PRIOR TO ROUGH-IN.

SYM	ZONE		DATE	APPROVED

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LICENSE NO. 71672	
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Dwight Chang	12/18/13

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PHASE 1
VOL. 4 OF 4

POWER PLAN - 2ND LEVEL AREA 1

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a | SHEET 21

E121

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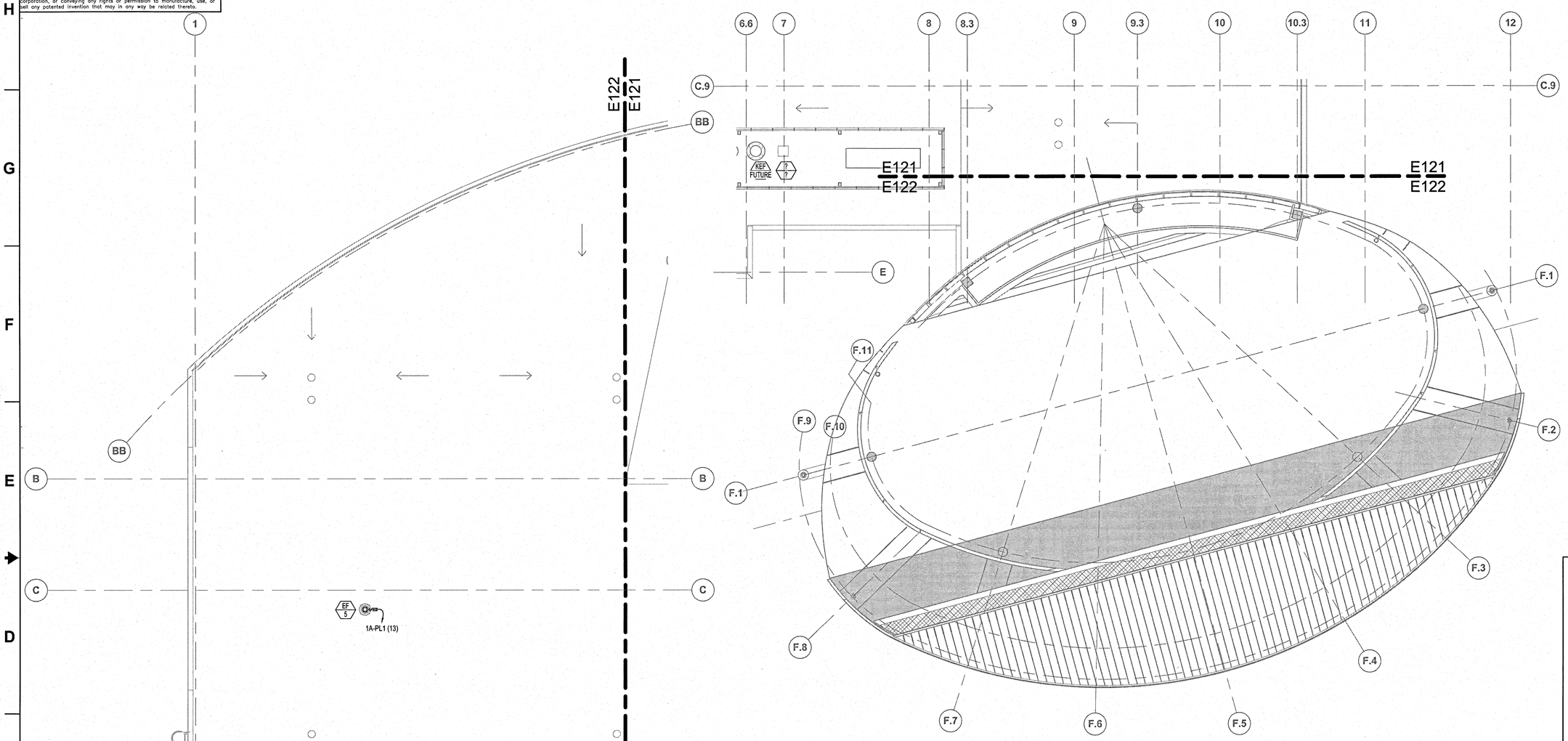
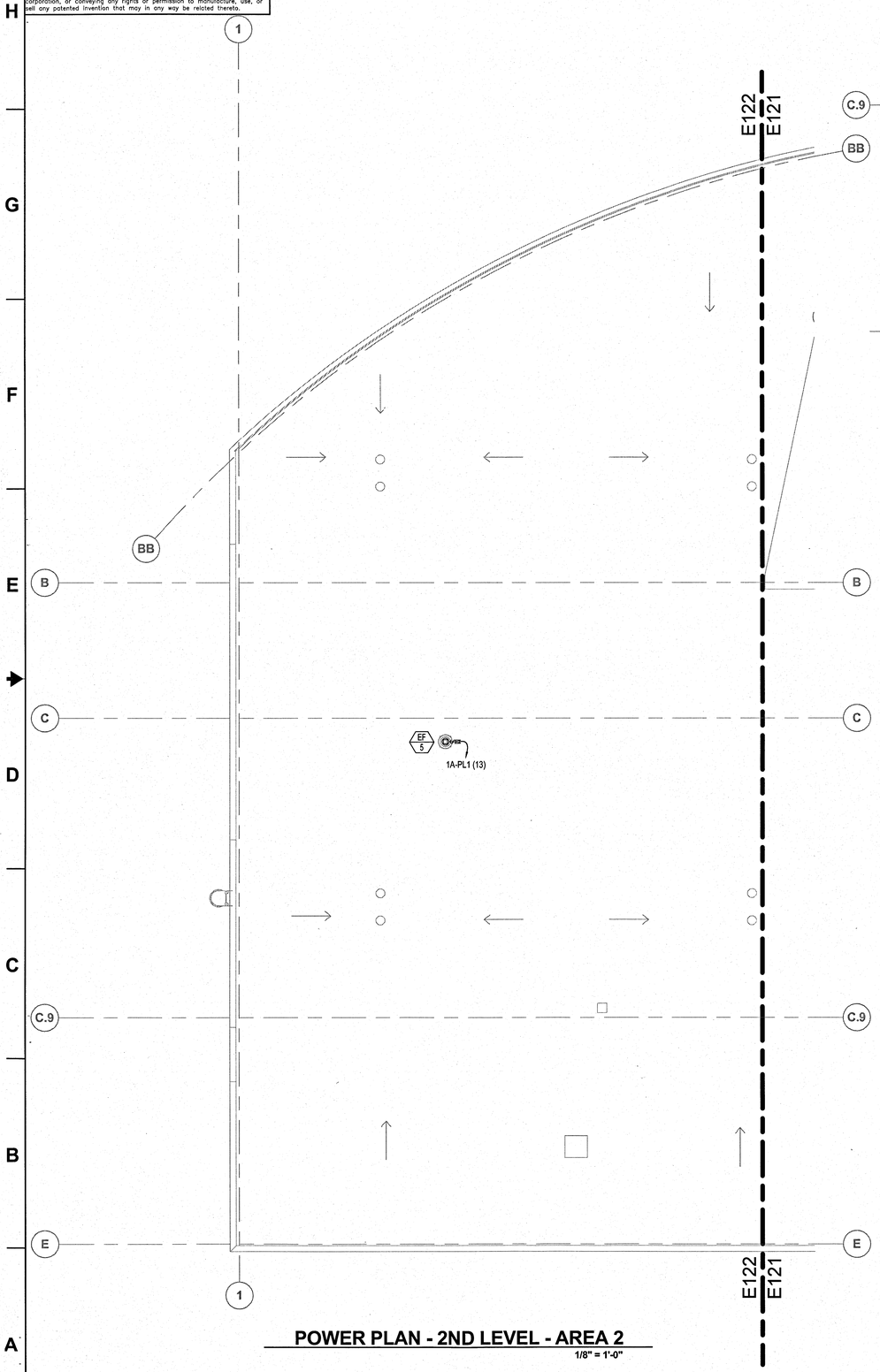


POWER PLAN - 2ND LEVEL - AREA 3

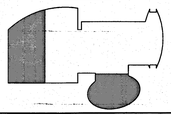
1/8" = 1'-0"



POWER PLAN - 2ND LEVEL - AREA 2

1/8" = 1'-0"

KEYPLAN



GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1' - 0"

E122

SYM	ZONE		DATE	APPROVED

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VOL. 4 OF 4

POWER PLAN - 2ND LEVEL AREA 2 & 3

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 22

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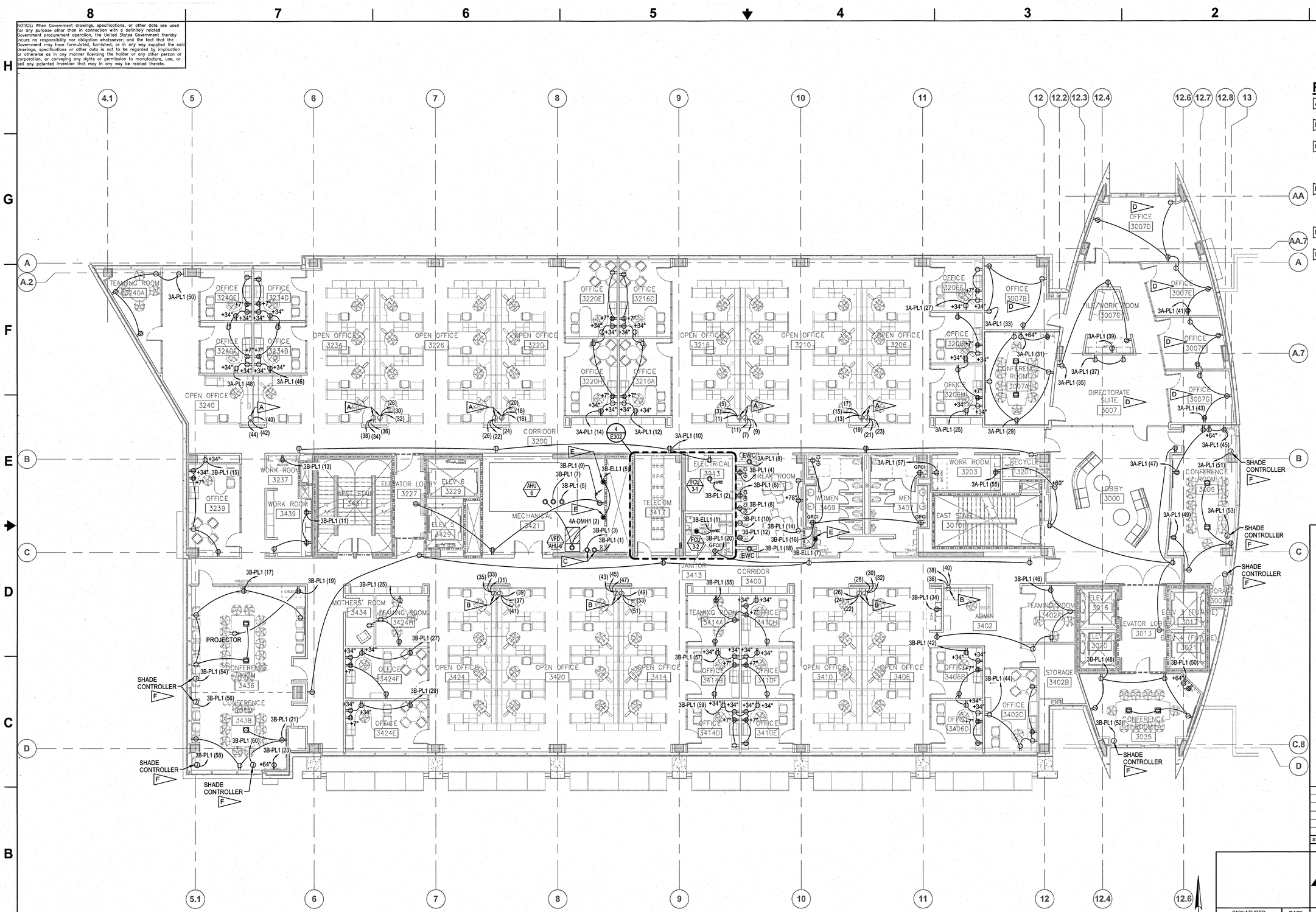

FLAG NOTES:

- A — FURNITURE FEED TO BE CIRCUITED TO PANEL 3A-PL1, CIRCUIT NUMBER SHOWN.
- B — FURNITURE FEED TO BE CIRCUITED TO PANEL 3B-PL1, CIRCUIT NUMBER SHOWN.
- C — PROVIDE 120V POWER TO BUILDING AUTOMATION SYSTEM (BAS) CONTROL PANEL, AS SHOWN. EXACT LOCATION OF PANEL TO BE COORDINATED WITH MECHANICAL CONTRACTOR.
- D — EXISTING FURNITURE GOVERNMENT FURNISHED, GOVERNMENT INSTALLED. COORDINATE LOCATIONS OF ALL FLOOR, WALL AND CEILING DEVICES WITH GOVERNMENT.
- E — PROVIDE 120V EMERGENCY POWER TO FIRE SMOKE DAMPER.
- F — PROVIDE JUNCTION BOX AT EACH MOTORIZED SHADE MOTOR LOCATION. COORDINATE QUANTITIES AND LOCATIONS WITH MOTORIZED SHADE VENDOR. REFER TO DETAIL 5, SHEET E402 FOR MORE INFORMATION. COORDINATE LOCATION OF SWITCH FOR SHADE CONTROLLERS WITH LIGHTING CONTROLS. REFER TO LIGHTING PLANS (E200 SERIES) FOR LOCATION OF CONTROLS.

POWER PLAN - 3RD LEVEL

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1' - 0"

E131

SYM	ZONE		DATE	APPROVED

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LICENSE NO. 71672	
APPROVED Scott Robinson	12.18.13
Duhy Strang	12/18/13

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PHASE 1
VOL. 4 OF 4

POWER PLAN - 3RD LEVEL

FILE NO.	SIZE	DWG. NO.
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PCN. NO. 98745.1a		SHEET 23

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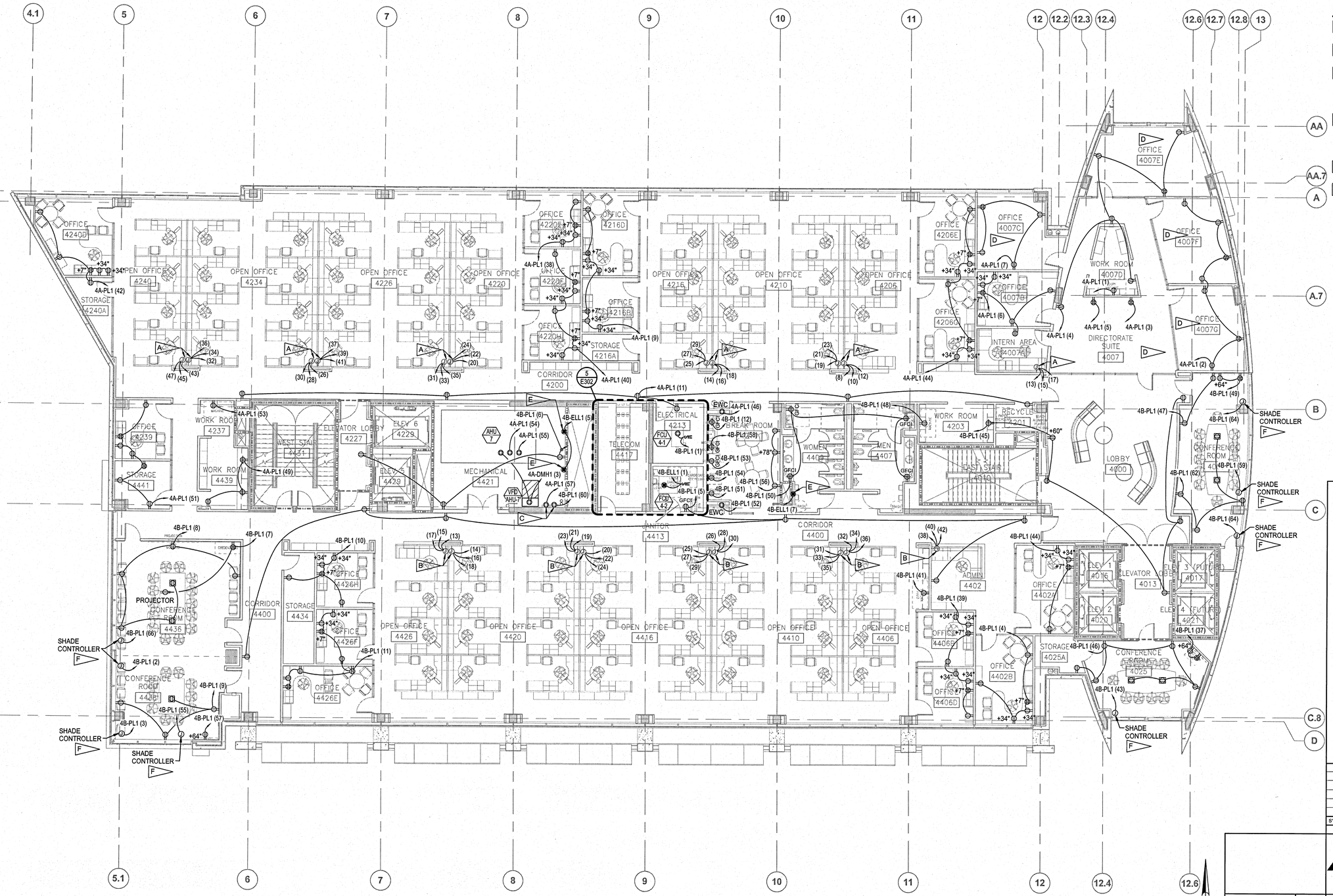

FLAG NOTES:

- A — FURNITURE FEED TO BE CIRCUITED TO PANEL 4A-PL1, CIRCUIT NUMBER SHOWN.
- B — FURNITURE FEED TO BE CIRCUITED TO PANEL 4B-PL1, CIRCUIT NUMBER SHOWN.
- C — PROVIDE 120V POWER TO BUILDING AUTOMATION SYSTEM (BAS) CONTROL PANEL, AS SHOWN. EXACT LOCATION OF PANEL TO BE COORDINATED WITH MECHANICAL CONTRACTOR.
- D — EXISTING FURNITURE GOVERNMENT FURNISHED, GOVERNMENT INSTALLED. COORDINATE LOCATIONS OF ALL FLOOR, WALL AND CEILING DEVICES WITH GOVERNMENT.
- E — PROVIDE 120V EMERGENCY POWER TO FIRE SMOKE DAMPER.
- F — PROVIDE JUNCTION BOX AT EACH MOTORIZED SHADE MOTOR LOCATION. COORDINATE QUANTITIES AND LOCATIONS WITH MOTORIZED SHADE VENDOR. REFER TO DETAIL 5, SHEET E402 FOR MORE INFORMATION. COORDINATE LOCATION OF SWITCH FOR SHADE CONTROLLERS WITH LIGHTING CONTROLS. REFER TO LIGHTING PLANS (E200 SERIES) FOR LOCATION OF CONTROLS.

POWER PLAN - 4TH LEVEL

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1' - 0"

SYM	ZONE		DATE	APPROVED

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Dung Trang	12/18/13

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VOL. 4 OF 4

POWER PLAN - 4TH LEVEL

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 24

E141

KSC FORM 1-11 (3/76)(C/G 3/94)

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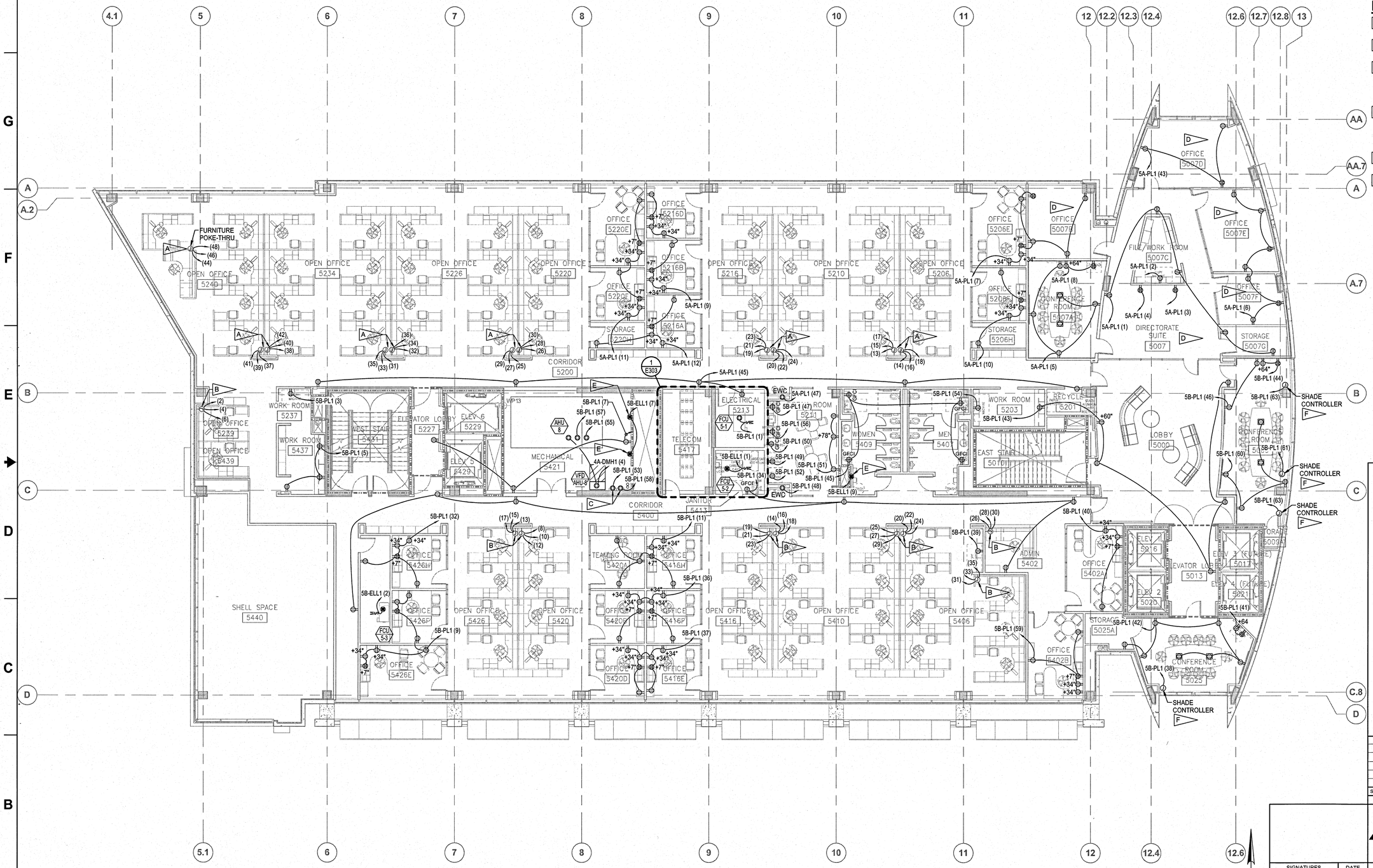

FLAG NOTES:

A — FURNITURE FEED TO BE CIRCUITED TO PANEL 5A-PL1, CIRCUIT NUMBER SHOWN.

B — FURNITURE FEED TO BE CIRCUITED TO PANEL 5B-PL1, CIRCUIT NUMBER SHOWN.

C — PROVIDE 120V POWER TO BUILDING AUTOMATION SYSTEM (BAS) CONTROL PANEL, AS SHOWN. EXACT LOCATION OF PANEL TO BE COORDINATED WITH MECHANICAL CONTRACTOR.

D — EXISTING FURNITURE GOVERNMENT FURNISHED, GOVERNMENT INSTALLED. COORDINATE LOCATIONS OF ALL FLOOR, WALL AND CEILING DEVICES WITH GOVERNMENT.

E — PROVIDE 120V EMERGENCY POWER TO FIRE SMOKE DAMPER.

F — PROVIDE JUNCTION BOX AT EACH MOTORIZED SHADE MOTOR LOCATION. COORDINATE QUANTITIES AND LOCATIONS WITH MOTORIZED SHADE VENDOR. REFER TO DETAIL 5, SHEET E402 FOR MORE INFORMATION. COORDINATE LOCATION OF SWITCH FOR SHADE CONTROLLERS WITH LIGHTING CONTROLS. REFER TO LIGHTING PLANS (E200 SERIES) FOR LOCATION OF CONTROLS.

POWER PLAN - 5TH LEVEL

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1' - 0"

-N-

E151

SYM	ZONE		DATE	APPROVED

REVISIONS

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CHECKED Vinod Trehan	12.18.13
SUBMITTED ARCHITECT OF RECORD Toby S. Smith	12/18/13
ST of LICENSURE: FL LICENSE NO. 71672	
APPROVED Scott Robinson	12.18.13
APPROVED David Wang	12/18/13

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KENNEDY SPACE CENTER, FLORIDA

KSC CENTRAL CAMPUS
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PHASE 1
VOL. 4 OF 4

POWER PLAN - 5TH LEVEL

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 25

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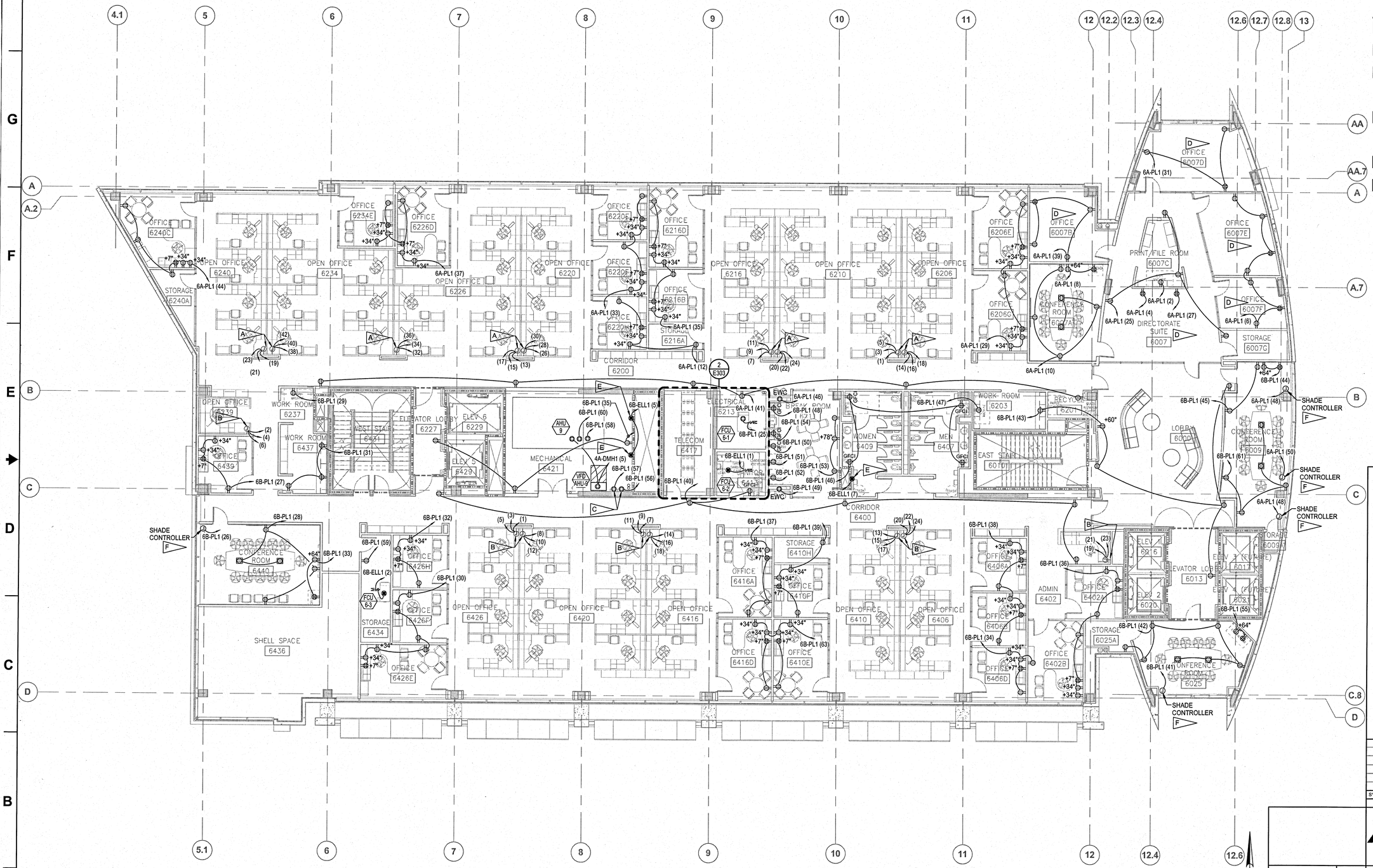

FLAG NOTES:

- A — FURNITURE FEED TO BE CIRCUITED TO PANEL 6A-PL1, CIRCUIT NUMBER SHOWN.
- B — FURNITURE FEED TO BE CIRCUITED TO PANEL 6B-PL1, CIRCUIT NUMBER SHOWN.
- C — PROVIDE 120V POWER TO BUILDING AUTOMATION SYSTEM (BAS) CONTROL PANEL, AS SHOWN. EXACT LOCATION OF PANEL TO BE COORDINATED WITH MECHANICAL CONTRACTOR.
- D — EXISTING FURNITURE GOVERNMENT FURNISHED, GOVERNMENT INSTALLED. COORDINATE LOCATIONS OF ALL FLOOR, WALL AND CEILING DEVICES WITH GOVERNMENT.
- E — PROVIDE 120V EMERGENCY POWER TO FIRE SMOKE DAMPER.
- F — PROVIDE JUNCTION BOX AT EACH MOTORIZED SHADE MOTOR LOCATION. COORDINATE QUANTITIES AND LOCATIONS WITH MOTORIZED SHADE VENDOR. REFER TO DETAIL 5, SHEET E402 FOR MORE INFORMATION. COORDINATE LOCATION OF SWITCH FOR SHADE CONTROLLERS WITH LIGHTING CONTROLS. REFER TO LIGHTING PLANS (E200 SERIES) FOR LOCATION OF CONTROLS.

POWER PLAN - 6TH LEVEL

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1'- 0"

SYM	ZONE		DATE	APPROVED

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ST of LICENSURE: FL	
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APPROVED Scott Robinson	12-18-13
Chris Trang	12/19/13

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PHASE 1
VOL. 4 OF 4

POWER PLAN - 6TH LEVEL

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 26

E161

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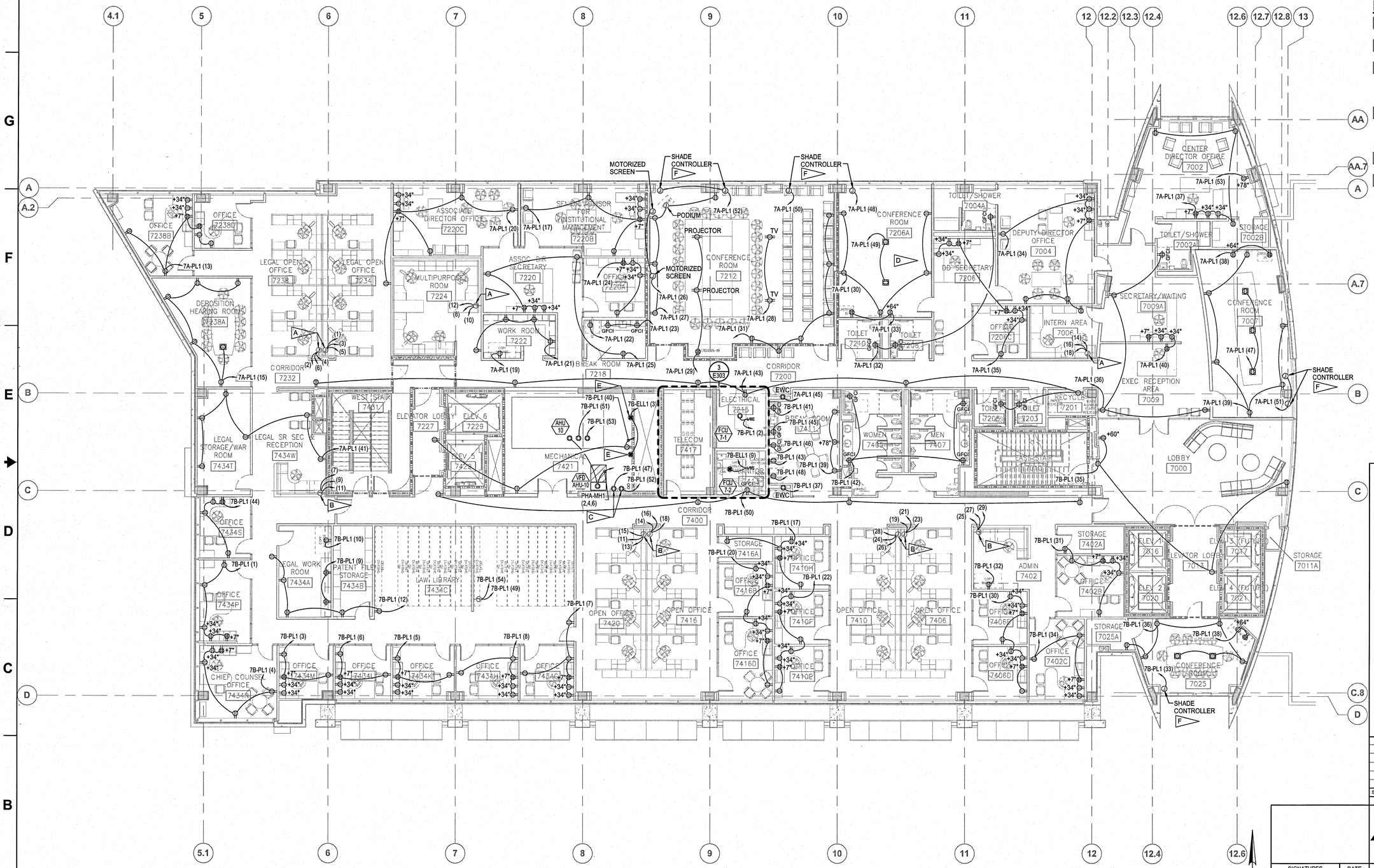

POWER PLAN - 7TH LEVEL

1/8" = 1'-0"

FLAG NOTES:

- A — FURNITURE FEED TO BE CIRCUITED TO PANEL 7A-PL1, CIRCUIT NUMBER SHOWN.
- B — FURNITURE FEED TO BE CIRCUITED TO PANEL 7B-PL1, CIRCUIT NUMBER SHOWN.
- C — PROVIDE 120V POWER TO BUILDING AUTOMATION SYSTEM (BAS) CONTROL PANEL, AS SHOWN. EXACT LOCATION OF PANEL TO BE COORDINATED WITH MECHANICAL CONTRACTOR.
- D — EXISTING FURNITURE GOVERNMENT FURNISHED, GOVERNMENT INSTALLED. COORDINATE LOCATIONS OF ALL FLOOR, WALL AND CEILING DEVICES WITH GOVERNMENT.
- E — PROVIDE 120V EMERGENCY POWER TO FIRE SMOKE DAMPER.
- F — PROVIDE JUNCTION BOX AT EACH MOTORIZED SHADE MOTOR LOCATION. COORDINATE QUANTITIES AND LOCATIONS WITH MOTORIZED SHADE VENDOR. REFER TO DETAIL 5, SHEET E402 FOR MORE INFORMATION. COORDINATE LOCATION OF SWITCH FOR SHADE CONTROLLERS WITH LIGHTING CONTROLS. REFER TO LIGHTING PLANS (E200 SERIES) FOR LOCATION OF CONTROLS.

SYM	ZONE		DATE	APPROVED

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GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1' - 0"

E171

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CHECKED Vinod Trehan	12.18.13
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LICENSE NO. 71672	
APPROVED Scott Robinson	12.18.13
Duke Dang	12/19/13

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PHASE 1
VOL. 4 OF 4

POWER PLAN - 7TH LEVEL

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

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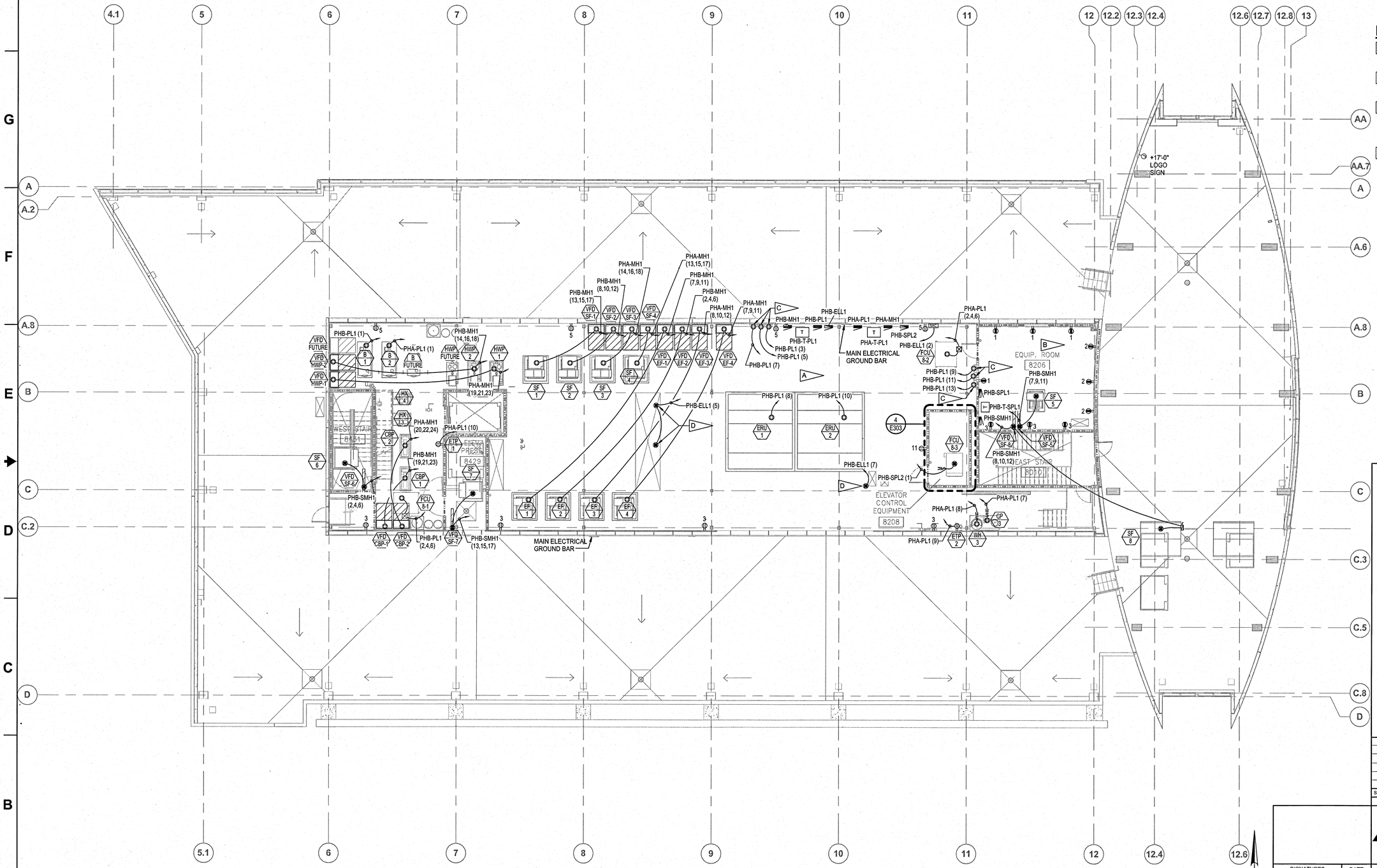

GENERAL NOTES:

1. ALL ELECTRICAL PANELBOARDS AND VFD'S, SHOWN LOCATED ON NORTH AND SOUTH WALLS OF PENTHOUSE, SHALL BE MOUNTED ON UNISTRUT SUPPORTS THAT DO NOT TOUCH THE WALLS.

FLAG NOTES:

A — NORMAL POWER RECEPTACLES IN PENTHOUSE 8200 TO BE CIRCUITED TO PANEL PHA-PL1, CIRCUIT NUMBER SHOWN.

B — EMERGENCY POWER RECEPTACLES IN EQUIP. ROOM 8206 TO BE CIRCUITED TO PANEL PHB-SPL1, CIRCUIT NUMBER SHOWN.

C — PROVIDE 120V POWER TO BUILDING AUTOMATION SYSTEM (BAS) CONTROL PANEL, AS SHOWN. EXACT LOCATION OF PANEL TO BE COORDINATED WITH MECHANICAL CONTRACTOR.

D — PROVIDE 120V EMERGENCY POWER TO FIRE SMOKE DAMPER.

POWER PLAN - ROOF

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1' - 0"

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LICENSE NO. 71672	
APPROVED Scott Robinson	12.18.13
Duong Trang	12/18/13

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VOL. 4 OF 4

POWER PLAN - ROOF

E181

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 28

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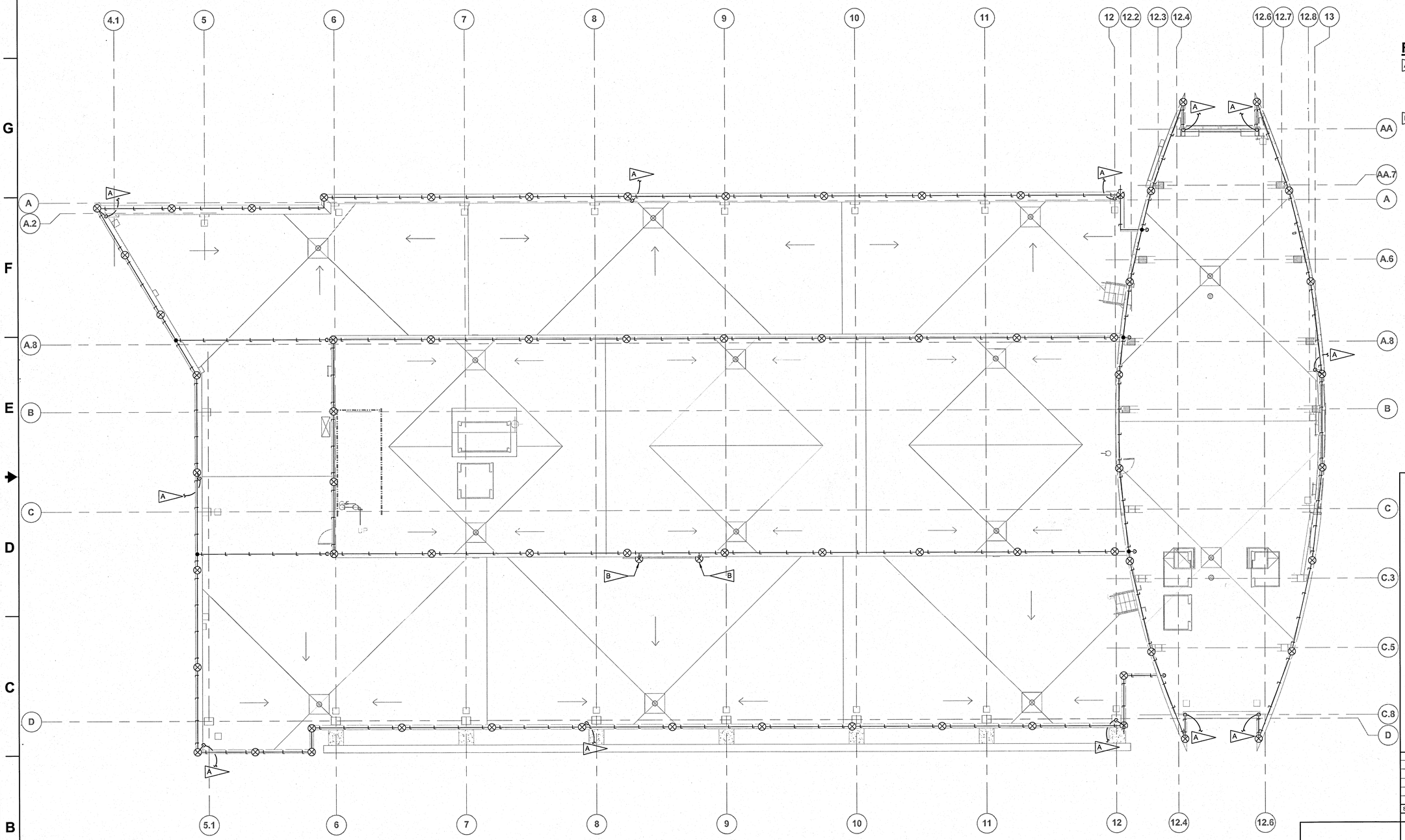

GENERAL NOTES:

1. PROVIDE A LIGHTNING PROTECTION SYSTEM COMPLIANT WITH NFPA 780 USING CLASS II MATERIALS FOR BUILDING OVER 75 FT.

FLAG NOTES:

A — LIGHTNING PROTECTION DOWN CONDUCTOR. CONNECT TO GROUND LOOP, REFER TO SHEET E103. COORDINATE ROUTING WITH ARCHITECT AND STRUCTURAL PRIOR TO INSTALLATION. CONCEAL AS MUCH AS POSSIBLE.

B — TALL MAST AIR TERMINAL AT ANTENNA RAILS, REFER TO GROUNDING RISER DIAGRAM ON SHEET E601. MAINTAIN MINIMUM 6' SEPARATION BETWEEN RAILS AND AIR TERMINALS.

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Dung Trang	12/18/13

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VOL. 4 OF 4

LIGHTNING PROTECTION PLAN - ROOF

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 29

GRAPHIC SCALE
0 8 16 24
SCALE IN FEET
1/8" = 1' - 0"

E191

LIGHTNING PROTECTION PLAN - ROOF

1/8" = 1'-0"

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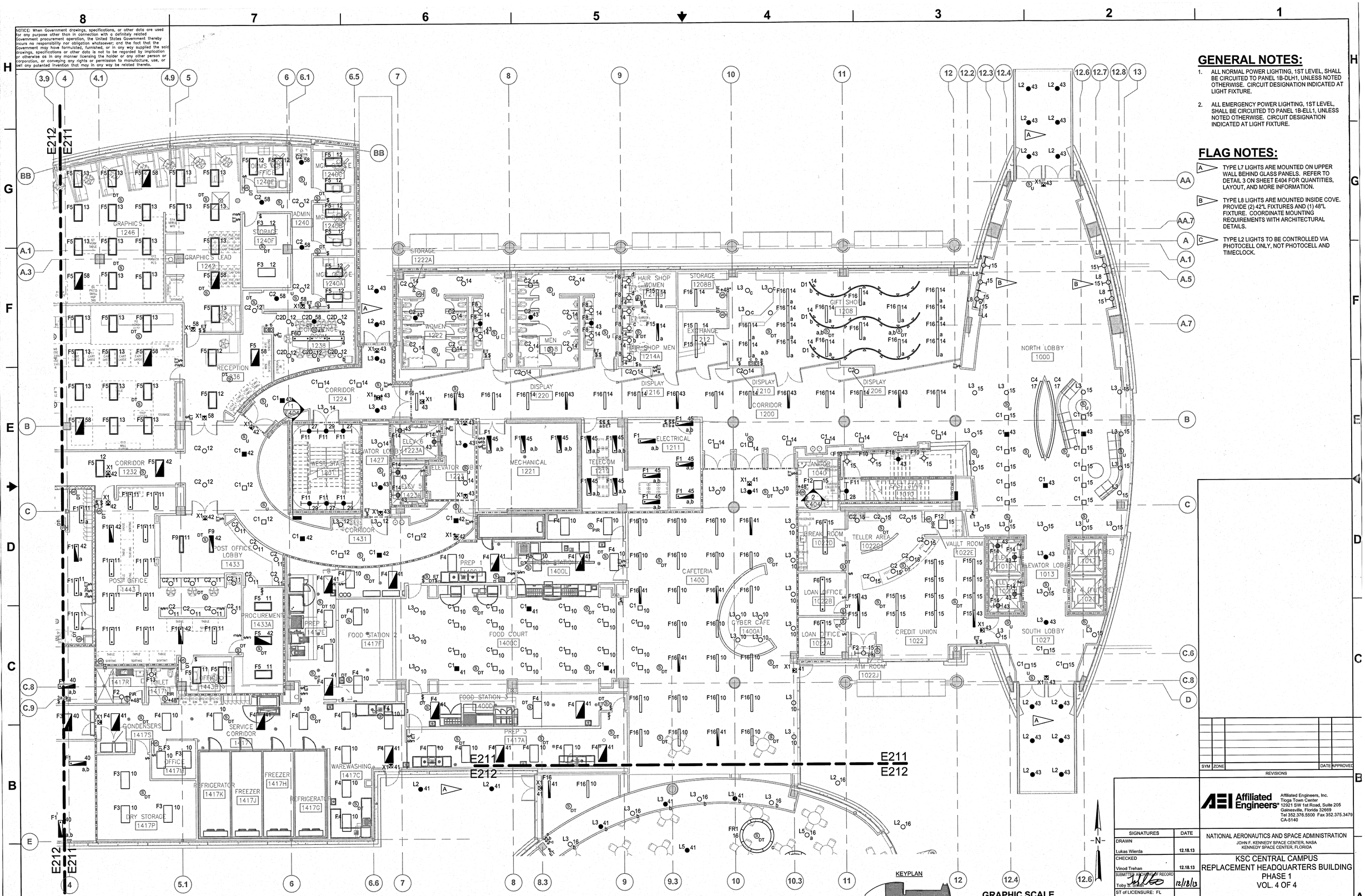

LIGHTING PLAN - 1ST LEVEL - AREA 1

1/8" = 1'-0"

GENERAL NOTES:

1. ALL NORMAL POWER LIGHTING, 1ST LEVEL, SHALL BE CIRCUITED TO PANEL 1B-DLH1, UNLESS NOTED OTHERWISE. CIRCUIT DESIGNATION INDICATED AT LIGHT FIXTURE.
2. ALL EMERGENCY POWER LIGHTING, 1ST LEVEL, SHALL BE CIRCUITED TO PANEL 1B-ELL1, UNLESS NOTED OTHERWISE. CIRCUIT DESIGNATION INDICATED AT LIGHT FIXTURE.

FLAG NOTES:

A — TYPE L7 LIGHTS ARE MOUNTED ON UPPER WALL BEHIND GLASS PANELS. REFER TO DETAIL 3 ON SHEET E404 FOR QUANTITIES, LAYOUT, AND MORE INFORMATION.

B — TYPE L8 LIGHTS ARE MOUNTED INSIDE COVE. PROVIDE (2) 42"L FIXTURES AND (1) 48"L FIXTURE. COORDINATE MOUNTING REQUIREMENTS WITH ARCHITECTURAL DETAILS.

C — TYPE L2 LIGHTS TO BE CONTROLLED VIA PHOTOCELL ONLY, NOT PHOTOCELL AND TIMECLOCK.

SYM	ZONE		DATE	APPROVED

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APPROVED Scott Robinson	12.18.13
Dung Trang	12/18/13

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

LIGHTING PLAN - 1ST LEVEL AREA 1

FILE NO.	SIZE	DWG. NO.
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PCN. NO. 98745.1a		SHEET 30

E211

KSC FORM 1-11 (3/76)(C/G 3/94)

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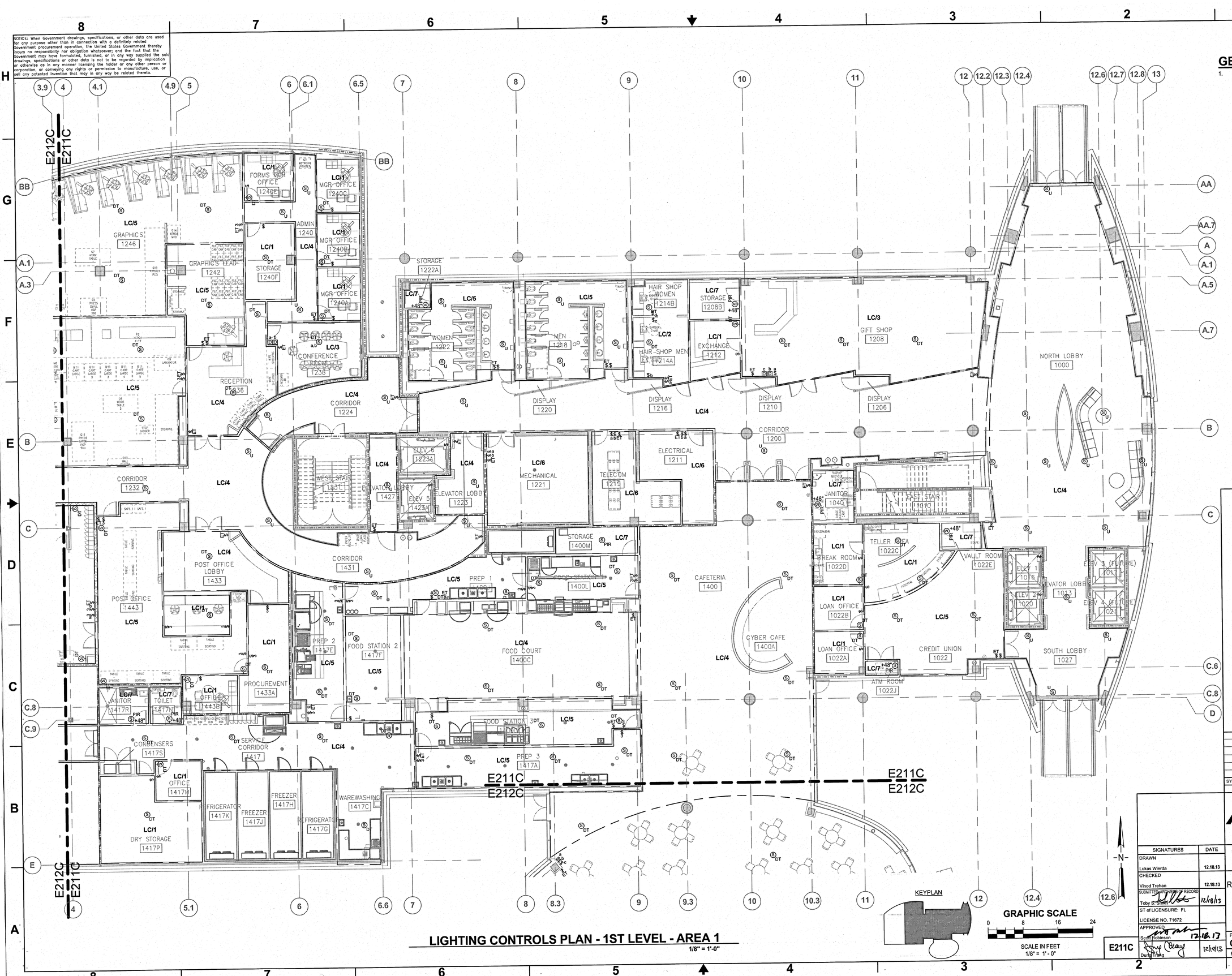
GENERAL NOTES:

1. REFER TO LIGHTING CONTROLS DETAILS, SHEET E406, FOR MORE INFORMATION. "X" NUMBER IN LC/X TAG INDICATES APPLICABLE DETAIL FOR EACH AREA.



LIGHTING CONTROLS PLAN - 1ST LEVEL - AREA 1

1/8" = 1'-0"

SYM	ZONE		DATE	APPROVED

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APPROVED Scott Robinson	12.18.13
Duny Tang	12/18/13

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PHASE 1
VOL. 4 OF 4

LIGHTING CONTROLS PLAN - 1ST LEVEL AREA 1

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 31

E211C

KSC FORM 1-11 (3/76)(C/G 3/94)

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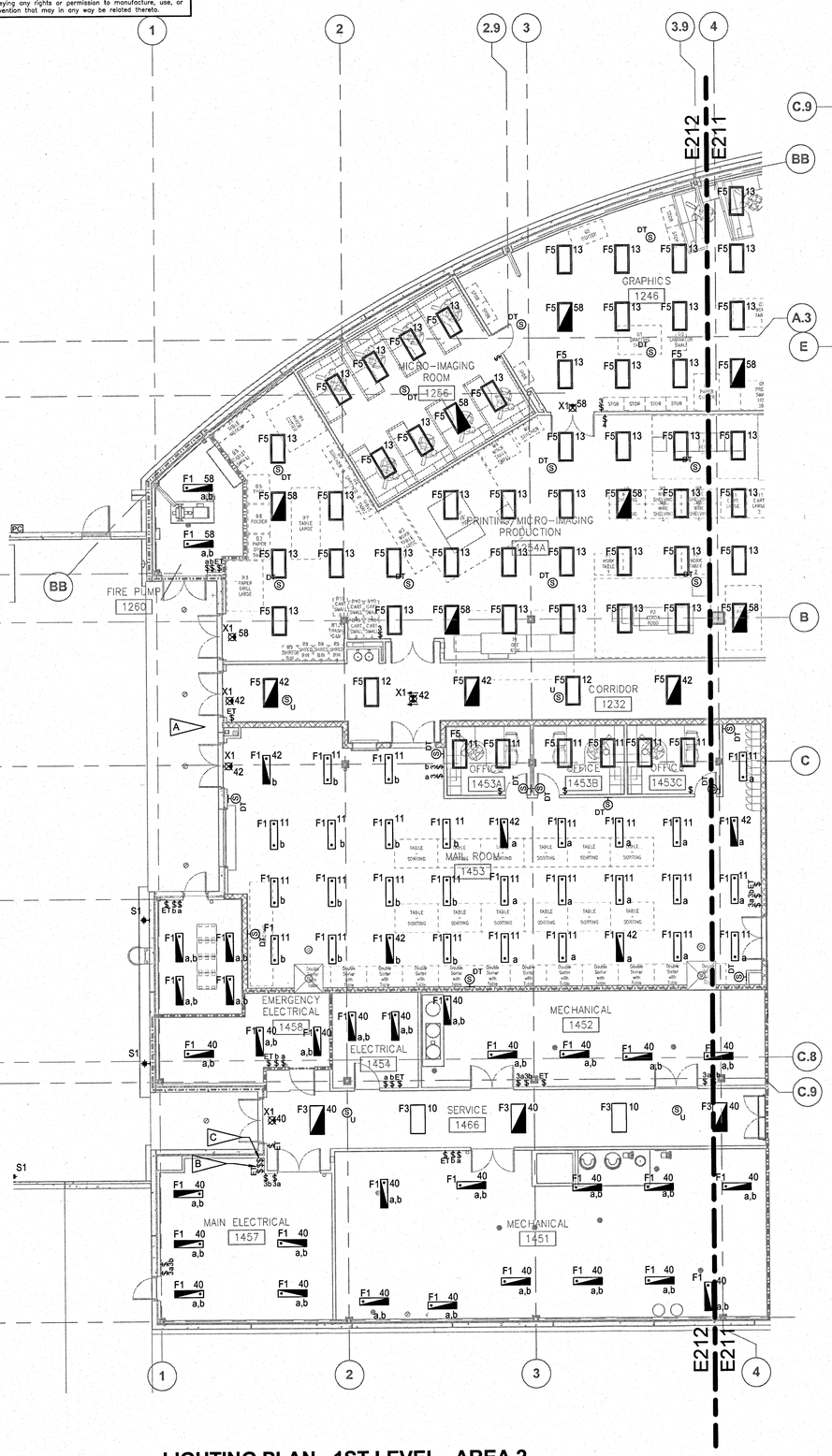
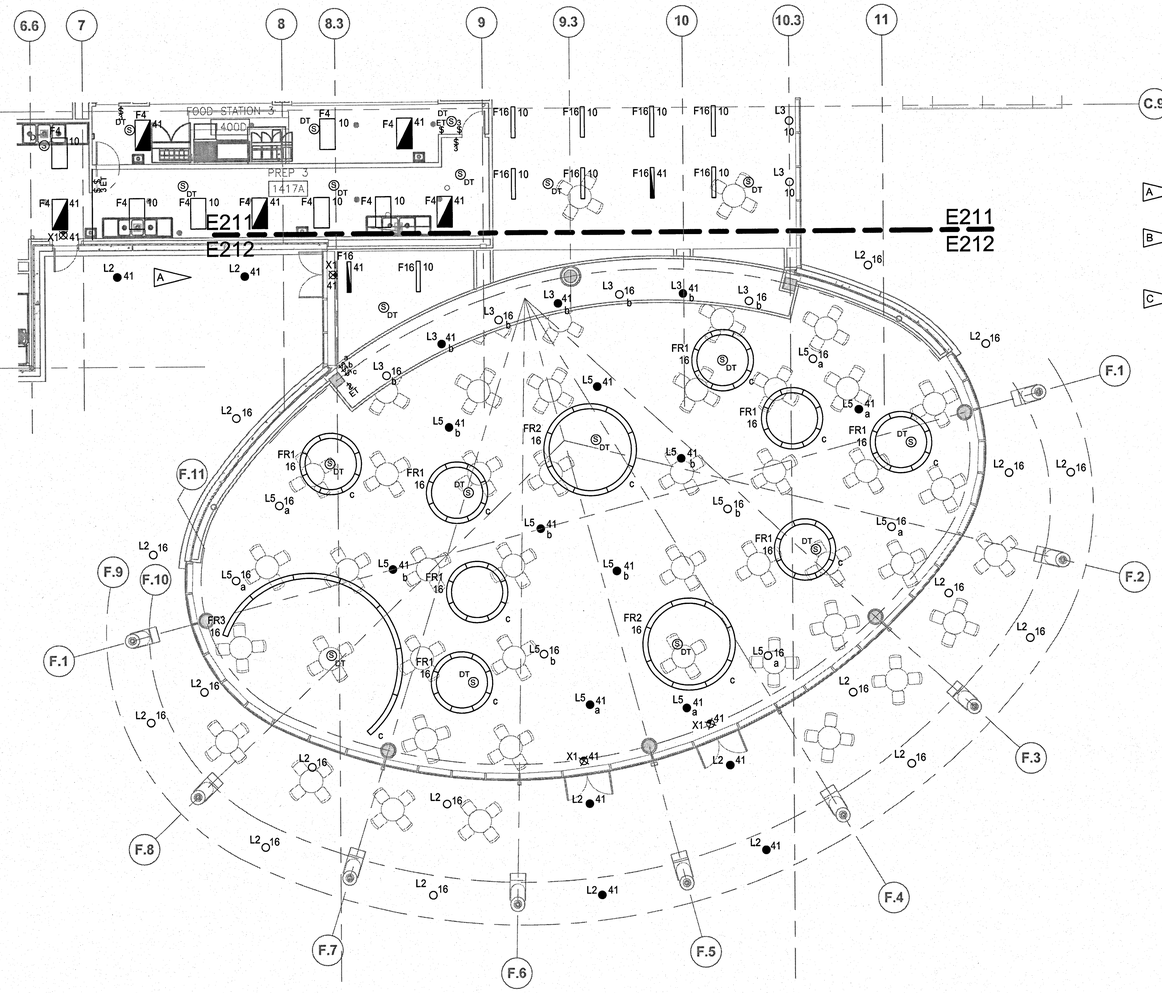


LIGHTING PLAN - 1ST LEVEL - AREA 2

1/8" = 1'-0"



LIGHTING PLAN - 1ST LEVEL - AREA 3

1/8" = 1'-0"

GENERAL NOTES:

1. ALL NORMAL POWER LIGHTING, 1ST LEVEL, SHALL BE CIRCUITED TO PANEL 1B-DLH1, UNLESS NOTED OTHERWISE. CIRCUIT DESIGNATION INDICATED AT LIGHT FIXTURE.
2. ALL EMERGENCY POWER LIGHTING, 1ST LEVEL, SHALL BE CIRCUITED TO PANEL 1B-ELL1, UNLESS NOTED OTHERWISE. CIRCUIT DESIGNATION INDICATED AT LIGHT FIXTURE.

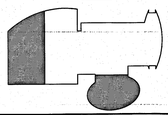
FLAG NOTES:

A. TYPE L2 LIGHTS TO BE CONTROLLED VIA PHOTOCELL ONLY, NOT PHOTOCELL AND TIMECLOCK.

B. PROVIDE SWITCH FOR OVERRIDE CONTROL OF MONUMENT SIGN AT MAIN ENTRY. LOCATE ROOM CONTROLLER ABOVE SWITCH. PROVIDE LABEL ON SWITCH FOR "MONUMENT SIGN".

C. PROVIDE SWITCH FOR OVERRIDE CONTROL OF LOGO SIGN ON ROOF. LOCATE ROOM CONTROLLER IN PENTHOUSE NEAR SIGN LOCATION. PROVIDE LABLE ON SWITCH FOR "ROOFTOP LOGO SIGN".

KEYPLAN



GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1'-0"

N

E212

SYM	ZONE		DATE	APPROVED

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CHECKED Vinod Trehan	12.18.13
SUBMITTED ARCHITECT OF RECORD Toby Smith	12/18/13
ST of LICENSURE: FL	
LICENSE NO. 71672	
APPROVED Scott Robinson	12.18.13
Dung Thang	12/18/13

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PHASE 1
VOL. 4 OF 4

LIGHTING PLAN - 1ST LEVEL AREA 2 & 3

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 32

KSC FORM 1-11 (3/76)(C/G 3/94)

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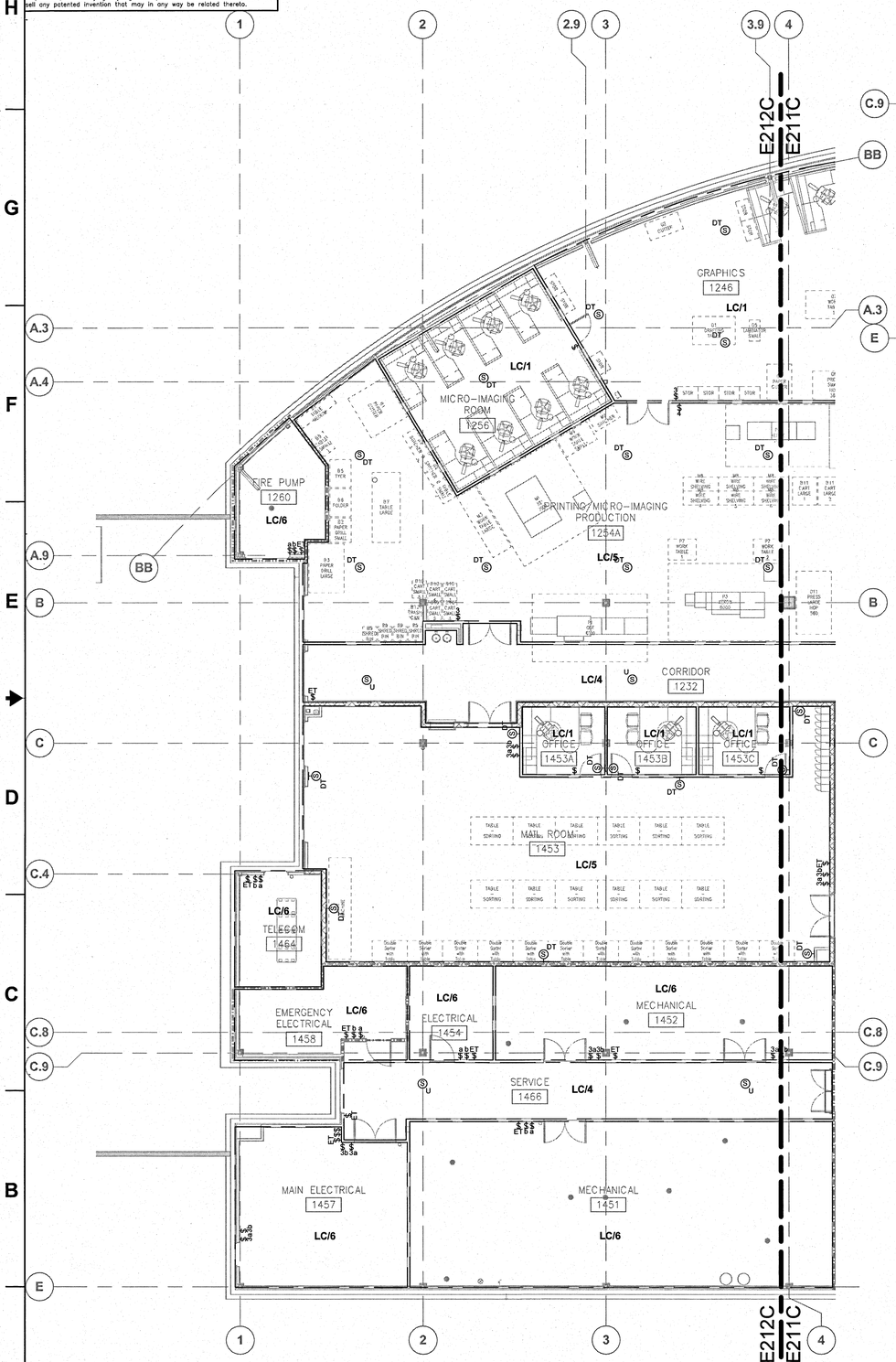
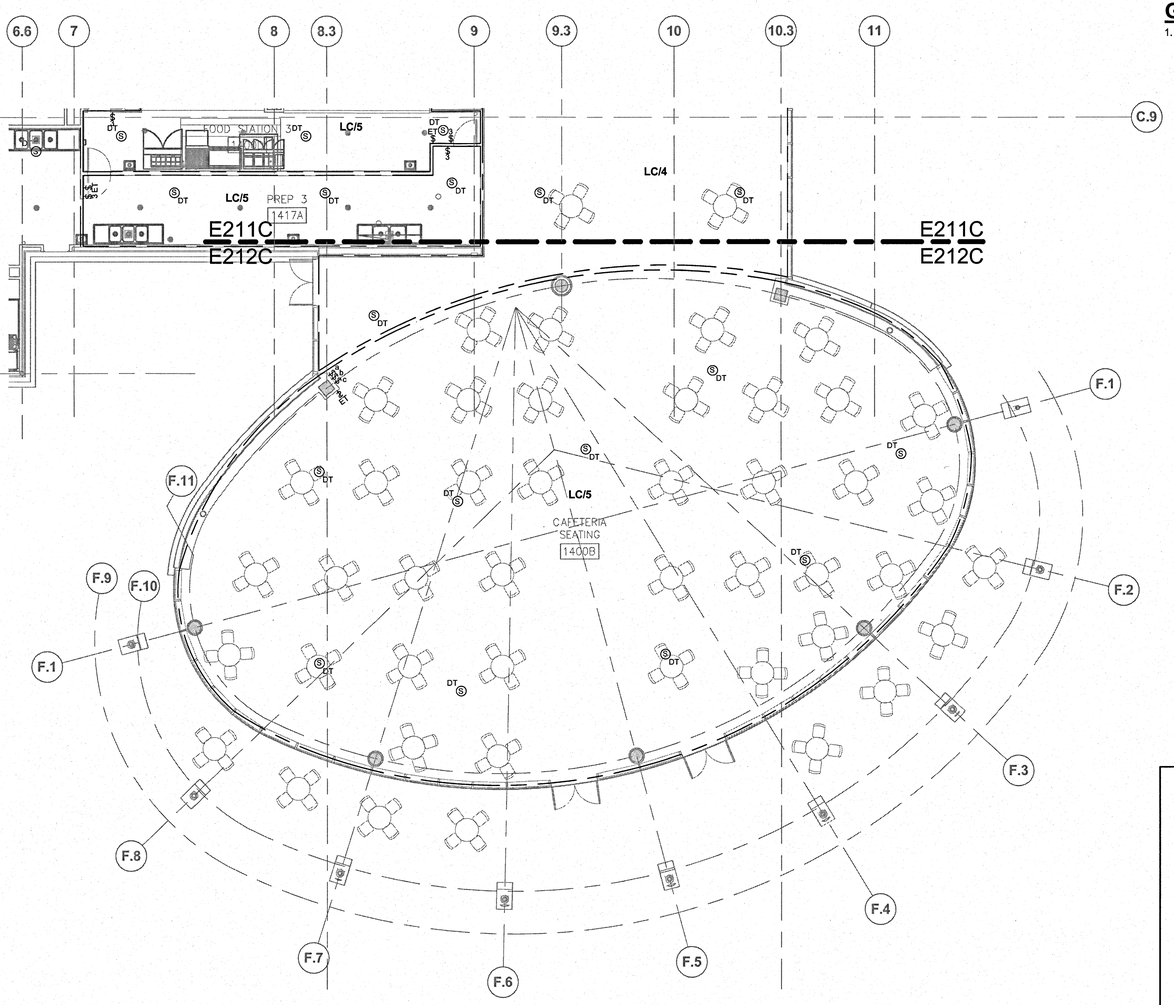
GENERAL NOTES:

1. REFER TO LIGHTING CONTROLS DETAILS, SHEET E406, FOR MORE INFORMATION. "X" NUMBER IN LC/X TAG INDICATES APPLICABLE DETAIL FOR EACH AREA.



LIGHTING CONTROLS PLAN - 1ST LEVEL - AREA 2

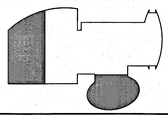
1/8" = 1'-0"



LIGHTING CONTROLS PLAN - 1ST LEVEL - AREA 3

1/8" = 1'-0"

KEYPLAN



GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1'- 0"

-N-

E212C

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SIGNATURES	DATE
DRAWN Lukas Wierda	12.18.13
CHECKED Vinod Trehan	12.18.13
SUBMITTED AS CHANGE OF RECORD Toby S. Scott	12/18/13
ST of LICENSURE: FL	
LICENSE NO. 71672	
APPROVED Scott Robinson	12.18.13
Duhg Trang	12/18/13

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

LIGHTING CONTROLS PLAN - 1ST LEVEL AREA 2 & 3

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 33

KSC FORM 1-11 (3/76)(C/G 3/94)

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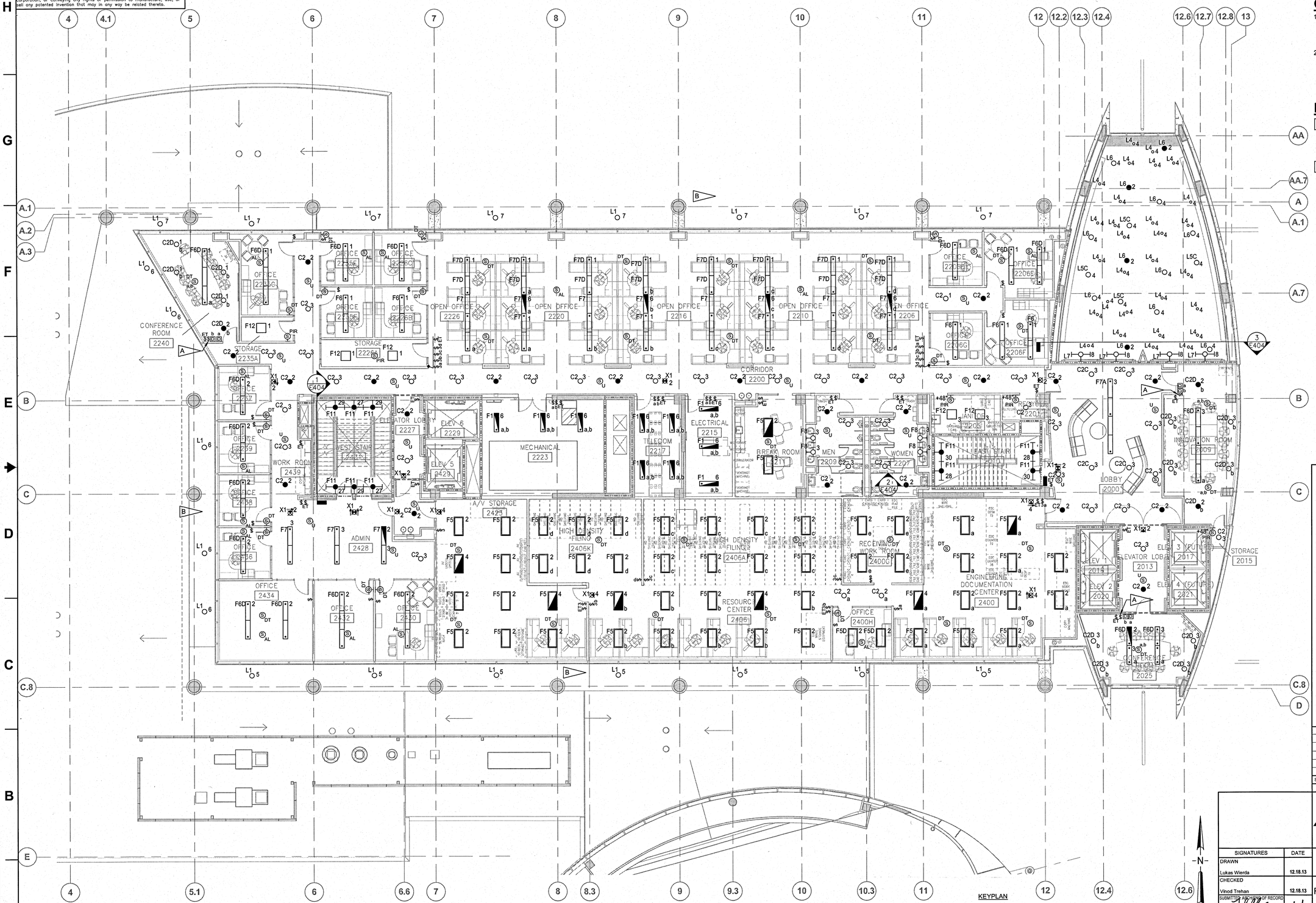

LIGHTING PLAN - 2ND LEVEL - AREA 1

1/8" = 1'-0"

GENERAL NOTES:

1. ALL NORMAL POWER LIGHTING, 2ND LEVEL, SHALL BE CIRCUITED TO PANEL 2B-LH1, UNLESS NOTED OTHERWISE. CIRCUIT DESIGNATION INDICATED AT LIGHT FIXTURE.
2. ALL EMERGENCY POWER LIGHTING, 2ND LEVEL, SHALL BE CIRCUITED TO PANEL 2B-ELL1, UNLESS NOTED OTHERWISE. CIRCUIT DESIGNATION INDICATED AT LIGHT FIXTURE.

FLAG NOTES:

A. MOTORIZED SHADE CONTROLS BY OTHERS. PROVIDE EMPTY BACKBOX MOUNTED AT 48" AFF. PROVIDE CONDUIT FROM BACKBOX TO SHADE CONTROLLER. COORDINATE SIZE OF BACKBOX AND CONDUIT WITH VENDOR.

B. CANOPY LIGHT FIXTURES TO BE CIRCUITED VIA PHOTOCELL AND TIMECLOCK.

SYM	ZONE		DATE	APPROVED

REVISIONS

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CHECKED Vinod Trehan	12.18.13
SUBMITTER ARCHITECT OF RECORD Toby S. Scott	12/18/13
ST of LICENSURE: FL	
LICENSE NO. 71672	
APPROVED Scott Robinson	12.18.13
Ding Hang	12/19/13

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
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KENNEDY SPACE CENTER, FLORIDA

KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

LIGHTING PLAN - 2ND LEVEL AREA 1

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 34

E221

KSC FORM-1-11 (3/76)(C/G 3/94)

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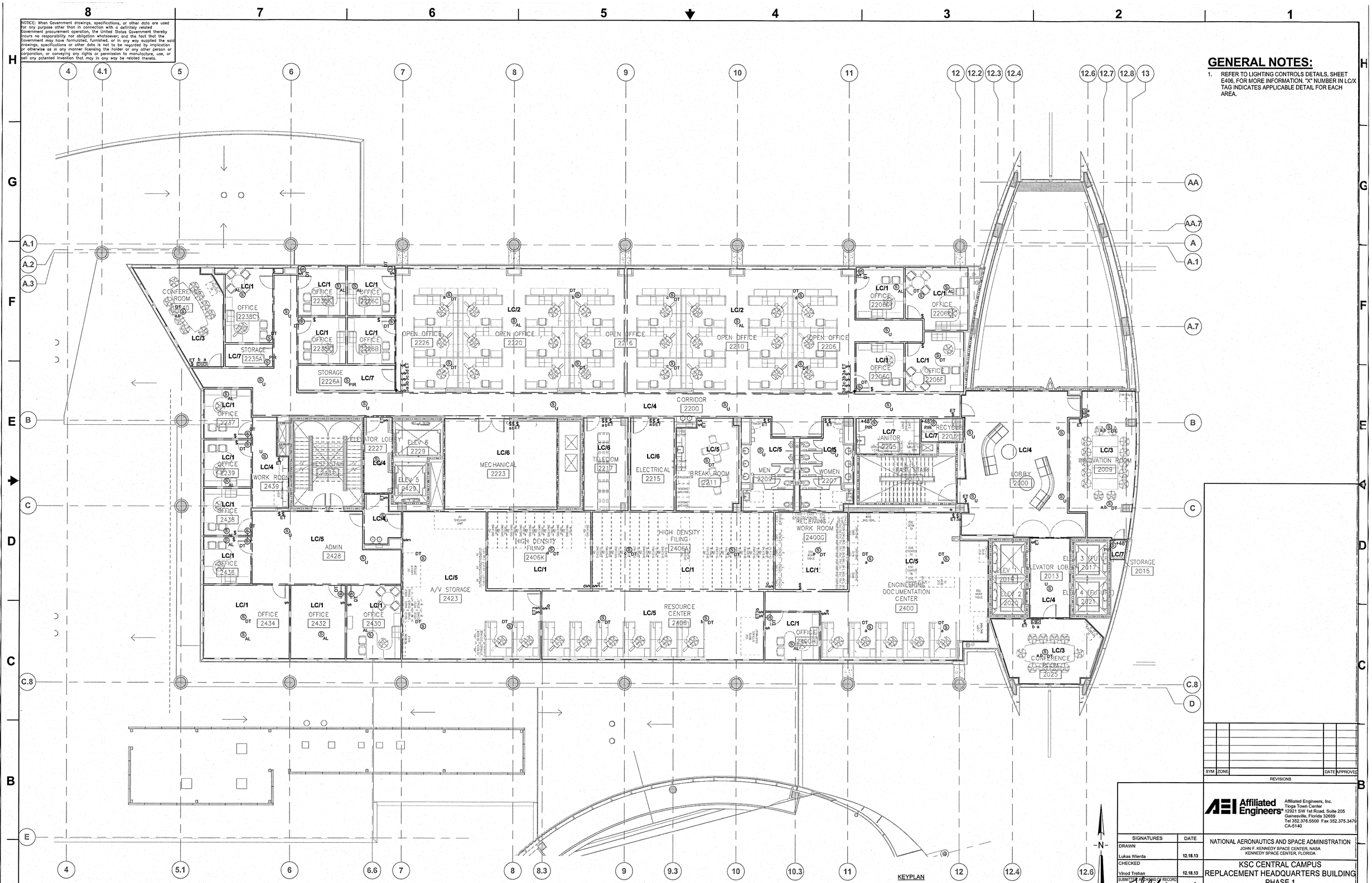
GENERAL NOTES:

1. REFER TO LIGHTING CONTROLS DETAILS, SHEET E406, FOR MORE INFORMATION. "X" NUMBER IN LC/X TAG INDICATES APPLICABLE DETAIL FOR EACH AREA.



LIGHTING CONTROLS PLAN - 2ND LEVEL - AREA 1

1/8" = 1'-0"

SYM	ZONE		DATE	APPROVED

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SIGNATURES	DATE
DRAWN Lukas Wierda	12.18.13
CHECKED Vinod Trehan	12.18.13
SUBMITTED ENGINEERING OF RECORD Toby S. Smith	12/18/13
ST of LICENSURE: FL	
LICENSE NO. 71672	
APPROVED Scott Robinson	12.18.13
Dung Trang	12/18/13

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
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KENNEDY SPACE CENTER, FLORIDA

KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

LIGHTING CONTROLS PLAN - 2ND LEVEL AREA 1

E221C

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 35

NOTICE: When Government drawings, specifications, or other data are used for any purpose other than in connection with a definitely related Government procurement operation, the United States Government thereby incurs no responsibility nor obligation whatsoever; and the fact that the Government may have formulated, furnished, or in any way supplied the said drawings, specifications or other data is not to be regarded by implication or otherwise as in any manner licensing the holder or any other person or corporation, or conveying any rights or permission to manufacture, use, or sell any patented invention that may in any way be related thereto.

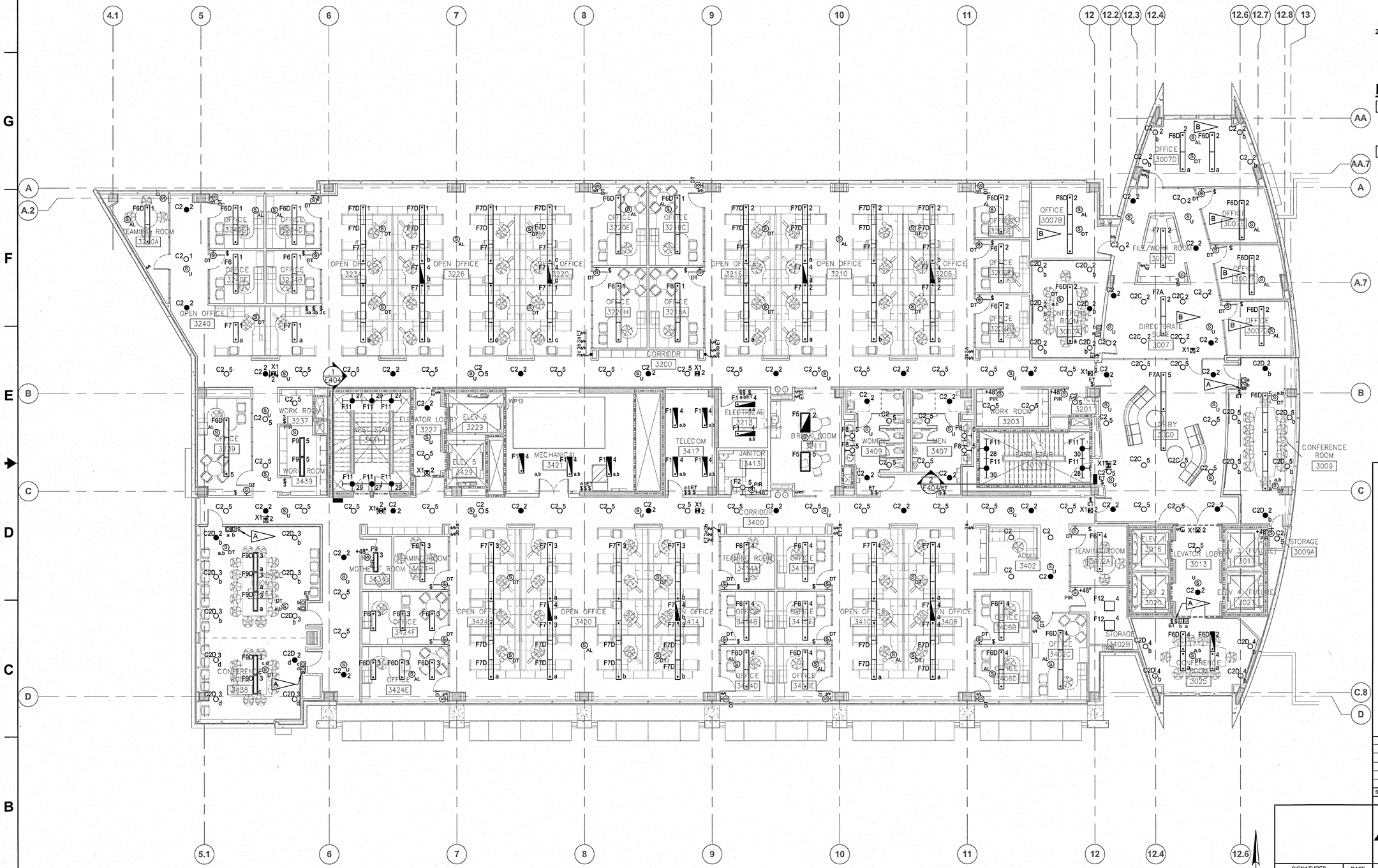
GENERAL NOTES:

1. ALL NORMAL POWER LIGHTING, 3RD LEVEL, SHALL BE CIRCUITED TO PANEL 3B-LH1, UNLESS NOTED OTHERWISE. CIRCUIT DESIGNATION INDICATED AT LIGHT FIXTURE.
2. ALL EMERGENCY POWER LIGHTING, 3RD LEVEL, SHALL BE CIRCUITED TO PANEL 3B-ELL1, UNLESS NOTED OTHERWISE. CIRCUIT DESIGNATION INDICATED AT LIGHT FIXTURE.

FLAG NOTES:

A — MOTORIZED SHADE CONTROLS BY OTHERS. PROVIDE EMPTY BACKBOX MOUNTED AT 48" AFF. PROVIDE CONDUIT FROM BACKBOX TO SHADE CONTROLLER. COORDINATE SIZE OF BACKBOX AND CONDUIT WITH VENDOR.

B — EXISTING FURNITURE GOVERNMENT FURNISHED, GOVERNMENT INSTALLED. COORDINATE LOCATIONS OF ALL FLOOR, WALL AND CEILING DEVICES WITH GOVERNMENT.



LIGHTING PLAN - 3RD LEVEL

1/8" = 1'-0"

E231

SYM	ZONE		DATE	APPROVED

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CHECKED Vinod Trehan	12.18.13
SUBMITTED FOR ENTRY OF RECORD Toby S. Smith	12/18/13
ST of LICENSURE: FL	
LICENSE NO. 71672	
APPROVED Scott Robinson	12.18.13
Dung T Ngo	12/19/13

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

LIGHTING PLAN - 3RD LEVEL

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 36

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GENERAL NOTES:

1. REFER TO LIGHTING CONTROLS DETAILS, SHEET E406, FOR MORE INFORMATION. "X" NUMBER IN LC/X TAG INDICATES APPLICABLE DETAIL FOR EACH AREA.

LIGHTING CONTROLS PLAN - 3RD LEVEL

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1' - 0"

E231C

SYM	ZONE		DATE	APPROVED

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CHECKED Vinod Trehan	12.18.13
SUBMITTED ARCHIVING OF RECORD Toby S. Smith	12/18/13
ST of LICENSURE: FL LICENSE NO. 71672	
APPROVED Scott Robinson	12.18.13
Dung Trang	12/19/13

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

LIGHTING CONTROLS PLAN - 3RD LEVEL

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 37

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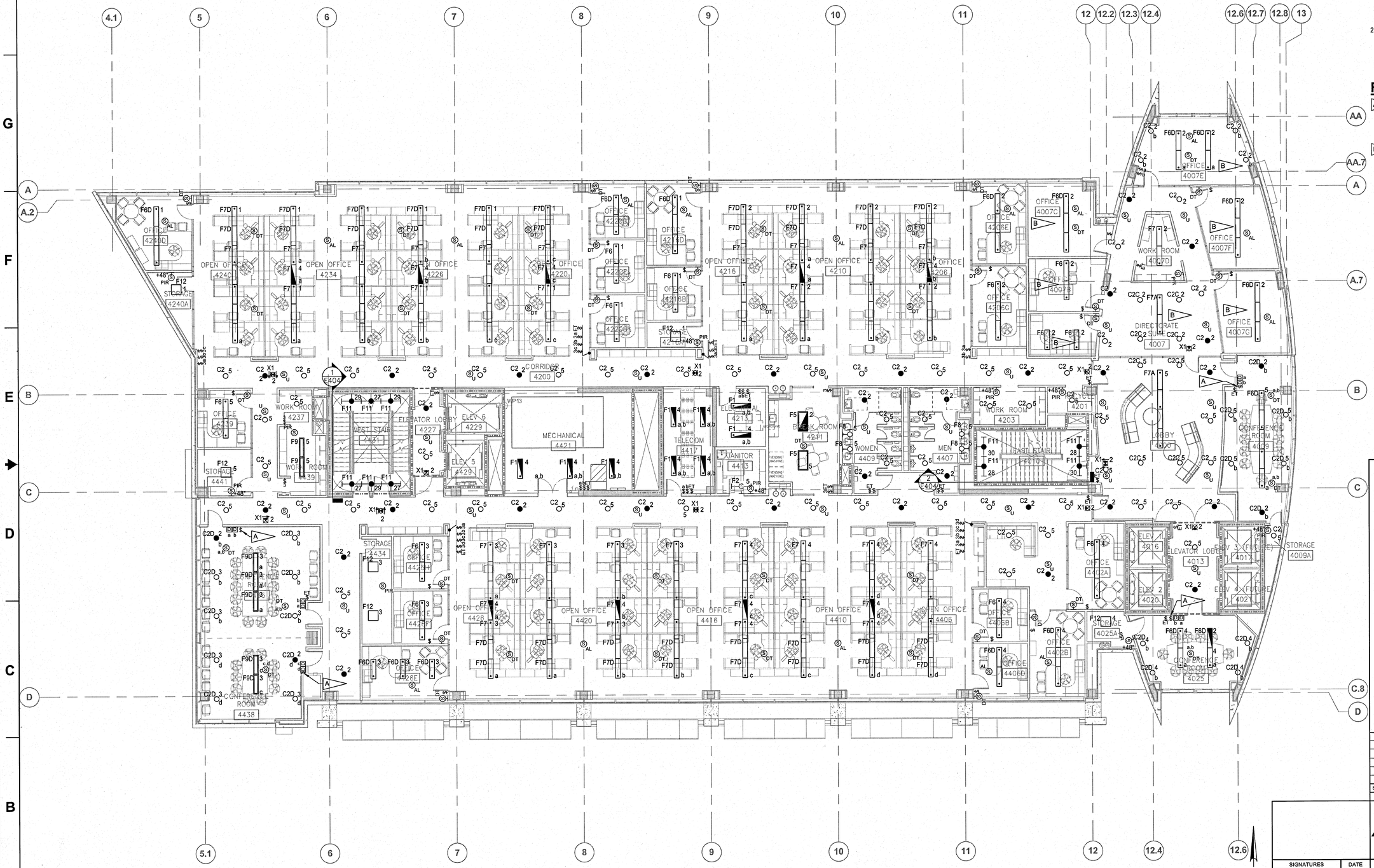

LIGHTING PLAN - 4TH LEVEL

1/8" = 1'-0"

GENERAL NOTES:

1. ALL NORMAL POWER LIGHTING, 4TH LEVEL, SHALL BE CIRCUITED TO PANEL 4B-LH1, UNLESS NOTED OTHERWISE. CIRCUIT DESIGNATION INDICATED AT LIGHT FIXTURE.
2. ALL EMERGENCY POWER LIGHTING, 4TH LEVEL, SHALL BE CIRCUITED TO PANEL 4B-ELL1, UNLESS NOTED OTHERWISE. CIRCUIT DESIGNATION INDICATED AT LIGHT FIXTURE.

FLAG NOTES:

A. MOTORIZED SHADE CONTROLS BY OTHERS. PROVIDE EMPTY BACKBOX MOUNTED AT 48" AFF. PROVIDE CONDUIT FROM BACKBOX TO SHADE CONTROLLER. COORDINATE SIZE OF BACKBOX AND CONDUIT WITH VENDOR.

B. EXISTING FURNITURE GOVERNMENT FURNISHED, GOVERNMENT INSTALLED. COORDINATE LOCATIONS OF ALL FLOOR, WALL AND CEILING DEVICES WITH GOVERNMENT.

SYM	ZONE		DATE	APPROVED

REVISIONS

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CHECKED Vinod Trehan	12.18.13
SUBMITTED ARCHITECT OF RECORD Toby S. Smith	12/18/13
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LICENSE NO. 71672	
APPROVED Scott Robinson	12.18.13
Dung Kang	12/18/13

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JOHN F. KENNEDY SPACE CENTER, NASA
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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

LIGHTING PLAN - 4TH LEVEL

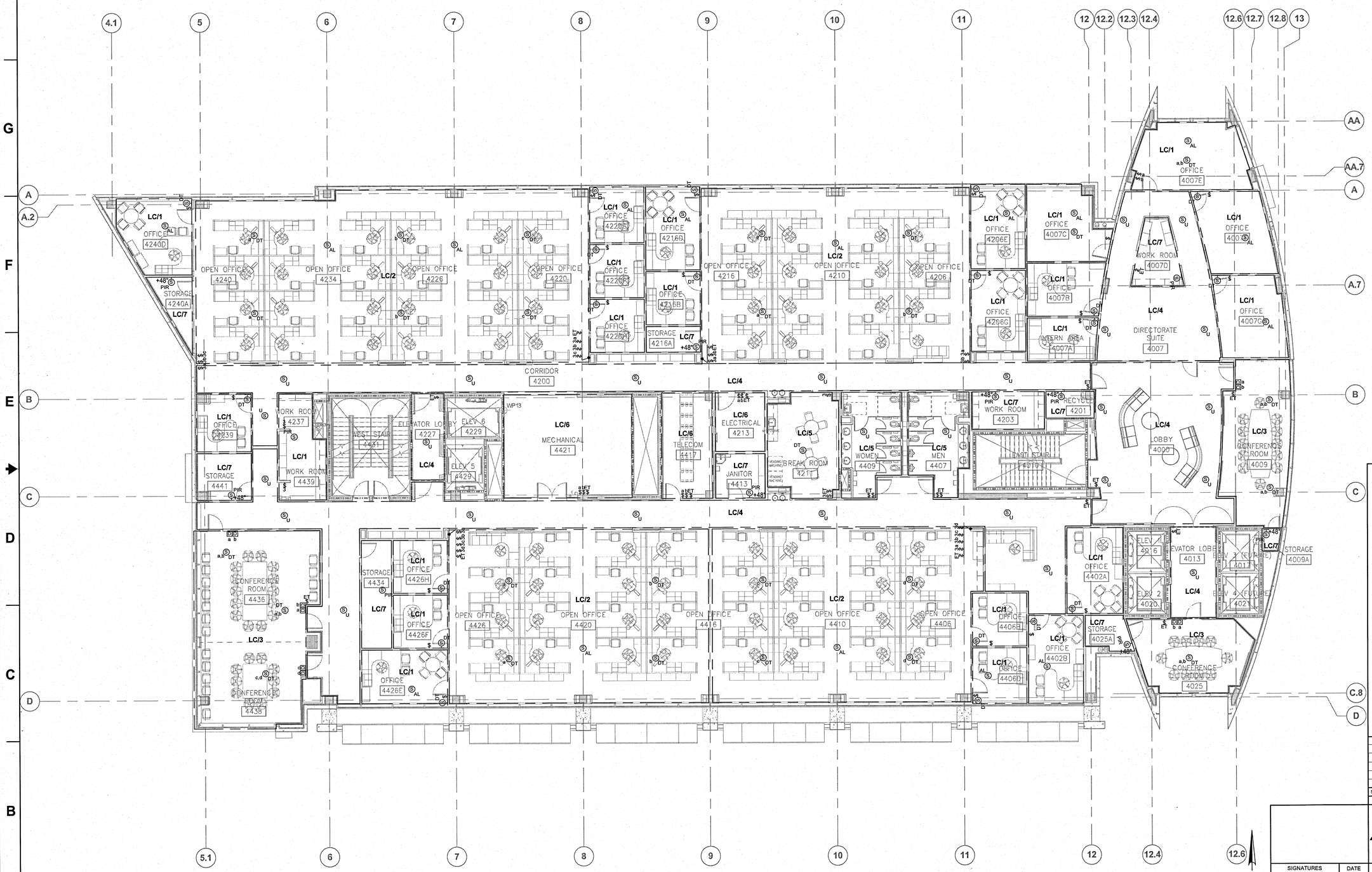
E241

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 38

NOTICE: When Government drawings, specifications, or other data are used for any purpose other than in connection with a definitely related Government procurement operation, the United States Government thereby incurs no responsibility nor obligation whatsoever; and the fact that the Government may have formulated, furnished, or in any way supplied the said drawings, specifications or other data is not to be regarded by implication or otherwise as in any manner licensing the holder or any other person or corporation, or conveying any rights or permission to manufacture, use, or sell any patented invention that may in any way be related thereto.

GENERAL NOTES:

1. REFER TO LIGHTING CONTROLS DETAILS, SHEET E406, FOR MORE INFORMATION. "X" NUMBER IN LC/X TAG INDICATES APPLICABLE DETAIL FOR EACH AREA.



LIGHTING CONTROLS PLAN - 4TH LEVEL

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1' - 0"

E241C

SYM	ZONE		DATE	APPROVED

REVISIONS

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CHECKED Vinod Trehan	12.18.13
SUBMITTED ARCHITECT OF RECORD Toby S. Spaulding	12/18/13
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LICENSE NO. 71672	
APPROVED Scott Robinson	12.18.13
Duug Thang	12/18/13

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REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

LIGHTING CONTROLS PLAN - 4TH LEVEL

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 39

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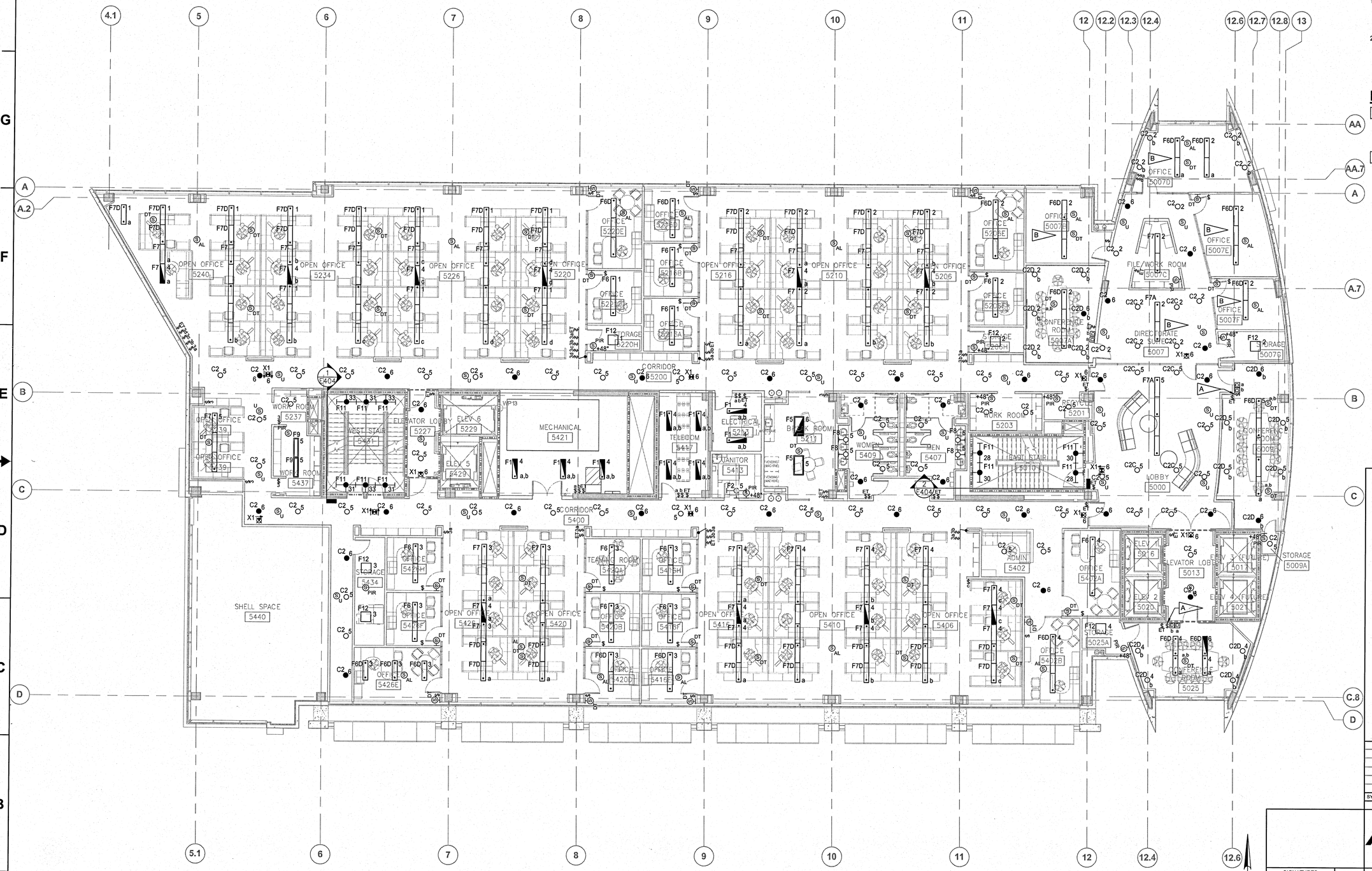
GENERAL NOTES:

1. ALL NORMAL POWER LIGHTING, 5TH LEVEL, SHALL BE CIRCUITED TO PANEL 5B-LH1, UNLESS NOTED OTHERWISE. CIRCUIT DESIGNATION INDICATED AT LIGHT FIXTURE.
2. ALL EMERGENCY POWER LIGHTING, 5TH LEVEL, SHALL BE CIRCUITED TO PANEL 5B-ELL1, UNLESS NOTED OTHERWISE. CIRCUIT DESIGNATION INDICATED AT LIGHT FIXTURE.

FLAG NOTES:

A — MOTORIZED SHADE CONTROLS BY OTHERS. PROVIDE EMPTY BACKBOX MOUNTED AT 48" AFF. PROVIDE CONDUIT FROM BACKBOX TO SHADE CONTROLLER. COORDINATE SIZE OF BACKBOX AND CONDUIT WITH VENDOR.

B — EXISTING FURNITURE GOVERNMENT FURNISHED, GOVERNMENT INSTALLED. COORDINATE LOCATIONS OF ALL FLOOR, WALL AND CEILING DEVICES WITH GOVERNMENT.



LIGHTING PLAN - 5TH LEVEL

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1' - 0"

E251

SYM	ZONE		DATE	APPROVED

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SIGNATURES	DATE
DRAWN Lukas Wierda	12.18.13
CHECKED Vinod Trehan	12.18.13
SUBMITTED: ARCHITECT OF RECORD Toby Smith	12/18/13
ST of LICENSURE: FL	
LICENSE NO. 71672	
APPROVED Scott Robinson	12.18.13
Duy Trang	12/19/13

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

LIGHTING PLAN - 5TH LEVEL

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 40

KSC FORM 1-11.(3/76)(C/G 3/94)

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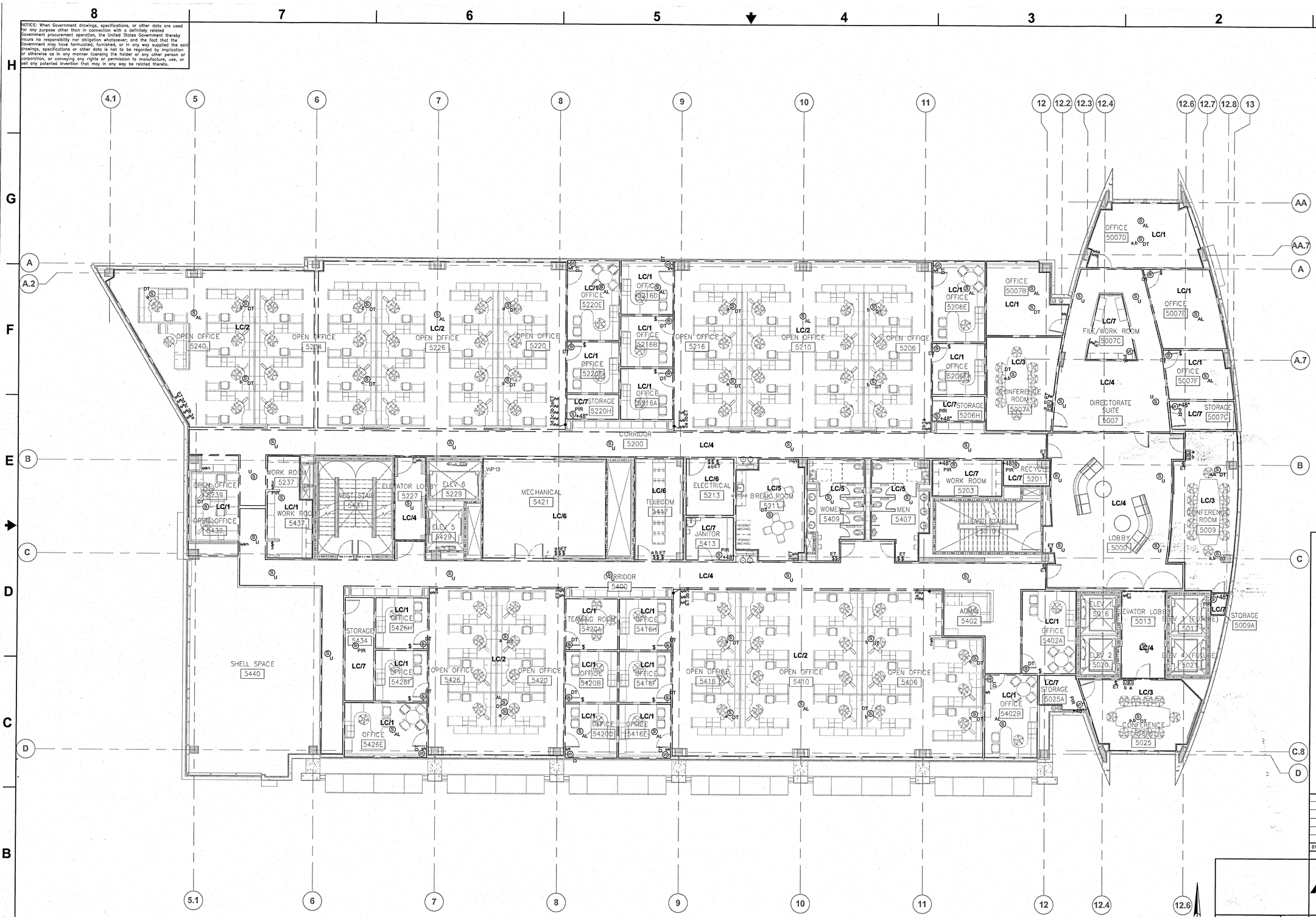
GENERAL NOTES:

1. REFER TO LIGHTING CONTROLS DETAILS, SHEET E406, FOR MORE INFORMATION. "X" NUMBER IN LC/X TAG INDICATES APPLICABLE DETAIL FOR EACH AREA.



LIGHTING CONTROLS PLAN - 5TH LEVEL

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1' - 0"

-N-

E251C

SYM	ZONE		DATE	APPROVED

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SIGNATURES	DATE
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CHECKED Vinod Trehan	12.18.13
SUBMITTED: ARCHITECT OF RECORD Toby S. Smith	12/18/13
ST of LICENSURE: FL	
LICENSE NO. 71672	
APPROVED Scott Robinson	12.18.13
Dung Tang	12/18/13

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KENNEDY SPACE CENTER, FLORIDA

KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

LIGHTING CONTROLS PLAN - 5TH LEVEL

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 41

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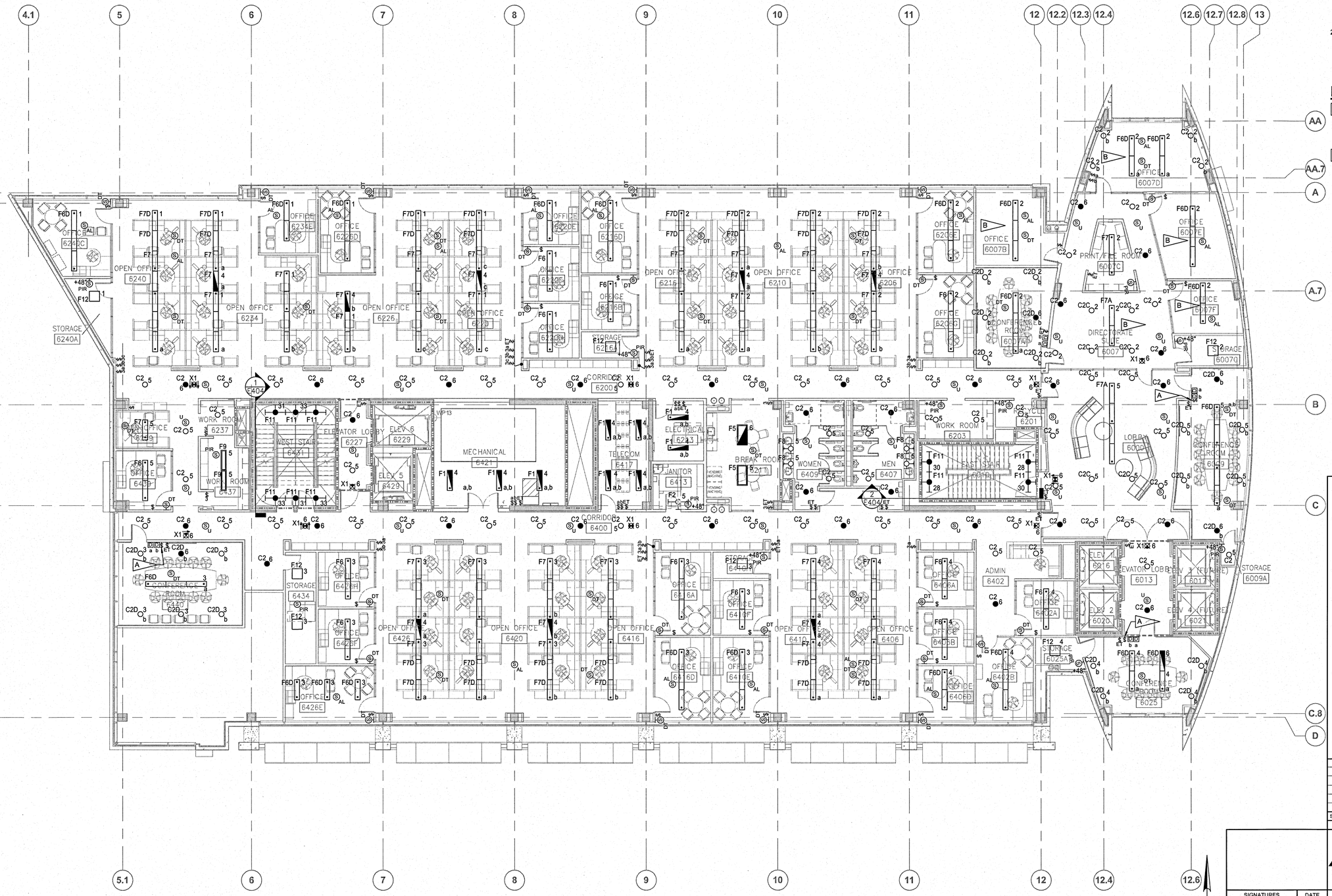
GENERAL NOTES:

1. ALL NORMAL POWER LIGHTING, 6TH LEVEL, SHALL BE CIRCUITED TO PANEL 6B-LH1, UNLESS NOTED OTHERWISE. CIRCUIT DESIGNATION INDICATED AT LIGHT FIXTURE.
2. ALL EMERGENCY POWER LIGHTING, 6TH LEVEL, SHALL BE CIRCUITED TO PANEL 6B-ELL1, UNLESS NOTED OTHERWISE. CIRCUIT DESIGNATION INDICATED AT LIGHT FIXTURE.

FLAG NOTES:

A — MOTORIZED SHADE CONTROLS BY OTHERS. PROVIDE EMPTY BACKBOX MOUNTED AT 48" AFF. PROVIDE CONDUIT FROM BACKBOX TO SHADE CONTROLLER. COORDINATE SIZE OF BACKBOX AND CONDUIT WITH VENDOR.

B — EXISTING FURNITURE GOVERNMENT FURNISHED, GOVERNMENT INSTALLED. COORDINATE LOCATIONS OF ALL FLOOR, WALL AND CEILING DEVICES WITH GOVERNMENT.



LIGHTING PLAN - 6TH LEVEL

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1' - 0"

SYM	ZONE		DATE	APPROVED

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SIGNATURES	DATE
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Lukas Wierda	12.18.13
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Vinod Trehan	12.18.13
SUBMITTED FOR REVIEW OF RECORD	
Toby Shah	12/18/13
ST of LICENSURE: FL	
LICENSE NO. 71672	
APPROVED	
Scott Robinson	12.18.13
Dung Trang	12/18/13

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KENNEDY SPACE CENTER, FLORIDA

KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

LIGHTING PLAN - 6TH LEVEL

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 42

KSC FORM 1-11 (3/76)(C/G 3/94)

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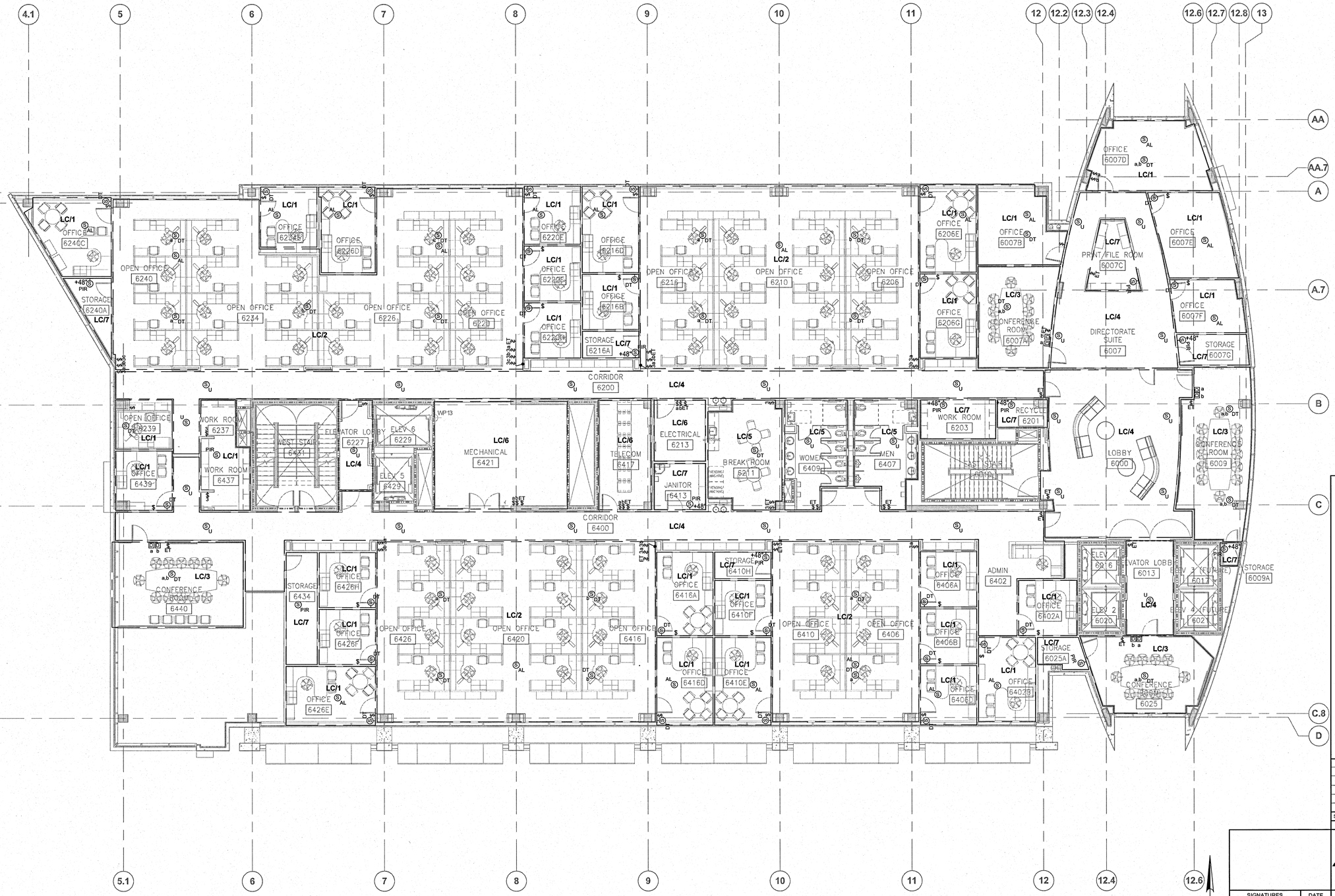
GENERAL NOTES:

1. REFER TO LIGHTING CONTROLS DETAILS, SHEET E406, FOR MORE INFORMATION. "X" NUMBER IN LC/X TAG INDICATES APPLICABLE DETAIL FOR EACH AREA.



LIGHTING CONTROLS PLAN - 6TH LEVEL

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1' - 0"

E261C

SYM	ZONE	REVISIONS	DATE	APPROVED

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CA-5140

SIGNATURES	DATE
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CHECKED Vinod Trehan	12.18.13
SUBMITTED ENGINEER OF RECORD Toby S. Smith	12/18/13
ST of LICENSURE: FL LICENSE NO. 71672	
APPROVED Scott Robinson	12.18.13
Duling Tseng	12/19/13

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
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KENNEDY SPACE CENTER, FLORIDA

KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

LIGHTING CONTROLS PLAN - 6TH LEVEL

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 43

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GENERAL NOTES:

1. ALL NORMAL POWER LIGHTING, 7TH LEVEL, SHALL BE CIRCUITED TO PANEL 7B-LH1, UNLESS NOTED OTHERWISE. CIRCUIT DESIGNATION INDICATED AT LIGHT FIXTURE.
2. ALL EMERGENCY POWER LIGHTING, 7TH LEVEL, SHALL BE CIRCUITED TO PANEL 7B-ELL1, UNLESS NOTED OTHERWISE. CIRCUIT DESIGNATION INDICATED AT LIGHT FIXTURE.

FLAG NOTES:

A — MOTORIZED SHADE CONTROLS BY OTHERS. PROVIDE EMPTY BACKBOX MOUNTED AT 48" AFF. PROVIDE CONDUIT FROM BACKBOX TO SHADE CONTROLLER. COORDINATE SIZE OF BACKBOX AND CONDUIT WITH VENDOR.

B — EXISTING FURNITURE GOVERNMENT FURNISHED, GOVERNMENT INSTALLED. COORDINATE LOCATIONS OF ALL FLOOR, WALL AND CEILING DEVICES WITH GOVERNMENT.

LIGHTING PLAN - 7TH LEVEL

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1' - 0"

E271

SYM	ZONE		DATE	APPROVED

REVISIONS

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Affiliated Engineers, Inc.
Tioga Town Center
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ST of LICENSURE: FL LICENSE NO. 71672	
APPROVED Scott Robinson	12.18.13
Ding Wang	12/19/13

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PHASE 1
VOL. 4 OF 4

LIGHTING PLAN - 7TH LEVEL

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PCN. NO. 98745.1a SHEET 44

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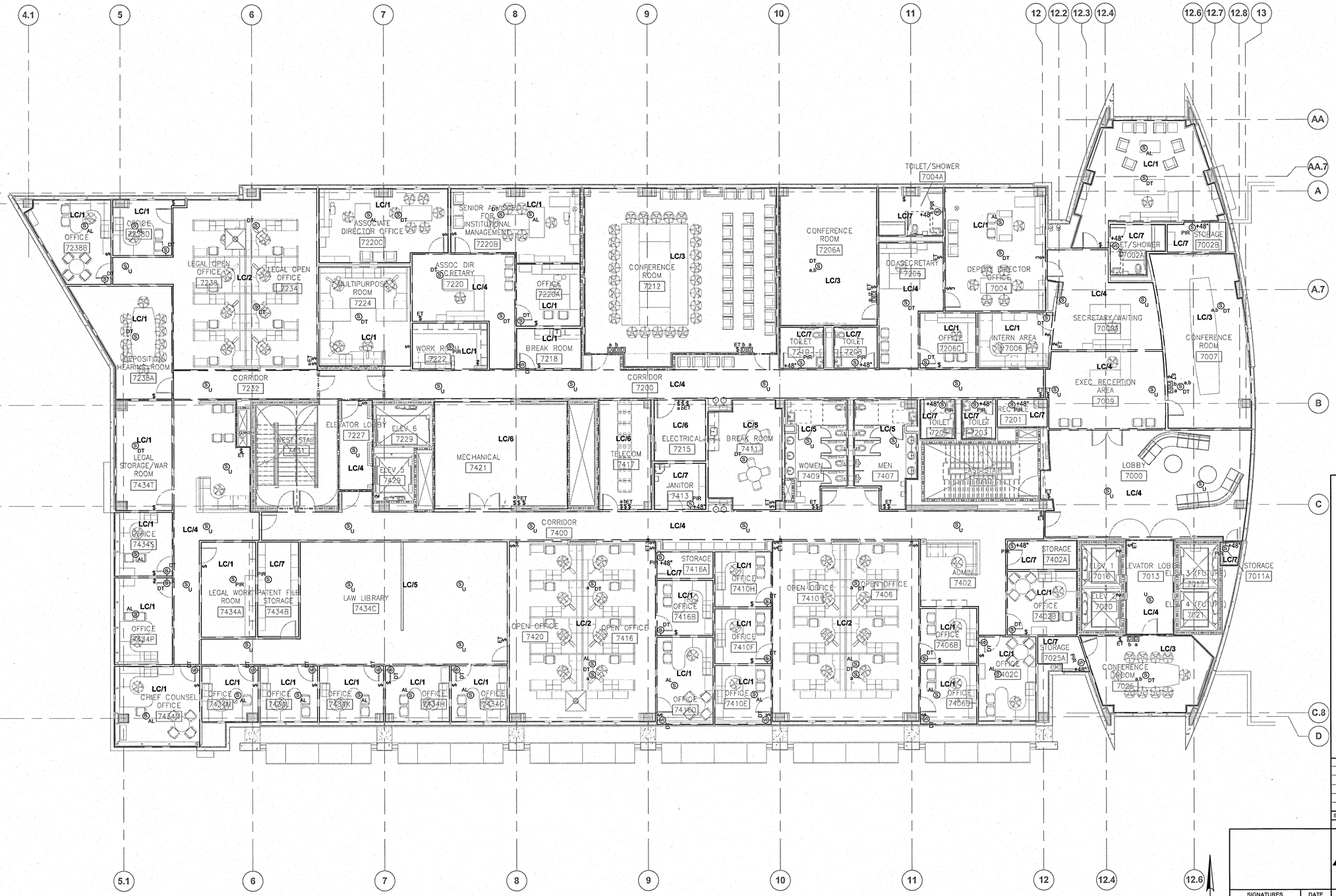
GENERAL NOTES:

1. REFER TO LIGHTING CONTROLS DETAILS, SHEET E406, FOR MORE INFORMATION. "X" NUMBER IN LC/X TAG INDICATES APPLICABLE DETAIL FOR EACH AREA.



LIGHTING CONTROLS PLAN - 7TH LEVEL

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1' - 0"

SYM	ZONE		DATE	APPROVED

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LIGHTING CONTROLS PLAN - 7TH LEVEL

E271C

FILE NO.	SIZE	DWG. NO.
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PCN. NO. 98745.1a		SHEET 45

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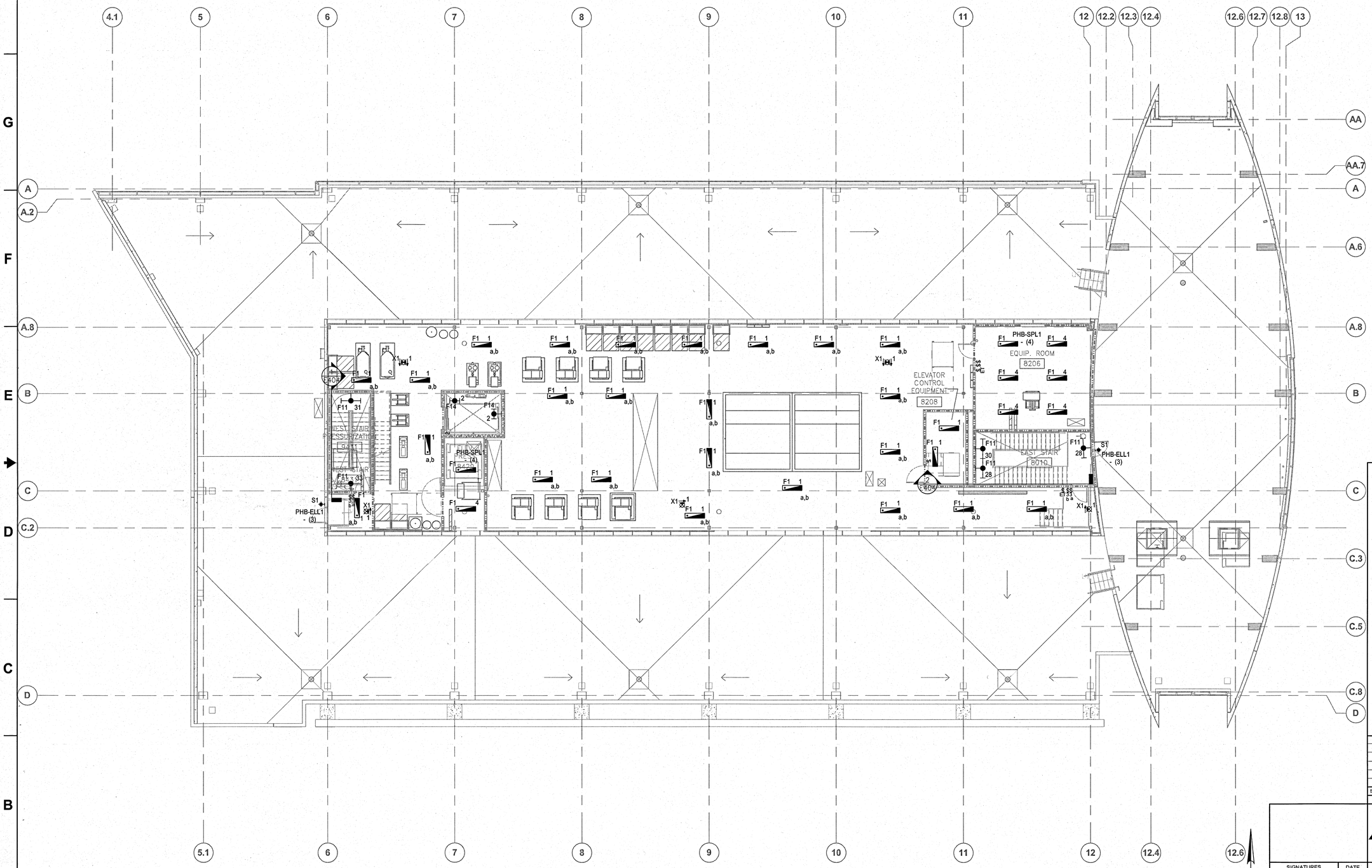
GENERAL NOTES:

1. ALL EMERGENCY POWER LIGHTING, THIS LEVEL, SHALL BE CIRCUITED TO PANEL PHB-ELL1, UNLESS NOTED OTHERWISE. CIRCUIT DESIGNATION INDICATED AT LIGHT FIXTURE.



LIGHTING PLAN - PENTHOUSE

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1'-0"

E281

SYM	ZONE		DATE	APPROVED

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LIGHTING PLAN - PENTHOUSE

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 46

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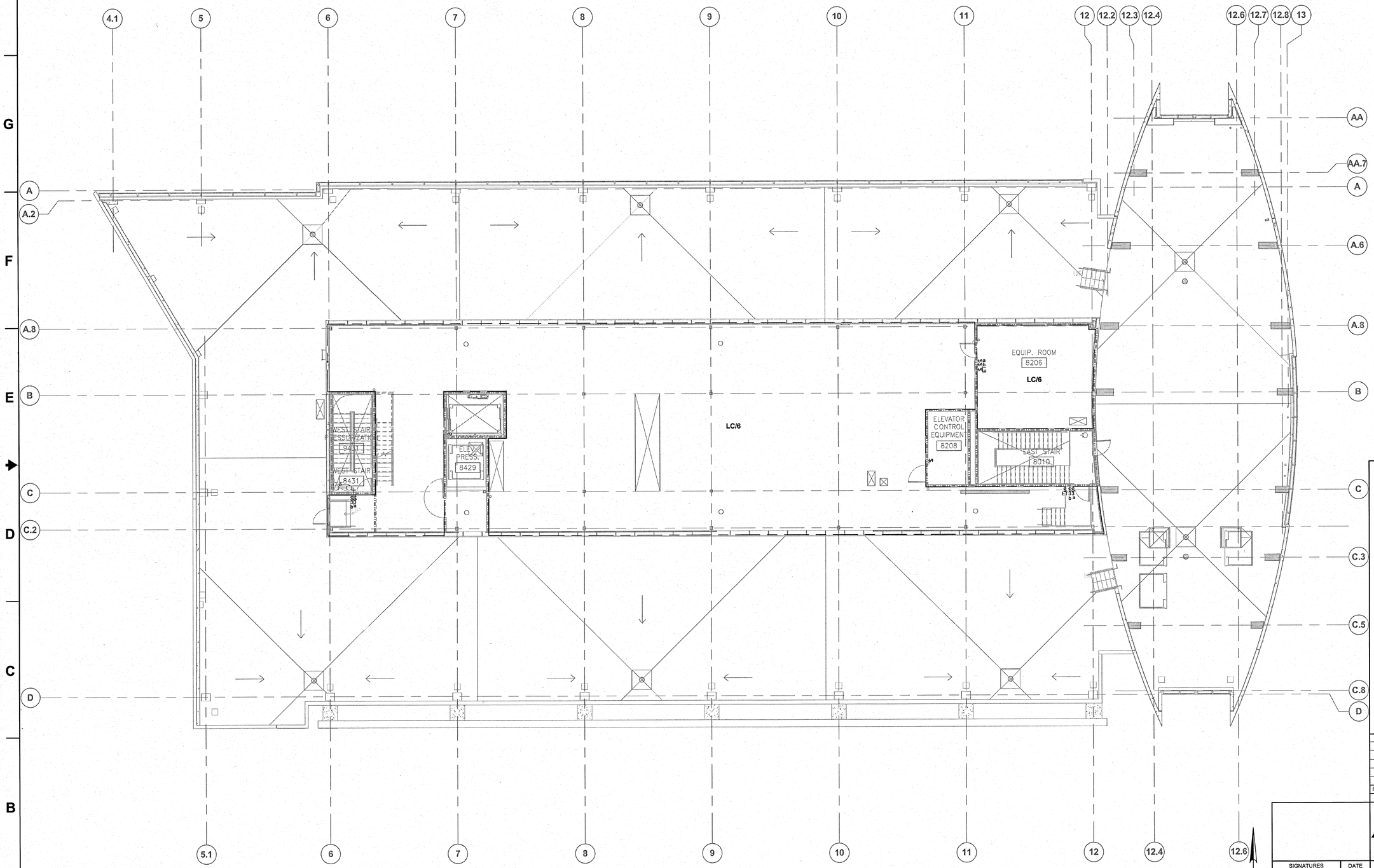
GENERAL NOTES:

1. REFER TO LIGHTING CONTROLS DETAILS, SHEET E406, FOR MORE INFORMATION. "X" NUMBER IN LC/X TAG INDICATES APPLICABLE DETAIL FOR EACH AREA.



LIGHTING CONTROLS PLAN - PENTHOUSE

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1' - 0"

E281C

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LIGHTING CONTROLS PLAN - PENTHOUSE

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KSC FORM 1-11 (3/76)(C/G 3/94)

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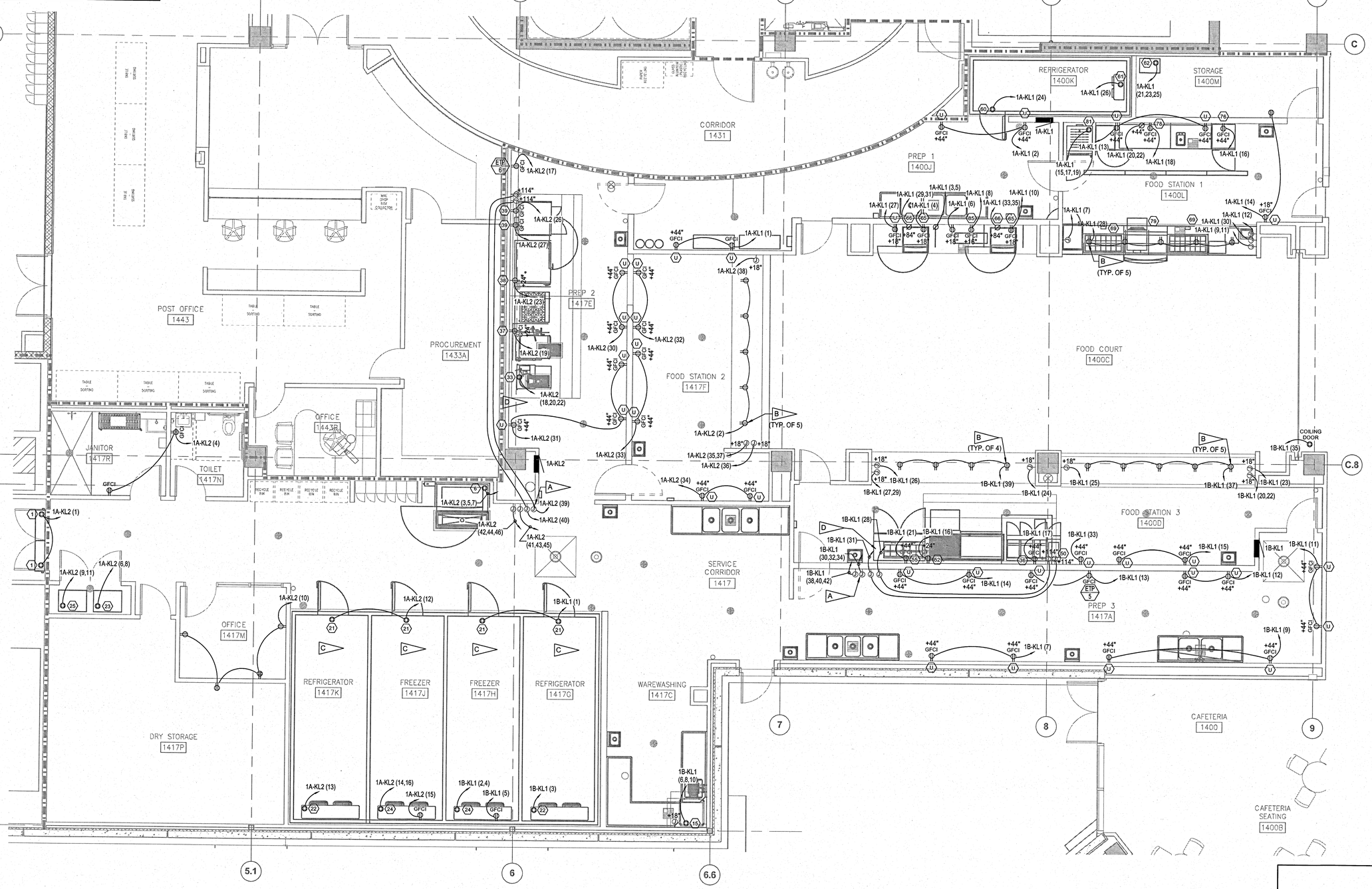

FLAG NOTES:

- A — HOOD CONTROL PANEL PROVIDED BY FOOD SERVICE VENDOR. PROVIDE ALL POWER AND ACCESSORY CONNECTIONS AS INDICATED ON DETAILS 1-4, SHEET E407, AND FOOD SERVICE VENDOR DRAWINGS.
- B — MOUNT DUPLEX RECEPTACLE ON ANGLED SOFFIT FOR FLAT PANEL DISPLAYS.
- C — INSTALL LIGHTS AND CIRCUITING BETWEEN FIXTURES IN REFRIGERATOR OR FREEZER. LIGHTS ARE PROVIDED WITH EQUIPMENT BY FOOD SERVICE VENDOR.
- D — PROVIDE CONNECTION FROM HOOD CONTROL PANEL TO GAS SHUT-OFF VALVES. REFER TO PLUMBING ENLARGED KITCHEN FLOOR PLAN, SHEET P305, FOR VALVE LOCATIONS.

ENLARGED KITCHEN POWER PLAN - 1ST LEVEL - AREA 1 (1)

1/4" = 1'-0"

GRAPHIC SCALE

0 4 8 12

SCALE IN FEET
1/4" = 1'-0"

N

SYM	ZONE		DATE	APPROVED

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ENLARGED KITCHEN PLAN - 1ST LEVEL

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PCN. NO. 98745.1a		SHEET 48

E301

KSC FORM 1-11 (3/76)(C/G 3/94)

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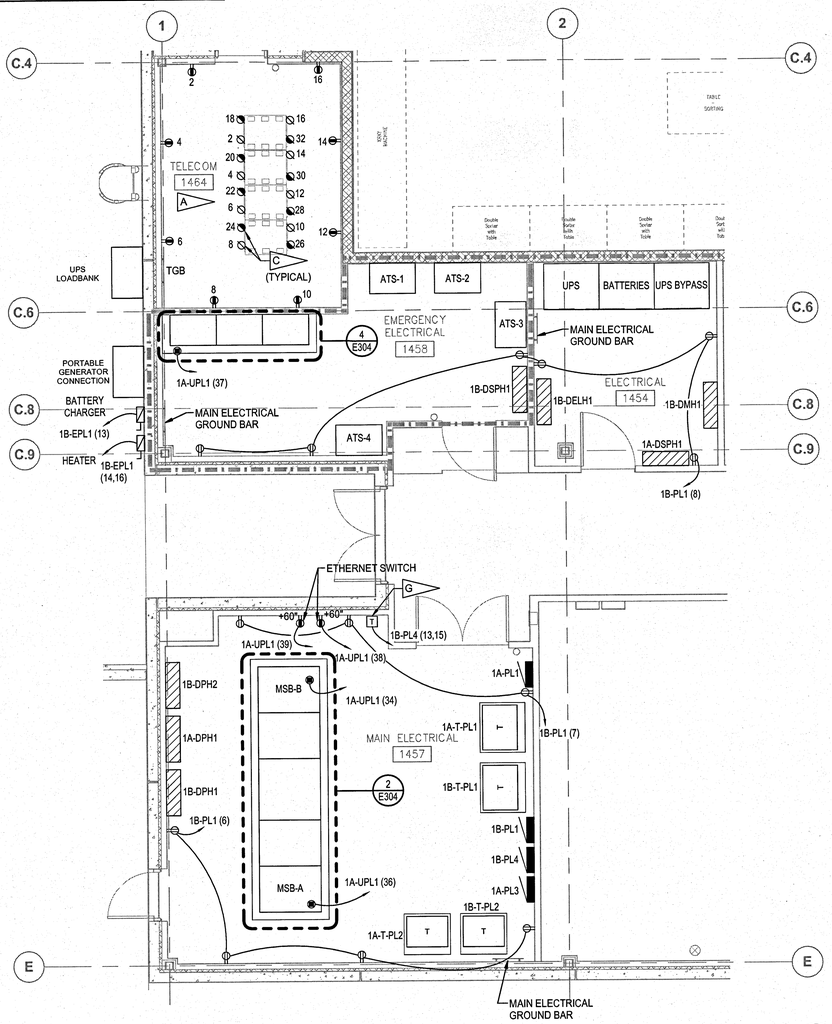
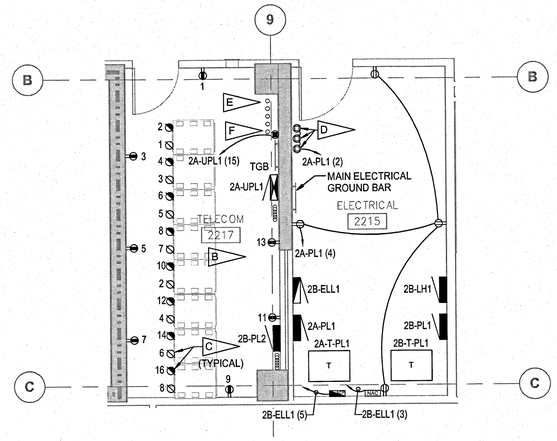


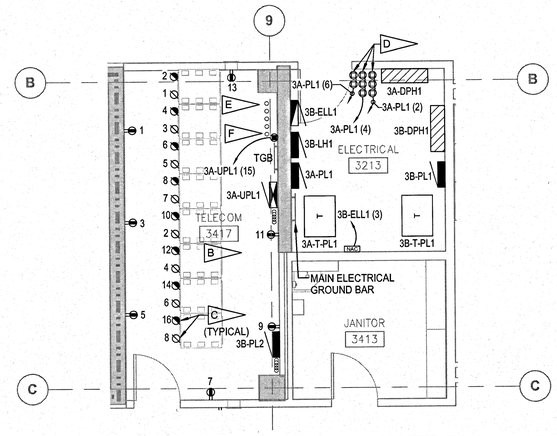
ENLARGED MAIN ELECTRICAL/TELECOM ROOM POWER PLAN - 1ST LEVEL (1 / E112)

1/4" = 1'-0"



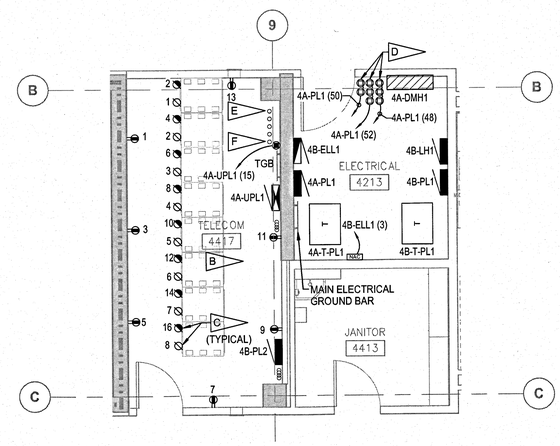
ENLARGED ELECTRICAL/TELECOM ROOM POWER PLAN - 2ND LEVEL (3 / E121)

1/4" = 1'-0"



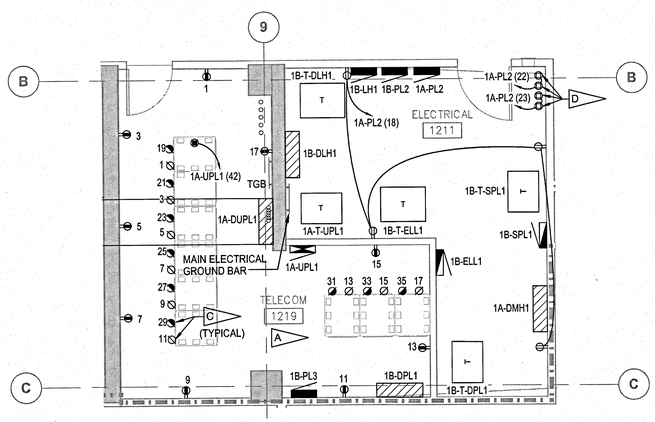
ENLARGED ELECTRICAL/TELECOM ROOM POWER PLAN - 3RD LEVEL (4 / E131)

1/4" = 1'-0"



ENLARGED ELECTRICAL/TELECOM ROOM POWER PLAN - 4TH LEVEL (5 / E141)

1/4" = 1'-0"



ENLARGED ELECTRICAL/TELECOM ROOM POWER PLAN - 1ST LEVEL (2 / E111)

1/4" = 1'-0"

FLAG NOTES:

- A — ALL NORMAL POWER RECEPTACLES, THIS ROOM, TO BE CIRCUITED TO PANEL 1B-PL3. ALL EMERGENCY POWER RECEPTACLES, THIS ROOM, TO BE CIRCUITED TO PANEL 1A-UPL1. CIRCUIT DESIGNATIONS SHOWN AT DEVICES.
- B — ALL NORMAL POWER RECEPTACLES, THIS ROOM, TO BE CIRCUITED TO PANEL XB-PL2. ALL EMERGENCY POWER RECEPTACLES, THIS ROOM, TO BE CIRCUITED TO PANEL XA-UPL1. "X" INDICATES FLOOR LEVEL. CIRCUIT DESIGNATIONS SHOWN AT DEVICES.
- C — NEMA L5-20R RECEPTACLE TO BE MOUNTED TO CABLE TRAY ABOVE TELECOM RACK.
- D — PROVIDE 120V POWER CONNECTION TO VAV BOX CONTROLS TRANSFORMER. COORDINATE LOCATION WITH CONTROLS CONTRACTOR.
- E — PROVIDE (4) 4" CONDUIT SLEEVES THROUGH FLOOR FOR TELECOMM CABLES.
- F — PROVIDE (1) 1" CONDUIT SLEEVE THROUGH FLOOR FOR GROUNDING CONDUCTOR.
- G — INSTALL BUCK-BOOST TRANSFORMER FOR PRINT ROOM EQUIPMENT HIGH ON WALL OF MAIN ELECTRICAL ROOM.

GRAPHIC SCALE

0 4 8 12

SCALE IN FEET
1/4" = 1' - 0"

SYM	ZONE		DATE	APPROVED

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Duke Zheng	12/18/13

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PHASE 1
VOL. 4 OF 4

ENLARGED ELECTRICAL ROOM PLANS - 1ST TO 4TH LEVELS

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 49

E302

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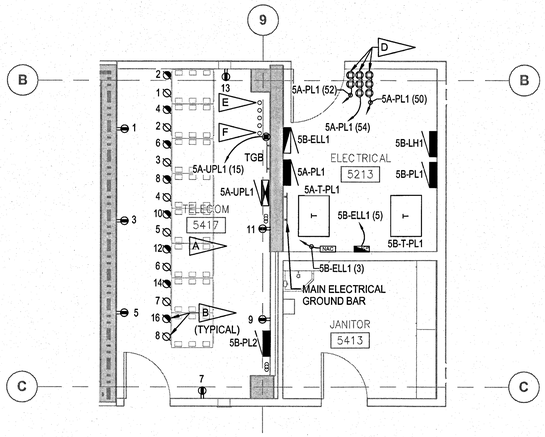
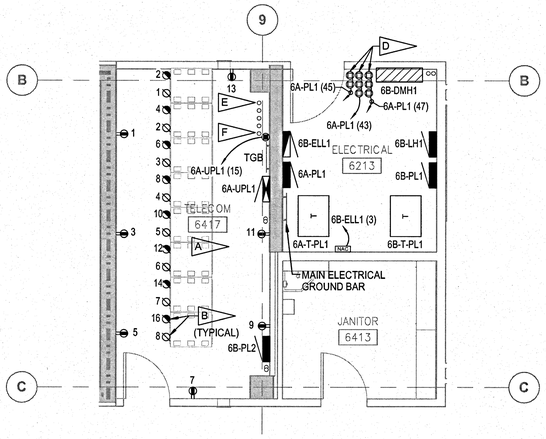


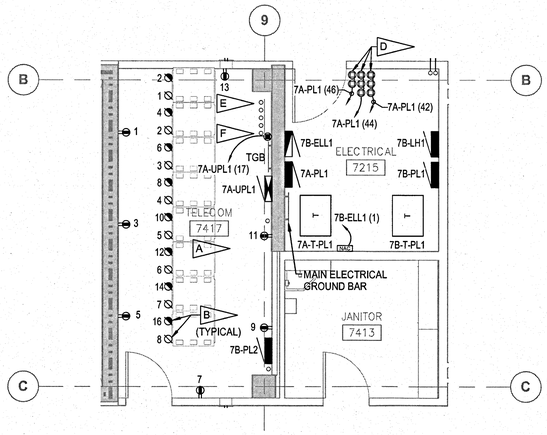
ENLARGED ELECTRICAL/TELECOM ROOM POWER PLANS - 5TH LEVEL (1 / E151)

1/4" = 1'-0"



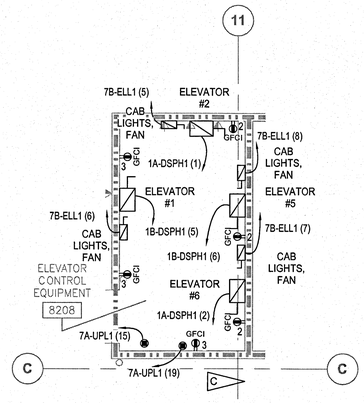
ENLARGED ELECTRICAL/TELECOM ROOM POWER PLANS - 6TH LEVEL (2 / E161)

1/4" = 1'-0"



ENLARGED ELECTRICAL/TELECOM ROOM POWER PLANS - 7TH LEVEL (3 / E171)

1/4" = 1'-0"



ENLARGED ELEVATOR CONTROL ROOM POWER PLAN - ROOF LEVEL (4 / E181)

1/4" = 1'-0"

FLAG NOTES:

- A — ALL NORMAL POWER RECEPTACLES, THIS ROOM, TO BE CIRCUITED TO PANEL XB-PL2. ALL EMERGENCY POWER RECEPTACLES, THIS ROOM, TO BE CIRCUITED TO PANEL XA-UPL1. "X" INDICATES FLOOR LEVEL. CIRCUIT DESIGNATIONS SHOWN AT DEVICES.
- B — NEMA L5-20R RECEPTACLE TO BE MOUNTED TO CABLE TRAY ABOVE TELECOM RACK.
- C — EMERGENCY RECEPTACLES IN ELEVATOR CONTROL EQUIPMENT ROOM 8208 TO BE CIRCUITED TO PANEL PHB-SPL2, CIRCUIT NUMBER SHOWN.
- D — PROVIDE 120V POWER CONNECTION TO VAV BOX CONTROLS TRANSFORMER. COORDINATE LOCATION WITH CONTROLS CONTRACTOR.
- E — PROVIDE (4) 4" CONDUIT SLEEVES THROUGH FLOOR FOR TELECOMM CABLES.
- F — PROVIDE (1) 1" CONDUIT SLEEVE THROUGH FLOOR FOR GROUNDING CONDUCTOR.

GRAPHIC SCALE

0 4 8 12

SCALE IN FEET
1/4" = 1' - 0"

E303

SYM	ZONE		DATE	APPROVED

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LICENSE NO. 71672	
APPROVED Scott Robinson	12.18.13
Dindy Brang	12/18/13

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ENLARGED ELECTRICAL ROOM PLANS - 5TH LEVEL TO PENTHOUSE

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 50

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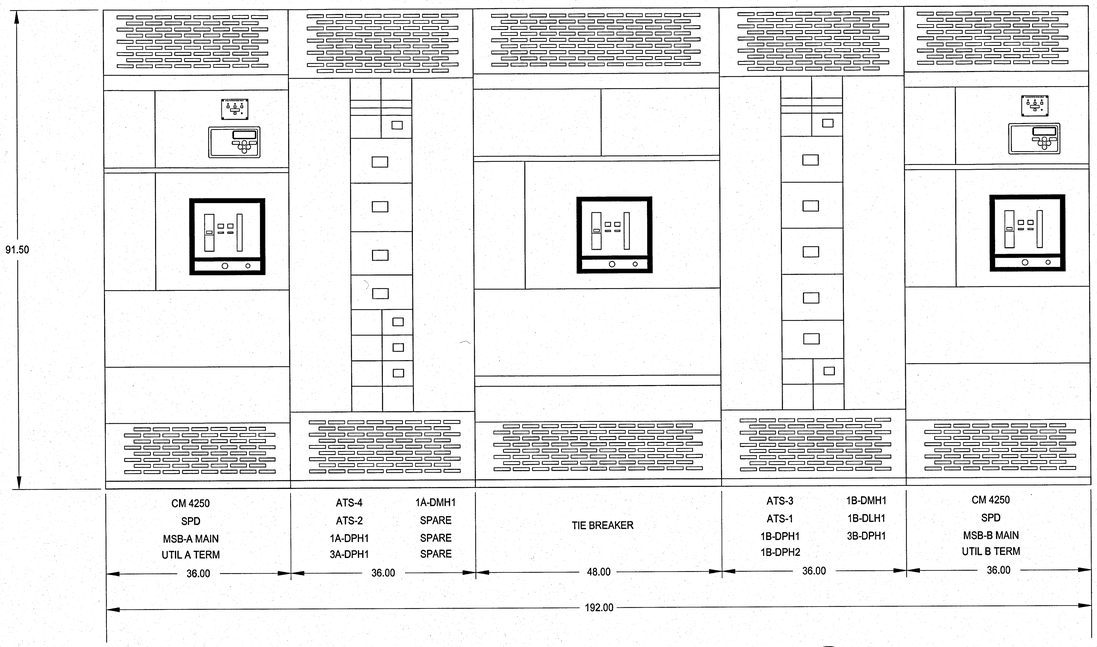
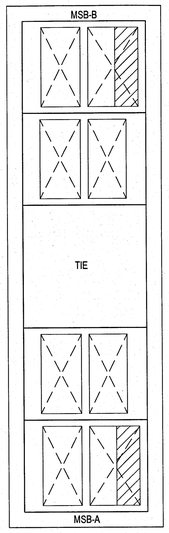


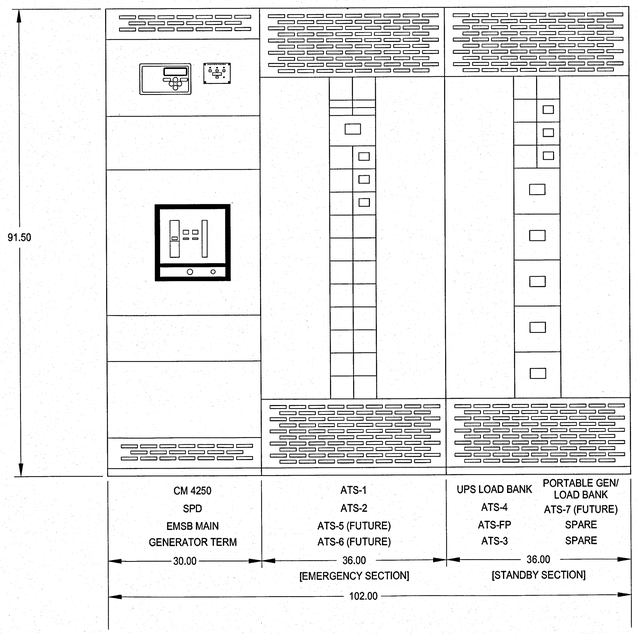
MAIN SWITCHBOARD MSB-A/MSB-B ELEVATION (1)

1" = 1'-0"



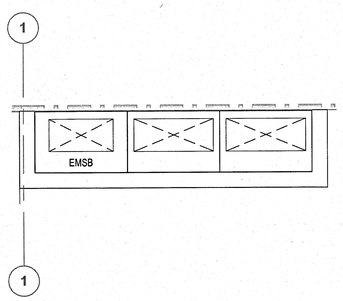
MAIN SWITCHBOARD PLAN (2) E302

1/2" = 1'-0"



EMERGENCY SWITCHBOARD EMSB ELEVATION (3)

1" = 1'-0"



EMERGENCY SWITCHBOARD PLAN (4) E302

1/2" = 1'-0"

GRAPHIC SCALE

0 2 4 6

SCALE IN FEET
1/2" = 1' - 0"

E304

SYM	ZONE		DATE	APPROVED

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ELECTRICAL SWITCHBOARD ELEVATIONS

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 51

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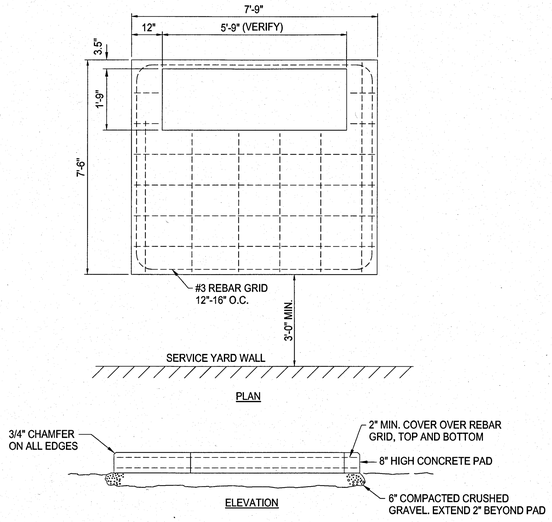


GENERAL NOTES:

A. TRANSFORMER PAD MAY BE:
1) POURED-IN-PLACE CONCRETE PAD
2) PRECAST CONCRETE PAD

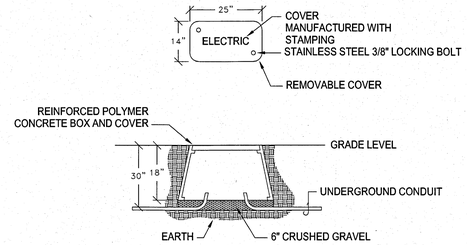
B. CONCRETE SHALL BE 4,000 PSI AT 28 DAYS

C. PRIMARY DUCTS SHALL BE CUT OFF FLUSH WITH TOP OF PAD TO ALLOW FOR CABLE TERMINATION.

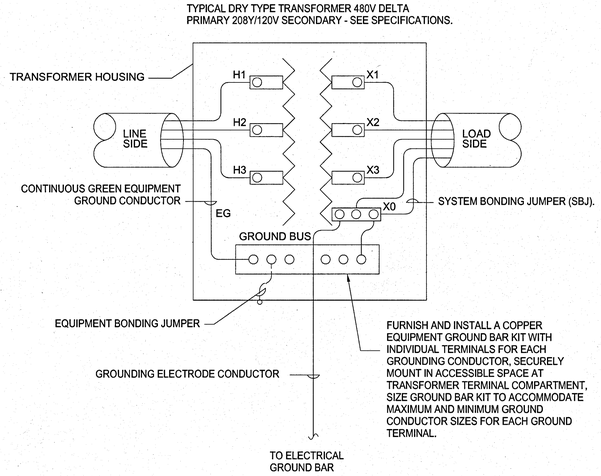
D. SECONDARY DUCTS SHALL NOT EXTEND MORE THAN 2" ABOVE THE TOP OF PAD.

E. EXTEND GROUND ROD 6" ABOVE TOP OF PAD TO ACCOMMODATE GROUNDING JUMPERS.

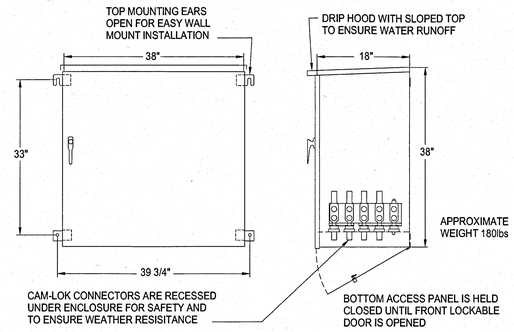
TRANSFORMER PAD DETAIL (1) NO SCALE E104



PRECAST CONCRETE HANDHOLE BOX - ELECTRIC (3) NO SCALE



TYPICAL TRANSFORMER GROUNDING DETAIL (4) NO SCALE

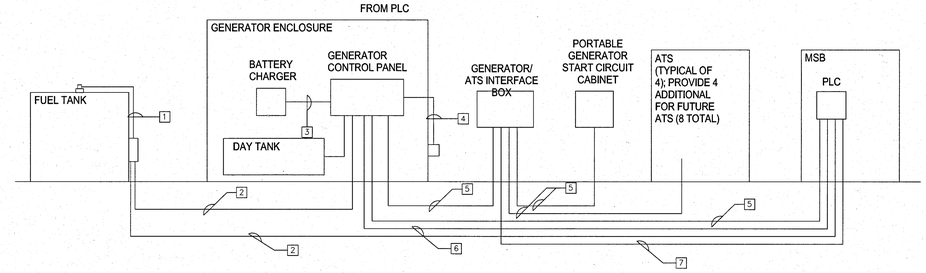


GENERATOR AND UPS LOAD BANK TAP BOX DETAIL (6) NO SCALE E104

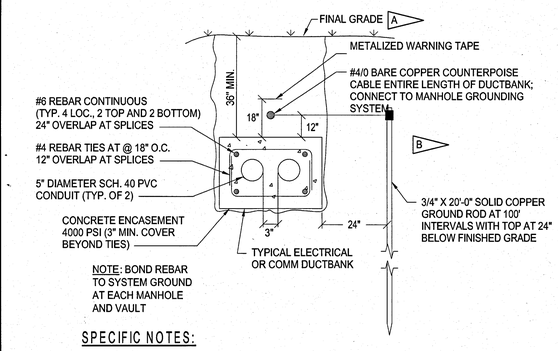
CONTROL/ SIGNAL WIRING NOTES

1. FUEL STORAGE TANK FUEL LEVEL TRANSMITTER, LOW FUEL ALARM, AND LEAK DETECTION WIRING (BY MANUFACTURER/SUPPLIER)
2. FUEL TANK LOW FUEL ALARM AND LEAK DETECTION ALARM WIRING
3. BATTERY VOLTAGE STATUS AND BATTERY CHARGER FAILURE ALARM WIRING
4. REMOTE EMERGENCY STOP STATION WIRING
5. GENERATOR START-STOP AND ATS EXERCISER CONTROL
6. BATTERY CHARGER, ENGINE, AND FUEL TANK ALARMS TO PLC
7. GENERATOR SELECTOR SWITCH POSITION INPUT TO PLC AND ATS EXERCISER OUTPUTS FROM PLC

NOTE:
QUANTITY AND TYPE OF CONTROL WIRING SHALL BE AS REQUIRED BY THE MANUFACTURER OF RESPECTIVE EQUIPMENT. MINIMUM WIRE SIZE SHALL BE #16 AWG, STRANDED. USE #14 AWG FOR RUNS LONGER THAN 75 FEET, #12 AWG FOR RUNS LONGER THAN 150 FEET, AND #10 FOR RUNS LONGER THAN 400 FEET. CONTROL WIRING SHALL BE CONTAINED IN CONDUIT, 2" MIN. SIZE, UNLESS NOTED OTHERWISE



GENERATOR CONTROL/ SIGNAL WIRING DIAGRAM (7) NO SCALE



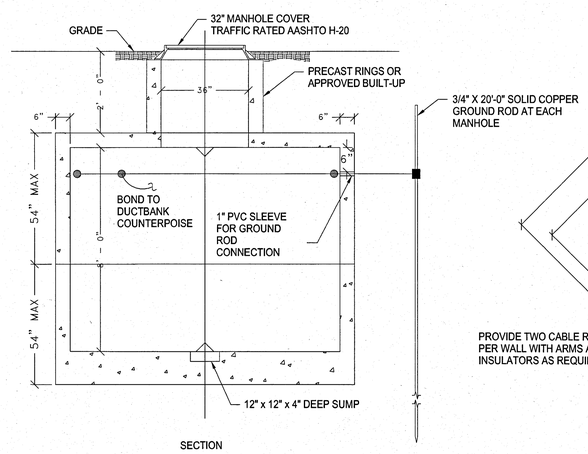
NOTE: BOND REBAR TO SYSTEM GROUND AT EACH MANHOLE AND VAULT

SPECIFIC NOTES:

A. "FINAL GRADE" SHALL BE UNDERSTOOD TO REFER TO THE "FINAL EARTHEN GRADE", "TOP OF PAVEMENT SURFACE" OR "TOP OF APRON SLAB", WHICHEVER IS PRESENT. RESTORE SURFACES DISTURBED BY CONSTRUCTION ACTIVITIES TO ORIGINAL CONDITION IN ACCORDANCE WITH THE CONTRACT GOVERNING SURFACE RESTORATION.

B. PROVIDE GROUND RODS AT MAX. 100FT CENTERS BETWEEN DUCT BANK TERMINATIONS AT MANHOLES/HANDHOLES AND BUILDINGS. BOND COUNTERPOISE GROUNDING CONDUCTOR TO GROUND ROD VIA EXOTHERMIC WELDING PROCESS.

2 X 1 CONCRETE ENCASED DUCTBANK DETAIL (2) NO SCALE E101



ELECTRICAL MANHOLE DETAILS (5) NO SCALE E101

SYM	ZONE		DATE	APPROVED

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ST of LICENSURE: FL	
LICENSE NO. 71672	
APPROVED Scott Robinson	12.18.13
Duing Trang	12/18/13

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

ELECTRICAL DETAILS

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E401

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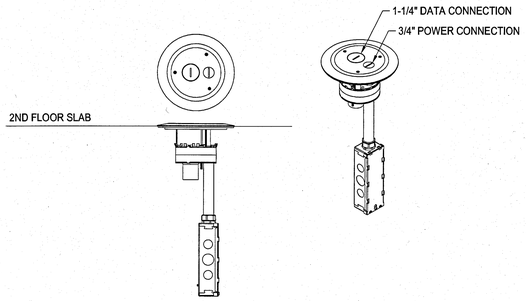
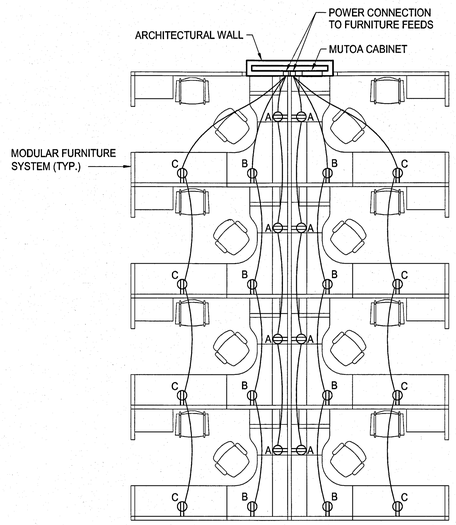
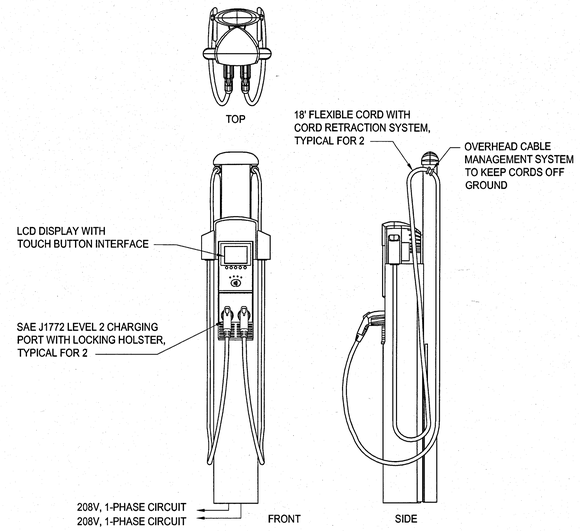


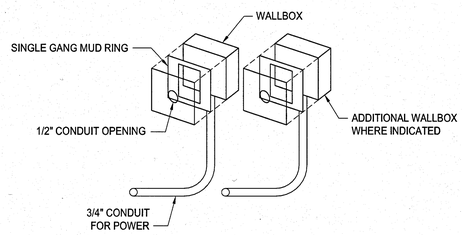
POKE-THRU MODULAR FURNITURE FEED DETAIL (1)
NO SCALE



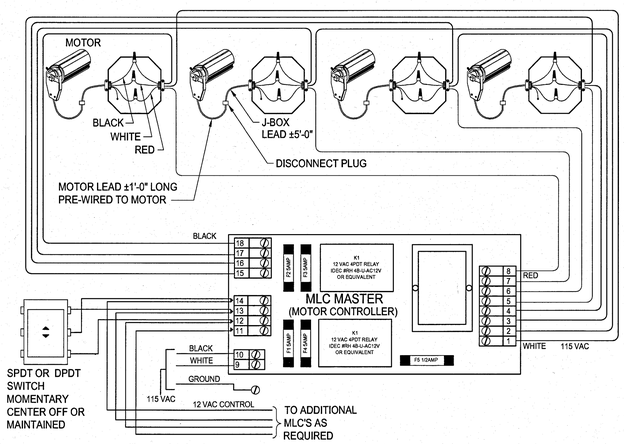
TYPICAL MODULAR FURNITURE WIRING DIAGRAM (4)
NO SCALE

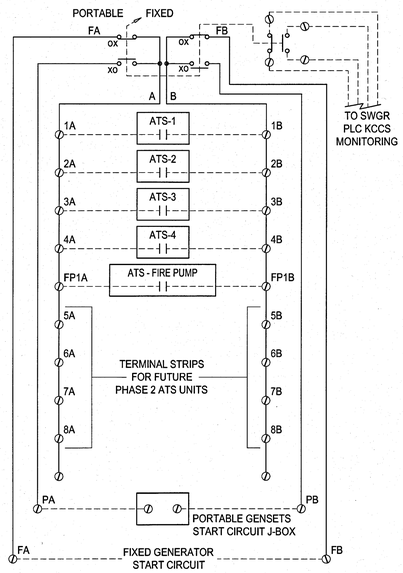


ELECTRIC CAR CHARGING STATION (6)
NO SCALE



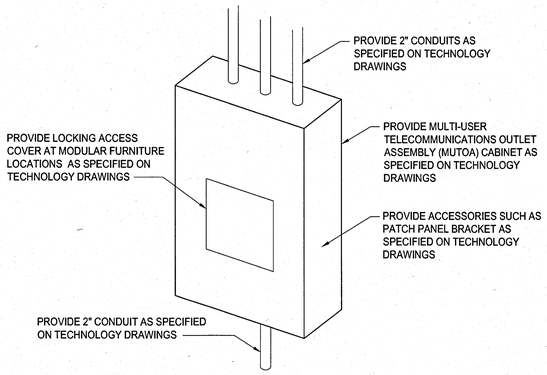
WALL-MOUNTED MODULAR FURNITURE FEED DETAIL (2)
NO SCALE



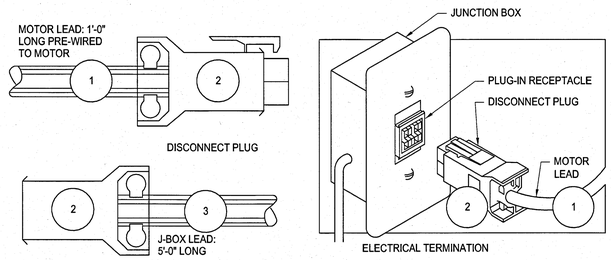


NOTE: ROUTE EXERCISER CONTROL CIRCUIT FOR EACH ATS ACTIVATED FROM THE SWITCHGEAR PLC THROUGH THIS GENERATOR/ ATS INTERFACE CABINET

GENERATOR START CIRCUIT WIRING DETAIL (7)
NO SCALE E104



MUTOA CABINET DETAIL (3)
NO SCALE



MOTORIZED SHADE WIRING DIAGRAM (5)
NO SCALE

SYM	ZONE		DATE	APPROVED

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LICENSE NO. 71672	
APPROVED Scott Robinson	12.18.13
Duhg Dang	12/19/13

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

ELECTRICAL DETAILS

E402

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 53

KSC FORM 1-11 (3/76)(C/G 3/94)

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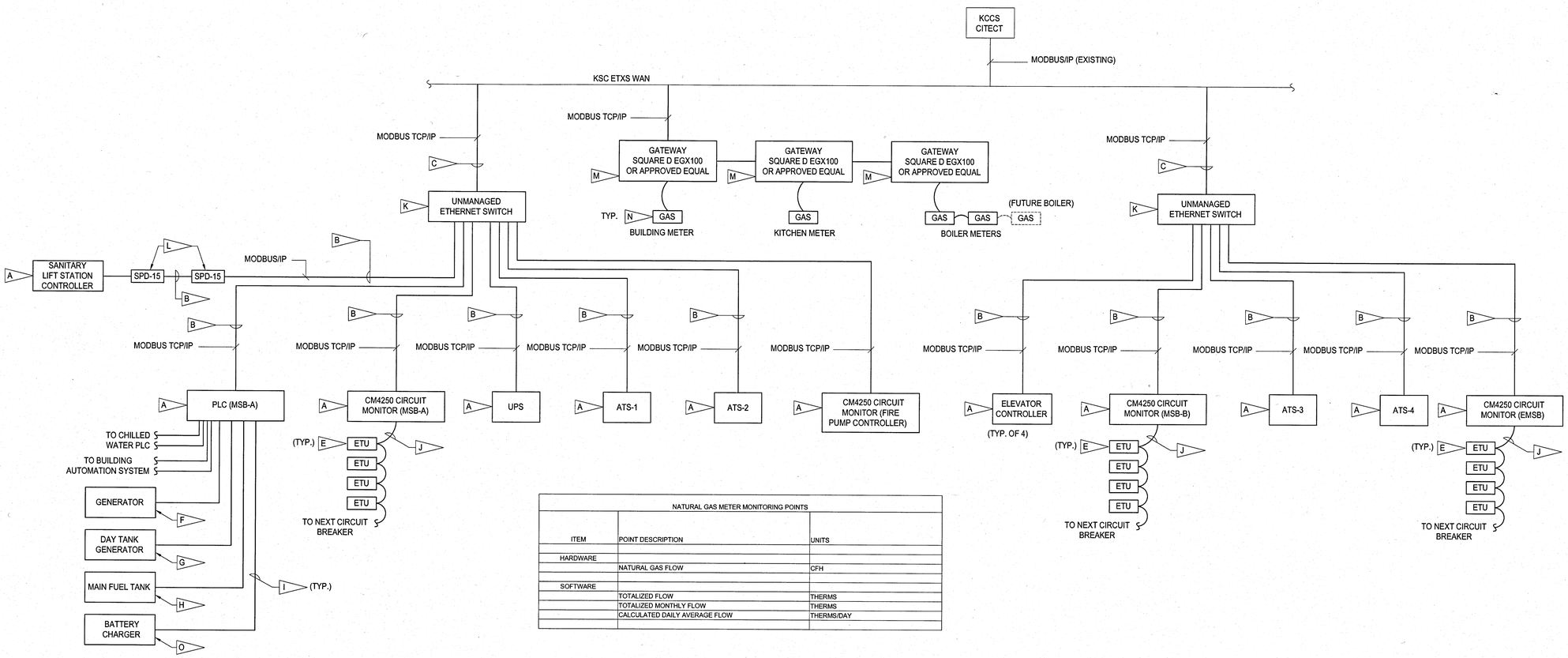
GENERAL NOTES

1. SYSTEM SHALL BE COMPATIBLE WITH AND CAPABLE OF DIRECTLY INTERFACING WITH EXISTING CITECT SCADA SYSTEM USED BY THE KENNEDY COMPLEX CONTROL SYSTEM (KCCS).
2. THE PLC SYSTEM MONITORS NUMEROUS PROTECTIVE AND BREAKER DEVICES FOR THE MAIN-TIE-MAIN AUTOMATED SWITCHING SEQUENCES.

FLAG NOTES

- A — DEVICE EQUIPPED WITH ETHERNET COMMUNICATIONS CARD OR MODULE.
- B — CAT 6A DATA CABLE PER BASIS OF DESIGN (REFER TO T-SERIES DRAWINGS).
- C — FIBER OPTIC CABLE BY GOVERNMENT. PROVIDE 1" CONDUIT TO MDF IN TELECOM RM 1464.
- D — 2-WIRE, RS-485 SERIAL WIRING (DAISY CHAIN) FOR MODBUS PROTOCOL (BELDEN 9841 CABLE OR EQUAL).
- E — ELECTRONIC TRIP UNIT (ETU) IN CIRCUIT BREAKER. ALL POWER DATA TO BE REPORTED TO KCCS CENTRAL MONITORING SYSTEM. BREAKERS EQUIPPED WITH AUXILIARY CONTACTS FOR MONITORING BY PLC.
- F — PLC MONITORING OF GENERATOR STATUS AND ALARMS.
- G — PLC MONITORING OF DAY TANK LEVEL AND LEAK DETECTION ALARMS.
- H — PLC MONITORING OF MAIN TANK LEVEL AND LEAK DETECTION ALARMS.
- I — PLC INPUT WIRING.
- J — 4-WIRE, RS-485 SERIAL WIRING (DAISY CHAIN) FOR MODBUS PROTOCOL (BELDEN 8723 CABLE OR EQUAL).
- K — 8-PORT UNMANAGED ETHERNET SWITCH WITH SINGLE MODE FIBER OPTIC UPLINK, N-TRON 509FXE-ST-15 OR EQUAL, IN WALL-MOUNTED TELECOM EQUIPMENT CABINET.
- L — PROVIDE SURGE PROTECTIVE DEVICE AT EACH END OF CABLE WHERE IT ENTERS/EXITS THE BUILDING AND LIFT STATION.
- M — PROVIDE ETHERNET GATEWAY AND NETWORK CONNECTION AT EACH METER AS INDICATED.
- N — NATURAL GAS METERS PROVIDED BY DIVISION 23 CONTROLS INTEGRATOR. REFER TO NATURAL GAS METER MONITORING POINTS CHART, THIS SHEET, FOR POINTS TO BE MONITORED BY KCCS.
- O — PLC MONITORING OF GENERATOR BATTERY CHARGER.



NATURAL GAS METER MONITORING POINTS		
ITEM	POINT DESCRIPTION	UNITS
HARDWARE		
	NATURAL GAS FLOW	CFH
SOFTWARE		
	TOTALIZED FLOW	THERMS
	TOTALIZED MONTHLY FLOW	THERMS
	CALCULATED DAILY AVERAGE FLOW	THERMS/DAY

KCCS MONITORING NETWORK DIAGRAM

NO SCALE

SYM	ZONE		DATE	APPROVED

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ELECTRICAL DETAILS - KCCS MONITORING NETWORK DIAGRAM

E403

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PCN. NO. 98745.1a SHEET 54

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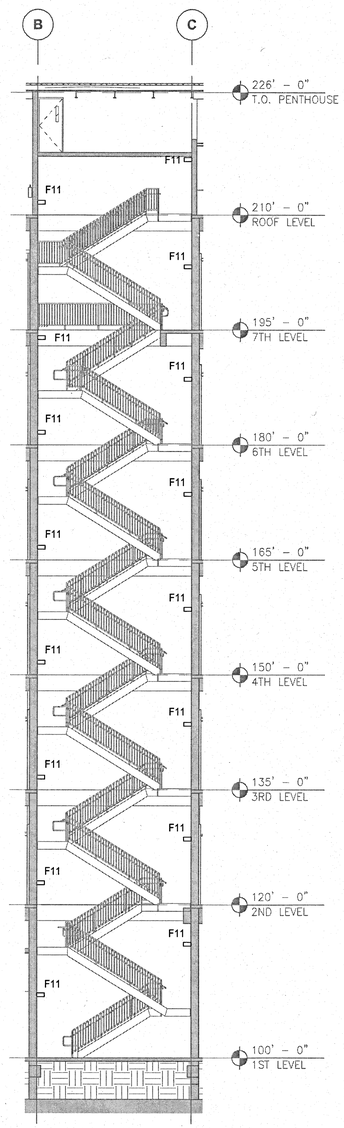
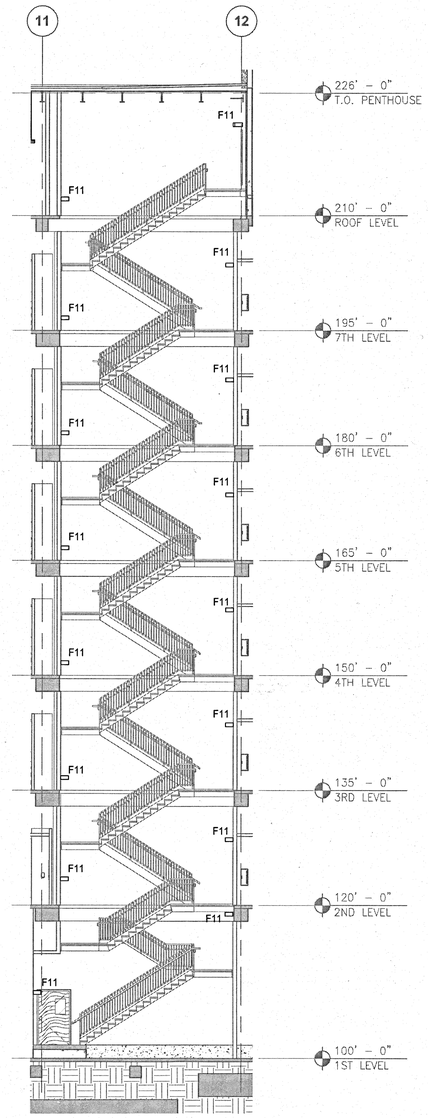


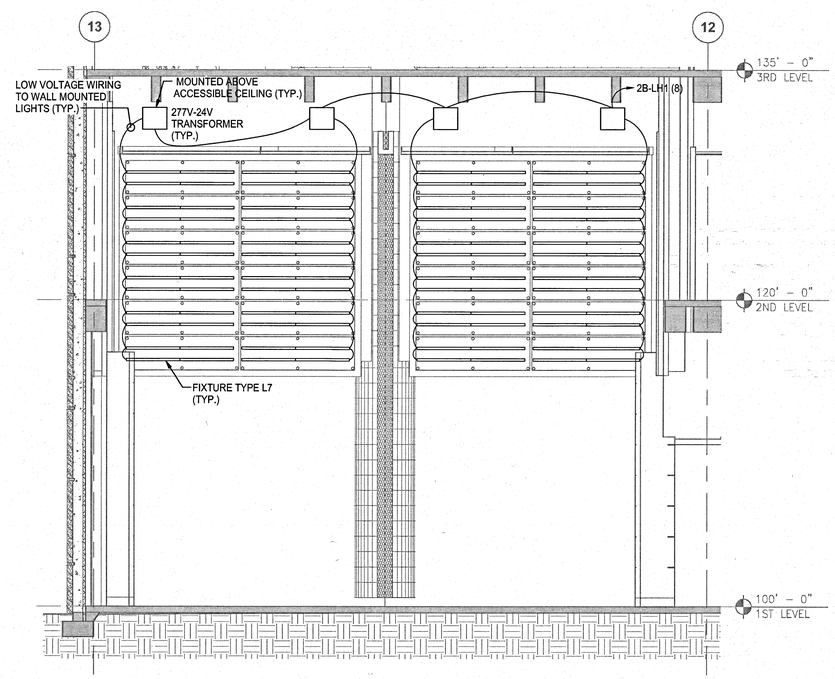
LIGHTING WEST STAIR SECTION (1)

1/8" = 1'-0"



LIGHTING EAST STAIR SECTION (2)

1/8" = 1'-0"



LOBBY GLASS PANEL LIGHTING SECTION (3)

1/4" = 1'-0" E221

SYM	ZONE		DATE	APPROVED

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STAIR TOWER LIGHTING SECTIONS

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E404

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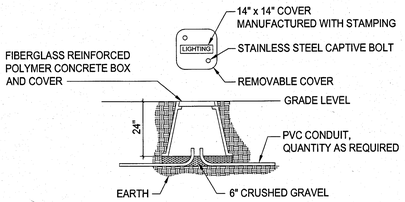
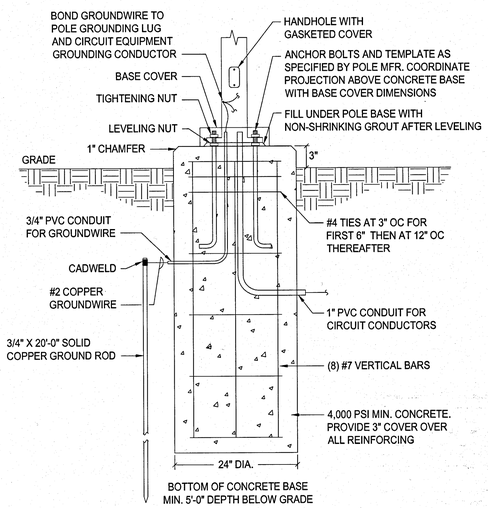
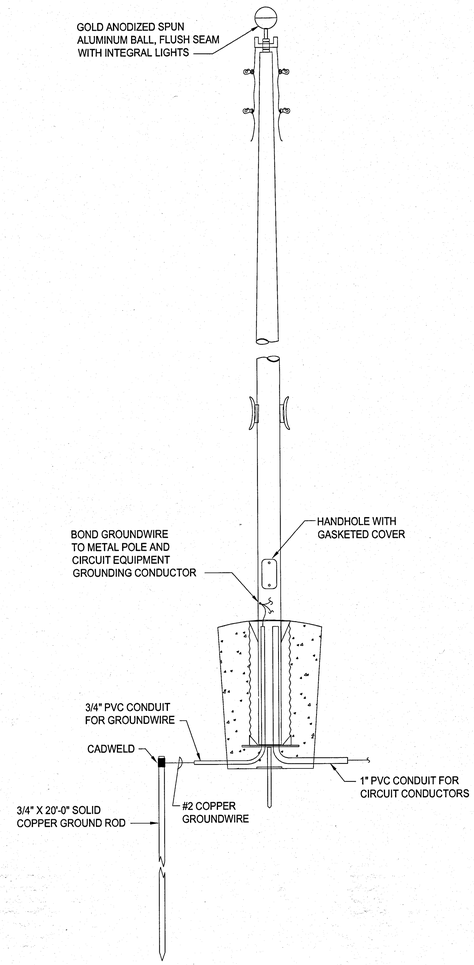


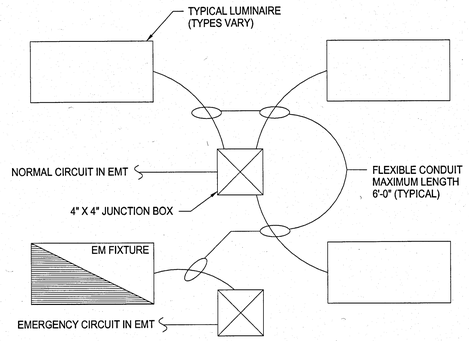
IN-GRADE JUNCTION BOX DETAIL (1)
NO SCALE



LIGHTING POLE BASE DETAIL (2)
NO SCALE



FLAGPOLE LIGHTING DETAIL (4)
NO SCALE



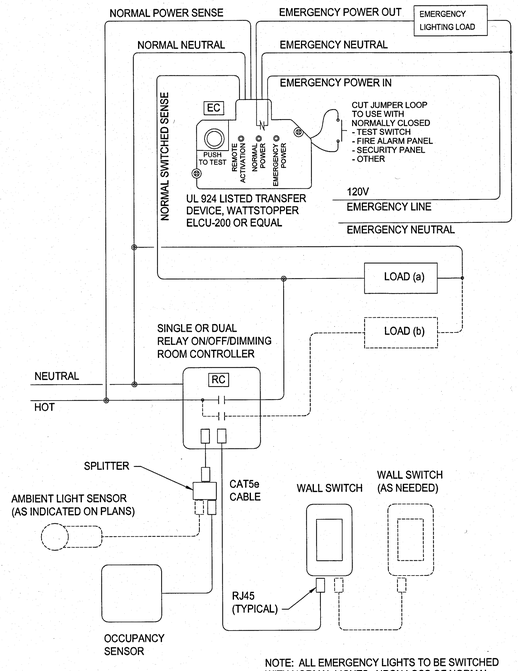
NOTES:

(1) FLEXIBLE CONDUIT IS NOT TO BE USED TO RUN WIRING FROM LUMINAIRE TO LUMINAIRE. WIRING SHALL BE RUN IN FLEXIBLE CONDUIT FROM JUNCTION BOX LOCATED ABOVE ACCESSIBLE CEILING TO INDIVIDUAL LUMINAIRES OR CONTINUOUS ROW OF LUMINAIRES. MAXIMUM LENGTH OF FLEXIBLE CONDUIT SHALL BE 6'-0".

(2) EMERGENCY FIXTURES ARE TO BE SUPPLIED BY DEDICATED RACEWAYS. DO NOT SHARE RACEWAYS WITH NORMAL POWER CIRCUITS.

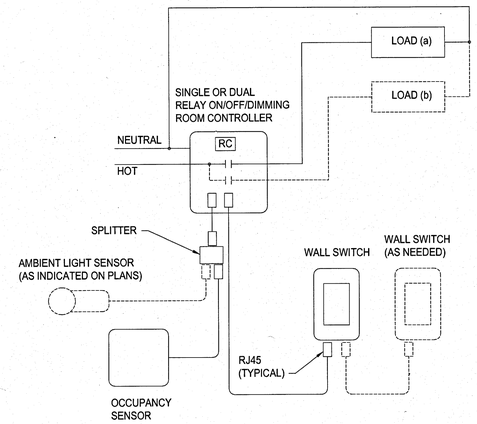
(3) PROVIDE SMALL ROUND RED STICKER ON CEILING GRID AT EACH EMERGENCY FIXTURE FOR IDENTIFICATION.

LUMINAIRE WIRING (6)
NO SCALE

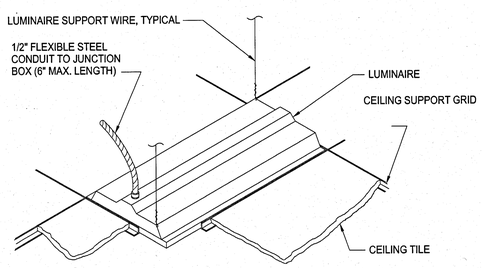


NOTE: ALL EMERGENCY LIGHTS TO BE SWITCHED WITH NORMAL LIGHTS. UPON LOSS OF NORMAL POWER, EMERGENCY LIGHTS AUTOMATICALLY TURN ON.

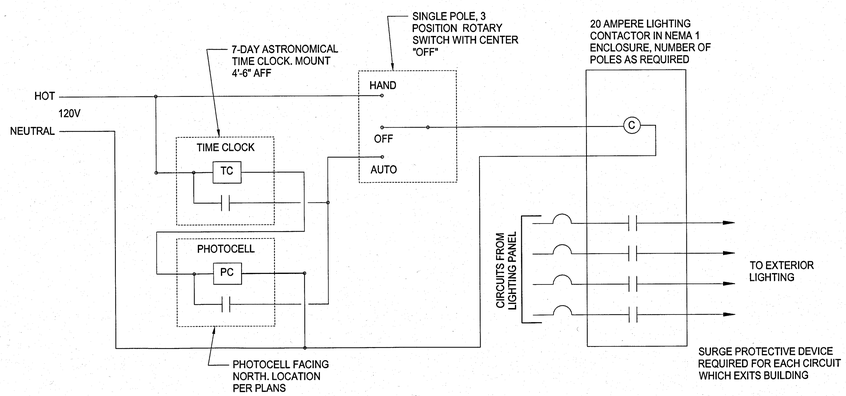
EMERGENCY LIGHTING WIRING DETAIL (8)
NO SCALE



LIGHTING CONTROL WIRING DETAIL (7)
NO SCALE



RECESSED LUMINAIRE SUPPORT DETAIL (3)
NO SCALE



SITE LIGHTING CONTROL WIRING DIAGRAM (5)
NO SCALE

SYM	ZONE		DATE	APPROVED

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LICENSE NO. 71672	
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Doug Young	12/18/13

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PHASE 1
VOL. 4 OF 4

LIGHTING DETAILS

E405

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 56

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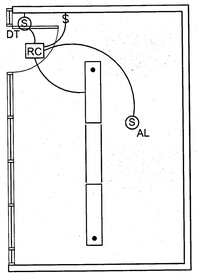


LIGHTS TURNED ON MANUALLY VIA WALL SWITCH.

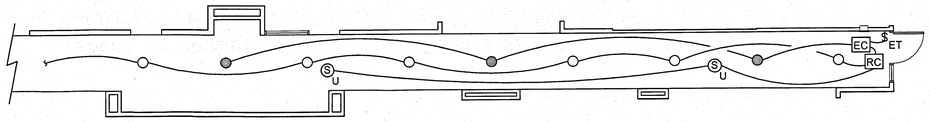
LIGHTS TURNED OFF AUTOMATICALLY WHEN OCCUPANCY SENSOR TIMES OUT.

ROOM CONTROLLER TO BE LOCATED NEAR SWITCH LOCATION ABOVE ACCESSIBLE CEILING.

AMBIENT LIGHT SENSOR IN PERIMETER OFFICES WITH EXTERIOR WINDOWS (AS INDICATED ON PLANS). IF SUFFICIENT DAYLIGHT IS PRESENT, ONE LAMP IN EACH FIXTURE WILL BE TURNED OFF.

TYP. PRIVATE OFFICE LIGHTING CONTROLS DETAIL (LC/1) 1

NO SCALE



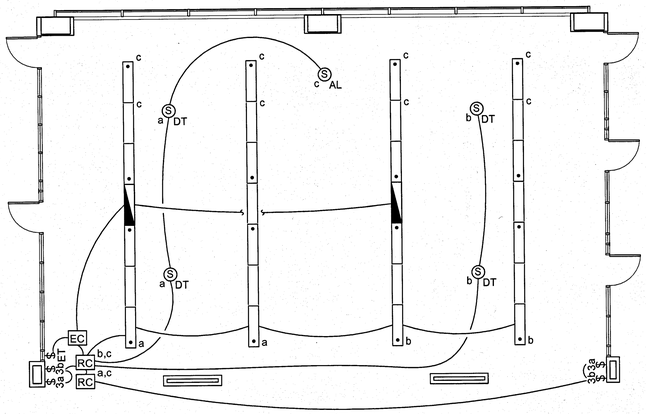
ENTIRE RUN OF CORRIDOR LIGHTS TURNED ON AUTOMATICALLY VIA ANY CONNECTED OCCUPANCY SENSOR.

LIGHTS TURNED OFF AUTOMATICALLY WHEN OCCUPANCY SENSOR TIMES OUT.

ROOM CONTROLLER TO BE LOCATED NEAR EMERGENCY TEST SWITCH LOCATION ABOVE ACCESSIBLE CEILING.

TYP. CORRIDOR/ LOBBY LIGHTING CONTROLS DETAIL (LC/4) 4

NO SCALE



LIGHTS TURNED ON MANUALLY VIA WALL SWITCH.

LIGHTS TURNED OFF AUTOMATICALLY WHEN OCCUPANCY SENSOR TIMES OUT.

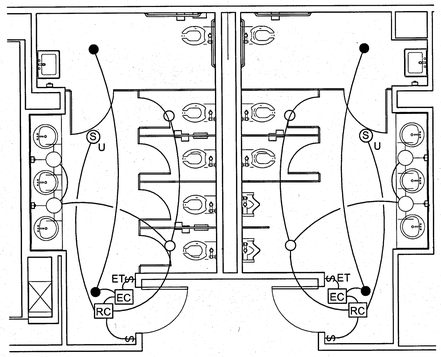
LOWERCASE LETTER DENOTES SWITCHING ARRANGEMENT FOR WALL SWITCHES AND OCCUPANCY SENSORS.

ROOM CONTROLLER TO BE LOCATED NEAR SWITCH LOCATION ABOVE ACCESSIBLE CEILING.

AMBIENT LIGHT SENSOR WILL CONTROL LAST TWO FIXTURES IN EACH ROW. IF SUFFICIENT DAYLIGHT IS PRESENT, THE LAMP IN EACH FIXTURE WILL DIM TO 50% OF FULL OUTPUT.

TYP. OPEN OFFICE LIGHTING CONTROLS DETAIL (LC/2) 2

NO SCALE



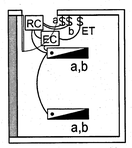
LIGHTS TURNED ON MANUALLY VIA WALL SWITCH OR AUTOMATICALLY VIA SENSOR.

LIGHTS TURNED OFF AUTOMATICALLY WHEN OCCUPANCY SENSOR TIMES OUT.

ROOM CONTROLLER TO BE LOCATED NEAR SWITCH LOCATION ABOVE ACCESSIBLE CEILING.

TYP. RESTROOM LIGHTING CONTROLS DETAIL (LC/5) 5

NO SCALE



LIGHTS TURNED ON MANUALLY VIA WALL SWITCH.

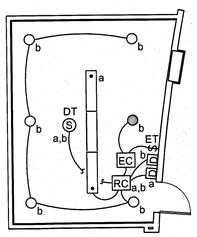
LIGHTS TURNED OFF MANUALLY VIA WALL SWITCH.

LOWER CASE LETTER DENOTES SWITCHING ARRANGEMENT FOR WALL SWITCHES.

ROOM CONTROLLER TO BE LOCATED NEAR EMERGENCY TEST SWITCH LOCATION ABOVE ACCESSIBLE CEILING.

TYP. ELECTRICAL RM LIGHTING CONTROLS DETAIL (LC/6) 6

NO SCALE



LIGHTS TURNED ON MANUALLY VIA WALL SWITCHES. ALL FIXTURES ARE DIMMING CAPABLE.

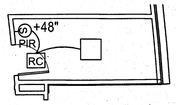
LIGHTS TURNED OFF AUTOMATICALLY WHEN OCCUPANCY SENSOR TIMES OUT.

LOWERCASE LETTER DENOTES SWITCHING ARRANGEMENT FOR WALL SWITCHES AND OCCUPANCY SENSORS.

ROOM CONTROLLER TO BE LOCATED NEAR SWITCH LOCATION ABOVE ACCESSIBLE CEILING.

TYP. CONFERENCE RM LIGHTING CONTROLS DETAIL (LC/3) 3

NO SCALE



LIGHTS TURNED ON AUTOMATICALLY VIA WALL MOUNTED SENSOR.

LIGHTS TURNED OFF AUTOMATICALLY WHEN OCCUPANCY SENSOR TIMES OUT.

ROOM CONTROLLER TO BE LOCATED NEAR OCCUPANCY SENSOR LOCATION ABOVE ACCESSIBLE CEILING.

TYP. STORAGE RM LIGHTING CONTROLS DETAIL (LC/7) 7

NO SCALE

SYM	ZONE		DATE	APPROVED

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SUBMITTED FOR ARCHIVING OF RECORD Toby S. Sa	12/18/13
ST of LICENSURE: FL	
LICENSE NO. 71672	
APPROVED Bruce Robinson	12.18.13
Duhg Trang	12/18/13

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LIGHTING CONTROL DETAILS

FILE NO.	SIZE	DWG. NO.
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PCN. NO. 98745.1a		SHEET 57

E406

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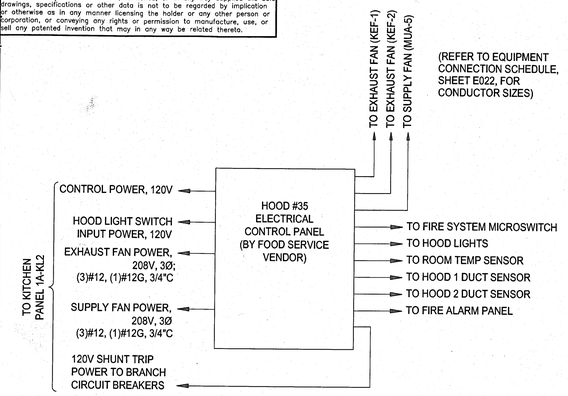
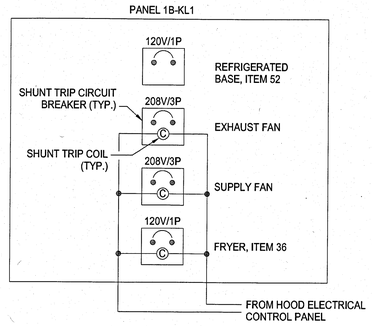


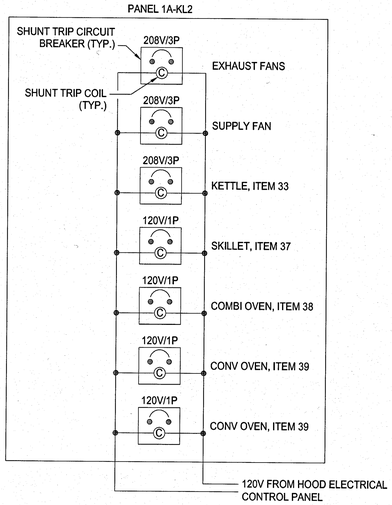
HOOD #35 - ELECTRICAL CONTROL PANEL DETAIL (1)

NO SCALE (E301)



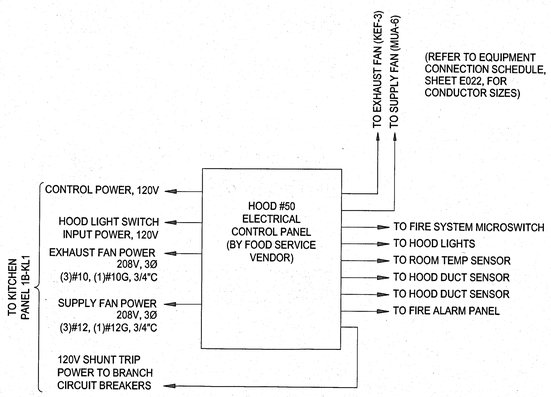
HOOD #50 - SHUNT TRIP BREAKER DETAIL (4)

NO SCALE (E301)



HOOD #35 - SHUNT TRIP BREAKER DETAIL (2)

NO SCALE (E301)



HOOD #50 - ELECTRICAL CONTROL PANEL DETAIL (3)

NO SCALE (E301)

SYM	ZONE		DATE	APPROVED

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APPROVED Scott Robinson	12.18.13
Duhy Kang	12/19/13

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VOL. 4 OF 4

FOOD SERVICE ELECTRICAL DETAILS

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 58

E407

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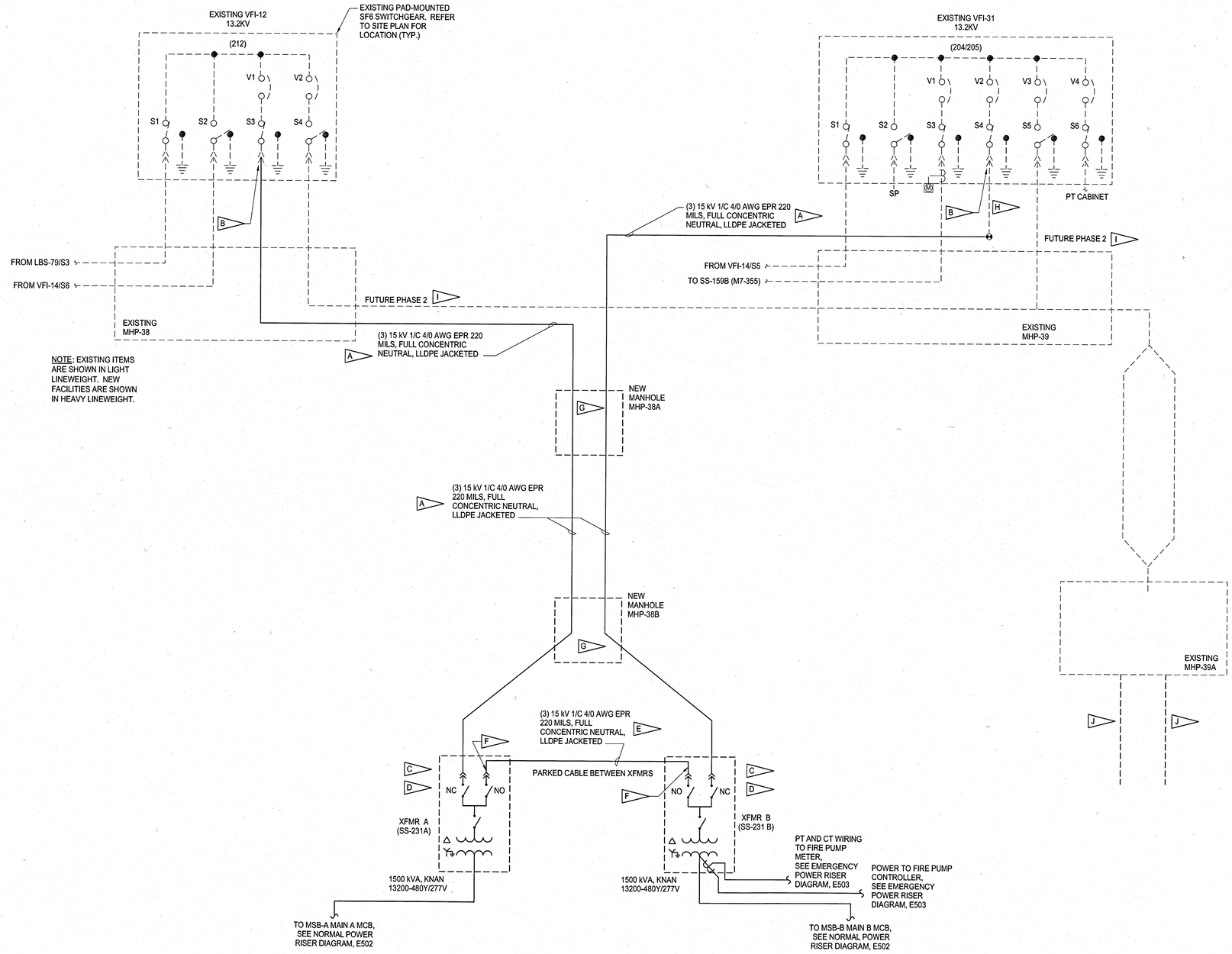
GENERAL NOTES

1. THE GENERAL SCOPE OF MEDIUM VOLTAGE WORK IS TO PROVIDE MEDIUM VOLTAGE CABLES FROM SPARE VFI WAYS AT EXISTING PAD-MOUNTED SWITCHGEAR TO NEW PAD-MOUNTED TRANSFORMERS. INCLUDE ADJUSTMENT OF VFI TRIP SETTINGS IN THIS SCOPE; COORDINATE REQUIREMENTS WITH THE GOVERNMENT.
2. THIS SCOPE IS INTENDED TO COORDINATE WITH THE WORK OF ANOTHER PROJECT BY OTHERS, KSC PCN 98860 - "REVITALIZE MEDIUM VOLTAGE ELECTRICAL DISTRIBUTION SYSTEMS, INDUSTRIAL AND PAYLOAD PROCESSING AREAS." REFER TO DWG. NO. 79K39135 FOR REFERENCE.

FLAG NOTES

- A — FURNISH AND INSTALL MEDIUM VOLTAGE CABLES IN NEW DUCTBANKS.
- B — CONNECT NEW MEDIUM VOLTAGE CABLES TO APPARATUS BUSHINGS OF SPARE VFI WAY USING 600A DEADBREAK ELBOW CONNECTORS. PROVIDE HOT LINE VOLTAGE INDICATOR ON TEST POINT OF EACH ELBOW.
- C — CONNECT NEW MEDIUM VOLTAGE CABLES TO TRANSFORMER USING 200A LOADBREAK ELBOW CONNECTORS AND BUSHING INSERTS.
- D — PROVIDE 200A LOADBREAK ELBOW-TYPE SURGE ARRESTERS, 15KV CLASS, 18KV DUTY CYCLE, 15.3KV MCOV. CONNECT TO TRANSFORMER LOOP-FEED BUSHINGS USING BUSHING INSERTS.
- E — PROVIDE UNDERGROUND "PARKED" CABLE JUMPER BETWEEN TRANSFORMER PRIMARY COMPARTMENTS. CONNECT TO PARKING BUSHINGS USING 200A LOADBREAK ELBOW CONNECTORS.
- F — PROVIDE 200A LOADBREAK PARKING BUSHINGS MOUNTED IN PARKING STANDS AT EACH TRANSFORMER.
- G — CABLES FROM EACH FEEDER IN MANHOLE ARE TO BE RACKED ON OPPOSITE SIDES WITH HARDWARE INSTALLED TO HANG ARC-FLASH BLANKETS.
- H — ROUTE NEW MEDIUM VOLTAGE FEEDER IN EXISTING DUCTBANK THAT IS STUBBED OUT FROM VFI-31.
- I — FUTURE PHASE 2 MEDIUM VOLTAGE FEEDERS TO BE ROUTED IN EXISTING DUCTBANKS TO EXISTING MANHOLE MHP-39A.
- J — FUTURE PHASE 2 MEDIUM VOLTAGE FEEDERS TO BE ROUTED IN NEW DUCTBANKS FROM EXISTING MANHOLE MHP-39A TO FUTURE PAD-MOUNT TRANSFORMERS SS-232A AND SS-232B.



MEDIUM VOLTAGE RISER DIAGRAM

NO SCALE

SYM	ZONE		DATE	APPROVED

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MEDIUM-VOLTAGE RISER DIAGRAM

FILE NO.	SIZE	DWG. NO.
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PCN. NO. 98745.1a		SHEET 59

E501

KSC FORM 1-11 (3/76)(C/G 3/94)

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ELECTRICAL NORMAL POWER RISER DIAGRAM

NO SCALE

PANELBOARD DESIGNATIONS

XX-XXXXX

- FLOOR (1-7, PH)
- BUS (A, B)
- BLANK - BRANCH PANEL; D - DISTRIBUTION
- BLANK - NORMAL; E - EMERGENCY; S - STANDBY; U - UPS
- M - MECHANICAL; K - KITCHEN; P - POWER; L - LIGHTING
- L - 208Y/120V; H - 480Y/277V
- SEQUENCE #

DRY TYPE TRANSFORMER SCHEDULE

KVA	SECONDARY WIRE & CONDUIT	SYSTEM BONDING JUMPER (BJ)	GROUNDING ELECTRODE CONDUCTOR (GEC)
	COPPER	COPPER	COPPER
15	4#6 +BJ, 1"C.	#8	#8
30	4#2 +BJ, 1-1/2"C.	#6	#6
45	4#2/0 +BJ, 2"C.	#4	#4
75	4#350KCM +BJ, 3"C.	#2	#2
75 K-4	3#350KCM + 2#350KCM +BJ, 3"C.	#2	#2
112.5	2 SETS: 4#3/0KCM +BJ, 2"C	#1/0	#1/0
112.5 K-4	2 SETS: 3#3/0+2#3/0N+BJ, 3" C	#1/0	#1/0
150	2 SETS: 4#350KCM +BJ, 3"C	#2/0	#2/0

FEEDER SCHEDULE

FEEDER TAG	NUMBER OF SETS	PER SET: PHASE	NEUTRAL (N)	EQUIPMENT GROUND (G)	CONDUIT	NOTES (SIZES BASED ON COPPER CONDUCTORS)
25	1	(3) #10 AWG	(1) #10 AWG	(1) #10 AWG	3/4"	
35	1	(3) #8 AWG	(1) #8 AWG	(1) #10 AWG	3/4"	
50	1	(3) #8 AWG	(1) #8 AWG	(1) #10 AWG	3/4"	
60	1	(3) #6 AWG	(1) #6 AWG	(1) #10 AWG	1"	
70	1	(3) #4 AWG	(1) #4 AWG	(1) #8 AWG	1-1/4"	
100	1	(3) #2 AWG	(1) #2 AWG	(1) #8 AWG	1-1/2"	
125	1	(3) #1 AWG	(1) #1 AWG	(1) #6 AWG	2"	
150	1	(3) #1/0 AWG	(1) #1/0 AWG	(1) #6 AWG	2"	
175	1	(3) #2/0 AWG	(1) #2/0 AWG	(1) #6 AWG	2"	
200	1	(3)#3/0 AWG	(1) #3/0 AWG	(1) #6 AWG	2"	
225	1	(3) #4/0 AWG	(1) #4/0 AWG	(1) #4 AWG	2-1/2"	
250	1	(3) 250 KCMIL	(1) 250 KCMIL	(1) #4 AWG	2-1/2"	
300	1	(3) 350 KCMIL	(1) 350 KCMIL	(1) #4 AWG	3"	
400	2	(3) #3/0 AWG	(1) #3/0 AWG	(1) #3 AWG	2"	
500	2	(3) 250 KCMIL	(1) 250 KCMIL	(1) #2 AWG	2-1/2"	
600	2	(3) 350 KCMIL	(1) 350 KCMIL	(1) #1 AWG	3"	
800	3	(3) 300 KCMIL	(1) 300 KCMIL	(1) #1/0 AWG	2-1/2"	
1000	3	(3) 400 KCMIL	(1) 400 KCMIL	(1) #2/0 AWG	3"	
1200	4	(3) 350 KCMIL	(1) 350 KCMIL	(1) #3/0 AWG	3"	
2000	6	(3) 400 KCMIL	(1) 400 KCMIL	(1) 250 KCMIL	4"	
2500	7	(3) 500 KCMIL	(1) 500 KCMIL	(1) 350 KCMIL	4"	
EXAMPLE:	XXX/NG INDICATES PHASE CONDUCTORS WITH NEUTRAL AND EQUIPMENT GROUND					
DT:	SEE DRY-TYPE TRANSFORMER SCHEDULE (THIS SHEET) FOR SECONDARY FEEDER SIZES					

SYM	ZONE		DATE	APPROVED

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Dung Tang	12/19/13

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PHASE 1
VOL. 4 OF 4

NORMAL POWER RISER DIAGRAM

E502

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

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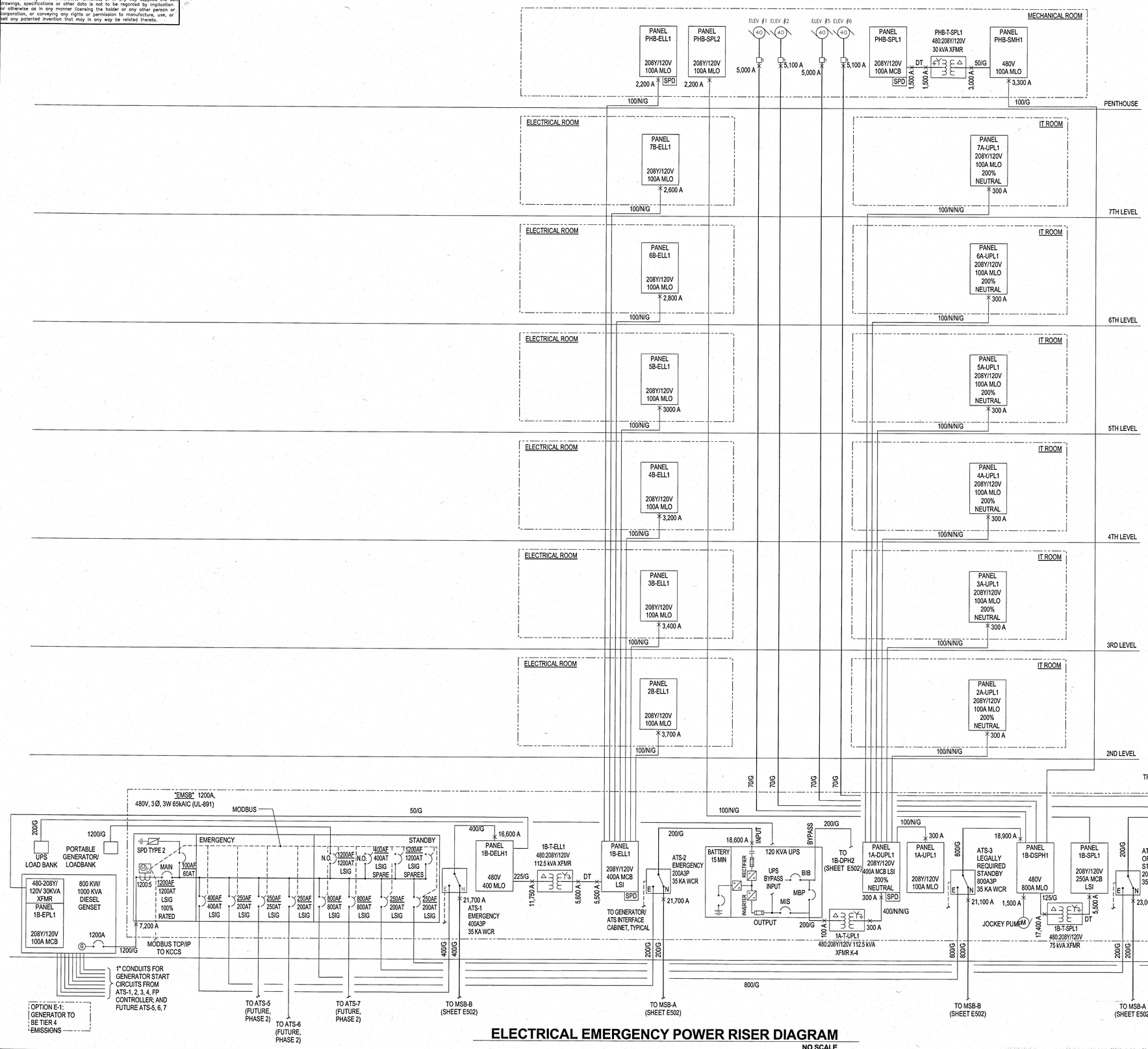

ELECTRICAL EMERGENCY POWER RISER DIAGRAM

NO SCALE

PANELBOARD DESIGNATIONS

XX-XXXXX

- FLOOR (1-7, PH)
- BUS (A, B)
- BLANK - BRANCH PANEL; D - DISTRIBUTION
- BLANK - NORMAL; E - EMERGENCY; S - STANDBY; U - UPS
- M - MECHANICAL; K - KITCHEN; P - POWER; L - LIGHTING
- L - 208Y/120V; H - 480Y/277V
- SEQUENCE #

DRY TYPE TRANSFORMER SCHEDULE

KVA	SECONDARY WIRE & CONDUIT	SYSTEM BONDING JUMPER (BJ)	GROUNDING ELECTRODE CONDUCTOR (GEC)
	COPPER	COPPER	COPPER
15	4#6 +BJ, 1"C.	#8	#8
30	4#2 +BJ, 1-1/2"C.	#6	#6
45	4#2/0 +BJ, 2"C.	#4	#4
75	4#350KCM +BJ, 3"C.	#2	#2
75 K-4	3#350KCM + 2#350KCM +BJ, 3"C.	#2	#2
112.5	2 SETS: 4#3/0KCM +BJ, 2"C	#1/0	#1/0
112.5 K-4	2 SETS: 3#3/0+2#3/0N+BJ, 3" C	#1/0	#1/0
150	2 SETS: 4#350KCM +BJ, 3"C	#2/0	#2/0

FEEDER SCHEDULE

FEEDER TAG	NUMBER OF SETS	PER SET: PHASE	NEUTRAL (N)	EQUIPMENT GROUND (G)	CONDUIT	NOTES (SIZES BASED ON COPPER CONDUCTORS)
25	1	(3) #10 AWG	(1) #10 AWG	(1) #10 AWG	3/4"	
35	1	(3) #8 AWG	(1) #8 AWG	(1) #10 AWG	3/4"	
50	1	(3) #8 AWG	(1) #8 AWG	(1) #10 AWG	3/4"	
60	1	(3) #6 AWG	(1) #6 AWG	(1) #10 AWG	1"	
70	1	(3) #4 AWG	(1) #4 AWG	(1) #8 AWG	1-1/4"	
100	1	(3) #2 AWG	(1) #2 AWG	(1) #8 AWG	1-1/2"	
125	1	(3) #1 AWG	(1) #1 AWG	(1) #6 AWG	2"	
150	1	(3) #1/0 AWG	(1) #1/0 AWG	(1) #6 AWG	2"	
175	1	(3) #2/0 AWG	(1) #2/0 AWG	(1) #6 AWG	2"	
200	1	(3)#3/0 AWG	(1) #3/0 AWG	(1) #6 AWG	2"	
225	1	(3) #4/0 AWG	(1) #4/0 AWG	(1) #4 AWG	2-1/2"	
250	1	(3) 250 KCMIL	(1) 250 KCMIL	(1) #4 AWG	2-1/2"	
300	1	(3) 350 KCMIL	(1) 350 KCMIL	(1) #4 AWG	3"	
400	2	(3) #3/0 AWG	(1) #3/0 AWG	(1) #3 AWG	2"	
500	2	(3) 250 KCMIL	(1) 250 KCMIL	(1) #2 AWG	2-1/2"	
600	2	(3) 350 KCMIL	(1) 350 KCMIL	(1) #1 AWG	3"	
800	3	(3) 300 KCMIL	(1) 300 KCMIL	(1) #1/0 AWG	2-1/2"	
1000	3	(3) 400 KCMIL	(1) 400 KCMIL	(1) #2/0 AWG	3"	
1200	4	(3) 350 KCMIL	(1) 350 KCMIL	(1) #3/0 AWG	3"	
2000	6	(3) 400 KCMIL	(1) 400 KCMIL	(1) 250 KCMIL	4"	
2500	7	(3) 500 KCMIL	(1) 500 KCMIL	(1) 350 KCMIL	4"	

EXAMPLE: XXXN/G INDICATES PHASE CONDUCTORS WITH NEUTRAL AND EQUIPMENT GROUND

DT: SEE DRY-TYPE TRANSFORMER SCHEDULE (THIS SHEET) FOR SECONDARY FEEDER SIZES

SYM	ZONE		DATE	APPROVED

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Gainesville, Florida 32669
Tel 352.376.5500 Fax 352.375.3479
CA-5140

SIGNATURES	DATE
DRAWN: Lukas Wierda	12.18.13
CHECKED: Vinod Trehan	12.18.13
SUBMITTED: ENGINEER OF RECORD: Todd S. Smith	12/18/13
ST of LICENSURE: FL	
LICENSE NO. 71672	
APPROVED: Scott Robinson	12.18.13
Dung Trang	12/18/13

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

EMERGENCY POWER RISER DIAGRAM

E503

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a | SHEET 61

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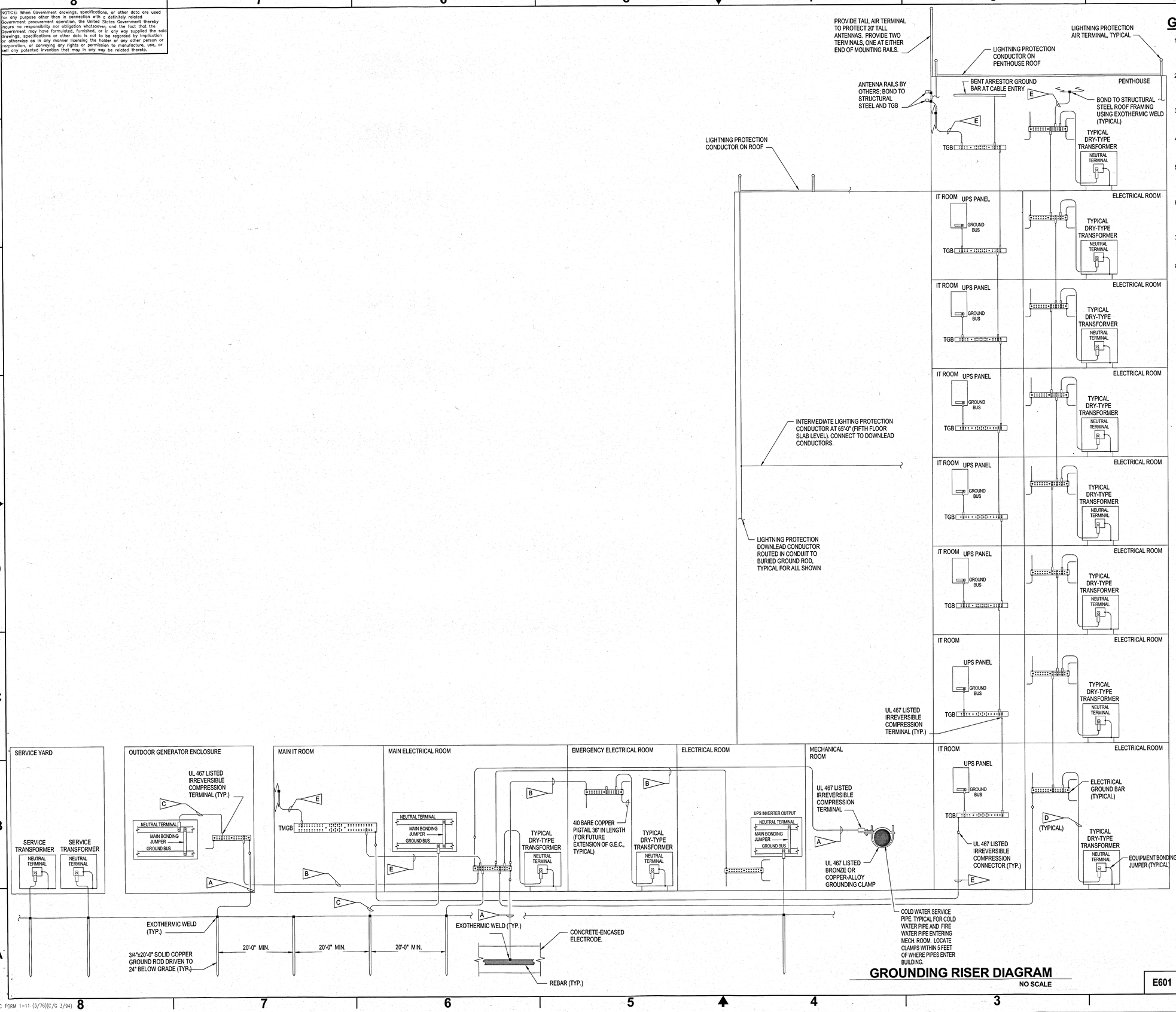

GROUNDING RISER DIAGRAM

NO SCALE

GENERAL NOTES

1. GROUNDING ELECTRODE CONDUCTORS SHALL BE INSTALLED IN ONE CONTINUOUS LENGTH FROM POINT OF ORIGIN TO POINT OF TERMINATION. WHERE SPLICES OR JOINTS ARE REQUIRED, THEY SHALL BE MADE USING U.L. 467 LISTED IRREVERSIBLE COMPRESSION CONNECTIONS.
2. GROUNDING ELECTRODE CONDUCTORS SHALL BE CONTAINED IN PVC CONDUIT AS INDICATED EXCEPT IN VICINITY (WITHIN 5 FEET) OF GROUND BARS IN WHICH CASE THEY SHALL BE EXPOSED FOR PURPOSES OF ACCESSIBILITY AND INSPECTION.
3. ALL TERMINATIONS AT GROUND BARS SHALL BE MADE USIING U.L. 467 LISTED IRREVERSIBLE COMPRESSION TERMINALS WITH BOLTED CONNECTION TO GROUND BAR.
4. MOUNT GROUND BARS ON WALL OF RESPECTIVE ROOMS AT 1'-0" A.F.F. IN LOCATION THAT WILL PROVIDE ADEQUATE CLEARANCE FOR ACCESS AND INSPECTION.
5. CONNECT G.E.C. TO NEUTRAL BUS IN MAIN SWITCHBOARD USING U.L. 467 LISTED IRREVERSIBLE COMPRESSION TERMINAL WITH BOLTED CONNECTION TO BUS BAR. MAKE CONNECTION AT POINT WHERE MAIN BONDING JUMPER BUS CONNECTS TO NEUTRAL BUS.
6. CONNECT G.E.C. TO TRANSFORMER NEUTRAL BUS OR LUG USING U.L. 467 LISTED IRREVERSIBLE COMPRESSION TERMINAL WITH BOLTED CONNECTION TO BUS OR LUG. MAKE CONNECTION AT SAME POINT WHERE BONDING JUMPER CONNECTS TO NEUTRAL BUS OR LUG.
7. BOND EXPOSED METAL PIPING AND EXPOSED STRUCTURAL STEEL IN THE AREA OF EACH GROUND BAR TO THE GROUND BAR USING #3/0 BARE COPPER GROUNDING CONDUCTOR IN 1" PVC CONDUIT.
8. ROUTE ALL GROUND CONDUCTORS IN A DOWNWARD DIRECTION UTILIZING THE SHORTEST POSSIBLE CONDUCTOR LENGTH.

FLAG NOTES

- A — #3/0 AWG BARE COPPER GROUNDING ELECTRODE CONDUCTOR IN 1" PVC CONDUIT.
- B — #3/0 AWG BARE COPPER GROUNDING ELECTRODE BONDING CONDUCTOR IN 1" PVC CONDUIT.
- C — #3/0 AWG BARE COPPER GROUNDING ELECTRODE TAP CONDUCTOR IN 1" PVC CONDUIT.
- D — BARE COPPER GROUNDING ELECTRODE TAP CONDUCTOR, SIZE AS INDICATED ON ELECTRICAL RISER DIAGRAM FOR SPECIFIC TRANSFORMER. ROUTE IN 1" PVC CONDUIT.
- E — #3/0 AWG BARE COPPER GROUNDING BONDING CONDUCTOR IN 1" PVC CONDUIT.

SYM	ZONE		DATE	APPROVED

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ST of LICENSURE: FL LICENSE NO. 71672	
APPROVED Scott Robinson	12.18.13
Dung Trang	12/19/13

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

GROUNDING RISER DIAGRAM

E601

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 62

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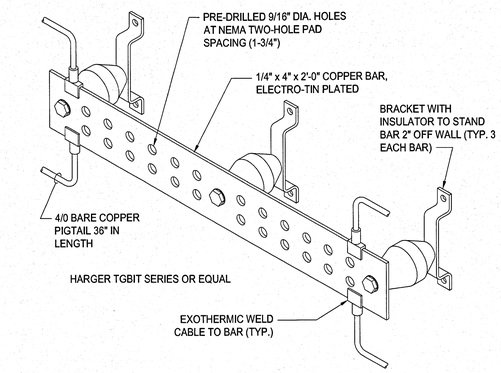
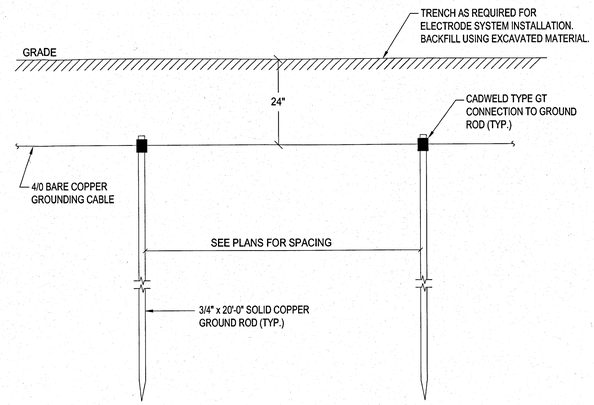
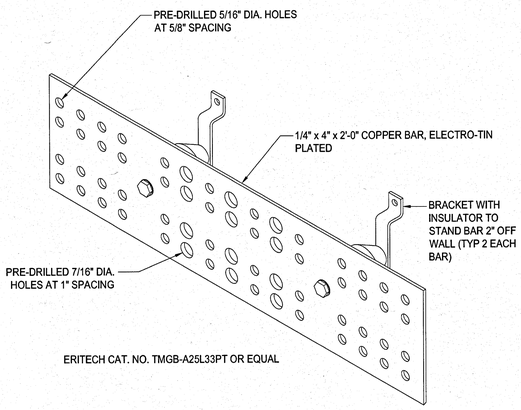


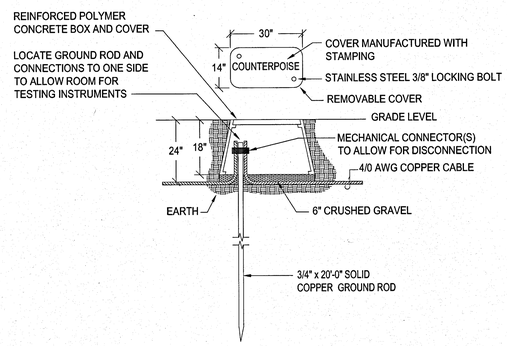
MAIN ELECTRICAL GROUND BAR (1)
NO SCALE



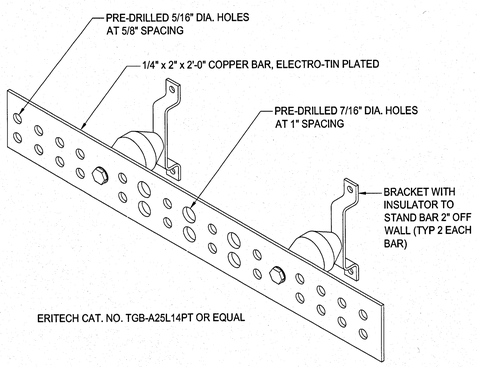
BURIED GROUND LOOP & GROUND ROD INSTALLATION (4)
NO SCALE



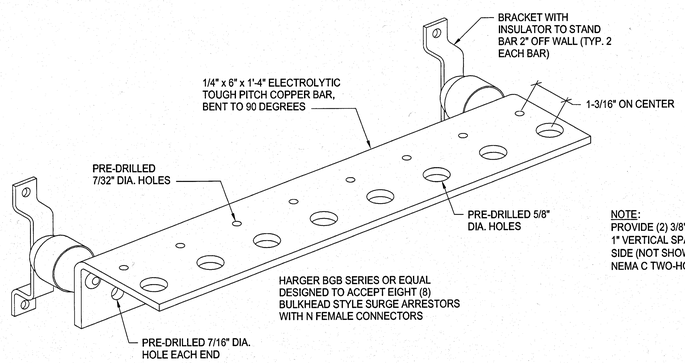
TELECOMMUNICATIONS MAIN GROUNDING BUSBAR (TMGB) (2)
NO SCALE



PRECAST CONCRETE TEST WELL - GROUND LOOP (5)
NO SCALE



TELECOMMUNICATIONS GROUNDING BUSBAR (TGB) (3)
NO SCALE



NOTE:
PROVIDE (2) 3/8" DIA. HOLES AT 1" VERTICAL SPACING ON BACK SIDE (NOT SHOWN) TO ACCEPT NEMA C TWO-HOLE LUG

BENT ARRESTOR GROUND BAR DETAIL (6)
NO SCALE

SYM	ZONE		DATE	APPROVED

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CHECKED Vinod Trehan	12.18.13
SUBMITTED ARCHITECT OF RECORD Toby S. Smith	12/18/13
ST of LICENSURE: FL	
LICENSE NO. 71672	
APPROVED Scott Robinson	12.18.13
Dung Trang	12/18/13

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JOHN F. KENNEDY SPACE CENTER, NASA
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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

GROUNDING DETAILS

E602

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 63

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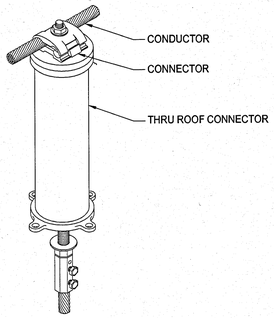
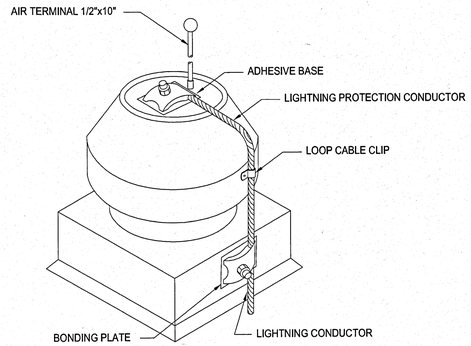
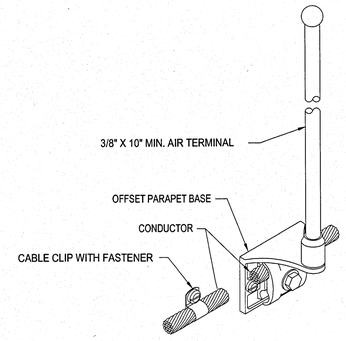


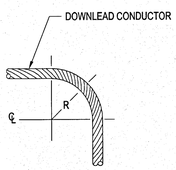
THROUGH ROOF CONNECTOR (1)
NO SCALE



ROOF EXHAUST AIR TERMINAL (4)
NO SCALE



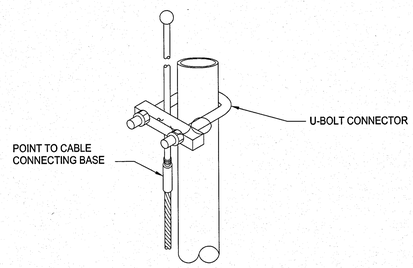
OFFSET PARAPET AIR TERMINAL (7)
NO SCALE



NOTES:

1. THE RADIUS OF BEND SHALL NOT BE LESS THAN 8 INCHES.
2. THE ANGLE OF ANY BEND SHALL NOT BE LESS THAN 90°

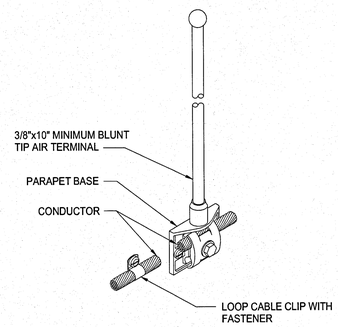
LIGHTNING PROTECTION CONDUCTOR BENDS (2)
NO SCALE



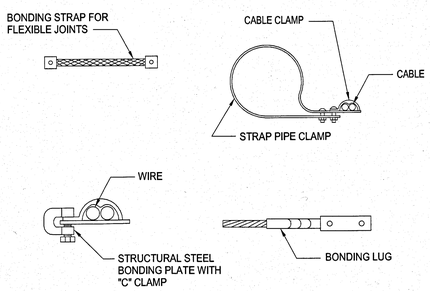
NOTES:

1. AIR TERMINALS REQUIRED FOR CHIMNEYS AND VENTS WITH METAL THICKNESS LESS THAN 3/16 INCH.
2. BONDING IS REQUIRED REGARDLESS OF THICKNESS.

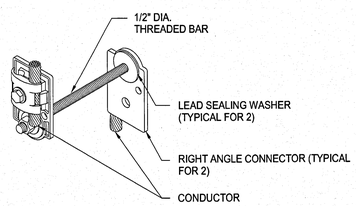
AIR TERMINAL FOR PLUMBING VENT (5)
NO SCALE



PARAPET AIR TERMINAL (8)
NO SCALE



BONDING EQUIPMENT (3)
NO SCALE



THROUGH WALL CONDUCTOR (6)
NO SCALE

SYM	ZONE		DATE	APPROVED

REVISIONS

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

LIGHTNING PROTECTION DETAILS

E603

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 64

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MSB-A — SWITCHBOARD SCHEDULE

MAIN: 2500 A | BUS: 2500 A
SERVICE: 480Y/277V 4 W | LOCATION: MAIN ELECTRICAL 1457
SHORT CIRCUIT RATING: 65 kAIC (MIN.)

Notes:

CKT	TRIP	POLES	A	B	C	LOAD DESCRIPTION	NOTES
1	800 A	3	71.3	66.0	61.6	1A-DPH1	
2	800 A	3	116.2	115.3	114.5	1A-DMH1	
3	800 A	3	84.0	89.9	76.7	3A-DPH1	
4	200 A	3	33.3	33.3	33.3	ATS-2	
5	200 A	3	28.0	28.0	28.0	ATS-4	
6	400 A	3	0.0	0.0	0.0	SPARE	
7	400 A	3	0.0	0.0	0.0	SPARE	
8	400 A	3	0.0	0.0	0.0	SPARE	
9							
10							
11							
12							
13							
14							
15							
SUBTOTALS (KVA):			332.8	332.5	316.1		

CONNECTED (KVA):	981.5	CONNECTED (AMPS):	1180.5
NEC COMPUTED (KVA):	835.9	NEC COMPUTED (AMPS):	1005.5

Notes:

MSB-B — SWITCHBOARD SCHEDULE

MAIN: 2500 A | BUS: 2500 A
SERVICE: 480Y/277V 4 W | LOCATION: MAIN ELECTRICAL 1457
SHORT CIRCUIT RATING: 65 kAIC (MIN.)

Notes:

CKT	TRIP	POLES	A	B	C	LOAD DESCRIPTION	NOTES
1	800 A	3	95.9	93.6	84.0	1B-DPH1	
2	800 A	3	75.6	73.9	73.5	1B-DMH1	
3	400 A	3	30.0	18.0	17.0	1B-DPH2	
4	225 A	3	54.6	42.3	20.8	1B-T-DLH1	
5	800 A	3	86.6	96.0	89.2	3B-DPH1	
6	800 A	3	175.0	174.0	170.2	ATS-3	
7	400 A	3	34.7	30.6	20.3	ATS-1	
8							
9							
10							
11							
12							
13							
14							
15							
SUBTOTALS (KVA):			552.3	528.4	475.1		

CONNECTED (KVA):	1556.0	CONNECTED (AMPS):	1871.6
NEC COMPUTED (KVA):	1419.1	NEC COMPUTED (AMPS):	1706.9

Notes:

1A-DPH1 — DISTRIBUTION PANEL SCHEDULE

MAIN: 800 A | BUS: 800 A
SERVICE: 480V 3 W | LOCATION: MAIN ELECTRICAL 1457
SHORT CIRCUIT RATING: 35 kAIC (MIN.)

Notes:

CKT	TRIP	POLES	A	B	C	LOAD DESCRIPTION	NOTES
1	225 A	3	41.0	39.3	36.9	1A-T-PL1	
2	125 A	3	16.5	13.5	12.7	1A-T-PL2	
3	125 A	3	13.8	13.2	12.0	2A-T-PL1	
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
SUBTOTALS (KVA):			71.3	66.0	61.6		

CONNECTED (KVA):	198.9	CONNECTED (AMPS):	239.3
NEC COMPUTED (KVA):	150.7	NEC COMPUTED (AMPS):	181.3

Notes:

1A-DMH1 — DISTRIBUTION PANEL SCHEDULE

MAIN: 800 A | BUS: 800 A
SERVICE: 480V 3 W | LOCATION: ELECTRICAL 1211
SHORT CIRCUIT RATING: 35 kAIC (MIN.)

Notes:

CKT	TRIP	POLES	A	B	C	LOAD DESCRIPTION	NOTES
1	600 A	3	97.3	96.4	95.6	4A-DMH1	
2	70 A	3	9.4	9.4	9.4	AHU-2	
3	70 A	3	9.4	9.4	9.4	AHU-5	
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
SUBTOTALS (KVA):			116.2	115.3	114.5		

CONNECTED (KVA):	345.9	CONNECTED (AMPS):	416.1
NEC COMPUTED (KVA):	359.4	NEC COMPUTED (AMPS):	432.3

Notes:

1B-DPH1 — DISTRIBUTION PANEL SCHEDULE

MAIN: 800 A | BUS: 800 A
SERVICE: 480V 3 W | LOCATION: MAIN ELECTRICAL 1457
SHORT CIRCUIT RATING: 35 kAIC (MIN.)

Notes:

CKT	TRIP	POLES	A	B	C	LOAD DESCRIPTION	NOTES
1	225 A	3	25.2	28.3	20.3	1B-T-PL1	
2	125 A	3	19.8	20.1	16.8	1B-T-PL2	
3	225 A	3	36.0	32.4	32.4	1B-T-PL3	
4	125 A	3	14.8	12.8	14.5	2B-T-PL1	
5	30 A	3	0.0	0.0	0.0	SPD	
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
SUBTOTALS (KVA):			95.9	93.6	84.0		

CONNECTED (KVA):	273.4	CONNECTED (AMPS):	328.8
NEC COMPUTED (KVA):	212.0	NEC COMPUTED (AMPS):	255.1

Notes:

1B-DMH1 — DISTRIBUTION PANEL SCHEDULE

MAIN: 800 A | BUS: 800 A
SERVICE: 480V 3 W | LOCATION: ELECTRICAL 1454
SHORT CIRCUIT RATING: 35 kAIC (MIN.)

Notes:

CKT	TRIP	POLES	A	B	C	LOAD DESCRIPTION	NOTES
1	600 A	3	45.6	44.0	43.6	6B-DMH1	
2	90 A	3	14.4	14.4	14.4	AHU-1	
3	70 A	3	9.4	9.4	9.4	AHU-3	
4	20 A	3	3.0	3.0	3.0	AHU-4	
5	20 A	3	3.0	3.0	3.0	BP-1	
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
SUBTOTALS (KVA):			75.6	73.9	73.5		

CONNECTED (KVA):	223.1	CONNECTED (AMPS):	268.3
NEC COMPUTED (KVA):	236.8	NEC COMPUTED (AMPS):	284.8

Notes:

1B-DLH1 — DISTRIBUTION PANEL SCHEDULE

MAIN: 200 A | BUS: 200 A
SERVICE: 480Y/277V 4 W | LOCATION: ELECTRICAL 1211
SHORT CIRCUIT RATING: 10 kAIC (MIN.)

Notes:

CKT	TRIP	POLES	A	B	C	LOAD DESCRIPTION	NOTES
1	100 A	3	13.0	14.2	7.2	1B-LH1	
2	100 A	3	8.2	3.5	0.5	2B-LH1	
3	100 A	3	6.7	4.9	2.9	3B-LH1	
4	100 A	3	6.7	4.9	2.8	4B-LH1	
5	100 A	3	6.9	4.5	2.8	5B-LH1	
6	100 A	3	6.7	4.8	2.8	6B-LH1	
7	100 A	3	6.3	5.5	1.8	7B-LH1	
8	30 A	3	0.0	0.0	0.0	SPD	
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
SUBTOTALS (KVA):			54.8	42.3	20.8		

CONNECTED (KVA):	117.8	CONNECTED (AMPS):	141.7
NEC COMPUTED (KVA):	147.2	NEC COMPUTED (AMPS):	177.1

Notes:

1B-DPH2 — DISTRIBUTION PANEL SCHEDULE

MAIN: 400 A | BUS: 400 A
SERVICE: 480V 3 W | LOCATION: MAIN ELECTRICAL 1457
SHORT CIRCUIT RATING: 35 kAIC (MIN.)

Notes:

CKT	TRIP	POLES	A	B	C	LOAD DESCRIPTION	NOTES
1	225 A	3	30.0	18.0	17.0	1B-T-DPL1	
2	200 A	3	0.0	0.0	0.0	UPS BYPASS	
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
SUBTOTALS (KVA):			30.0	18.0	17.0		

CONNECTED (KVA):	65.0	CONNECTED (AMPS):	78.2
NEC COMPUTED (KVA):	37.5	NEC COMPUTED (AMPS):	45.1

Notes:

1B-DPL1 — DISTRIBUTION PANEL SCHEDULE

MAIN: 400 A | BUS: 400 A
SERVICE: 208Y/120V 4 W | LOCATION: TELECOM 1219
SHORT CIRCUIT RATING: 10 kAIC (MIN.)

Notes:
200% NEUTRAL

CKT	TRIP	POLES	A	B	C	LOAD DESCRIPTION	NOTES
1	100 A	3	6.0	6.0	5.0	1B-PL3	
2	100 A	3	4.0	2.0	2.0	2B-PL2	
3	100 A	3	4.0	2.0	2.0	3B-PL2	
4	100 A	3	4.0	2.0	2.0	7B-PL2	
5	100 A	3	4.0	2.0	2.0	4B-PL2	
6	100 A	3	4.0	2.0	2.0	5B-PL2	
7	100 A	3	4.0	2.0	2.0	6B-PL2	
8	30 A	3	0.0	0.0	0.0	SPD	
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
SUBTOTALS (KVA):			30.0	18.0	17.0		

CONNECTED (KVA):	65.0	CONNECTED (AMPS):	180.4
NEC COMPUTED (KVA):	37.5	NEC COMPUTED (AMPS):	104.1

Notes:

MSB-A	MSB-B	1A-DPH1
1A-DMH1	1B-DPH1	1B-DMH1
1B-DLH1	1B-DPH2	1B-DPL1

SYM	ZONE		DATE	APPROVED

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SIGNATURES	DATE
DRAWN Lukas Wierda	12.18.13
CHECKED Vinod Trehan	12.18.13
SUBMITTED ENGINEER OF RECORD Toby Bonham	12/18/13
ST of LICENSURE: FL LICENSE NO. 71672	
APPROVED Scott Robinson	12-18-13
Dung Trang	12/18/13

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

NORMAL POWER PANEL SCHEDULES

E701

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 65

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3A-DPH1 — DISTRIBUTION PANEL SCHEDULE

MAIN: 800 A | BUS: 800 A
SERVICE: 480V 3 W | LOCATION: ELECTRICAL 3213
SHORT CIRCUIT RATING: 35 kAIC (MIN.)

Notes:

CKT	TRIP	POLES	A	B	C	LOAD DESCRIPTION	NOTES
1	125 A	3	16.5	19.0	18.5	3A-T-PL1	
2	125 A	3	18.4	17.0	14.0	7A-T-L1	
3	125 A	3	16.3	21.5	14.3	4A-T-PL1	
4	125 A	3	13.9	17.8	14.8	5A-T-PL1	
5	125 A	3	18.9	14.6	17.1	6A-T-PL1	
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
SUBTOTALS (KVA):			84.0	89.9	78.7		

CONNECTED (KVA):	252.6	CONNECTED (AMPS):	303.9
NEC COMPUTED (KVA):	149.3	NEC COMPUTED (AMPS):	179.6

Notes:

3B-DPH1 — DISTRIBUTION PANEL SCHEDULE

MAIN: 800 A | BUS: 800 A
SERVICE: 480V 3 W | LOCATION: ELECTRICAL 3213
SHORT CIRCUIT RATING: 35 kAIC (MIN.)

Notes:

CKT	TRIP	POLES	A	B	C	LOAD DESCRIPTION	NOTES
1	125 A	3	17.6	18.0	20.7	3B-T-PL1	
2	125 A	3	17.6	14.5	16.0	7B-T-PL1	
3	125 A	3	17.5	22.9	18.8	4B-T-PL1	
4	125 A	3	17.7	20.8	16.8	5B-T-PL1	
5	125 A	3	16.2	19.7	16.9	6B-T-PL1	
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
SUBTOTALS (KVA):			86.6	96.0	89.2		

CONNECTED (KVA):	271.8	CONNECTED (AMPS):	326.9
NEC COMPUTED (KVA):	162.7	NEC COMPUTED (AMPS):	195.7

Notes:

4A-DMH1 — DISTRIBUTION PANEL SCHEDULE

MAIN: 600 A | BUS: 600 A
SERVICE: 480V 3 W | LOCATION: ELECTRICAL 4213
SHORT CIRCUIT RATING: 14 kAIC (MIN.)

Notes:

CKT	TRIP	POLES	A	B	C	LOAD DESCRIPTION	NOTES
1	400 A	3	59.7	58.7	57.9	PHA-MH1	
2	70 A	3	9.4	9.4	9.4	AHU-6	
3	70 A	3	9.4	9.4	9.4	AHU-7	
4	70 A	3	9.4	9.4	9.4	AHU-8	
5	70 A	3	9.4	9.4	9.4	AHU-9	
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
SUBTOTALS (KVA):			97.3	96.4	95.6		

CONNECTED (KVA):	289.4	CONNECTED (AMPS):	348.1
NEC COMPUTED (KVA):	302.9	NEC COMPUTED (AMPS):	364.3

Notes:

6B-DMH1 — DISTRIBUTION PANEL SCHEDULE

MAIN: 600 A | BUS: 600 A
SERVICE: 480V 3 W | LOCATION: ELECTRICAL 6213
SHORT CIRCUIT RATING: 14 kAIC (MIN.)

Notes:

CKT	TRIP	POLES	A	B	C	LOAD DESCRIPTION	NOTES
1	400 A	3	45.6	44.0	43.6	PHB-MH1	
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
SUBTOTALS (KVA):			45.6	44.0	43.6		

CONNECTED (KVA):	133.3	CONNECTED (AMPS):	160.3
NEC COMPUTED (KVA):	147.0	NEC COMPUTED (AMPS):	176.8

Notes:

PANELBOARD SCHEDULE

PANEL DESIGNATION 1A-PL1 | LOCATION MAIN ELECTRICAL 1457 | FLOOR 1ST LEVEL
VOLTAGE 208Y/120V | 3 PHASE 4 WIRE | FED FROM 1A-T-PL1
MAIN TYPE MCB | BUS RATING 400 A | FAULT CURRENT RATING 10,000 AIC
MAIN RATING 400 A | MOUNTING SURFACE | FAULT... AIC

REMARKS PROVIDE FEED-THRU LUGS

DESCRIPTION	BRKR AMP, POLES		CKT NO	LEFT SIDE, KVA A	B	C	RIGHT SIDE, KVA A	B	C	CKT NO	BRKR AMP, POLES		DESCRIPTION
1A-KL1	150 A	3	1	11.99			1.92			2	1	30 A	FCU 1-2
--	--	--	3		11.24			0.86		4	1	15 A	FCU 1-3
--	--	--	5			11.46			0.58	6	3	15 A	FCU 1-4
1A-KL2	150 A	3	7	15.81			0.58			8	--	--	--
--	--	--	9		15.69			0.58		10	--	--	--
--	--	--	11			13.78			0.86	12	1	15 A	FCU 1-8
EF-5	15 A	1	13	0.70			0.50			14	1	20 A	BAS Controls, Rm 1451
Rec: Rm 1451, ETP-4	20 A	1	15		0.50			0.50		16	1	20 A	BAS Controls, Rm 1452
AHU-1 Lights & Receptacles	20 A	1	17			1.00			0.50	18	1	20 A	BAS Controls, Rm 1452
AHU-1 UV Lights	20 A	1	19	0.40			0.90			20	1	20 A	Rec: Rms 1451, 1466
AHU-3 Lights & Receptacles	20 A	1	21		1.00			0.72		22	1	20 A	Rec: Mechanical 1452
AHU-3 UV Lights	20 A	1	23			0.40			0.60	24	1	20 A	Rec: Rm 1452, Wtr Softener
AHU-4 Lights & receptacles	20 A	1	25	1.00			0.50			26	1	20 A	Rec: Rm 1452, ETP-3
AHU-4 UV Lights	20 A	1	27		0.40			0.54		28	1	20 A	Rec: Rms 1451, 1452, 1466
WH-1 Controls	20 A	1	29			0.50			0.40	30	1	20 A	AHU-1 UV LIGHTS
WH-2 Controls	20 A	1	31	0.50			0.00			32	1	20 A	Spare
CP-1	25 A	1	33		1.00			0.00		34	1	20 A	Spare
CP-2	15 A	1	35			0.50			0.00	36	1	20 A	Spare
Spare	20 A	1	37	0.00			0.00			38	3	30 A	SPD
Spare	20 A	1	39		0.00			0.00		40	--	--	--
Spare	20 A	1	41			0.00			0.00	42	--	--	--
							6.22						1A-PL2
								6.30					--
									6.30				--

PHASE SUBTOTALS (KVA):	41.01	39.33	36.88
PHASE SUBTOTAL (AMPS):	345	331	307

NEC COMPUTED (AMPS) 274

LOAD CLASSIFICATION	CONNECTED (KVA)	DEMAND FACTOR	DEMAND (KVA)
POWER	51.3	100%	51.3
LIGHTING	6.0	125%	7.5
MOTOR	9.7	125% LARGEST 100% OTHER	9.2
RECEPTACLE	51.2	100% FIRST 10KVA 50% OTHER	30.6
TOTALS	117.2		98.6

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION 1A-PL2 | LOCATION ELECTRICAL 1211 | FLOOR 1ST LEVEL
VOLTAGE 208Y/120V | 3 PHASE 4 WIRE | FED FROM 1A-PL1
MAIN TYPE MLO | BUS RATING 400 A | FAULT CURRENT RATING 10,000 AIC
MAIN RATING 400 A | MOUNTING SURFACE | FAULT... AIC

REMARKS

DESCRIPTION	BRKR AMP, POLES		CKT NO	LEFT SIDE, KVA A	B	C	RIGHT SIDE, KVA A	B	C	CKT NO	BRKR AMP, POLES		DESCRIPTION
FCU 1-6	20 A	1	1	1.18			0.90			2	1	20 A	Rec: 1431,1427,1224,1223
Water Cooler, Corridor 1431	20 A	1	3		0.50			0.72		4	1	20 A	Rec: Rm 1222, 1218
Rec: Rm 1206,1210	20 A	1	5			0.72			0.18	6	1	20 A	Rec: Hair Shop Wom. 1214B
Rec: Hair Shop Men 1214A	20 A	1	7	0.18			0.18			8	1	20 A	Rec: Hair Shop Men 1214A
Rec:1208B,1212,1214A,B	20 A	1	9		1.08			0.90		10	1	20 A	Rec: Gift Shop 1208
Rec: Gift Shop 1208	20 A	1	11			1.08			1.08	12	1	20 A	Rec: Gift Shop 1208
Rec: Gift Shop 1208	20 A	1	13	1.08			0.54			14	1	20 A	Rec: Gift Shop 1208
Rec: Gift Shop 1208	20 A	1	15		0.72			0.72		16	1	20 A	Rec: Gift Shop 1208
Rec: Gift Shop 1208	20 A	1	17			0.72			0.72	18	1	20 A	Rec: Electrical 1211
Rec: Rm 1200, 1221	20 A	1	19	0.54			0.50			20	1	20 A	BAS Controls, Rm 1221
BAS Controls, Rm 1221	20 A	1	21		0.50			0.80		22	1	20 A	Ctrls XFMR - VAV Boxes
Ctrls XFMR - VAV Boxes	20 A	1	23			0.80			1.00	24	1	20 A	AHU-2 Lights & Receptacles
Rec: Rm 1216, 1220	20 A	1	25	0.72			0.40			26	1	20 A	AHU-2 UV Lights
Spare	20 A	1	27		0.00			0.36		28	1	20 A	Rec: Gift Shop 1208
Spare	20 A	1	29			0.00			0.00	30	1	20 A	Spare
Spare	20 A	1	31	0.00			0.00			32	1	20 A	Spare
Spare	20 A	1	33		0.00			0.00		34	1	20 A	Spare
Spare	20 A	1	35			0.00			0.00	36	1	20 A	Spare
			37							38			
			39							40			
			41							42			

PHASE SUBTOTALS (KVA):	6.22	6.30	6.30
PHASE SUBTOTAL (AMPS):	52	53	53

NEC COMPUTED (AMPS) 50

LOAD CLASSIFICATION		DESIGN FACTOR	
POWER	3.1	100%	3.1
LIGHTING	1.4	125%	1.8
MOTOR	1.2	125% LARGEST 100% OTHER	1.5
RECEPTACLE	13.1	100% FIRST 10KVA 50% OTHER	11.6
TOTALS	18.8		17.9

NOTES

3A-DPH1	3B-DPH1	4A-DMH1
6B-DMH1	1A-PL1	1A-PL2

SYM	ZONE		DATE	APPROVED

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SIGNATURES	DATE
DRAWN Lukas Wierda	12.18.13
CHECKED Vinod Trehan	12.18.13
SUBMITTED - ENGINEERING OF RECORD Toby Cunningham	12/18/13
ST of LICENSURE: FL LICENSE NO. 71672	
APPROVED Scott Robinson	12.18.13
Dung Trang	12/19/13

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

NORMAL POWER PANEL SCHEDULES

E702

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 66

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PANELBOARD SCHEDULE

PANEL DESIGNATION 1A-PL3 | LOCATION MAIN ELECTRICAL 1457 | FLOOR 1ST LEVEL
VOLTAGE 208Y/120V | 3 PHASE 4 WIRE | FED FROM 1A-T-PL2
MAIN TYPE MCB | BUS RATING 250 A | FAULT CURRENT RATING 10,000 AIC
MAIN RATING 250 A | MOUNTING Surface | FAULT... AIC

REMARKS 200% NEUTRAL

LEFT SIDE, KVA						RIGHT SIDE, KVA						
DESCRIPTION	BRKR AMP, POLES		CKT NO	A	B	C	A	B	C	CKT NO	BRKR AMP, POLES	DESCRIPTION
Rec: Rm 1254B, Stitcher	20 A	1	1	1.80			1.80			2	1 20 A	Rec: Rm 1254B, Stitcher
Paper Cutter, Rm 1254B	40 A	3	3		3.60			0.90		4	1 20 A	Rec: Rm 1254B
--	--	--	5			3.60			1.80	6	1 20 A	Rec: Rm 1254B, Tyer
--	--	--	7	3.60			1.80			8	1 20 A	Rec: Rm 1254B, Sm. Drill
Rec: Rm 1254B	20 A	1	9		0.72			1.63		10	3 20 A	Lg Paper Drill, Rm 1254B
Rec: Rm 1246	20 A	1	11			0.72			1.63	12	-- --	--
Rec: Rm 1246	20 A	1	13	0.54			1.63			14	-- --	--
Rec: Rm 1246	20 A	1	15		0.54			1.80		16	1 20 A	Rec: Rm 1246, Laminator
Rec: Rm 1246	20 A	1	17			0.18			0.54	18	1 20 A	Rec: Rm 1242
Furniture Feed, Rm 1246	20 A	1	19	0.72			0.72			20	1 20 A	Furniture Feed, Rm 1242
Furniture Feed, Rm 1246	20 A	1	21		1.20			0.72		22	1 20 A	Furniture Feed, Rm 1242
Furniture Feed, Rm 1246	20 A	1	23			0.72			1.20	24	1 20 A	Furniture Feed, Rm 1242
Rec: Rm 1242, Xerox MFD	20 A	1	25	1.20			1.20			26	1 20 A	Rec: Rm 1240, Printer
Rec: Rms 1240C, 1240E	20 A	1	27		1.44			0.36		28	1 20 A	Rec: Rm 1240F, 1240
Rec: Rms 1240B, 1240A	20 A	1	29			1.44			0.90	30	1 20 A	Rec: Rms 1236, 1431
Rec: Conf. Rm 1238	20 A	1	31	0.36			1.08			32	1 20 A	Rec: Conference Rm 1238
Rec: Conf. Rm 1238, TV	20 A	1	33		0.60			0.00		34	1 20 A	Spare
Spare	20 A	1	35			0.00			0.00	36	1 20 A	Spare
SPD	30 A	3	37	0.00			0.00			38	1 20 A	Spare
--	--	--	39		0.00			0.00		40	1 20 A	Spare
--	--	--	41			0.00			0.00	42	1 20 A	Spare

PHASE SUBTOTALS (KVA): 16.45 13.51 12.73
PHASE SUBTOTAL (AMPS): 138 114 106
NEC COMPUTED (AMPS) 98

LOAD CLASSIFICATION		DESIGN FACTOR	
POWER	10.8	100%	10.8
LIGHTING		125%	
MOTOR	4.9	125% LARGEST 100% OTHER	6.1
RECEPTACLE	27.0	100% FIRST 10KVA 50% OTHER	18.5
TOTALS	42.7		35.4

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION 1B-LH1 | LOCATION ELECTRICAL 1211 | FLOOR 1ST LEVEL
VOLTAGE 480Y/277V | 3 PHASE 4 WIRE | FED FROM 1B-DLH1
MAIN TYPE MLO | BUS RATING 100 A | FAULT CURRENT RATING 10,000 AIC
MAIN RATING 100 A | MOUNTING Surface | FAULT... AIC

REMARKS

LEFT SIDE, KVA						RIGHT SIDE, KVA						
DESCRIPTION	BRKR AMP, POLES		CKT NO	A	B	C	A	B	C	CKT NO	BRKR AMP, POLES	DESCRIPTION
Lts: West Parking Lot	20 A	1	1	1.93			1.93			2	1 20 A	Lts: West Parking Lot
LIGHTING	20 A	1	3		1.58			1.40		4	1 20 A	Lts: West Parking Lot
Lts: North Entry	20 A	1	5			0.67			1.40	6	1 20 A	LIGHTING
LIGHTING	20 A	1	7	1.23			1.93			8	1 20 A	LIGHTING
LIGHTING	20 A	1	9		2.10			3.45		10	1 20 A	LIGHTING
LIGHTING	20 A	1	11			3.21			1.56	12	1 20 A	LIGHTING
LIGHTING	20 A	1	13	3.84			2.15			14	1 20 A	LIGHTING
LIGHTING	20 A	1	15		2.24			3.48		16	1 20 A	LIGHTING
Lts: East Side, South Entry	20 A	1	17			0.39			0.00	18	1 20 A	Spare
Spare	20 A	1	19	0.00			0.00			20	1 20 A	Spare
Spare	20 A	1	21		0.00			0.00		22	1 20 A	Spare
Spare	20 A	1	23			0.00			0.00	24	1 20 A	Spare
Spare	20 A	1	25	0.00			0.00			26	1 20 A	Spare
			27							28		
			29							30		
			31							32		
			33							34		
			35							36		
SPD	30 A	3	37	0.00						38		
--	--	--	39		0.00					40		
--	--	--	41			0.00				42		

PHASE SUBTOTALS (KVA): 12.99 14.24 7.22
PHASE SUBTOTAL (AMPS): 50 55 26
NEC COMPUTED (AMPS) 52

LOAD CLASSIFICATION		DESIGN FACTOR	
POWER		100%	
LIGHTING	34.4	125%	43.0
MOTOR	0.1	125% LARGEST 100% OTHER	0.1
RECEPTACLE		100% FIRST 10KVA 50% OTHER	
TOTALS	34.5		43.1

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION 1B-PL1 | LOCATION MAIN ELECTRICAL 1457 | FLOOR 1ST LEVEL
VOLTAGE 208Y/120V | 3 PHASE 4 WIRE | FED FROM 1B-T-PL1
MAIN TYPE MCB | BUS RATING 400 A | FAULT CURRENT RATING 10,000 AIC
MAIN RATING 400 A | MOUNTING SURFACE | FAULT... AIC

REMARKS PROVIDE FEED-THRU LUGS

LEFT SIDE, KVA						RIGHT SIDE, KVA						
DESCRIPTION	BRKR AMP, POLES		CKT NO	A	B	C	A	B	C	CKT NO	BRKR AMP, POLES	DESCRIPTION
1B-KL1	150 A	3	1	13.05			0.86			2	1 15 A	FCU 1-5
--	--	--	3		15.43			0.86		4	1 15 A	FCU 1-9
--	--	--	5			9.33			0.72	6	1 20 A	Rec: Main Electrical 1457
Rec: Main Electrical 1457	20 A	1	7	0.54			1.08			8	1 20 A	Rec: Rms 1458, 1454
Rec: Rms 1453D, 1453	20 A	1	9		1.08			0.90		10	1 20 A	Rec: Sorting Area 1453D
Rec: Office 1453A	20 A	1	11			0.90			1.08	12	1 20 A	Rec: Mail Rm 1453
Rec: Office 1453C	20 A	1	13	0.90			0.90			14	1 20 A	Rec: Office 1453B
Rec: Post Office 1443	20 A	1	15		0.72			0.72		16	1 20 A	Rec: Post Office 1443
Rec: Office 1443B	20 A	1	17			0.90			0.54	18	1 20 A	Rec: Post Office 1443
Ceiling Door, Rm 1443	20 A	1	19	0.50			0.54			20	1 20 A	Rec: Procurement 1433A
Rec: Rm 1433	20 A	1	21		0.54			1.08		22	1 20 A	Rec: Service Yard, South
Ceiling Door, Rm 1453	20 A	1	23			0.50			0.54	24	1 20 A	Rec: Service Yard, North
Spare	20 A	1	25	0.00			0.00			26	1 20 A	Spare
Spare	20 A	1	27		0.00			0.00		28	1 20 A	Spare
Spare	20 A	1	29			0.00			0.00	30	1 20 A	Spare
Spare	20 A	1	31	0.00			0.00			32	1 20 A	Spare
Spare	20 A	1	33		0.00			0.00		34	1 20 A	Spare
			35							36		
SPD	30 A	3	37	0.00						38		
--	--	--	39		0.00					40		
--	--	--	41			0.00				42		
							6.86					1B-PL2
								6.98				--
									5.82			--

PHASE SUBTOTALS (KVA): 25.23 28.31 20.33
PHASE SUBTOTAL (AMPS): 217 242 169
NEC COMPUTED (AMPS) 154

LOAD CLASSIFICATION	CONNECTED (KVA)	DEMAND FACTOR	DEMAND (KVA)
POWER	23.9	100%	23.9
LIGHTING		125%	
MOTOR	2.7	125% LARGEST 100% OTHER	3.0
RECEPTACLE	47.2	100% FIRST 10KVA 50% OTHER	28.6
TOTALS	73.9		55.5

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION 1B-PL2 | LOCATION ELECTRICAL 1211 | FLOOR 1ST LEVEL
VOLTAGE 208Y/120V | 3 PHASE 4 WIRE | FED FROM 1B-PL1
MAIN TYPE MLO | BUS RATING 400 A | FAULT CURRENT RATING 10,000 AIC
MAIN RATING 400 A | MOUNTING SURFACE | FAULT... AIC

REMARKS

LEFT SIDE, KVA						RIGHT SIDE, KVA						
DESCRIPTION	BRKR AMP, POLES		CKT NO	A	B	C	A	B	C	CKT NO	BRKR AMP, POLES	DESCRIPTION
Rec: Credit Union 1022, TV	20 A	1	1	0.60			0.36			2	1 20 A	Rec: Rms 1200,1040,1400
Water Cooler, Corridor 1200	20 A	1	3		0.50			1.20		4	1 20 A	Rec: Rm 1400A, Coffee
Rec: Rms 1040, 1400	20 A	1	5			0.90			1.08	6	1 20 A	Rec: Caf. Seating 1400B
Rec: Cyber Cafe 1400A	20 A	1	7	0.18			0.90			8	1 20 A	Rec: Exterior - Caf. Patio
Rec: Rm 1400A, Coffee	20 A	1	9		1.20			1.20		10	1 20 A	Rec: Rm 1022D, Coffee
Rec: Caf. Seating 1400B	20 A	1	11			0.90			0.60	12	1 20 A	Rec: Rm 1022D, Refrig.
Rec: Rms 1022A, 1022B	20 A	1	13	1.44			0.60			14	1 20 A	Rec: Rm 1022C, Printer
Rec: Rm 1022D, Microwave	20 A	1	15		1.20			0.72		16	1 20 A	Rec: Rms 1022C, 1022E
Rec: Break Rm 1022D	20 A	1	17			0.54			0.90	18	1 20 A	Rec: Rms 1022, 1027
Rec: Rm 1022C, Copier	20 A	1	19	1.20			0.54			20	1 20 A	Rec: Teller Area 1022C
Rec: Rm 1022J, ATM	20 A	1	21		0.18			0.18		22	1 20 A	Rec: Vault Rm 1022E
Rec: North Lobby 1000	20 A	1	23			0.72			0.18	24	1 20 A	Rec: Vault Rm 1022E
Monument Sign	20 A	1	25	0.50			0.54			26	1 20 A	Rec: Cyber Cafe 1400A
Spare	20 A	1	27		0.00			0.60		28	1 20 A	Rec: Rm 1027,1000-Displays
Spare	20 A	1	29			0.00			0.00	30	1 20 A	Spare
Spare	20 A	1	31	0.00			0.00			32	1 20 A	Spare
Spare	20 A	1	33		0.00			0.00		34	1 20 A	Spare
Spare	20 A	1	35			0.00			0.00	36	1 20 A	Spare
SPD	30 A	3	37	0.00						38		
--	--	--	39		0.00					40		
--	--	--	41			0.00				42		

PHASE SUBTOTALS (KVA): 6.86 6.98 5.82
PHASE SUBTOTAL (AMPS): 59 60 49
NEC COMPUTED (AMPS) 43

LOAD CLASSIFICATION		DESIGN FACTOR	
POWER	1.0	100%	1.0
LIGHTING		125%	
MOTOR		125% LARGEST 100% OTHER	
RECEPTACLE	18.7	100% FIRST 10KVA 50% OTHER	14.3
TOTALS	19.7		15.3

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION 1B-PL3 | LOCATION TELECOM 1219 | FLOOR 1ST LEVEL
VOLTAGE 208Y/120V | 3 PHASE 4 WIRE | FED FROM 1B-DPL1
MAIN TYPE MLO | BUS RATING 100 A | FAULT CURRENT RATING 10,000 AIC
MAIN RATING 100 A | MOUNTING SURFACE | FAULT... AIC

REMARKS 200% NEUTRAL

LEFT SIDE, KVA						RIGHT SIDE, KVA						
DESCRIPTION	BRKR AMP, POLES		CKT NO	A	B	C	A	B	C	CKT NO	BRKR AMP, POLES	DESCRIPTION
Rec: Telecom 1219, Rack	20 A	1	1	1.00			1.00			2	1 20 A	Rec: Telecom 1464, Rack
Rec: Telecom 1219, Rack	20 A	1	3		1.00			1.00		4	1 20 A	Rec: Telecom 1464, Rack
Rec: Telecom 1219, Rack	20 A	1	5			1.00			1.00	6	1 20 A	Rec: Telecom 1464, Rack
Rec: Telecom 1219, Rack	20 A	1	7	1.00			1.00			8	1 20 A	Rec: Telecom 1464, Rack
Rec: Telecom 1219, Rack	20 A	1	9		1.00			1.00		10	1 20 A	Rec: Telecom 1464, Rack
Rec: Telecom 1219, Rack	20 A	1	11			1.00			1.00	12	1 20 A	Rec: Telecom 1464, Rack
Rec: Telecom 1219, Rack	20 A	1	13	1.00			1.00			14	1 20 A	Rec: Telecom 1464, Rack
Rec: Telecom 1219, Rack	20 A	1	15		1.00			1.00		16	1 20 A	Rec: Telecom 1464, Rack
Rec: Telecom 1219, Rack	20 A	1	17			1.00			0.00	18	1 20 A	Spare
Spare	20 A	1	19	0.00			0.00			20	1 20 A	Spare
Spare	20 A	1	21		0.00			0.00		22	1 20 A	Spare
Spare	20 A	1	23			0.00			0.00	24	1 20 A	Spare
Spare	20 A	1	25	0.00			0.00			26	1 20 A	Spare
			27							28		
			29							30		
			31							32		
			33							34		
			35							36		
			37							38		
			39							40		
			41							42		

PHASE SUBTOTALS (KVA): 6.00 6.00 5.00
PHASE SUBTOTAL (AMPS): 51 51 42
NEC COMPUTED (AMPS) 37

LOAD CLASSIFICATION		DESIGN FACTOR	
POWER		100%	
LIGHTING		125%	
MOTOR		125% LARGEST 100% OTHER	
RECEPTACLE	17.0	100% FIRST 10KVA 50% OTHER	13.5
TOTALS	17.0		13.5

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION 1B-PL4 | LOCATION MAIN ELECTRICAL 1457 | FLOOR 1ST LEVEL
VOLTAGE 208Y/120V | 3 PHASE 4 WIRE | FED FROM 1B-T-PL2
MAIN TYPE MCB | BUS RATING 250 A | FAULT CURRENT RATING 10,000 AIC
MAIN RATING 250 A | MOUNTING Surface | FAULT... AIC

REMARKS 200% NEUTRAL

LEFT SIDE, KVA						RIGHT SIDE, KVA						
DESCRIPTION	BRKR AMP, POLES		CKT NO	A	B	C	A	B	C	CKT NO	BRKR AMP, POLES	DESCRIPTION
Rec: Rm 1254A	20 A	1	1	0.54			4.67			2	3 50 A	Rec: Rm 1254A, OCE 6150
Rec: Rm 1254A, Xerox 8000	20 A	1	3		1.20			4.67		4	-- --	--
Rec: Rm 1254A, Xerox 8000	30 A	3	5			1.40			4.67	6	-- --	--
--	--	--	7	1.40			1.00			8	1 20 A	Rec: Rm 1254A, Xerox 8000
--	--	--	9		1.40			2.60		10	2 30 A	Rec: Rm 1254A, Lg Press
Rec: Rm 1254A	20 A	1	11			0.54			2.60	12	-- --	--
Rec: Rm 1254A, Laminator	50 A	2	13	4.50			0.72			14	1 20 A	Rec: Rm 1254A
--	--	--	15		4.50			0.70		16	2 20 A	Rec: Rm 1254A, Xerox 4127
Rec: Rm 1254A	20 A	1	17			0.54			0.70	18	-- --	--
Rec: Rm 1254A, Xerox 700	20 A	2	19	1.10			1.80			20	1 20 A	Rec: Rm 1254A, Stitcher
--	--	--	21		1.10			0.36		22	1 20 A	Rec: Rm 1254A
Scanner, Rm 1254A	20 A	2	23			1.80			0.50	24	1 20 A	Water Cooler, Corr. 1232
--	--	--	25	1.80			1.20			26	1 20 A	Furniture Feed, Rm 1256
Rec: Rm 1246, Small Press	30 A	2	27		2.10			0.72		28	1 20 A	Furniture Feed, Rm 1256
--	--	--	29			2.10			0.72	30	1 20 A	Furniture Feed, Rm 1256
Furniture Feed, Rm 1256	20 A	1	31	0.72			0.36			32	1 20 A	Rec: Corridor 1232
Furniture Feed, Rm 1256	20 A	1	33		0.72			0.00		34	1 20 A	Spare
Furniture Feed, Rm 1256	20 A	1	35			1.20			0.00	36	1 20 A	Spare
SPD	30 A	3	37	0.00			0.00			38	1 20 A	Spare
--	--	--	39		0.00			0.00		40	1 20 A	Spare
--	--	--	41			0.00			0.00	42	1 20 A	Spare

PHASE SUBTOTALS (KVA): 19.81 20.07 16.77
PHASE SUBTOTAL (AMPS): 169 171 140
NEC COMPUTED (AMPS) 94

LOAD CLASSIFICATION		DESIGN FACTOR	
POWER	1.0	100%	1.0
LIGHTING		125%	
MOTOR		125% LARGEST 100% OTHER	
RECEPTACLE	55.6	100% FIRST 10KVA 50% OTHER	32.8
TOTALS	56.6		33.8

NOTES

1A-PL3	1B-LH1	1B-PL1
1B-PL2	1B-PL3	1B-PL4

SYM	ZONE		DATE	APPROVED

REVISIONS

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SIGNATURES	DATE
DRAWN Lukas Wierda	12.18.13
CHECKED Vinod Trehan	12.18.13
SUBMITTED ARCHENG OF RECORD Toby S. Shaw	12/18/13
ST of LICENSURE: FL LICENSE NO. 71672	
APPROVED Scott Robinson	12.18.13
Dung Trang	12/18/13

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

NORMAL POWER PANEL SCHEDULES

E703

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 67

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PANELBOARD SCHEDULE

PANEL DESIGNATION 1B-PL5 | LOCATION | FLOOR 1ST LEVEL
VOLTAGE 208Y/120V | 3 PHASE 4 WIRE | FED FROM 1B-T-PL3
MAIN TYPE MCB | BUS RATING 400 A | FAULT CURRENT RATING 10,000 AIC
MAIN RATING 400 A | MOUNTING Surface | FAULT... AIC

REMARKS

LEFT SIDE, KVA						RIGHT SIDE, KVA						
DESCRIPTION	BRKR AMP, POLES	CKT NO	A	B	C	A	B	C	CKT NO	BRKR AMP, POLES		DESCRIPTION
CAR CHARGER	45 A 2	1	3.60			3.60			2	2	45 A	CAR CHARGER
--	-- --	3		3.60			3.60		4	--	--	--
CAR CHARGER	45 A 2	5			3.60			3.60	6	2	45 A	CAR CHARGER
--	-- --	7	3.60			3.60			8	--	--	--
CAR CHARGER	45 A 2	9		3.60			3.60		10	2	45 A	CAR CHARGER
--	-- --	11			3.60			3.60	12	--	--	--
CAR CHARGER	45 A 2	13	3.60			3.60			14	2	45 A	CAR CHARGER
--	-- --	15		3.60			3.60		16	--	--	--
CAR CHARGER	45 A 2	17			3.60			3.60	18	2	45 A	CAR CHARGER
--	-- --	19	3.60			3.60			20	--	--	--
CAR CHARGER	45 A 2	21		3.60			3.60		22	2	45 A	CAR CHARGER
--	-- --	23			3.60			3.60	24	--	--	--
CAR CHARGER	45 A 2	25	3.60			0.00			26	1	20 A	Spare
--	-- --	27		3.60			0.00		28	1	20 A	Spare
CAR CHARGER	45 A 2	29			3.60			0.00	30	1	20 A	Spare
--	-- --	31	3.60			0.00			32	1	20 A	Spare
Spare	20 A 1	33		0.00			0.00		34	1	20 A	Spare
Spare	20 A 1	35			0.00			0.00	36	1	20 A	Spare
SPD	30 A 3	37	0.00						38			
--	-- --	39		0.00					40			
--	-- --	41			0.00				42			

PHASE SUBTOTALS (KVA): 36.00 32.40 32.40
PHASE SUBTOTAL (AMPS): 300 270 270
NEC COMPUTED (AMPS) 280

LOAD CLASSIFICATION		DESIGN FACTOR	
POWER	100.8	100%	100.8
LIGHTING		125%	
MOTOR		125% LARGEST 100% OTHER	
RECEPTACLE		100% FIRST 10KVA 50% OTHER	
TOTALS	100.8		100.8

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION 1A-KL1 | LOCATION PREP 1 1400J | FLOOR 1ST LEVEL
VOLTAGE 208Y/120V | 3 PHASE 4 WIRE | FED FROM 1A-PL1
MAIN TYPE MCB | BUS RATING 150 A | FAULT CURRENT RATING 10,000 AIC
MAIN RATING 150 A | MOUNTING Recessed | FAULT... AIC

REMARKS NEMA 12 ENCLOSURE

LEFT SIDE, KVA						RIGHT SIDE, KVA						
DESCRIPTION	BRKR AMP, POLES	CKT NO	A	B	C	A	B	C	CKT NO	BRKR AMP, POLES		DESCRIPTION
Rec: Rm 1400J	20 A 1	1	0.36			0.36			2	1	20 A	Rec: Rm 1400J
Rec: Rm 1400C	20 A 2	3		0.09			0.36		4	1	20 A	Rec: Rm 1400C, Bev. Disp.
--	-- --	5			0.09			0.18	6	1	20 A	Rec: Rm 1400C
Power at Counter	20 A 1	7	0.00			1.80			8	1	20 A	Rec: Rm 1400C,Carb.
Merry Chef Oven	35 A 2	9		0.00			0.36		10	1	20 A	Rec: Rm 1400c, Bev. Disp.
--	-- --	11			0.00			0.00	12	1	20 A	Power Counter
Rec: Rm 1400L	20 A 1	13	0.36			0.36			14	1	20 A	Rec: Rm 1400L, 1400M
Bread Oven, Rm 1400L	40 A 3	15		3.83			0.60		16	1	20 A	Rec: Rm 1400L, Disp. Ref.
--	-- --	17			3.83			1.44	18	1	20 A	Rec: Rm 1400L, Refrigerator
--	-- --	19	3.83			1.66			20	2	20 A	Rec: Rm 1400L
Condenser, Rm 1400M	20 A 3	21		1.20			1.66		22	--	--	--
--	-- --	23			1.20			1.80	24	1	20 A	Walk-in Cooler (Subway)
--	-- --	25	1.20			0.60			26	1	20 A	Med. Temp. Evap. Coil
Rec: Rm 1400C	20 A 1	27		0.18			1.50		28	1	20 A	Rec: Menu Displays
Rec: Rm 1400C, Ice Maker	20 A 2	29			1.46			0.00	30	1	20 A	Power at Counter
--	-- --	31	1.46			0.00			32	1	20 A	Spare
Rec: Rm 1400C, Ice Maker	20 A 2	33		1.46			0.00		34	1	20 A	Spare
--	-- --	35			1.46			0.00	36	1	20 A	Spare
Spare	20 A 1	37	0.00			0.00			38	1	20 A	Spare
Spare	20 A 1	39		0.00			0.00		40	1	20 A	Spare
Spare	20 A 1	41			0.00			0.00	42	1	20 A	Spare

PHASE SUBTOTALS (KVA): 11.99 11.24 11.46
PHASE SUBTOTAL (AMPS): 100 94 96
NEC COMPUTED (AMPS) 86

LOAD CLASSIFICATION		DESIGN FACTOR	
POWER	17.5	100%	17.5
LIGHTING		125%	
MOTOR		125% LARGEST 100% OTHER	
RECEPTACLE	17.2	100% FIRST 10KVA 50% OTHER	13.6
TOTALS	34.7		31.1

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION 1A-KL2 | LOCATION PREP 2 1417E | FLOOR 1ST LEVEL
VOLTAGE 208Y/120V | 3 PHASE 4 WIRE | FED FROM 1A-PL1
MAIN TYPE MCB | BUS RATING 150 A | FAULT CURRENT RATING 10,000 AIC
MAIN RATING 150 A | MOUNTING Recessed | FAULT... AIC

REMARKS NEMA 12 ENCLOSURE

LEFT SIDE, KVA						RIGHT SIDE, KVA						
DESCRIPTION	BRKR AMP, POLES	CKT NO	A	B	C	A	B	C	CKT NO	BRKR AMP, POLES		DESCRIPTION
Air Curtains, Corridor 1415	20 A 1	1	1.44			1.50			2	1	20 A	Rec: Menu Displays
Ice Machine, Corridor 1417	20 A 3	3		1.68			0.36		4	1	20 A	Rec: Rm 1417N, 1417R
--	-- --	5			1.68			1.14	6	2	20 A	Condenser, Rm 1417S
--	-- --	7	1.68			1.14			8	--	--	--
Condenser, Rm 1417S	30 A 2	9		2.18			0.90		10	1	20 A	Rec: Rm 1417P, 1417M
--	-- --	11			2.18			1.80	12	1	20 A	Cooler/Freezer Lights and...
Evap. Coil, Refrig. 1417K	20 A 1	13	0.84			1.35			14	2	20 A	Evap. Coil, Freezer 1417J
Heat Tape, Freezer 1417J	20 A 1	15		0.18			1.35		16	--	--	--
Rec: Rm 1417E, ETP-6	20 A 1	17			0.50			3.24	18	3	35 A	Rec: Rm 1417E, Kettle
Rec: Rm 1417E, Skillet Ctrls	20 A 1	19	0.24			3.24			20	--	--	--
Shunt Trip	-- --	21		0.00			3.24		22	--	--	--
Rec: Rm 1417E,Combi Oven	20 A 1	23			0.60			0.00	24	--	--	Shunt Trip
Shunt Trip	-- --	25	0.00			1.20			26	1	20 A	Rec: Rm 1417E, Conv. Oven
Rec: Rm 1417E, Conv. Oven	20 A 1	27		1.20			0.00		28	--	--	Shunt Trip
Shunt Trip	-- --	29			0.00			0.36	30	1	20 A	Rec: Rm 1417E
Rec: Rm 1417E	20 A 1	31	0.54			0.36			32	1	20 A	Rec: Rm 1417F
Rec: Rm 1417E	20 A 1	33		0.36			0.36		34	1	20 A	Rec: Rm 1417F
Power at Counter	20 A 2	35			0.00			0.00	36	1	20 A	Power at Counter
--	-- --	37	0.00			0.00			38	1	20 A	Power at Counter
Hood 35 Lights	15 A 1	39		0.60			1.00		40	1	15 A	Hood 35 Controls
Exhaust Fans (KEF-1, 2)	25 A 3	41			1.71			0.56	42	3	15 A	Supply Fan (MUA-5)
--	-- --	43	1.71			0.56			44	--	--	--
--	-- --	45		1.71			0.56		46	--	--	--
Shunt Trip	-- --	47			0.00			0.00	48	--	--	Shunt Trip
Spare	20 A 1	49	0.00			0.00			50	1	20 A	Spare
Spare	20 A 1	51		0.00			0.00		52	1	20 A	Spare
Spare	20 A 1	53			0.00			0.00	54	1	20 A	Spare

PHASE SUBTOTALS (KVA): 15.81 15.69 13.78
PHASE SUBTOTAL (AMPS): 134 133 115
NEC COMPUTED (AMPS) 116

LOAD CLASSIFICATION	CONNECTED (KVA)	DEMAND FACTOR	DEMAND (KVA)
POWER	28.2	100%	28.2
LIGHTING		125%	
MOTOR		125% LARGEST 100% OTHER	
RECEPTACLE	17.1	100% FIRST 10KVA 50% OTHER	13.5
TOTALS	45.3		41.7

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION 1B-KL1 | LOCATION PREP 3 1417A | FLOOR 1ST LEVEL
VOLTAGE 208Y/120V | 3 PHASE 4 WIRE | FED FROM 1B-PL1
MAIN TYPE MCB | BUS RATING 150 A | FAULT CURRENT RATING 10,000 AIC
MAIN RATING 150 A | MOUNTING Recessed | FAULT... AIC

REMARKS NEMA 12 ENCLOSURE

LEFT SIDE, KVA						RIGHT SIDE, KVA						
DESCRIPTION	BRKR AMP, POLES	CKT NO	A	B	C	A	B	C	CKT NO	BRKR AMP, POLES		DESCRIPTION
Cooler/Freezer Lights and...	20 A 1	1	1.80			1.35			2	2	20 A	Evap. Coil - Freezer 1417H
Evap. Coil - Refrig. 1417G	20 A 1	3		0.84			1.35		4	--	--	--
Heat Tape - Freezer 1417H	20 A 1	5			0.18			5.52	6	3	60 A	Dishwasher
Rec: Rm 1417A	20 A 1	7	0.36			5.52			8	--	--	--
Rec: Rm 1417A	20 A 1	9		0.36			5.52		10	--	--	--
Rec: Rm 1417A	20 A 1	11			0.36			0.36	12	1	20 A	Rec: Rm 1417A
Rec: Rm 1417A, ETP-5	20 A 1	13	0.68			0.36			14	1	20 A	Rec: Rm 1417A
Rec: Rm 1400D	20 A 1	15		0.36			1.20		16	1	20 A	Rec: Rm 1400D, Refrig. Base
Rec: Rm 1400D, Fryer Batt.	20 A 1	17			0.84			0.00	18	1	20 A	Spare
Shunt Trip	-- --	19	0.00			0.00			20	2	20 A	Power at Counter
Rec: Rm 1400D, Refrig. Prep	20 A 1	21		1.44			0.00		22	--	--	--
Power at Counter	20 A 1	23			0.00			0.00	24	1	20 A	Power at Counter
Power at Counter	20 A 1	25	0.00			0.00			26	1	20 A	Power at Counter
Power at Counter	20 A 2	27		0.00			1.00		28	1	15 A	Hood 50 Controls
--	-- --	29			0.00			0.74	30	3	15 A	Exhaust Fan (KEF-3)
Hood 50 Lights	15 A 1	31	0.40			0.74			32	--	--	--
Rec: Rm 1400D	20 A 1	33		1.08			0.74		34	--	--	--
Coiling Door, Food Court	20 A 1	35			1.00			0.00	36	--	--	Shunt Trip
Rec: Menu Displays	20 A 1	37	1.50			0.33			38	3	15 A	Supply Fan Hood 50 (MUA-6)
Rec: Menu Displays	20 A 1	39		1.20			0.33		40	--	--	--
Spare	20 A 1	41			0.00			0.33	42	--	--	--
Spare	20 A 1	43	0.00			0.00			44	--	--	Shunt Trip
Spare	20 A 1	45		0.00			0.00		46	1	20 A	Spare
Spare	20 A 1	47			0.00			0.00	48	1	20 A	Spare
Spare	20 A 1	49	0.00			0.00			50	1	20 A	Spare
Spare	20 A 1	51		0.00			0.00		52	1	20 A	Spare
Spare	20 A 1	53			0.00			0.00	54	1	20 A	Spare

PHASE SUBTOTALS (KVA): 13.05 15.43 9.33
PHASE SUBTOTAL (AMPS): 113 133 78
NEC COMPUTED (AMPS) 99

LOAD CLASSIFICATION	CONNECTED (KVA)	DEMAND FACTOR	DEMAND (KVA)
POWER	21.9	100%	21.9
LIGHTING		125%	
MOTOR	1.0	125% LARGEST 100% OTHER	1.3
RECEPTACLE	14.9	100% FIRST 10KVA 50% OTHER	12.4
TOTALS	37.8		35.6

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION 2A-PL1 | LOCATION ELECTRICAL 2215 | FLOOR 2ND LEVEL
VOLTAGE 208Y/120V | 3 PHASE 4 WIRE | FED FROM 2A-T-PL1
MAIN TYPE MCB | BUS RATING 250 A | FAULT CURRENT RATING 10,000 AIC
MAIN RATING 250 A | MOUNTING SURFACE | FAULT... AIC

REMARKS 200% NEUTRAL

LEFT SIDE, KVA						RIGHT SIDE, KVA						
DESCRIPTION	BRKR AMP, POLES	CKT NO	A	B	C	A	B	C	CKT NO	BRKR AMP, POLES		DESCRIPTION
Rec: Rm 2211, Vending	20 A 1	1	0.60			1.20			2	1	20 A	Ctrls XFMR - VAV Boxes
Rec: Rm 2211, Vending	20 A 1	3		0.60			0.72		4	1	20 A	Rec: Electrical 2215
Rec: Rm 2211, Refrig.	20 A 1	5			0.60			0.50	6	1	20 A	Water Cooler, Corr. 2200
Rec: Rm 2211, Microwave	20 A 1	7	1.20			0.90			8	1	20 A	Rec: Rm 2200, 2226A
Rec: Rm 2211, Coffee	20 A 1	9		1.20			0.90		10	1	20 A	Furniture Feed, Rm 2216
Rec: Rm 2211, East Wall	20 A 1	11			0.96			0.54	12	1	20 A	Furniture Feed, Rm 2216
Rec: Rm 2205, 2207, 2209	20 A 1	13	0.90			0.54			14	1	20 A	Furniture Feed, Rm 2216
Rec: Office 2206D	20 A 1	15		0.90			0.90		16	1	20 A	Furniture Feed, Rm 2220
Rec: Office 2206E	20 A 1	17			0.90			0.54	18	1	20 A	Furniture Feed, Rm 2220
Rec: Office 2206F	20 A 1	19	1.08			0.54			20	1	20 A	Furniture Feed, Rm 2220
Rec: Office 2206G	20 A 1	21		0.90			0.90		22	1	20 A	Furniture Feed, Rm 2220
Furniture Feed, Rm 2206	20 A 1	23			0.54			0.54	24	1	20 A	Furniture Feed, Rm 2220
Furniture Feed, Rm 2206	20 A 1	25	0.54			0.54			26	1	20 A	Furniture Feed, Rm 2220
Furniture Feed, Rm 2206	20 A 1	27		0.90			0.90		28	1	20 A	Furniture Feed, Rm 2226
Furniture Feed, Rm 2210	20 A 1	29			0.90			0.54	30	1	20 A	Furniture Feed, Rm 2226
Furniture Feed, Rm 2210	20 A 1	31	0.54			0.54			32	1	20 A	Furniture Feed, Rm 2226
Furniture Feed, Rm 2210	20 A 1	33		0.54			0.90		34	1	20 A	Power at Counter
Furniture Feed, Rm 2210	20 A 1	35			0.90			0.90	36	1	20 A	Rec: Office 2226C
Furniture Feed, Rm 2210	20 A 1	37	0.54			0.90			38	1	20 A	Rec: Office 2235E
Furniture Feed, Rm 2210	20 A 1	39		0.54			0.90		40	1	20 A	Rec: Office 2235F
Furniture Feed, Rm 2216	20 A 1	41			0.90			0.90	42	1	20 A	Rec: Office 2235C
Furniture Feed, Rm 2216	20 A 1	43	0.54			0.90			44	1	20 A	Rec: Conference Rm 2240
Furniture Feed, Rm 2216	20 A 1	45		0.54			0.96		46	1	20 A	Rec: Conference Rm 2240
Spare	20 A 1	47			0.00			1.82	48	1	20 A	Motorized Shades, Rm 2240
Spare	20 A 1	49	0.00			1.82			50	1	20 A	Motorized Shades, Rm 2240
Spare	20 A 1	51		0.00			0.00		52	1	20 A	Spare
Spare	20 A 1	53			0.00			0.00	54	1	20 A	Spare
Spare	20 A 1	55	0.00			0.00			56	1	20 A	Spare
Spare	20 A 1	57		0.00			0.00		58	1	20 A	Spare
Spare	20 A 1	59			0.00			0.00	60	1	20 A	Spare
SPD	30 A 3	61	0.00						62			
--	-- --	63		0.00					64			
--	-- --	65			0.00				66			

PHASE SUBTOTALS (KVA): 13.82 13.20 11.98
PHASE SUBTOTAL (AMPS): 117 112 100
NEC COMPUTED (AMPS) 75

LOAD CLASSIFICATION	CONNECTED (KVA)	DEMAND FACTOR	DEMAND (KVA)
POWER	5.3	100%	5.3
LIGHTING		125%	
MOTOR		125% LARGEST 100% OTHER	
RECEPTACLE	33.7	100% FIRST 10KVA 50% OTHER	21.8
TOTALS	39.0		27.2

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION 2B-LH1 | LOCATION ELECTRICAL 2215 | FLOOR 2ND LEVEL
VOLTAGE 480Y/277V | 3 PHASE 4 WIRE | FED FROM 1B-DLH1
MAIN TYPE MLO | BUS RATING 100 A | FAULT CURRENT RATING 10,000 AIC
MAIN RATING 100 A | MOUNTING SURFACE | FAULT... AIC

REMARKS

LEFT SIDE, KVA						RIGHT SIDE, KVA						
DESCRIPTION	BRKR AMP, POLES	CKT NO	A	B	C	A	B	C	CKT NO	BRKR AMP, POLES		DESCRIPTION
LIGHTING	20 A 1	1	3.97			3.90			2	1	20 A	LIGHTING
LIGHTING	20 A 1	3		2.59			0.88		4	1	20 A	LIGHTING
Lts: Ext. Canopy South	20 A 1	5			0.29			0.21	6	1	20 A	Lts: Ext. Canopy West
Lts: Ext. Canopy North	20 A 1	7	0.34			0.00			8	1	20 A	LIGHTING
Spare	20 A 1	9		0.00			0.00		10	1	20 A	Spare
Spare	20 A 1	11			0.00			0.00	12	1	20 A	Spare
Spare	20 A 1	13	0.00			0.00			14	1	20 A	Spare
Spare	20 A 1	15		0.00			0.00		16	1	20 A	Spare
Spare	20 A 1	17			0.00			0.00	18	1	20 A	Spare
		19							20			
		21							22			
		23							24			
		25							26			
		27							28			
		29							30			
		31							32			
		33							34			
		35							36			
SPD	30 A 3	37	0.00						38			
--	-- --	39		0.00					40			
--	-- --	41			0.00				42			

PHASE SUBTOTALS (KVA): 8.21 3.47 0.50
PHASE SUBTOTAL (AMPS): 31 14 2
NEC COMPUTED (AMPS) 18

LOAD CLASSIFICATION		DESIGN FACTOR	
POWER		100%	
LIGHTING	12.2	125%	15.2
MOTOR		125% LARGEST 100% OTHER	
RECEPTACLE		100% FIRST 10KVA 50% OTHER	
TOTALS	12.2		15.2

NOTES

1B-PL5	1A-KL1	1A-KL2
1B-KL1	2A-PL1	2B-LH1

SYM	ZONE		DATE	APPROVED

REVISIONS

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SIGNATURES	DATE
DRAWN Lukas Wierda	12.18.13
CHECKED Vinod Trehan	12.18.13
SUBMITTED UNDER SEAL OF RECORD Tobi S. Shah	12/18/13
ST of LICENSURE: FL LICENSE NO. 71672	
APPROVED Scott Robinson	12-18-13
Dung Hang	12/18/13

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

NORMAL POWER PANEL SCHEDULES

E704

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a | SHEET 68

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PANELBOARD SCHEDULE

PANEL DESIGNATION 2B-PL1 | LOCATION ELECTRICAL 2215 | FLOOR 2ND LEVEL
VOLTAGE 208Y/120V | 3 PHASE 4 WIRE | FED FROM 2B-T-PL1
MAIN TYPE MCB | BUS RATING 250 A | FAULT CURRENT RATING 10,000 AIC
MAIN RATING 250 A | MOUNTING SURFACE | FAULT... AIC

REMARKS 200% NEUTRAL

LEFT SIDE, KVA						RIGHT SIDE, KVA						
DESCRIPTION	BRKR AMP, POLES	CKT NO	A	B	C	A	B	C	CKT NO	BRKR AMP, POLES	DESCRIPTION
FCU 2-1	15 A 1	1	0.86			0.90			2	1 20 A	Rec: Rm 2400G, 2406A
BAS Controls, Rm 2223	20 A 1	3		0.50			0.54		4	1 20 A	Rec: Rm 2406K
BAS Controls, Rm 2223	20 A 1	5			0.50			1.20	6	1 20 A	High Density Files, 2406A
AHU-5 Lights & Receptacles	20 A 1	7	1.00			0.00			8	1 20 A	High Density Files, 2406A
AHU-5 UV Lights	20 A 1	9		0.40			0.90		10	1 20 A	Furniture Feed, Rm 2406
Rec: Rm 2227, 2223	20 A 1	11			0.54			0.54	12	1 20 A	Furniture Feed, Rm 2406
Water Cooler, Vest. 2426	20 A 1	13	0.50			0.54			14	1 20 A	Furniture Feed, Rm 2406
Furniture Feed, Rm 2426	20 A 1	15		0.60			0.54		16	1 20 A	Furniture Feed, Rm 2406
Furniture Feed, Rm 2426	20 A 1	17			0.36			0.90	18	1 20 A	Furniture Feed, Rm 2406
Furniture Feed, Rm 2426	20 A 1	19	0.36			0.54			20	1 20 A	Furniture Feed, Rm 2406
Rec: Rm 2439, Copier	20 A 1	21		1.20			1.26		22	1 20 A	Rec: Rm 2406, 2400H
Rec: Rm 2439	20 A 1	23			0.18			0.90	24	1 20 A	Furniture Feed, Rm 2400
Rec: Office 2237	20 A 1	25	1.08			0.54			26	1 20 A	Furniture Feed, Rm 2400
Rec: Office 2239	20 A 1	27		1.08			0.54		28	1 20 A	Furniture Feed, Rm 2400
Rec: Office 2438	20 A 1	29			1.08			0.60	30	1 20 A	Furniture Feed, Rm 2400
Rec: Office 2436	20 A 1	31	1.08			0.36			32	1 20 A	Furniture Feed, Rm 2400
Rec: Office 2434	20 A 1	33		0.72			0.36		34	1 20 A	Furniture Feed, Rm 2400
Rec: Office 2432	20 A 1	35			0.72			1.20	36	1 20 A	Rec: Rm 2400, Copier
Rec: Office 2430	20 A 1	37	1.08			1.08			38	1 20 A	Rec: Rm 2400
Rec: Rm 2423, 2428	20 A 1	39		1.08			1.08		40	1 20 A	Rec: Conf. Rm 2025
Furniture Feed, Rm 2423	20 A 1	41			0.60			0.60	42	1 20 A	Rec: Conf. Rm 2025
Furniture Feed, Rm 2423	20 A 1	43	0.36			1.82			44	1 20 A	Motorized Shades, Rm 2025
Furniture Feed, Rm 2423	20 A 1	45		0.36			0.90		46	1 20 A	Rec: Rm 2000, 2013
Motorized Shades, Rm 2009	20 A 1	47			1.82			0.90	48	1 20 A	Rec: Innov. Rm 2009
Motorized Shades, Rm 2009	20 A 1	49	1.82			0.90			50	1 20 A	Rec: Rm 2009, TV
Spare	20 A 1	51		0.00			0.72		52	1 20 A	Rec: Innov. Rm 2009
Spare	20 A 1	53			0.00			1.82	54	1 20 A	Motorized Shades, Rm 2009
Spare	20 A 1	55	0.00			0.00			56	1 20 A	Spare
Spare	20 A 1	57		0.00			0.00		58	1 20 A	Spare
Spare	20 A 1	59			0.00			0.00	60	1 20 A	Spare
SPD	30 A 3	61	0.00			0.00			62	1 20 A	Spare
--	-- --	63		0.00			0.00		64	1 20 A	Spare
--	-- --	65			0.00			0.00	66	1 20 A	Spare

PHASE SUBTOTALS (KVA): 14.83 12.78 14.47 | NEC COMPUTED (AMPS) 89
PHASE SUBTOTAL (AMPS): 126 107 123

LOAD CLASSIFICATION	CONNECTED (KVA)	DEMAND FACTOR	DEMAND (KVA)
POWER	8.8	100%	8.8
LIGHTING	1.4	125%	1.8
MOTOR	0.9	125% LARGEST 100% OTHER	1.1
RECEPTACLE	31.0	100% FIRST 10KVA 50% OTHER	20.5
TOTALS	42.1		32.1

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION 2B-PL2 | LOCATION TELECOM 2217 | FLOOR 2ND LEVEL
VOLTAGE 208Y/120V | 3 PHASE 4 WIRE | FED FROM 1B-DPL1
MAIN TYPE MLO | BUS RATING 100 A | FAULT CURRENT RATING 10,000 AIC
MAIN RATING 100 A | MOUNTING SURFACE | FAULT... AIC

REMARKS 200% NEUTRAL

LEFT SIDE, KVA						RIGHT SIDE, KVA						
DESCRIPTION	BRKR AMP, POLES	CKT NO	A	B	C	A	B	C	CKT NO	BRKR AMP, POLES	DESCRIPTION
Rec: Telecom 2217, Rack	20 A 1	1	1.00			1.00			2	1 20 A	Rec: Telecom 2217, Rack
Rec: Telecom 2217, Rack	20 A 1	3		1.00			1.00		4	1 20 A	Rec: Telecom 2217, Rack
Rec: Telecom 2217, Rack	20 A 1	5			1.00			1.00	6	1 20 A	Rec: Telecom 2217, Rack
Rec: Telecom 2217, Rack	20 A 1	7	1.00			1.00			8	1 20 A	Rec: Telecom 2217, Rack7
Spare	20 A 1	9		0.00			0.00		10	1 20 A	Spare
Spare	20 A 1	11			0.00			0.00	12	1 20 A	Spare
Spare	20 A 1	13	0.00			0.00			14	1 20 A	Spare
Spare	20 A 1	15		0.00			0.00		16	1 20 A	Spare
Spare	20 A 1	17			0.00			0.00	18	1 20 A	Spare
		19							20		
		21							22		
		23							24		
		25							26		
		27							28		
		29							30		
		31							32		
		33							34		
		35							36		
		37							38		
		39							40		
		41							42		

PHASE SUBTOTALS (KVA): 4.00 2.00 2.00 | NEC COMPUTED (AMPS) 22
PHASE SUBTOTAL (AMPS): 33 17 17

LOAD CLASSIFICATION	DESIGN FACTOR
POWER	100%
LIGHTING	125%
MOTOR	125% LARGEST 100% OTHER
RECEPTACLE	100% FIRST 10KVA 50% OTHER
TOTALS	

RECEPTACLE	8.0	8.0
TOTALS	8.0	8.0

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION 3A-PL1 | LOCATION ELECTRICAL 3213 | FLOOR 3RD LEVEL
VOLTAGE 208Y/120V | 3 PHASE 4 WIRE | FED FROM 3A-T-PL1
MAIN TYPE MCB | BUS RATING 250 A | FAULT CURRENT RATING 10,000 AIC
MAIN RATING 250 A | MOUNTING SURFACE | FAULT... AIC

REMARKS 200% NEUTRAL

LEFT SIDE, KVA						RIGHT SIDE, KVA						
DESCRIPTION	BRKR AMP, POLES	CKT NO	A	B	C	A	B	C	CKT NO	BRKR AMP, POLES	DESCRIPTION
Furniture Feed, Rm 3216	20 A 1	1	0.72			1.20			2	1 20 A	Ctrls XFMR - VAV Boxes
Furniture Feed, Rm 3216	20 A 1	3		1.20			1.20		4	1 20 A	Ctrls XFMR - VAV Boxes
Furniture Feed, Rm 3216	20 A 1	5			0.72			0.80	6	1 20 A	Ctrls XFMR - VAV Boxes
Furniture Feed, Rm 3210	20 A 1	7	0.72			0.50			8	1 20 A	Water Cooler, Corridor 3200
Furniture Feed, Rm 3210	20 A 1	9		1.20			1.08		10	1 20 A	Rec: Rm 3200, 3213
Furniture Feed, Rm 3210	20 A 1	11			0.72			1.80	12	1 20 A	Rec: Office 3216A, 3216C
Furniture Feed, Rm 3210	20 A 1	13	0.72			1.80			14	1 20 A	Rec: Office 3220H, 3220E
Furniture Feed, Rm 3210	20 A 1	15		1.20			0.72		16	1 20 A	Furniture Feed, Rm 3220
Furniture Feed, Rm 3210	20 A 1	17			0.72			1.20	18	1 20 A	Furniture Feed, Rm 3220
Furniture Feed, Rm 3206	20 A 1	19	0.72			0.72			20	1 20 A	Furniture Feed, Rm 3220
Furniture Feed, Rm 3206	20 A 1	21		0.72			1.20		22	1 20 A	Furniture Feed, Rm 3226
Furniture Feed, Rm 3206	20 A 1	23			1.20			0.72	24	1 20 A	Furniture Feed, Rm 3226
Rec: Office 3206H, 3206F	20 A 1	25	1.80			0.72			26	1 20 A	Furniture Feed, Rm 3226
Rec: Office 3206E	20 A 1	27		0.90			0.72		28	1 20 A	Furniture Feed, Rm 3226
Rec: Conf. Rm 3007A	20 A 1	29			1.08			1.20	30	1 20 A	Furniture Feed, Rm 3226
Rec: Conf. Rm 3007A	20 A 1	31	0.54			0.72			32	1 20 A	Furniture Feed, Rm 3226
Rec: Office 3007B	20 A 1	33		0.90			1.20		34	1 20 A	Furniture Feed, Rm 3234
Rec: Dir. Suite 3007	20 A 1	35			0.54			0.72	36	1 20 A	Furniture Feed, Rm 3234
Rec: Rm 3007	20 A 1	37	0.36			0.72			38	1 20 A	Furniture Feed, Rm 3234
Rec: Rm. 3007C, Copier	20 A 1	39		1.20			0.36		40	1 20 A	Furniture Feed, Rm 3240
Rec: Office 3007E, 3007D	20 A 1	41			1.44			0.72	42	1 20 A	Furniture Feed, Rm. 3240
Rec: Office 3007G, 3007F	20 A 1	43	1.44			0.36			44	1 20 A	Furniture Feed, Rm 3240
Rec: Conf. Rm 3009	20 A 1	45		1.26			1.80		46	1 20 A	Rec: Office 3234B, 3234D
Rec: Conf. Rm 3009	20 A 1	47			0.36			1.80	48	1 20 A	Rec: Office 3240F, 3240E
Rec: Conf. Rm 3009	20 A 1	49	0.90			0.72			50	1 20 A	Rec: Rm 3240A, 3200
Motorized Shades, Rm 3009	20 A 1	51		0.91			0.00		52	1 20 A	Spare
Motorized Shades, Rm 3009	20 A 1	53			1.82			0.00	54	1 20 A	Spare
Rec: Rm 3000, 3203, 3013	20 A 1	55	1.08			0.00			56	1 20 A	Spare
Rec: Work Rm 3203, Copier	20 A 1	57		1.20			0.00		58	1 20 A	Spare
Motorized Shades, Rm 3009	20 A 1	59			0.91			0.00	60	1 20 A	Spare
SPD	30 A 3	61	0.00			0.00			62	1 20 A	Spare
--	-- --	63		0.00			0.00		64	1 20 A	Spare
--	-- --	65			0.00			0.00	66	1 20 A	Spare

PHASE SUBTOTALS (KVA): 16.46 18.97 18.48 | NEC COMPUTED (AMPS) 99
PHASE SUBTOTAL (AMPS): 137 161 157

LOAD CLASSIFICATION	CONNECTED (KVA)	DEMAND FACTOR	DEMAND (KVA)
POWER	7.3	100%	7.3
LIGHTING		125%	
MOTOR		125% LARGEST 100% OTHER	
RECEPTACLE	46.6	100% FIRST 10KVA 50% OTHER	28.3
TOTALS	53.9		35.6

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION 3B-LH1 | LOCATION ELECTRICAL 3213 | FLOOR 3RD LEVEL
VOLTAGE 480Y/277V | 3 PHASE 4 WIRE | FED FROM 1B-DLH1
MAIN TYPE MLO | BUS RATING 100 A | FAULT CURRENT RATING 10,000 AIC
MAIN RATING 100 A | MOUNTING SURFACE | FAULT... AIC

REMARKS

LEFT SIDE, KVA						RIGHT SIDE, KVA						
DESCRIPTION	BRKR AMP, POLES	CKT NO	A	B	C	A	B	C	CKT NO	BRKR AMP, POLES	DESCRIPTION
LIGHTING	20 A 1	1	3.03			3.66			2	1 20 A	LIGHTING
LIGHTING	20 A 1	3		2.48			2.41		4	1 20 A	LIGHTING
LIGHTING	20 A 1	5			2.89			0.00	6	1 20 A	Spare
Spare	20 A 1	7	0.00			0.00			8	1 20 A	Spare
Spare	20 A 1	9		0.00			0.00		10	1 20 A	Spare
Spare	20 A 1	11			0.00			0.00	12	1 20 A	Spare
Spare	20 A 1	13	0.00			0.00			14	1 20 A	Spare
		15							16		
		17							18		
		19							20		
		21							22		
		23							24		
		25							26		
		27							28		
		29							30		
		31							32		
		33							34		
		35							36		
		37							38		
		39							40		
		41							42		

PHASE SUBTOTALS (KVA): 6.70 4.88 2.89 | NEC COMPUTED (AMPS) 22
PHASE SUBTOTAL (AMPS): 25 19 10

LOAD CLASSIFICATION	DESIGN FACTOR	
POWER	100%	
LIGHTING	125%	18.1
MOTOR	125% LARGEST 100% OTHER	
RECEPTACLE	100% FIRST 10KVA 50% OTHER	
TOTALS		18.1

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION 3B-PL1 | LOCATION ELECTRICAL 3213 | FLOOR 3RD LEVEL
VOLTAGE 208Y/120V | 3 PHASE 4 WIRE | FED FROM 3B-T-PL1
MAIN TYPE MCB | BUS RATING 250 A | FAULT CURRENT RATING 10,000 AIC
MAIN RATING 250 A | MOUNTING SURFACE | FAULT... AIC

REMARKS 200% NEUTRAL

LEFT SIDE, KVA						RIGHT SIDE, KVA						
DESCRIPTION	BRKR AMP, POLES	CKT NO	A	B	C	A	B	C	CKT NO	BRKR AMP, POLES	DESCRIPTION
BAS Controls, Rm 3421	20 A 1	1	0.50			0.86			2	1 15 A	FCU 3-1
BAS Controls, Rm 3421	20 A 1	3		0.50			1.20		4	1 20 A	Rec: Rm. 3211, Coffee
AHU-6 Lights & Receptacles	20 A 1	5			1.00			1.20	6	1 20 A	Rec: Rm 3211, Microwave
AHU-6 UV Lights	20 A 1	7	0.40			0.60			8	1 20 A	Rec: Rm 3211, Refrig.
Rec: Rm 3227, 3421	20 A 1	9		0.54			0.60		10	1 20 A	Rec: Rm 3211, Vending
Rec: Work Rm 3439	20 A 1	11			0.54			0.60	12	1 20 A	Rec: Rm 3211, Vending
Rec: Work Rm 3237, Copier	20 A 1	13	1.20			0.96			14	1 20 A	Rec: Rm 3211
Rec: Rm 3239	20 A 1	15		1.08			0.72		16	1 20 A	Rec: Rm 3407, 3409
Rec: Conf. Rm 3436	20 A 1	17			1.08			0.50	18	1 20 A	Water Cooler, Corridor 3400
Rec: Conf. Rm 3436	20 A 1	19	0.66			1.08			20	1 20 A	Rec: Rm 3400, 3413
Rec: Conf. Rm 3438	20 A 1	21		0.72			0.72		22	1 20 A	Furniture Feed, Rm 3410
Rec: Conf. Rm 3438, TV	20 A 1	23			0.60			1.20	24	1 20 A	Furniture Feed, Rm 3410
Rec: Rm 3424H, 3434	20 A 1	25	0.72			0.72			26	1 20 A	Furniture Feed, Rm 3410
Rec: Office 3424F	20 A 1	27		1.08			0.72		28	1 20 A	Furniture Feed, Rm 3406
Rec: Office 3424E	20 A 1	29			0.90			1.20	30	1 20 A	Furniture Feed, Rm 3406
Furniture Feed, Rm 3424	20 A 1	31	1.20			0.72			32	1 20 A	Furniture Feed, Rm 3406
Furniture Feed, Rm 3424	20 A 1	33		0.72			1.20		34	1 20 A	Rec: Rm 3406, Copier
Furniture Feed, Rm 3424	20 A 1	35			0.72			0.18	36	1 20 A	Furniture Feed, Rm 3402
Furniture Feed, Rm 3420	20 A 1	37	1.20			0.30			38	1 20 A	Furniture Feed, Rm 3402
Furniture Feed, Rm 3420	20 A 1	39		0.72			0.18		40	1 20 A	Furniture Feed, Rm 3402
Furniture Feed, Rm 3420	20 A 1	41			0.72			1.80	42	1 20 A	Rec: Rm 3402, 3406B
Furniture Feed, Rm 3420	20 A 1	43	0.72			1.08			44	1 20 A	Rec: Office 3406D, 3406C
Furniture Feed, Rm 3420	20 A 1	45		0.72			0.90		46	1 20 A	Rec: Rm. 3402A, 3402B
Furniture Feed, Rm 3420	20 A 1	47			1.20			1.08	48	1 20 A	Rec: Conf. Rm 3025
Furniture Feed, Rm 3414	20 A 1	49	0.72			0.96			50	1 20 A	Rec: Conf. Rm 3025
Furniture Feed, Rm 3414	20 A 1	51		0.72			1.82		52	1 20 A	Motorized Shades, Rm 3025
Furniture Feed, Rm 3414	20 A 1	53			1.20			1.82	54	1 20 A	Motorized Shades, Rm 3436
Rec: Office 3414A, 3410H	20 A 1	55	1.62			1.37			56	1 20 A	Motorized Shades, Rm 3436
Rec: Office 3414B, 3410F	20 A 1	57		1.80			1.37		58	1 20 A	Motorized Shades, Rm 3438
Rec: Office 3414D, 3410E	20 A 1	59			1.80			1.37	60	1 20 A	Motorized Shades, Rm 3438
SPD	30 A 3	61	0.00			0.00			62	1 20 A	Spare
--	-- --	63		0.00			0.00		64	1 20 A	Spare
--	-- --	65			0.00			0.00	66	1 20 A	Spare

PHASE SUBTOTALS (KVA): 17.59 18.03 20.71 | NEC COMPUTED (AMPS) 110
PHASE SUBTOTAL (AMPS): 147 151 173

LOAD CLASSIFICATION	CONNECTED (KVA)	DEMAND FACTOR	DEMAND (KVA)
POWER	9.3	100%	9.3
LIGHTING	1.4	125%	1.8
MOTOR	0.9	125% LARGEST 100% OTHER	1.1
RECEPTACLE	44.8	100% FIRST 10KVA 50% OTHER	27.4
TOTALS	56.3		39.5

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION 3B-PL2 | LOCATION TELECOM 3417 | FLOOR 3RD LEVEL
VOLTAGE 208Y/120V | 3 PHASE 4 WIRE | FED FROM 1B-DPL1
MAIN TYPE MLO | BUS RATING 100 A | FAULT CURRENT RATING 10,000 AIC
MAIN RATING 100 A | MOUNTING SURFACE | FAULT... AIC

REMARKS 200% NEUTRAL

LEFT SIDE, KVA						RIGHT SIDE, KVA						
DESCRIPTION	BRKR AMP, POLES	CKT NO	A	B	C	A	B	C	CKT NO	BRKR AMP, POLES	DESCRIPTION
Rec: Telecom 3417, Rack	20 A 1	1	1.00			1.00			2	1 20 A	Rec: Telecom 3417, Rack
Rec: Telecom 3417, Rack	20 A 1	3		1.00			1.00		4	1 20 A	Rec: Telecom 3417, Rack
Rec: Telecom 3417, Rack	20 A 1	5			1.00			1.00	6	1 20 A	Rec: Telecom 3417, Rack
Rec: Telecom 3417, Rack	20 A 1	7	1.00			1.00			8	1 20 A	Rec: Telecom 3417, Rack
Spare	20 A 1	9		0.00			0.00		10	1 20 A	Spare
Spare	20 A 1	11			0.00			0.00	12	1 20 A	Spare
Spare	20 A 1	13	0.00			0.00			14	1 20 A	Spare
Spare	20 A 1	15		0.00			0.00		16	1 20 A	Spare
Spare	20 A 1	17			0.00			0.00	18	1 20 A	Spare
		19							20		
		21							22		
		23							24		
		25							26		
		27							28		
		29							30		
		31							32		
		33							34		
		35							36		
		37							38		
		39							40		
		41							42		

PHASE SUBTOTALS (KVA): 4.00 2.00 2.00 | NEC COMPUTED (AMPS) 22
PHASE SUBTOTAL (AMPS): 33 17 17

LOAD CLASSIFICATION	DESIGN FACTOR	
POWER	100%	
LIGHTING	125%	
MOTOR	125% LARGEST 100% OTHER	
RECEPTACLE	100% FIRST 10KVA 50% OTHER	8.0
TOTALS		8.0

NOTES

2B-PL1	2B-PL2	3A-PL1
3B-LH1	3B-PL1	3B-PL2

SYM	ZONE			DATE	APPROVED

REVISIONS

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Tioga Town Center
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CA-5140

SIGNATURES	DATE
DRAWN Lukas Wierda	12.18.13
CHECKED Vinod Trehan	12.18.13
SUBMITTED ENGINEER OF RECORD Toby S. Scott	12/18/13
ST of LICENSURE: FL	
LICENSE NO. 71672	
APPROVED Scott Robinson	12.18.13
Dung Trang	12/18/13

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

NORMAL POWER PANEL SCHEDULES

E705

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 69

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PANELBOARD SCHEDULE

PANEL DESIGNATION 4A-PL1 | LOCATION ELECTRICAL 4213 | FLOOR 4TH LEVEL
VOLTAGE 208Y/120V | 3 PHASE 4 WIRE | FED FROM 4A-T-PL1
MAIN TYPE MCB | BUS RATING 250 A | FAULT CURRENT RATING 10,000 AIC
MAIN RATING 250 A | MOUNTING SURFACE | FAULT... AIC

REMARKS 200% NEUTRAL

DESCRIPTION	BRKR AMP. POLES		CKT NO	A (LEFT SIDE, KVA)	B	C	A (RIGHT SIDE, KVA)	B	C	CKT NO	BRKR AMP. POLES		DESCRIPTION
Rec: Rm 4007D, Copier	20 A	1	1	1.20			1.62			2	1	20 A	Rec: Rm 4007F, 4007G
Rec: Rm 4007	20 A	1	3		0.36			1.26		4	1	20 A	Rec: Rm 4007, 4007E
Rec: Rm 4007	20 A	1	5			0.36			1.26	6	1	20 A	Rec: Rm 4007A, 4007B
Rec: Office 4007C	20 A	1	7	0.90			0.72			8	1	20 A	Furniture Feed, Rm 4206
Rec: Rm 4220F, 4216B	20 A	1	9		1.62			1.20		10	1	20 A	Furniture Feed, Rm 4206
Rec: Rm 4200, 4213	20 A	1	11			1.08			0.72	12	1	20 A	Furniture Feed, Rm 4206
Furniture Feed, Rm 4007A	20 A	1	13	0.36			0.72			14	1	20 A	Furniture Feed, Rm 4210
Furniture Feed, Rm 4007A	20 A	1	15		0.60			1.20		16	1	20 A	Furniture Feed, Rm 4210
Furniture Feed, Rm 4007A	20 A	1	17			0.36			0.72	18	1	20 A	Furniture Feed, Rm 4210
Furniture Feed, Rm 4210	20 A	1	19	0.72			0.72			20	1	20 A	Furniture Feed, Rm 4220
Furniture Feed, Rm 4210	20 A	1	21		1.20			1.20		22	1	20 A	Furniture Feed, Rm 4220
Furniture Feed, Rm 4210	20 A	1	23			0.72			0.72	24	1	20 A	Furniture Feed, Rm 4220
Furniture Feed, Rm 4216	20 A	1	25	0.72			0.72			26	1	20 A	Furniture Feed, Rm 4234
Furniture Feed, Rm 4216	20 A	1	27		1.20			1.20		28	1	20 A	Furniture Feed, Rm 4234
Furniture Feed, Rm 4216	20 A	1	29			0.72			0.72	30	1	20 A	Furniture Feed, Rm 4234
Furniture Feed, Rm 4226	20 A	1	31	0.72			0.72			32	1	20 A	Furniture Feed, Rm 4234
Furniture Feed, Rm 4226	20 A	1	33		1.20			1.20		34	1	20 A	Furniture Feed, Rm 4234
Furniture Feed, Rm 4226	20 A	1	35			0.72			0.72	36	1	20 A	Furniture Feed, Rm 4234
Furniture Feed, Rm 4226	20 A	1	37	0.72			0.90			38	1	20 A	Rec: Rm 4220E, 4216D
Furniture Feed, Rm 4226	20 A	1	39		1.20			1.80		40	1	20 A	Rec: Rm 4220H, 4216A
Furniture Feed, Rm 4226	20 A	1	41			0.72			1.26	42	1	20 A	Rec: Rm 4240A, 4240D
Furniture Feed, Rm 4240	20 A	1	43	0.72			1.80			44	1	20 A	Rec: Rm 4206E, 4206G
Furniture Feed, Rm 4240	20 A	1	45		1.20			0.50		46	1	20 A	Water Cooler, Corr. 4200
Furniture Feed, Rm 4240	20 A	1	47			0.72			1.20	48	1	20 A	Ctrls XFMR - VAV Boxes
Rec: Work Rm 4439	20 A	1	49	0.54			0.80			50	1	20 A	Ctrls XFMR - VAV Boxes
Rec: Rm 4239, 4441	20 A	1	51		1.62			1.20		52	1	20 A	Ctrls XFMR - VAV Boxes
Rec: Rm 4237, Copier	20 A	1	53			1.20			0.40	54	1	20 A	AHU-7 UV Lights
AHU-7 Lights & Receptacles	20 A	1	55	1.00			0.00			56	1	20 A	Spare
BAS Controls, Rm 4421	20 A	1	57		0.50			0.00		58	1	20 A	Spare
Spare	20 A	1	59			0.00			0.00	60	1	20 A	Spare
SPD	30 A	3	61	0.00			0.00			62	1	20 A	Spare
--	--	--	63		0.00			0.00		64	1	20 A	Spare
--	--	--	65			0.00			0.00	66	1	20 A	Spare

PHASE SUBTOTALS (KVA): 16.32 | 21.46 | 14.32
PHASE SUBTOTAL (AMPS): 139 | 181 | 119
NEC COMPUTED (AMPS) 95

LOAD CLASSIFICATION	CONNECTED (KVA)	DEMAND FACTOR	DEMAND (KVA)
POWER	4.2	100%	4.2
LIGHTING	1.4	125%	1.8
MOTOR		125% LARGEST 100% OTHER	
RECEPTACLE	46.5	100% FIRST 10KVA 50% OTHER	28.3
TOTALS	52.1		34.2

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION 4B-LH1 | LOCATION ELECTRICAL 4213 | FLOOR 4TH LEVEL
VOLTAGE 480Y/277V | 3 PHASE 4 WIRE | FED FROM 1B-DLH1
MAIN TYPE MLO | BUS RATING 100 A | FAULT CURRENT RATING 10,000 AIC
MAIN RATING 100 A | MOUNTING SURFACE | FAULT... AIC

REMARKS

DESCRIPTION	BRKR AMP. POLES		CKT NO	A (LEFT SIDE, KVA)	B	C	A (RIGHT SIDE, KVA)	B	C	CKT NO	BRKR AMP. POLES		DESCRIPTION
LIGHTING	20 A	1	1	3.18			3.56			2	1	20 A	LIGHTING
LIGHTING	20 A	1	3		2.44			2.50		4	1	20 A	LIGHTING
LIGHTING	20 A	1	5			2.80			0.00	6	1	20 A	Spare
Spare	20 A	1	7	0.00			0.00			8	1	20 A	Spare
Spare	20 A	1	9		0.00			0.00		10	1	20 A	Spare
Spare	20 A	1	11			0.00			0.00	12	1	20 A	Spare
Spare	20 A	1	13	0.00			0.00			14	1	20 A	Spare
			15							16			
			17							18			
			19							20			
			21							22			
			23							24			
			25							26			
			27							28			
			29							30			
			31							32			
			33							34			
			35							36			
			37							38			
			39							40			
			41							42			

PHASE SUBTOTALS (KVA): 6.74 | 4.94 | 2.80
PHASE SUBTOTAL (AMPS): 26 | 19 | 10
NEC COMPUTED (AMPS) 22

LOAD CLASSIFICATION		DESIGN FACTOR	
POWER		100%	
LIGHTING	14.5	125%	18.1
MOTOR		125% LARGEST 100% OTHER	
RECEPTACLE		100% FIRST 10KVA 50% OTHER	
TOTALS	14.5		18.1

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION 4B-PL1 | LOCATION ELECTRICAL 4213 | FLOOR 4TH LEVEL
VOLTAGE 208Y/120V | 3 PHASE 4 WIRE | FED FROM 4B-T-PL1
MAIN TYPE MCB | BUS RATING 250 A | FAULT CURRENT RATING 10,000 AIC
MAIN RATING 250 A | MOUNTING SURFACE | FAULT... AIC

REMARKS 200% NEUTRAL

DESCRIPTION	BRKR AMP. POLES		CKT NO	A (LEFT SIDE, KVA)	B	C	A (RIGHT SIDE, KVA)	B	C	CKT NO	BRKR AMP. POLES		DESCRIPTION
FCU 4-1	15 A	1	1	0.86			1.37			2	1	20 A	Motorized Shades, Rm 4436
Motorized Shades, Rm 4438	20 A	1	3		1.37			1.08		4	1	20 A	Receptacle OFFICE 4404
Rec: Rm 4400, 4402, 4413	20 A	1	5			1.26			0.54	6	1	20 A	Rec: Rm 4421, 4227
Rec: Conference Rm 4436	20 A	1	7	0.54			1.08			8	1	20 A	Rec: Conference Rm 4436
Rec: Conference Rm 4438	20 A	1	9		0.72			1.08		10	1	20 A	Rec: Rm 4426H, 4434
Rec: Rm 4426F, 4426E	20 A	1	11			1.80			1.20	12	1	20 A	Rec: Rm 4211, Coffee
Furniture Feed, Rm 4426	20 A	1	13	0.72			0.72			14	1	20 A	Furniture Feed, Rm 4420
Furniture Feed, Rm 4426	20 A	1	15		1.20			1.20		16	1	20 A	Furniture Feed, Rm 4420
Furniture Feed, Rm 4426	20 A	1	17			0.72			0.72	18	1	20 A	Furniture Feed, Rm 4420
Furniture Feed, Rm 4420	20 A	1	19	0.72			0.72			20	1	20 A	Furniture Feed, Rm 4416
Furniture Feed, Rm 4420	20 A	1	21		1.20			1.20		22	1	20 A	Furniture Feed, Rm 4416
Furniture Feed, Rm 4420	20 A	1	23			0.72			0.72	24	1	20 A	Furniture Feed, Rm 4416
Furniture Feed, Rm 4410	20 A	1	25	0.72			0.72			26	1	20 A	Furniture Feed, Rm 4410
Furniture Feed, Rm 4410	20 A	1	27		1.20			1.20		28	1	20 A	Furniture Feed, Rm 4410
Furniture Feed, Rm 4410	20 A	1	29			0.72			0.72	30	1	20 A	Furniture Feed, Rm 4410
Furniture Feed, Rm 4410	20 A	1	31	0.72			0.72			32	1	20 A	Furniture Feed, Rm 4406
Furniture Feed, Rm 4410	20 A	1	33		1.20			1.20		34	1	20 A	Furniture Feed, Rm 4406
Furniture Feed, Rm 4410	20 A	1	35			0.72			0.72	36	1	20 A	Furniture Feed, Rm 4406
Rec: Conf. Rm 4025, TV	20 A	1	37	0.96			0.30			38	1	20 A	Furniture Feed, Rm 4402
Rec: Rm 4406B, 4406D	20 A	1	39		1.80			0.18		40	1	20 A	Furniture Feed, Rm 4402
Rec: Rm 4406, Copier	20 A	1	41			1.20			0.18	42	1	20 A	Furniture Feed, Rm 4402
Motorized Shades, Rm 4025	20 A	1	43	0.50			0.90			44	1	20 A	Rec: Rm 4402A, 4402B
Rec: Rm 4000, 4013, 4203	20 A	1	45		1.08			1.26		46	1	20 A	Rec: Conference Rm 4025
Rec: Conf. Rm 4009	20 A	1	47			0.36			1.20	48	1	20 A	Rec: Rm 4203, Copier
Rec: Conf. Rm 4009	20 A	1	49	1.26			0.72			50	1	20 A	Rec: Rm 4407, 4409
Rec: Rm 4211, Vending	20 A	1	51		0.60			0.50		52	1	20 A	Water Cooler, Corr. 4400
Rec: Rm 4211, Refrig.	20 A	1	53			0.60			0.60	54	1	20 A	Rec: Rm 4211, Vending
Motorized Shades, Rm 4438	20 A	1	55	1.37			0.96			56	1	20 A	Rec: Break Rm 4211
Rec: Conf. Rm 4438, TV	20 A	1	57		0.60			1.20		58	1	20 A	Rec: Rm 4211, Microwave
Motorized Shades, Rm 4009	20 A	1	59			1.82			0.50	60	1	20 A	BAS Controls, Rm 4421
SPD	30 A	3	61	0.00			0.90			62	1	20 A	Rec: Conf. Rm 4009
--	--	--	63		0.00			1.82		64	1	20 A	Motorized Shades, Rm 4009
--	--	--	65			0.00			1.82	66	1	20 A	Motorized Shades, Rm 4436

PHASE SUBTOTALS (KVA): 17.48 | 22.89 | 18.85
PHASE SUBTOTAL (AMPS): 146 | 193 | 159
NEC COMPUTED (AMPS) 113

LOAD CLASSIFICATION	CONNECTED (KVA)	DEMAND FACTOR	DEMAND (KVA)
POWER	11.1	100%	11.1
LIGHTING		125%	
MOTOR	0.9	125% LARGEST 100% OTHER	1.1
RECEPTACLE	47.3	100% FIRST 10KVA 50% OTHER	28.6
TOTALS	59.2		40.8

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION 4B-PL2 | LOCATION TELECOM 4417 | FLOOR 4TH LEVEL
VOLTAGE 208Y/120V | 3 PHASE 4 WIRE | FED FROM
MAIN TYPE MLO | BUS RATING 100 A | FAULT CURRENT RATING 10,000 AIC
MAIN RATING 100 A | MOUNTING SURFACE | FAULT... AIC

REMARKS 200% NEUTRAL

DESCRIPTION	BRKR AMP. POLES		CKT NO	A (LEFT SIDE, KVA)	B	C	A (RIGHT SIDE, KVA)	B	C	CKT NO	BRKR AMP. POLES		DESCRIPTION
Rec: Telecom 4417, Rack	20 A	1	1	1.00			1.00			2	1	20 A	Rec: Telecom 4417, Rack
Rec: Telecom 4417, Rack	20 A	1	3		1.00			1.00		4	1	20 A	Rec: Telecom 4417, Rack
Rec: Telecom 4417, Rack	20 A	1	5			1.00			1.00	6	1	20 A	Rec: Telecom 4417, Rack
Rec: Telecom 4417, Rack	20 A	1	7	1.00			1.00			8	1	20 A	Rec: Telecom 4417, Rack
Spare	20 A	1	9		0.00			0.00		10	1	20 A	Spare
Spare	20 A	1	11			0.00			0.00	12	1	20 A	Spare
Spare	20 A	1	13	0.00			0.00			14	1	20 A	Spare
Spare	20 A	1	15		0.00			0.00		16	1	20 A	Spare
Spare	20 A	1	17			0.00			0.00	18	1	20 A	Spare
			19							20			
			21							22			
			23							24			
			25							26			
			27							28			
			29							30			
			31							32			
			33							34			
			35							36			
			37							38			
			39							40			
			41							42			

PHASE SUBTOTALS (KVA): 4.00 | 2.00 | 2.00
PHASE SUBTOTAL (AMPS): 33 | 17 | 17
NEC COMPUTED (AMPS) 22

LOAD CLASSIFICATION		DESIGN FACTOR	
POWER		100%	
LIGHTING		125%	
MOTOR		125% LARGEST 100% OTHER	
RECEPTACLE	8.0	100% FIRST 10KVA 50% OTHER	8.0
TOTALS	8.0		8.0

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION 5A-PL1 | LOCATION ELECTRICAL 5213 | FLOOR 5TH LEVEL
VOLTAGE 208Y/120V | 3 PHASE 4 WIRE | FED FROM 5A-T-PL1
MAIN TYPE MCB | BUS RATING 250 A | FAULT CURRENT RATING 10,000 AIC
MAIN RATING 250 A | MOUNTING SURFACE | FAULT... AIC

REMARKS 200% NEUTRAL

DESCRIPTION	BRKR AMP. POLES		CKT NO	A (LEFT SIDE, KVA)	B	C	A (RIGHT SIDE, KVA)	B	C	CKT NO	BRKR AMP. POLES		DESCRIPTION
Rec: Rm 5007, 5007G	20 A	1	1	0.90			1.20			2	1	20 A	Rec: Rm 5007C, Copier
Rec: Rm 5007	20 A	1	3		0.36			0.36		4	1	20 A	Rec: Rm 5007
Rec: Conference Rm 5007A	20 A	1	5			1.08			1.62	6	1	20 A	Rec: Rm 5007E, 5007F
Rec: Rm 5206E, 5007B	20 A	1	7	1.80			0.54			8	1	20 A	Rec: Conference Rm 5007A
Rec: Rm 5216B, 5216D	20 A	1	9		1.80			1.08		10	1	20 A	Rec: Rm 5206F, 5206H
Rec: Rm 5220E, 5220F	20 A	1	11			1.80			1.08	12	1	20 A	Rec: Rm 5216A, 5220H
Furniture Feed, Rm 5210	20 A	1	13	0.72			0.72			14	1	20 A	Furniture Feed, Rm 5206
Furniture Feed, Rm 5210	20 A	1	15		1.20			1.20		16	1	20 A	Furniture Feed, Rm 5206
Furniture Feed, Rm 5210	20 A	1	17			0.72			0.72	18	1	20 A	Furniture Feed, Rm 5206
Furniture Feed, Rm 5216	20 A	1	19	0.72			0.72			20	1	20 A	Furniture Feed, Rm 5210
Furniture Feed, Rm 5216	20 A	1	21		1.20			1.20		22	1	20 A	Furniture Feed, Rm 5210
Furniture Feed, Rm 5216	20 A	1	23			0.72			0.72	24	1	20 A	Furniture Feed, Rm 5210
Furniture Feed, Rm 5226	20 A	1	25	0.72			0.72			26	1	20 A	Furniture Feed, Rm 5220
Furniture Feed, Rm 5226	20 A	1	27		1.20			1.20		28	1	20 A	Furniture Feed, Rm 5220
Furniture Feed, Rm 5226	20 A	1	29			0.72			0.72	30	1	20 A	Furniture Feed, Rm 5220
Furniture Feed, Rm 5234	20 A	1	31	0.72			0.72			32	1	20 A	Furniture Feed, Rm 5226
Furniture Feed, Rm 5234	20 A	1	33		1.20			1.20		34	1	20 A	Furniture Feed, Rm 5226
Furniture Feed, Rm 5234	20 A	1	35			0.72			0.72	36	1	20 A	Furniture Feed, Rm 5226
Furniture Feed, Rm 5240	20 A	1	37	0.72			0.72			38	1	20 A	Furniture Feed, Rm 5234
Furniture Feed, Rm 5240	20 A	1	39		1.20			1.20		40	1	20 A	Furniture Feed, Rm 5234
Furniture Feed, Rm 5240	20 A	1	41			0.72			0.72	42	1	20 A	Furniture Feed, Rm 5234
Rec: Office 5007D	20 A	1	43	0.72			0.36			44	1	20 A	Furniture Feed, Rm 5240
Rec: Rm 5200, 5213	20 A	1	45		1.08			0.36		46	1	20 A	Furniture Feed, Rm 5240
Water Cooler, Corr. 5200	20 A	1	47			0.50			0.36	48	1	20 A	Furniture Feed, Rm. 5240
Spare	20 A	1	49	0.00			1.20			50	1	20 A	Ctrls XFMR - VAV Boxes
Future Shell	20 A	1	51		0.00			0.80		52	1	20 A	Ctrls XFMR - VAV Boxes
Future Shell	20 A	1	53			0.00			1.20	54	1	20 A	Ctrls XFMR - VAV Boxes
Future Shell	20 A	1	55	0.00			0.00			56	1	20 A	Spare
Future Shell	20 A	1	57		0.00			0.00		58	1	20 A	Spare
Future Shell	20 A	1	59			0.00			0.00	60	1	20 A	Spare
Future Shell	20 A	1	61	0.00			0.00			62	3	30 A	SPD
Future Shell	20 A	1	63		0.00			0.00		64	--	--	--
Future Shell	20 A	1	65			0.00			0.00	66	--	--	--

PHASE SUBTOTALS (KVA): 13.92 | 17.84 | 14.84
PHASE SUBTOTAL (AMPS): 116 | 150 | 125
NEC COMPUTED (AMPS) 85

LOAD CLASSIFICATION	CONNECTED (KVA)	DEMAND FACTOR	DEMAND (KVA)
POWER	4.1	100%	4.1
LIGHTING		125%	
MOTOR		125% LARGEST 100% OTHER	
RECEPTACLE	41.8	100% FIRST 10KVA 50% OTHER	25.9
TOTALS	46.6		30.7

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION 5B-LH1 | LOCATION ELECTRICAL 5213 | FLOOR 5TH LEVEL
VOLTAGE 480Y/277V | 3 PHASE 4 WIRE | FED FROM 1B-DLH1
MAIN TYPE MLO | BUS RATING 100 A | FAULT CURRENT RATING 10,000 AIC
MAIN RATING 100 A | MOUNTING SURFACE | FAULT... AIC

REMARKS

DESCRIPTION	BRKR AMP. POLES		CKT NO	A (LEFT SIDE, KVA)	B	C	A (RIGHT SIDE, KVA)	B	C	CKT NO	BRKR AMP. POLES		DESCRIPTION
LIGHTING OPEN OFFICE...	20 A	1	1	3.27			3.60			2	1	20 A	LIGHTING OPEN OFFICE...
LIGHTING STORAGE 5434A	20 A	1	3		1.98			2.50		4	1	20 A	LIGHTING OPEN OFFICE...
LIGHTING ELEVATOR...	20 A	1	5			2.83			0.00	6	1	20 A	Spare
Spare	20 A	1	7	0.00			0.00			8	1	20 A	Spare
Spare	20 A	1	9		0.00			0.00		10	1	20 A	Spare
Spare	20 A	1	11			0.00			0.00	12	1	20 A	Spare
Spare	20 A	1	13	0.00			0.00			14	1	20 A	Spare
			15							16			
			17							18			
			19							20			
			21							22			
			23							24			
			25							26			
			27							28			
			29							30			
			31							32			
			33							34			
			35							36			
			37							38			
			39							40			
Future Shell	20 A	1	41			0.00				42			

PHASE SUBTOTALS (KVA): 6.87 | 4.47 | 2.83
PHASE SUBTOTAL (AMPS): 26 | 17 | 10
NEC COMPUTED (AMPS) 21

LOAD CLASSIFICATION		DESIGN FACTOR	
POWER		100%	
LIGHTING	14.2	125%	17.7
MOTOR		125% LARGEST 100% OTHER	
RECEPTACLE		100% FIRST 10KVA 50% OTHER	
TOTALS	14.2		17.7

NOTES

4A-PL1	4B-LH1	4B-PL1
4B-PL2	5A-PL1	5B-LH1

SYM	ZONE		DATE	APPROVED

REVISIONS

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SIGNATURES	DATE
DRAWN Lukas Wierda	12.18.13
CHECKED Vinod Trehan	12.18.13
SUBMITTED - ARCHITECT OF RECORD Toby S. Smith	12/18/13
ST. of LICENSURE: FL LICENSE NO. 71672	
APPROVED Scott Robinson	12.18.13
Dung Trang	12/19/13

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

NORMAL POWER PANEL SCHEDULES

E706

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 70

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PANELBOARD SCHEDULE

PANEL DESIGNATION 5B-PL1
VOLTAGE 208Y/120V
MAIN TYPE MCB
MAIN RATING 250 A
LOCATION ELECTRICAL 5213
3 PHASE 4 WIRE
BUS RATING 250 A
MOUNTING SURFACE
FLOOR 5TH LEVEL
FED FROM 5B-T-PL1
FAULT CURRENT RATING 10,000 AIC
FAULT... AIC

REMARKS 200% NEUTRAL

DESCRIPTION	BRKR AMP, POLES	CKT NO	LEFT SIDE, KVA A	B	C	RIGHT SIDE, KVA A	B	C	CKT NO	BRKR AMP, POLES	DESCRIPTION
FCU 5-1	15 A 1	1	0.86			0.36			2	1 20 A	Furniture Feed, Rm 5239
Rec: Rm 5237, Copier	20 A 1	3		1.20			0.72		4	1 20 A	Furniture Feed, Rm 5239
Rec: Work Rm 5437	20 A 1	5			0.54			0.36	6	1 20 A	Furniture Feed, Rm 5239
Rec: Rm 5421, 5227	20 A 1	7	0.54			0.72			8	1 20 A	Furniture Feed, Rm 5420
Rec: Rm 5426E, 5426F	20 A 1	9		1.80			1.20		10	1 20 A	Furniture Feed, Rm 5420
Rec: Rm 5420A, 5416H	20 A 1	11			1.44			0.72	12	1 20 A	Furniture Feed, Rm 5420
Furniture Feed, Rm 5424	20 A 1	13	0.72			0.72			14	1 20 A	Furniture Feed, Rm 5410
Furniture Feed, Rm 5424	20 A 1	15		1.20			1.20		16	1 20 A	Furniture Feed, Rm 5410
Furniture Feed, Rm 5424	20 A 1	17			0.72			0.72	18	1 20 A	Furniture Feed, Rm 5410
Furniture Feed, Rm 5416	20 A 1	19	0.72			0.72			20	1 20 A	Furniture Feed, Rm 5406
Furniture Feed, Rm 5416	20 A 1	21		1.20			1.20		22	1 20 A	Furniture Feed, Rm 5406
Furniture Feed, Rm 5416	20 A 1	23			0.72			0.72	24	1 20 A	Furniture Feed, Rm 5406
Furniture Feed, Rm 5410	20 A 1	25	0.72			0.18			26	1 20 A	Furniture Feed, Rm 5402
Furniture Feed, Rm 5410	20 A 1	27		1.20			0.30		28	1 20 A	Furniture Feed, Rm 5402
Furniture Feed, Rm 5410	20 A 1	29			0.72			0.18	30	1 20 A	Furniture Feed, Rm 5402
Furniture Feed, Rm 5406	20 A 1	31	0.54			1.08			32	1 20 A	Rec: Rm 5426H, 5434
Furniture Feed, Rm 5406	20 A 1	33		0.90			1.26		34	1 20 A	Rec: Rm 5400, 5402, 5413
Furniture Feed, Rm 5406	20 A 1	35			0.54			1.80	36	1 20 A	Rec: Rm 5416F, 5420B
Rec: Rm 5416E, 5420D	20 A 1	37	1.80			0.50			38	1 20 A	Motorized Shades, 5025
Rec: Rm. 5406, Copier	20 A 1	39		1.20			0.90		40	1 20 A	Rec: Rm 5402A, 5402B
Rec: Conf. Rm 5025, TV	20 A 1	41			0.98			1.26	42	1 20 A	Rec: Conference Rm 5025
Rec: Rm 5000, 5013, 5203	20 A 1	43	1.08			1.26			44	1 20 A	Rec: Conf. Rm 5009
Rec: Rm 5409, 5407	20 A 1	45		0.72			0.36		46	1 20 A	Rec: Conf. Rm 5009
Rec: Rm. 5211, Coffee	20 A 1	47			1.20			0.50	48	1 20 A	Water Cooler, Corr. 5400
Rec: Rm. 5211, Vending	20 A 1	49	0.60			0.60			50	1 20 A	Rec: Rm. 5211, Refrig.
Rec: Break Rm 5211	20 A 1	51		0.96			0.60		52	1 20 A	Rec: Rm 5211, Vending
BAS Controls, Rm 5421	20 A 1	53			0.50			1.20	54	1 20 A	Rec: Rm 5203, Copier
AHU-8 Lights & Receptacles	20 A 1	55	1.00			1.20			56	1 20 A	Rec: Rm 5211, Microwave
AHU-8 UV Lights	20 A 1	57		0.40			0.50		58	1 20 A	BAS Controls, Rm 5421
Rec: Rm 5402B	20 A 1	59			1.08			0.90	60	1 20 A	Rec: Conf. Rm 5009
Motorized Shades, Rm 5009	20 A 1	61	1.82			0.00			62	3 30 A	SPD
Motorized Shades, Rm 5009	20 A 1	63		1.82			0.00		64	-- --	--
Spare	20 A 1	65			0.00			0.00	66	-- --	--

PHASE SUBTOTALS (KVA): 17.75 20.84 16.78
PHASE SUBTOTAL (AMPS): 149 175 140
NEC COMPUTED (AMPS) 103

LOAD CLASSIFICATION	CONNECTED (KVA)	DEMAND FACTOR	DEMAND (KVA)
POWER	5.6	100%	5.6
LIGHTING	1.4	125%	1.8
MOTOR	0.9	125% LARGEST 100% OTHER	1.1
RECEPTACLE	47.5	100% FIRST 10KVA 50% OTHER	28.7
TOTALS	55.4		37.2

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION 5B-PL2
VOLTAGE 208Y/120V
MAIN TYPE MLO
MAIN RATING 100 A
LOCATION TELECOM 5417
3 PHASE 4 WIRE
BUS RATING 100 A
MOUNTING SURFACE
FLOOR 5TH LEVEL
FED FROM 1B-DPL1
FAULT CURRENT RATING 10,000 AIC
FAULT... AIC

REMARKS 200% NEUTRAL

DESCRIPTION	BRKR AMP, POLES	CKT NO	LEFT SIDE, KVA A	B	C	RIGHT SIDE, KVA A	B	C	CKT NO	BRKR AMP, POLES	DESCRIPTION
Rec: Telecom 5417, Rack	20 A 1	1	1.00			1.00			2	1 20 A	Rec: Telecom 5417, Rack
Rec: Telecom 5417, Rack	20 A 1	3		1.00			1.00		4	1 20 A	Rec: Telecom 5417, Rack
Rec: Telecom 5417, Rack	20 A 1	5			1.00			1.00	6	1 20 A	Rec: Telecom 5417, Rack
Rec: Telecom 5417, Rack	20 A 1	7	1.00			1.00			8	1 20 A	Rec: Telecom 5417, Rack
Spare	20 A 1	9		0.00			0.00		10	1 20 A	Spare
Spare	20 A 1	11			0.00			0.00	12	1 20 A	Spare
Spare	20 A 1	13	0.00			0.00			14	1 20 A	Spare
Spare	20 A 1	15		0.00			0.00		16	1 20 A	Spare
Spare	20 A 1	17			0.00			0.00	18	1 20 A	Spare
		19							20		
		21							22		
		23							24		
		25							26		
		27							28		
		29							30		
		31							32		
		33							34		
		35							36		
		37							38		
		39							40		
FUTURE SHELL	20 A 1	41			0.00				42		

PHASE SUBTOTALS (KVA): 4.00 2.00 2.00
PHASE SUBTOTAL (AMPS): 33 17 17
NEC COMPUTED (AMPS) 22

LOAD CLASSIFICATION		DESIGN FACTOR	
POWER		100%	
LIGHTING		125%	
MOTOR		125% LARGEST 100% OTHER	
RECEPTACLE	8.0	100% FIRST 10KVA 50% OTHER	8.0
TOTALS	8.0		8.0

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION 6A-PL1
VOLTAGE 208Y/120V
MAIN TYPE MCB
MAIN RATING 250 A
LOCATION ELECTRICAL 6213
3 PHASE 4 WIRE
BUS RATING 250 A
MOUNTING SURFACE
FLOOR 6TH LEVEL
FED FROM 6A-T-PL1
FAULT CURRENT RATING 10,000 AIC
FAULT... AIC

REMARKS 200% NEUTRAL

DESCRIPTION	BRKR AMP, POLES	CKT NO	LEFT SIDE, KVA A	B	C	RIGHT SIDE, KVA A	B	C	CKT NO	BRKR AMP, POLES	DESCRIPTION
Furniture Feed, Rm 6210	20 A 1	1	1.20			1.20			2	1 20 A	Rec: Rm 6007C, Copier
Furniture Feed, Rm 6210	20 A 1	3		0.72			0.36		4	1 20 A	Rec: Rm 6007
Furniture Feed, Rm 6210	20 A 1	5			0.72			1.62	6	1 20 A	Rec: Rm 6007E, 6007F
Furniture Feed, Rm 6216	20 A 1	7	1.44			0.96			8	1 20 A	Rec: Conference Rm 6007A
Furniture Feed, Rm 6216	20 A 1	9		0.72			1.08		10	1 20 A	Rec: Conference Rm 6007A
Furniture Feed, Rm 6216	20 A 1	11			0.72			1.08	12	1 20 A	Rec: Rm 6220H, 6216A
Furniture Feed, Rm 6226	20 A 1	13	0.72			0.72			14	1 20 A	Furniture Feed, Rm 6206
Furniture Feed, Rm 6226	20 A 1	15		1.20			1.20		16	1 20 A	Furniture Feed, Rm 6206
Furniture Feed, Rm 6226	20 A 1	17			0.72			0.72	18	1 20 A	Furniture Feed, Rm 6206
Furniture Feed, Rm 6240	20 A 1	19	0.72			0.72			20	1 20 A	Furniture Feed, Rm 6210
Furniture Feed, Rm 6240	20 A 1	21		1.20			1.44		22	1 20 A	Furniture Feed, Rm 6210
Furniture Feed, Rm 6240	20 A 1	23			0.72			0.72	24	1 20 A	Furniture Feed, Rm 6210
Rec: Rm 6007, 6007G	20 A 1	25	0.72			1.20			26	1 20 A	Furniture Feed, Rm 6220
Rec: Rm 6007	20 A 1	27		0.36			0.72		28	1 20 A	Furniture Feed, Rm 6220
Rec: Rm 6206E, 6206G	20 A 1	29			1.80			0.72	30	1 20 A	Furniture Feed, Rm 6220
Rec: Office 6007D	20 A 1	31	0.54			1.50			32	1 20 A	Furniture Feed, Rm 6226
Rec: Rm 6220E, 6220F	20 A 1	33		1.80			0.90		34	1 20 A	Furniture Feed, Rm 6226
Rec: Rm 6216B, 6216D	20 A 1	35			1.80			0.90	36	1 20 A	Furniture Feed, Rm 6226
Rec: Rm 6234E, 6226D	20 A 1	37	1.80			1.20			38	1 20 A	Furniture Feed, Rm 6234
Rec: Office 6007B	20 A 1	39		0.90			0.72		40	1 20 A	Furniture Feed, Rm 6234
Rec: Rm 6200, 6213	20 A 1	41			1.08			0.72	42	1 20 A	Furniture Feed, Rm 6234
Ctrls XFMR - VAV Boxes	20 A 1	43	1.20			1.26			44	1 20 A	Rec: Rm 6240A, 6240C
Ctrls XFMR - VAV Boxes	20 A 1	45		0.80			0.50		46	1 20 A	Water Cooler, Corr. 6200
Ctrls XFMR - VAV Boxes	20 A 1	47			1.20			1.82	48	1 20 A	Motorized Shades, Rm 6009
Spare	20 A 1	49	0.00			1.82			50	1 20 A	Motorized Shades, Rm 6009
Spare	20 A 1	51		0.00			0.00		52	1 20 A	Spare
Spare	20 A 1	53			0.00			0.00	54	1 20 A	Spare
Spare	20 A 1	55	0.00			0.00			56	1 20 A	Spare
Spare	20 A 1	57		0.00			0.00		58	1 20 A	Spare
Future Shell	20 A 1	59			0.00			0.00	60	1 20 A	Spare
Future Shell	20 A 1	61	0.00			0.00			62	3 30 A	SPD
Future Shell	20 A 1	63		0.00			0.00		64	-- --	--
Future Shell	20 A 1	65			0.00			0.00	66	-- --	--

PHASE SUBTOTALS (KVA): 18.92 14.62 17.06
PHASE SUBTOTAL (AMPS): 161 122 145
NEC COMPUTED (AMPS) 94

LOAD CLASSIFICATION	CONNECTED (KVA)	DEMAND FACTOR	DEMAND (KVA)
POWER	7.3	100%	7.3
LIGHTING		125%	
MOTOR		125% LARGEST 100% OTHER	
RECEPTACLE	43.3	100% FIRST 10KVA 50% OTHER	26.6
TOTALS	50.6		34.0

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION 6B-LH1
VOLTAGE 480Y/277V
MAIN TYPE MLO
MAIN RATING 100 A
LOCATION ELECTRICAL 6213
3 PHASE 4 WIRE
BUS RATING 100 A
MOUNTING SURFACE
FLOOR 6TH LEVEL
FED FROM 1B-DLH1
FAULT CURRENT RATING 10,000 AIC
FAULT... AIC

REMARKS

DESCRIPTION	BRKR AMP, POLES	CKT NO	LEFT SIDE, KVA A	B	C	RIGHT SIDE, KVA A	B	C	CKT NO	BRKR AMP, POLES	DESCRIPTION
LIGHTING SUPERVISOR...	20 A 1	1	3.12			3.63			2	1 20 A	LIGHTING OPEN OFFICE...
LIGHTING	20 A 1	3		3.07			1.78		4	1 20 A	LIGHTING OPEN OFFICE...
LIGHTING ELEVATOR...	20 A 1	5			2.79			0.00	6	1 20 A	Spare
Spare	20 A 1	7	0.00			0.00			8	1 20 A	Spare
Spare	20 A 1	9		0.00			0.00		10	1 20 A	Spare
Spare	20 A 1	11			0.00			0.00	12	1 20 A	Spare
Spare	20 A 1	13	0.00			0.00			14	1 20 A	Spare
		15							16		
		17							18		
		19							20		
		21							22		
		23							24		
		25							26		
		27							28		
		29							30		
		31							32		
		33							34		
		35							36		
		37							38		
		39							40		
Future Shell	20 A 1	41			0.00				42		

PHASE SUBTOTALS (KVA): 6.75 4.84 2.79
PHASE SUBTOTAL (AMPS): 26 19 10
NEC COMPUTED (AMPS) 22

LOAD CLASSIFICATION		DESIGN FACTOR	
POWER		100%	
LIGHTING	14.4	125%	18.0
MOTOR		125% LARGEST 100% OTHER	
RECEPTACLE		100% FIRST 10KVA 50% OTHER	
TOTALS	14.4		18.0

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION 6B-PL1
VOLTAGE 208Y/120V
MAIN TYPE MCB
MAIN RATING 250 A
LOCATION ELECTRICAL 6213
3 PHASE 4 WIRE
BUS RATING 250 A
MOUNTING SURFACE
FLOOR 6TH LEVEL
FED FROM 6B-T-PL1
FAULT CURRENT RATING 10,000 AIC
FAULT... AIC

REMARKS 200% NEUTRAL

DESCRIPTION	BRKR AMP, POLES	CKT NO	LEFT SIDE, KVA A	B	C	RIGHT SIDE, KVA A	B	C	CKT NO	BRKR AMP, POLES	DESCRIPTION
Furniture Feed, Rm 6426	20 A 1	1	0.72			0.18			2	1 20 A	Furniture Feed, Rm 6239
Furniture Feed, Rm 6426	20 A 1	3		1.20			0.30		4	1 20 A	Furniture Feed, Rm 6239
Furniture Feed, Rm 6426	20 A 1	5			0.72			0.18	6	1 20 A	Furniture Feed, Rm 6239
Furniture Feed, Rm 6420	20 A 1	7	0.72			0.72			8	1 20 A	Furniture Feed, Rm 6420
Furniture Feed, Rm 6420	20 A 1	9		1.20			1.20		10	1 20 A	Furniture Feed, Rm 6420
Furniture Feed, Rm 6420	20 A 1	11			0.72			0.72	12	1 20 A	Furniture Feed, Rm 6420
Furniture Feed, Rm 6410	20 A 1	13	0.72			0.72			14	1 20 A	Furniture Feed, Rm 6414
Furniture Feed, Rm 6410	20 A 1	15		1.20			1.20		16	1 20 A	Furniture Feed, Rm 6414
Furniture Feed, Rm 6410	20 A 1	17			0.72			0.72	18	1 20 A	Furniture Feed, Rm 6414
Furniture Feed, Rm 6402	20 A 1	19	0.18			0.72			20	1 20 A	Furniture Feed, Rm 6406
Furniture Feed, Rm 6402	20 A 1	21		0.36			1.20		22	1 20 A	Furniture Feed, Rm 6406
Furniture Feed, Rm 6402	20 A 1	23			0.18			0.72	24	1 20 A	Furniture Feed, Rm 6406
FCU 6-1	15 A 1	25	0.86			0.50			26	1 20 A	Motorized Shades, 6440
Rec: Office 6439	20 A 1	27		0.90			0.90		28	1 20 A	Rec: Conference Rm 6440
Rec: Rm 6237, Copier	20 A 1	29			1.20			1.80	30	1 20 A	Rec: Rm 6426E, 6426F
Rec: Work Rm 6437	20 A 1	31	0.54			0.90			32	1 20 A	Rec: Rm 6426H, 6434
Rec: Conf. Rm 6440, TV	20 A 1	33		1.26			1.08		34	1 20 A	Rec: Office 6406D
Rec: Rm 6421, 6227	20 A 1	35			0.54			1.80	36	1 20 A	Rec: Rm 6402A, 6402B
Rec: Rm 6416A, 6416D	20 A 1	37	1.08			1.80			38	1 20 A	Rec: Rm 6406A, 6406B
Rec: 6410E, 6410F, 6410H	20 A 1	39		1.08			1.08		40	1 20 A	Rec: Rm 6400, 6402, 6413
Motorized Shades, 6025	20 A 1	41			0.50			1.26	42	1 20 A	Rec: Conference Rm 6025
Rec: Rm 6000, 6013, 6203	20 A 1	43	1.08			1.26			44	1 20 A	Rec: Conf. Rm 6009
Rec: Conf. Rm 6009	20 A 1	45		0.36			0.72		46	1 20 A	Rec: Rms. 6409/6407
Receptacle - Work Rm 6203	20 A 1	47			1.20			1.20	48	1 20 A	Rec: Coffee Mach, Rm 6211
Water Cooler - Corridor 6400	20 A 1	49	0.50			0.60			50	1 20 A	Rec: Vending, Rm 6211
Rec: Vending, Rm 6211	20 A 1	51		0.60			0.60		52	1 20 A	Rec: Vending, Rm 6211
Rec: TV, Rm. 6211	20 A 1	53			0.96			1.20	54	1 20 A	Rec: Microwave, Rm 6211
Rec: Conf. Rm 6025, TV	20 A 1	55	0.96			0.50			56	1 20 A	BAS Controls, Rm 6421
BAS Controls, Rm 6421	20 A 1	57		0.50			1.00		58	1 20 A	AHU-9 Lights & Receptacles
Rec: Storage 6434	20 A 1	59			0.18			0.40	60	1 20 A	AHU-9 UV Lights
Rec: Conf. Rm 6009	20 A 1	61	0.90			0.00			62	3 30 A	SPD
Rec: Office 6410E	20 A 1	63		1.80			0.00		64	-- --	--
Spare	20 A 1	65			0.00			0.00	66	-- --	--

PHASE SUBTOTALS (KVA): 16.16 19.74 16.92
PHASE SUBTOTAL (AMPS): 135 165 142
NEC COMPUTED (AMPS) 95

LOAD CLASSIFICATION	CONNECTED (KVA)	DEMAND FACTOR	DEMAND (KVA)
POWER	2.5	100%	2.5
LIGHTING	1.4	125%	1.8
MOTOR	0.9	125% LARGEST 100% OTHER	1.1
RECEPTACLE	48.1	100% FIRST 10KVA 50% OTHER	29.0
TOTALS	52.8		34.4

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION 6B-PL2
VOLTAGE 208Y/120V
MAIN TYPE MLO
MAIN RATING 100 A
LOCATION TELECOM 6417
3 PHASE 4 WIRE
BUS RATING 100 A
MOUNTING SURFACE
FLOOR 6TH LEVEL
FED FROM 1B-DPL1
FAULT CURRENT RATING 10,000 AIC
FAULT... AIC

REMARKS 200% NEUTRAL

DESCRIPTION	BRKR AMP, POLES	CKT NO	LEFT SIDE, KVA A	B	C	RIGHT SIDE, KVA A	B	C	CKT NO	BRKR AMP, POLES	DESCRIPTION
Rec: Telecom 6417, Rack	20 A 1	1	1.00			1.00			2	1 20 A	Rec: Telecom 6417, Rack
Rec: Telecom 6417, Rack	20 A 1	3		1.00			1.00		4	1 20 A	Rec: Telecom 6417, Rack
Rec: Telecom 6417, Rack	20 A 1	5			1.00			1.00	6	1 20 A	Rec: Telecom 6417, Rack
Rec: Telecom 6417, Rack	20 A 1	7	1.00			1.00			8	1 20 A	Rec: Telecom 6417, Rack
Spare	20 A 1	9		0.00			0.00		10	1 20 A	Spare
Spare	20 A 1	11			0.00			0.00	12	1 20 A	Spare
Spare	20 A 1	13	0.00			0.00			14	1 20 A	Spare
Spare	20 A 1	15		0.00			0.00		16	1 20 A	Spare
Spare	20 A 1	17			0.00			0.00	18	1 20 A	Spare
		19							20		
		21							22		
		23							24		
		25							26		
		27							28		
		29							30		
		31							32		
		33							34		
		35							36		
		37							38		
		39							40		
		41							42		

PHASE SUBTOTALS (KVA): 4.00 2.00 2.00
PHASE SUBTOTAL (AMPS): 33 17 17
NEC COMPUTED (AMPS) 22

LOAD CLASSIFICATION		DESIGN FACTOR	
POWER		100%	
LIGHTING		125%	
MOTOR		125% LARGEST 100% OTHER	
RECEPTACLE	8.0	100% FIRST 10KVA 50% OTHER	8.0
TOTALS	8.0		8.0

NOTES

5B-PL1	5B-PL2	6A-PL1
6B-LH1	6B-PL1	6B-PL2

SYM	ZONE		DATE	APPROVED

REVISIONS

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SIGNATURES	DATE
DRAWN Lukas Wierda	12.18.13
CHECKED Vinod Trehan	12.18.13
SUBMITTED RECORDING OF RECORD Toby S. Smith	12/18/13
ST of LICENSURE: FL LICENSE NO. 71672	
APPROVED Scott Robinson	12-18-13
Dung Trang	12/19/13

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

NORMAL POWER PANEL SCHEDULES

E707

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 71

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PANELBOARD SCHEDULE

PANEL DESIGNATION 7A-PL1
VOLTAGE 208Y/120V
MAIN TYPE MCB
MAIN RATING 250 A

LOCATION ELECTRICAL 7215
3 PHASE 4 WIRE
BUS RATING 250 A
MOUNTING SURFACE

FLOOR 7TH LEVEL
FED FROM 7A-T-PL1
FAULT CURRENT RATING 10,000 AIC
FAULT... AIC

REMARKS 200% NEUTRAL

LEFT SIDE, KVA						RIGHT SIDE, KVA						
DESCRIPTION	BRKR AMP, POLES	CKT NO	A	B	C	A	B	C	CKT NO	BRKR AMP, POLES	DESCRIPTION
Furniture Feed, Rm 7234	20 A 1	1	1.20			1.20			2	1 20 A	Furniture Feed, Rm 7238
Furniture Feed, Rm 7234	20 A 1	3		0.72			0.72		4	1 20 A	Furniture Feed, Rm 7238
Furniture Feed, Rm 7234	20 A 1	5			0.72			0.72	6	1 20 A	Furniture Feed, Rm 7238
Furniture Feed, Rm 7434	20 A 1	7	0.18			0.72			8	1 20 A	Furniture Feed, Rm 7224
Furniture Feed, Rm 7434	20 A 1	9		0.30			1.20		10	1 20 A	Furniture Feed, Rm 7224
Furniture Feed, Rm 7434	20 A 1	11			0.18			0.72	12	1 20 A	Furniture Feed, Rm 7224
Rec: Office 7238B	20 A 1	13	1.80			0.36			14	1 20 A	Furniture Feed, Rm 7006
Rec: Deposition Rm 7238A	20 A 1	15		1.08			0.36		16	1 20 A	Furniture Feed, Rm 7006
Rec: Office 7220B	20 A 1	17			1.26			0.60	18	1 20 A	Furniture Feed, Rm 7006
Rec: Rm 7222, Copier	20 A 1	19	1.20			1.44			20	1 20 A	Rec: Rm 7220C, 7234
Rec: Rm 7222, 7224	20 A 1	21		0.72			0.60		22	1 20 A	Rec: Rm 7218, Refrig.
Rec: Break Rm 7218	20 A 1	23			0.36			0.90	24	1 20 A	Rec: Office 7220A
Rec: Rm 7220, 7218	20 A 1	25	1.26			1.00			26	1 20 A	Projection Screens, 7212
Rec: Conference Rm 7212	20 A 1	27		0.72			1.20		28	1 20 A	Rec: Conf. Rm 7212, TVs
Rec: Rm 7212, Projectors	20 A 1	29			0.96			0.90	30	1 20 A	Rec: Conference Rm 7206A
Rec: Rm 7212, 7200	20 A 1	31	1.08			0.54			32	1 20 A	Rec: 7208,7210,7206,7004A
Rec: Conf. Rm 7206A, TV	20 A 1	33		1.26			1.44		34	1 20 A	Rec: Office 7004
Rec: Office 7206C	20 A 1	35			1.62			0.72	36	1 20 A	Rec: Rm 7009,7009A,7002A
Rec: Office 7002	20 A 1	37	1.26			1.26			38	1 20 A	Rec: Conf. Rm 7007, TV
Rec: Conference Rm 7007	20 A 1	39		1.08			1.08		40	1 20 A	Rec: Rm 7009A
Rec: Rm 7434W, 7434T	20 A 1	41			1.08			1.20	42	1 20 A	Ctrls XFMR - VAV Boxes
Rec: 7232,7200,7215,7205	20 A 1	43	1.44			1.20			44	1 20 A	Ctrls XFMR - VAV Boxes
Water Cooler, Corr. 7200	20 A 1	45		0.50			0.80		46	1 20 A	Ctrls XFMR - VAV Boxes
Rec: Conf. Rm 7007	20 A 1	47			0.54			1.37	48	1 20 A	Motorized Shade, Rm 7206A
Rec: Conf. Rm 7206A	20 A 1	49	0.36			0.91			50	1 20 A	Motorized Shades, Rm 7212
Motorized Shades, Rm 7007	20 A 1	51		1.37			1.82		52	1 20 A	Motorized Shades, Rm 7212
Rec: TV, Rm 7002	20 A 1	53			0.18			0.00	54	1 20 A	Spare
Spare	20 A 1	55	0.00			0.00			56	1 20 A	Spare
Spare	20 A 1	57		0.00			0.00		58	1 20 A	Spare
Spare	20 A 1	59			0.00			0.00	60	1 20 A	Spare
SPD	30 A 3	61	0.00			0.00			62	1 20 A	Spare
--	-- --	63		0.00			0.00		64	1 20 A	Spare
--	-- --	65			0.00			0.00	66	1 20 A	Spare

PHASE SUBTOTALS (KVA): 18.41 16.97 14.03
PHASE SUBTOTAL (AMPS): 157 145 117
NEC COMPUTED (AMPS) 97

LOAD CLASSIFICATION	CONNECTED (KVA)	DEMAND FACTOR	DEMAND (KVA)
POWER	10.2	100%	10.2
LIGHTING		125%	
MOTOR		125% LARGEST 100% OTHER	
RECEPTACLE	39.2	100% FIRST 10KVA 50% OTHER	24.6
TOTALS	49.4		34.8

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION 7B-LH1
VOLTAGE 480Y/277V
MAIN TYPE MLO
MAIN RATING 100 A

LOCATION ELECTRICAL 7215
3 PHASE 4 WIRE
BUS RATING 100 A
MOUNTING SURFACE

FLOOR 7TH LEVEL
FED FROM 1B-DLH1
FAULT CURRENT RATING 10,000 AIC
FAULT... AIC

REMARKS

LEFT SIDE, KVA						RIGHT SIDE, KVA						
DESCRIPTION	BRKR AMP, POLES	CKT NO	A	B	C	A	B	C	CKT NO	BRKR AMP, POLES	DESCRIPTION
LIGHTING	20 A 1	1	3.36			2.94			2	1 20 A	LIGHTING
LIGHTING	20 A 1	3		2.09			3.39		4	1 20 A	LIGHTING
LIGHTING	20 A 1	5			1.78			0.00	6	1 20 A	Spare
Spare	20 A 1	7	0.00			0.00			8	1 20 A	Spare
Spare	20 A 1	9		0.00			0.00		10	1 20 A	Spare
Spare	20 A 1	11			0.00			0.00	12	1 20 A	Spare
Spare	20 A 1	13	0.00			0.00			14	1 20 A	Spare
		15							16		
		17							18		
		19							20		
		21							22		
		23							24		
		25							26		
		27							28		
		29							30		
		31							32		
		33							34		
		35							36		
		37							38		
		39							40		
		41							42		

PHASE SUBTOTALS (KVA): 6.30 5.49 1.78
PHASE SUBTOTAL (AMPS): 25 22 6
NEC COMPUTED (AMPS) 20

LOAD CLASSIFICATION		DESIGN FACTOR	
POWER		100%	
LIGHTING	13.6	125%	17.0
MOTOR		125% LARGEST 100% OTHER	
RECEPTACLE		100% FIRST 10KVA 50% OTHER	
TOTALS	13.6		17.0

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION 7B-PL1
VOLTAGE 208Y/120V
MAIN TYPE MCB
MAIN RATING 250 A

LOCATION ELECTRICAL 7215
3 PHASE 4 WIRE
BUS RATING 250 A
MOUNTING Surface

FLOOR 7TH LEVEL
FED FROM 7B-T-PL1
FAULT CURRENT RATING 10,000 AIC
FAULT... AIC

REMARKS 200% NEUTRAL

LEFT SIDE, KVA						RIGHT SIDE, KVA						
DESCRIPTION	BRKR AMP, POLES	CKT NO	A	B	C	A	B	C	CKT NO	BRKR AMP, POLES	DESCRIPTION
Rec: Office 7434P	20 A 1	1	1.08			0.86			2	1 15 A	FCU 7-1
Rec: Office 7434M	20 A 1	3		1.08			1.08		4	1 20 A	Rec: Office 7434N
Rec: Office 7434K	20 A 1	5			1.08			1.08	6	1 20 A	Rec: Office 7434L
Rec: Rm 7434, 7434G	20 A 1	7	1.26			1.08			8	1 20 A	Rec: Office 7434H
Rec: Work Rm 7434A	20 A 1	9		0.36			1.20		10	1 20 A	Rec: Rm 7434A, Copier
Furniture Feed, Rm 7420	20 A 1	11			1.20			0.90	12	1 20 A	Rec: Rm 7434, 7434A,B,C
Furniture Feed, Rm 7420	20 A 1	13	0.72			1.20			14	1 20 A	Furniture Feed, Rm 7416
Furniture Feed, Rm 7420	20 A 1	15		0.72			0.72		16	1 20 A	Furniture Feed, Rm 7416
Rec: Office 7410H	20 A 1	17			1.08			0.72	18	1 20 A	Furniture Feed, Rm 7416
Furniture Feed, Rm 7406	20 A 1	19	1.20			1.80			20	1 20 A	Rec: Rm 7416A, 7416B
Furniture Feed, Rm 7406	20 A 1	21		0.72			1.80		22	1 20 A	Rec: Office 7410F
Furniture Feed, Rm 7406	20 A 1	23			0.72			1.20	24	1 20 A	Furniture Feed, Rm 7410
Furniture Feed, Rm 7402	20 A 1	25	0.18			0.72			26	1 20 A	Furniture Feed, Rm 7410
Furniture Feed, Rm 7402	20 A 1	27		0.30			0.72		28	1 20 A	Furniture Feed, Rm 7410
Furniture Feed, Rm 7402	20 A 1	29			0.18			1.80	30	1 20 A	Rec: Rm 7406B, 7406D
Rec: Rm 7402A, 7402B	20 A 1	31	1.26			1.20			32	1 20 A	Rec: Admin 7402, Copier
Motorized Shades, 7025	20 A 1	33		0.50			1.08		34	1 20 A	Rec: Office 7402C
Rec: Rm 7000, 7013	20 A 1	35			0.72			1.26	36	1 20 A	Rec: Conference Rm 7025
Water Cooler, Corr. 7400	20 A 1	37	0.50			0.96			38	1 20 A	Rec: Conf. Rm 7025, TV
Rec: Rm 7411	20 A 1	39		0.96			0.54		40	1 20 A	Rec: Rm 7227, 7421
Rec: Rm 7411, Coffee	20 A 1	41			1.20			0.72	42	1 20 A	Rec: Rm 7407, 7409
Rec: Rm 7411, Vending	20 A 1	43	0.60			0.90			44	1 20 A	Rec: Office 7434S
Rec: Rm 7411, Microwave	20 A 1	45		1.20			0.60		46	1 20 A	Rec: Rm 7411, Refrig.
BAS Controls, Rm 7421	20 A 1	47			0.50			0.60	48	1 20 A	Rec: Rm 7411, Vending
High Density Files, 7434D	20 A 1	49	1.20			0.90			50	1 20 A	Rec: Rm 7400, 7413
AHU-10 UV Lights	20 A 1	51		0.40			0.50		52	1 20 A	BAS Controls, Rm 7421
AHU-10 Lights & Recepts.	20 A 1	53			1.00			0.00	54	1 20 A	High Density Files, 7434D
Spare	0 A 1	55	0.00			0.00			56	1 20 A	Spare
Spare	20 A 1	57		0.00			0.00		58	1 20 A	Spare
Spare	20 A 1	59			0.00			0.00	60	1 20 A	Spare
SPD	30 A 3	61	0.00			0.00			62	1 20 A	Spare
--	-- --	63		0.00			0.00		64	1 20 A	Spare
--	-- --	65			0.00			0.00	66	1 20 A	Spare

PHASE SUBTOTALS (KVA): 17.62 14.48 15.96
PHASE SUBTOTAL (AMPS): 149 121 135
NEC COMPUTED (AMPS) 88

LOAD CLASSIFICATION	CONNECTED (KVA)	DEMAND FACTOR	DEMAND (KVA)
POWER	2.0	100%	2.0
LIGHTING	1.4	125%	1.8
MOTOR	0.9	125% LARGEST 100% OTHER	1.1
RECEPTACLE	43.8	100% FIRST 10KVA 50% OTHER	26.9
TOTALS	48.1		31.7

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION 7B-PL2
VOLTAGE 208Y/120V
MAIN TYPE MLO
MAIN RATING 100 A

LOCATION TELECOM 7417
3 PHASE 4 WIRE
BUS RATING 100 A
MOUNTING SURFACE

FLOOR 7TH LEVEL
FED FROM 1B-DPL1
FAULT CURRENT RATING 10,000 AIC
FAULT... AIC

REMARKS 200% NEUTRAL

LEFT SIDE, KVA						RIGHT SIDE, KVA						
DESCRIPTION	BRKR AMP, POLES	CKT NO	A	B	C	A	B	C	CKT NO	BRKR AMP, POLES	DESCRIPTION
Rec: Telecom 7417, Rack	20 A 1	1	1.00			1.00			2	1 20 A	Rec: Telecom 7417, Rack
Rec: Telecom 7417, Rack	20 A 1	3		1.00			1.00		4	1 20 A	Rec: Telecom 7417, Rack
Rec: Telecom 7417, Rack	20 A 1	5			1.00			1.00	6	1 20 A	Rec: Telecom 7417, Rack
Rec: Telecom 7417, Rack	20 A 1	7	1.00			1.00			8	1 20 A	Rec: Telecom 7417, Rack
Spare	20 A 1	9		0.00			0.00		10	1 20 A	Spare
Spare	20 A 1	11			0.00			0.00	12	1 20 A	Spare
Spare	20 A 1	13	0.00			0.00			14	1 20 A	Spare
Spare	20 A 1	15		0.00			0.00		16	1 20 A	Spare
Spare	20 A 1	17			0.00			0.00	18	1 20 A	Spare
		19							20		
		21							22		
		23							24		
		25							26		
		27							28		
		29							30		
		31							32		
		33							34		
		35							36		
		37							38		
		39							40		
		41							42		

PHASE SUBTOTALS (KVA): 4.00 2.00 2.00
PHASE SUBTOTAL (AMPS): 33 17 17
NEC COMPUTED (AMPS) 22

LOAD CLASSIFICATION		DESIGN FACTOR	
POWER		100%	
LIGHTING		125%	
MOTOR		125% LARGEST 100% OTHER	
RECEPTACLE	8.0	100% FIRST 10KVA 50% OTHER	8.0
TOTALS	8.0		8.0

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION PHA-MH1
VOLTAGE 480V
MAIN TYPE MLO
MAIN RATING 400 A

LOCATION HVAC PENTHOUSE 325
3 PHASE 3 WIRE
BUS RATING 400 A
MOUNTING SURFACE

FLOOR ROOF LEVEL
FED FROM 4A-DMH1
FAULT CURRENT RATING 10,000 AIC
FAULT... AIC

REMARKS

LEFT SIDE, KVA						RIGHT SIDE, KVA						
DESCRIPTION	BRKR AMP, POLES	CKT NO	A	B	C	A	B	C	CKT NO	BRKR AMP, POLES	DESCRIPTION
PHA-T-PL1	125 A 3	1	3.95			14.41			2	3 90 A	AHU-10
--	-- --	3		3.04			14.41		4	-- --	--
--	-- --	5			2.22			14.41	6	-- --	--
EF-4	20 A 3	7	3.05			3.05			8	3 20 A	EF-3
--	-- --	9		3.05			3.05		10	-- --	--
--	-- --	11			3.05			3.05	12	-- --	--
SF-4	25 A 3	13	3.88			3.88			14	3 25 A	SF-3
--	-- --	15		3.88			3.88		16	-- --	--
--	-- --	17			3.88			3.88	18	-- --	--
HWP-1	100 A 3	19	18.01			9.42			20	3 70 A	CBP-2
--	-- --	21		18.01			9.42		22	-- --	--
--	-- --	23			18.01			9.42	24	-- --	--
		25							26		
		27							28		
		29							30		
		31							32		
		33							34		
		35							36		
		37							38		
		39							40		
		41							42		

PHASE SUBTOTALS (KVA): 59.66 58.74 57.92
PHASE SUBTOTAL (AMPS): 216 212 209
NEC COMPUTED (AMPS) 228

LOAD CLASSIFICATION		DESIGN FACTOR	
POWER	1.6	100%	1.6
LIGHTING		125%	
MOTOR	171.6	125% LARGEST 100% OTHER	185.1
RECEPTACLE	2.6	100% FIRST 10KVA 50% OTHER	2.6
TOTALS	176.3		189.8

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION PHA-PL1
VOLTAGE 208Y/120V
MAIN TYPE MCB
MAIN RATING 150 A

LOCATION HVAC PENTHOUSE 325
3 PHASE 4 WIRE
BUS RATING 150 A
MOUNTING SURFACE

FLOOR ROOF LEVEL
FED FROM PHA-T-PL1
FAULT CURRENT RATING 10,000 AIC
FAULT... AIC

REMARKS

LEFT SIDE, KVA						RIGHT SIDE, KVA						
DESCRIPTION	BRKR AMP, POLES	CKT NO	A	B	C	A	B	C	CKT NO	BRKR AMP, POLES	DESCRIPTION
B-2	20 A 1	1	1.63			1.32			2	3 20 A	FCU 8-2
Rec: Penthouse 8200	20 A 1	3		0.72			1.32		4	-- --	--
Rec: Penthouse 8200	20 A 1	5			0.72			1.32	6	-- --	--
CP-3	15 A 1	7	0.50			0.50			8	1 20 A	WH-3
Rec: Rm 8200, ETP-2	20 A 1	9		0.50			0.50		10	1 20 A	Rec: Rm 8200, ETP-1
Rec: BAS W/S	20 A 1	11			0.18			0.00	12	1 20 A	Spare
Spare	20 A 1	13	0.00			0.00			14	1 20 A	Spare
Spare	20 A 1	15		0.00			0.00		16	1 20 A	Spare
Spare	20 A 1	17			0.00			0.00	18	1 20 A	Spare
Spare	20 A 1	19	0.00			0.00			20	1 20 A	Spare
		21							22		
		23							24		
		25							26		
		27							28		
		29							30		
		31							32		
		33							34		
		35							36		
SPD	30 A 3	37	0.00						38		
--	-- --	39		0.00					40		
--	-- --	41			0.00				42		

PHASE SUBTOTALS (KVA): 3.95 3.04 2.22
PHASE SUBTOTAL (AMPS): 34 26 19
NEC COMPUTED (AMPS) 28

LOAD CLASSIFICATION		DESIGN FACTOR	
POWER	1.6	100%	1.6
LIGHTING		125%	
MOTOR	4.5	125% LARGEST 100% OTHER	5.5
RECEPTACLE	2.6	100% FIRST 10KVA 50% OTHER	2.6
TOTALS	9.2		10.2

NOTES

7A-PL1	7B-LH1	7B-PL1
7B-PL2	PHA-MH1	PHA-PL1

SYM	ZONE		DATE	APPROVED

REVISIONS

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SIGNATURES	DATE
DRAWN Lukas Wierda	12.18.13
CHECKED Vinod Trehan	12.18.13
SUBMITTED/RECOMMENDED RECORD Toby S. Smith	12/18/13
ST of LICENSURE: FL LICENSE NO. 71672	
APPROVED Scott Robinson	12.18.13
Dung Trang	12/18/13

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

NORMAL POWER PANEL SCHEDULES

E708

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 72

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PANELBOARD SCHEDULE

PANEL DESIGNATION: PHB-MH1
VOLTAGE: 480V
MAIN TYPE: MLO
MAIN RATING: 400 A

LOCATION: HVAC PENTHOUSE 325
3 PHASE 3 WIRE
BUS RATING: 400 A
MOUNTING: SURFACE

FLOOR: ROOF LEVEL
FED FROM: 6B-DMH1
FAULT CURRENT RATING: 10,000 AIC
FAULT...: AIC

REMARKS

DESCRIPTION	BRKR AMP, POLES		CKT NO	LEFT SIDE, KVA A	B	C	RIGHT SIDE, KVA A	B	C	CKT NO	BRKR AMP, POLES		DESCRIPTION
PHB-T-PL1	125 A	3	1	4.35			3.05			2	3	20 A	EF-2
--	--	--	3		2.72			3.05		4	--	--	--
--	--	--	5			2.32			3.05	6	--	--	--
EF-1	20 A	3	7	3.05			3.88			8	3	25 A	SF-2
--	--	--	9		3.05			3.88		10	--	--	--
--	--	--	11			3.05			3.88	12	--	--	--
SF-1	25 A	3	13	3.88			18.01			14	3	100 A	HWP-2
--	--	--	15		3.88			18.01		16	--	--	--
--	--	--	17			3.88			18.01	18	--	--	--
CBP-1	70 A	3	19	9.42						20			
--	--	--	21		9.42					22			
--	--	--	23			9.42				24			
			25							26			
			27							28			
			29							30			
			31							32			
			33							34			
			35							36			
			37							38			
			39							40			
			41							42			

	A	B	C
PHASE SUBTOTALS (KVA):	45.64	44.01	43.61
PHASE SUBTOTAL (AMPS):	165	159	157

NEC COMPUTED (AMPS) 177

LOAD CLASSIFICATION		DESIGN FACTOR	
POWER	4.6	100%	4.6
LIGHTING	0.8	125%	1.0
MOTOR	127.8	125% LARGEST 100% OTHER	141.3
RECEPTACLE		100% FIRST 10KVA 50% OTHER	
TOTALS	133.3		147.0

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION: PHB-PL1
VOLTAGE: 208Y/120V
MAIN TYPE: MCB
MAIN RATING: 150 A

LOCATION: HVAC PENTHOUSE 325
3 PHASE 4 WIRE
BUS RATING: 150 A
MOUNTING: SURFACE

FLOOR: ROOF LEVEL
FED FROM: PHB-T-PL1
FAULT CURRENT RATING: 10,000 AIC
FAULT...: AIC

REMARKS

DESCRIPTION	BRKR AMP, POLES		CKT NO	LEFT SIDE, KVA A	B	C	RIGHT SIDE, KVA A	B	C	CKT NO	BRKR AMP, POLES		DESCRIPTION
B-1	20 A	1	1	1.63			1.32			2	3	20 A	FCU 8-1
BAS Controls	20 A	1	3		0.50			1.32		4	--	--	--
BAS Controls	20 A	1	5			0.50			1.32	6	--	--	--
BAS Controls	20 A	1	7	0.50			0.40			8	1	20 A	Lts: Lights - ERU-1
BAS Controls	20 A	1	9		0.50			0.40		10	1	20 A	Lts: Lights - ERU-2
BAS Controls	20 A	1	11			0.50			0.00	12	1	20 A	Spare
BAS Controls	20 A	1	13	0.50			0.00			14	1	20 A	Spare
Spare	20 A	1	15		0.00			0.00		16	1	20 A	Spare
Spare	20 A	1	17			0.00			0.00	18	1	20 A	Spare
Spare	20 A	1	19	0.00			0.00			20	1	20 A	Spare
Spare	20 A	1	21		0.00			0.00		22	1	20 A	Spare
			23							24			
			25							26			
			27							28			
			29							30			
			31							32			
			33							34			
			35							36			
SPD	30 A	3	37	0.00						38			
--	--	--	39		0.00					40			
--	--	--	41			0.00				42			

	A	B	C
PHASE SUBTOTALS (KVA):	4.35	2.72	2.32
PHASE SUBTOTAL (AMPS):	37	23	19

NEC COMPUTED (AMPS) 29

LOAD CLASSIFICATION		DESIGN FACTOR	
POWER	4.6	100%	4.6
LIGHTING	0.8	125%	1.0
MOTOR	4.0	125% LARGEST 100% OTHER	5.0
RECEPTACLE		100% FIRST 10KVA 50% OTHER	
TOTALS	9.4		10.6

NOTES

PHB-MH1	PHB-PL1	

SYM	ZONE		DATE	APPROVED

REVISIONS

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SIGNATURES	DATE
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SUBMITTED AS ENGINEER OF RECORD Toby S. Sapp	12/18/13
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LICENSE NO. 71672	
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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

NORMAL POWER PANEL SCHEDULES

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 73

E709

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EMSB — SWITCHBOARD SCHEDULE

MAIN: 1200 A | BUS: 1200 A
SERVICE: 480V 3 W | LOCATION: EMERGENCY ELECTRICAL...
SHORT CIRCUIT RATING: 65 kAIC (MIN.)

Notes:

CKT	TRIP	POLES	A	B	C	LOAD DESCRIPTION	NOTES
1	400 A	3	34.7	30.6	20.3	ATS-1	
2	200 A	3	33.3	33.3	33.3	ATS-2	
3	800 A	3	175.0	174.0	170.2	ATS-3	
4	200 A	3	28.0	28.0	28.0	ATS-4	
5	200 A	3	33.3	33.3	33.3	FIRE PUMP	
6	1200 A	3	0.0	0.0	0.0	PORTABLE GEN LOADBANK	
7	250 A	3	0.0	0.0	0.0	ATS-5 (FUTURE)	
8	200 A	3	0.0	0.0	0.0	ATS-6 (FUTURE)	
9	800 A	3	0.0	0.0	0.0	ATS-7 (FUTURE)	
10	400 A	3	0.0	0.0	0.0	SPARE	
11	1200 A	3	0.0	0.0	0.0	SPARE	
12	1200 A	3	0.0	0.0	0.0	SPARE	
13							
14							
15							
	SUBTOTALS (KVA):		304.4	299.3	285.2		

CONNECTED (KVA):	888.9	CONNECTED (AMPS):	1069.2
NEC COMPUTED (KVA):	934.5	NEC COMPUTED (AMPS):	1124.1

Notes:

1B-DELH1 — DISTRIBUTION PANEL SCHEDULE

MAIN: 400 A | BUS: 400 A
SERVICE: 480V 3 W | LOCATION: ELECTRICAL 1454
SHORT CIRCUIT RATING: 35 kAIC (MIN.)

Notes:

CKT	TRIP	POLES	A	B	C	LOAD DESCRIPTION	NOTES
1	225 A	3	29.4	27.3	16.7	1B-T-ELL1	
2	50 A	3	5.3	3.3	3.7	PANEL 1B-EPL1 AT GENERATOR	
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
	SUBTOTALS (KVA):		34.7	30.6	20.3		

CONNECTED (KVA):	85.7	CONNECTED (AMPS):	103.1
NEC COMPUTED (KVA):	94.8	NEC COMPUTED (AMPS):	114.0

Notes:

PANELBOARD SCHEDULE

PANEL DESIGNATION 1B-ELL1 | LOCATION ELECTRICAL 1211 | FLOOR 1ST LEVEL
VOLTAGE 208Y/120V | 3 PHASE 4 WIRE | FED FROM 1B-T-ELL1
MAIN TYPE MCB | BUS RATING 400 A | FAULT CURRENT RATING 10,000 AIC
MAIN RATING 400 A | MOUNTING SURFACE | FAULT... AIC

REMARKS

DESCRIPTION	BRKR AMP, POLES		CKT NO	LEFT SIDE, KVA A	B	C	RIGHT SIDE, KVA A	B	C	CKT NO	BRKR AMP, POLES		DESCRIPTION
2B-ELL1	100 A	3	1	3.25			3.37			2	3	100 A	3B-ELL1
--	--	--	3		2.19			2.46		4	--	--	--
--	--	--	5			2.34			0.60	6	--	--	--
7B-ELL1	100 A	3	7	2.33			3.36			8	3	100 A	PHB-ELL1
--	--	--	9		3.86			0.07		10	--	--	--
--	--	--	11			0.00			0.60	12	--	--	--
4B-ELL1	100 A	3	13	3.27			3.12			14	3	100 A	5B-ELL1
--	--	--	15		2.58			2.94		16	--	--	--
--	--	--	17			0.60			2.78	18	--	--	--
6B-ELL1	100 A	3	19	2.82			0.86			20	1	15 A	FCU 1-7
--	--	--	21		2.52			1.32		22	3	20 A	FCU 1-1
--	--	--	23			1.88			1.32	24	--	--	--
FACP	20 A	1	25	1.50			1.32			26	--	--	--
Lts: W. Stair, Levels 1-4	20 A	1	27		1.32			1.76		28	1	20 A	Lts: E. Stair, Levels 1-8
Lts: W. Stair, Levels 1-4	20 A	1	29			1.32			1.54	30	1	20 A	Lts: E. Stair, Levels 1-8
Lts: W. Stair, Levels 5-8	20 A	1	31	0.77			0.36			32	1	20 A	Rec: Rm 1423A, 1223A
Lts: W. Stair, Levels 5-8	20 A	1	33		0.99			0.36		34	1	20 A	Rec: Rm 1016, 1020
Rec: Rm 1017, 1021	20 A	1	35			0.36			0.50	36	1	20 A	Motorized Doors, Rm 1000
Motorized Doors, Rm 1027	20 A	1	37	0.50			0.50			38	1	20 A	Motorized Doors, Rm 1400B
Smoke Control Pnl, Rm1260	20 A	1	39		1.50			1.79		40	1	20 A	LIGHTING
Lts: Service Corridor 1417	20 A	1	41			1.56			1.29	42	1	20 A	Lts: Telecom 1464
Lts: Corridor, Lobby	20 A	1	43	1.67			0.43			44	1	20 A	Lts: Service Yard
Lts: Room 1219, 1211, 1221	20 A	1	45		0.72			0.00		46	1	20 A	Spare
Spare	20 A	1	47			0.00			0.00	48	1	20 A	Spare
SPD	30 A	3	49	0.00			0.00			50	1	20 A	Spare
--	--	--	51		0.00			0.00		52	1	20 A	Spare
--	--	--	53			0.00				54			

PHASE SUBTOTALS (KVA): 29.44 | 27.35 | 16.69
PHASE SUBTOTAL (AMPS): 259 | 242 | 139
NEC COMPUTED (AMPS) 229

LOAD CLASSIFICATION	CONNECTED (KVA)	DEMAND FACTOR	DEMAND (KVA)
POWER	13.2	100%	13.2
LIGHTING	32.2	125%	40.3
MOTOR	16.5	125% LARGEST 100% OTHER	17.5
RECEPTACLE	1.1	100% FIRST 10KVA 50% OTHER	1.1
TOTALS	73.5		82.5

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION 1B-EPL1 | LOCATION | FLOOR 1ST LEVEL
VOLTAGE 208Y/120V | 3 PHASE 4 WIRE | FED FROM 1B-T-EPL1
MAIN TYPE MCB | BUS RATING 100 A | FAULT CURRENT RATING 10,000 AIC
MAIN RATING 100 A | MOUNTING SURFACE | FAULT... AIC

REMARKS PROVIDE IN GENERATOR ENCLOSURE

DESCRIPTION	BRKR AMP, POLES		CKT NO	LEFT SIDE, KVA A	B	C	RIGHT SIDE, KVA A	B	C	CKT NO	BRKR AMP, POLES		DESCRIPTION
DAY TANK FUEL PUMP	15 A	3	1	0.30			2.00			2	2	30 A	ENGINE BLOCK HEATER
--	--	--	3		0.30			2.00		4	--	--	--
--	--	--	5			0.30			2.50	6	2	30 A	ENCLOSURE HEATER
BATTERY HEATER	20 A	1	7	0.50			2.50			8	--	--	--
BATTERY CHARGER	20 A	1	9		0.75			0.25		10	1	20 A	DAYTANK CONTROLS
ENCLOSURE LIGHTS	20 A	1	11			0.50			0.36	12	1	20 A	ENCLOSURE RECEPS
PORT GEN BATT CHRGR	20 A	1	13	0.00			0.00			14	2	30 A	PORT GEN HEATER
Spare	20 A	1	15		0.00			0.00		16	--	--	--
Spare	20 A	1	17			0.00			0.00	18	1	20 A	Spare
Spare	20 A	1	19	0.00			0.00			20	1	20 A	Spare
Spare	20 A	1	21		0.00			0.00		22	1	20 A	Spare
Spare	20 A	1	23			0.00			0.00	24	1	20 A	Spare
			25							26			
			27							28			
			29							30			
			31							32			
			33							34			
			35							36			
			37							38			
			39							40			
			41							42			

PHASE SUBTOTALS (KVA): 5.30 | 3.30 | 3.66
PHASE SUBTOTAL (AMPS): 45 | 28 | 31
NEC COMPUTED (AMPS) 34

LOAD CLASSIFICATION		DESIGN FACTOR	
POWER	12.3	100%	12.3
LIGHTING		125%	
MOTOR		125% LARGEST 100% OTHER	
RECEPTACLE		100% FIRST 10KVA 50% OTHER	
TOTALS	12.3		12.3

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION 2B-ELL1 | LOCATION ELECTRICAL 2215 | FLOOR 2ND LEVEL
VOLTAGE 208Y/120V | 3 PHASE 4 WIRE | FED FROM 1B-ELL1
MAIN TYPE MLO | BUS RATING 100 A | FAULT CURRENT RATING 10,000 AIC
MAIN RATING 100 A | MOUNTING SURFACE | FAULT... AIC

REMARKS

DESCRIPTION	BRKR AMP, POLES		CKT NO	LEFT SIDE, KVA A	B	C	RIGHT SIDE, KVA A	B	C	CKT NO	BRKR AMP, POLES		DESCRIPTION
FCU 2-2	25 A	1	1	1.66			1.30			2	1	20 A	LIGHTING
Fire Alarm NAC	20 A	1	3		1.50			0.39		4	1	20 A	LIGHTING
Fire Alarm ACP	20 A	1	5			1.50			0.84	6	1	20 A	LIGHTING
Fire/Smoke Damper	20 A	1	7	0.30			0.00			8	1	20 A	Spare
Fire/Smoke Damper	20 A	1	9		0.30			0.00		10	1	20 A	Spare
Spare	20 A	1	11			0.00			0.00	12	1	20 A	Spare
Spare	20 A	1	13	0.00			0.00			14	1	20 A	Spare
Spare	20 A	1	15		0.00			0.00		16	1	20 A	Spare
Spare	20 A	1	17			0.00			0.00	18	1	20 A	Spare
			19							20			
			21							22			
			23							24			
			25							26			
			27							28			
			29							30			
			31							32			
			33							34			
			35							36			
			37							38			
			39							40			
			41							42			

PHASE SUBTOTALS (KVA): 3.25 | 2.19 | 2.34
PHASE SUBTOTAL (AMPS): 27 | 18 | 20
NEC COMPUTED (AMPS) 24

LOAD CLASSIFICATION		DESIGN FACTOR	
POWER	2.1	100%	2.1
LIGHTING	2.5	125%	3.2
MOTOR	1.7	125% LARGEST 100% OTHER	2.1
RECEPTACLE		100% FIRST 10KVA 50% OTHER	
TOTALS	7.8		8.8

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION 3B-ELL1 | LOCATION ELECTRICAL 3213 | FLOOR 3RD LEVEL
VOLTAGE 208Y/120V | 3 PHASE 4 WIRE | FED FROM 1B-ELL1
MAIN TYPE MLO | BUS RATING 100 A | FAULT CURRENT RATING 10,000 AIC
MAIN RATING 100 A | MOUNTING SURFACE | FAULT... AIC

REMARKS

DESCRIPTION	BRKR AMP, POLES		CKT NO	LEFT SIDE, KVA A	B	C	RIGHT SIDE, KVA A	B	C	CKT NO	BRKR AMP, POLES		DESCRIPTION
FCU 3-2	25 A	1	1	1.66			1.41			2	1	20 A	LIGHTING
Fire Alarm NAC	20 A	1	3		1.50			0.96		4	1	20 A	LIGHTING
Fire/Smoke Dampers	20 A	1	5			0.60			0.00	6	1	20 A	Spare
Fire/Smoke Damper	20 A	1	7	0.30			0.00			8	1	20 A	Spare
Spare	20 A	1	9		0.00			0.00		10	1	20 A	Spare
Spare	20 A	1	11			0.00			0.00	12	1	20 A	Spare
Spare	20 A	1	13	0.00			0.00			14	1	20 A	Spare
Spare	20 A	1	15		0.00			0.00		16	1	20 A	Spare
			17							18			
			19							20			
			21							22			
			23							24			
			25							26			
			27							28			
			29							30			
			31							32			
			33							34			
			35							36			
			37							38			
			39							40			
			41							42			

PHASE SUBTOTALS (KVA): 3.37 | 2.46 | 0.60
PHASE SUBTOTAL (AMPS): 30 | 23 | 5
NEC COMPUTED (AMPS) 21

LOAD CLASSIFICATION		DESIGN FACTOR	
POWER	0.9	100%	0.9
LIGHTING	2.4	125%	3.0
MOTOR	1.7	125% LARGEST 100% OTHER	2.1
RECEPTACLE		100% FIRST 10KVA 50% OTHER	
TOTALS	6.4		7.4

NOTES

EMSB	1B-DELH1	1B-ELL1
1B-EPL1	2B-ELL1	3B-ELL1

SYM	ZONE		DATE	APPROVED

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SIGNATURES	DATE
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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

EMERGENCY/STANDBY/UPS POWER PANEL SCHEDULES

E711

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a | SHEET 74

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PANELBOARD SCHEDULE

PANEL DESIGNATION 4B-ELL1
VOLTAGE 208Y/120V
MAIN TYPE MLO
MAIN RATING 100 A

LOCATION ELECTRICAL 4213
3 PHASE 4 WIRE
BUS RATING 100 A
MOUNTING SURFACE

FLOOR 4TH LEVEL
FED FROM 1B-ELL1
FAULT CURRENT RATING 10,000 AIC
FAULT... AIC

REMARKS

DESCRIPTION	BRKR AMP, POLES		CKT NO	LEFT SIDE, KVA A	B	C	RIGHT SIDE, KVA A	B	C	CKT NO	BRKR AMP, POLES		DESCRIPTION
FCU 4-2	25 A	1	1	1.66			1.31			2	1	20 A	LIGHTING
Fire Alarm NAC	20 A	1	3		1.50			1.08		4	1	20 A	LIGHTING
Fire/Smoke Dampers	20 A	1	5			0.60			0.00	6	1	20 A	Spare
Fire/Smoke Damper	20 A	1	7	0.30			0.00			8	1	20 A	Spare
Spare	20 A	1	9		0.00			0.00		10	1	20 A	Spare
Spare	20 A	1	11			0.00			0.00	12	1	20 A	Spare
Spare	20 A	1	13	0.00			0.00			14	1	20 A	Spare
Spare	20 A	1	15		0.00			0.00		16	1	20 A	Spare
			17							18			
			19							20			
			21							22			
			23							24			
			25							26			
			27							28			
			29							30			
			31							32			
			33							34			
			35							36			
			37							38			
			39							40			
			41							42			

PHASE SUBTOTALS (KVA): 3.27 2.58 0.60
PHASE SUBTOTAL (AMPS): 30 24 5

NEC COMPUTED (AMPS) 21

LOAD CLASSIFICATION / DESIGN FACTOR

POWER	0.9	100%	0.9
LIGHTING	2.4	125%	3.0
MOTOR	1.7	125% LARGEST 100% OTHER	2.1
RECEPTACLE		100% FIRST 10KVA 50% OTHER	
TOTALS	6.4		7.5

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION 5B-ELL1
VOLTAGE 208Y/120V
MAIN TYPE MLO
MAIN RATING 100 A

LOCATION ELECTRICAL 5213
3 PHASE 4 WIRE
BUS RATING 100 A
MOUNTING SURFACE

FLOOR 5TH LEVEL
FED FROM 1B-ELL1
FAULT CURRENT RATING 10,000 AIC
FAULT... AIC

REMARKS

DESCRIPTION	BRKR AMP, POLES		CKT NO	LEFT SIDE, KVA A	B	C	RIGHT SIDE, KVA A	B	C	CKT NO	BRKR AMP, POLES		DESCRIPTION
FCU 5-2	25 A	1	1	1.66			0.88			2	1	15 A	FCU 5-3
Fire Alarm NAC	20 A	1	3		1.50			1.14		4	1	20 A	LIGHTING
Fire Alarm ACP	20 A	1	5			1.50			1.28	6	1	20 A	LIGHTING
Fire/Smoke Dampers	20 A	1	7	0.60			0.00			8	1	20 A	Spare
Fire/Smoke Damper	20 A	1	9		0.30			0.00		10	1	20 A	Spare
Spare	20 A	1	11			0.00			0.00	12	1	20 A	Spare
Spare	20 A	1	13	0.00			0.00			14	1	20 A	Spare
Spare	20 A	1	15		0.00			0.00		16	1	20 A	Spare
Spare	20 A	1	17			0.00			0.00	18	1	20 A	Spare
			19							20			
			21							22			
			23							24			
			25							26			
			27							28			
			29							30			
			31							32			
			33							34			
			35							36			
			37							38			
			39							40			
			41							42			

PHASE SUBTOTALS (KVA): 3.12 2.94 2.78
PHASE SUBTOTAL (AMPS): 26 25 23

NEC COMPUTED (AMPS) 27

LOAD CLASSIFICATION / DESIGN FACTOR

POWER	2.4	100%	2.4
LIGHTING	2.4	125%	3.0
MOTOR	2.5	125% LARGEST 100% OTHER	2.9
RECEPTACLE		100% FIRST 10KVA 50% OTHER	
TOTALS	8.8		9.9

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION 6B-ELL1
VOLTAGE 208Y/120V
MAIN TYPE MLO
MAIN RATING 100 A

LOCATION ELECTRICAL 6213
3 PHASE 4 WIRE
BUS RATING 100 A
MOUNTING SURFACE

FLOOR 6TH LEVEL
FED FROM 1B-ELL1
FAULT CURRENT RATING 10,000 AIC
FAULT... AIC

REMARKS

DESCRIPTION	BRKR AMP, POLES		CKT NO	LEFT SIDE, KVA A	B	C	RIGHT SIDE, KVA A	B	C	CKT NO	BRKR AMP, POLES		DESCRIPTION
FCU 6-2	25 A	1	1	1.66			0.86			2	1	15 A	FCU 6-3
Fire Alarm NAC	20 A	1	3		1.50			1.02		4	1	20 A	LIGHTING
Fire/Smoke Dampers	20 A	1	5			0.60			1.28	6	1	20 A	LIGHTING
Fire/Smoke Damper	20 A	1	7	0.30			0.00			8	1	20 A	Spare
Spare	20 A	1	9		0.00			0.00		10	1	20 A	Spare
Spare	20 A	1	11			0.00			0.00	12	1	20 A	Spare
Spare	20 A	1	13	0.00			0.00			14	1	20 A	Spare
Spare	20 A	1	15		0.00			0.00		16	1	20 A	Spare
			17							18			
			19							20			
			21							22			
			23							24			
			25							26			
			27							28			
			29							30			
			31							32			
			33							34			
			35							36			
			37							38			
			39							40			
			41							42			

PHASE SUBTOTALS (KVA): 2.82 2.52 1.88
PHASE SUBTOTAL (AMPS): 24 22 16

NEC COMPUTED (AMPS) 23

LOAD CLASSIFICATION / DESIGN FACTOR

POWER	0.9	100%	0.9
LIGHTING	2.3	125%	2.9
MOTOR	2.5	125% LARGEST 100% OTHER	2.9
RECEPTACLE		100% FIRST 10KVA 50% OTHER	
TOTALS	7.2		8.2

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION 7B-ELL1
VOLTAGE 208Y/120V
MAIN TYPE MLO
MAIN RATING 100 A

LOCATION ELECTRICAL 7215
3 PHASE 4 WIRE
BUS RATING 100 A
MOUNTING SURFACE

FLOOR 7TH LEVEL
FED FROM 1B-ELL1
FAULT CURRENT RATING 10,000 AIC
FAULT... AIC

REMARKS

DESCRIPTION	BRKR AMP, POLES		CKT NO	LEFT SIDE, KVA A	B	C	RIGHT SIDE, KVA A	B	C	CKT NO	BRKR AMP, POLES		DESCRIPTION
Fire Alarm NAC	20 A	1	1	1.50			0.83			2	1	20 A	LIGHTING
Fire/Smoke Dampers	20 A	1	3		0.60			1.61		4	1	20 A	LIGHTING
ELEV 2 LTS, FAN	20 A	1	5			0.00			0.00	6	1	20 A	ELEV 1 LTS, FAN
ELEV 6 LTS, FAN	20 A	1	7	0.00			0.00			8	1	20 A	ELEV 5 LTS, FAN
FCU 7-2	25 A	1	9		1.66			0.00		10	1	20 A	Spare
Spare	20 A	1	11			0.00			0.00	12	1	20 A	Spare
Spare	20 A	1	13	0.00			0.00			14	1	20 A	Spare
Spare	20 A	1	15		0.00			0.00		16	1	20 A	Spare
Spare	20 A	1	17			0.00			0.00	18	1	20 A	Spare
			19							20			
			21							22			
			23							24			
			25							26			
			27							28			
			29							30			
			31							32			
			33							34			
			35							36			
			37							38			
			39							40			
			41							42			

PHASE SUBTOTALS (KVA): 2.33 3.86 0.00
PHASE SUBTOTAL (AMPS): 22 35 0

NEC COMPUTED (AMPS) 20

LOAD CLASSIFICATION / DESIGN FACTOR

POWER	0.6	100%	0.6
LIGHTING	2.4	125%	3.0
MOTOR	1.7	125% LARGEST 100% OTHER	2.1
RECEPTACLE		100% FIRST 10KVA 50% OTHER	
TOTALS	6.2		7.2

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION PHB-ELL1
VOLTAGE 208Y/120V
MAIN TYPE MLO
MAIN RATING 100 A

LOCATION HVAC PENTHOUSE 325
3 PHASE 4 WIRE
BUS RATING 100 A
MOUNTING SURFACE

FLOOR ROOF LEVEL
FED FROM 1B-ELL1
FAULT CURRENT RATING 10,000 AIC
FAULT... AIC

REMARKS

DESCRIPTION	BRKR AMP, POLES		CKT NO	LEFT SIDE, KVA A	B	C	RIGHT SIDE, KVA A	B	C	CKT NO	BRKR AMP, POLES		DESCRIPTION
LIGHTING	20 A	1	1	1.56			1.50			2	1	20 A	Fire Alarm NAC
LIGHTING	20 A	1	3		0.07			0.00		4	1	20 A	Spare
Fire/Smoke Dampers	20 A	1	5			0.60			0.00	6	1	20 A	Spare
Fire/Smoke Damper	20 A	1	7	0.30			0.00			8	1	20 A	Spare
Spare	20 A	1	9		0.00			0.00		10	1	20 A	Spare
Spare	20 A	1	11			0.00			0.00	12	1	20 A	Spare
Spare	20 A	1	13	0.00			0.00			14	1	20 A	Spare
			15							16			
			17							18			
			19							20			
			21							22			
			23							24			
			25							26			
			27							28			
			29							30			
			31							32			
			33							34			
			35							36			
SPD	30 A	3	37	0.00						38			
--	--	--	39		0.00					40			
--	--	--	41			0.00				42			

PHASE SUBTOTALS (KVA): 3.36 0.07 0.60
PHASE SUBTOTAL (AMPS): 29 1 6

NEC COMPUTED (AMPS) 12

LOAD CLASSIFICATION / DESIGN FACTOR

POWER	0.9	100%	0.9
LIGHTING	1.6	125%	2.0
MOTOR	0.1	125% LARGEST 100% OTHER	0.1
RECEPTACLE		100% FIRST 10KVA 50% OTHER	
TOTALS	4.0		4.4

NOTES

4B-ELL1	5B-ELL1	6B-ELL1
7B-ELL1	PHB-ELL1	

SYM	ZONE		DATE	APPROVED

REVISIONS

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SIGNATURES	DATE
DRAWN Lukas Wierda	12.18.13
CHECKED Vinod Trehan	12.18.13
SUBMITTED AS AS-BUILT RECORD Toby S. Smith	12/18/13
ST of LICENSURE: FL LICENSE NO. 71672	
APPROVED Scott Robinson	12-18-13
Dung Trang	12/19/13

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

EMERGENCY/STANDBY/UPS POWER PANEL SCHEDULES

E712

FILE NO. C-12070.00 | SIZE F | DWG. NO. 79K39622 VOL 4
PCN. NO. 98745.1a | SHEET 75

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1A-DUPL1 DISTRIBUTION PANEL SCHEDULE

MAIN: 400 A | BUS: 400 A
SERVICE: 208Y/120V 4 W | LOCATION: TELECOM 1219
SHORT CIRCUIT RATING: 10 kAIC (MIN.)

Notes:
200% NEUTRAL

CKT	TRIP	POLES	A	B	C	LOAD DESCRIPTION	NOTES
1	100 A	3	8.3	7.3	8.4	1A-UPL1	
2	100 A	3	3.5	3.9	2.4	2A-UPL1	
3	100 A	3	3.5	3.9	2.4	3A-UPL1	
4	100 A	3	4.0	3.9	2.9	7A-UPL1	
5	100 A	3	3.5	3.9	2.4	4A-UPL1	
6	100 A	3	3.5	3.9	2.4	5A-UPL1	
7	100 A	3	3.5	3.9	2.4	6A-UPL1	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
	SUBTOTALS (KVA):		30.0	30.4	23.1		

CONNECTED (KVA):	83.5	CONNECTED (AMPS):	231.7
NEC COMPUTED (KVA):	50.5	NEC COMPUTED (AMPS):	140.1

Notes:

PANELBOARD SCHEDULE

PANEL DESIGNATION 1A-UPL1 | LOCATION TELECOM 1219 | FLOOR 1ST LEVEL
VOLTAGE 208Y/120V | 3 PHASE 4 WIRE | FED FROM 1A-DUPL1
MAIN TYPE MLO | BUS RATING 100 A | FAULT CURRENT RATING 10,000 AIC
MAIN RATING 100 A | MOUNTING SURFACE | FAULT... AIC

REMARKS 200% NEUTRAL

DESCRIPTION	BRKR AMP, POLES		CKT NO	LEFT SIDE, KVA A	B	C	RIGHT SIDE, KVA A	B	C	CKT NO	BRKR AMP, POLES		DESCRIPTION
Rec: Telecom 1219	20 A	1	1	0.18			0.18			2	1	20 A	Rec: Telecom 1464
Rec: Telecom 1219	20 A	1	3		0.18			0.18		4	1	20 A	Rec: Telecom 1464
Rec: Telecom 1219	20 A	1	5			0.18			0.18	6	1	20 A	Rec: Telecom 1464
Rec: Telecom 1219	20 A	1	7	0.18			0.18			8	1	20 A	Rec: Telecom 1464
Rec: Telecom 1219	20 A	1	9		0.18			0.18		10	1	20 A	Rec: Telecom 1464
Rec: Telecom 1219	20 A	1	11			0.18			0.18	12	1	20 A	Rec: Telecom 1464
Rec: Telecom 1219	20 A	1	13	0.18			0.18			14	1	20 A	Rec: Telecom 1464
Rec: Telecom 1219	20 A	1	15		0.18			0.18		16	1	20 A	Rec: Telecom 1464
Rec: Telecom 1219	20 A	1	17			0.18			1.00	18	1	20 A	Rec: Telecom 1464, Rack
Rec: Telecom 1219, Rack	20 A	1	19	1.00			1.00			20	1	20 A	Rec: Telecom 1464, Rack
Rec: Telecom 1219, Rack	20 A	1	21		1.00			1.00		22	1	20 A	Rec: Telecom 1464, Rack
Rec: Telecom 1219, Rack	20 A	1	23			1.00			1.00	24	1	20 A	Rec: Telecom 1464, Rack
Rec: Telecom 1219, Rack	20 A	1	25	1.00			1.00			26	1	20 A	Rec: Telecom 1464, Rack
Rec: Telecom 1219, Rack	20 A	1	27		1.00			1.00		28	1	20 A	Rec: Telecom 1464, Rack
Rec: Telecom 1219, Rack	20 A	1	29			1.00			1.00	30	1	20 A	Rec: Telecom 1464, Rack
Rec: Telecom 1219, Rack	20 A	1	31	1.00			1.00			32	1	20 A	Rec: Telecom 1464, Rack
Rec: Telecom 1219, Rack	20 A	1	33		1.00			0.50		34	1	20 A	METER MSB-B
Rec: Telecom 1219, Rack	20 A	1	35			1.00			0.50	36	1	20 A	METER MSB-A AND PLC
METER EMSB	20 A	1	37	0.50			0.18			38	1	20 A	ETHERNET SWITCH
ETHERNET SWITCH	20 A	1	39		0.18			0.50		40	1	20 A	METER FIRE PUMP
BAS Controls, Rm 1451	20 A	1	41			0.50			0.50	42	1	20 A	Control Panel - Rm 1219
BAS Controls, Rm 1451	20 A	1	43	0.50			0.00			44	1	20 A	Spare
Spare	20 A	1	45		0.00			0.00		46	1	20 A	Spare
Spare	20 A	1	47			0.00			0.00	48	1	20 A	Spare
Spare	20 A	1	49	0.00			0.00			50	1	20 A	Spare
Spare	20 A	1	51		0.00			0.00		52	1	20 A	Spare
Spare	20 A	1	53			0.00			0.00	54	1	20 A	Spare

PHASE SUBTOTALS (KVA): 8.26 | 7.26 | 8.40 — NEC COMPUTED (AMPS) 52
PHASE SUBTOTAL (AMPS): 70 | 61 | 71

LOAD CLASSIFICATION	CONNECTED (KVA)	DEMAND FACTOR	DEMAND (KVA)
POWER	3.5	100%	3.5
LIGHTING		125%	
MOTOR		125% LARGEST 100% OTHER	
RECEPTACLE	20.4	100% FIRST 10KVA 50% OTHER	15.2
TOTALS	23.9		18.7

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION 2A-UPL1 | LOCATION TELECOM 2217 | FLOOR 2ND LEVEL
VOLTAGE 208Y/120V | 3 PHASE 4 WIRE | FED FROM 1A-DUPL1
MAIN TYPE MLO | BUS RATING 100 A | FAULT CURRENT RATING 10,000 AIC
MAIN RATING 100 A | MOUNTING SURFACE | FAULT... AIC

REMARKS 200% NEUTRAL

DESCRIPTION	BRKR AMP, POLES		CKT NO	LEFT SIDE, KVA A	B	C	RIGHT SIDE, KVA A	B	C	CKT NO	BRKR AMP, POLES		DESCRIPTION
Rec: Telecom 2217	20 A	1	1	0.18			1.00			2	1	20 A	Rec: Telecom 2217, Rack
Rec: Telecom 2217	20 A	1	3		0.18			1.00		4	1	20 A	Rec: Telecom 2217, Rack
Rec: Telecom 2217	20 A	1	5			0.18			1.00	6	1	20 A	Rec: Telecom 2217, Rack
Rec: Telecom 2217	20 A	1	7	0.18			1.00			8	1	20 A	Rec: Telecom 2217, Rack
Rec: Telecom 2217	20 A	1	9		0.18			1.00		10	1	20 A	Rec: Telecom 2217, Rack
Rec: Telecom 2217	20 A	1	11			0.18			1.00	12	1	20 A	Rec: Telecom 2217, Rack
Rec: Telecom 2217	20 A	1	13	0.18			1.00			14	1	20 A	Rec: Telecom 2217, Rack
Control Panel - Rm 2217	20 A	1	15		0.50			1.00		16	1	20 A	Rec: Telecom 2217, Rack
Spare	20 A	1	17			0.00			0.00	18	1	20 A	Spare
Spare	20 A	1	19	0.00			0.00			20	1	20 A	Spare
Spare	20 A	1	21		0.00			0.00		22	1	20 A	Spare
Spare	20 A	1	23			0.00			0.00	24	1	20 A	Spare
			25							26			
			27							28			
			29							30			
			31							32			
			33							34			
			35							36			
			37							38			
			39							40			
			41							42			

PHASE SUBTOTALS (KVA): 3.54 | 3.86 | 2.36 — NEC COMPUTED (AMPS) 27
PHASE SUBTOTAL (AMPS): 31 | 34 | 20

LOAD CLASSIFICATION		DESIGN FACTOR	
POWER	0.5	100%	0.5
LIGHTING		125%	
MOTOR		125% LARGEST 100% OTHER	
RECEPTACLE	9.3	100% FIRST 10KVA 50% OTHER	9.3
TOTALS	9.8		9.8

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION 3A-UPL1 | LOCATION TELECOM 3417 | FLOOR 3RD LEVEL
VOLTAGE 208Y/120V | 3 PHASE 4 WIRE | FED FROM 1A-DUPL1
MAIN TYPE MLO | BUS RATING 100 A | FAULT CURRENT RATING 10,000 AIC
MAIN RATING 100 A | MOUNTING SURFACE | FAULT... AIC

REMARKS 200% NEUTRAL

DESCRIPTION	BRKR AMP, POLES		CKT NO	LEFT SIDE, KVA A	B	C	RIGHT SIDE, KVA A	B	C	CKT NO	BRKR AMP, POLES		DESCRIPTION
Rec: Telecom 3417	20 A	1	1	0.18			1.00			2	1	20 A	Rec: Telecom 3417, Rack
Rec: Telecom 3417	20 A	1	3		0.18			1.00		4	1	20 A	Rec: Telecom 3417, Rack
Rec: Telecom 3417	20 A	1	5			0.18			1.00	6	1	20 A	Rec: Telecom 3417, Rack
Rec: Telecom 3417	20 A	1	7	0.18			1.00			8	1	20 A	Rec: Telecom 3417, Rack
Rec: Telecom 3417	20 A	1	9		0.18			1.00		10	1	20 A	Rec: Telecom 3417, Rack
Rec: Telecom 3417	20 A	1	11			0.18			1.00	12	1	20 A	Rec: Telecom 3417, Rack
Rec: Telecom 3417	20 A	1	13	0.18			1.00			14	1	20 A	Rec: Telecom 3417, Rack
Control Panel - Rm 3417	20 A	1	15		0.50			1.00		16	1	20 A	Rec: Telecom 3417, Rack
Spare	20 A	1	17			0.00			0.00	18	1	20 A	Spare
Spare	20 A	1	19	0.00			0.00			20	1	20 A	Spare
Spare	20 A	1	21		0.00			0.00		22	1	20 A	Spare
Spare	20 A	1	23			0.00			0.00	24	1	20 A	Spare
			25							26			
			27							28			
			29							30			
			31							32			
			33							34			
			35							36			
			37							38			
			39							40			
			41							42			

PHASE SUBTOTALS (KVA): 3.54 | 3.86 | 2.36 — NEC COMPUTED (AMPS) 27
PHASE SUBTOTAL (AMPS): 31 | 34 | 20

LOAD CLASSIFICATION		DESIGN FACTOR	
POWER	0.5	100%	0.5
LIGHTING		125%	
MOTOR		125% LARGEST 100% OTHER	
RECEPTACLE	9.3	100% FIRST 10KVA 50% OTHER	9.3
TOTALS	9.8		9.8

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION 4A-UPL1 | LOCATION TELECOM 4417 | FLOOR 4TH LEVEL
VOLTAGE 208Y/120V | 3 PHASE 4 WIRE | FED FROM 1A-DUPL1
MAIN TYPE MLO | BUS RATING 100 A | FAULT CURRENT RATING 10,000 AIC
MAIN RATING 100 A | MOUNTING SURFACE | FAULT... AIC

REMARKS 200% NEUTRAL

DESCRIPTION	BRKR AMP, POLES		CKT NO	LEFT SIDE, KVA A	B	C	RIGHT SIDE, KVA A	B	C	CKT NO	BRKR AMP, POLES		DESCRIPTION
Rec: Telecom 4417	20 A	1	1	0.18			1.00			2	1	20 A	Rec: Telecom 4417, Rack
Rec: Telecom 4417	20 A	1	3		0.18			1.00		4	1	20 A	Rec: Telecom 4417, Rack
Rec: Telecom 4417	20 A	1	5			0.18			1.00	6	1	20 A	Rec: Telecom 4417, Rack
Rec: Telecom 4417	20 A	1	7	0.18			1.00			8	1	20 A	Rec: Telecom 4417, Rack
Rec: Telecom 4417	20 A	1	9		0.18			1.00		10	1	20 A	Rec: Telecom 4417, Rack
Rec: Telecom 4417	20 A	1	11			0.18			1.00	12	1	20 A	Rec: Telecom 4417, Rack
Rec: Telecom 4417	20 A	1	13	0.18			1.00			14	1	20 A	Rec: Telecom 4417, Rack
Control Panel - Rm 4417	20 A	1	15		0.50			1.00		16	1	20 A	Rec: Telecom 4417, Rack
Spare	20 A	1	17			0.00			0.00	18	1	20 A	Spare
Spare	20 A	1	19	0.00			0.00			20	1	20 A	Spare
Spare	20 A	1	21		0.00			0.00		22	1	20 A	Spare
Spare	20 A	1	23			0.00			0.00	24	1	20 A	Spare
			25							26			
			27							28			
			29							30			
			31							32			
			33							34			
			35							36			
			37							38			
			39							40			
			41							42			

PHASE SUBTOTALS (KVA): 3.54 | 3.86 | 2.36 — NEC COMPUTED (AMPS) 27
PHASE SUBTOTAL (AMPS): 31 | 34 | 20

LOAD CLASSIFICATION		DESIGN FACTOR	
POWER	0.5	100%	0.5
LIGHTING		125%	
MOTOR		125% LARGEST 100% OTHER	
RECEPTACLE	9.3	100% FIRST 10KVA 50% OTHER	9.3
TOTALS	9.8		9.8

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION 5A-UPL1 | LOCATION TELECOM 5417 | FLOOR 5TH LEVEL
VOLTAGE 208Y/120V | 3 PHASE 4 WIRE | FED FROM 1A-DUPL1
MAIN TYPE MLO | BUS RATING 100 A | FAULT CURRENT RATING 10,000 AIC
MAIN RATING 100 A | MOUNTING SURFACE | FAULT... AIC

REMARKS 200% NEUTRAL

DESCRIPTION	BRKR AMP, POLES		CKT NO	LEFT SIDE, KVA A	B	C	RIGHT SIDE, KVA A	B	C	CKT NO	BRKR AMP, POLES		DESCRIPTION
Rec: Telecom 5417	20 A	1	1	0.18			1.00			2	1	20 A	Rec: Telecom 5417, Rack
Rec: Telecom 5417	20 A	1	3		0.18			1.00		4	1	20 A	Rec: Telecom 5417, Rack
Rec: Telecom 5417	20 A	1	5			0.18			1.00	6	1	20 A	Rec: Telecom 5417, Rack
Rec: Telecom 5417	20 A	1	7	0.18			1.00			8	1	20 A	Rec: Telecom 5417, Rack
Rec: Telecom 5417	20 A	1	9		0.18			1.00		10	1	20 A	Rec: Telecom 5417, Rack
Rec: Telecom 5417	20 A	1	11			0.18			1.00	12	1	20 A	Rec: Telecom 5417, Rack
Rec: Telecom 5417	20 A	1	13	0.18			1.00			14	1	20 A	Rec: Telecom 5417, Rack
Control Panel - Rm 5417	20 A	1	15		0.50			1.00		16	1	20 A	Rec: Telecom 5417, Rack
Spare	20 A	1	17			0.00			0.00	18	1	20 A	Spare
Spare	20 A	1	19	0.00			0.00			20	1	20 A	Spare
Spare	20 A	1	21		0.00			0.00		22	1	20 A	Spare
Spare	20 A	1	23			0.00			0.00	24	1	20 A	Spare
			25							26			
			27							28			
			29							30			
			31							32			
			33							34			
			35							36			
			37							38			
Future Shell	20 A	1	39		0.00					40			
Future Shell	20 A	1	41			0.00				42			

PHASE SUBTOTALS (KVA): 3.54 | 3.86 | 2.36 — NEC COMPUTED (AMPS) 27
PHASE SUBTOTAL (AMPS): 31 | 34 | 20

LOAD CLASSIFICATION		DESIGN FACTOR	
POWER	0.5	100%	0.5
LIGHTING		125%	
MOTOR		125% LARGEST 100% OTHER	
RECEPTACLE	9.3	100% FIRST 10KVA 50% OTHER	9.3
TOTALS	9.8		9.8

NOTES

1A-DUPL1	1A-UPL1	2A-UPL1
3A-UPL1	4A-UPL1	5A-UPL1

SYM	ZONE		DATE	APPROVED

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CHECKED Vinod Trehan	12.18.13
SUBMITTED: ARCH/ENG OF RECORD Toby S. Smith	12/18/13
ST of LICENSURE: FL LICENSE NO. 71672	
APPROVED Scott Robinson	12.18.13
Dung Trang	12/18/13

E713

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

EMERGENCY/STANDBY/UPS POWER PANEL SCHEDULES

FILE NO. C-12070.00 | SIZE F | DWG. NO. 79K39622 VOL 4
PCN. NO. 98745.1a | SHEET 76

KSC FORM 1-11 (3/76)(C/G 3/94)

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PANELBOARD SCHEDULE

PANEL DESIGNATION 6A-UPL1
VOLTAGE 208Y/120V
MAIN TYPE MLO
MAIN RATING 100 A

LOCATION TELECOM 6417
3 PHASE 4 WIRE
BUS RATING 100 A
MOUNTING SURFACE

FLOOR 6TH LEVEL
FED FROM 1A-DUPL1
FAULT CURRENT RATING 10,000 AIC
FAULT... AIC

REMARKS 200% NEUTRAL

DESCRIPTION	BRKR AMP, POLES		CKT NO	LEFT SIDE, KVA A	B	C	RIGHT SIDE, KVA A	B	C	CKT NO	BRKR AMP, POLES		DESCRIPTION
Rec: Telecom 6417	20 A	1	1	0.18			1.00			2	1	20 A	Rec: Telecom 6417, Rack
Rec: Telecom 6417	20 A	1	3		0.18			1.00		4	1	20 A	Rec: Telecom 6417, Rack
Rec: Telecom 6417	20 A	1	5			0.18			1.00	6	1	20 A	Rec: Telecom 6417, Rack
Rec: Telecom 6417	20 A	1	7	0.18			1.00			8	1	20 A	Rec: Telecom 6417, Rack
Rec: Telecom 6417	20 A	1	9		0.18			1.00		10	1	20 A	Rec: Telecom 6417, Rack
Rec: Telecom 6417	20 A	1	11			0.18			1.00	12	1	20 A	Rec: Telecom 6417, Rack
Rec: Telecom 6417	20 A	1	13	0.18			1.00			14	1	20 A	Rec: Telecom 6417, Rack
Control Panel - Rm 6417	20 A	1	15		0.50			1.00		16	1	20 A	Rec: Telecom 6417, Rack
Spare	20 A	1	17			0.00			0.00	18	1	20 A	Spare
Spare	20 A	1	19	0.00			0.00			20	1	20 A	Spare
Spare	20 A	1	21		0.00			0.00		22	1	20 A	Spare
Spare	20 A	1	23			0.00			0.00	24	1	20 A	Spare
			25							26			
			27							28			
			29							30			
			31							32			
			33							34			
			35							36			
			37							38			
Future Shell	20 A	1	39		0.00					40			
Future Shell	20 A	1	41			0.00				42			

PHASE SUBTOTALS (KVA): 3.54 3.86 2.36
PHASE SUBTOTAL (AMPS): 31 34 20

NEC COMPUTED (AMPS) 27

LOAD CLASSIFICATION		DESIGN FACTOR	
POWER	0.5	100%	0.5
LIGHTING		125%	
MOTOR		125% LARGEST 100% OTHER	
RECEPTACLE	9.3	100% FIRST 10KVA 50% OTHER	9.3
TOTALS	9.8		9.8

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION 7A-UPL1
VOLTAGE 208Y/120V
MAIN TYPE MLO
MAIN RATING 100 A

LOCATION TELECOM 7417
3 PHASE 4 WIRE
BUS RATING 100 A
MOUNTING SURFACE

FLOOR 7TH LEVEL
FED FROM 1A-DUPL1
FAULT CURRENT RATING 10,000 AIC
FAULT... AIC

REMARKS 200% NEUTRAL

DESCRIPTION	BRKR AMP, POLES		CKT NO	LEFT SIDE, KVA A	B	C	RIGHT SIDE, KVA A	B	C	CKT NO	BRKR AMP, POLES		DESCRIPTION
Rec: Telecom 7417	20 A	1	1	0.18			1.00			2	1	20 A	Rec: Telecom 7417, Rack
Rec: Telecom 7417	20 A	1	3		0.18			1.00		4	1	20 A	Rec: Telecom 7417, Rack
Rec: Telecom 7417	20 A	1	5			0.18			1.00	6	1	20 A	Rec: Telecom 7417, Rack
Rec: Telecom 7417	20 A	1	7	0.18			1.00			8	1	20 A	Rec: Telecom 7417, Rack
Rec: Telecom 7417	20 A	1	9		0.18			1.00		10	1	20 A	Rec: Telecom 7417, Rack
Rec: Telecom 7417	20 A	1	11			0.18			1.00	12	1	20 A	Rec: Telecom 7417, Rack
Rec: Telecom 7417	20 A	1	13	0.18			1.00			14	1	20 A	Rec: Telecom 7417, Rack
Security Controller Elev 8208	20 A	1	15		0.50			1.00		16	1	20 A	Rec: Telecom 7417, Rack
Control Panel - Rm 7417	20 A	1	17			0.50			0.00	18	1	20 A	Spare
Control Panel - Rm 8208	20 A	1	19	0.50			0.00			20	1	20 A	Spare
Spare	20 A	1	21		0.00			0.00		22	1	20 A	Spare
Spare	20 A	1	23			0.00			0.00	24	1	20 A	Spare
Spare	20 A	1	25	0.00			0.00			26	1	20 A	Spare
Spare	20 A	1	27		0.00			0.00		28	1	20 A	Spare
			29							30			
			31							32			
			33							34			
			35							36			
			37							38			
			39							40			
			41							42			

PHASE SUBTOTALS (KVA): 4.04 3.86 2.86
PHASE SUBTOTAL (AMPS): 35 33 24

NEC COMPUTED (AMPS) 30

LOAD CLASSIFICATION		DESIGN FACTOR	
POWER	1.5	100%	1.5
LIGHTING		125%	
MOTOR		125% LARGEST 100% OTHER	
RECEPTACLE	9.3	100% FIRST 10KVA 50% OTHER	9.3
TOTALS	10.8		10.8

NOTES

6A-UPL1	7A-UPL1	

SYM	ZONE		DATE	APPROVED

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ST of LICENSURE: FL LICENSE NO. 71672	
APPROVED Scott Robinson	12.18.13
Dung Trang	12/19/13

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

EMERGENCY/STANDBY/UPS POWER PANEL SCHEDULES

E714

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 77

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1A-DSPH1 — DISTRIBUTION PANEL SCHEDULE

MAIN: 200 A | BUS: 200 A
SERVICE: 480V 3 W | LOCATION: ELECTRICAL 1454
SHORT CIRCUIT RATING: 35 kAIC (MIN.)

Notes:

CKT	TRIP	POLES	A	B	C	LOAD DESCRIPTION	NOTES
1	100 A	3	14.0	14.0	14.0	ELEVATOR #2	
2	100 A	3	14.0	14.0	14.0	ELEVATOR #6	
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
		SUBTOTALS (KVA):	28.0	28.0	28.0		

CONNECTED (KVA):	84.0	CONNECTED (AMPS):	101.0
NEC COMPUTED (KVA):	94.5	NEC COMPUTED (AMPS):	113.7

Notes:

1B-DSPH1 — DISTRIBUTION PANEL SCHEDULE

MAIN: 800 A | BUS: 800 A
SERVICE: 480V 3 W | LOCATION: EMERGENCY ELECTRICAL...
SHORT CIRCUIT RATING: 35 kAIC (MIN.)

Notes:

CKT	TRIP	POLES	A	B	C	LOAD DESCRIPTION	NOTES
1	100 A	3	12.6	12.3	11.3	PHB-SMH1	
2	125 A	3	3.5	2.7	0.0	1B-T-SPL1	
3	90 A	3	14.4	14.4	14.4	CWP-1	
4	250 A	3	49.9	49.9	49.9	CWP-3	
5	100 A	3	14.0	14.0	14.0	ELEVATOR #1	
6	100 A	3	14.0	14.0	14.0	ELEVATOR #5	
7	90 A	3	0.0	0.0	0.0	CWP-2 (Redundant)	
8	250 A	3	0.0	0.0	0.0	CWP-4 (Redundant)	
9	250 A	3	49.9	49.9	49.9	CWP-6	
10	90 A	3	14.4	14.4	14.4	CWP-5	
11	20 A	3	2.3	2.3	2.3	Motor FIRE PUMP 1260	
12							
13							
14							
15							
16							
17							
18							
19							
20							
		SUBTOTALS (KVA):	175.0	174.0	170.2		

CONNECTED (KVA):	519.2	CONNECTED (AMPS):	624.5
NEC COMPUTED (KVA):	556.7	NEC COMPUTED (AMPS):	669.6

Notes:

PANELBOARD SCHEDULE

PANEL DESIGNATION 1B-SPL1 | LOCATION ELECTRICAL 1211 | FLOOR 1ST LEVEL
VOLTAGE 208Y/120V | 3 PHASE 4 WIRE | FED FROM 1B-T-SPL1
MAIN TYPE MCB | BUS RATING 250 A | FAULT CURRENT RATING 10,000 AIC
MAIN RATING 250 A | MOUNTING SURFACE | FAULT... AIC

REMARKS

DESCRIPTION	BRKR AMP, POLES		CKT NO	A	B	C	A	B	C	CKT NO	BRKR AMP, POLES		DESCRIPTION
				LEFT SIDE, KVA			RIGHT SIDE, KVA						
Flagpole Light	20 A	1	1	0.68			1.10			2	1	20 A	Rec: Elev. 1/2, SP-2
Rec: Elev. 3/4, SP-3	20 A	1	3		1.10			1.10		4	1	20 A	Rec: Elev. 5/6, SP-1
Spare	20 A	1	5			0.00			0.00	6	1	20 A	Spare
Spare	20 A	1	7	0.00			0.00			8	1	20 A	Spare
Spare	20 A	1	9		0.00			0.00		10	1	20 A	Spare
Spare	20 A	1	11			0.00			0.00	12	1	20 A	Spare
Spare	20 A	1	13	0.00			0.00			14	1	20 A	Spare
			15							16			
			17							18			
			19							20			
			21							22			
			23							24			
			25							26			
			27							28			
			29							30			
			31							32			
			33							34			
			35							36			
PHB-SPL2	100 A	3	37	1.72						38			
--	--	--	39		0.54					40			
--	--	--	41			0.00				42			

PHASE SUBTOTALS (KVA):	3.50	2.74	0.00	NEC COMPUTED (AMPS) 18
PHASE SUBTOTAL (AMPS):	33	26	0	

LOAD CLASSIFICATION		DESIGN FACTOR	
POWER	0.5	100%	0.5
LIGHTING		125%	
MOTOR	1.2	125% LARGEST 100% OTHER	1.5
RECEPTACLE	4.6	100% FIRST 10KVA 50% OTHER	4.6
TOTALS	6.2		6.5

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION PHB-SMH1 | LOCATION EQUIP. ROOM 8206 | FLOOR ROOF LEVEL
VOLTAGE 480V | 3 PHASE 3 WIRE | FED FROM 1B-DSPH1
MAIN TYPE MLO | BUS RATING 100 A | FAULT CURRENT RATING 10,000 AIC
MAIN RATING 100 A | MOUNTING SURFACE | FAULT... AIC

REMARKS

DESCRIPTION	BRKR AMP, POLES		CKT NO	A	B	C	A	B	C	CKT NO	BRKR AMP, POLES		DESCRIPTION
				LEFT SIDE, KVA			RIGHT SIDE, KVA						
PHB-T-SPL1	50 A	3	1	1.26			3.88			2	3	25 A	SF-6
--	--	--	3		1.02			3.88		4	--	--	--
--	--	--	5			0.00			3.88	6	--	--	--
SF-5	15 A	3	7	1.33			3.05			8	3	20 A	SF-8
--	--	--	9		1.33			3.05		10	--	--	--
--	--	--	11			1.33			3.05	12	--	--	--
SF-7	20 A	3	13	3.05						14			
--	--	--	15		3.05					16			
--	--	--	17			3.05				18			
			19							20			
			21							22			
			23							24			
			25							26			
			27							28			
			29							30			
			31							32			
			33							34			
			35							36			
			37							38			
			39							40			
			41							42			

PHASE SUBTOTALS (KVA):	12.57	12.33	11.31	NEC COMPUTED (AMPS) 47
PHASE SUBTOTAL (AMPS):	46	45	41	

LOAD CLASSIFICATION		DESIGN FACTOR	
POWER	0.0	100%	0.0
LIGHTING	0.5	125%	0.6
MOTOR	33.9	125% LARGEST 100% OTHER	36.8
RECEPTACLE	1.8	100% FIRST 10KVA 50% OTHER	1.8
TOTALS	36.2		39.2

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION PHB-SPL1 | LOCATION EQUIP. ROOM 8206 | FLOOR ROOF LEVEL
VOLTAGE 208Y/120V | 3 PHASE 4 WIRE | FED FROM PHB-T-SPL1
MAIN TYPE MCB | BUS RATING 100 A | FAULT CURRENT RATING 10,000 AIC
MAIN RATING 100 A | MOUNTING SURFACE | FAULT... AIC

REMARKS

DESCRIPTION	BRKR AMP, POLES		CKT NO	A	B	C	A	B	C	CKT NO	BRKR AMP, POLES		DESCRIPTION
				LEFT SIDE, KVA			RIGHT SIDE, KVA						
Rec: Equip. Rm 8206	20 A	1	1	0.72			0.54			2	1	20 A	Rec: Equip. Rm 8206
Rec: Equip. Rm 8206	20 A	1	3		0.54			0.48		4	1	20 A	LIGHTING Room 8206, 6459
Spare	20 A	1	5			0.00			0.00	6	1	20 A	Spare
Spare	20 A	1	7	0.00			0.00			8	1	20 A	Spare
Spare	20 A	1	9		0.00			0.00		10	1	20 A	Spare
Spare	20 A	1	11			0.00			0.00	12	1	20 A	Spare
Spare	20 A	1	13	0.00			0.00			14	1	20 A	Spare
			15							16			
			17							18			
			19							20			
			21							22			
			23							24			
			25							26			
			27							28			
			29							30			
			31							32			
			33							34			
			35							36			
SPD	30 A	3	37	0.00						38			
--	--	--	39		0.00					40			
--	--	--	41			0.00				42			

PHASE SUBTOTALS (KVA):	1.26	1.02	0.00	NEC COMPUTED (AMPS) 7
PHASE SUBTOTAL (AMPS):	12	10	0	

LOAD CLASSIFICATION		DESIGN FACTOR	
POWER		100%	
LIGHTING	0.4	125%	0.5
MOTOR	0.1	125% LARGEST 100% OTHER	0.1
RECEPTACLE	1.8	100% FIRST 10KVA 50% OTHER	1.8
TOTALS	2.3		2.4

NOTES

PANELBOARD SCHEDULE

PANEL DESIGNATION PHB-SPL2 | LOCATION HVAC PENTHOUSE 325 | FLOOR ROOF LEVEL
VOLTAGE 208Y/120V | 3 PHASE 4 WIRE | FED FROM 1B-SPL1
MAIN TYPE MLO | BUS RATING 100 A | FAULT CURRENT RATING 10,000 AIC
MAIN RATING 100 A | MOUNTING SURFACE | FAULT... AIC

REMARKS

DESCRIPTION	BRKR AMP, POLES		CKT NO	A	B	C	A	B	C	CKT NO	BRKR AMP, POLES		DESCRIPTION
				LEFT SIDE, KVA			RIGHT SIDE, KVA						
FCU 8-3	20 A	1	1	1.18			0.54			2	1	20 A	Rec: Elev. Ctrl Equip. 8208
Rec: Elev. Ctrl Equip. 8208	20 A	1	3		0.54			0.00		4	1	20 A	Spare
Spare	20 A	1	5			0.00			0.00	6	1	20 A	Spare
Spare	20 A	1	7	0.00			0.00			8	1	20 A	Spare
Spare	20 A	1	9		0.00			0.00		10	1	20 A	Spare
Spare	20 A	1	11			0.00			0.00	12	1	20 A	Spare
			13							14			
			15							16			
			17							18			
			19							20			
			21							22			
			23							24			
			25							26			
			27							28			
			29							30			
			31							32			
			33							34			
			35							36			
			37							38			
			39							40			
			41							42			

PHASE SUBTOTALS (KVA):	1.72	0.54	0.00	NEC COMPUTED (AMPS) 7
PHASE SUBTOTAL (AMPS):	15	5	0	

LOAD CLASSIFICATION		DESIGN FACTOR	
POWER	0.0	100%	0.0
LIGHTING		125%	
MOTOR	1.2	125% LARGEST 100% OTHER	1.5
RECEPTACLE	1.1	100% FIRST 10KVA 50% OTHER	1.1
TOTALS	2.3		2.6

NOTES

1A-DSPH1	1B-DSPH1	1B-SPL1
PHB-SMH1	PHB-SPL1	PHB-SPL2

SYM	ZONE		DATE	APPROVED

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CHECKED Vinod Trehan	12.18.13
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ST of LICENSURE: FL LICENSE NO. 71672	
APPROVED Scott Robinson	12.18.13
Dung Trang	12/18/13

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

EMERGENCY/STANDBY/UPS POWER PANEL SCHEDULES

E715

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a | SHEET 78

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FIRE ALARM LEGEND

F	FIRE ALARM CONTROL PANEL	F	MANUAL PULL STATION
ACP	FIRE ALARM AUXILIARY CONTROL PANEL	P	PHOTOELECTRIC SMOKE DETECTOR
SCP	FIRE ALARM SMOKE CONTROL PANEL	P S	PHOTOELECTRIC DUCT SMOKE DETECTOR - SUPPLY
FAAP	FIRE ALARM ANNUNCIATOR PANEL	P R	PHOTOELECTRIC DUCT SMOKE DETECTOR - RETURN
MOD	FIRE ALARM MODEM CABINET		HEAT-ACTUATED DETECTOR
ZAM	FIRE ALARM ZAM CABINET	RT	REMOTE DUCT DETECTOR TEST SWITCH / LED
FATC	FIRE ALARM TERMINAL CABINET	R	AUXILIARY REMOTE CONTROL RELAY
VCP	FIRE ALARM VOICE CONTROL PANEL	F	FIRE ALARM STROBE LIGHT WALL MOUNTED
TSTC	TRANSIENT SURGE TERMINAL CABINET	F	COMBINATION FIRE SPEAKER/STROBE WALL MOUNTED
NAC	NOTIFICATION APPLIANCE CABINET	F	FIRE SPEAKER WALL MOUNTED
CT	CODED TRANSMITTER	F	FIRE ALARM STROBE LIGHT CEILING MOUNTED
	FAAN	F	COMBINATION FIRE SPEAKER/STROBE CEILING MOUNTED
PS	PRESSURE SWITCH	F	FIRE SPEAKER CEILING MOUNTED
FS	FLOW SWITCH	DH	MAGNETIC DOOR HOLDER
TS	TAMPER SWITCH		AC SHUTOFF SWITCH
ZAM	ZONE ADDRESSABLE MODULE	CRMS	FIRE ALARM RADIO TRANSMITTER
SZ	SIGNAL ZAM	ANT	FIRE ALARM RADIO ANTENNA
MZ	MONITOR ZAM		HEAT SENSITIVE CABLE
CZ	CONTROL ZAM		HEAT SENSITIVE CABLE TEST PORT
SV	SOLENOID VALVE	T	TELEPHONE JACK
K	KEY ISOLATE SWITCH		DISCONNECT SWITCH
IAM	SUPERVISED IAM	J	JUNCTION BOX
LAPS	LOW AIR PRESSURE SWITCH		ELECTRICAL GROUND
FSD	FIRE SMOKE DAMPERS	SS	SURGE SUPPRESSOR
A	ANNUNCIATOR LCD PANEL		SURGE SUPPRESSOR
APS	POWER SUPPLY 24 VOLT DC		

ABBREVIATIONS

ACU	- AIR CONDITIONING UNIT
AFF	- ABOVE FINISHED FLOOR
AFG	- ABOVE FINISHED GRADE
AHU	- AIR HANDLING UNIT
CB	- CONCRETE BLOCK
CD	- CANDELA
CF	- CONCEALED FLANGE CEILING TILE
CLG	- CEILING
CORR	- CORRIDOR
DISTRIB	- DISTRIBUTION
DP	- DRYWALL PARTITION
DW	- DRYWALL
E	- ELEVATOR CONTROL
EF	- EXHAUST FAN
EMT	- ELECTRICAL METALLIC TUBING
EOLR	- END OF LINE RESISTOR
EP	- EXPLOSION PROOF
FA	- FIRE ALARM
FACP	- FIRE ALARM CONTROL PANEL
FBO	- FURNISHED BY OTHERS
FP	- FIRE PUMP
GB	- GYPSUM BOARD
HAD	- HEAT ACTUATED DETECTOR
HWG	- HEAVY WALL GALVANIZED CONDUIT
IAM	- INDIVIDUAL ADDRESSABLE MODULE
JP	- JOCKEY PUMP
LSOC	- LOCKHEED SPACE OPERATIONS CO.
MPS	- MANUAL PULL STATION
OVHD	- OVERHEAD
PIV	- POST INDICATING VALVE
PNL	- PANEL
POL	- PAINT, OIL, AND LUBRICANT
REP	- REPORTING
RM	- ROOM
RTU	- ROOF TOP UNIT
SD	- STANDARD DRYWALL
SIG	- INDICATING (SIGNAL) CIRCUIT
TSTC	- TRANSIENT SUPPRESSION TERMINAL CABINET
TTB	- TELEPHONE TERMINAL BOARD
TTC	- TELEPHONE TERMINAL CABINET
TYP	- TYPICAL
TRANSF	- TRANSFORMER
UF	- UNDERFLOOR
UG	- UNDERGROUND
UGE	- UNDERGROUND ELECTRIC
UH	- UNIT HEATER
UNO	- UNLESS NOTED OTHERWISE
W/	- WITH
W/O	- WITHOUT
WP	- WEATHERPROOF
XMTR	- TRANSMITTER
ZAM	- ZONE ADDRESSABLE MODULE
ZN	- INITIATING ZONE

SYM	ZONE		DATE	APPROVED

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CHECKED Vinod Trehan	12.18.13
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ST of LICENSURE: FL LICENSE NO. 71672	
APPROVED Scott Robinson	12-18-13
Neal Colvin	12/19/13

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

FIRE ALARM SYMBOLS AND ABBREVIATIONS

FA001

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 79

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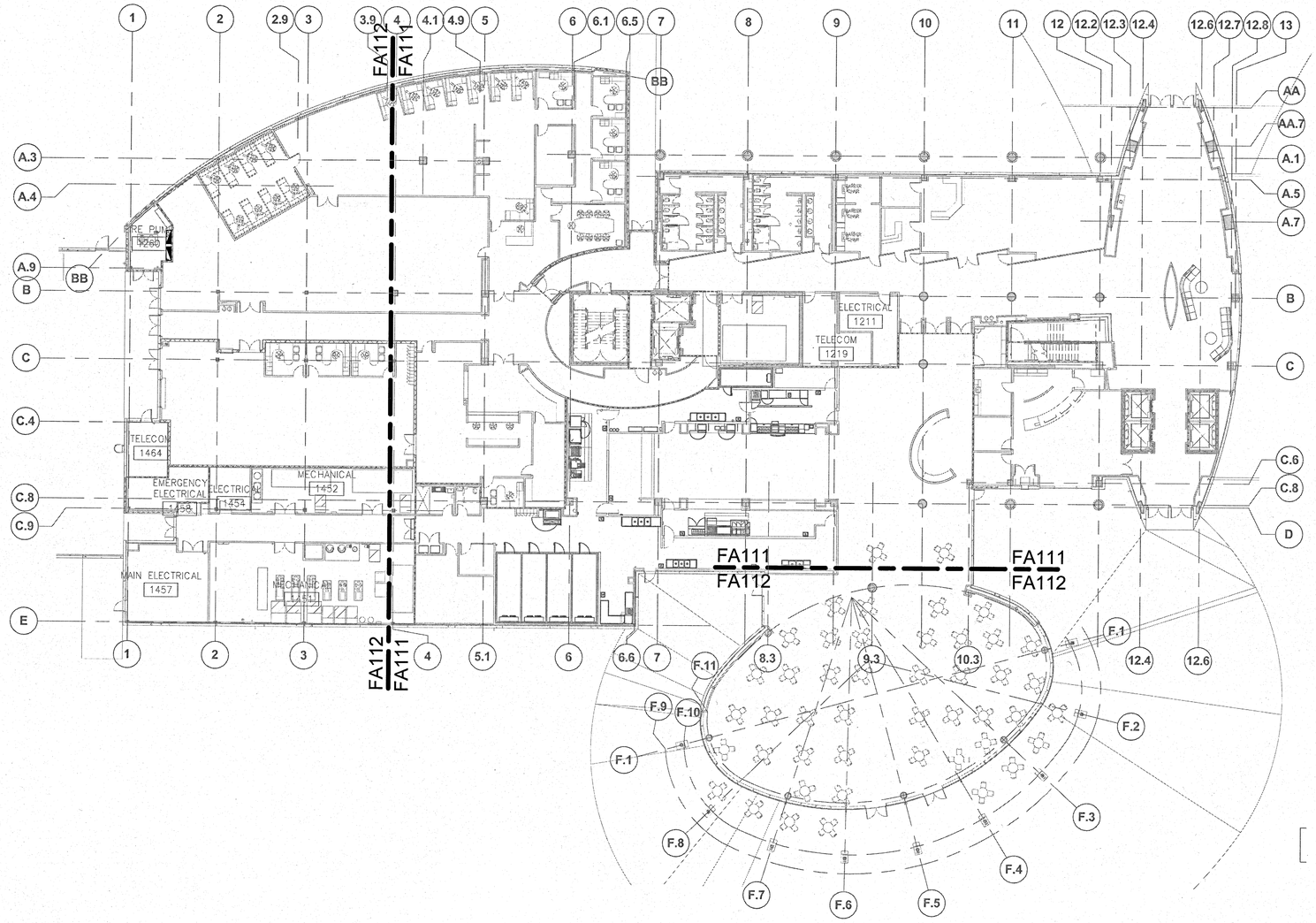

FIRE ALARM PLAN - 1ST LEVEL OVERALL

1/16" = 1'-0"

GRAPHIC SCALE

0 16 32 48

SCALE IN FEET
1/16" = 1' - 0"

N

SYM	ZONE		DATE	APPROVED

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Neal Colvin	12/19/13

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PHASE 1
VOL. 4 OF 4

FIRE ALARM PLAN - 1ST LEVEL OVERALL

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 80

FA110

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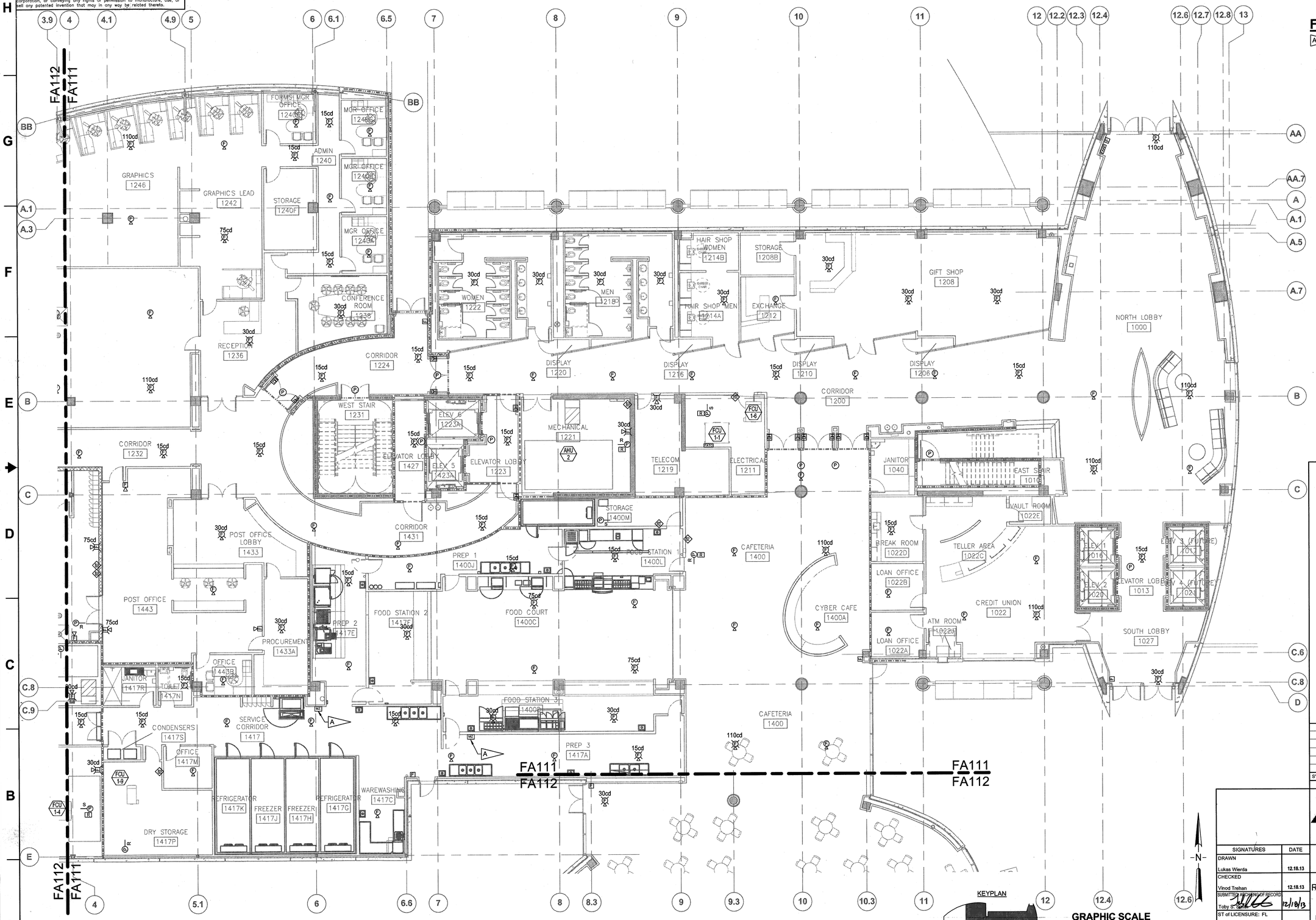

FIRE ALARM PLAN - 1ST LEVEL - AREA 1

1/8" = 1'-0"

FLAG NOTES:

A. FOOD SERVICE KITCHEN HOOD WET CHEMICAL RELEASE SYSTEM PANEL TO BE MONTIORED BY BUILDING FIRE ALARM PANEL.

KEYPLAN

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1'- 0"

SYM	ZONE		DATE	APPROVED

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LICENSE NO. 71672	
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Neal Colvin	12/18/13

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PHASE 1
VOL. 4 OF 4

FIRE ALARM PLAN - 1ST LEVEL AREA 1

FA111

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 81

KSC FORM 1-11 (3/76)(C/G 3/94)

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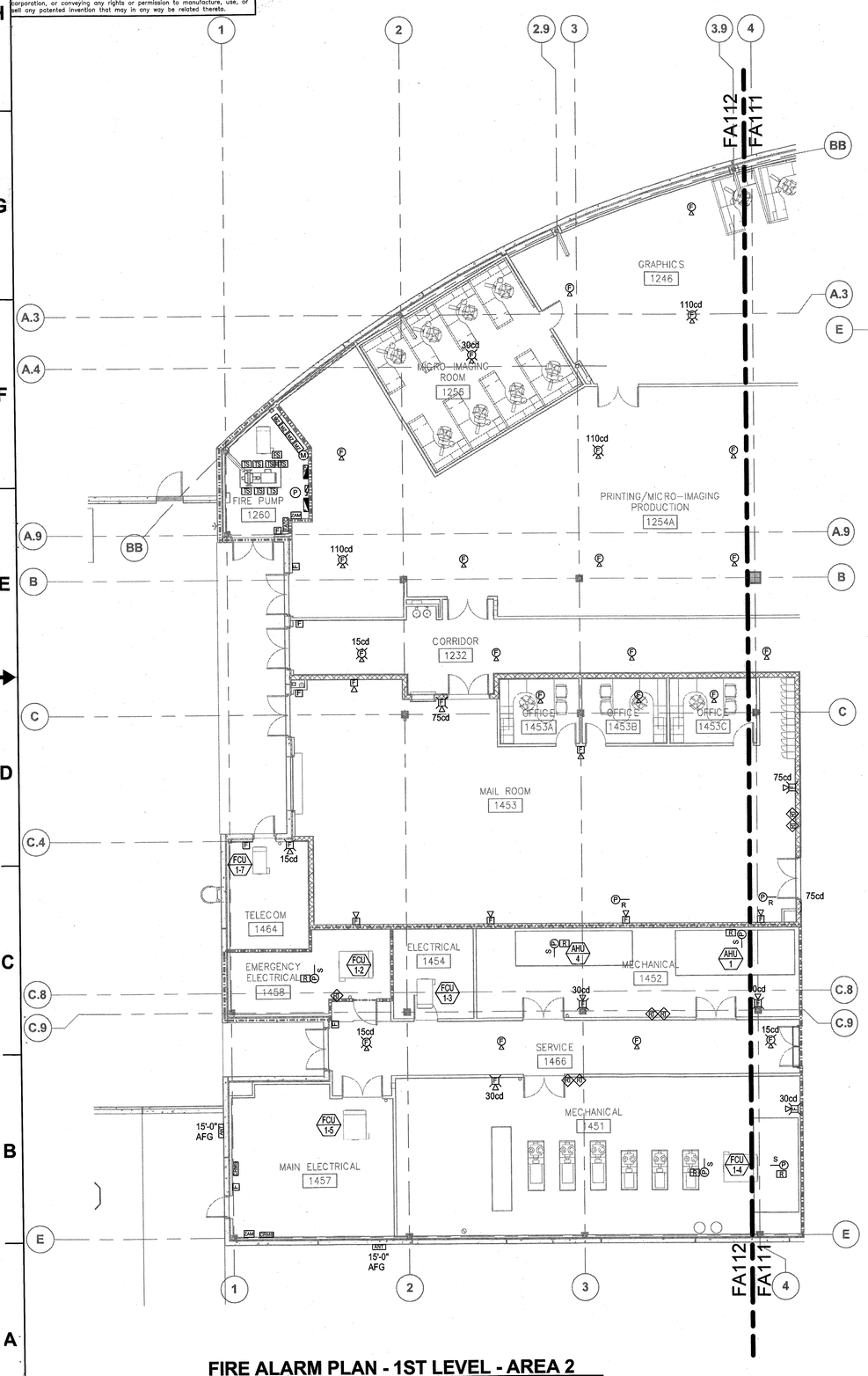
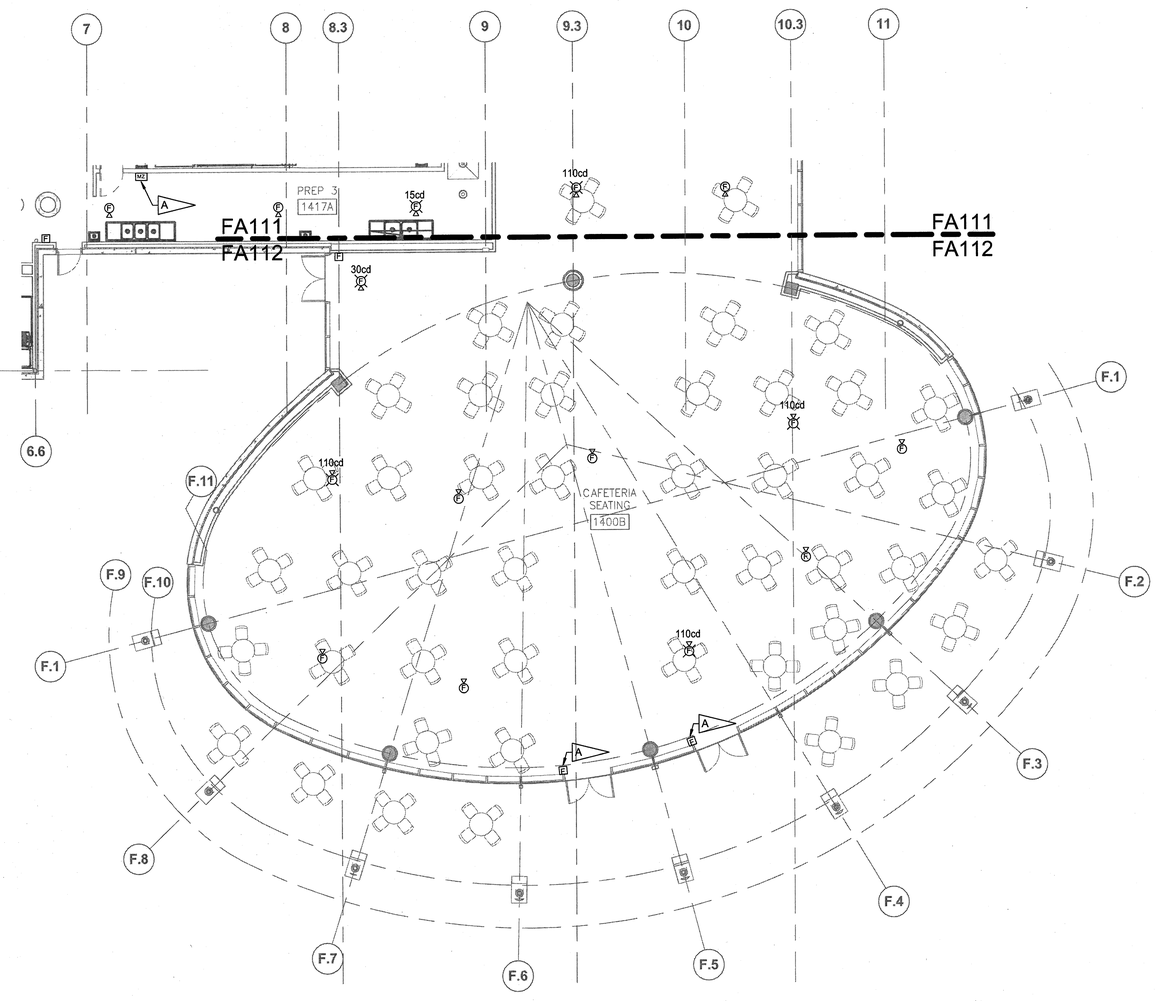


FIRE ALARM PLAN - 1ST LEVEL - AREA 2

1/8" = 1'-0"



FIRE ALARM PLAN - 1ST LEVEL - AREA 3

1/8" = 1'-0"

FLAG NOTES:

A — MOUNT FIRE ALARM PULL STATION IN BOX FRAMED AGAINST MULLION. REFER TO ARCHITECTURAL DETAIL #9 ON SHEET A261.

KEYPLAN

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET

1/8" = 1' - 0"

N

FA112

SIGNATURES	DATE
DRAWN	
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Vinod Trehan	12.18.13
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APPROVED	
Scott Robinson	12-18-13
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VOL. 4 OF 4

FIRE ALARM PLAN - 1ST LEVEL AREA 2 & 3

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 82

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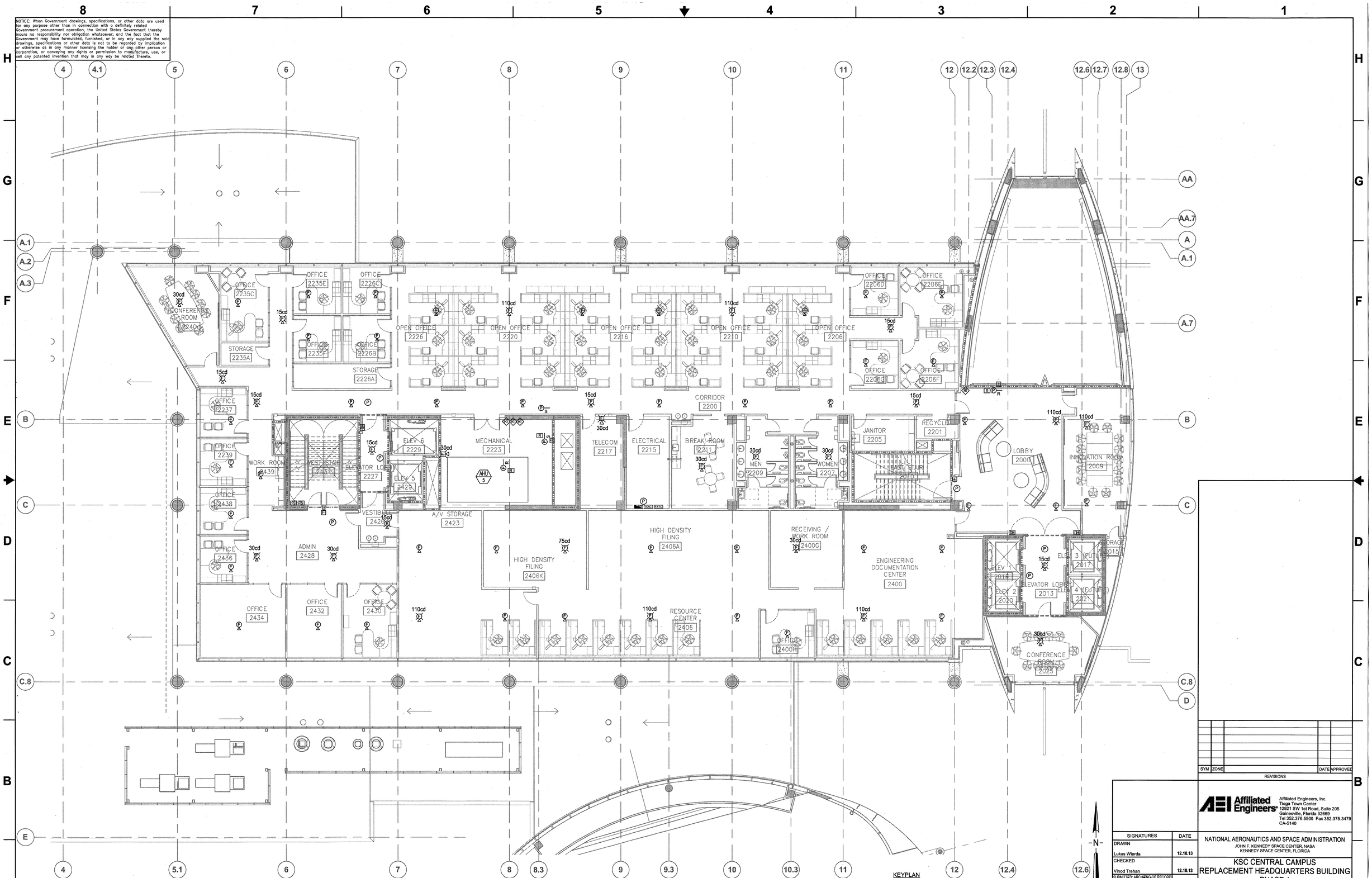

FIRE ALARM PLAN - 2ND LEVEL - AREA 1

1/8" = 1'-0"

SYM	ZONE		DATE	APPROVED

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PHASE 1
VOL. 4 OF 4

FIRE ALARM PLAN - 2ND LEVEL AREA 1

FA121

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 83

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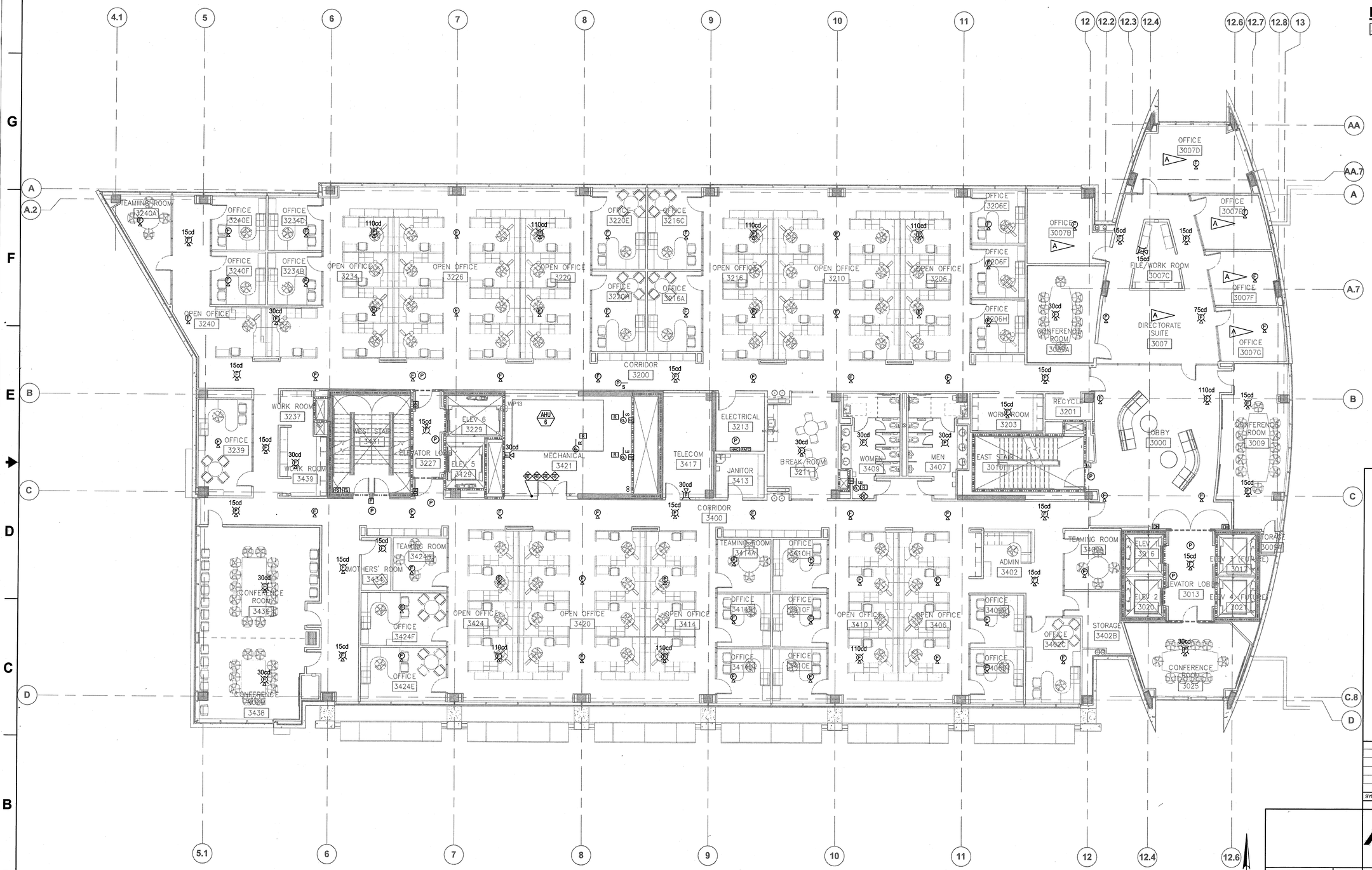

FLAG NOTES:

A — EXISTING FURNITURE GOVERNMENT FURNISHED, GOVERNMENT INSTALLED. COORDINATE LOCATIONS OF ALL FLOOR, WALL AND CEILING DEVICES WITH GOVERNMENT.

FIRE ALARM PLAN - 3RD LEVEL

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1' - 0"

SYM	ZONE		DATE	APPROVED

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PHASE 1
VOL. 4 OF 4

FIRE ALARM PLAN - 3RD LEVEL

FA131

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 84

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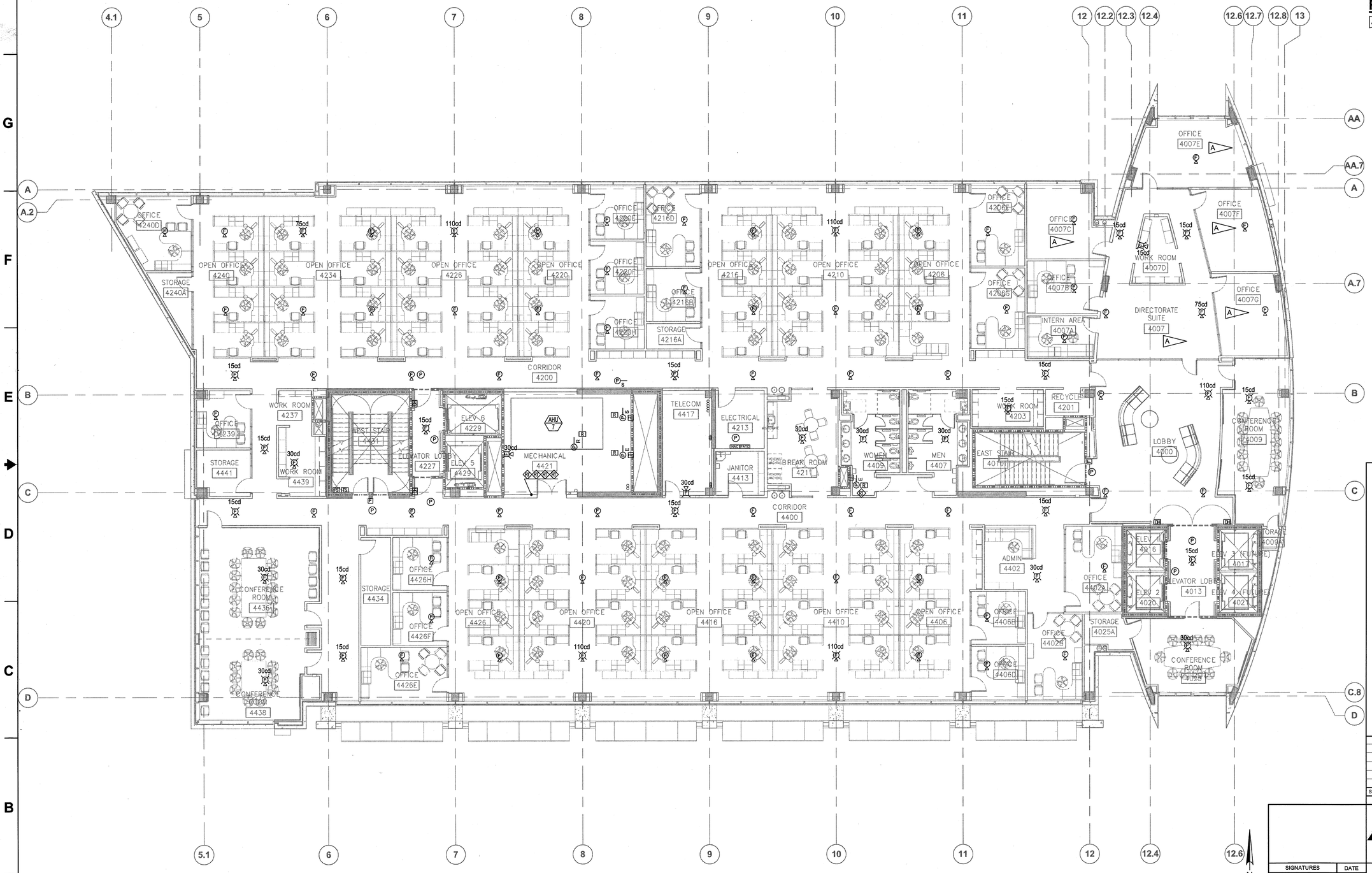

FLAG NOTES:

A — EXISTING FURNITURE GOVERNMENT FURNISHED, GOVERNMENT INSTALLED. COORDINATE LOCATIONS OF ALL FLOOR, WALL AND CEILING DEVICES WITH GOVERNMENT.

FIRE ALARM PLAN - 4TH LEVEL

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1'-0"

-N-

SYM	ZONE		DATE	APPROVED

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APPROVED Scott Robinson	12-18-13
Neil Colvin	12/18/13

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PHASE 1
VOL. 4 OF 4

FIRE ALARM PLAN - 4TH LEVEL

FA141

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 85

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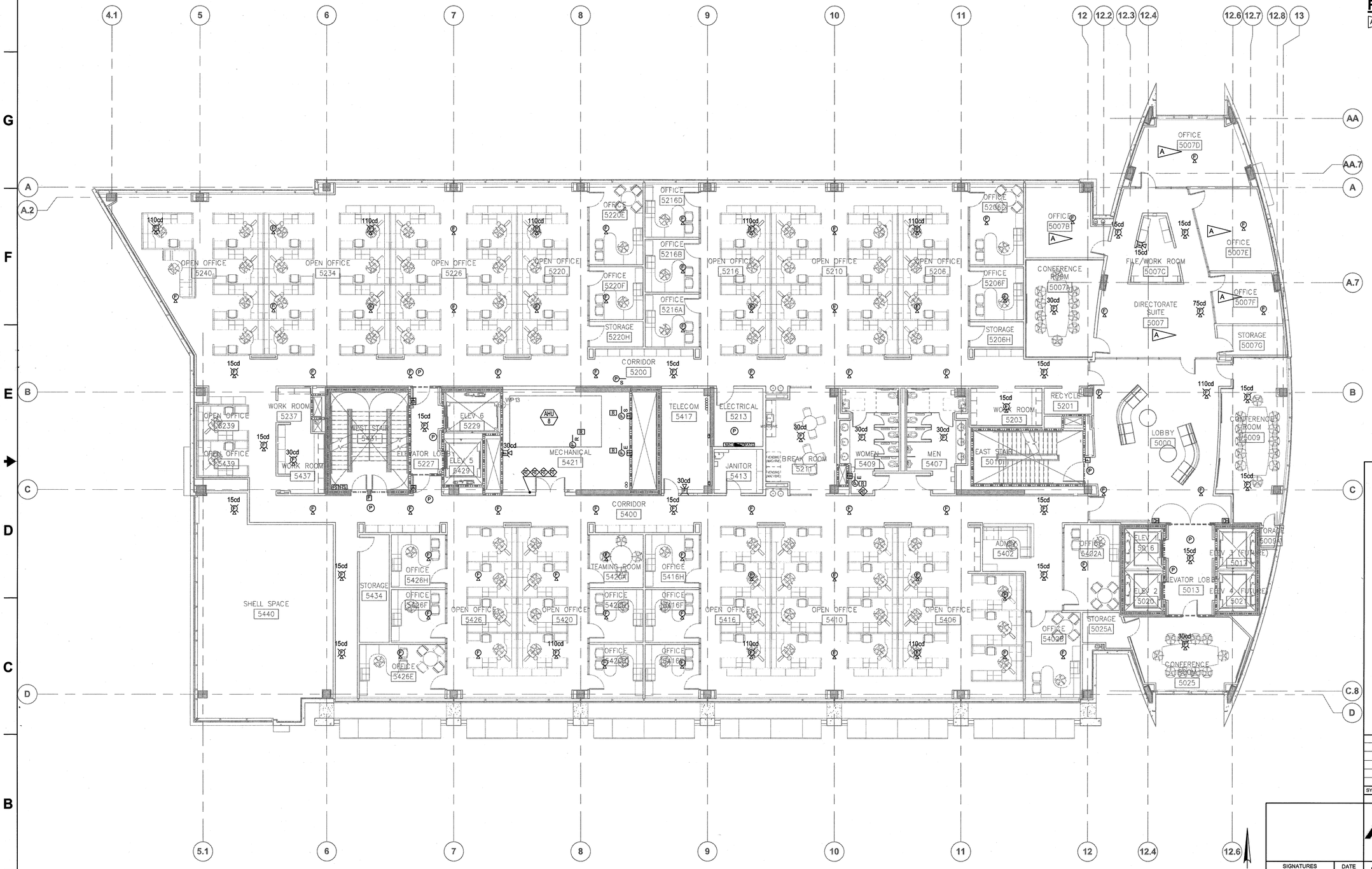

FLAG NOTES:

A — EXISTING FURNITURE GOVERNMENT FURNISHED, GOVERNMENT INSTALLED. COORDINATE LOCATIONS OF ALL FLOOR, WALL AND CEILING DEVICES WITH GOVERNMENT.

FIRE ALARM PLAN - 5TH LEVEL

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1'-0"

SYM	ZONE		DATE	APPROVED

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PHASE 1
VOL. 4 OF 4

FIRE ALARM PLAN - 5TH LEVEL

FA151

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 86

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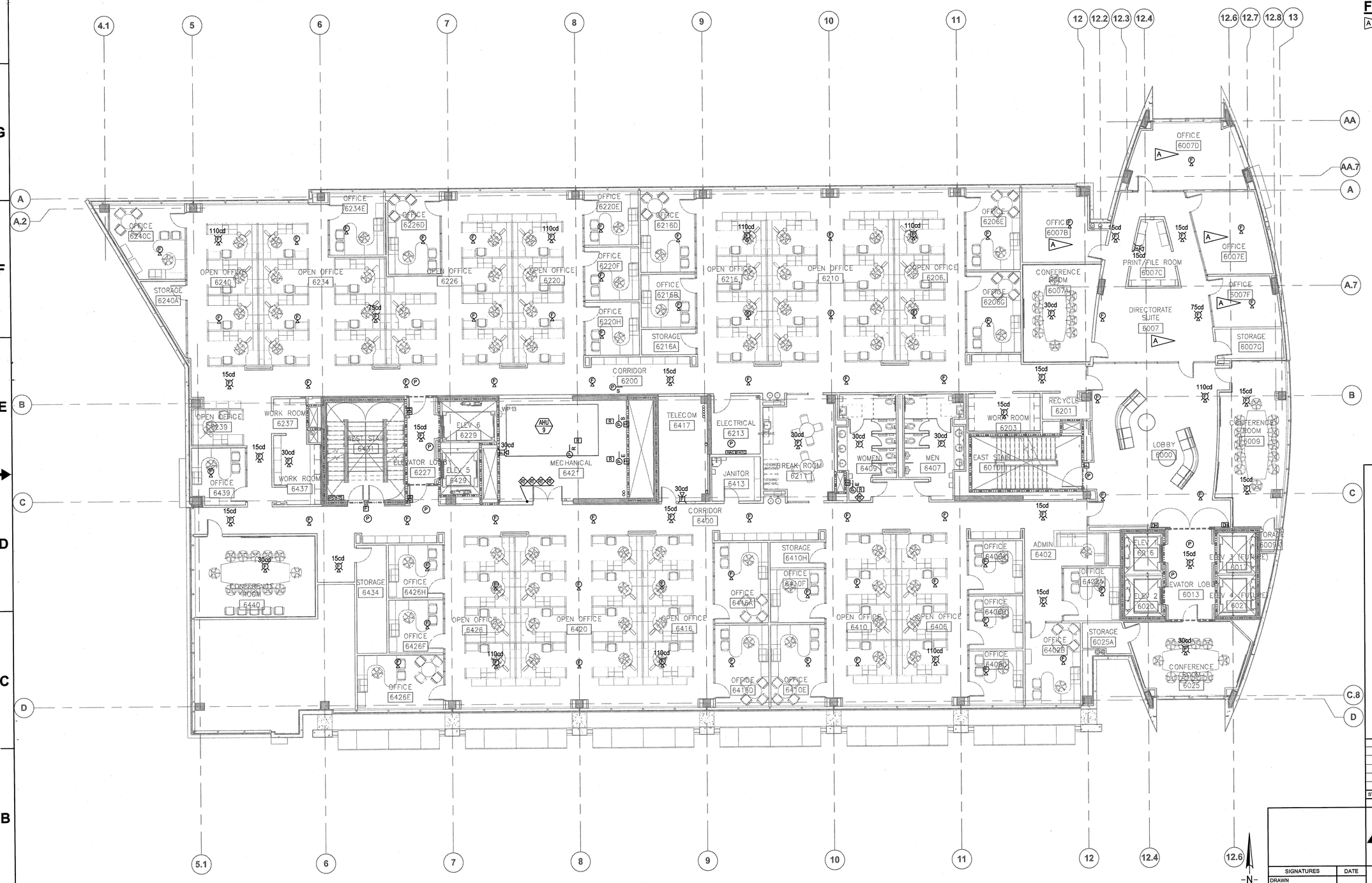

FIRE ALARM PLAN - 6TH LEVEL

1/8" = 1'-0"

SYM	ZONE		DATE	APPROVED

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LICENSE NO. 71672	
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Neal Colvin	12/18/13

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PHASE 1
VOL. 4 OF 4

FIRE ALARM PLAN - 6TH LEVEL

FA161

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 87

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FLAG NOTES:

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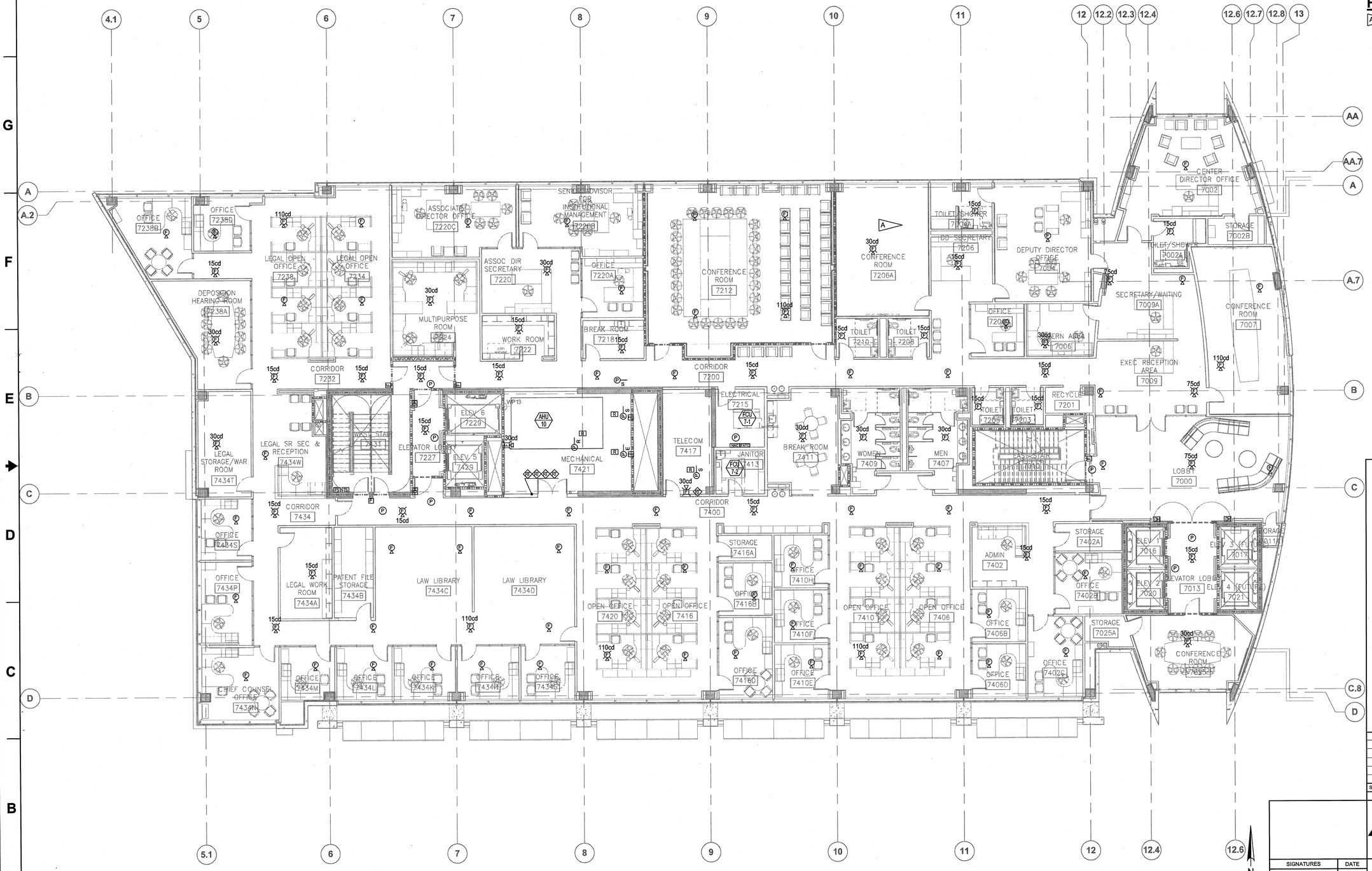

FIRE ALARM PLAN - 7TH LEVEL

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1' - 0"

FA171

SYM	ZONE		DATE	APPROVED

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LICENSE NO. 71672	
APPROVED Scott Robinson	12.18.13
Neal Colvin	12/19/13

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

FIRE ALARM PLAN - 7TH LEVEL

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 88

KSC FORM 1-11 (3/76)(C/G 3/94)

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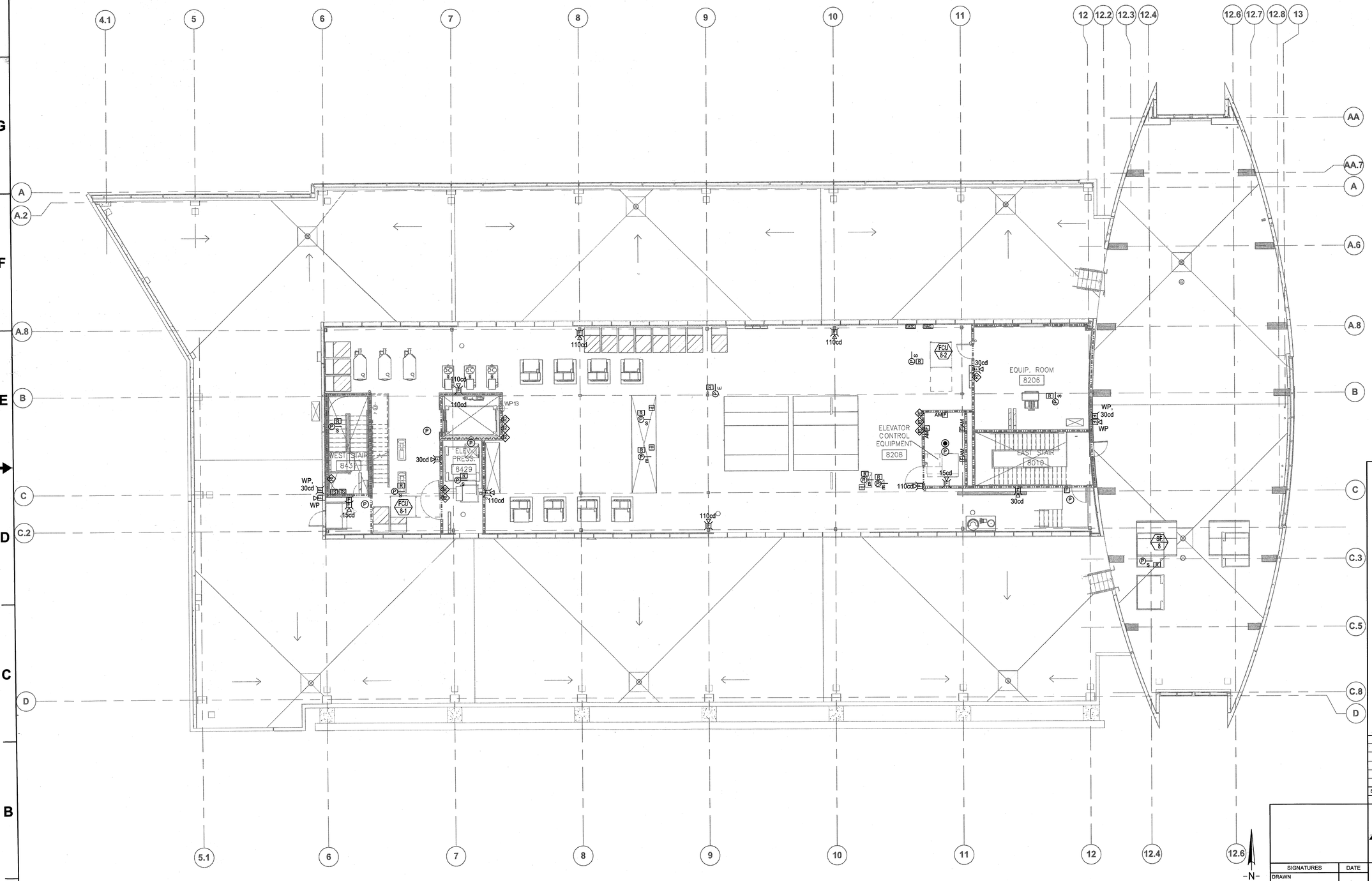
GENERAL NOTES:

1. ALL FIRE ALARM PANELS, SHOWN LOCATED ON NORTH AND SOUTH WALLS OF PENTHOUSE, SHALL BE MOUNTED ON UNISTRUT SUPPORTS THAT DO NOT TOUCH THE WALLS.



FIRE ALARM PLAN - ROOF

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1' - 0"

SYM	ZONE		DATE	APPROVED

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SUBMITTED: ARCHITECT OF RECORD Toby S. Smith	12/18/13
ST of LICENSURE: FL	
LICENSE NO. 71672	
APPROVED Scott Robinson	12.18.13
Neal Colvin	12/18/13

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

FIRE ALARM PLAN - ROOF

FA181

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 89

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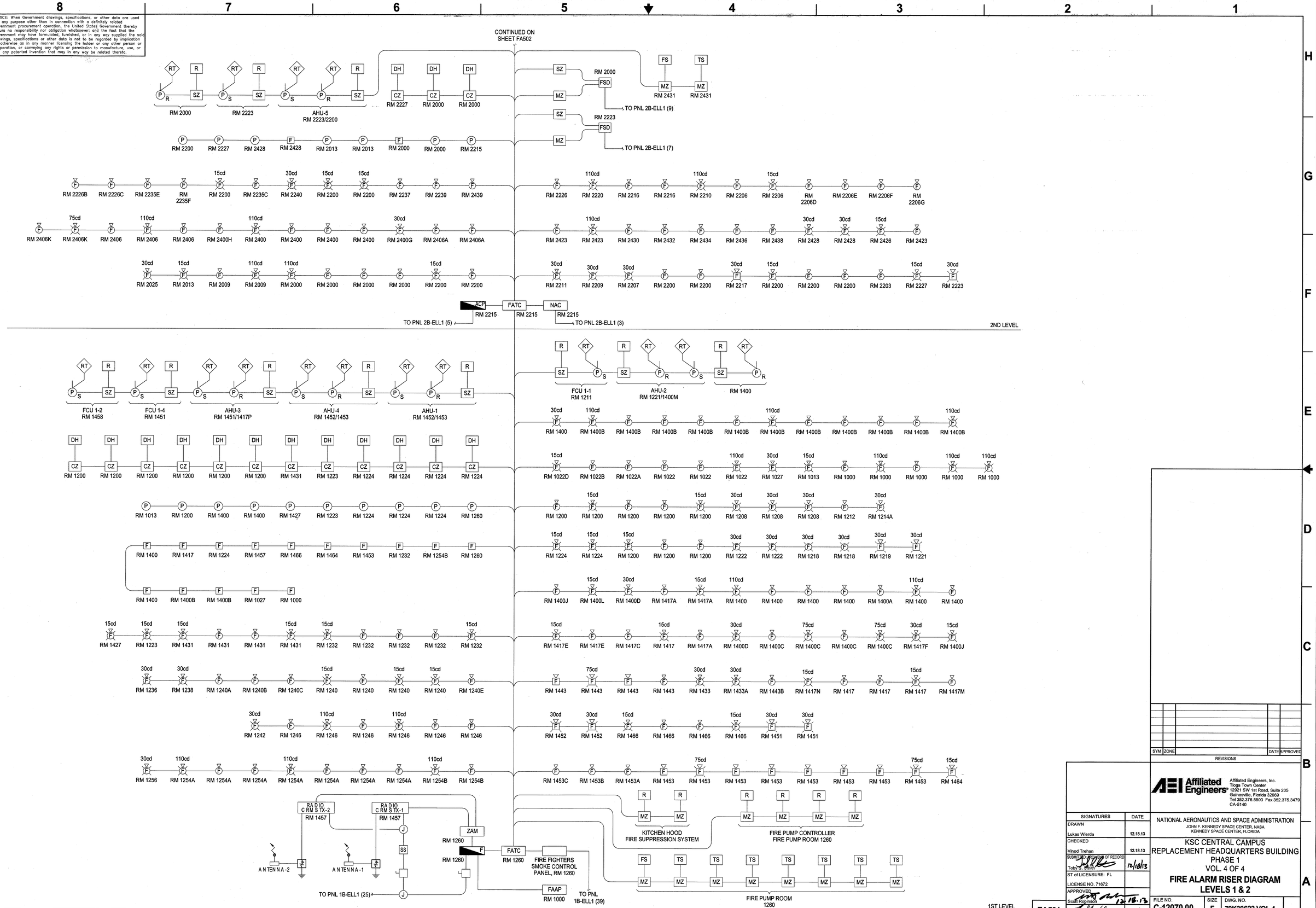

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Neal Colvin	12/18/13

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PHASE 1
VOL. 4 OF 4

FIRE ALARM RISER DIAGRAM
LEVELS 1 & 2

FA501

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 90

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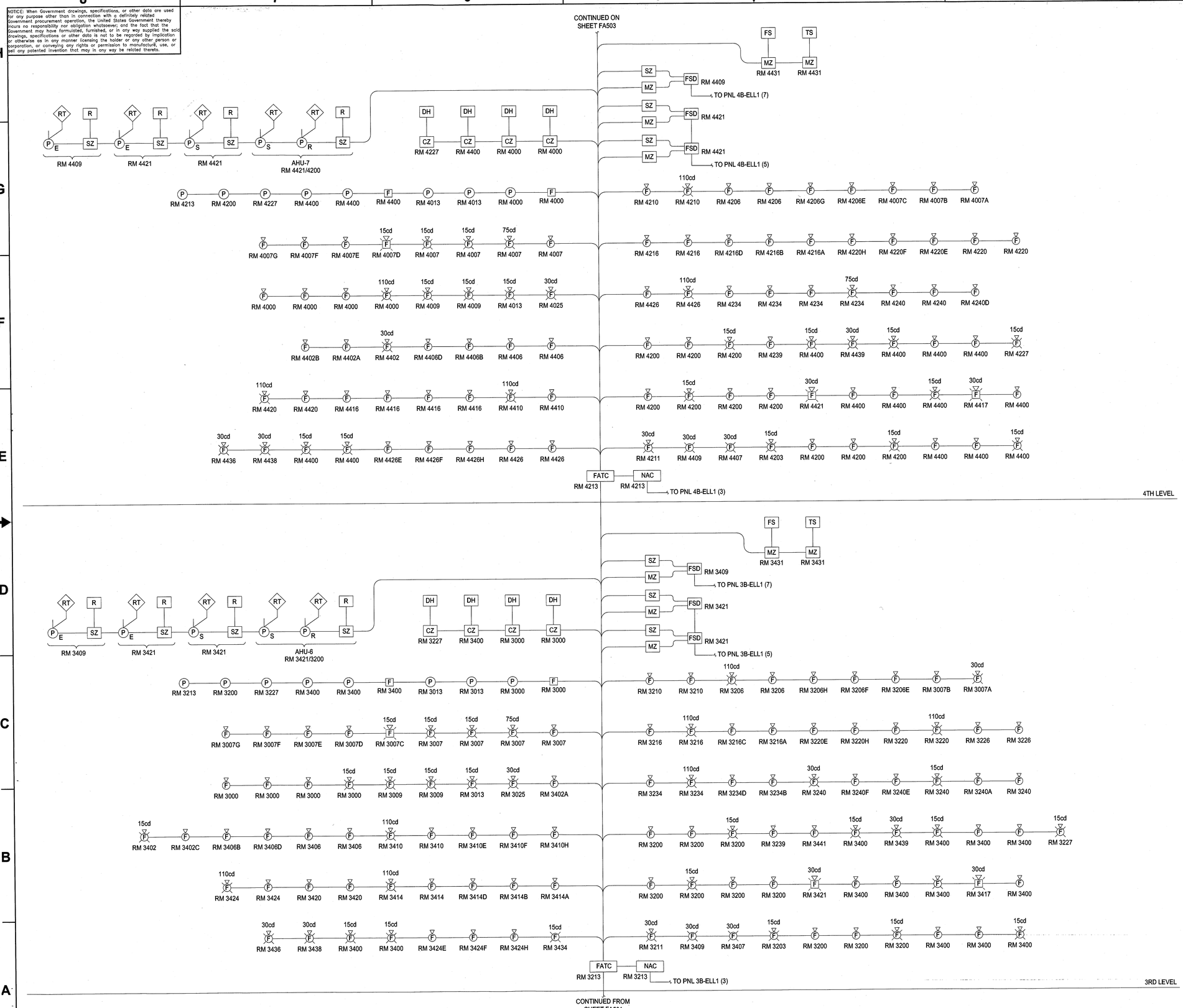
CONTINUED ON SHEET FA503



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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

FIRE ALARM RISER DIAGRAM
LEVELS 3 & 4

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 91

FA502

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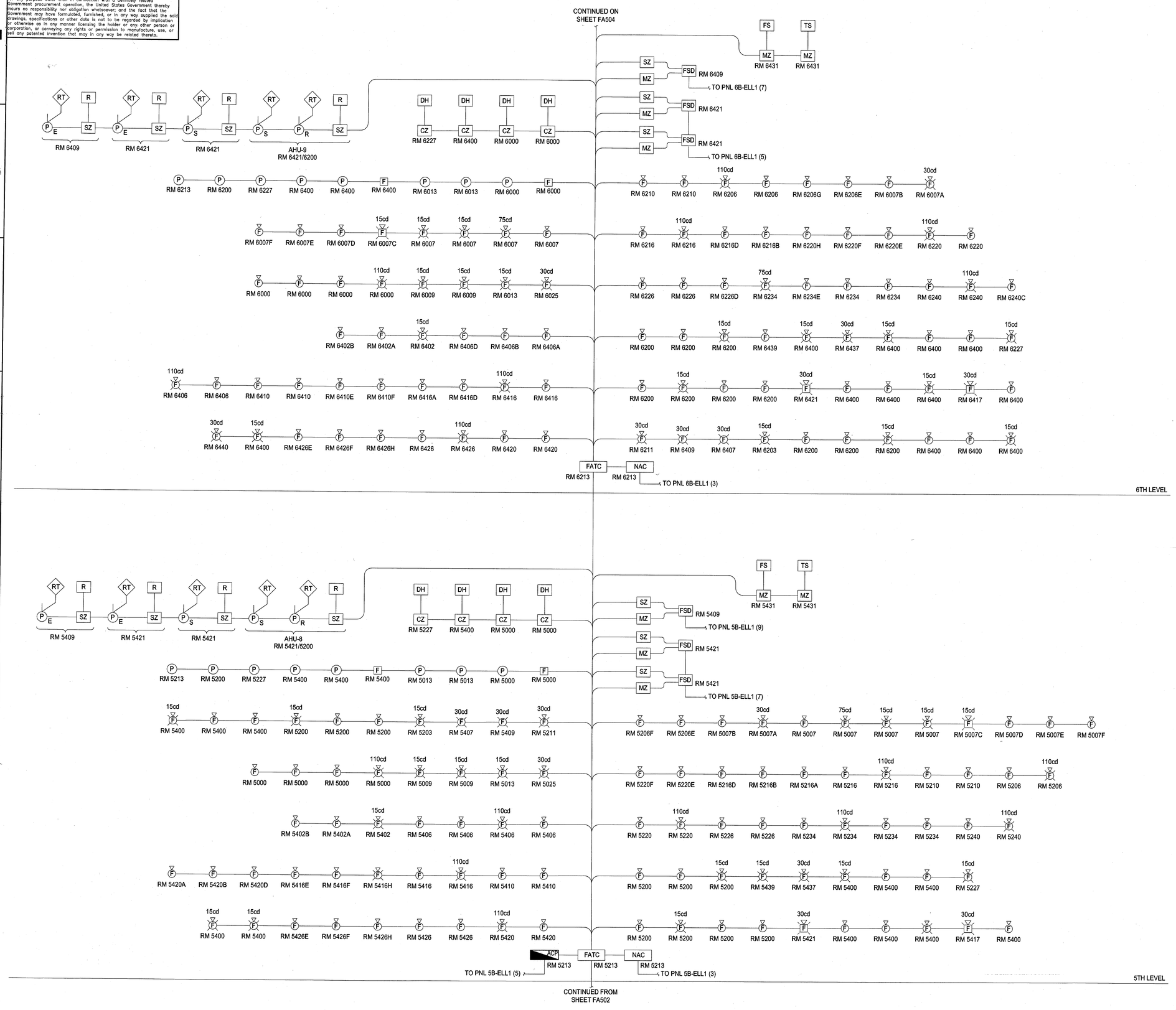

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PHASE 1
VOL. 4 OF 4

FIRE ALARM RISER DIAGRAM LEVELS 5 & 6

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 92

FA503

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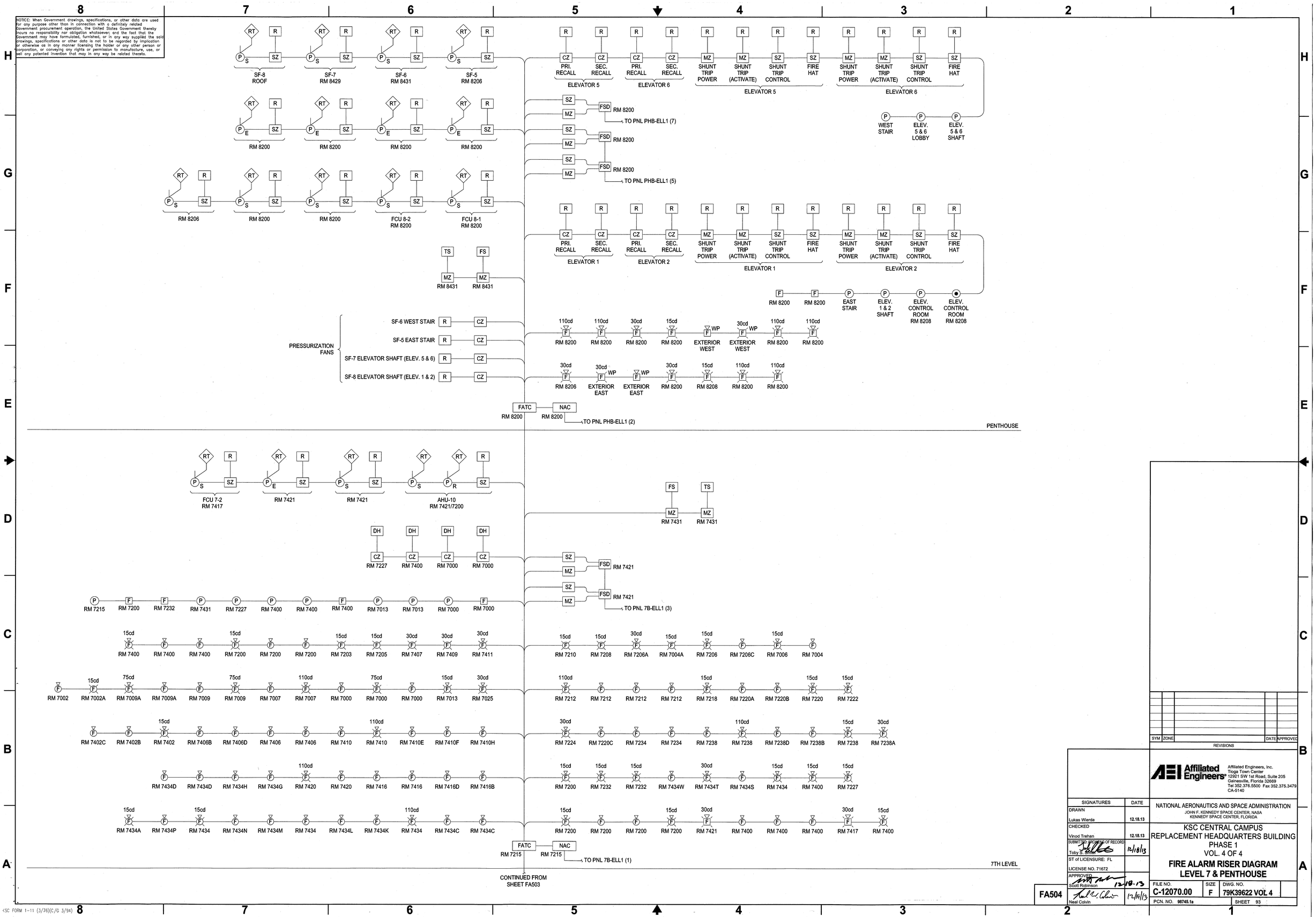

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PHASE 1
VOL. 4 OF 4

FIRE ALARM RISER DIAGRAM
LEVEL 7 & PENTHOUSE

FA504

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 93

KSC FORM 1-11 (3/76)(C/G 3/94)

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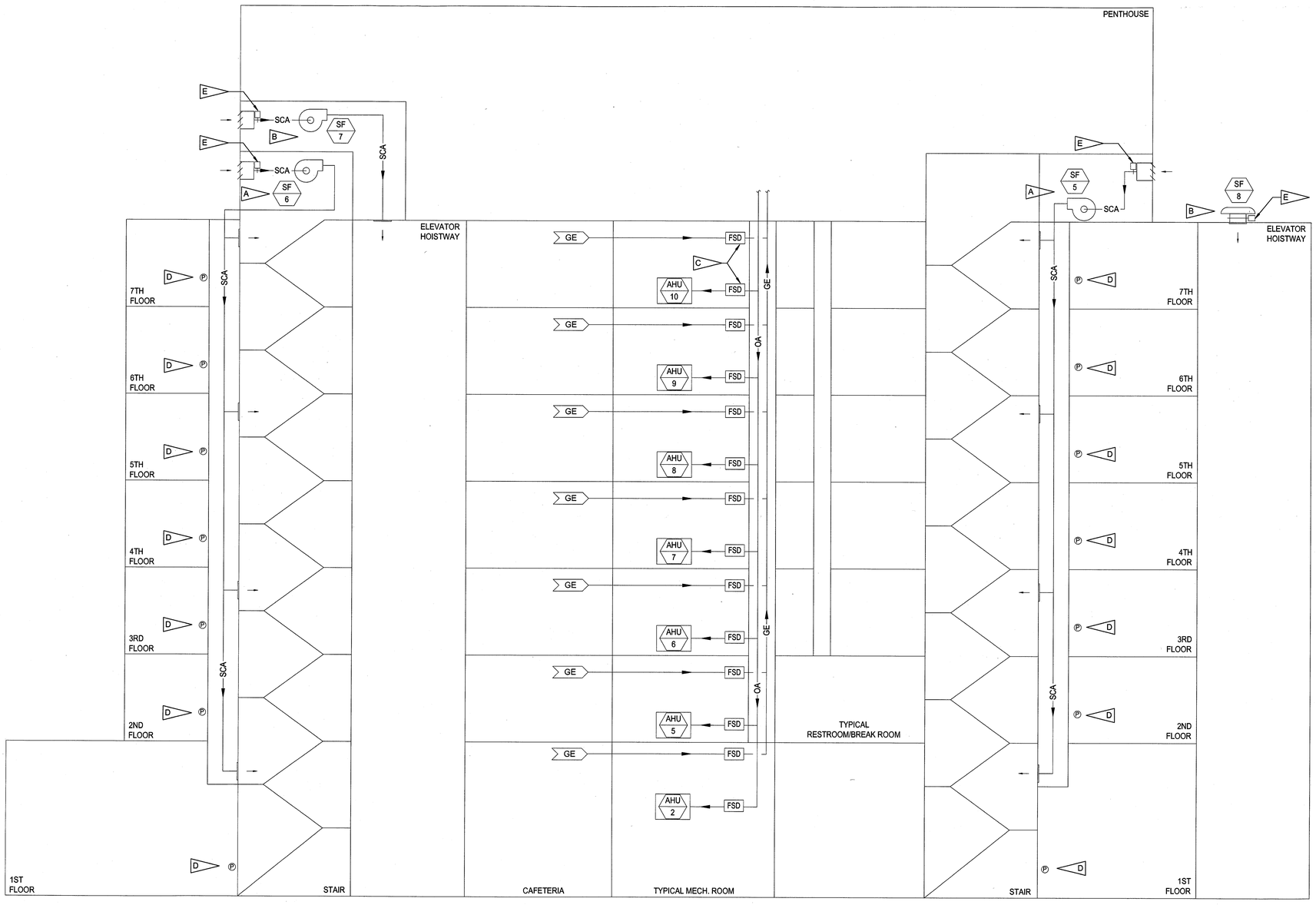

FIRE ALARM SMOKE CONTROL SYSTEM

NO SCALE

GENERAL NOTES:

1. THE SMOKE CONTROL SYSTEM WILL CONSIST OF TWO STAIRWELL PRESSURIZATION FANS AND TWO ELEVATOR SHAFT PRESSURIZATION FANS. SYSTEM WILL BE AUTOMATICALLY CONTROLLED IN COMPLIANCE WITH FLORIDA BUILDING CODE SECTION 909 AND CONTROLLED VIA THE FIREFIGHTER'S SMOKE CONTROL PANEL. PANEL SHALL BE LISTED PER UL 864, 9TH EDITION.
2. AUTOMATIC CONTROL SEQUENCES SHALL BE INITIATED FROM SMOKE DETECTORS OUTSIDE STAIRWELL ENTRIES, AT ELEVATOR LOBBIES, AND INSIDE ELEVATOR SHAFTS AND MANUAL CONTROLS THAT ARE READILY ACCESSIBLE TO THE FIRE DEPARTMENT.
3. ALL POWER AND CONTROL CABLING FOR STAIRWELL AND ELEVATOR PRESSRIZATION SYSTEM SHALL BE ROUTED IN CONDUIT AND BE TWO-HOUR RATED.
4. REFER TO SMOKE CONTROL SYSTEM RATIONAL ANALYSIS REPORT CREATED BY HUGHES ASSOCIATES, INC.
5. REFER TO FIRE ALARM MATRIX ON SHEET FA601 FOR ADDITIONAL INFORMATION.

FLAG NOTES:

- A — STAIRWELL PRESSURIZATION FAN. REFER TO MECHANICAL PLANS, SCHEDULES, AND DETAILS FOR MORE INFORMATION.
- B — ELEVATOR SHAFT PRESSURIZATION FAN. REFER TO MECHANICAL PLANS, SCHEDULES, AND DETAILS FOR MORE INFORMATION.
- C — FIRE/SMOKE DAMPER, TYPICAL.
- D — SMOKE DETECTOR AT STAIRWELL ENTRANCE DOOR FOR ACTIVATION OF STAIRWELL PRESSURIZATION FAN, TYPICAL.
- E — ELECTRICALLY-OPERATED AUTOMATIC CONTROL DAMPER AND DAMPER ACTUATOR. PROVIDE TWO END SWITCHES AT EACH DAMPER FOR PROOF OF OPEN/CLOSED STATE. DAMPERS SHALL BE "FAIL OPEN".
- F — CONTROL SWITCHES ON SMOKE CONTROL PANEL.

SYSTEM OPERATION:

1. UPON THE START COMMAND, ALL BUILDING AIR HANDLERS SHALL BE TURNED OFF TO PREVENT INTERFERENCE WITH THE PRESSURIZATION SYSTEM. DAMPERS ISOLATING THE FLOOR DUCTS FROM THE SUPPLY RISERS SHALL CLOSE AFTER UNITS ARE SHUTDOWN.
2. THE MAGNETIC DOOR HOLDERS SHALL RELEASE THE DOORS THROUGHOUT THE BUILDING.
3. THE DAMPERS FOR STAIRWELL PRESSURIZATION SYSTEM SHALL OPEN AND THE FANS SHALL START.
4. IF ACTIVATED BY ELEVATOR LOBBY SMOKE DETECTOR, THE ELEVATOR PRESSURIZATION DAMPERS SHALL OPEN AND THE FANS SHALL START.
5. POWER TO THE MOTOR START RELAY SHALL BE MONITORED FOR ALL DEDICATED FANS. LOSS OF POWER SHALL ILLUMINATE THE FAULT LIGHT FOR THE ASSOCIATED FAN AT THE SMOKE CONTROL PANEL.

SYM	ZONE		DATE	APPROVED

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

FIRE ALARM SMOKE CONTROL DIAGRAM

FA510

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 94

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SEQUENCE OF OPERATION FOR FIRE ALARM SYSTEM - HEADQUARTERS BUILDING PHASE 1

SYSTEM INPUTS / SYSTEM OUTPUTS

			A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	
							NOTIFICATION											AUXILIARY CONTROLS										
			ALARM SIGNAL AT FACP	WATER FLOW ALARM SIGNAL AT FACP	SUPERVISORY SIGNAL AT FACP	TROUBLE SIGNAL AT FACP	TRANSMIT SILENT ALARM TO CRMS LCC RM 2P10	TRANSMIT WATER FLOW ALARM SIGNAL TO CRMS LCC RM 2P10	TRANSMIT ALARM TO CRMS LCC RM 2P10	TRANSMIT SUPERVISORY SIGNAL TO CRMS LCC RM 2P10	TRANSMIT TROUBLE TO CRMS LCC RM 2P10			ACTIVATE NOTIFICATION APPLIANCES (HQ BUILDING)	GENERAL EVACUATION (ACTIVATE ALL NOTIFICATION APPLIANCES: HQ BUILDING)	ACTIVATE HQ FACP AUDIBLE & LED INDICATION AT FACP (BY SIGNAL TYPE)	AHU SHUTDOWN FOR AFFECTED UNIT	AHU SHUTDOWN THROUGHOUT BUILDING	RELEASE DOOR HOLDER ON ALL FLOORS	ACTIVATE STAIRWELL PRESSURISATION FAN	ACTIVATE ELEVATOR SHAFT PRESSURISATION FAN	CLOSE FIRE/SMOKE DAMPERS FOR AFFECTED DETECTOR		FIREMANS HAT	RECALL ELEVATOR TO PRIMARY LANDING	RECALL ELEVATOR TO ALTERNATE LANDING	SHUT DOWN ELEVATOR POWER	
HEADQUARTERS BUILDING - PHASE 1	1	MANUAL PULL STATION	X						X					X		X		X	X	X								1
	2	DUCT SMOKE DETECTOR AT FIRE/SMOKE DAMPER	X				X									X		X	X	X		X						2
	3	DUCT SMOKE DETECTOR AT AIR HANDLING UNIT	X				X									X	X					X						3
	4	HEAT DETECTORS	X				X									X		X	X	X								4
	5	SMOKE DETECTORS	X				X									X		X	X	X								5
	6	SPRINKLER RISER WATER FLOW	X	X				X						X		X		X	X	X								6
	7	SPRINKLER RISER TAMPER SWITCH			X					X						X												7
	8																											8
	9	ELEVATOR LOBBY SMOKE DETECTOR - PRIMARY LANDING	X						X							X		X	X	X	X				X			9
	10	ELEVATOR LOBBY SMOKE DETECTOR - ALTERNATE LANDING	X						X							X		X	X	X	X					X		10
	11	ELEVATOR MACHINE ROOM SMOKE DETECTOR	X						X							X		X	X	X				X	X			11
	12	ELEVATOR HOISTWAY SMOKE DETECTOR	X						X							X		X	X	X				X	X			12
	13	ELEVATOR MACHINE ROOM HEAT DETECTOR	X						X							X		X	X	X				X			X	13
	14																											15
	15	FIRE PUMP - RUNNING			X					NOTE 2						X												16
	16	FIRE PUMP - LOSS OF POWER				X					NOTE 2					X												17
	17	FIRE PUMP - PHASE REVERSAL				X					NOTE 2					X												18
	18	FIRE PUMP - HOA SWITCH NOT IN AUTO			X					NOTE 2						X												19
	19																											20
	20	STAIR CASE PRESSURIZATION FAN - RUN			X					X						X												21
	21	STAIR CASE PRESSURIZATION FAN - TROUBLE				X					X					X												22
	22	ELEVATOR SHAFT PRESSURIZATION FAN - RUN			X					X						X												23
	23	ELEVATOR SHAFT PRESSURIZATION FAN - TROUBLE				X					X					X												24
	24	KITCHEN FIRE HOOD: CLEAN AGENT RELEASE			X					NOTE 2, 3						X												25
	25																											26
	26																											27
FACP	27	LOSS OF 60 Hz POWER				X					X					X												28
	28	ANY BYPASS FUNCTIONS			X					X						X												29
	29	CIRCUIT INTEGRITY (GROUND FAULT, OPEN CIRCUIT, ETC.)				X					X					X												30
	30																											31
			A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	

NOTES:

1. COLUMNS FUNCTIONS INDICATED ARE ON UNLESS HELD OFF FOR BYPASS FUNCTION INDICATED.
2. PROVIDE RELAY IN FACP TO REPORT TO A RADIO ZONE FOR THIS UNIQUE INPUT. REFER TO RADIO REPORTING MATRICES.
3. IN CASE OF KITCHEN HOOD FIRE 'FIRE SUPPRESSION SYSTEM' WILL ACTUATE (AUTOMATIC OR MANUAL OPERATION) AND RELEASE CLEAN AGENT.

FIRE ALARM SEQUENCE OF OPERATIONS MATRIX (1)

NO SCALE

RADIO-1

FACP RELAY REPORTING MATRIX

FACP RELAYS	NOTE	RADIO ZONE 1	2	3	4	5	6	7	8
HQ BUILDING & SUMMARY ALARM	1	X							
HQ FACP SUPERVISORY	2		X						
HQ FACP TROUBLE	3			X					
HQ WATER FLOW	4				X				
HQ DUCT SMOKE DETECTOR	5					X			
HQ KITCHEN FIRE SUPRESSION SUPERVISORY	6						X		
HQ SMOKE DETECTOR	7							X	
SPARE									X

1. ACTIVATE ON ANY HQ ALARM. REFER TO FIRE ALARM SEQUENCE OF OPERATIONS MATRIX FOR ALARM CONDITIONS.
2. ACTIVATE ON ANY VALVE TAMPER OR FACP BYPASS FUNCTION.
3. ACTIVATE ON ANY TROUBLE CONDITION DEFINED PER NFPA 72 - REFER TO SPECIFICATIONS.
4. ACTIVATE ON SPRINKLER SYSTEM FLOW SWITCH.
5. ACTIVATE ON DUCT SMOKE DETECTOR.
6. ACTIVATE ON KITCHEN HOOD CLEAN AGENT SUPRESSION SYSTEM RELEASE (MANUAL OR AUTOMATIC OPERATION).
7. ACTIVATE ON SMOKE DETECTOR.

RADIO-2

FACP RELAY REPORTING MATRIX

FACP RELAYS	NOTE	RADIO ZONE 1	2	3	4	5	6	7	8
HQ FIRE PUMP - RUNNING	1	X							
HQ FIRE PUMP - LOSS OF POWER	1		X						
HQ FIRE PUMP - PHASE REVERSAL	1			X					
HQ FIRE PUMP - HOA SWITCH NOT IN AUTO	1				X				
SPARE						X			
SPARE							X		
SPARE								X	
SPARE									X

NOTES:
1. ACTIVATE ON FIRE PUMP CONTROLLER ALARM.
2. ACTIVATE ON CORRESPONDING FIRE PUMP CONTROLLER ALARM.
3. ACTIVATE ON CORRESPONDING FIRE PUMP TROUBLE

RADIO REPORTING PROGRAM MATRIX (2)

NO SCALE

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

FIRE ALARM MATRICES

FA601

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 95

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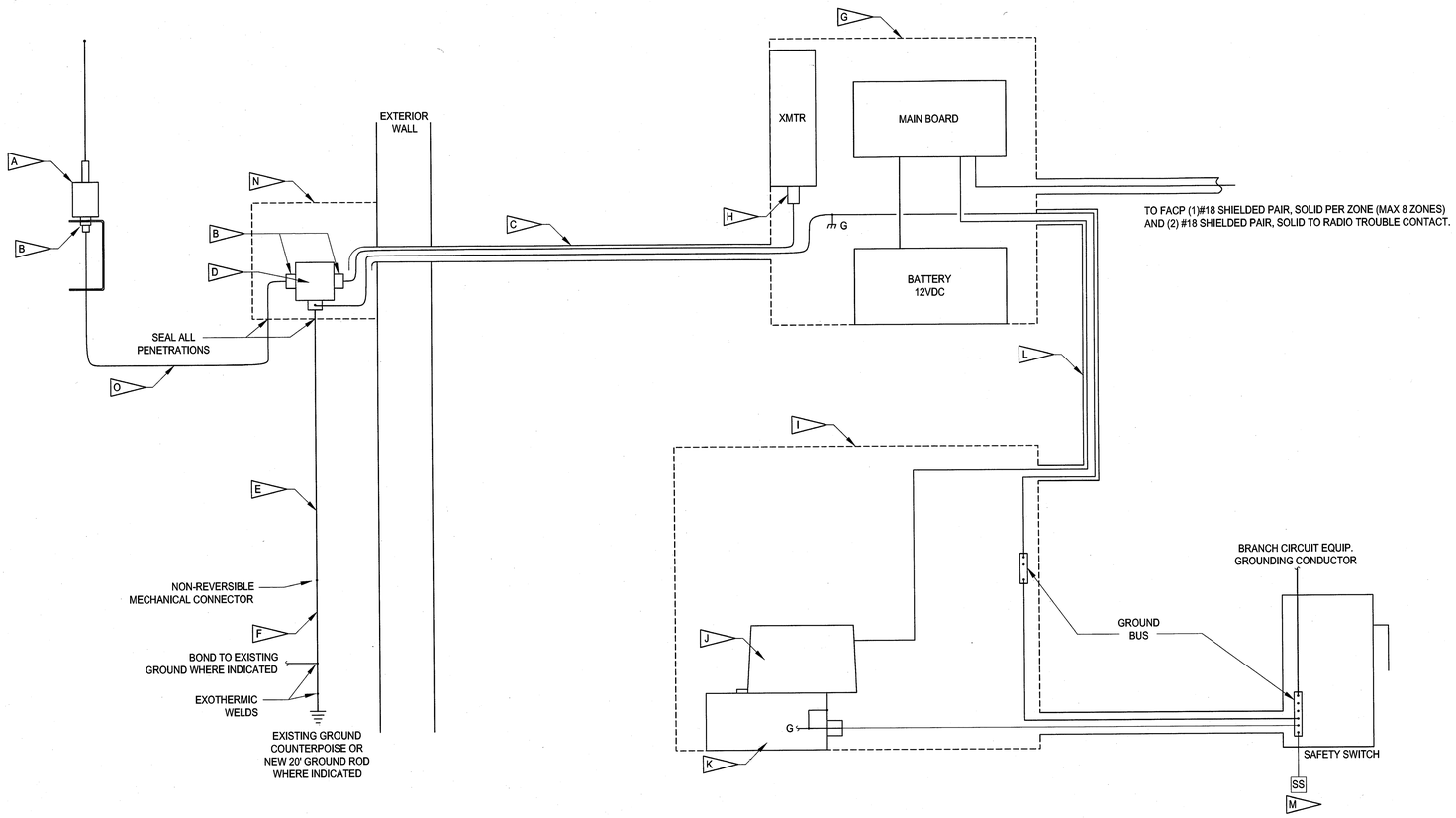


AES RADIO INSTALLATION DETAIL (TYPICAL) 1

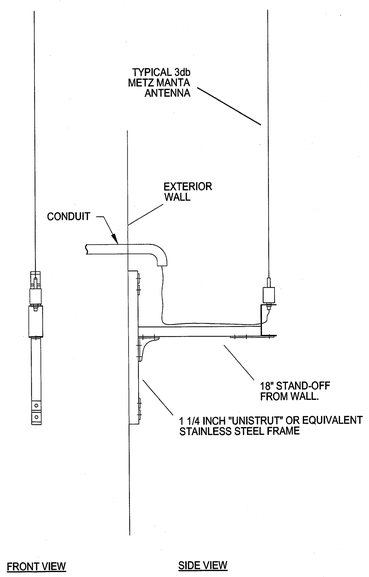
NO SCALE

GENERAL NOTES

1. CONTRACTOR SHALL MINIMIZE THE USE OF CABLE CONNECTOR/ADAPTERS BY PROVIDING PROPERLY MATCHED CABLE, ANTENNA, AND SURGE PROTECTOR TERMINATIONS.
2. RADIO ANTENNA CABLE SHALL BE SUPPORTED AT MINIMUM OF EVERY (3) FEET OR PER THE MANUFACTURERS RECOMMENDATION USING MANUFACTURER RECOMMENDED CABLE SUPPORT ACCESSORIES.
3. RADIO CABLE CONNECTORS NOT RATED FOR OUTDOOR APPLICATIONS SHALL BE WEATHER PROOFED UTILIZING A WEATHER PROOFING KIT APPROVED BY THE CABLE AND CONNECTOR MANUFACTURER.

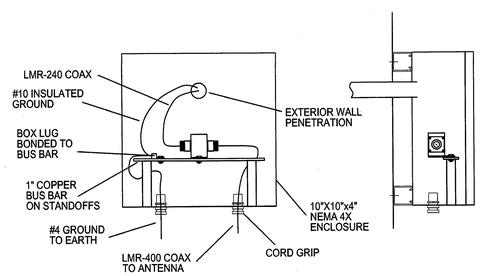
FLAG NOTES

- A — ANTENNA ASSEMBLY
- B — N-TYPE MALE CONNECTOR
- C — LMR-240 COAX CABLE AND #10G 1" RSC
- D — RF SURGE PROTECTOR - POLYPHASER IS-B50HN-C1
- E — #4 GROUND
- F — #1/0 GROUND
- G — RADIO SUBSCRIBER UNIT TRANSMITTER ASSEMBLY - AES KSC-7788-F
- H — BNC CONNECTOR
- I — SURGE SUPPRESSOR AND TRANSFORMER ENCLOSURE
- J — 16 VAC, 40 VA, PLUG_IN TRANSFORMER - AMSECO XT-1640
- K — HANDY BOX AND 120VAC DUPLEX RECEPTACLE
- L — (2)#16, (1)#10G, 3/4" CONDUIT
- M — AC SURGE SUPPRESSOR
- N — RF SURGE PROTECTOR ENCLOSURE, NEMA 4X STAINLESS STEEL
- O — LMR-400 COAX CABLE



ANTENNA MOUNT 2

NO SCALE



COAX PROTECTOR 3

NO SCALE

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REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

FIRE ALARM DETAILS

FA602

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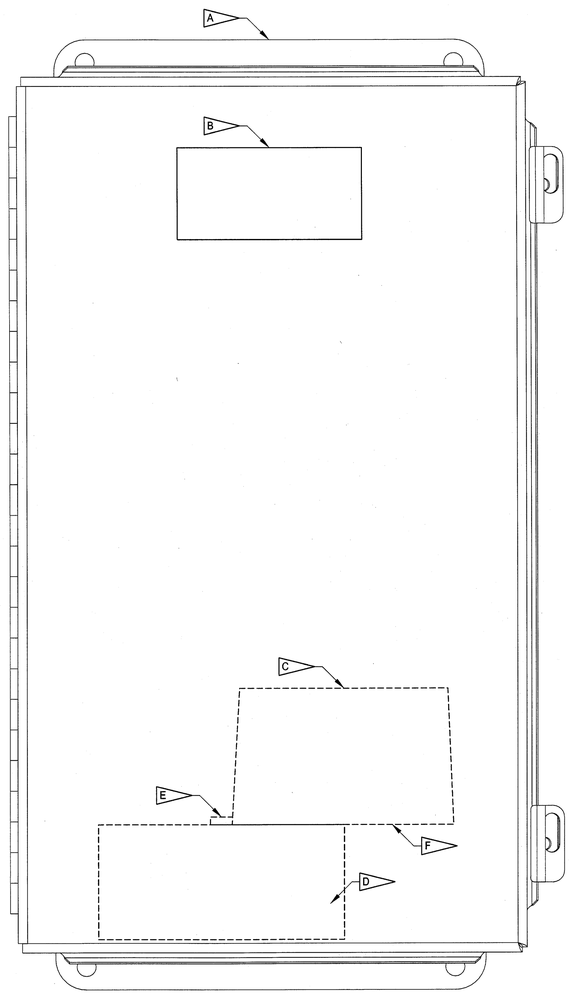
FLAG NOTES

- A — HOFFMAN ENCLOSURE (MDL# A14086CH), SUB-PANEL (MDL# A14P8) OR 14Hx8Wx6D NEMA 1 EQUIVALENT.
- B — ENGRAVED PHENOLIC 3/4" RED LETTERS ON A BLACK BACKGROUND, "CFMS RADIO SURGE SUPPRESSOR AND POWER TRANSFORMER."
- C — AMSECO, XT SERIES, CLASS II TRANSFORMER, 40VA, (MDL# XT-1640).
- D — HANDY BOX, STEEL, WITH GROUND SCREW, 4"x2"x1-7/8, WITH 20 AMP DUPLEX RECEPTACLE AND COVER. [TO BE MOUNTED AT THE BOTTOM OF THE PANEL ROUGHLY CENTERED BETWEEN THE FRONT OF THE PANEL AND THE SUB-PANEL.]
- E — CENTER SCREW OF DUPLEX RECEPTACLE SERVES AS RETAINING SCREW FOR TRANSFORMER.
- F — TRANSFORMER SCREW CONNECTIONS REQUIRE INSULATED, SHANK-CRIMP, FORK LUGS.



ENCLOSURE 1
NO SCALE

SYM	ZONE		DATE	APPROVED

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APPROVED Scott Robinson	12.18.13
Neal Colvin	12/18/13

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

FIRE ALARM DETAILS

FA603

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 97

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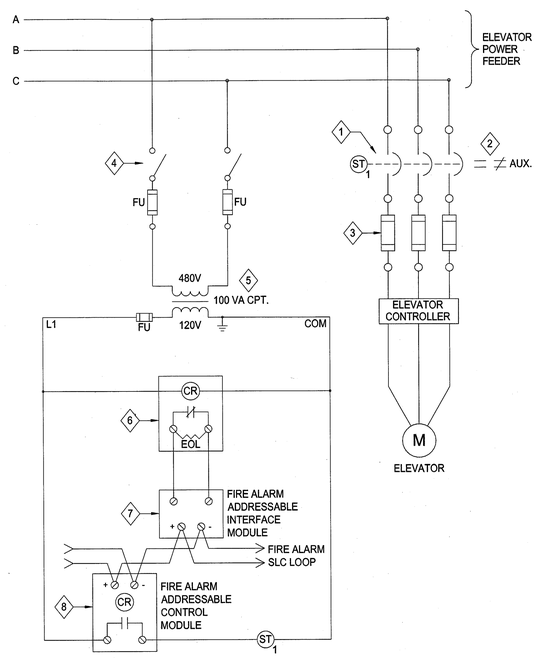


NOTES

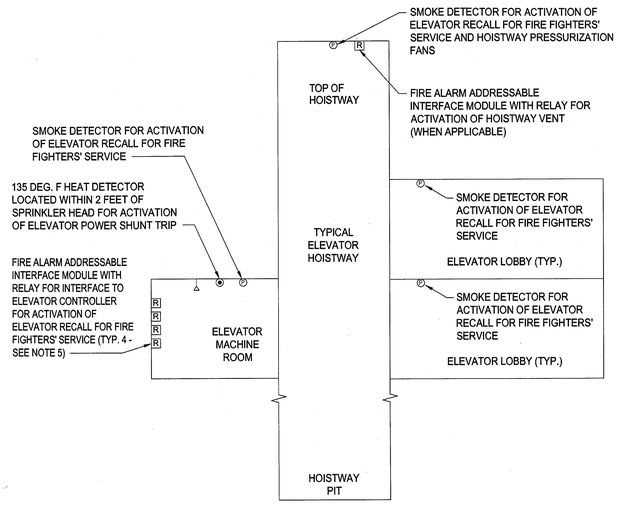
1. ANSI/ASME A17.1-2004, SAFETY CODE FOR ELEVATORS AND ESCALATORS, IS APPLICABLE TO THIS PROJECT IN ACCORDANCE WITH FLORIDA STATE LAW, 11 CSR 40-5.050.
2. THE HOISTWAY(S) AND MACHINE ROOM FOR THIS INSTALLATION ARE SPRINKLERED. THEREFORE, ANSI/ASME A17.1 REQUIRES THAT THE MAIN POWER SUPPLY TO THE AFFECTED ELEVATOR(S) BE AUTOMATICALLY DISCONNECTED UPON OR PRIOR TO APPLICATION OF WATER.
3. SECTION 6.15.4 OF ANSI/NFPA 72, NATIONAL FIRE ALARM CODE, REQUIRES THAT CONTROL CIRCUITS USED TO SHUT DOWN ELEVATOR POWER BE SUPERVISED FOR PRESENCE OF OPERATING VOLTAGE.
4. IN LIEU OF SEPARATE COMPONENTS AS INDICATED IN THIS DETAIL FOR ELEVATOR POWER DISCONNECT AND CONTROL, IT SHALL BE PERMISSIBLE TO USE UL LISTED ALL-IN-ONE EQUIPMENT FOR THE PURPOSE SUCH AS THE BUSSMANN POWER MODULE SWITCH (MODEL PS SERIES).

KEYED NOTES

1. PROVIDE UL LISTED POWER SWITCH OR MOLDED CASE SWITCH WITH 120 VOLT SHUNT TRIP OPERATOR. SWITCH SHALL BE EXTERNALLY OPERABLE AND PADLOCKABLE.
2. PROVIDE AUXILIARY CONTACTS WITH SWITCH IN ACCORDANCE WITH ANSI/NFPA 70, NATIONAL ELECTRICAL CODE, ARTICLE 620-91(C). COORDINATE SPECIFIC REQUIREMENTS FOR CONTACTS WITH ELEVATOR MANUFACTURER.
3. PROVIDE UL CLASS RK1 OR CLASS J CURRENT LIMITING TIME-DELAY FUSES FOR ELEVATOR IN ORDER TO ACHIEVE SELECTIVE COORDINATION WITH UPSTREAM CIRCUIT BREAKER SUPPLYING ELEVATOR POWER FEEDER.
4. PROVIDE DISCONNECTING MEANS (FUSIBLE DISCONNECT) ON SUPPLY SIDE OF FUSES IN CIRCUITS OVER 150 VOLTS TO GROUND IN ACCORDANCE WITH ANSI/NFPA 70, NATIONAL ELECTRICAL CODE, ARTICLE 240.40.
5. PROVIDE 480-120V CONTROL POWER TRANSFORMER WITH PRIMARY AND SECONDARY FUSING. GROUND COMMON LEG OF SECONDARY.
6. PROVIDE CONTROL RELAY WITH 120V COIL AND NC CONTACTS (OPEN WHEN ENERGIZED).
7. PROVIDE FIRE ALARM ADDRESSABLE INTERFACE MODULE TO SUPERVISE FOR PRESENCE OF OPERATING VOLTAGE IN CONTROL CIRCUIT VIA CONTACTS ON CONTROL RELAY. LOSS OF POWER SHALL ANNUNCIATE AT THE FIRE ALARM CONTROL PANEL AND REMOTE ANNUNCIATOR PANEL(S) AS A SPECIFIC SUPERVISORY TROUBLE ALARM.
8. PROVIDE FIRE ALARM ADDRESSABLE CONTROL MODULE WITH RELAY OUTPUT TO ACTIVATE SHUNT TRIP OF ELEVATOR POWER DISCONNECTS UPON INIITIATION OF HEAT DETECTOR(S) IN ELEVATOR HOISTWAY(S) AND MACHINE ROOM.

ELEVATOR POWER DISCONNECT & CONTROL DIAGRAM (1)

NO SCALE

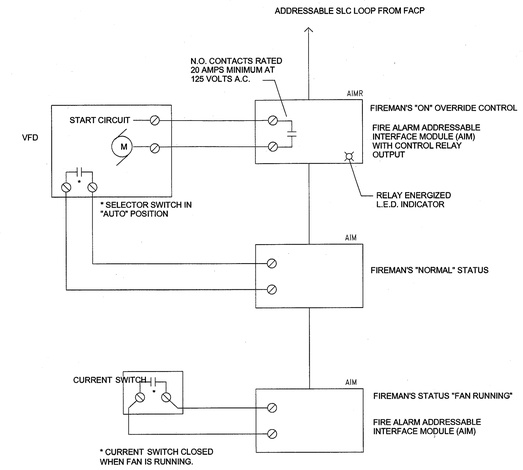


NOTES

1. ANSI/ASME A17.1-2004/A17.1a-2004/A17.1b-2004, SAFETY CODE FOR ELEVATORS AND ESCALATORS, IS APPLICABLE TO THIS PROJECT IN ACCORDANCE WITH FLORIDA ELEVATOR SAFETY CODE, CHAPTER 61C-5 F.A.C.
2. THE HOISTWAY(S) AND MACHINE ROOM(S) FOR THIS INSTALLATION ARE SPRINKLERED. THEREFORE, ANSI/ASME A17.1 REQUIRES THAT THE MAIN POWER SUPPLY TO THE AFFECTED ELEVATOR(S) BE AUTOMATICALLY DISCONNECTED UPON OR PRIOR TO APPLICATION OF WATER.
3. IN ACCORDANCE WITH SECTION 6.15.4 OF ANSI/NFPA 72, NATIONAL FIRE ALARM CODE, HEAT DETECTORS USED TO SHUT DOWN ELEVATOR POWER PRIOR TO SPRINKLER OPERATION SHALL HAVE BOTH A LOWER TEMPERATURE RATING AND A HIGHER SENSITIVITY THAN THE SPRINKLER HEADS. COORDINATE REQUIREMENTS WITH INSTALLATION OF FIRE PROTECTION SYSTEM.
4. FIRE ALARM SYSTEM SMOKE DETECTORS SHALL BE INSTALLED IN ELEVATOR LOBBIES, ELEVATOR HOISTWAYS, AND ELEVATOR MACHINE ROOMS TO INITIATE ELEVATOR RECALL FOR FIRE FIGHTERS' SERVICE IN ACCORDANCE WITH RULE 211.3 OF ANSI/ASME A17.1 AND SECTION 6.15.3 OF ANSI/NFPA 72.
5. IN ACCORDANCE WITH SECTION 6.15.3.10 OF ANSI/NFPA 72 AND ELEVATOR MANUFACTURER'S REQUIREMENTS, FOUR (4) EACH FIRE ALARM ADDRESSABLE INTERFACE MODULES WITH RELAY OUTPUTS SHALL BE PROVIDED IN EACH ELEVATOR MACHINE ROOM TO INTERFACE WITH THE ELEVATOR CONTROLLER(S). EACH MODULE SHALL PROVIDE THE FOLLOWING SIGNAL (OPERATION OF CONTACTS), RESPECTIVELY,
   - A. SMOKE DETECTOR IN THE DESIGNATED (PRIMARY) ELEVATOR LOBBY IS ACTIVATED.
   - B. SMOKE DETECTOR IN ANY OF THE ELEVATOR LOBBIES EXCEPT THE DESIGNATED (PRIMARY) LOBBY IS ACTIVATED.
   - C. SMOKE DETECTOR IN THE HOISTWAY IS ACTIVATED.
   - D. SMOKE DETECTOR IN THE ELEVATOR MACHINE ROOM IS ACTIVATED.

FIRE ALARM REQUIREMENTS FOR ELEVATOR INSTALLATION (2)

NO SCALE



SMOKE FANS SF-5, 6, 7, 8 SUPERVISORY & CONTROL CONNECTIONS (3)

NO SCALE

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
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FIRE ALARM DETAILS

FA604

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 98

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ABBREVIATIONS

A	AMPERES
AC	ABOVE COUNTER
AFF	ABOVE FINISHED FLOOR
AFC	ABOVE FINISHED CEILING
AL	ALUMINUM
ANNUN	ANNUNCIATOR
ARCH	ARCHITECT
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BFG	BELOW FINISHED GRADE
BLDG	BUILDING
C	CONDUIT
CAT	CATEGORY
CKT	CIRCUIT
CLG	CEILING
CO	COMMUNICATIONS OUTLET
CU	COPPER
C/B	CIRCUIT BREAKER
C/T	CURRENT TRANSFORMERS
△	DELTA
DWG	DRAWING
FT	FEET
G	GROUND
GEN	GENERATOR
GFI	GROUND FAULT INTERRUPT
IDF	INTERMEDIATE DISTRIBUTION FRAME
IG	ISOLATED GROUND
KVA	KILOVOLT - AMPERES
KW	KILOWATTS
MCB	MAIN CIRCUIT BREAKER
MDF	MAIN DISTRIBUTION FRAME
MCC	MOTOR CONTROL CENTER
MCM	THOUSAND CIRCULAR MILS
MISC	MISCELLANEOUS
MLO	MAIN LUGS ONLY
NEC	NATIONAL ELECTRICAL CODE
NC	NORMALLY CLOSED
NL	NIGHT LIGHT CIRCUIT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
NIC	NOT IN CONTRACT
R	RECESSED
SCR	SHORT CIRCUIT RATING
SURF	SURFACE
TER	TELECOMMUNICATIONS EQUIP ROOM
TR	TELECOMMUNICATIONS ROOM
UNIV	UNIVERSAL
UNO	UNLESS NOTED OTHERWISE
V	VOLTS
W	WATTS
WP	WEATHERPROOF
WPG	WEATHERPROOF WITH GROUND
XFMR	TRANSFORMER
Y	WYE

TELECOMMUNICATIONS INFRASTRUCTURE CABLING SYSTEM LEGEND

		CABLING SYSTEM REQUIREMENTS			ELECTRICAL ROUGH-IN REQUIREMENTS FOR CABLING SYSTEM					
SYMBOL	DESCRIPTION	# OF CAT 6A CABLES/JACKS	OTHER	NOTES	PROVIDE 2-GANG BACKBOX	PROVIDE 1-GANG PLASTER RING	PROVIDE 2-GANG PLASTER RING	PROVIDE (QTY/x") CONDUIT	PROVIDE AS SHOWN ON PLANS	NOTES
*	WALL MOUNTED CUSTOMER FACEPLATE (CFP), SEE DETAILS. * DIMI - ONE CABLE TO DATA CABINET AND ONE TO MULTIPURPOSE. P1 - ONE CABLE TO PAWS CABINET. (REFER TO LABELING FOR REQUIREMENTS). D2M2 - TWO CABLES TO DATA CABINET AND TWO CABLES TO MULTIPURPOSE.	(AS NEEDED)	---	REFER TO DETAILS FOR REQUIREMENTS. 'P1" OUTLETS ARE MOUNTED 6" ABOVE CEILING. OUTLETS MARKED WITH 'SF' ARE MOUNTED IN SYSTEMS FURNITURE AND WILL BE SERVED BY MUTOA.	✓	✓		(1)/1" C. FOR COMM. CABLES.		ROUTE CONDUIT TO ABOVE CEILING AND TO CABLE TRAY OR SERVING CLOSET. COORDINATE EXACT MOUNTING HEIGHT AND ELEVATION WITH ARCHITECTURAL ELEVATIONS AND PLANS.
FB *	COMBINATION POWER/COMMUNICATIONS OR AV FLOORBOX WITH TYPE 'D1M1' OUTLET WITHIN FLOOR BOX. * D1M1 - ONE CABLE TO DATA CABINET AND ONE CABLE TO MULTIPURPOSE. D1M1AV - ONE CABLE TO DATA CABINET AND ONE CABLE TO MULTIPURPOSE AND AV PATHWAY FOR CABLING PROVIDED BY OTHERS.	(2)	✓	REFER TO DETAILS FOR REQUIREMENTS					✓	SEE FLOOR BOX DETAILS FOR BOX AND CONDUIT REQUIREMENTS.
SF, PT	COMBINATION POWER/COMMUNICATIONS PASS-THRU POKE-THRU WITH OPENING FOR COMM CABLING TO PASS-THRU TO SYSTEMS FURNITURE.	VARIES		REFER TO DETAILS FOR REQUIREMENTS						SEE POKE-THRU DETAILS FOR BOX AND CONDUIT REQUIREMENTS. CONTINUE CONDUIT FROM POKE-THRU TO ROUGH-IN IN WALL.
PT, D1M1AV	COMBINATION POWER/COMMUNICATIONS/AV POKE-THRU WITH TYPE 'D1M1AV' OUTLET VARIES.	VARIES	✓	REFER TO DETAILS FOR REQUIREMENTS						SEE POKE-THRU DETAILS FOR BOX AND CONDUIT REQUIREMENTS. CONTINUE CONDUIT FROM POKE-THRU TO ROUGH-IN IN WALL.
W2	WIRELESS ACCESS POINT LOCATION, TYPE 'W2' SEE DETAIL FOR FACEPLATE LAYOUT.	(2)	---	MOUNT ABOVE CEILING, REFER TO DETAILS FOR REQUIREMENTS.	✓	✓		(1)/1" C. FOR COMM. CABLES.		ROUTE CONDUIT TO CABLE TRAY OR SERVING CLOSET.
M-XX	MULTI-USER TELECOMMUNICATIONS OUTLET ASSEMBLY; RECESSED IN WALL. SOLE SOURCE ITEM - PANDUIT PZB4 ENCLOSURE BASE; PANDUIT PZB4-HC HINGED COVER; PANDUIT PZBPPB PATCH PANEL BRACKET.	(XX)	✓	PROVIDE A 4-TUBE BLOWN FIBER PATHWAY FOR FUTURE FIBER CABLING. PROVIDE PATCH CORDS TO 'D1M1' OUTLETS IN SYSTEMS FURNITURE. "XX" DENOTES A MUTOA WITH THAT NUMBER OF CABLES.					✓	SEE WALL MUTOA DETAIL FOR BOX AND CONDUIT REQUIREMENTS.
M-XX	MULTI-USER TELECOMMUNICATIONS OUTLET ASSEMBLY; FLUSH IN CEILING TO SERVE CONFERENCE ROOMS. SOLE SOURCE ITEM - PANDUIT PZICE ENCLOSURE.	(XX)	✓	PROVIDE A 4-TUBE BLOWN FIBER PATHWAY FOR FUTURE FIBER CABLING. PROVIDE PATCH CORDS TO DATA OUTLETS IN CONFERENCE ROOM. "XX" DENOTES A MUTOA WITH THAT NUMBER OF CABLES.					✓	SEE CEILING MUTOA DETAIL FOR BOX AND CONDUIT REQUIREMENTS.
W	SPEAKER MOUNTED FLUSH IN CEILING TILE, TAPPED AT 5W	---	✓	CUT CEILING TILE AND PROVIDE CEILING T-BAR SUPPORT FOR SPEAKER. SEE SINGLE LINE FOR CABLE REQUIREMENTS.				(1)/3/4" C.	✓	HOMERUN CONDUIT FROM PULLBOX TO CABLE TRAY.
W	INTERIOR SPEAKER HORN (MOUNT @ 10' A.F.F.), TAPPED AT 4, 8, OR 16W DEPENDING ON SIZE OF ROOM.	---	✓	SEE SINGLE LINE FOR CABLE REQUIREMENTS	✓	✓		(1)/3/4" C.	✓	HOMERUN CONDUIT FROM PULLBOX TO CABLE TRAY.
W EXT	EXTERIOR SPEAKER HORN (MOUNT @ 10' A.F.F. UNLESS NOTED OTHERWISE), TAPPED AT 32W	---	✓	SEE SINGLE LINE FOR CABLE REQUIREMENTS	✓	✓		(1)/3/4" C.	✓	HOMERUN CONDUIT FROM PULLBOX TO CABLE TRAY.
AV	AV SPEAKER	---	✓	REFER TO AV VENDOR SHEETS AND DETAILS ON T504 FOR CM REQUIREMENTS.						
J AV	A/V JUNCTION BOX, WALL MOUNTED.	---						(2)/2" C.	✓	REFER TO DETAILS FOR HEIGHT AND ROUGH-IN REQUIREMENTS.
J SF	JUNCTION BOX FOR SYSTEMS FURNITURE.	VARIES	---					(2)/2" C.	✓	PROVIDE A 10"x10"x4" WALL BOX WITH AN OPENING TO ALLOW CABLING TO PASS THRU TO SYSTEMS FURNITURE. PAINT BOX TO MATCH WALL. ENSURE CABLING IS CONCEALED AND PROTECTED WHEN ROUTED TO SYSTEMS FURNITURE.

FIRESTOPPING NOTE:

THE CONTRACTOR SHALL FIRESTOP ALL PENETRATIONS OF ALL FLOORS AND ALL WALLS WHICH EXTEND TO THE UNDERSIDE OF THE FLOOR OR ROOF DECK ABOVE. FIRESTOPPING SHALL BE ACCOMPLISHED AFTER ALL CABLES ARE PULLED (ALL SYSTEMS) USING UL CLASSIFIED SYSTEMS WITH FIRE RATING EQUAL TO OR GREATER THAN THE FIRE RATING OF THE FLOOR OR WALL ASSEMBLY PENETRATED. FIRESTOP SYSTEMS SHALL BE SPECIFIED TECHNOLOGIES, OR ENGINEER APPROVED EQUAL. INSTALL IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS. THE CONTRACTOR SHALL SUBMIT A MANUFACTURER'S STANDARD DETAIL FOR EACH TYPE OF FLOOR AND WALL PENETRATION REQUIRED FOR THIS PROJECT. ALL OTHER PENETRATIONS OR OPENINGS IN NON-FIRE RATED WALLS SHALL BE REPAIRED AND SEALED WITH MATERIALS TO MATCH THE EXISTING CONSTRUCTION. PROVIDE COLORS TO MATCH CABLING FOR EACH SYSTEM (BLUE = DATA; YELLOW = PAGING (PAWS); GREEN = CAMERAS AND FUTURE ACS; ORANGE = ALL REMAINING CABLES.

CONDUIT BUSHING NOTE:

PROVIDE PLASTIC INSULATED BUSHINGS ON ALL CONDUIT STUB'S WHETHER METALLIC OR PVC. BUSHINGS SHALL ALSO BE PROVIDED FOR ALL CONDUITS WHETHER ABOVE OR BELOW CEILING OR AT FLOOR LEVEL. IT IS THE STRUCTURED CABLING CONTRACTORS RESPONSIBILITY TO ENSURE BUSHINGS HAVE BEEN PROVIDED ON ALL CONDUITS PRIOR TO PULLING CABLES. IF CONDUITS ARE FOUND TO BE WITHOUT BUSHINGS, STRUCTURED CABLING CONTRACTOR SHALL REMOVE CABLING, PROVIDE BUSHINGS AND REPLACE WITH NEW CABLING.

CABLE ROUTING NOTE:

ALL COMMUNICATIONS CABLING SHALL BE INSTALLED IN CONDUIT AND CABLE TRAY. CONDUIT SHALL BE RUN ABOVE CEILINGS AND SHALL BE ROUTED UP HIGH DIRECTLY UNDER THE BUILDING ROOF STRUCTURE AND PROPERLY SUPPORTED WITH APPROVED HANGERS. ROUTE PARALLEL AND PERPENDICULAR TO BUILDING LINES. INSTALL CONDUITS TO AVOID ELECTROMAGNETIC INTERFERENCE FROM MOTORS, TRANSFORMERS, POWER CABLES/CONDUITS, LIGHTING FIXTURES, ETC.

GENERAL NOTES:

1. PRODUCTS SHALL BE OF MATERIALS THAT ARE SUITABLE FOR THE ENVIRONMENT IN WHICH THEY ARE TO BE INSTALLED.
2. WORKING CLEARANCES AROUND ELECTRICAL EQUIPMENT SHALL BE MAINTAINED IN COMPLIANCE WITH THE NATIONAL ELECTRIC CODE ARTICLE 110. COORDINATE EQUIPMENT INSTALLATION TO MAINTAIN REQUIRED CLEARANCES.
3. IF AN OUTLET BOX IS REQUIRED TO BE LOCATED IN AN ASSEMBLY OR PARTITION RATED AS "FIRE/SMOKE" OR "SMOKE" OR IDENTIFIED AS SUCH, THEN ALL OF THE FOLLOWING CONDITIONS SHALL BE MET:
   A. THE OUTLET BOX SHALL BE METALLIC.
   B. THE OUTLET BOX OPENINGS SHALL OCCUR ONLY ON ONE SIDE OF THE FRAMING SPACE.
   C. THE OUTLET BOX OPENINGS SHALL NOT EXCEED 16 SQUARE INCHES.
   D. ALL CLEARANCES BETWEEN THE OUTLET BOX AND THE WALL BOARD MATERIAL SHALL BE COMPLETELY SEALED WITH APPROVED MATERIALS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS FOR THE PROJECT.
   E. PROVIDE A SUPPLEMENTAL BARRIER AROUND OUTLETS LARGER THAN 16 INCHES SO THAT THE ORIGINAL RATING OF THE PENETRATION IS MAINTAINED.
   F. THE TOTAL AGGREGATE SURFACE AREA OF THE OUTLET BOX SHALL NOT EXCEED 100 SQUARE INCHES PER 100 SQUARE FEET.
   G. THE OUTLET BOX SHALL BE SEPARATED FROM OPENINGS ON THE OPPOSITE SIDE OF THE RATED PARTITION BY A MINIMUM HORIZONTAL DISTANCE OF 24 INCHES.
   H. THE OUTLET BOX SHALL BE SECURELY FASTENED TO A PARTITION FRAMING MEMBER BY MEANS OF AN APPROVED ATTACHMENT METHOD.
   I. OPENINGS CUT INTO THE WALL BOARD MATERIAL SHALL NOT EXCEED 1/8 INCH BETWEEN THE EDGES OF THE OUTLET BOX AND THE EDGES OF THE OPENING.
4. LOCATIONS OF EQUIPMENT SHOWN ON THE DRAWINGS ARE APPROXIMATE. COORDINATE EXACT EQUIPMENT LOCATION AND CONNECTION REQUIREMENTS WITH ALL TRADES PRIOR TO INSTALLATION.
5. FOR EXACT LOCATION OF CEILING MOUNTED EQUIPMENT REFER TO THE ARCHITECTURAL REFLECTED CEILING PLAN. LOCATIONS OF EQUIPMENT NOT INCLUDED ON THE REFLECTED CEILING PLAN SHALL BE COORDINATED WITH THOSE ITEMS SHOWN. COORDINATION OF CEILING MOUNTED EQUIPMENT SHALL BE PRIOR TO ANY ROUGH-IN. NOTIFY ENGINEER OF ANY DISCREPANCY.
6. PROVIDE FINAL CONNECTIONS TO OWNER PROVIDED EQUIPMENT WHERE INDICATED ON THE PLAN DRAWINGS.
7. PRIOR TO ROUGH-IN AND INSTALLATION OF ANY FLOOR MOUNTED DEVICE, VERIFY LOCATION WITH OWNER AND ARCHITECT.
8. VERIFY AND COORDINATE THE LOCATION OF REQUIRED DIVISION 27 OUTLETS WITH OTHER TRADE DRAWINGS AND OWNER PROVIDED EQUIPMENT.
9. ALL RACEWAY SYSTEMS SHOWN TO SUPPORT THE INSTALLATION OF DIVISION 27 EQUIPMENT SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR. PROVIDE COORDINATION FOR THE INSTALLATION OF THIS RACEWAY SYSTEM WITH THE ELECTRICAL CONTRACTOR.
10. EACH VOICE/DATA OUTLET LOCATION SHOWN SHALL HAVE A DOUBLE GANG OUTLET BOX WITH A SINGLE GANG PLASTER RING AND (1) ONE INCH CONDUIT STUBBED UP TO AN ACCESSIBLE LOCATION ABOVE THE FINISHED CEILING. WORK BY ELECTRICAL CONTRACTOR PER SPECIFICATIONS.
11. REFER TO DETAILS FOR FLOOR BOX AND POKE-THRU REQUIREMENTS. WORK BY ELECTRICAL CONTRACTOR PER SPECIFICATIONS.
12. ALL BONDING AND GROUNDING ELEMENTS UTILIZED FOR STRUCTURE CABLING SYSTEM SHALL BE IN COMPLIANCE WITH SPECIFICATIONS.
13. PROVIDE ALL SLEEVES AS REQUIRED FOR ALL LOW VOLTAGE CABLE PATHWAYS. RESTORE THE FIRE RATING OF THE SURFACE.
14. CABLE WITHIN/UNDER SLAB ON GRADE USE INDOOR/OUTDOOR RATED CABLES.
15. ALL COMM WORK SHALL BE PERFORMED TO TIA/EIA 606, 607, 568, 569, 754, NEC , AND KSC STD E0021; LATEST REVISION.
16. ALL COMM UTP HORIZONTAL CABLE TESTING SHALL BE PERFORMED USING A FLUKE MODEL DTX1800 OR NASA APPROVED EQUAL. HORIZONTAL UTP TERMINATING IN A COMM ROOM PATCH PANELS SHALL BE TESTED TO THE 10G BASE T PERMANENT LINK SPECIFICATION (IEEE 10G STANDARD) HORIZONTAL UTP TERMINATING IN A COMM ROOM IDC DISCONNECT BLOCK SHALL BE TESTED TO THE CAT 6 PERMANENT LINK SPECIFICATION.
17. COMM UTP CABLE TEST RESULTS SHALL BE DELIVERED IN LINKWARE MACHINE READABLE FORMAT (CD).
18. THE TEST METER SERIAL NUMBERS (MAIN AND REMOTE UNIT), SOFTWARE VERSION NUMBER AND CALIBRATION DATE SHALL BE SUBMITTED TO THE GOVERNMENT FOR APPROVAL BEFORE TESTING ANY HORIZONTAL WIRING.
19. COMM CABLING AND FACEPLATE LABELING INFORMATION WILL BE PROVIDED BY KSC COMM PERSONNEL.
20. ALL COMM HORIZONTAL WIRING COMPONENTS SHALL BE PRE-APPROVED BY KSC COMM.

COORDINATION NOTE AND GENERAL SCOPE OF WORK:

COMMUNICATIONS STRUCTURED CABLING SYSTEM:
THE CABLING CONTRACTOR SHALL PROVIDE ALL CABLING AS INDICATED ON PLANS, TERMINATIONS, ETC. AS REQUIRED FOR A COMPLETE AND OPERATION HORIZONTAL CABLING SYSTEM. THE ELECTRICAL CONTRACTOR (EC) SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL CONDUIT AND BACKBOXES ASSOCIATED WITH THE COMMUNICATIONS OUTLETS.

GROUNDING:
THE ELECTRICAL CONTRACTOR (EC) SHALL BE RESPONSIBLE FOR INSTALLING THE GROUNDING BUSBARS AS SHOWN ON THE DRAWINGS AND CONNECTING IT TO THE BUILDINGS MAIN ELECTRICAL SERVICE GROUND. THE STRUCTURED CABLING CONTRACTOR (SCC) SHALL BE RESPONSIBLE FOR GROUNDING ALL RACKS, PROTECTOR BLOCKS, CABLE RUNWAY IN COMMUNICATION CLOSETS, ETC, INCLUDING CONDUIT FOR EACH GROUND CONDUCTOR. THE SCC SHALL ALSO BE RESPONSIBLE FOR GROUNDING ALL BACKBONE CONDUIT AND RUNWAY.

FIRESTOPPING:
THE ELECTRICAL CONTRACTOR (EC) SHALL BE RESPONSIBLE FOR FIRESTOPPING SLEEVE ASSEMBLIES TO OBTAIN A UL RATING. THE STRUCTURED CABLING CONTRACTOR (SCC) SHALL BE RESPONSIBLE FOR FIRESTOPPING IN THE SLEEVES AFTER INSTALLATION OF CABLING IS COMPLETE.

CASEWORK/MILLWORK:
THE CABLING CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING COMMUNICATIONS OUTLETS IN CASEWORK WHEN REQUIRED AS DIRECTED BY ARCHITECT IN FIELD. RUN CABLES CONCEALED IN CASEWORK AND ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE STUB CONDUIT TO ABOVE ACCESSIBLE CEILING.

CONDUIT AND CABLE TRAY:
THE ELECTRICAL CONTRACTOR (EC) SHALL BE RESPONSIBLE FOR ALL BACKBONE CONDUIT AND CABLING PATHWAYS. THIS IS TO INCLUDE ALL INTERIOR AND EXTERIOR CONDUIT, ALL WALL PENETRATIONS AND CONDUIT SLEEVES WHETHER SHOWN ON THE DRAWINGS OR AS REQUIRED TO PENETRATE FULL HEIGHT PARTITIONS AS SHOWN ON THE DRAWINGS. CONDUIT PATHWAYS SHALL INCLUDE ALL PULLBOXES, PULLTAPE, PULLSTRINGS, CONDUIT MARKINGS, ETC. ALL CONDUIT SHALL BE INSTALLED ACCORDING TO THE SPECIFICATIONS. PROVIDE END BUSHINGS ON ALL CONDUIT. THE STRUCTURED CABLING CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WIRE RACEWAYS, CABLE RUNWAY, AND/OR ANY OTHER REQUIREMENTS FOR ROUTING AND SECURING CABLE IN THE MAIN DISTRIBUTION FRAME (MDF) AND INTERMEDIATE DISTRIBUTION FRAME (IDFs).

COMMUNICATION OUTLETS & DEVICES:
THE ELECTRICAL CONTRACTOR (EC) SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL CONDUIT AND BACKBOXES ASSOCIATED WITH THE COMMUNICATION OUTLETS & DEVICES.

BACKBOARDS:
THE ELECTRICAL CONTRACTOR (EC) SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL BACKBOARDS AS SHOWN ON THE DRAWINGS AND AS REQUIRED TO PROVIDE A COMPLETE SYSTEM.
THE ELECTRICAL CONTRACTOR (EC) SHALL ALSO BE RESPONSIBLE FOR ROUGH-IN OF ELECTRICAL CONDUIT PRIOR TO INSTALLATION OF BACKBOARDS. ALL POWER CONDUIT SHALL BE CONCEALED BEHIND ALL BACKBOARDS. BACKBONE CONDUIT SHALL BE EXPOSED AS SHOWN ON THE BACKBOARD ELEVATIONS.

STRUCTURED CABLING IDENTIFICATION:
IDENTIFY ALL INDOOR COMMUNICATIONS CONDUIT, PULLBOXES ABOVE LAY-IN CEILINGS, ACCESS DOORS, IN ROOF SPACE, AND ALL EXPOSED LOCATIONS WITH BLUE PAINT AT EVERY PULLBOX AND ON CONDUIT AT EACH COUPLER (PAINT ENTIRE COUPLER). PAINT WITH 1" TALL LETTER STENCIL THE WORDS "TELCOM" ON EACH PULLBOX COVER. LETTERING SHALL BE LEVEL AND SQUARE AND AT THE CENTER OF THE COVER. DO NOT LABEL EXPOSED CONDUITS.

THIS LIST IS NOT COMPREHENSIVE, THE LOW VOLTAGE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL REQUIREMENTS SHOWN ON THE COMMUNICATIONS DRAWINGS AND/OR REQUIRED TO PROVIDE A COMPLETE SYSTEM.

GENERAL BACKBONE CONDUIT PATHWAYS NOTE

ALL BACKBONE CABLING SHALL BE ROUTED IN BACKBONE CONDUIT PATHWAYS AS INDICATED, EXCEPT WHERE CONTRACTOR ELECTS TO INSTALL ADDITIONAL CONDUIT NOT INDICATED ON DRAWINGS. THE CONTRACTOR AGREES TO USE THE CONDUIT SYSTEM AS SHOWN, OR SHALL PROVIDE ADDITIONAL CONDUIT (AT NO ADDITIONAL COST TO THE OWNER) AS REQUIRED TO PROPERLY INSTALL ALL CABLING INDICATED, WITHOUT DAMAGE TO CABLING. THE ENTIRE CABLING PLANT SHALL BE TESTED TO THE REQUIREMENTS OF THE SPECIFICATIONS FOR THIS PROJECT AND SHALL BE CERTIFIED BY THE CONTRACTOR. ALL BACKBONE CONDUIT SHALL CONFORM TO REQUIREMENTS OF THE CONTRACT DOCUMENTS, WHETHER SPECIFICALLY SHOWN ON THE DRAWINGS OR NOT. REFER TO ELECTRICAL PLANS FOR CONDUIT ROUTING. BACKBONE CABLING IS NOT IN CONTRACT AND IS PROVIDED BY OTHERS.

CONDUIT ROUTING NOTES:

1. EMT OR RIGID SHALL BE USED FOR ALL CONDUIT INSTALLATIONS ABOVE GRADE.
2. ALL BURIED CONDUITS SHALL BE A MINIMUM OF 36" BELOW GRADE. MAINTAIN A MINIMUM OF ONE (1) FOOT/12 INCHES OF SEPARATION BETWEEN POWER CONDUITS AND SYSTEMS CONDUITS.
3. CONTRACTOR SHALL PROVIDE A MINIMUM 24" AGGREGATE BASE BELOW EACH MANHOLE.
4. ALL CONDUIT ENTRY PENETRATION POINTS MUST BE PROPERLY SEALED AND PACKED TO PREVENT GASES OR RODENT INTRUSION.
5. ALL MANHOLES, VAULTS, PULL BOXES MUST HAVE TRAFFIC RATED COVERS MINIMUM 20,000 LBS RATED.
6. DURING CONSTRUCTION TAPE ENDS OF ALL CONDUITS, INCLUDING BACKBONE CONDUITS TO PREVENT THE ENTRANCE OF WATER AND DEBRIS. PRIOR TO INSTALLATION OF CABLING, SWEEP CONDUITS WITH APPROPRIATELY SIZED MANDREL TO ENSURE REMOVAL OF MOISTURE AND DEBRIS.

SYM	ZONE	REVISIONS	DATE	APPROVED

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CHECKED Heather Callaway	12.18.13
SUBMITTED: ARCH/ENG OF RECORD Toby Smith	12/18/13
ST of LICENSURE: FL	
LICENSE NO: 71672	
APPROVED Scott Robinson	12.18.13
George Dutt	12.18.13

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KSC CENTRAL CAMPUS
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PHASE 1
VOL. 4 OF 4

TECHNOLOGY LEGEND, NOTES AND ABBREVIATIONS

T001

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 99

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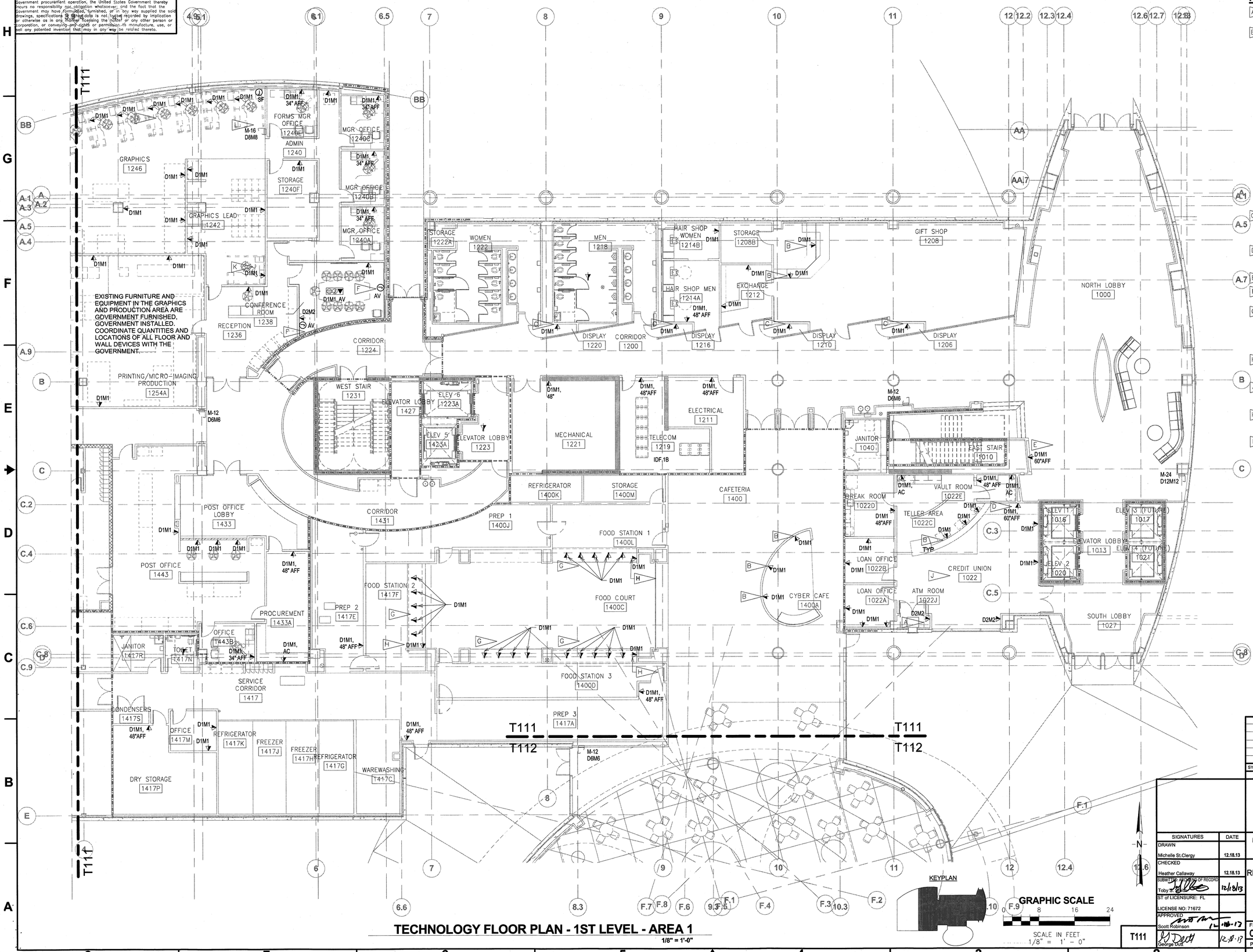

TECHNOLOGY FLOOR PLAN - 1ST LEVEL - AREA 1

1/8" = 1'-0"

FLAG NOTES:

- A — COORDINATE WITH ATM PROVIDER FOR EXACT LOCATION.
- B — INSTALL CO IN CASEWORK AND MILLWORK. COORDINATION IN THE FIELD WITH THE GENERAL CONTRACTOR, THE ELECTRICAL CONTRACTOR, THE ARCHITECT AND THE OWNER'S PROJECT MANAGER IS CRITICAL, AND SHALL BE COMPLETED PRIOR TO THE UNDERGROUND CONDUIT ROUGH-IN AND POURING OF THE FLOOR SLAB. PLACE DEVICE BOX AT EACH CO LOCATION IN MILLWORK AND MOUNT FOR FLUSH FACEPLATE INSTALLATION WITH EASY ACCESS FOR OWNER TO CONNECT DATA AND TELEPHONE DEVICES. RUN CABLE FROM EACH DEVICE BOX TO FLOOR STUB-UP IN 1" FLEXIBLE CONDUIT CONCEALED IN MILLWORK. AT FLOOR STUB-UP PROVIDE A 4"x4"x2-1/8" SLACK CABLE BOX WITH BOTTOM AT 4" A.F.F., THEN RUN 1" SCHEDULE 40 PVC HOMERUN CONDUIT UNDERFLOOR TO NEAREST WALL, TURN UP CONCEALED IN WALL TO 4" ABOVE FLOOR, CONVERT TO EMT, THEN RUN UP CONCEALED IN WALL AND OVERHEAD ABOVE CEILING AND CONTINUE TO CABLE TRAY OR SERVING CLOSET.
- C — COORDINATE LOCATION OF POWER AND DATA OUTLETS FOR TIMING AND COUNTDOWN IN DISPLAY WITH CONTRACTING OFFICER.
- D — COORDINATE FINAL LOCATION OF POWER AND DATA WITH CREDIT UNION FOR FINAL LOCATION OF DISPLAY.
- E — REFER TO DETAIL 5 ON SHEET T505.
- F — REFER TO DETAIL 4 ON SHEET T505 AND AV PLANS FOR SPECIFIC REQUIREMENTS.
- G — MOUNT DATA OUTLETS IN ANGLED SOFFIT ABOVE FOOD SERVICE VENDER AREAS MOUNT POWER ADJACENT TO DATA. PROVIDE 3/4" BACKBOARD ACROSS THE ENTIRE SOFFIT FOR DISPLAYS PROVIDED BY OTHERS.
- H — COORDINATE LOCATION AND HEIGHT WITH FOOD SERVICES VENDORS PRIOR TO ROUGHING IN.
- J — COORDINATE LOCATION AND HEIGHT OF ALL OUTLETS WITHIN CREDIT UNION PRIOR TO ROUGHING IN.
- K — COORDINATE WITH FURNITURE PRIOR TO ROUGHING IN TO ENSURE ACCESS TO DATA OUTLET.
- L — ROUTE DATA OUTLET CABLING IN SYSTEMS FURNITURE THRU WALL JUNCTION BOX TO SERVING MUTOA.

SYM	ZONE		DATE	APPROVED

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TECHNOLOGY PLAN - 1ST LEVEL AREA 1

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 100

T111

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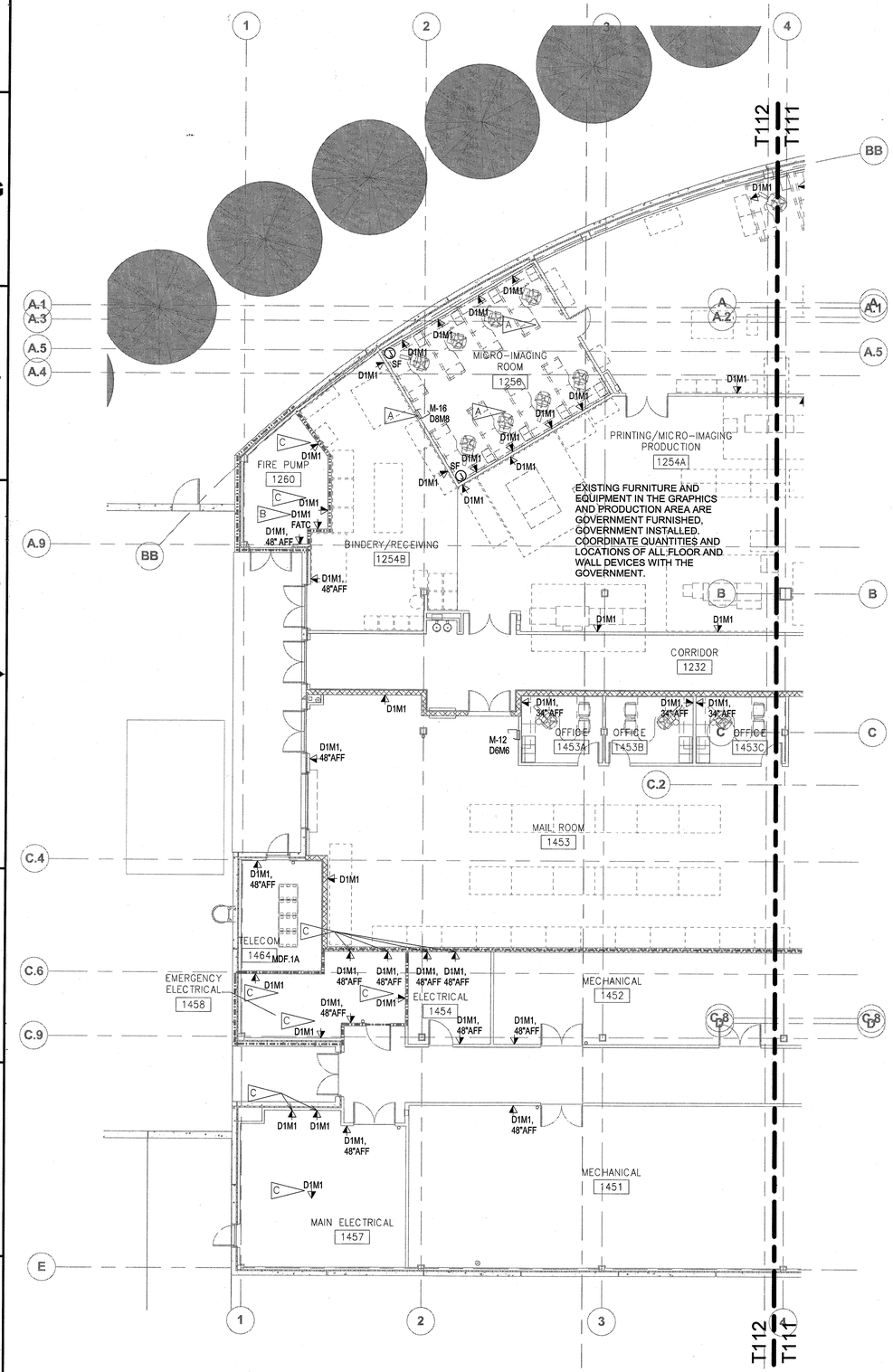
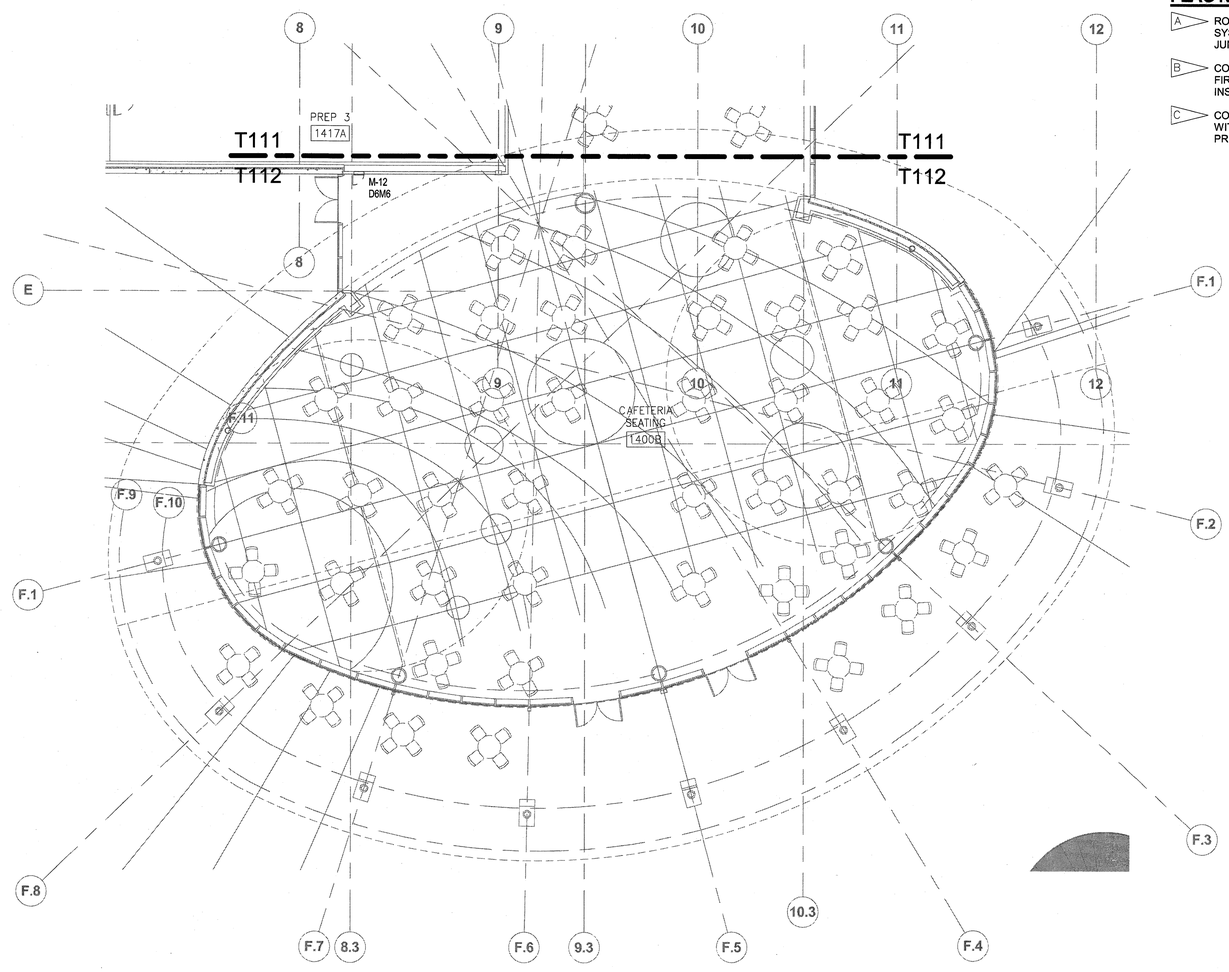


TECHNOLOGY FLOOR PLAN - 1ST LEVEL - AREA 2

1/8" = 1'-0"



TECHNOLOGY FLOOR PLAN - 1ST LEVEL - AREA 3

1/8" = 1'-0"

FLAG NOTES:

A. ROUTE DATA OUTLET CABLING IN SYSTEMS FURNITURE THRU WALL JUNCTION BOX TO SERVING MUTOA.

B. COORDINATE FINAL LOCATION WITH FIRE ALARM PROVIDER PRIOR TO INSTALL.

C. COORDINATE THE DATA OUTLETS WITH THE ELECTRICAL CONTRACTOR PRIOR TO INSTALLATION.

KEYPLAN

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1' - 0"

N

T112

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George Dutt	12-18-13

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TECHNOLOGY PLAN - 1ST LEVEL AREAS 2 & 3

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 101

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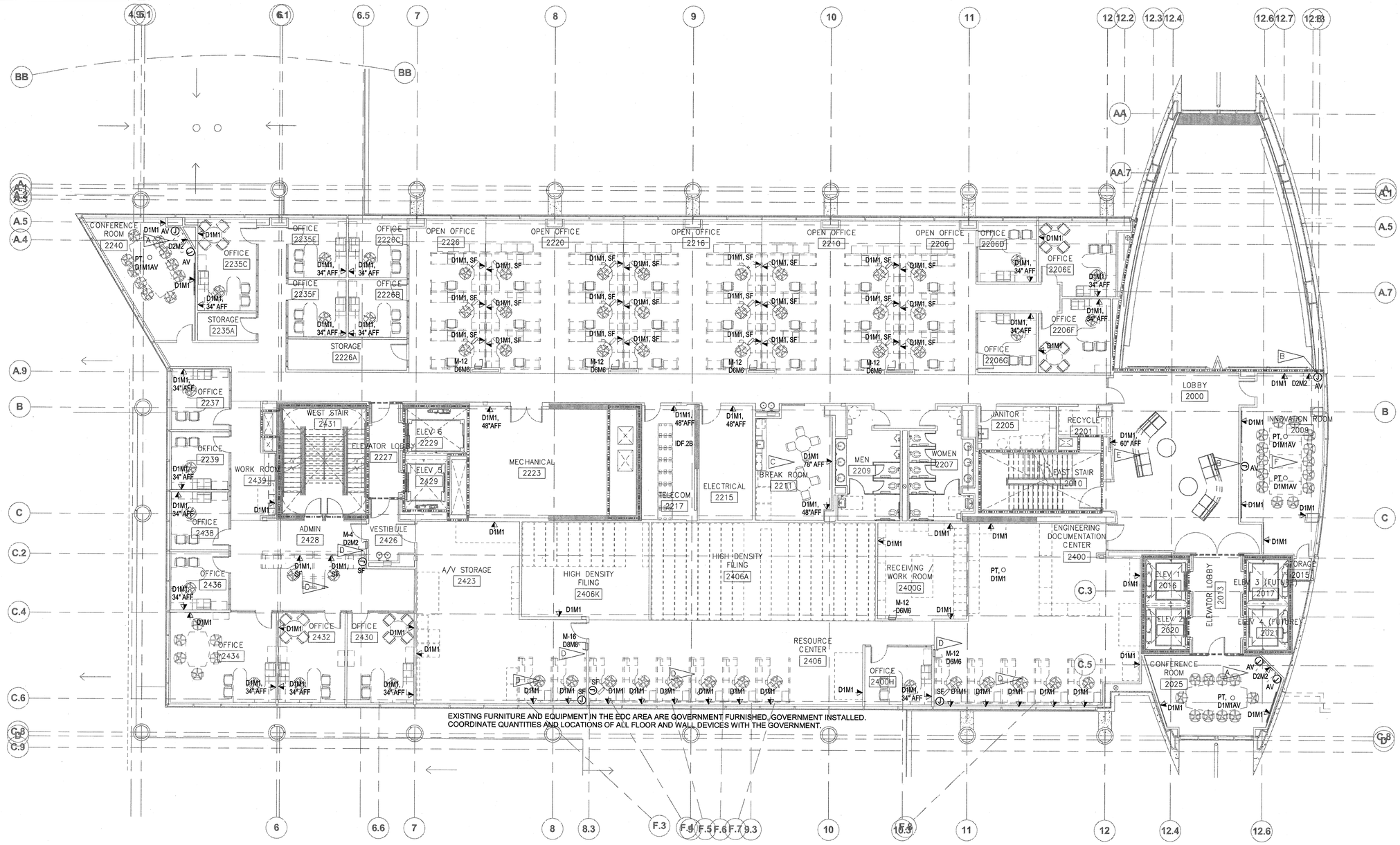
FLAG NOTES:

- A — REFER TO DETAIL 3 ON SHEET T505 AND AV PLANS FOR SPECIFIC REQUIREMENTS.
- B — REFER TO DETAIL 4 ON SHEET T505 AND AV PLANS FOR SPECIFIC REQUIREMENTS.
- C — REFER TO DETAIL 1 ON SHEET T505 FOR SPECIFIC REQUIREMENTS.
- D — ROUTE DATA OUTLET CABLING IN SYSTEMS FURNITURE THRU WALL JUNCTION BOX TO SERVING MUTOA.
- E — REFER TO DETAIL 5 ON SHEET T505.
- F — REFER TO SHEET AV103 FOR ADDITIONAL CONDUIT REQUIREMENTS. ROUTE CONDUITS FROM THE POKE-THRUS TO THE PULLBOX (LOCATED BETWEEN POKE-THRUS). ENSURE PULLBOX IS SIZED ADEQUATE FOR ADDITIONAL CONDUITS.



TECHNOLOGY FLOOR PLAN - 2ND LEVEL - OVERALL

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1' - 0"

N

T121

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George Dutt	12-18-13

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TECHNOLOGY PLAN - 2ND LEVEL

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 102

KSC FORM 1-11 (3/76)(C/G 3/94)

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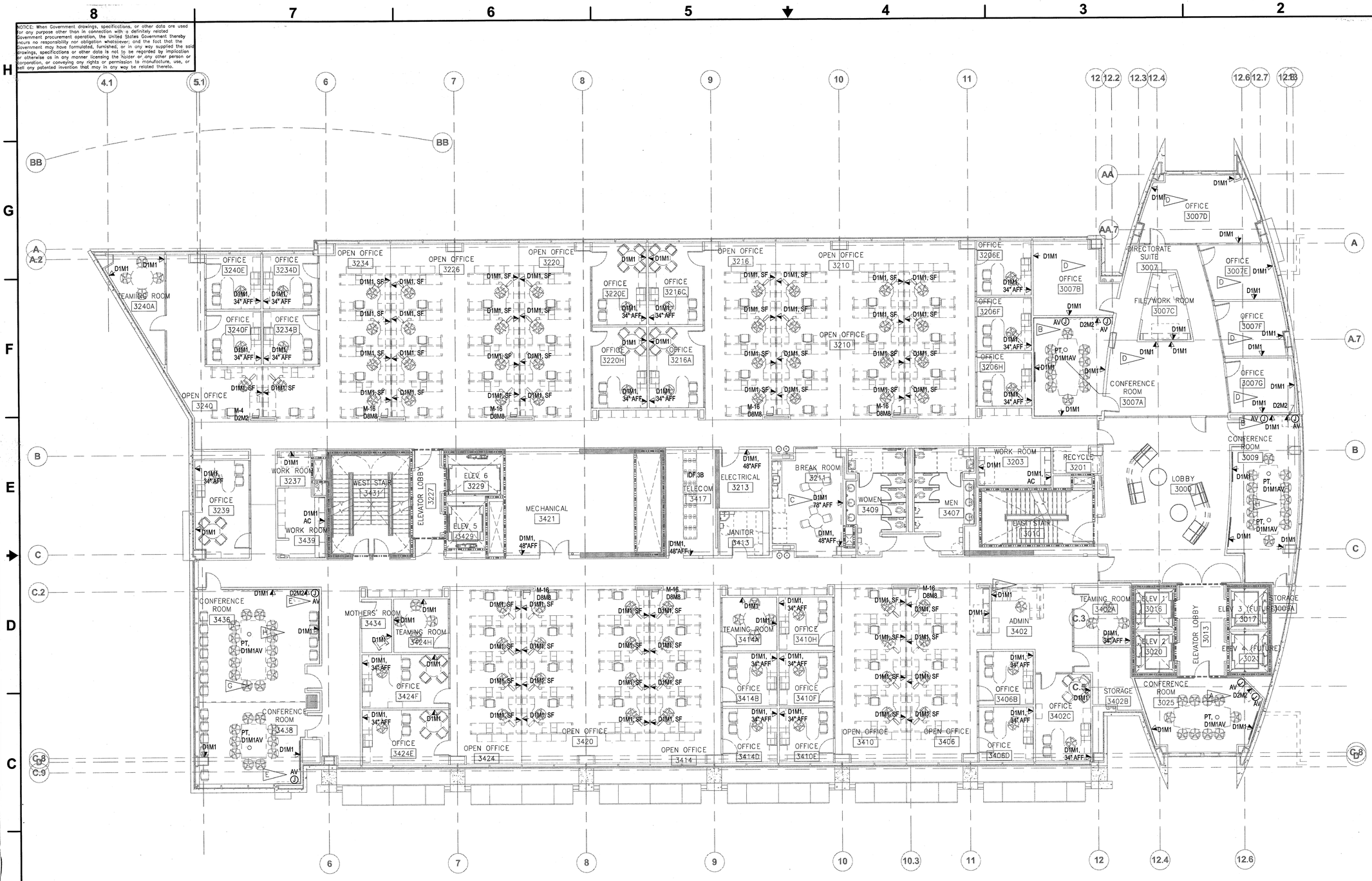

FLAG NOTES:

- A — REFER TO DETAIL 3 ON SHEET T505 AND AV PLANS FOR SPECIFIC REQUIREMENTS.
- B — REFER TO DETAIL 4 ON SHEET T505 AND AV PLANS FOR SPECIFIC REQUIREMENTS.
- C — REFER TO DETAIL 1 ON SHEET T505 FOR SPECIFIC REQUIREMENTS.
- D — EXISTING FURNITURE GOVERNMENT FURNISHED, GOVERNMENT INSTALLED. COORDINATE LOCATIONS OF ALL FLOOR, WALL AND CEILING DEVICES WITH GOVERNMENT.
- E — REFER TO CREDENZA DETAIL AND DETAIL 4 ON SHEET T504.
- F — COORDINATE WITH FURNITURE PRIOR TO ROUGHING IN TO ENSURE ACCESS TO DATA OUTLET.
- G — REFER TO DETAIL 5 ON SHEET T504 FOR SPECIFIC REQUIREMENTS.
- H — REFER TO SHEET AV103 FOR ADDITIONAL CONDUIT REQUIREMENTS. ROUTE CONDUITS FROM THE POKE-THRUS TO THE PULLBOX (LOCATED BETWEEN POKE-THRUS). ENSURE PULLBOX IS SIZED ADEQUATE FOR ADDITIONAL CONDUITS.

TECHNOLOGY FLOOR PLAN - 3RD LEVEL - OVERALL

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1' - 0"

N

SYM	ZONE		DATE	APPROVED

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REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

TECHNOLOGY PLAN - 3RD LEVEL

T131

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 103

KSC FORM 1-11 (3/76)(C/G 3/94)

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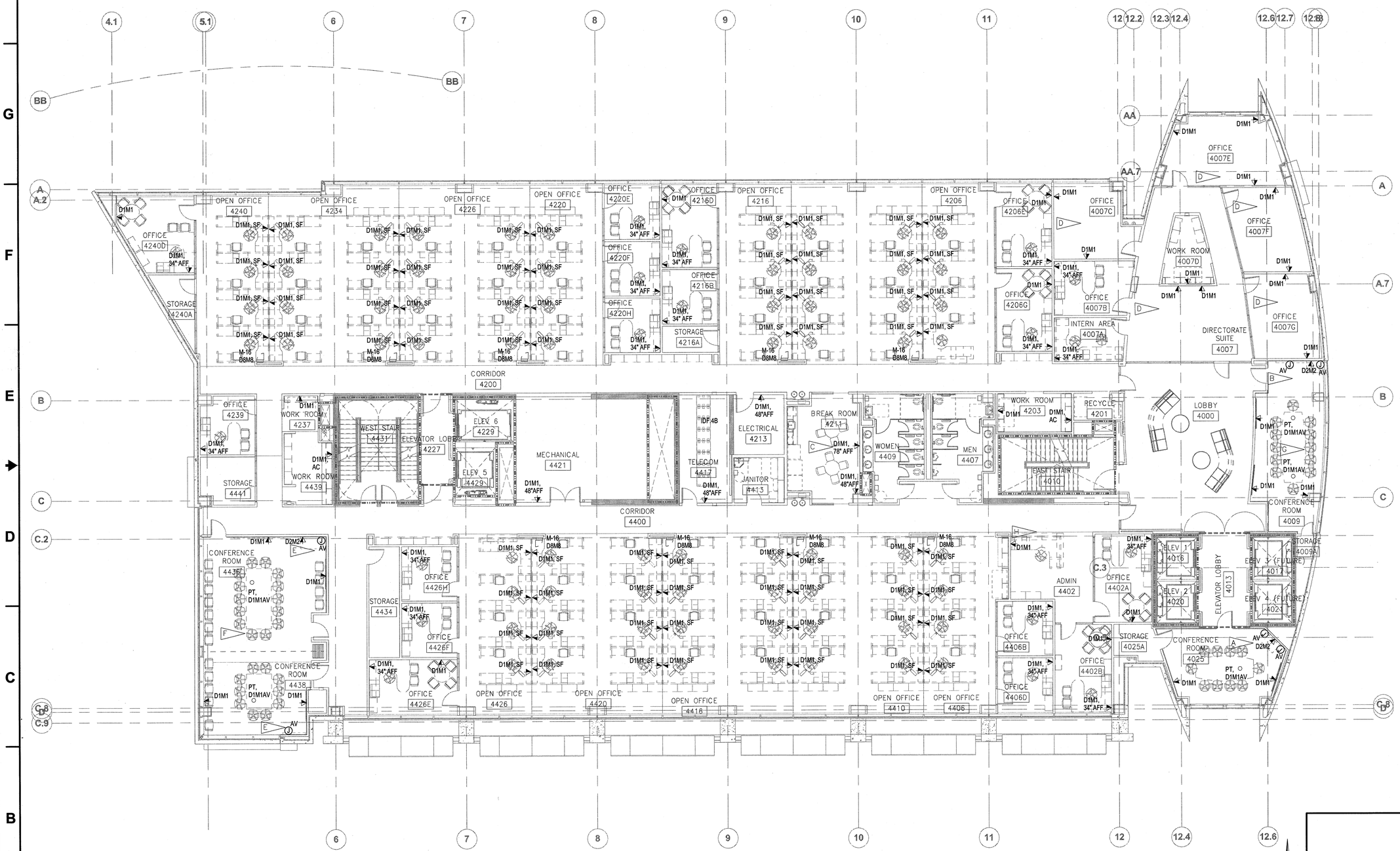
- B — REFER TO DETAIL 4 ON SHEET T505 AND AV PLANS FOR SPECIFIC REQUIREMENTS.
- C — REFER TO DETAIL 1 ON SHEET T505 FOR SPECIFIC REQUIREMENTS.
- D — EXISTING FURNITURE GOVERNMENT FURNISHED, GOVERNMENT INSTALLED. COORDINATE LOCATIONS OF ALL FLOOR, WALL AND CEILING DEVICES WITH GOVERNMENT.
- E — REFER TO CREDENZA DETAIL IN ADDITION TO DETAIL 4 ON SHEET T505.
- F — REFER TO DETAIL 5 ON SHEET T504 FOR SPECIFIC REQUIREMENTS.
- G — REFER TO SHEET AV103 FOR ADDITIONAL CONDUIT REQUIREMENTS. ROUTE CONDUITS FROM THE POKE-THRUS TO THE PULLBOX (LOCATED BETWEEN POKE-THRUS). ENSURE PULLBOX IS SIZED ADEQUATE FOR ADDITIONAL CONDUITS.
- H — COORDINATE WITH FURNITURE PRIOR TO ROUGHING IN TO ENSURE ACCESS TO DATA OUTLET.



TECHNOLOGY FLOOR PLAN - 4TH LEVEL - OVERALL

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET 1/8" = 1' - 0"

SYM	ZONE		DATE	APPROVED

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APPROVED Scott Robinson	12.18.13
George Dutt	12-18-13

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TECHNOLOGY PLAN - 4TH LEVEL

T141

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

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FLAG NOTES:

A. REFER TO DETAIL 3 ON SHEET T504 AND AV PLANS FOR SPECIFIC REQUIREMENTS.

B. REFER TO DETAIL 4 ON SHEET T504 AND AV PLANS FOR SPECIFIC REQUIREMENTS.

C. REFER TO BREAK ROOM DISPLAY DETAIL FOR SPECIFIC REQUIREMENTS.

D. EXISTING FURNITURE GOVERNMENT FURNISHED, GOVERNMENT INSTALLED. COORDINATE LOCATIONS OF ALL FLOOR, WALL AND CEILING DEVICES WITH GOVERNMENT.

E. ROUTE DATA OUTLET CABLING IN SYSTEMS FURNITURE THRU WALL JUNCTION BOX TO SERVING MUTOA.

F. REFER TO SHEET AV103 FOR ADDITIONAL CONDUIT REQUIREMENTS. ROUTE CONDUITS FROM THE POKE-THRUS TO THE PULLBOX. BETWEEN POKE-THRUS ENSURE PULLBOX IS SIZED ADEQUATE FOR ADDITIONAL CONDUITS.

G. COORDINATE WITH FURNITURE PRIOR TO ROUGHING IN TO ENSURE ACCESS TO DATA OUTLET.

TECHNOLOGY FLOOR PLAN - 5TH LEVEL - OVERALL

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1' - 0"

N

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TECHNOLOGY PLAN - 5TH LEVEL

T151

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 105

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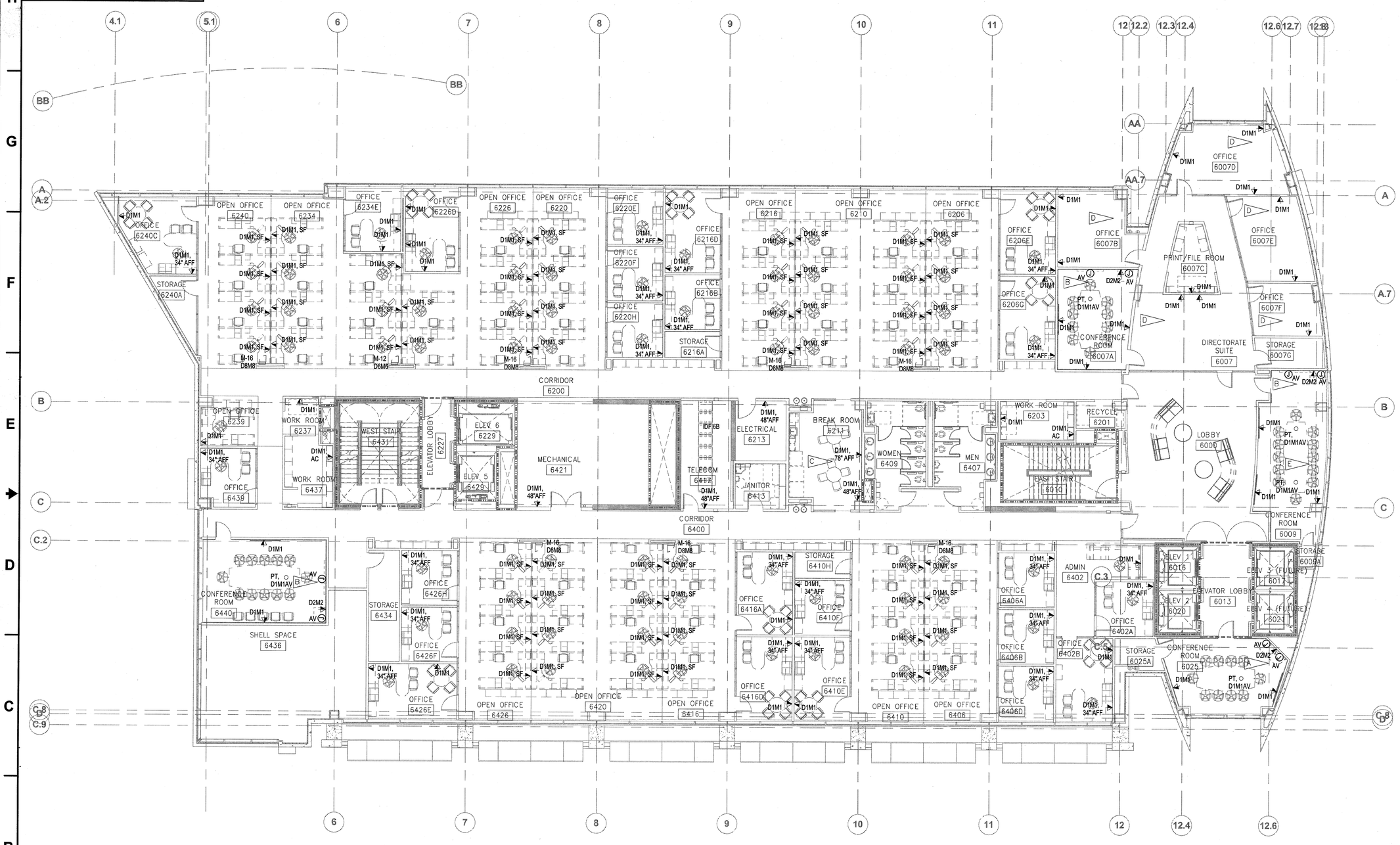

FLAG NOTES:

A. REFER TO DETAIL 3 ON SHEET T505 AND AV PLANS FOR SPECIFIC REQUIREMENTS.

B. REFER TO DETAIL 4 ON SHEET T505 AND AV PLANS FOR SPECIFIC REQUIREMENTS.

C. REFER TO DETAIL 1 ON SHEET T505 FOR SPECIFIC REQUIREMENTS.

D. EXISTING FURNITURE GOVERNMENT FURNISHED, GOVERNMENT INSTALLED. COORDINATE LOCATIONS OF ALL FLOOR, WALL AND CEILING DEVICES WITH GOVERNMENT.

E. REFER TO SHEET AV103 FOR ADDITIONAL CONDUIT REQUIREMENTS. ROUTE CONDUITS FROM THE POKE-THRUS TO THE PULLBOX (LOCATED BETWEEN POKE-THRUS). ENSURE PULLBOX IS SIZED ADEQUATE FOR ADDITIONAL CONDUITS.

TECHNOLOGY FLOOR PLAN - 6TH LEVEL - OVERALL

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1' - 0"

N

T161

SYM	ZONE		DATE	APPROVED

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APPROVED Scott Robinson	12-18-13
George Dutt	12-18-13

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PHASE 1
VOL. 4 OF 4

TECHNOLOGY PLAN - 6TH LEVEL

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 106

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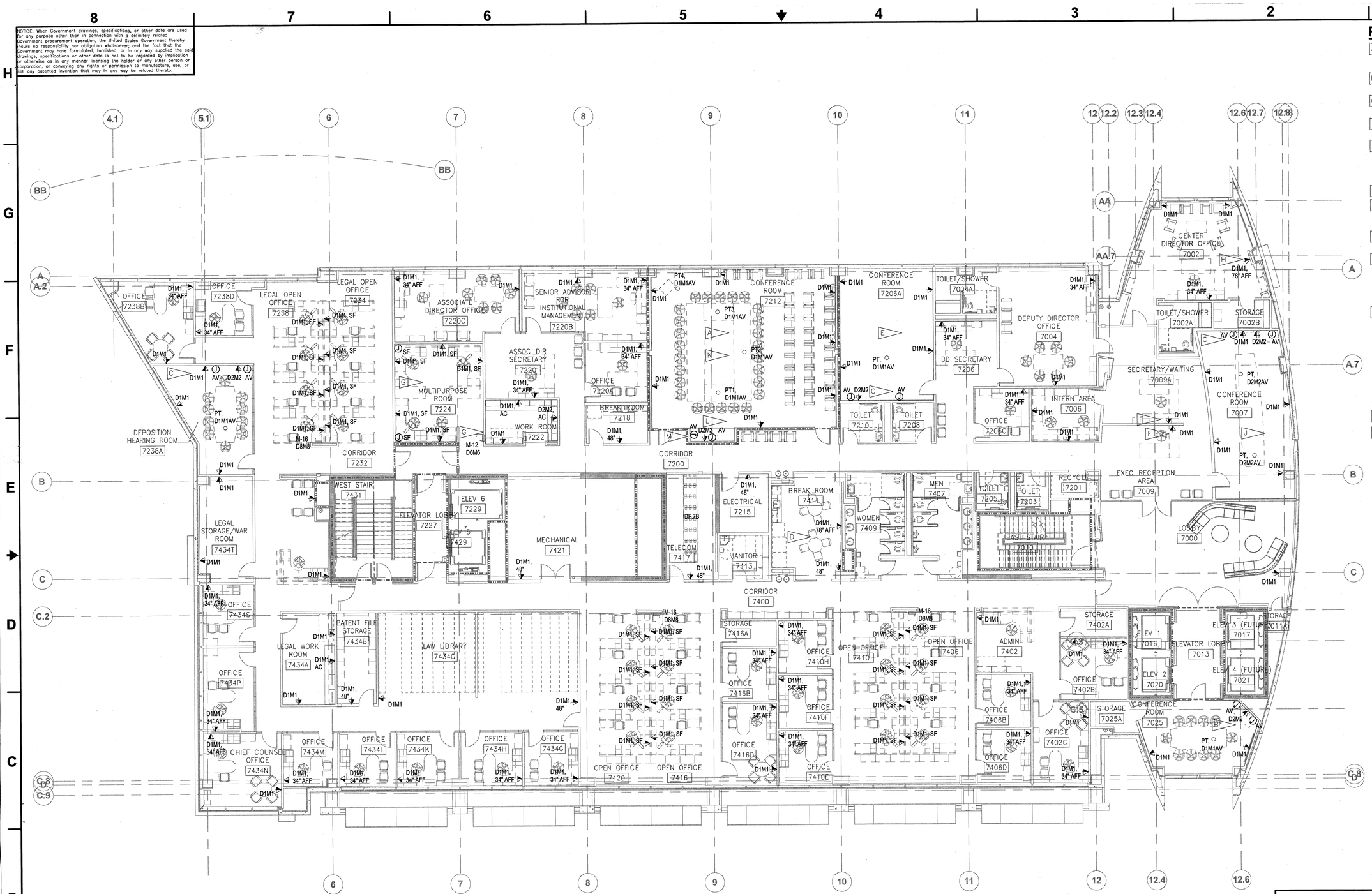

FLAG NOTES:

- A — PROVIDE STAINLESS STEEL DATA PLATES WITH GRAY JACKS FOR ALL OUTLETS IN THIS ROOM.
- B — REFER TO DETAIL 3 ON SHEET T505 AND AV PLANS FOR SPECIFIC REQUIREMENTS.
- C — REFER TO DETAIL 4 ON SHEET T505 AND AV PLANS FOR SPECIFIC REQUIREMENTS.
- D — REFER TO DETAIL 1 ON T505 FOR SPECIFIC REQUIREMENTS.
- E — EXISTING FURNITURE GOVERNMENT FURNISHED, GOVERNMENT INSTALLED. COORDINATE LOCATIONS OF ALL FLOOR, WALL AND CEILING DEVICES WITH GOVERNMENT.
- F — ROUTE CONDUIT LOW IN HALF WALL.
- G — ROUTE DATA OUTLET CABLING IN SYSTEMS FURNITURE THRU WALL JUNCTION BOX TO SERVING MUTOA.
- H — REFER TO DETAIL 4 ON SHEET T506 FOR SPECIFIC REQUIREMENTS.
- J — REFER TO SHEET AV103 FOR ADDITIONAL CONDUIT REQUIREMENTS. ROUTE CONDUITS FROM THE POKE-THRUS TO THE PULLBOX. BETWEEN POKE-THRUS ENSURE PULLBOX IS SIZED ADEQUATE FOR ADDITIONAL CONDUITS.
- K — PROVIDE A LARGE PULLBOX IN CEILING SPACE OF THE 6TH FLOOR NEAR GRIDLINE 9 AND CENTERED IN BETWEEN POKE-THRUS. PROVIDE CONDUITS FROM POKE-THRUS TO PULLBOX AS STATED BELOW:
  PT1 - TWO 2" CONDUITS
  PT2 - ONE 2" CONDUIT
  PT3 - TWO 2" CONDUITS
  PT4 - ONE 2" CONDUIT
  FROM THE LARGE PULLBOX AND WALL ACCESS BOX, PROVIDE THREE 2" CONDUITS. REFER TO AV PLAN FOR ADDITIONAL REQUIREMENTS.
- L — REFER TO CREDENZA DETAIL.
- M — REFER TO SCREEN CONTROL DETAIL.

TECHNOLOGY FLOOR PLAN - 7TH LEVEL OVERALL

1/8" = 1'-0"

GRAPHIC SCALE
0 8 16 24
SCALE IN FEET
1/8" = 1' - 0"

SYM	ZONE		DATE	APPROVED

REVISIONS

Callaway Design Group LLC
14802 North Dale Mabry Rd
Suite 201
Tampa, Florida 33618

SIGNATURES	DATE
DRAWN Michelle St.Clergy	12.18.13
CHECKED Heather Callaway	12.18.13
SUBMITTED: ARCHITECT OF RECORD Toby Sanders	12/18/13
ST of LICENSURE: FL	
LICENSE NO: 71672	
APPROVED Scott Robinson	12-18-13
George Dutt	12.18.13

T171

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

TECHNOLOGY PLAN - 7TH LEVEL

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 107

KSC FORM 1-11 (3/76)(C/G 3/94)

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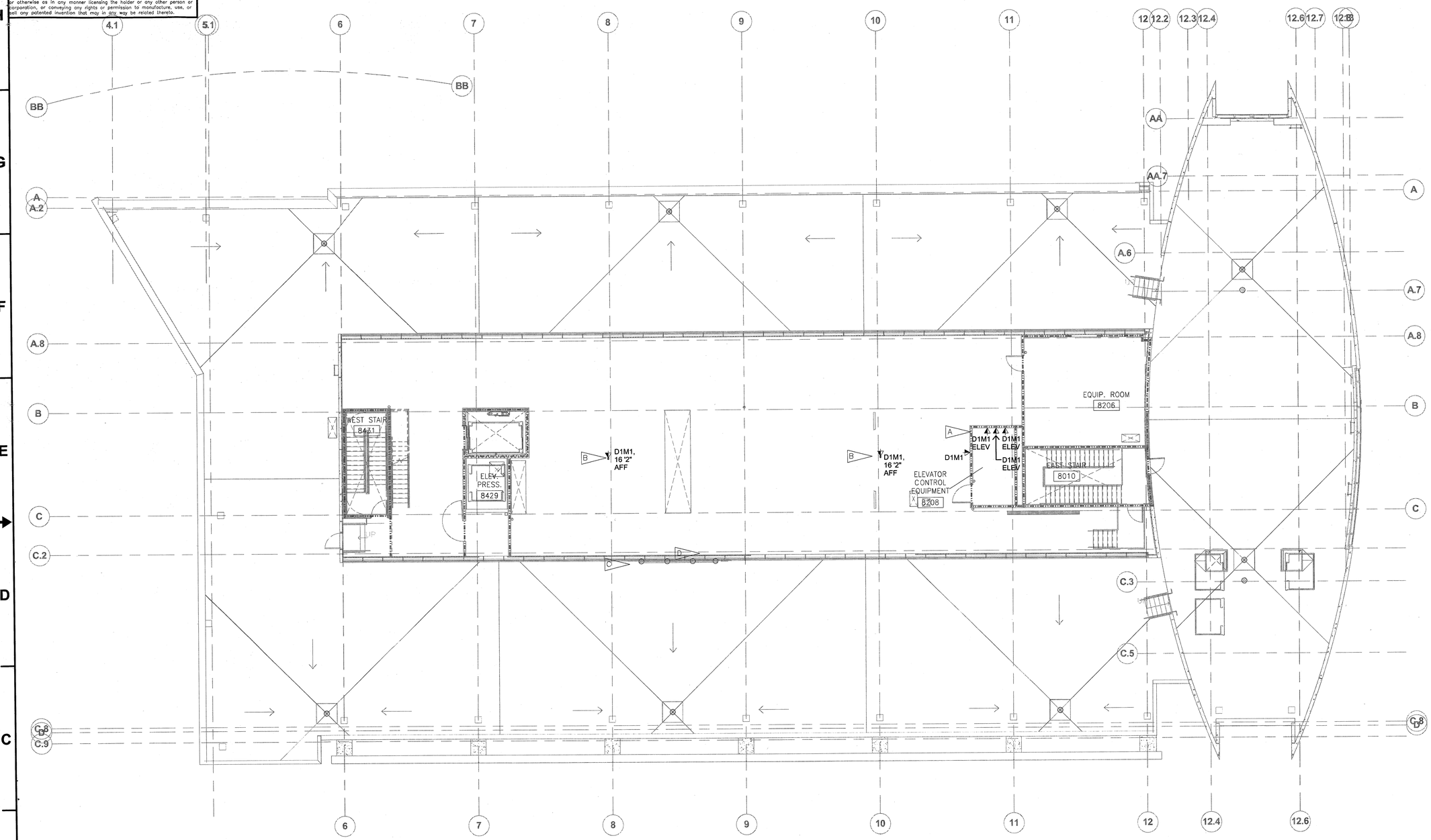

FLAG NOTES:

A. HOMERUN CONDUIT AND CABLING FOR OUTLETS SERVING ELEVATOR EQUIPMENT TO IDF.7B. COORDINATE FINAL LOCATIONS WITH ELEVATOR PROVIDER.

B. OUTLETS SHALL BE MOUNTED ON STRUCTURE FOR CONNECTION TO PAGING SPEAKER. COORDINATE FINAL SPEAKER LOCATION AND DATA OUTLET.

C. LOCATION OF RACK RAIL STRUCTURE FOR ANTENNA FARM. ANTENNAS ARE PROVIDED BY OTHERS. REFER TO STRUCTURAL FOR MOUNTING SPECIFICATIONS. REFER TO ELECTRICAL FOR ALL CONDUIT AND EXTERIOR WALL PENETRATIONS.

D. PROVIDE A VERTICAL MOUNTED CABLE RUNWAY OVER LOUVER TO ALLOW CABLES TO CONTINUE FROM ANTENNAS FARM TO 7TH LEVEL TELECOM ROOM. PROPERLY SUPPORT RUNWAY ON WALL NOT ON LOUVER AS REQUIRED BY MANUFACTURER.

TECHNOLOGY FLOOR PLAN - ROOF LEVEL

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1' - 0"

N

SYM	ZONE		DATE	APPROVED

REVISIONS

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LICENSE NO: 71672	
APPROVED Scott Robinson	12-18-13
George Dutt	12-18-13

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

TECHNOLOGY PLAN - ROOF LEVEL

T181

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 108

KSC FORM 1-11 (3/76)(C/G 3/94)

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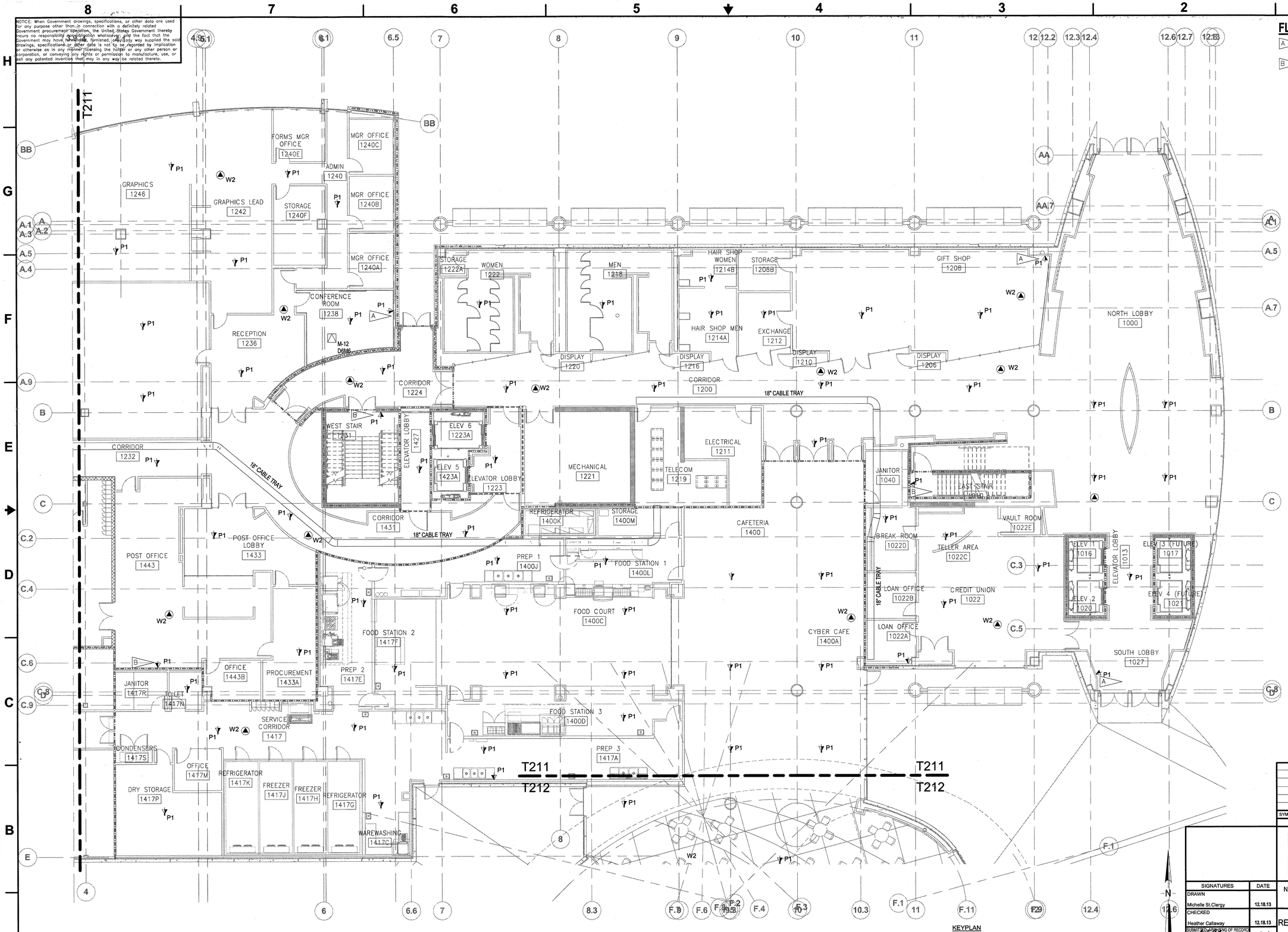
FLAG NOTES:

A — DATA OUTLET LOCATIONS FOR CONNECTION TO EXTERIOR SPEAKER.

B — COORDINATE WITH SPEAKER FOR BEST LOCATION OF DATA OUTLET.



ABOVE CEILING FLOOR PLAN - 1ST LEVEL - AREA 1

1/8" = 1'-0"

KEYPLAN

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET 1/8" = 1' - 0"

SYM	ZONE		DATE	APPROVED

REVISIONS

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APPROVED Scott Robinson	12.18.13
George Dutt	12-18-13

T211

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

ABOVE CEILING PLAN - 1ST LEVEL AREA 1

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 109

KSC FORM 1-11 (3/76)(C/G 3/94)

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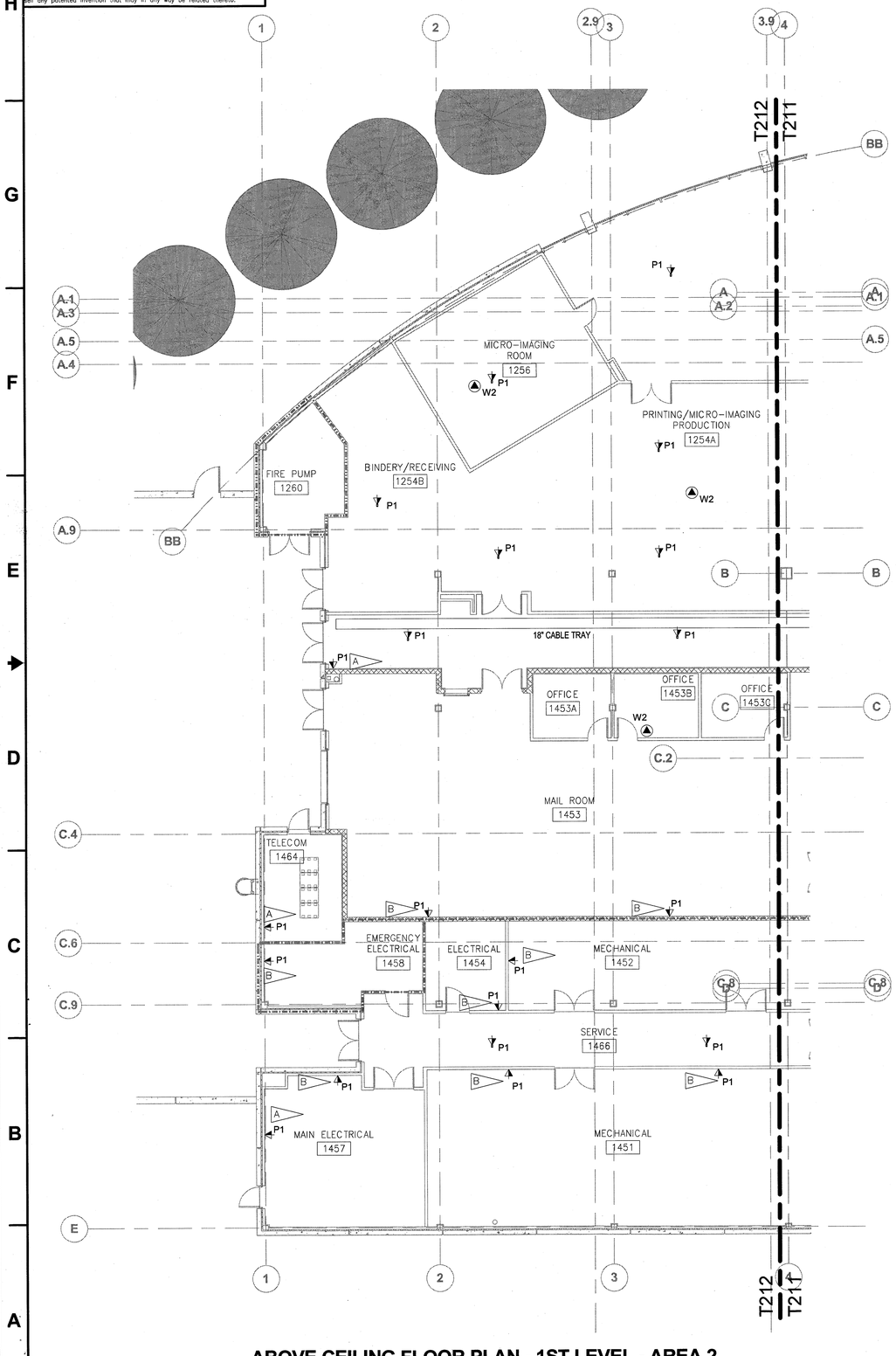
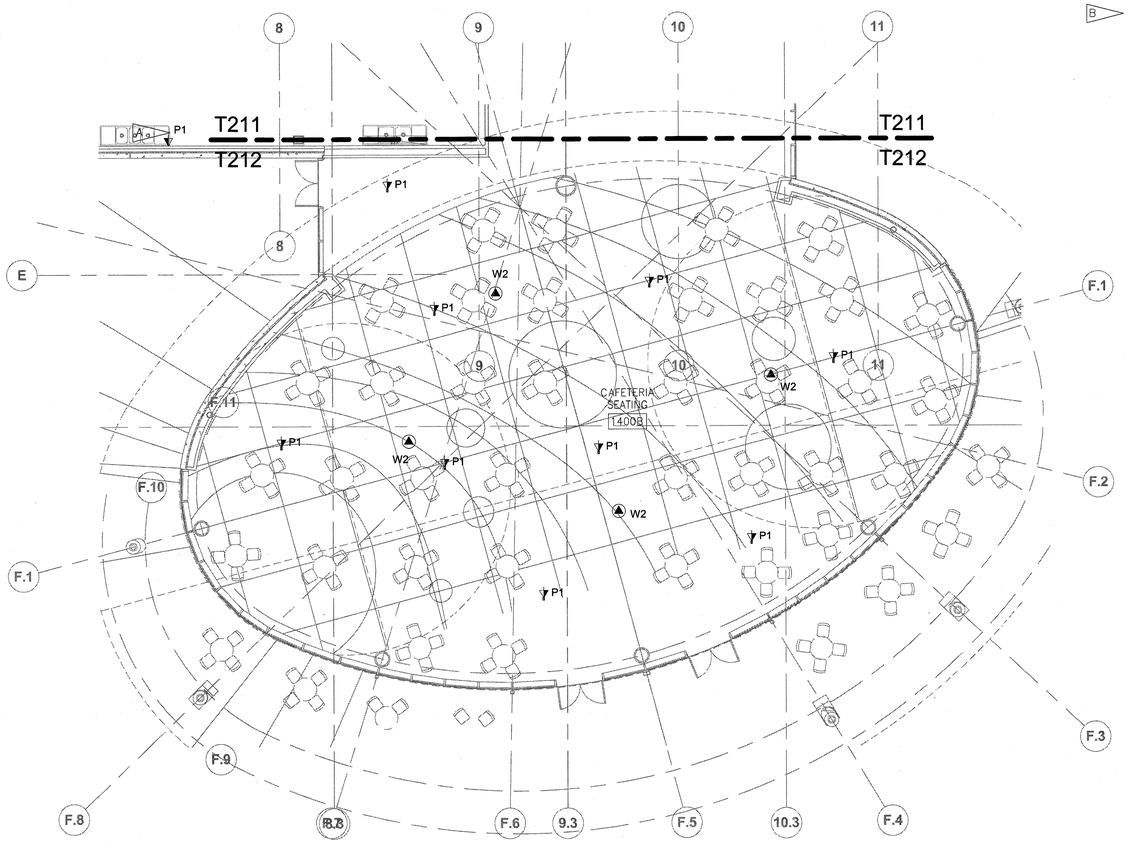


ABOVE CEILING FLOOR PLAN - 1ST LEVEL - AREA 2

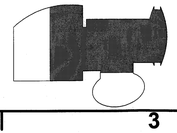
1/8" = 1'-0"



ABOVE CEILING FLOOR PLAN - 1ST LEVEL - AREA 3

1/8" = 1'-0"

KEYPLAN



GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1' - 0"

N

SYM	ZONE		DATE	APPROVED

REVISIONS

Callaway Design Group LLC
14802 North Dale Mabry Rd
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ST of LICENSURE: FL	
LICENSE NO: 71672	
APPROVED Scott Robinson	12-18-13
George Dutt	12-18-13

T212

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

ABOVE CEILING PLAN - 1ST LEVEL AREAS 1 & 2

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 110

KSC FORM 1-11 (3/76)(C/G 3/94)

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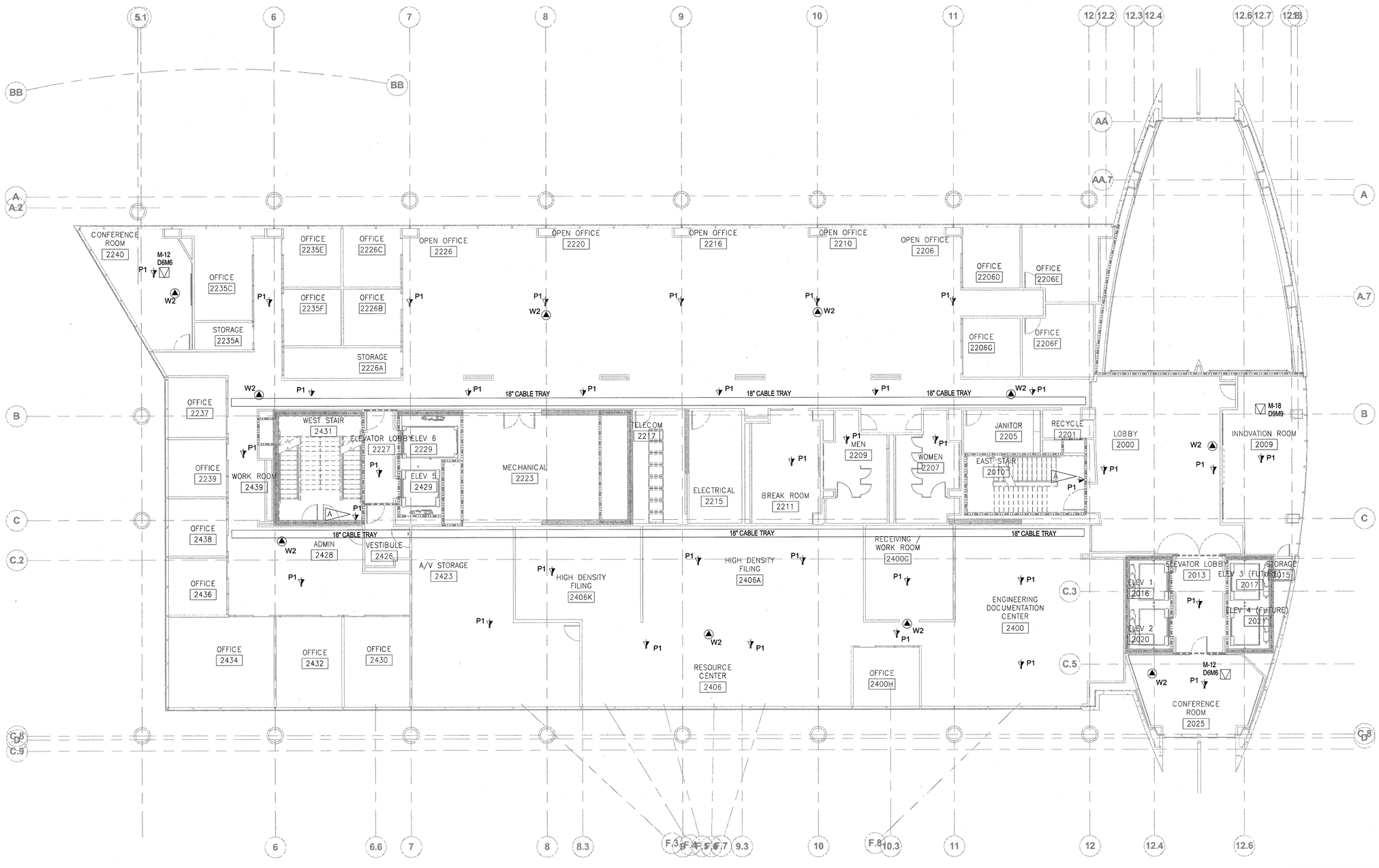

ABOVE CEILING FLOOR PLAN - 2ND LEVEL - OVERALL

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET 1/8" = 1' - 0"

N

SYM	ZONE		DATE	APPROVED

REVISIONS

Callaway Design Group LLC
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SUBMITTED ENGINEER OF RECORD Toby S. Shields	12/18/13
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APPROVED Scott Robinson	12.18.13
George Dutt	12.18.13

T221

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

ABOVE CEILING PLAN - 2ND LEVEL

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 111

KSC FORM 1-11 (3/76)(C/G 3/94)

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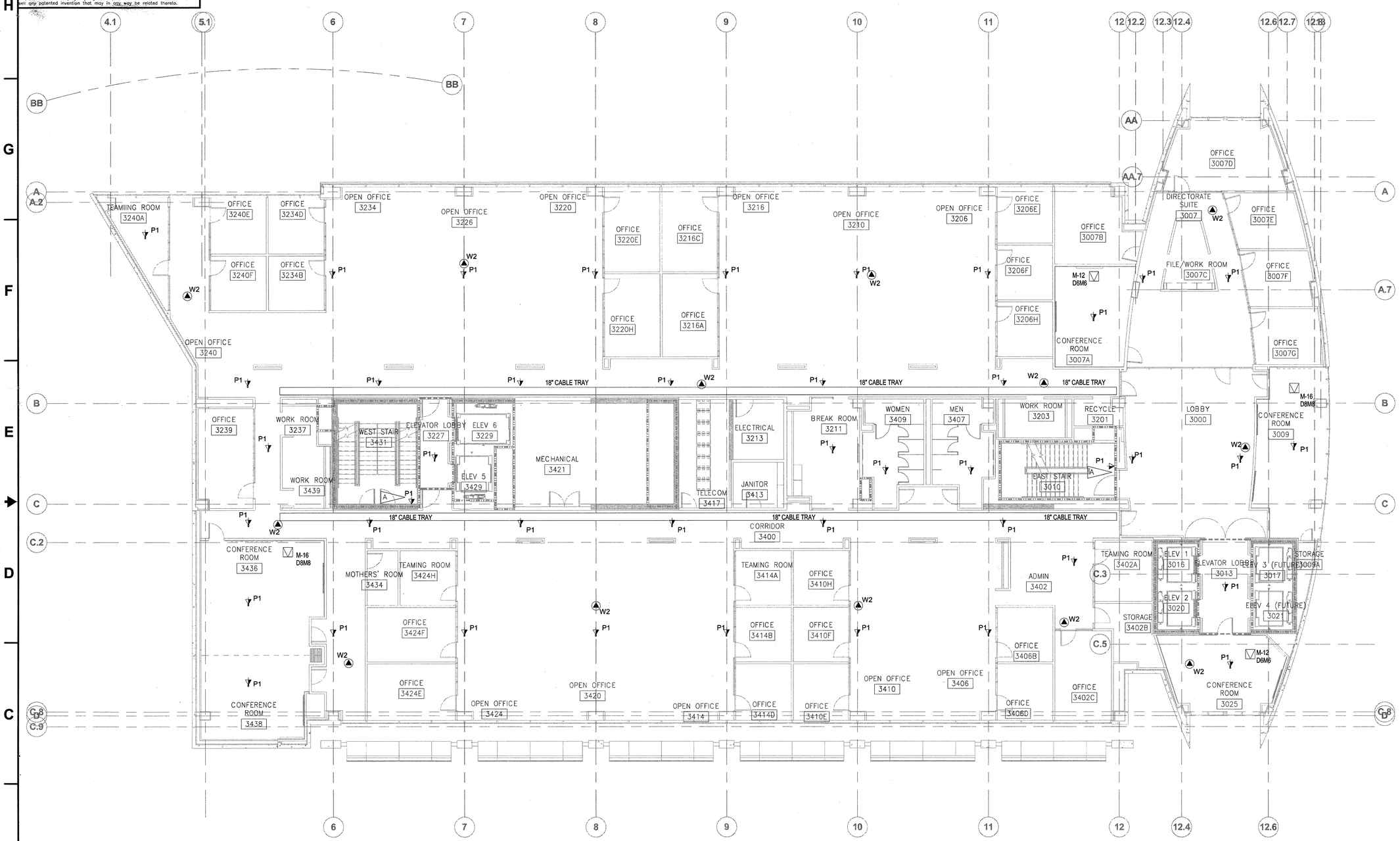

ABOVE CEILING FLOOR PLAN - 3RD LEVEL - OVERALL

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET 1/8" = 1'-0"

SYM	ZONE		DATE	APPROVED

REVISIONS

Callaway Design Group LLC
14602 North Dale Mabry Rd
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APPROVED Scott Robinson	12.18.13
George Dutt	12-18-13

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

ABOVE CEILING PLAN - 3RD LEVEL

T231

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 112

KSC FORM 1-11 (3/76)(C/G 3/94)

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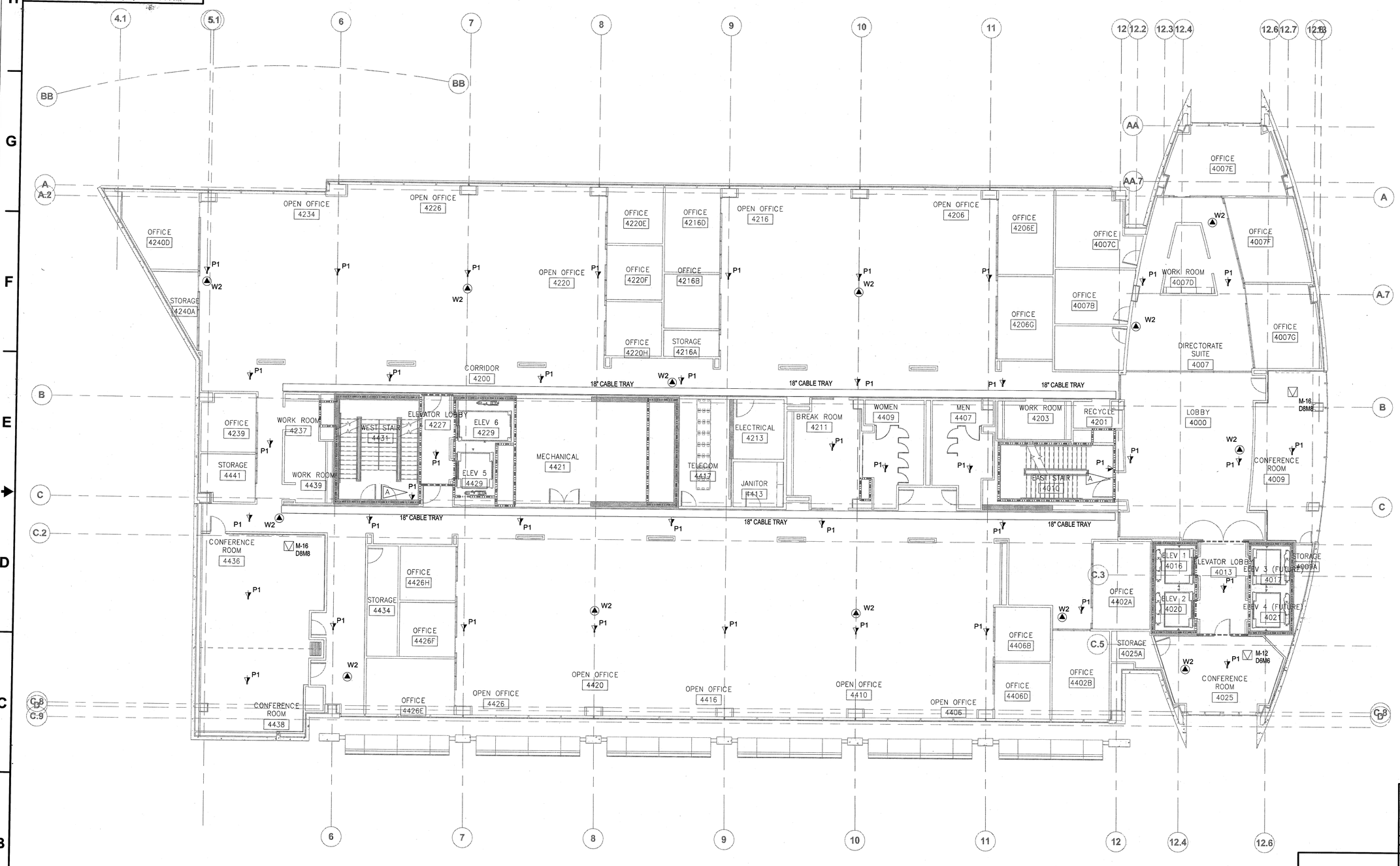

ABOVE CEILING FLOOR PLAN - 4TH LEVEL - OVERALL

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1' - 0"

SYM	ZONE		DATE	APPROVED

REVISIONS

Callaway Design Group LLC
14802 North Dale Mabry Rd
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CHECKED Heather Callaway	12.18.13
SUBM. DRAWINGS OF RECORD Toby S. Smith	12/18/13
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LICENSE NO: 71672	
APPROVED Scott Robinson	12.18.13
T241 George Dutt	12.18.13

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

ABOVE CEILING PLAN - 4TH LEVEL

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 113

KSC FORM 1-11 (3/76)(C/G 3/94)

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FLAG NOTES:

A — COORDINATE WITH SPEAKER FOR BEST LOCATION OF DATA OUTLET.

ABOVE CEILING FLOOR PLAN - 5TH LEVEL - OVERALL

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET 1/8" = 1' - 0"

N

T251

SYM	ZONE		DATE	APPROVED

REVISIONS

Callaway Design Group LLC
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SIGNATURES	DATE
DRAWN Michelle St.Clergy	12.18.13
CHECKED Heather Callaway	12.18.13
SUBMITTED ARCHITECT OF RECORD Toby S. Smith	12/18/13
ST of LICENSURE: FL LICENSE NO: 71672	
APPROVED Scott Robinson	12.18.13
George Dutt	12-18-13

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REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

ABOVE CEILING PLAN - 5TH LEVEL

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 114

KSC FORM 1-11 (3/76)(C/G 3/94)

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ABOVE CEILING FLOOR PLAN - 6TH LEVEL - OVERALL

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1' - 0"

SYM	ZONE		DATE	APPROVED

REVISIONS

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SIGNATURES	DATE
DRAWN	
Michelle St.Clergy	12.18.13
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Heather Callaway	12.18.13
SUBMITTED: ARCHITECT OF RECORD	
Toby Smith	12/18/13
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LICENSE NO: 71672	
APPROVED	
Scott Robinson	12-18-13
George Dutt	12-18-13

T261

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KENNEDY SPACE CENTER, FLORIDA

KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

ABOVE CEILING PLAN - 6TH LEVEL

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 115

KSC FORM 1-11 (3/76)(C/G 3/94)

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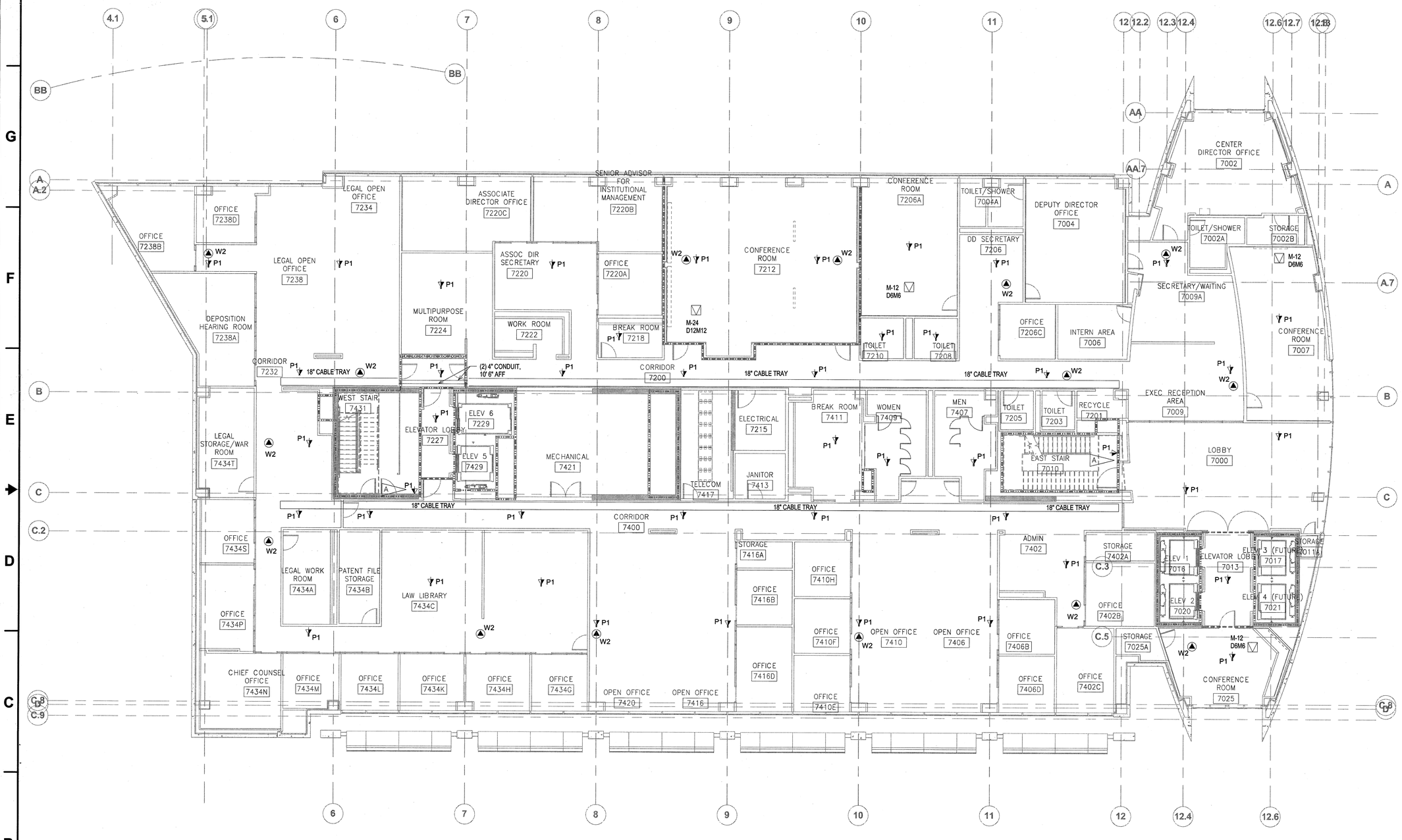

ABOVE CEILING FLOOR PLAN - 7TH LEVEL OVERALL

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET 1/8" = 1' - 0"

N

T271

SYM	ZONE		DATE	APPROVED

REVISIONS

Callaway Design Group LLC
14602 North Dale Mabry Rd
Suite 201
Tampa, Florida 33618

SIGNATURES	DATE
DRAWN Michelle St.Clergy	12.18.13
CHECKED Heather Callaway	12.18.13
SUBMITTED AS RECORD OF RECORD Toby Bolton	12/18/13
ST of LICENSURE: FL	
LICENSE NO: 71672	
APPROVED Scott Robinson	12-18-13
George Dutt	12-18-13

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

ABOVE CEILING PLAN - 7TH LEVEL

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 116

KSC FORM 1-11 (3/76)(C/G 3/94)

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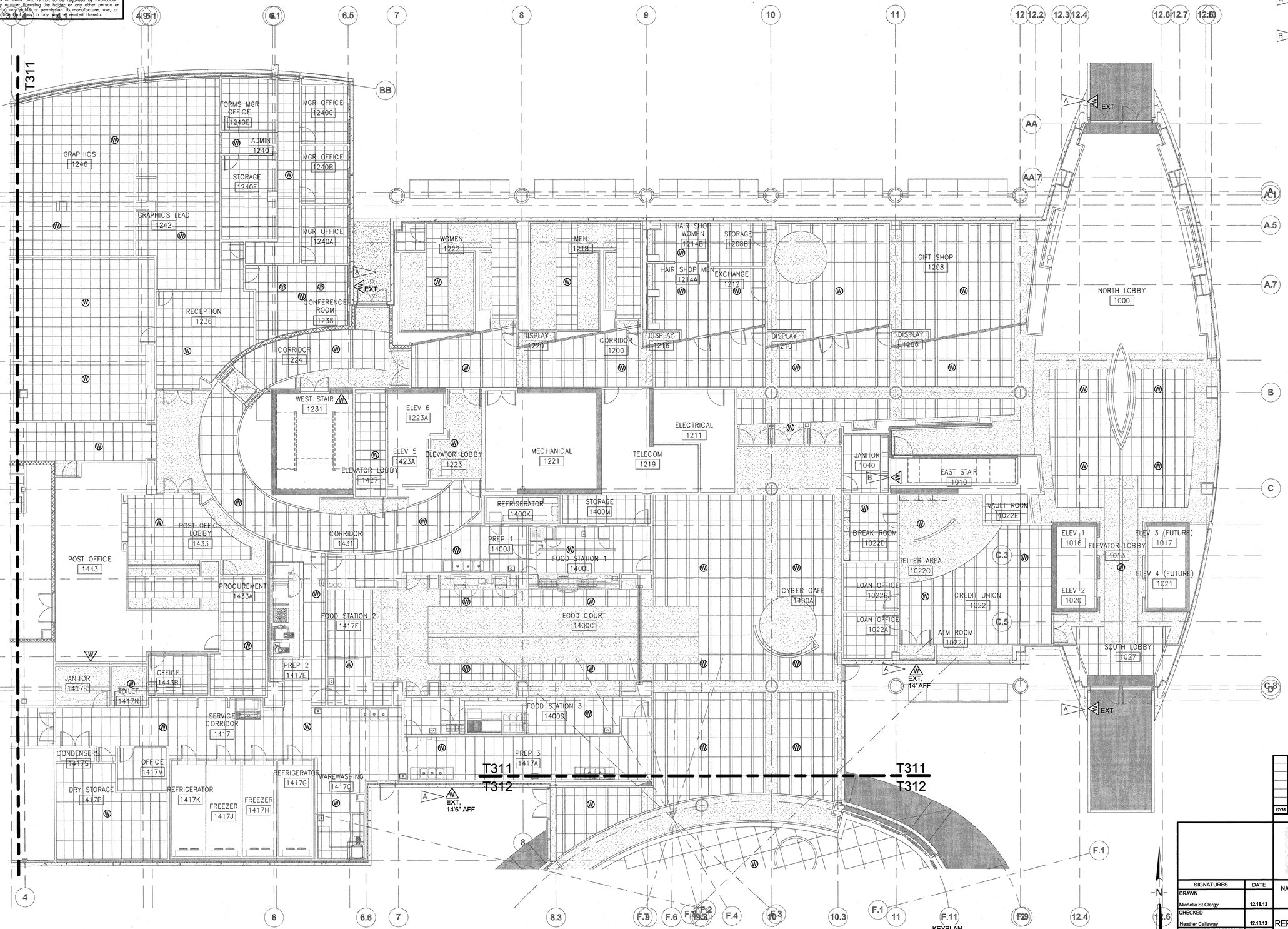
FLAG NOTES:

A — ROUTE CONDUIT IN CONCRETE FROM SPEAKER BACK BOX ENCLOSURE TO ACCESSIBLE CEILING FOR CONNECTION TO DATA OUTLET.

B — ENSURE BACK BOX IS FIRE-RATED.



PAGING AND AREA WARNING SYSTEM (PAWS) PLAN - 1ST LEVEL AREA 1

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1' - 0"

T311

SYM	ZONE		DATE	APPROVED

REVISIONS

Callaway Design Group LLC
14802 North Dale Mabry Rd
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Tampa, Florida 33618

SIGNATURES	DATE
DRAWN Michelle St.Clergy	12.18.13
CHECKED Heather Callaway	12.18.13
SUBMITTED AS WORKING OF RECORD Toby S. Carter	12/18/13
ST of LICENSURE: FL	
LICENSE NO: 71672	
APPROVED Scott Robinson	12-18-13
George Dutt	12-18-13

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

PAGING AND AREA WARNING SYSTEM (PAWS) PLAN - 1ST LEVEL AREA 1

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 117

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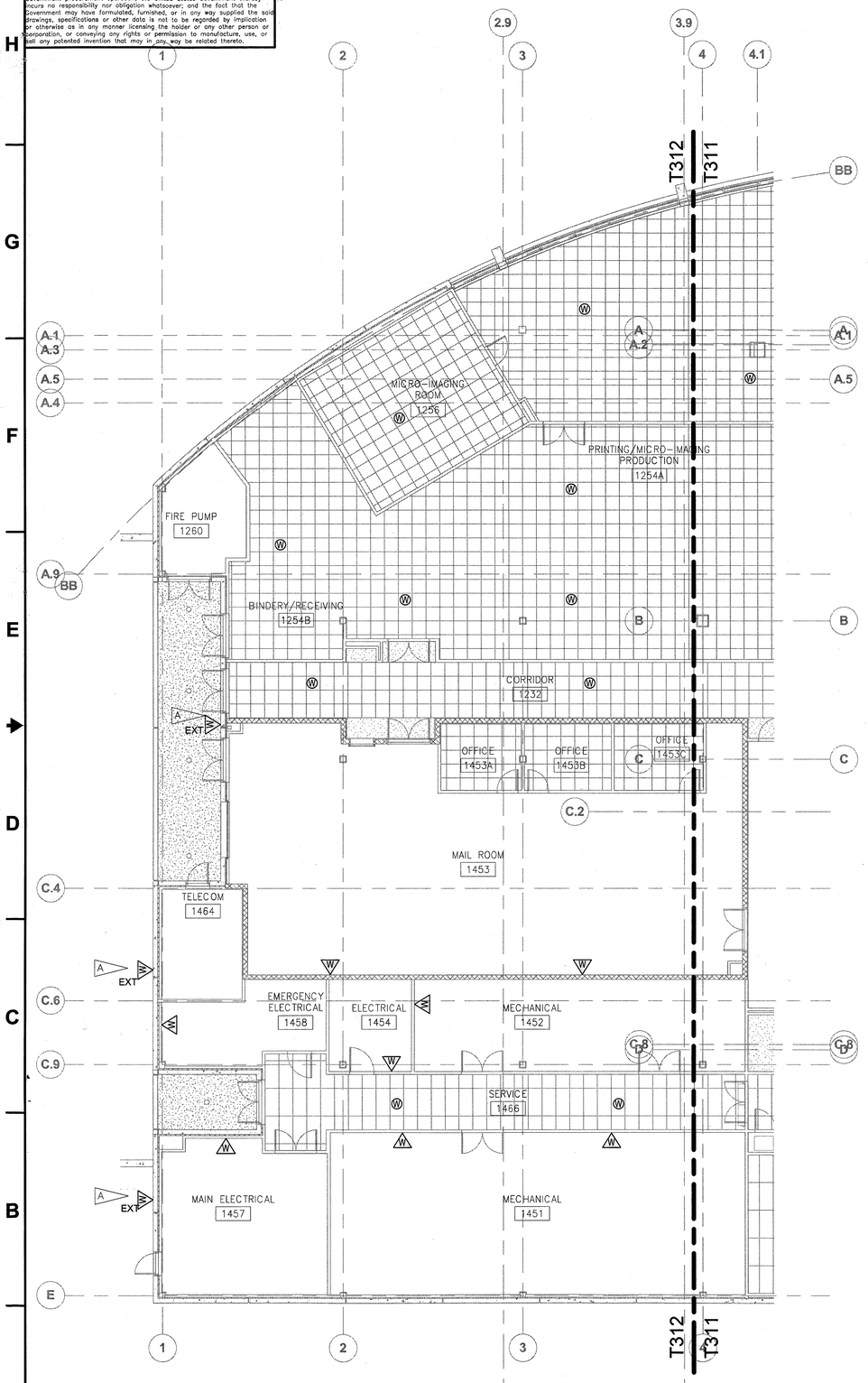
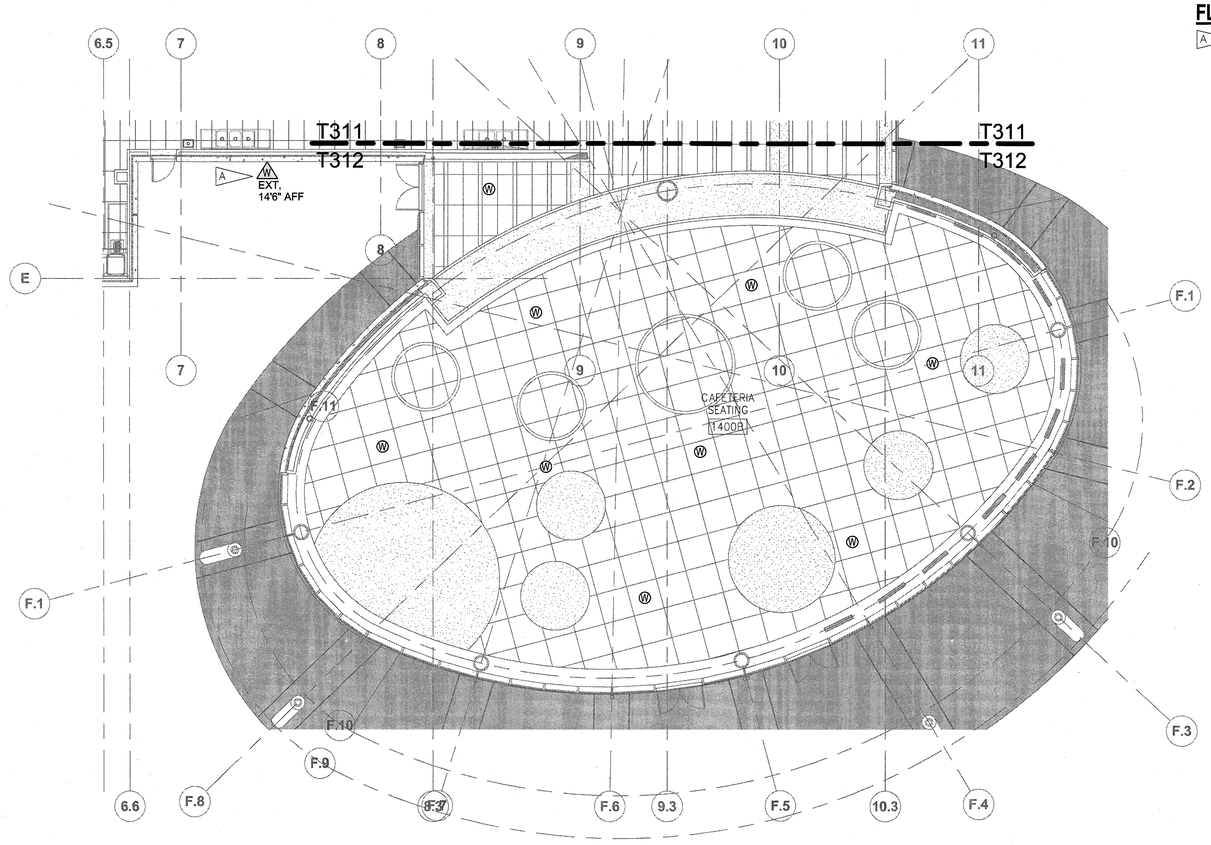
FLAG NOTES:

A — ROUTE CONDUIT IN CONCRETE FROM SPEAKER BACK BOX ENCLOSURE TO ACCESSIBLE CEILING FOR CONNECTION TO DATA OUTLET.



PAGING AND AREA WARNING SYSTEM (PAWS) PLAN - 1ST LEVEL AREA 2

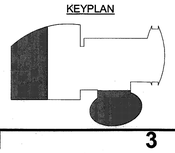
1/8" = 1'-0"



PAGING AND AREA WARNING SYSTEM (PAWS) PLAN - 1ST LEVEL AREA 3

1/8" = 1'-0"

KEYPLAN



GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1' - 0"

N

SIGNATURES	DATE
DRAWN Michelle St.Clergy	12.18.13
CHECKED Heather Callaway	12.18.13
SUBMITTED PROJECT OF RECORD Toby S. Shell	12/18/13
ST of LICENSURE: FL LICENSE NO: 71672	
APPROVED Scott Robinson	12-18-13
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T312

SYM	ZONE		DATE	APPROVED

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REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

PAGING AND AREA WARNING SYSTEM (PAWS) PLAN - 1ST LEVEL AREA 2 & 3

FILE NO.	SIZE	DWG. NO.
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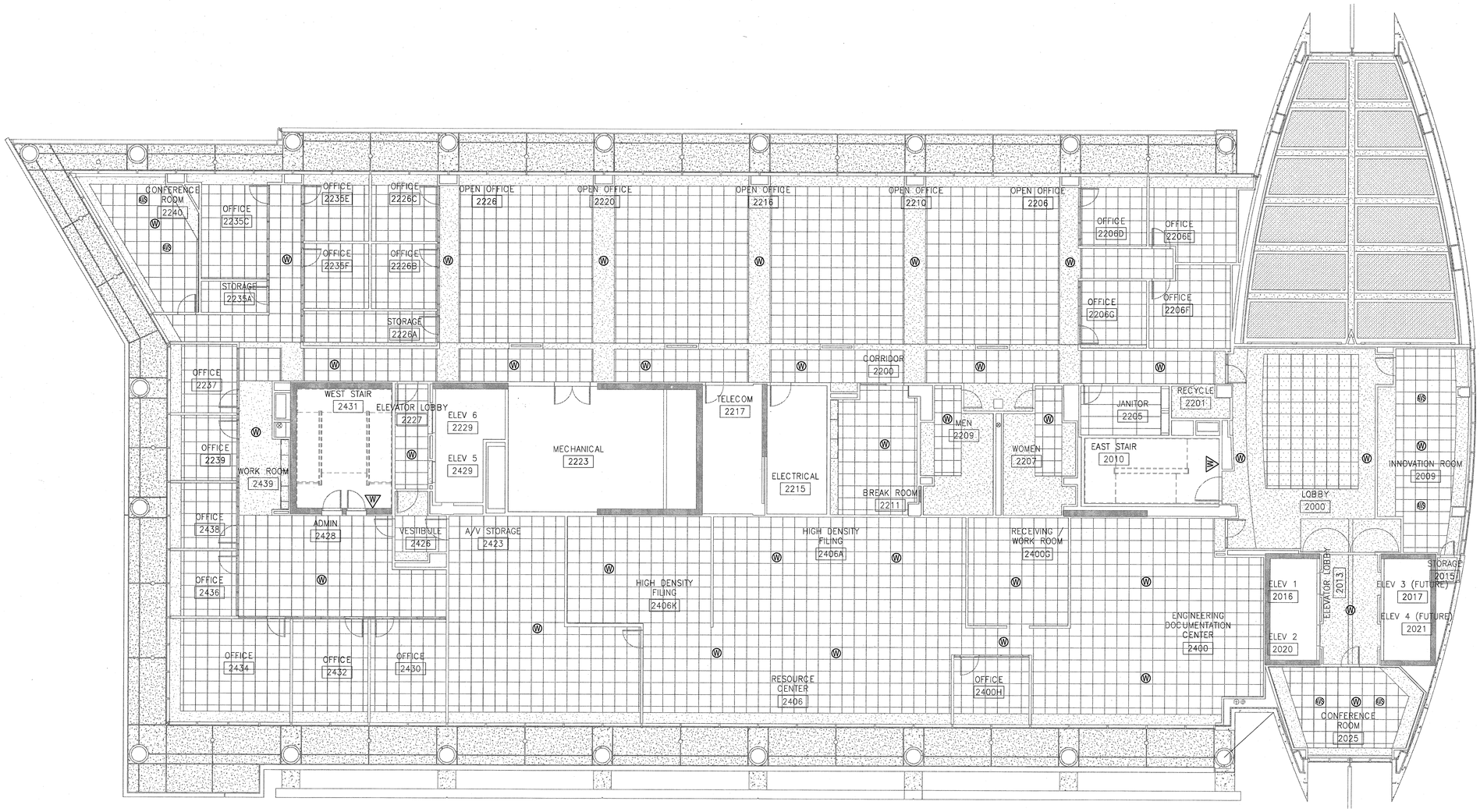

PAGING AND AREA WARNING SYSTEM (PAWS) PLAN - 2ND LEVEL - OVERALL

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1' - 0"

N

T321

SYM	ZONE		DATE	APPROVED

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George Dutt	12-18-13

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PAGING AND AREA WARNING SYSTEM (PAWS) PLAN - 2ND LEVEL

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 119

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PAGING AND AREA WARNING SYSTEM (PAWS) PLAN - 3RD LEVEL - OVERALL

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1' - 0"

SYM	ZONE		DATE	APPROVED

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LICENSE NO: 71672	
APPROVED Scott Robinson	12-18-13
George Dutt	12-18-13

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PHASE 1
VOL. 4 OF 4

PAGING AND AREA WARNING SYSTEM (PAWS) PLAN - 3RD LEVEL

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 120

T331

KSC FORM 1-11 (3/76)(C/G 3/94)

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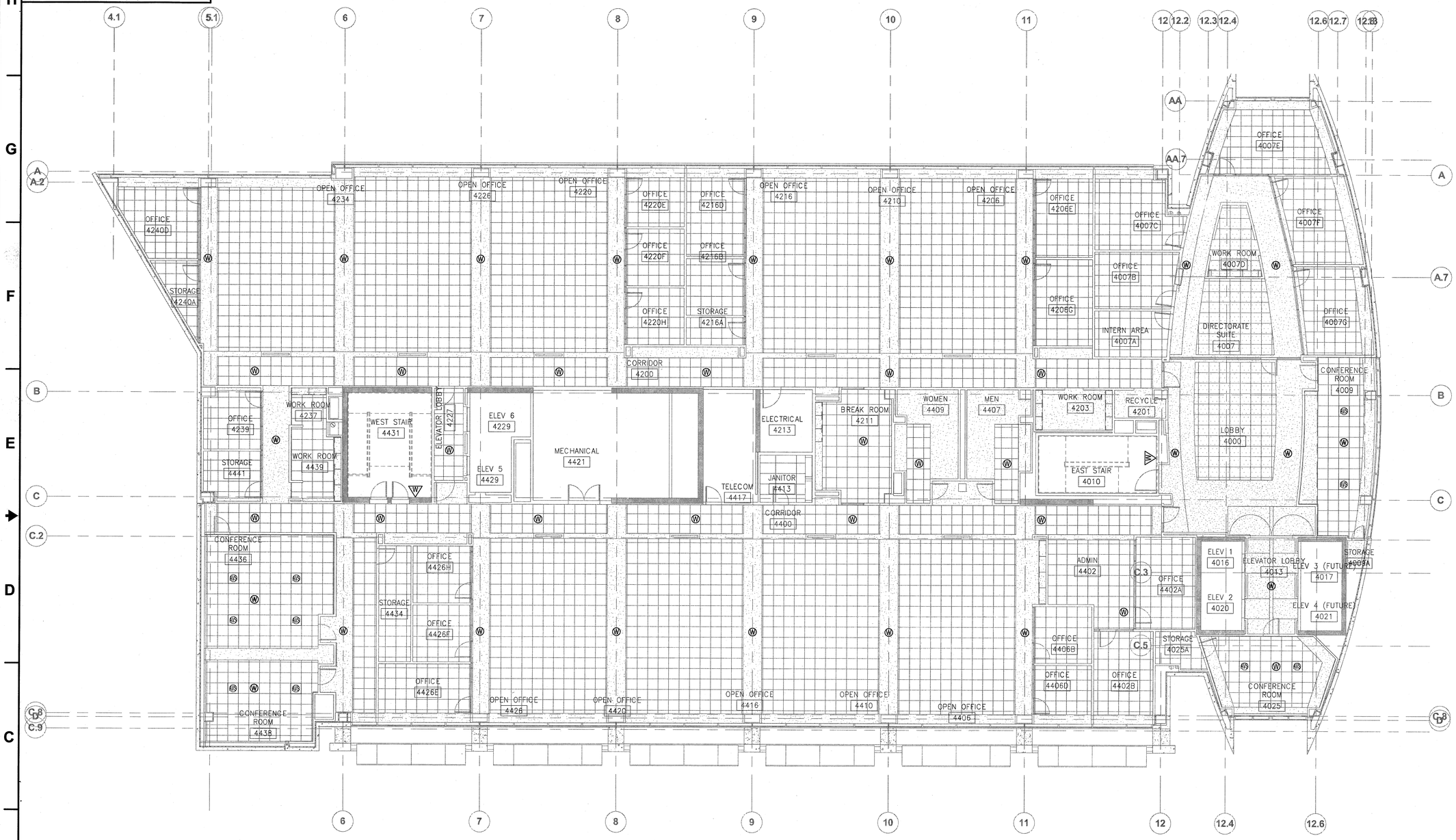

PAGING AND AREA WARNING SYSTEM (PAWS) PLAN - 4TH LEVEL - OVERALL

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1' - 0"

N

T341

SYM	ZONE		DATE	APPROVED

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ST of LICENSURE: FL LICENSE NO: 71672	
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George Dutt	12-18-13

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VOL. 4 OF 4

PAGING AND AREA WARNING SYSTEM (PAWS) PLAN - 4TH LEVEL

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 121

KSC FORM 1-11 (3/76)(C/G 3/94)

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PAGING AND AREA WARNING SYSTEM (PAWS) PLAN - 5TH LEVEL - OVERALL

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1' - 0"

N

SIGNATURES	DATE
DRAWN Michelle St.Clergy	12.18.13
CHECKED Heather Callaway	12.18.13
SUBMITTED ENGINEER OF RECORD Toby S. Singh	12/18/13
ST of LICENSURE: FL LICENSE NO: 71672	
APPROVED Scott Robinson	12-18-13
George Dutt	12-18-13

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SYM	ZONE		DATE	APPROVED

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PHASE 1
VOL. 4 OF 4

PAGING AND AREA WARNING SYSTEM (PAWS) PLAN - 5TH LEVEL

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 122

KSC FORM 1-11 (3/76)(C/G 3/94)

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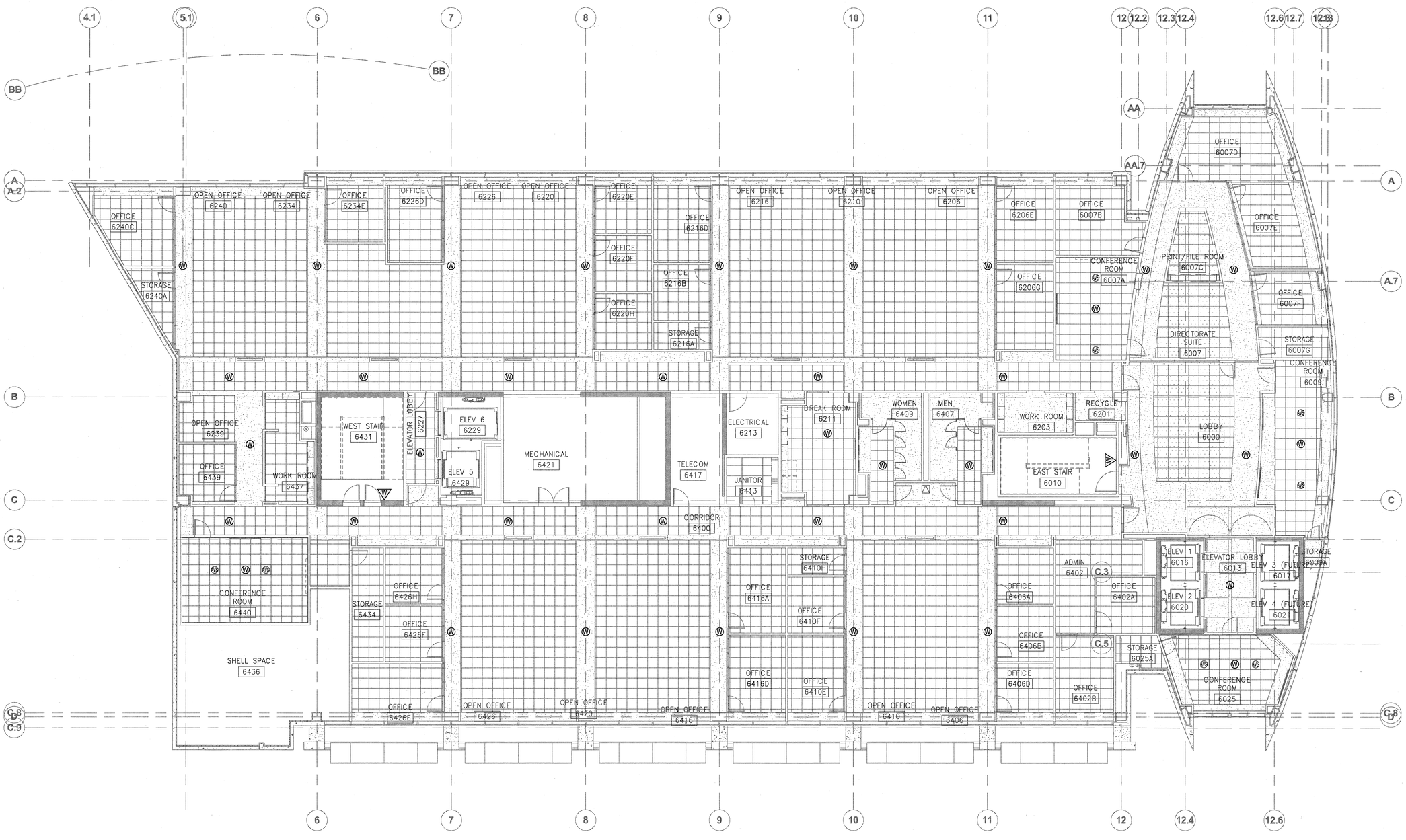

PAGING AND AREA WARNING SYSTEM (PAWS) PLAN - 6TH LEVEL - OVERALL

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1' - 0"

N

T361

SYM	ZONE		DATE	APPROVED

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SIGNATURES	DATE
DRAWN Michelle St.Clergy	12.18.13
CHECKED Heather Callaway	12.18.13
SUBMITTED: ENGINEING OF RECORD Toby S. Smith	12/18/13
ST of LICENSURE: FL LICENSE NO: 71672	
APPROVED Scott Robinson	12-18-13
George Dutt	12-18-13

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PHASE 1
VOL. 4 OF 4

PAGING AND AREA WARNING SYSTEM (PAWS) PLAN - 6TH LEVEL

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 123

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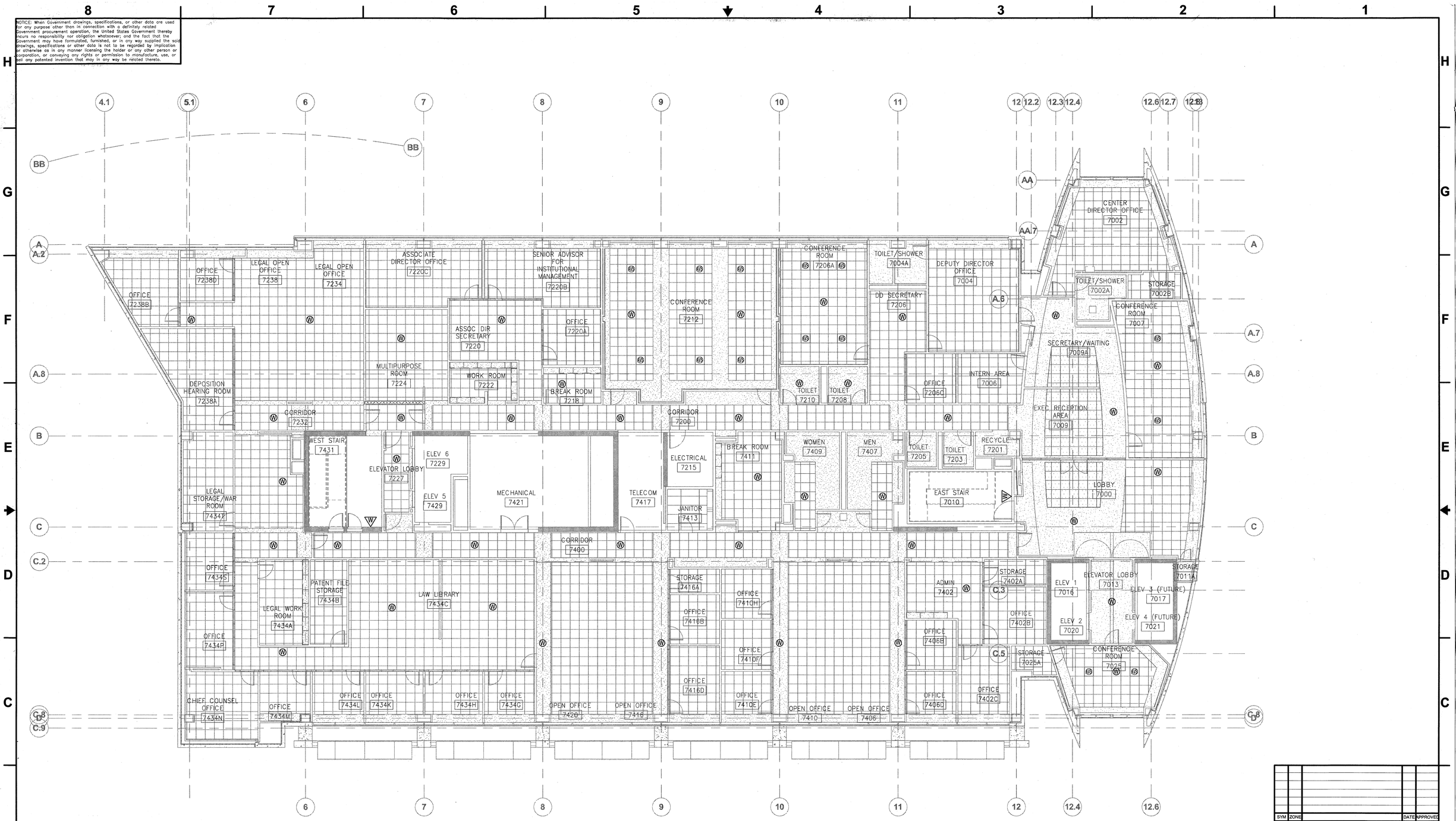

PAGING AND AREA WARNING SYSTEM (PAWS) PLAN - 7TH LEVEL - OVERALL

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1' - 0"

N

T371

SYM	ZONE		DATE	APPROVED

REVISIONS

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SIGNATURES	DATE
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CHECKED Heather Callaway	12.18.13
SUBMITTED: ARCHITECT OF RECORD Toby S. Smith	12/18/13
ST of LICENSURE: FL	
LICENSE NO: 71672	
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George Dutt	12-18-13

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PHASE 1
VOL. 4 OF 4

PAGING AND AREA WARNING SYSTEM (PAWS) PLAN - 7TH LEVEL

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 124

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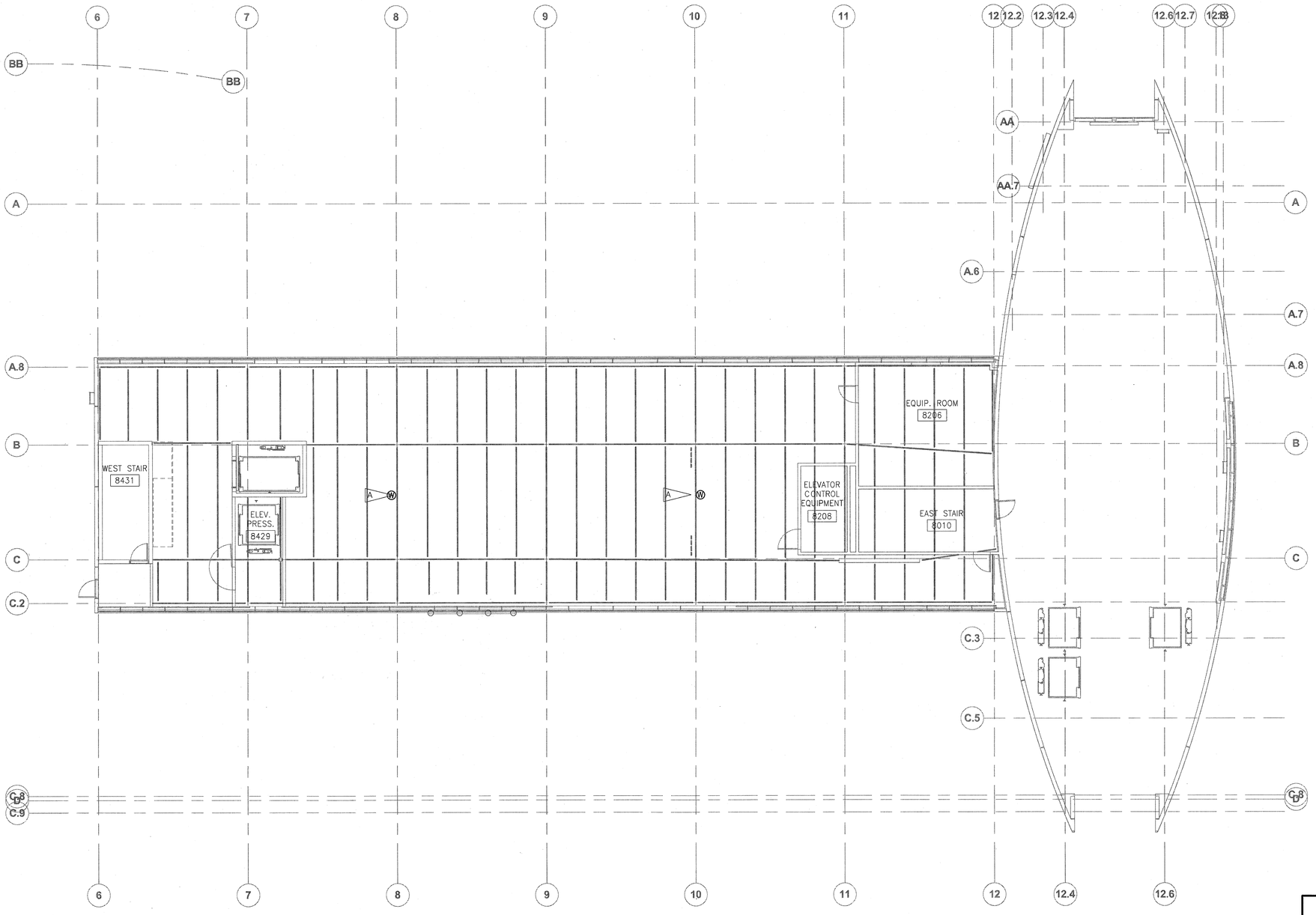
FLAG NOTES:

A — MOUNT SPEAKERS HIGH ON STRUCTURE.



PAGING AND AREA WARNING SYSTEM (PAWS) PLAN - ROOF LEVEL

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 24

SCALE IN FEET
1/8" = 1' - 0"

-N-

SYM	ZONE		DATE	APPROVED

REVISIONS

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DRAWN Michelle St.Clergy	12.18.13
CHECKED Heather Callaway	12.18.13
SUBMITTED ARCHITECT OF RECORD Toby S. Smith	12/18/13
ST of LICENSURE: FL LICENSE NO: 71672	
APPROVED Scott Robertson	12-18-13
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T381

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

PAGING AND AREA WARNING SYSTEM (PAWS) PLAN - ROOF LEVEL

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 125

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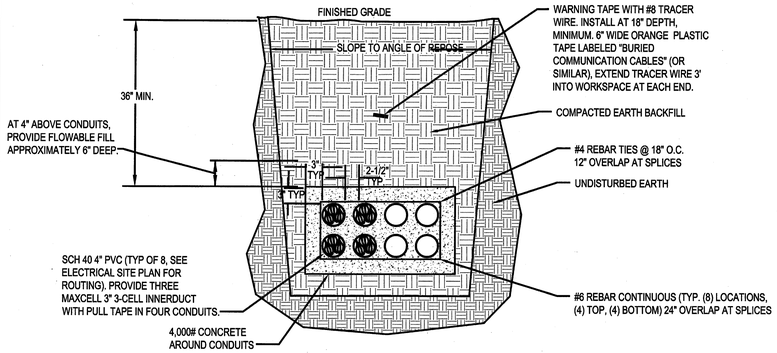
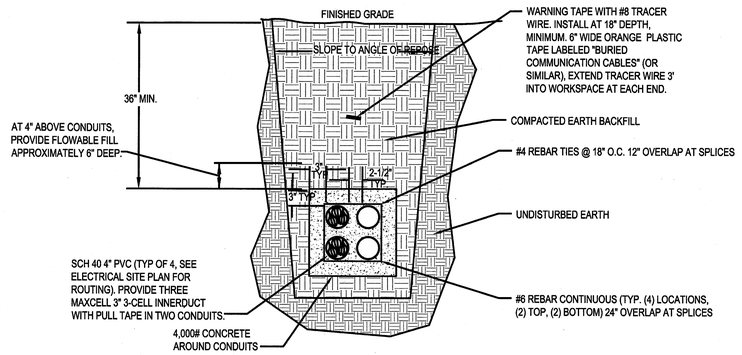


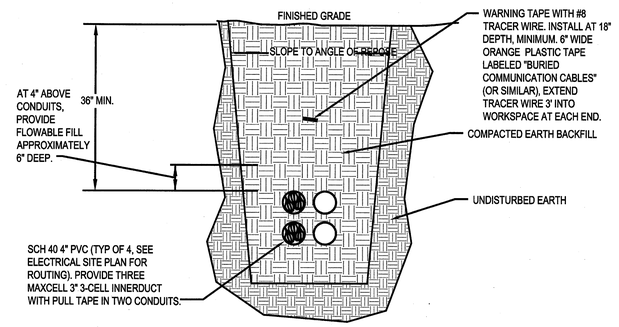
CONDUIT DUCT BANK CROSS-SECTION - CONCRETE ENCASED EIGHT CONDUIT DUCT BANK (1)

NO SCALE



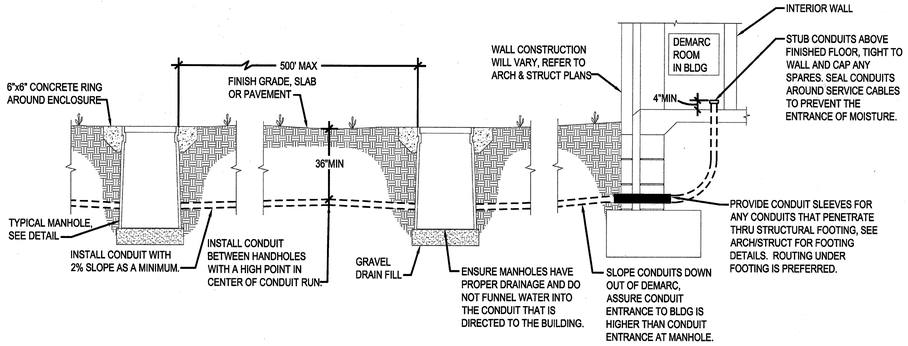
CONDUIT DUCT BANK CROSS-SECTION - CONCRETE ENCASED FOUR CONDUIT DUCT BANK (3)

NO SCALE



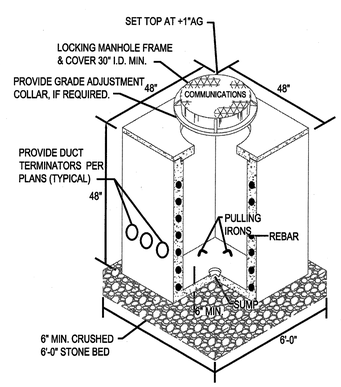
CONDUIT DUCT BANK CROSS-SECTION - FOUR CONDUIT DUCT BANK (5)

NO SCALE



TYPICAL UNDERGROUND CONDUIT SLOPE PROFILE (2)

NO SCALE



TYPICAL COMMUNICATIONS MANHOLE (MH) (4)

NO SCALE

GENERAL NOTES:

1. DESIGN IN ACCORDANCE WITH ACI 318, AASHTO CURRENT EDITION AND ASTM C857 WHERE APPLICABLE.
2. DESIGN FOR HS-20-44 LOADING.
3. CONCRETE-
   MINIMUM 28 DAY CONCRETE COMPRESSIVE STRENGTH = 5500PSI.
4. STEEL-
   60,000 PSI YEILD STRENGTH ASTM A615 REINFORCING STEEL.
5. HANDHOLE TO BE PLACED ON 6" BASE OF GRAVEL FOR EVEN LOAD DISTRIBUTION AND EASE OF INSTALLATION.
6. EXCAVATION-
   6'-0" x 6'-0" x DEPTH REQUIRED.
7. PULL EYES, GROUNDING ROD HOLE & INSERTS FOR CABLE RACKS AS REQUIRED.

SYM	ZONE		DATE	APPROVED

REVISIONS

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SUBMITTED ARCHIVING OF RECORD Toby S. Sriam	12/18/13
ST of LICENSURE: FL LICENSE NO: 71672	
APPROVED Scott Robinson	12.18.13
George Duff	12-18-13

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

TYPICAL OUTSIDE PLANT DETAILS

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 126

T501

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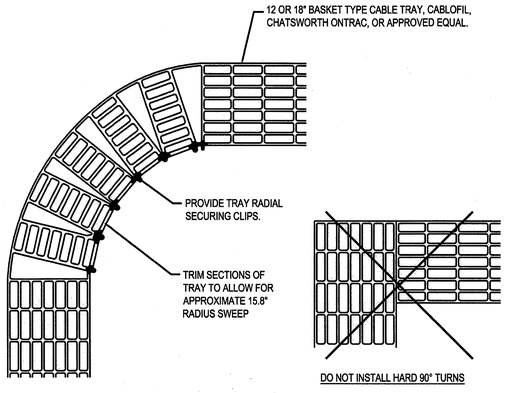


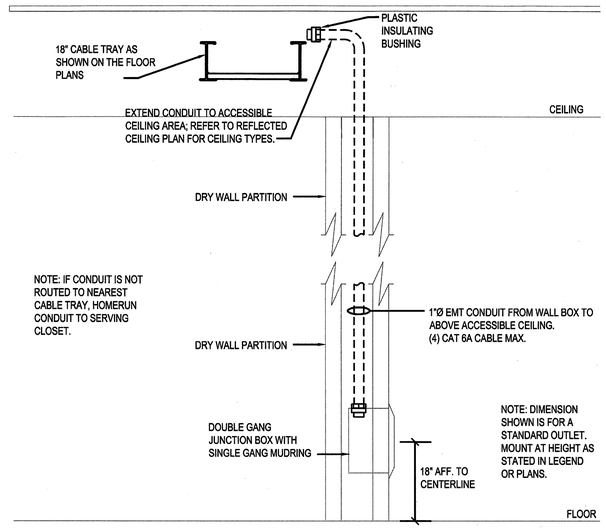
NOTE: RADIAL DIMENSIONS WILL VARY FOR LARGER CABLE TRAYS. REFER TO CABLE TRAY MANUFACTURER REQUIREMENTS AND INSTRUCTIONS FOR PROPER INSTALLATION.

CABLE TRAY GENERAL NOTES

1. ANY CABLES INSTALLED IN CABLE TRAY SYSTEMS NOT SPECIFICALLY SHOWN ON THESE DRAWINGS SHALL BE APPROVED BY THE OWNER PRIOR TO INSTALLATION.
2. COMPONENTS AND INSTALLATION SHALL COMPLY WITH NFPA 70 "NATIONAL ELECTRICAL CODE".
3. COORDINATE CABLE TRAY INSTALLATION WITH MECHANICAL EQUIPMENT, ELECTRICAL EQUIPMENT, DUCTWORK, CONDUITS, PIPING AND ALL OTHER TRADES PRIOR TO ORDERING AND INSTALLING.
4. ALL CABLE TRAY COMPONENTS SHALL BE THE PRODUCT OF A SINGLE MANUFACTURER.
5. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
6. REMOVE BURRS AND SHARP EDGES.
7. MAKE CHANGES IN HEIGHT AND DIRECTION WITH STANDARD CABLE TRAY FITTINGS.
8. FIRESTOP AT PENETRATIONS OF FIRE AND SMOKE BARRIERS.
9. INSTALL TRAYS WITH AS MUCH AS POSSIBLE WORKING SPACE TOP AND BOTH SIDES FOR CABLE INSTALLATION.
10. ELECTRICALLY GROUND CABLE TRAYS AND ENSURE CONTINUOUS ELECTRICAL CONDUCTIVITY OF CABLE TRAY SYSTEM. PROVIDE BONDING JUMPERS BETWEEN CABLE TRAY SECTIONS. PROVIDE A #6 AWG GROUNDING CONDUCTOR FOR EACH RUN OF CABLE TRAY - ATTACH TO TRAY WITH COMPRESSION GROUND LUG FROM CABLE TRAY, EXTEND CONDUCTOR IN EMT CONDUIT AND BOND TO BUILDING MAIN ELECTRICAL SERVICE GROUND.
11. SUBMIT CUT SHEETS OF ALL CABLE TRAY COMPONENTS TO ENGINEER PRIOR TO ORDERING MATERIALS.
12. INSTALL CABLE TRAY WITH SWEEPING RADIUS TURNS. DO NOT INSTALL WITH HARD 90° TURNS.
13. PROVIDE A WATERFALL DEVICE SHALL BE PROVIDED WHEN CABLING IS ENTERING OR EXITING THE CABLE TRAY.
14. CABLING IN THE CABLE TRAY SHOULD BE BUNDLED, BUT BE LOOSELY SECURED IN PLACE EVERY FIFTEEN FEET BY VELCRO CABLE TIES.
15. CABLE TRAY FILL SHALL NOT EXCEED FIFTY PERCENT CABLE.

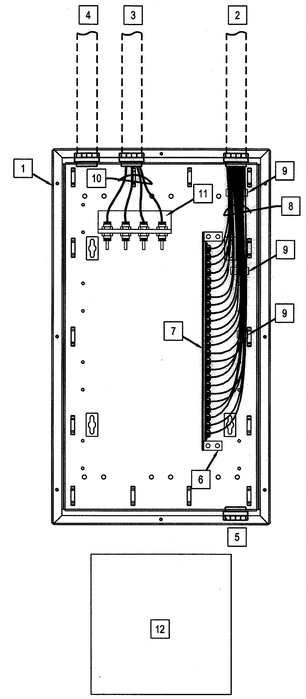
CABLE TRAY SWEEPING BEND DETAIL AND GENERAL NOTES (1)

NO SCALE



TYPICAL WALL-MOUNTED COMMUNICATIONS OUTLET DETAIL (3)

NO SCALE

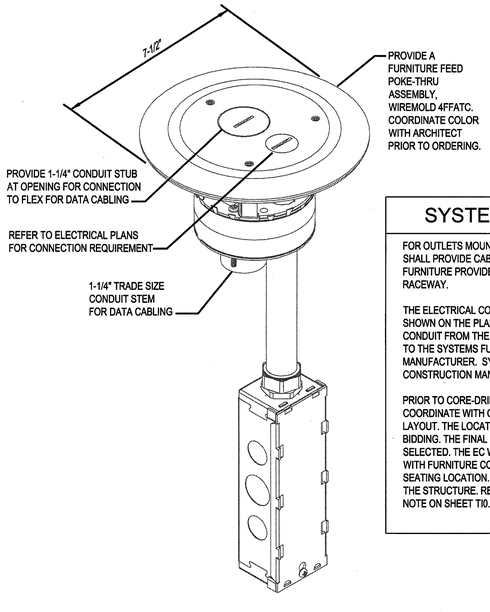


MUTOA KEY NOTES [X]:

1. BY ELECTRICAL CONTRACTOR: PROVIDE A RECESSED CONSOLIDATION POINT ENCLOSURE, PANDUIT PANZONE PZB4 (NO EQUAL), WITH A HINGED COVER, PANDUIT PANZONE PZB4-HC (NO EQUAL). PROVIDE LABEL ON FRONT OF COVER. MOUNT WITH BOTTOM OF ENCLOSURE AT 36" AFF. PAINT COVER SAME COLOR AS WALL. ENSURE ENCLOSURE IS PROPERLY GROUNDED.
2. BY ELECTRICAL CONTRACTOR: PROVIDE 2" CONDUIT WITH PULLSTRING TO ABOVE CEILING AND ROUTE TO CABLE TRAY FOR HORIZONTAL PREMISE WIRING. PROVIDE PLASTIC INSULATING BUSHINGS ON CONDUIT ENDS. DO NOT EXCEED 40% CABLE FILL IN THE CONDUITS.
3. BY ELECTRICAL CONTRACTOR: PROVIDE 2" CONDUIT WITH PULLSTRING TO ABOVE CEILING AND STUB ABOVE CEILING FOR BLOWN-FIBER TUBES FOR FUTURE FIBER THAT IS PROVIDED BY OTHERS. PROVIDE PLASTIC INSULATING BUSHINGS ON CONDUIT ENDS.
4. BY ELECTRICAL CONTRACTOR: PROVIDE 2" CONDUIT WITH PULLSTRING TO ABOVE CEILING AND ROUTE TO CABLE TRAY FOR FUTURE OR FOR INTERCONNECTED CABLING TO DATA OUTLETS AS NEEDED. PROVIDE PLASTIC INSULATING BUSHINGS ON CONDUIT ENDS.
5. BY ELECTRICAL CONTRACTOR: PROVIDE 2" CONDUIT WITH PULLSTRING TO CONNECTION OF SYSTEMS FURNITURE. COORDINATE WITH SYSTEMS PROVIDER FOR PROPER CONNECTION. PROVIDE PLASTIC INSULATING BUSHINGS ON CONDUIT ENDS. STRUCTURED CABLING CONTRACTOR TO PROVIDE CAT6A PATCH CORDS TO OUTLET LOCATIONS IN SYSTEMS FURNITURE.
6. BY ELECTRICAL CONTRACTOR: PROVIDE A PATCH PANEL BRACKET THAT ACCOMMODATES UP TO 2RU OF STANDARD 19" PATCH PANELS, PANDUIT PANZONE PZBPPB (NO EQUAL), INCLUDES ONE PAIR OF BRACKETS.
7. BY STRUCTURED CABLING CONTRACTOR: PROVIDE A 24 PORT CAT6A RATED PATCH PANEL. REFER TO SHEET T503 FOR CONNECTIVITY SOLUTIONS.
8. BY STRUCTURED CABLING CONTRACTOR: ROUTE CAT6A CABLING FROM SERVING TELCOM CLOSET AND TERMINATE ON PATCH PANEL. REFER TO FLOOR PLAN FOR NUMBER OF CABLES REQUIRED AND SINGLE LINE FOR CLOSET TERMINATIONS.
9. BY STRUCTURED CABLING CONTRACTOR: PROPERLY BUNDLE CAT6A CABLING WITH RED VELCRO INSIDE ENCLOSURE. REFER TO FLOOR PLAN FOR CABLE CONDUIT (M-XX; XX DENOTES THE NUMBER OF CABLES).
10. BY STRUCTURED CABLING CONTRACTOR: PROVIDE A PLENUM OFNP RATED TUBE CABLE/SINGLE JACKET (4-TUBES), SUMITOMO TC04TP2 (NO EQUAL). ROUTE TO SERVING CLOSET AND TERMINATE IN SUMITOMO ENCLOSURE AND PROVIDE END ADAPTER.
11. BY STRUCTURED CABLING CONTRACTOR: PROVIDE A BULKHEAD TUBE COUPLING, SUMITOMO DE08MB (NO EQUAL) AND A 6MM TUBE PLUG, SUMITOMO DE55MP (NO EQUAL). PROVIDE A MOUNTING L-BRACKET, SUMITOMO DETCTB (NO EQUAL).
12. BY ELECTRICAL CONTRACTOR: AT SYSTEMS FURNITURE CHASES, ONLY PROVIDE A 18"X18" ACCESS PANEL WITH LOCK TO ACCESS CABLING AND ROUTE INTERCONNECT CABLES TO SYSTEMS FURNITURE. MOUNT WITH BOTTOM AT 6" AFF. PAINT ACCESS PANEL SAME COLOR AS WALL.

TYPICAL WALL MULTI-USER OUTLET TELECOMMUNICATIONS OUTLET ASSEMBLY (MUTOA) DETAIL (5)

NO SCALE



SYSTEMS FURNITURE NOTE

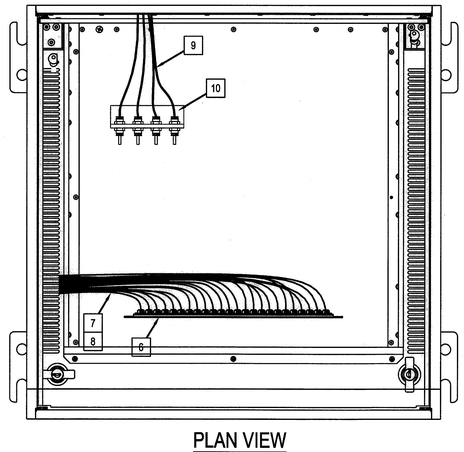
FOR OUTLETS MOUNTED IN SYSTEMS, STRUCTURED CABLING CONTRACTOR SHALL PROVIDE CABLING, JACKS, AND FACEPLATE AS REQUIRED BY THE FURNITURE PROVIDER. ALL CABLING SHALL BE CONCEALED IN FURNITURE RACEWAY.

THE ELECTRICAL CONTRACTOR (EC) WILL PROVIDE THE POKE-THRUs AS SHOWN ON THE PLANS. THE EC WILL ALSO PROVIDE A 1-1/4" FLEXIBLE CONDUIT FROM THE 1-1/4" CONDUIT STUB AT THE POKE-THRU AND CONNECT TO THE SYSTEMS FURNITURE PROVIDER, AS REQUIRED BY THE MANUFACTURER. SYSTEMS FURNITURE IS TO BE SELECTED BY CONSTRUCTION MANAGER DURING THE BIDDING PROCESS.

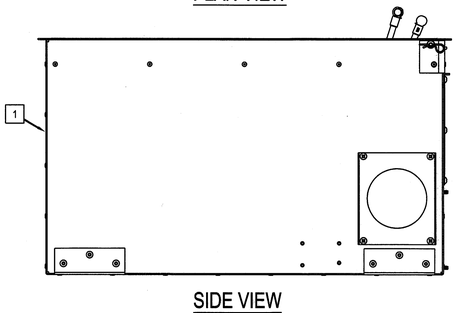
PRIOR TO CORE-DRILLING POKE-THRUs, ELECTRICAL CONTRACTOR SHALL COORDINATE WITH CONSTRUCTION MANAGER FOR SYSTEMS FURNITURE LAYOUT. THE LOCATIONS ON THE PLAN ARE CONCEPTUAL FOR PURPOSES OF BIDDING. THE FINAL LOCATION CAN VARY BASED ON MANUFACTURER SELECTED. THE EC WILL NEED TO COORDINATE LOCATION OF POKE-THRU WITH FURNITURE CONNECTION POINTS AND NOT TO INTERFERE WITH THE SEATING LOCATION. THE EC WILL NEED TO COORDINATE ANY CHANGES WITH THE STRUCTURE. REFER TO FURNITURE AND FLOOR OUTLET COORDINATION NOTE ON SHEET TI0.1.

TYPICAL SYSTEMS FURNITURE POKE-THRU DETAIL (2)

NO SCALE



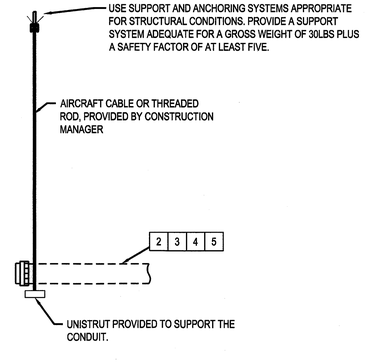
PLAN VIEW



SIDE VIEW

MUTOA KEY NOTES [X]:

1. BY ELECTRICAL CONTRACTOR: PROVIDE A RECESSED IN-CEILING CONSOLIDATION POINT ENCLOSURE, PANDUIT PANZONE PZICE (NO EQUAL). PROVIDE LABEL ON FRONT OF COVER. ENSURE ENCLOSURE IS PROPERLY GROUNDED.
2. BY ELECTRICAL CONTRACTOR: PROVIDE 2" CONDUIT WITH PULLSTRING TO ABOVE CEILING AND ROUTE TO CABLE TRAY FOR HORIZONTAL PREMISE WIRING. PROVIDE PLASTIC INSULATING BUSHINGS ON CONDUIT ENDS. DO NOT EXCEED 40% CABLE FILL IN THE CONDUITS. CONDUIT SHALL END RIGHT NEAR ENCLOSURE WITH CABLING COILED FOR SLACK AND THEN ROUTED INTO ENCLOSURE.
3. BY ELECTRICAL CONTRACTOR: ROUTE ALL CONDUITS FROM DATA OUTLETS IN CONFERENCE ROOM TO END RIGHT NEAR ENCLOSURE FOR INTERCONNECT CABLING FROM PATCH PANEL IN MUTOA. PROVIDE PLASTIC INSULATING BUSHINGS ON CONDUIT ENDS.
4. BY ELECTRICAL CONTRACTOR: PROVIDE 2" CONDUIT WITH PULLSTRING TO ABOVE CEILING AND ROUTE TO CABLE TRAY FOR FUTURE OR FOR INTERCONNECTED CABLING TO DATA OUTLETS AS NEEDED. PROVIDE PLASTIC INSULATING BUSHINGS ON CONDUIT ENDS.
5. BY ELECTRICAL CONTRACTOR: PROVIDE 1-1/4" CONDUIT WITH PULLSTRING TO CONNECTION OF A/V WALL BOX. PROVIDE PLASTIC INSULATING BUSHINGS ON CONDUIT ENDS.
6. BY STRUCTURED CABLING CONTRACTOR: PROVIDE A 24 PORT CAT6A RATED PATCH PANEL. REFER TO DETAILS FOR CONNECTIVITY SOLUTIONS. MOUNT IN RACK RAILS.
7. BY STRUCTURED CABLING CONTRACTOR: ROUTE CAT6A CABLING FROM SERVING TELCOM CLOSET AND TERMINATE ON PATCH PANEL. REFER TO FLOOR PLAN FOR NUMBER OF CABLES REQUIRED AND SINGLE LINE FOR CLOSET TERMINATIONS.
8. BY STRUCTURED CABLING CONTRACTOR: PROPERLY BUNDLE CAT6A CABLING WITH RED VELCRO INSIDE ENCLOSURE. REFER TO FLOOR PLAN FOR CABLE REQUIREMENT (M-XX; XX DENOTES THE NUMBER OF CABLES).
9. BY STRUCTURED CABLING CONTRACTOR: PROVIDE A PLENUM OFNP RATED TUBE CABLE/SINGLE JACKET (4-TUBES), SUMITOMO TC04TP2 (NO EQUAL). ROUTE TO SERVING CLOSET AND TERMINATE IN SUMITOMO ENCLOSURE AND PROVIDE END ADAPTER.
10. BY STRUCTURED CABLING CONTRACTOR: PROVIDE A BULKHEAD TUBE COUPLING, SUMITOMO DE08MB (NO EQUAL) AND A 6MM TUBE PLUG, SUMITOMO DE55MP (NO EQUAL). PROVIDE A MOUNTING L-BRACKET, SUMITOMO DETCTB (NO EQUAL). MOUNT ON BACKBOARD IN ENCLOSURE.



TYPICAL CEILING MULTI-USER OUTLET TELECOMMUNICATIONS OUTLET ASSEMBLY (MUTOA) DETAIL (4)

NO SCALE

SYM	ZONE		DATE	APPROVED

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Tampa, Florida 33618

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DRAWN Michelle StClergy	12.18.13
CHECKED Heather Callaway	12.18.13
SUBMITTED: ARCHENG OF RECORD Toby S. Scott	12/18/13
ST of LICENSURE: FL LICENSE NO: 71672	
APPROVED Scott Robinson	12-18-13
T502 George Dutt	12-18-13

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REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

TECHNOLOGY TYPICAL DETAILS

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 127

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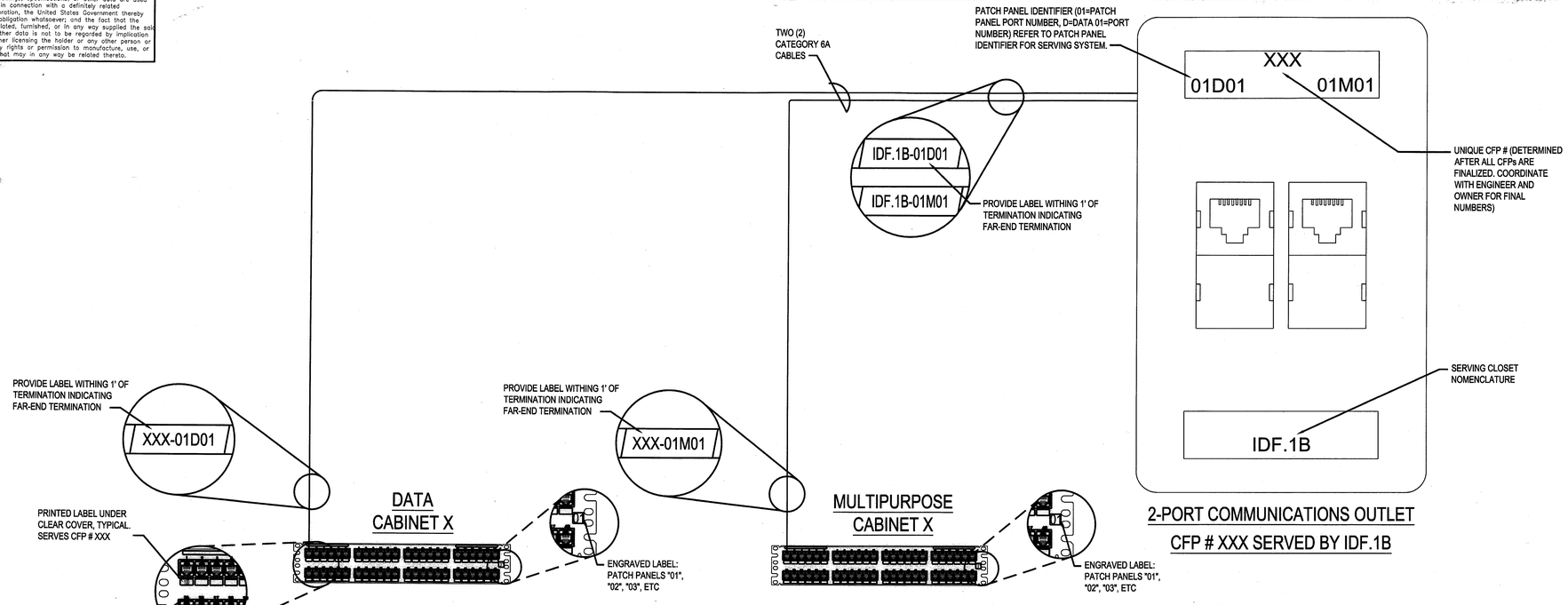


TYPICAL LABELING FROM CLOSET TO COMMUNICATIONS OUTLET DETAIL (1)

NO SCALE

NOTE: ALL LABELING SHALL BE COORDINATED WITH OWNER PRIOR TO ANY PRINTING.

BASIS OF DESIGN NOTE

COMMUNICATIONS CHANNEL SOLUTION SHALL BE BELDEN SYSTIMAX OR TE CONNECTIVITY CATEGORY 6A SOLUTION. NO SUBSTITUTION SHALL BE ACCEPTED UNLESS PERMISSION IS GRANTED BY NASA IT REPRESENTATIVE. COORDINATE FACEPLATE COLORS WITH ARCHITECT PRIOR TO ORDERING.

CABLE COLOR NOTE

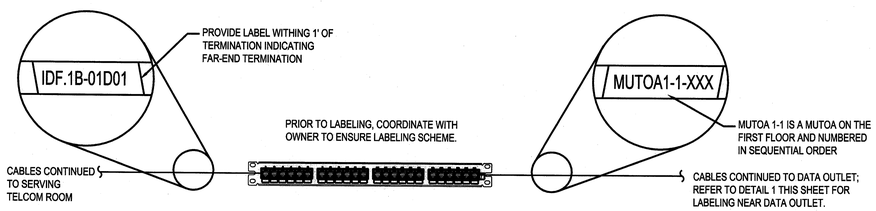
PROVIDE THE FOLLOWING JACKET COLORS FOR EACH SPECIFIC USE:

BLUE	HORIZONTAL PREMISE WIRING (DATA AND MULTIPURPOSE)
YELLOW	PAGING AND WARNING SYSTEM SPEAKER WIRING
GREEN	CAMERAS AND FUTURE ACCESS CONTROL
ORANGE	WIRELESS

PATCH PANEL IDENTIFIER

PROVIDE THE FOLLOWING LETTER TO DESIGNATE A SYSTEM:

A=ANALOG
D = DATA
M = MULTI-PURPOSE
W = WIRELESS
P = PAGING
S = SECURITY
B = BUILDING AUTOMATION
T = TIMING AND COUNTDOWN

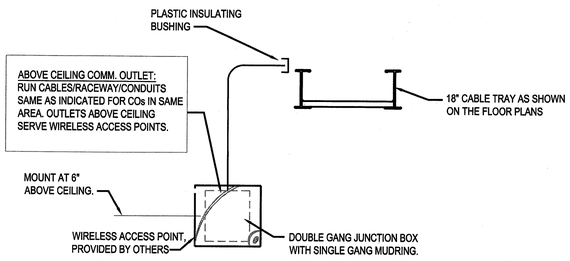


TYPICAL MUTOA LABELING DETAIL (2)

NO SCALE

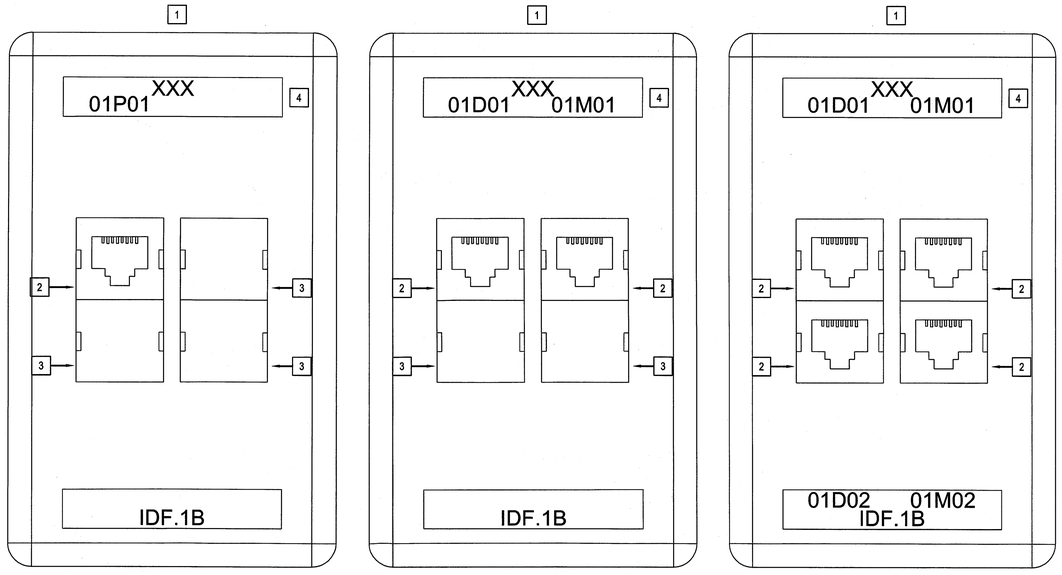
DETAIL KEYNOTES:

1. COMMUNICATIONS OUTLET FACEPLATE. COORDINATE FINAL COLOR SELECTION WITH ELECTRICAL DEVICES AND ARCHITECT PRIOR TO PURCHASING. PROVIDE SINGLE GANG OR DOUBLE GANG AS SHOWN.
2. SNAP-IN COUPLER WITH 8-PIN MODULAR JACK ASSEMBLY, COLOR TO MATCH PLATE. CABLE COLOR AS STATED ABOVE. COORDINATE WITH NASA IT PRIOR TO PURCHASING.
3. PROVIDE BLANK INSERT TO MATCH FACEPLATE COLOR.
4. COMMUNICATIONS OUTLET IDENTIFIER (SEE "CO IDENTIFICATION NOMENCLATURE") ON LASER PRINTED INSERT UNDER FACTORY PLASTIC COVER.
5. SNAP-IN LC DUPLEX COUPLER (OM4).



TYPICAL WIRELESS ACCESS POINT INSTALLATION ON WALL DETAIL (3)

NO SCALE



PAGING TYPE 'P1' | TYPE 'D1M1' OR 'W2' | TYPE 'D2M2'

TYPICAL CUSTOMER FACEPLATE DETAILS (4)

NO SCALE

ABOVE CEILING OUTLET NOTE

FOR ALL OUTLETS MOUNTED ABOVE CEILING, PROVIDE A STAINLESS STEEL FACEPLATE.

SYM	ZONE		DATE	APPROVED

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VOL. 4 OF 4

TECHNOLOGY TYPICAL DETAILS

T503

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a | SHEET 128

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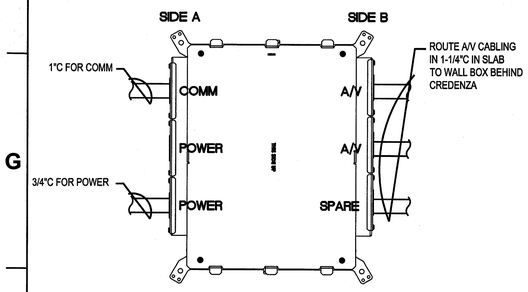
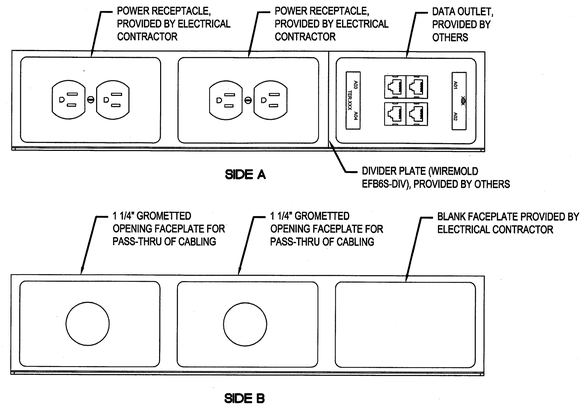


FLOOR BOX REQUIREMENT

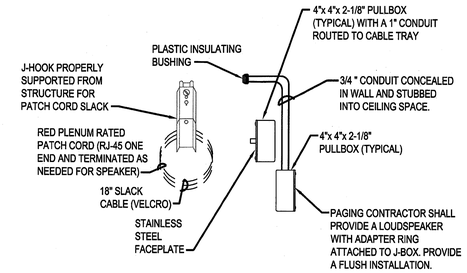
ELECTRICAL CONTRACTOR SHALL PROVIDE A WIREMOLD EFB SERIES WITH PROPER COVER AS REQUIRED. COORDINATE COVER WITH ARCHITECT AND CONSULTANT PRIOR TO TO ORDERING. ADDITIONAL DEVICES WILL BE REQUIRED AND NEED TO BE COORDINATED WITH THE ELECTRICAL CONTRACTOR, STRUCTURED CABLING CONTRACTOR, AND A/V PROVIDER. ELECTRICAL CONTRACTOR SHALL PROVIDE DIVIDER AND CABLE MANAGEMENT GUIDES (WIREMOLD EFBCMG).



TYPICAL FLOOR BOX DETAIL WITH AV (1)

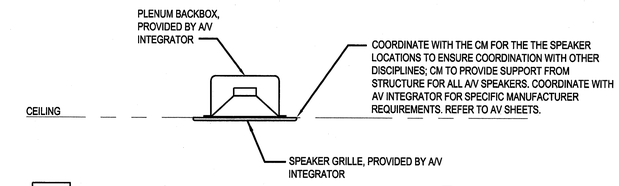
NO SCALE

D1M1AV
D2M2AV



PAWS INTERIOR WALL SPEAKER DETAIL (4)

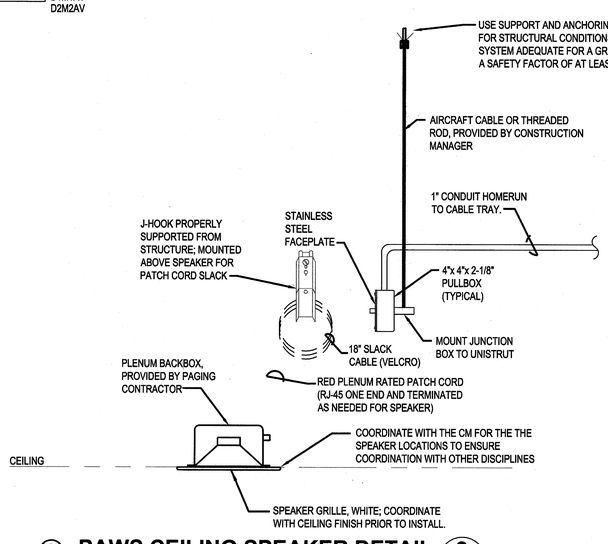
NO SCALE



AVS

A/V CEILING SPEAKER DETAIL (7)

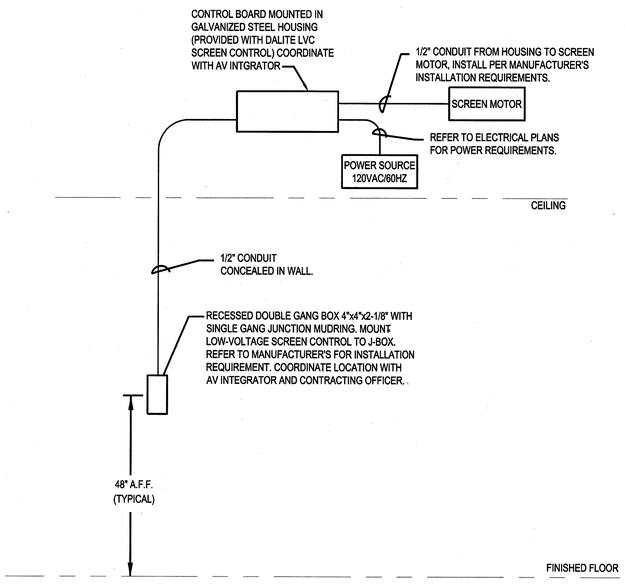
NO SCALE



W

PAWS CEILING SPEAKER DETAIL (2)

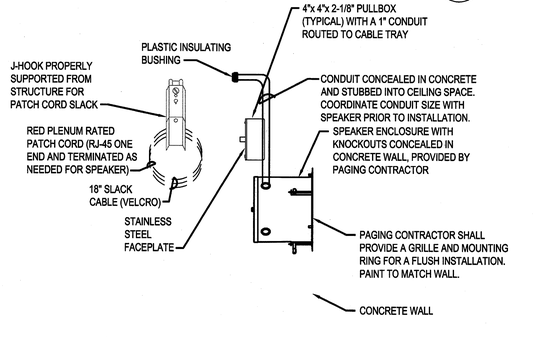
NO SCALE



LOW-VOLTAGE SCREEN CONTROL DETAIL (5)

NO SCALE

T171



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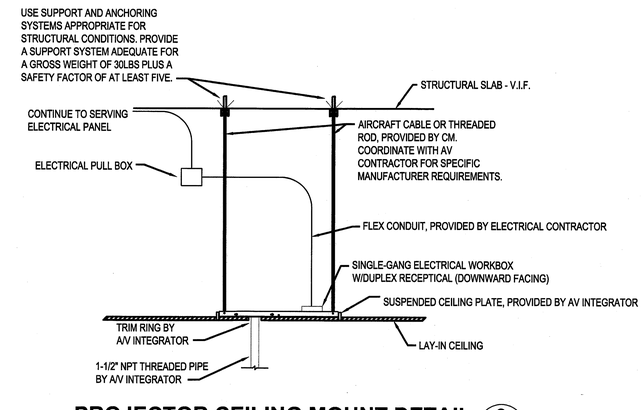
PAWS EXTERIOR WALL SPEAKER DETAIL (3)

NO SCALE



PROJECTOR CEILING MOUNT DETAIL (6)

NO SCALE

SYM	ZONE		DATE	APPROVED

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SUBMITTED: ARCHIVING OF RECORD Toby S. Callaway	12/18/13
ST of LICENSURE: FL	
LICENSE NO: 71672	
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AUDIO / VISUAL TYPICAL DETAILS

T504

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 129

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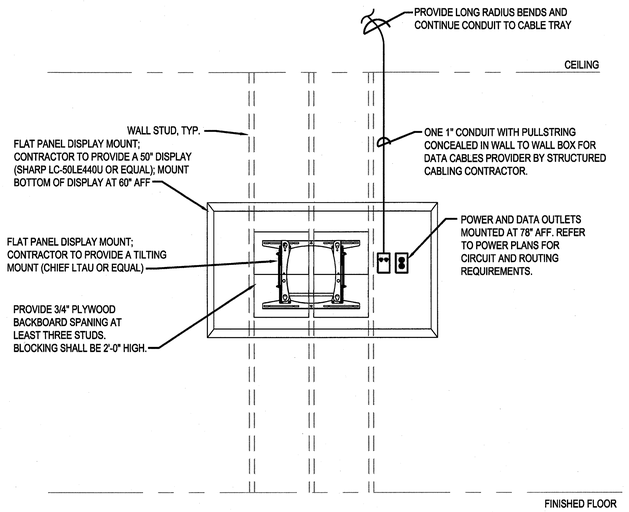
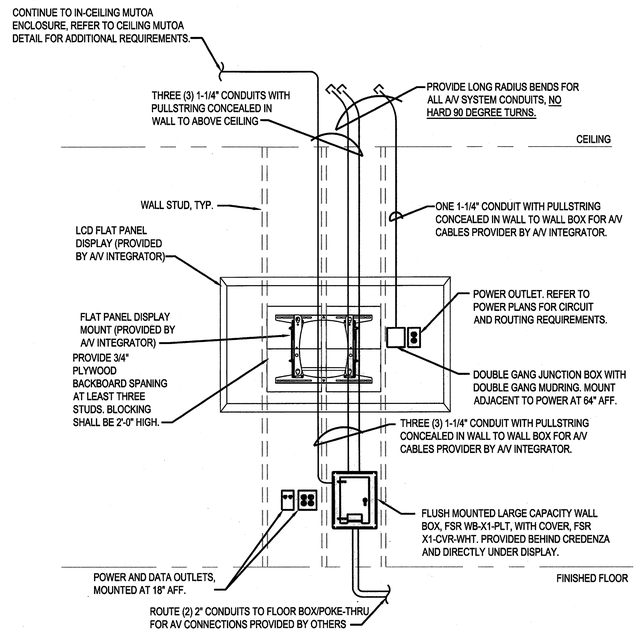


BREAKROOM FLAT PANEL DISPLAY (1)

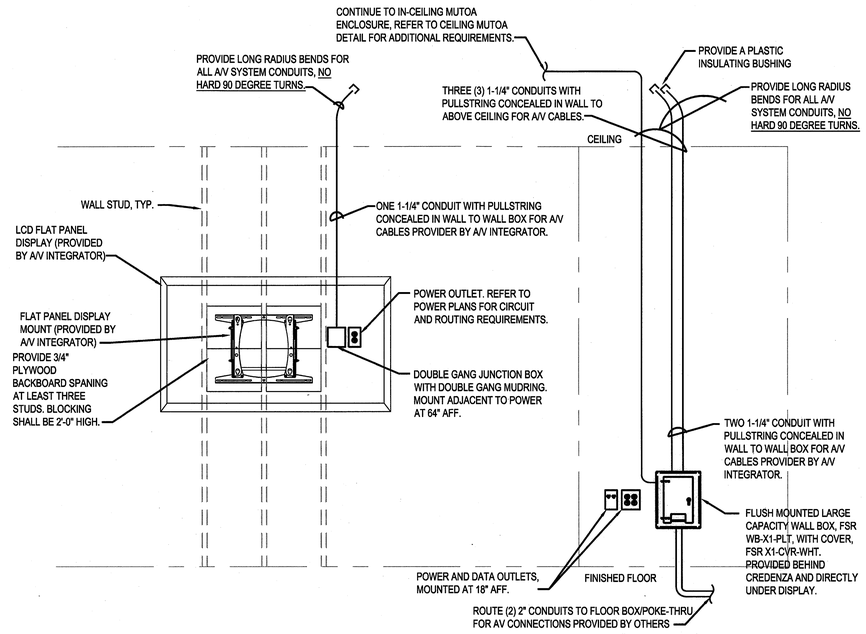
NO SCALE



FLAT PANEL DISPLAY DETAIL FOR CONFERENCE ROOMS WITH CREDENZAS DIRECTLY BELOW DISPLAY (3)

REFER TO AV SHEETS FOR EXACT DIMENSION REQUIREMENTS

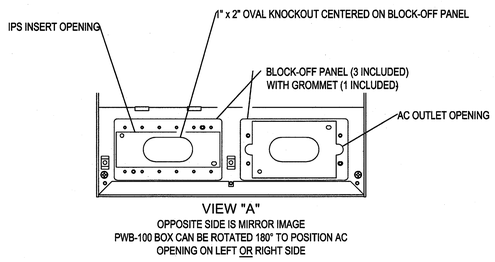
NO SCALE



FLAT PANEL DISPLAY DETAIL FOR CONFERENCE ROOMS WITH CREDENZAS AT DIFFERENT LOCATION (4)

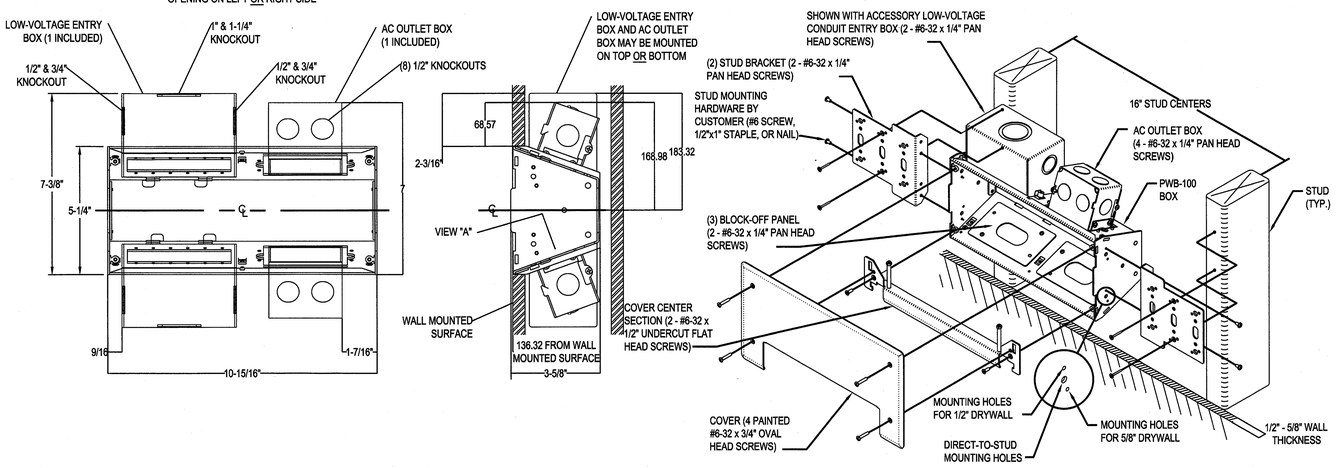
REFER TO AV SHEETS FOR EXACT DIMENSION REQUIREMENTS

NO SCALE



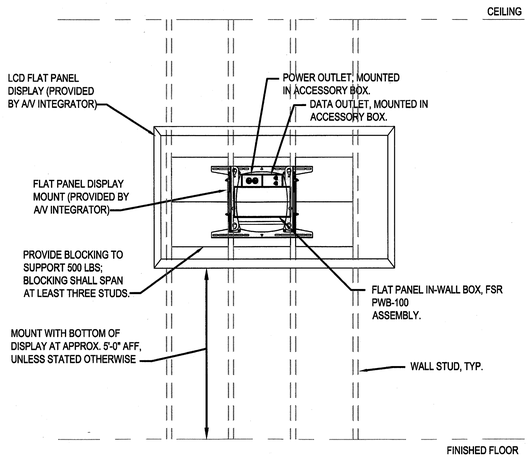
PRODUCT ALTERNATE:

AN OPTION TO CURRENT PRODUCT IS A HOFFMAN NSAV62M WITH N8AV6C COVER OR LEGRAND WIREMOLD EFSB2.



FLAT PANEL DISPLAY ROUGH-IN BOX DETAIL FOR LOBBY (2)

NO SCALE



FUTURE FLAT PANEL DISPLAY DETAIL FOR LOBBY (5)

NO SCALE

SYM	ZONE		DATE	APPROVED

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SIGNATURES	DATE
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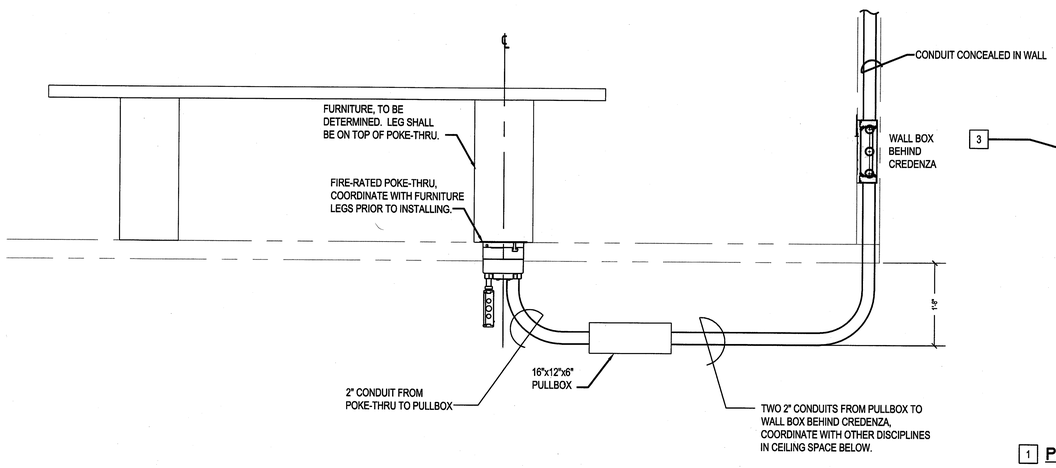
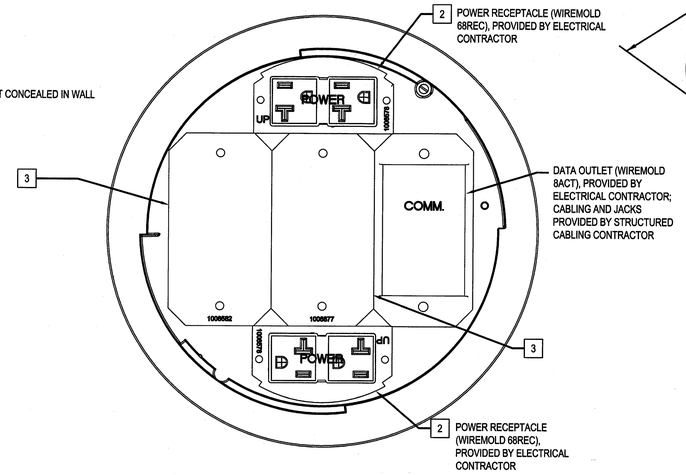
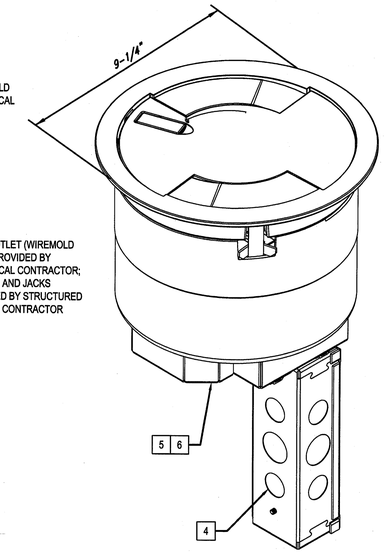


TYPICAL POKE-THRU AND AV CONDUIT ROUTING DETAIL FOR CONFERENCE ROOMS (1)

NO SCALE



1 PLAN VIEW (WIREMOLD EVOLUTION 8AT SERIES OR EQUAL)



1 ISOMETRIC VIEW (WIREMOLD EVOLUTION 8AT SERIES OR EQUAL)

POKE-THRU REQUIREMENT (X)

1. BY ELECTRICAL CONTRACTOR: POWER/DATA POKE THRU, WIREMOLD EVOLUTION 8AT SERIES. PROVIDE FITTINGS AS REQUIRED AND INSTALL POKE THRU'S IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS. SET FLANGE TO BE FLUSH WITH FLOOR, COORDINATE FINISH WITH ARCHITECT PRIOR TO PURCHASING. ADDITIONAL DEVICES WILL BE REQUIRED AND NEED TO BE COORDINATED WITH THE ELECTRICAL CONTRACTOR, STRUCTURED CABLING CONTRACTOR, AND A/V PROVIDER.
2. BY ELECTRICAL CONTRACTOR: STANDARD DUPLEX RECEPTACLE PLATE WITH (1) 120 VAC OUTLET RECEPTACLE PROVIDED WITH POKE THRU. SEE ELECTRICAL PLANS FOR CIRCUITING REQUIREMENTS.
3. BY AUDIO-VIDEO CONTRACTOR: PROVIDE AND INSTALL ADAPTER PLATES TO FIT APPLICATION
4. BY ELECTRICAL CONTRACTOR: CONNECT POWER CONDUIT WITH FITTINGS, SEE ELECTRICAL DRAWINGS AND SPECIFICATIONS.
5. BY ELECTRICAL CONTRACTOR: PROVIDE 2" CONDUIT HOUSING ASSEMBLY FROM AV COMPARTMENT OF POKE-THRU TO CEILING SPACE OF FLOOR BELOW. CONTINUE CABLING IN CONDUIT TO A/V CABINET, AS SHOWN IN DETAIL. REFER TO ADDITIONAL DETAILS FOR SPECIFIC REQUIREMENTS.
6. BY ELECTRICAL CONTRACTOR: PROVIDE 1" CONDUIT HOUSING ASSEMBLY FROM COMM COMPARTMENT OF POKE-THRU TO CEILING SPACE OF FLOOR BELOW. CONTINUE CABLING TO SERVING CLOSET.

POKE THRU INSTALLATION NOTE !

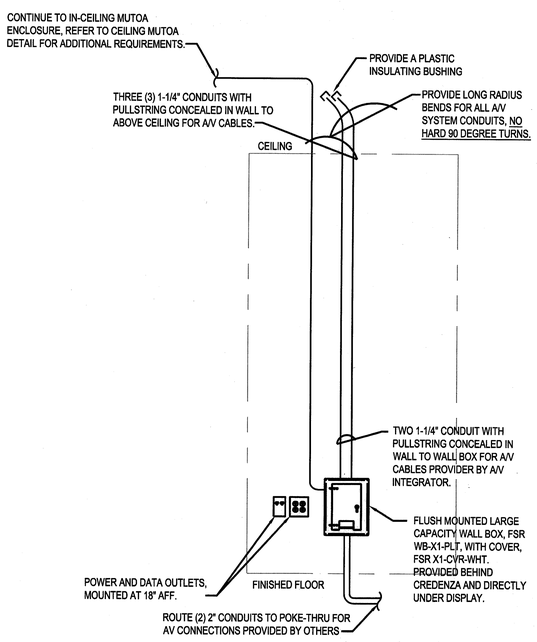
COORDINATE POKE THRU WITH GENERAL CONTRACTOR, ELECTRICAL CONTRACTOR, BUILDING STRUCTURE, FURNITURE PROVIDER, AND OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.

COORDINATE WITH REBAR REINFORCEMENT PRIOR TO INSTALLING.

ALL CABLING (POWER, DATA, AND AV) WILL BE COMPLETELY CONCEALED FROM POKE-THRU TO DESTINATION. DATA CONDUIT WILL CONTINUE TO MUTOA. AV CONDUIT WILL CONTINUE TO AV WALL BOX. REFER TO ELECTRICAL FOR POWER WIRING.

TYPICAL AV POKE-THRU DETAIL FOR CONFERENCE ROOMS (3)

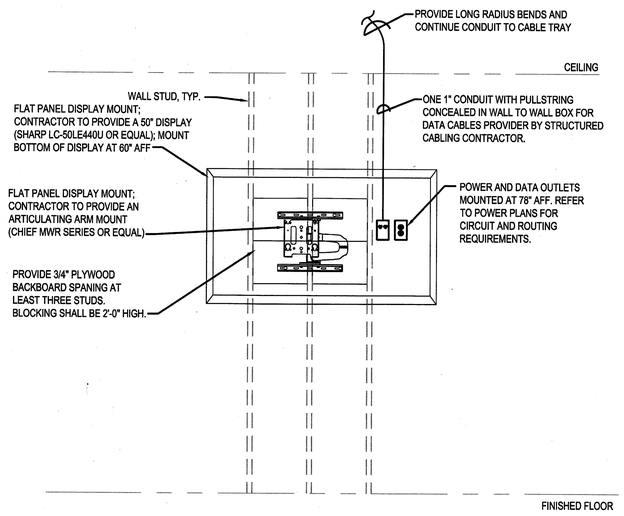
NO SCALE



CONFERENCE ROOM WITH PROJECTOR AND CREDENZA DETAIL (2)

REFER TO AV SHEETS FOR EXACT DIMENSION REQUIREMENTS

NO SCALE



OFFICE 7202 FLAT PANEL DISPLAY (4)

NO SCALE

SYM	ZONE		DATE	APPROVED

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SIGNATURES	DATE
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CHECKED Heather Callaway	12.18.13
SUBMITTED/ARCHITECT OF RECORD Toby S. Callaway	12/18/13
ST of LICENSURE: FL	
LICENSE NO: 71672	
APPROVED Scott Robinson	12-18-13
George Dutt	12-18-13

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

AUDIO / VISUAL TYPICAL DETAILS

T506

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a

SHEET 131

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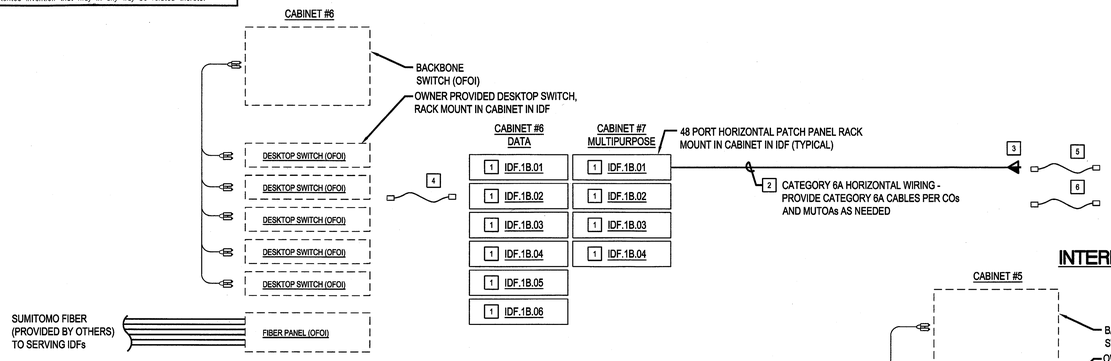
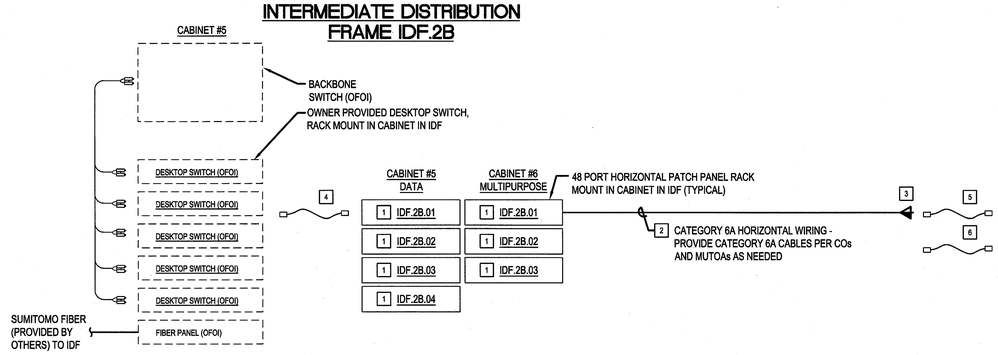


INTERMEDIATE DISTRIBUTION FRAME IDF.2B



LABELING NOTES

LABELING NOTE X

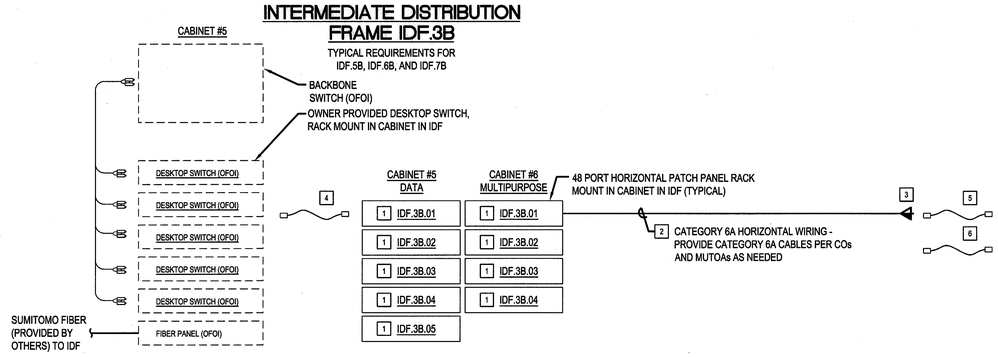
1. PROVIDE HALF SIZE COPY OF AS-BUILT DRAWINGS LAMINATED, BACKED WITH 1/4" FOAMBOARD AND FRAMED UNDER PLEXIGLASS.

KEYNOTES X:

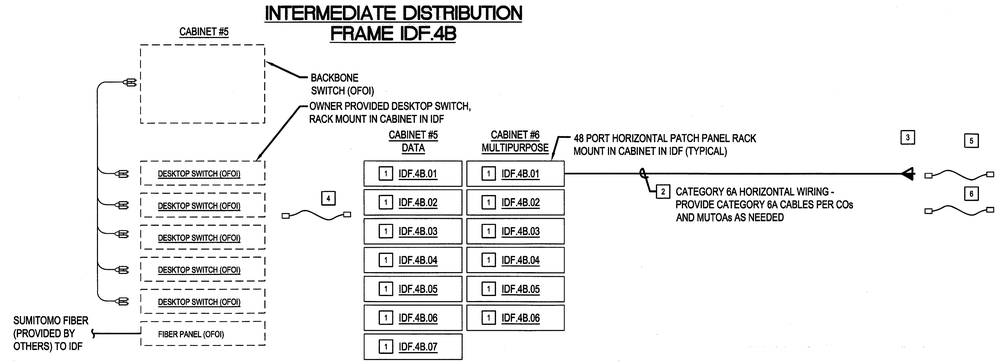
1. TIA CATEGORY 6A HORIZONTAL WIRING PATCH PANEL, 48 PORT, TIA 568A/B (UNIVERSAL) PINOUT. PROVIDE WITH FACTORY ICON/LABEL HOLDERS, DESIGNATION LABELS, FULL LENGTH REAR CABLE MANAGERS, AND MOUNTING HARDWARE.
2. TIA CATEGORY 6A HORIZONTAL WIRING, 4 PAIR UTP, 23 GAUGE SOLID COPPER CONDUCTORS. MAXIMUM INSTALLED LENGTH 90 METERS (295'). PROVIDE DOCUMENTATION OF CURRENT UL CERTIFICATION WITH SUBMITTALS. PROVIDE WITH CMP (PLENUM) JACKET, COLOR AS NOTED ON SHEET T502.
3. TYPICAL COMMUNICATIONS OUTLET (CO) OR MULTI-USER TELECOMMUNICATIONS ASSEMBLY OUTLET WITH CATEGORY 6A 8-PIN MODULAR JACKS FOR DATA AND VOICE CONNECTIONS.
4. EQUIPMENT ROOM DATA PATCH CORDS, PROVIDE BY OWNER.
5. WORKSTATION PATCH CORDS PROVIDED BY OWNER. FOR OUTLETS ABOVE THE CEILING (WIRELESS ACCESS POINTS, CAMERAS, ETC.): WORKSTATION PATCH CORDS, FACTORY TERMINATED AND TESTED CATEGORY 6A (MINIMUM) FOUR PAIR 100-OHM UNSHIELDED TWISTED PAIR (UTP) CABLE WITH 23 GAUGE STRANDED COPPER CONDUCTORS, COLOR RED (PLENUM RATED). PROVIDE WITH 8-PIN MODULAR PLUG ON BOTH ENDS AND TIA 568A PIN/PAIR ASSIGNMENTS. PROVIDE FACTORY TERMINATED AND TESTED PATCH CORD, FIELD BUILT OR CONTRACTOR SHOP ASSEMBLED PATCH CORDS WILL NOT BE ACCEPTED.
6. FOR SYSTEMS FURNITURE AND CONFERENCE ROOMS, PROVIDE INTERCONNECT CABLING FROM THE MUTOA PATCH PANEL TO THE OUTLETS SERVED BY THAT MUTOA. TERMINATE IN A PLATE IN THE SYSTEMS FURNITURE OR THE WALL PLATE IN THE CONFERENCE ROOM. REFER TO MUTOA LABELING FOR ADDITIONAL INFORMATION.

INTERMEDIATE DISTRIBUTION FRAME IDF.3B

TYPICAL REQUIREMENTS FOR IDF.5B, IDF.6B, AND IDF.7B



INTERMEDIATE DISTRIBUTION FRAME IDF.4B



VOICE AND DATA SYSTEM SINGLE LINE DIAGRAM (1)

LABELING NOTE 1 — NO SCALE

SYM	ZONE		DATE	APPROVED

REVISIONS

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DRAWN Michelle StClergy	12.18.13
CHECKED Heather Callaway	12.18.13
SUBMITTED (ENGINEER OF RECORD) Toby S. Smith	12/18/13
ST of LICENSURE: FL LICENSE NO: 71672	
APPROVED Scott Robinson	12-18-13
George Dutt	12-18-13

T601

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KENNEDY SPACE CENTER, FLORIDA

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REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

VOICE AND DATA SYSTEM SINGLE LINE DIAGRAMS

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a — SHEET 132

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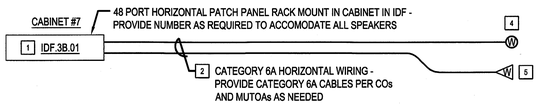

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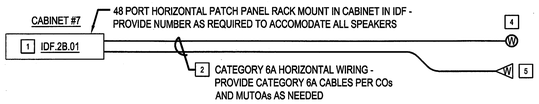

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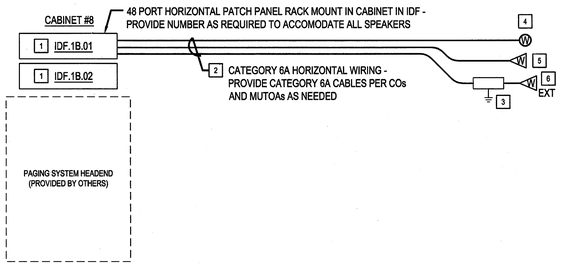

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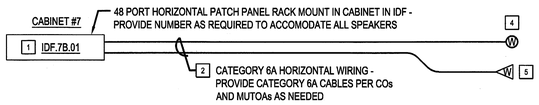
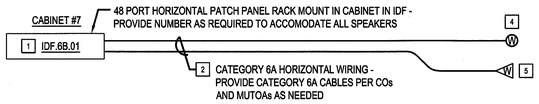
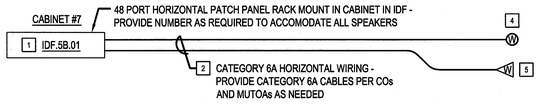


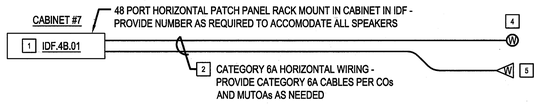
INTERMEDIATE DISTRIBUTION FRAME IDF.7B



INTERMEDIATE DISTRIBUTION FRAME IDF.6B



INTERMEDIATE DISTRIBUTION FRAME IDF.5B



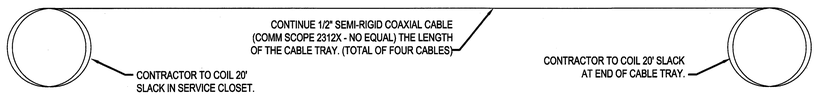
INTERMEDIATE DISTRIBUTION FRAME IDF.4B

KEYNOTES

1. TIA CATEGORY 6A HORIZONTAL WIRING PATCH PANEL, 48 PORT, TIA 568A/B (UNIVERSAL) PINOUT. PROVIDE WITH FACTORY ICON/LABEL HOLDERS, DESIGNATION LABELS, FULL LENGTH REAR CABLE MANAGERS, AND MOUNTING HARDWARE.
2. TIA CATEGORY 6A HORIZONTAL WIRING ANGLED, 4 PAIR UTP, 23 GAUGE SOLID COPPER CONDUCTORS. MAXIMUM INSTALLED LENGTH 90 METERS (295'). PROVIDE DOCUMENTATION OF CURRENT UL CERTIFICATION WITH SUBMITTALS. PROVIDE WITH CMP (PLENUM) JACKET, COLOR AS NOTED ON SHEET T503.
3. IN-LINE LIGHTNING ARRESTOR THAT MEETS UL MASTER LABEL, CONNECT WITH #6 AWG GROUNDING CONDUCTOR TO GROUNDING BUSBAR.
4. FLUSH MOUNTED CEILING SPEAKER WITH T-BRACKET TO PROPERLY SUPPORT SPEAKER IN TILE, ATLAS SD72WV (NO EQUAL). PROVIDE A RED CAT6 (PLENUM RATED) PATCH CORD TO DATA OUTLET SERVING PAGING SPEAKER. PROVIDE A RJ-45 ON ONE END AND TERMINATE AS NEEDED FOR CONNECTION TO SPEAKER.
5. FLUSH MOUNTED WALL SPEAKER WITH ADAPTER RING TO PROPERLY SUPPORT SPEAKER IN BACK BOX, ATLAS VTF SERIES EQUAL TAP AT 4W. COLOR SHALL BE NEUTRAL GRAY. PROVIDE A RED CAT6 (PLENUM RATED) PATCH CORD TO DATA OUTLET SERVING PAGING SPEAKER. PROVIDE A RJ-45 ON ONE END AND TERMINATE AS NEEDED FOR CONNECTION TO SPEAKER.
6. RECESSED 32W LOUDSPEAKER, HEAVY DUTY WEATHERPROOF CONSTRUCTION, ATLAS FA138T327 (OR EQUAL) WITH A RECESSED ENCLOSURE, ATLAS FA97-8 OR EQUAL. EXACT HEIGHT AND COLOR AS SELECTED BY ARCHITECT. GENERAL CONTRACTOR SHALL PAINT GRILLE TO MATCH ADJACENT WALL. COORDINATE ACTUAL MOUNTING LOCATION FOR EACH OUTDOOR SPEAKER WITH THE ARCHITECT IN THE FIELD PRIOR TO ROUGH-IN. PROVIDE A RED CAT6 (PLENUM RATED) PATCH CORD TO DATA OUTLET SERVING PAGING SPEAKER. PROVIDE A RJ-45 ON ONE END AND TERMINATE AS NEEDED FOR CONNECTION TO SPEAKER.

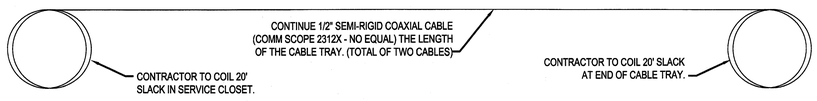
PAGING AND AREA WARNING SYSTEM (PAWS) SINGLE LINE DIAGRAM (1)

NO SCALE



INTERMEDIATE DISTRIBUTION FRAME IDF.2B

TYPICAL REQUIREMENTS FOR IDF.3B, IDF.4B, IDF.5B, IDF.6B, AND IDF.7B



INTERMEDIATE DISTRIBUTION FRAME IDF.1B

TELEVISION SYSTEM SINGLE LINE DIAGRAM (2)

NO SCALE

SYM	ZONE		DATE	APPROVED

REVISIONS

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CHECKED Heather Callaway	12.18.13
SUBMITTED ENGINEER OF RECORD Toby Sharp	12/18/13
ST of LICENSURE: FL LICENSE NO: 71672	
APPROVED Scott Robinson	12.18.13
George Dutt	12-18-13

T602

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

PAWS AND TV SYSTEM SINGLE LINE DIAGRAMS

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 133

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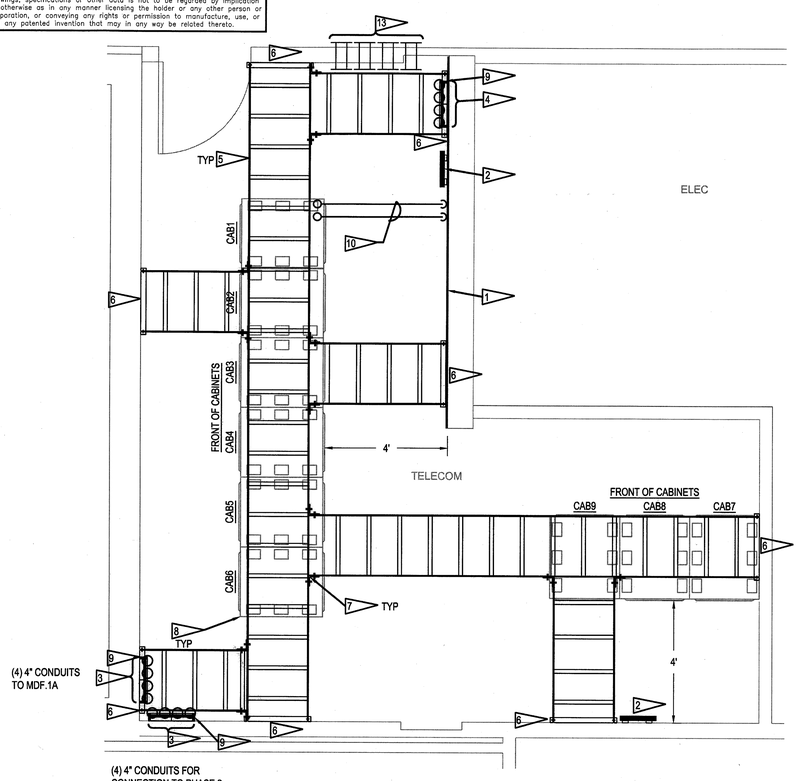
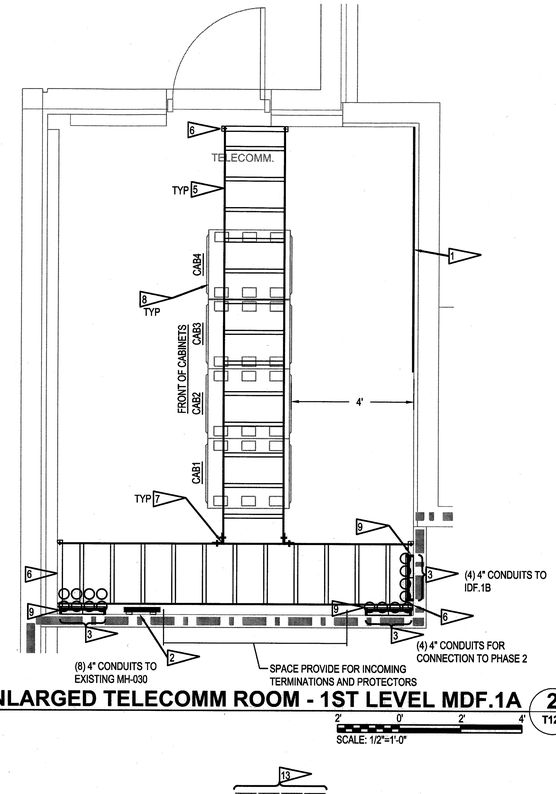


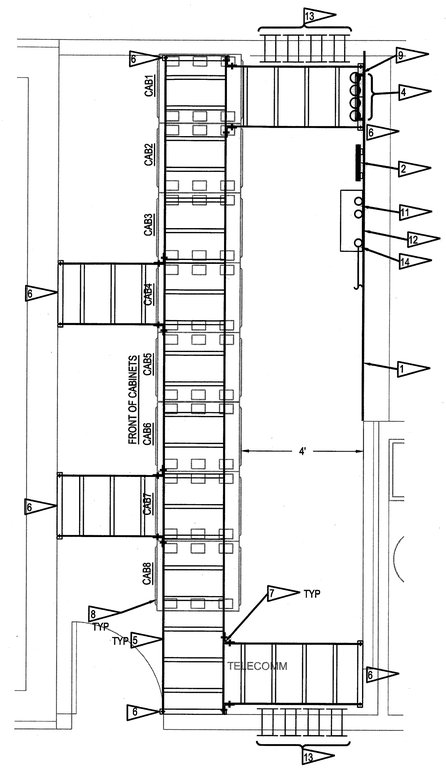
ENLARGED TELECOMM ROOM - 1ST LEVEL IDF.1B (1 / T111)

SCALE: 1/2"=1'-0"



ENLARGED TELECOMM ROOM - 1ST LEVEL MDF.1A (2 / T121)

SCALE: 1/2"=1'-0"



ENLARGED TELECOMM ROOMS - 2ND - 6TH LEVELS (3 / •)

SCALE: 1/2"=1'-0"

PAINTING NOTE:

CONTRACTOR SHALL TOUCH-UP PAINT ALL NICKS AND SCRATCHES ON ALL RACK, RACEWAY, BACKBOARDS, ETC. AFTER INSTALLATION IS COMPLETE. TOUCH-UP SHALL BE DONE USING MANUFACTURER PROVIDED PAINT TO MATCH. ALL SCREWS, NUTS, AND BOLTS SHALL BE PAINTED TO MATCH THIER SECURED HARDWARE.

MOUNTING NOTE:

ALL ATTACHMENTS MADE TO CABLE TRAY OR RACKS SHALL HAVE SCREWS, BOLTS OR ANY OTHER MOUNTING HARDWARE INSTALLED IN DIRECTION AWAY FROM ANY COMMUNICATIONS CABLING. SELF TAPPING SCREWS ARE NOT ACCEPTABLE. ALL MOUNTING SCREWS ON FACE SHALL BE BLACK.

GENERAL CABLING RUNWAY NOTES:

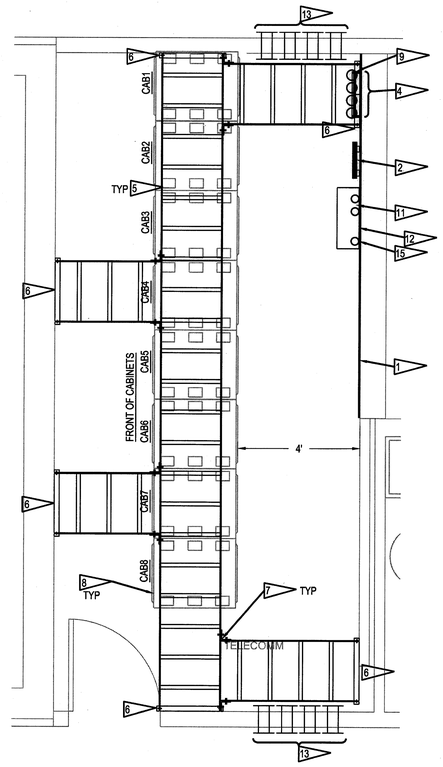
PROVIDE ALL FACTORY COMPONENTS MATCHING CABLE RUNWAY SPECIFIED FOR THE FOLLOWING:

BUTT-SPLICE KITS
TRIANGULAR WALL SUPPORTS
RADIUS BENDS
CABLE RUNWAY RADIUS DROPS
CABLE RUNWAY ELEVATION KIT
JUNCTION SPLICE KITS
ALL-THREAD SUPPORT BRACKETS
FOOT-MOUNTS
WALL-ANGLE SUPPORTS

INSTALL ALL CABLE RUNWAY AND RELATED FITTING AND ACCESSORIES ACCORDING TO THE MANUFACTURERS PRINTED INSRUCTIONS. ALL CABLING RUNWAY COMPONENTS SHALL BE BLACK.

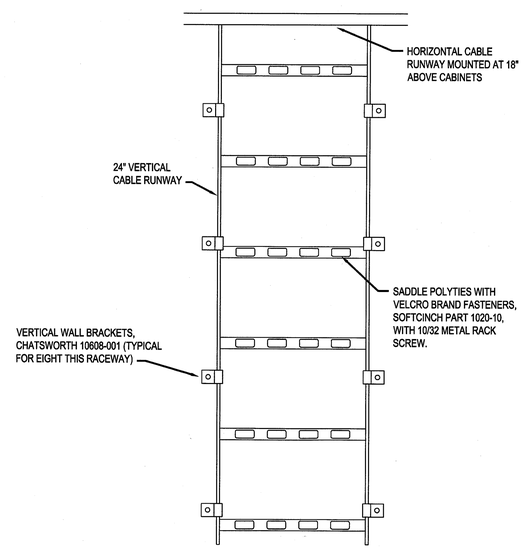
KEYNOTES:

1. PROVIDED BY ELECTRICAL CONTRACTOR: PLYWOOD BACKBOARD, 8'-0" HIGH X FULL LENGTH OF WALL, MOUNT WITH BOTTOM AT 6" ABOVE FINISH FLOOR. ROUGH-IN ALL ELECTRICAL OUTLETS IN BACKBOARD FOR FLUSH MOUNT INSTALLATION OF FACEPLATES. BACKBOARDS SHALL BE 3/4" THICK AC GRADE PLYWOOD. COUNTERSINK ALL SCREWS. PRIME WITH TWO COATS FIRE RETARDANT PRIMER, SANDING SMOOTH AFTER EACH COAT. FINISH WITH TWO COATS FIRE RETARDANT PAINT, COLOR WHITE. ON ALL SIX SIDES. FINAL SURFACE SHALL BE UNIFORMLY SMOOTH AND EVEN. TOUCH UP AT END OF PROJECT. CONTRACTOR SHALL ENSURE THAT POWER RECEPTACLES ARE PROPERLY LOCATED AND WITH FACEPLATES FLUSH ON FACE OF BACKBOARD. FOR ROUTING CABLES ON BACKBOARD, PROVIDE D-RINGS AT 12" ON CENTER. BUNDLE CABLES NEATLY WITH VELCRO, AND SEPARATE SYSTEMS.
2. PROVIDED BY ELECTRICAL CONTRACTOR: GROUND BUS BAR, REFER TO DETAILS.
3. PROVIDED BY ELECTRICAL CONTRACTOR: SCHEDULE 40 UNDERGROUND 4" CONDUITS FOR BACKBONE CABLES AS REQUIRED WITH SPARE AS REQUIRED, REFER TO ELECTRICAL PLANS. TURN CONDUITS UP, SLEEVE AND SEAL FLOOR PENETRATIONS. TERMINATE CONDUITS AT 4" A.F.F. WITH A PLASTIC INSULATING BUSHING, UNLESS SPECIFIED OTHERWISE. PLUG UNUSED CONDUITS AND SLEEVE AROUND CABLES IN OTHERS. STRUCTURED CABLING CONTRACTOR TO ROUTE CABLING UP WALL IN CABLE RUNWAY.
4. PROVIDED BY ELECTRICAL CONTRACTOR: EMT 4" CONDUIT SLEEVES ROUTED FROM ONE CLOSET TO THE CLOSET ABOVE, REFER TO FLOOR PLAN FOR COORDINATION. SLEEVE AND SEAL FLOOR PENETRATIONS. STUB 24" ABOVE CABLE TRAY AND 4" AFF IN CLOSET ABOVE.
5. PROVIDED BY STRUCTURED CABLING CONTRACTOR: 24" WIDE CABLE RUNWAY, CHATSWORTH 10250-724 OR EQUAL, COLOR BLACK. PROVIDE BUTT-SPLICE KIT TO BUTT-SPLICE SECTIONS OF CABLE RUNWAY (PAINT BEFORE INSTALLING AND TOUCH UP AFTER INSTALLATION). INSTALL ALL CABLE RUNWAY, FITTINGS, AND ACCESSORIES IN ACCORDANCE WITH MANUFACTURER'S PRINTED INSTRUCTIONS. CONTINUE RUNWAY ABOVE ALL RACKS. MOUNT AT 18" ABOVE CABINET. PROVIDE SUPPORTS FROM STRUCTURE AS REQUIRED.
6. PROVIDED BY STRUCTURED CABLING CONTRACTOR: 24" CABLE RUNWAY WALL ANGLE SUPPORT KIT, COLOR BLACK.
7. PROVIDED BY STRUCTURED CABLING CONTRACTOR: CABLE RUNWAY JUNCTION SPLICE KIT.
8. PROVIDED BY STRUCTURED CABLING CONTRACTOR: CABINET, REFER TO ENLARGED CABINET DETAILS.
9. PROVIDED BY STRUCTURED CABLING CONTRACTOR: 24" WIDE CABLE RUNWAY, CHATSWORTH 10250-724 OR EQUAL, MOUNTED VERTICALLY FROM CONDUIT ENTRANCE IN FLOOR TO 8'-4". SEE "TYPICAL VERTICAL CABLE RUNWAY DETAIL".
10. PROVIDE TWO (2) 2" EMT CONDUITS FROM CABINET TO SECOND FLOOR WALL MOUNTED PANEL. PROVIDE WITH PULLSTRING FOR CABLING TO BE PROVIDED BY OTHERS. ROUTE CONDUITS UP HIGH IN CLOSET. TERMINATE CONDUITS WITH PLASTIC INSULATING BUSHINGS. PROPERLY SEAL FLOOR PENETRATIONS.
11. ROUTE TWO (2) 2" CONDUITS BETWEEN WALL MOUNTED PANEL. IN STACKED CLOSETS. TERMINATE BOTH ENDS WITH PLASTIC INSULATING BUSHINGS AT THE CABINETS.
12. PROVIDE A WALL MOUNTED ENCLOSURE, HOFFMAN A36N24BLP OR EQUAL. MOUNT WITH BOTTOM OF ENCLOSURE AT 48" AFF.
13. PROVIDE FOUR (4) CABLE PATHWAYS FOR ROUTING CABLES FROM CORRIDOR TO CLOSET, STI E2 PATH SERIES 33 OR EQUAL, WITH A FOUR GANG KIT, STI EZDP433GKS OR EQUAL. PROVIDE A TOTAL OF FOUR PATHS COLOR CODED (HORIZONTAL PREMISE WIRING (MULTIPURPOSE AND DATA) - BLUE, WIRELESS = ORANGE, PAWS (PAGING) = YELLOW). PROVIDE A RADIUS CONTROL MODULE AT EACH PATHWAY.
14. IN IDF.5B AND IDF.6B PROVIDE A 2" CONDUIT TO A WALL MOUNTED BACKBOARD IN THE SHELLED SPACE. REFER TO THE SBU SET FOR ADDITIONAL REQUIREMENTS.
15. PROVIDE A 1-1/4" CONDUIT BETWEEN PANEL IN IDF.7B AND PANEL IN ELEV EQUIPMENT CONTROL ROOM 8208. REFER TO THE SBU SET FOR ADDITIONAL REQUIREMENTS



ENLARGED TELECOMM ROOM - 7TH LEVEL IDF.7A (4 / T171)

SCALE: 1/2"=1'-0"



TYPICAL VERTICAL CABLE RUNWAY DETAIL (5 / T701)

SYM	ZONE		DATE	APPROVED

REVISIONS

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DRAWN Michelle StClergy	12.18.13
CHECKED Heather Callaway	12.18.13
SUBMITTED: ARCHITECT OF RECORD Toby S. Stokes	12/18/13
ST of LICENSURE: FL LICENSE NO: 71672	
APPROVED Scott Robinson	12-18-13
George Duff	12-18-13

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KSC CENTRAL CAMPUS
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PHASE 1
VOL. 4 OF 4

TELECOMM ENLARGED PLANS

T701

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 134

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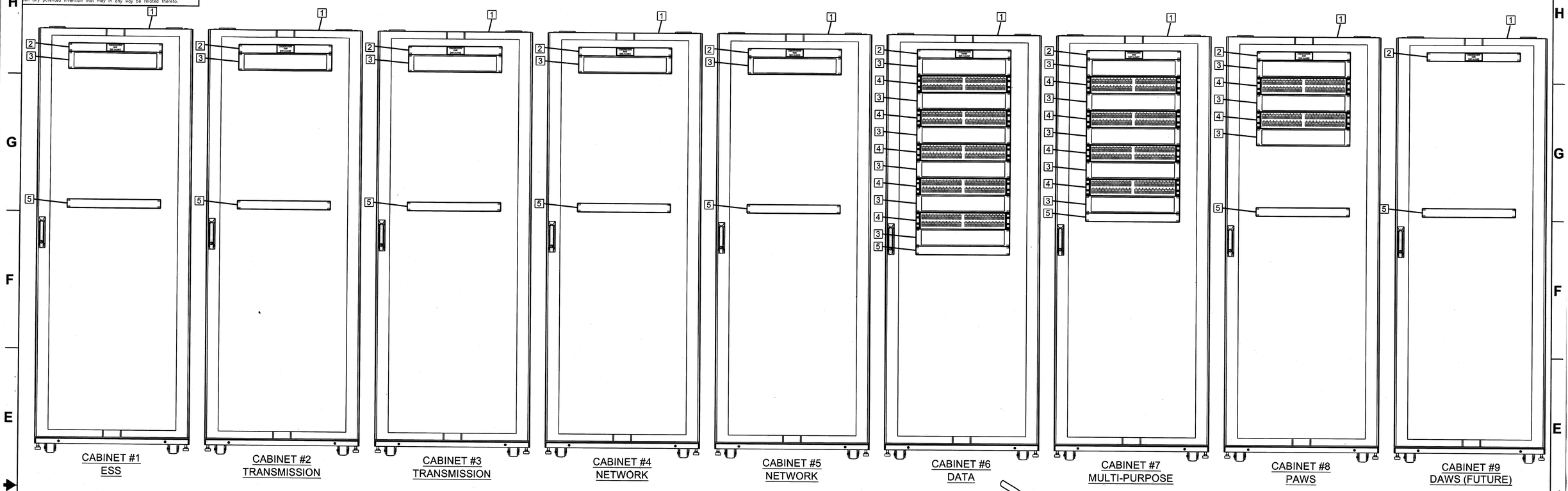
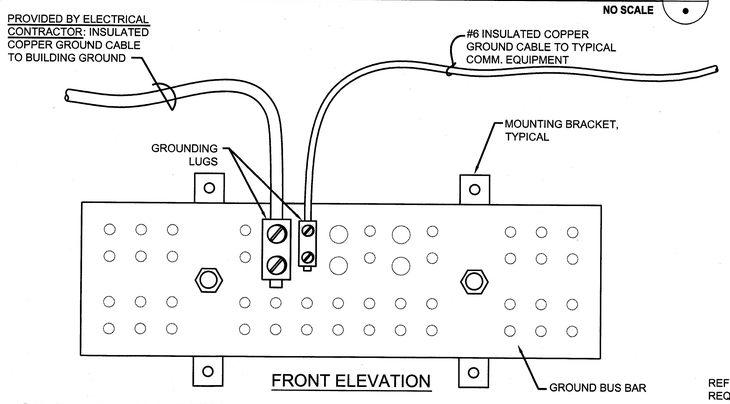


IDF.1B - ENLARGED CABINET ELEVATIONS (1)

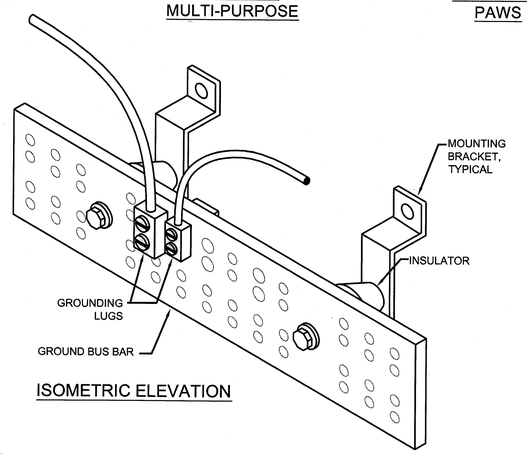
NO SCALE

SHEET NOTES [X]

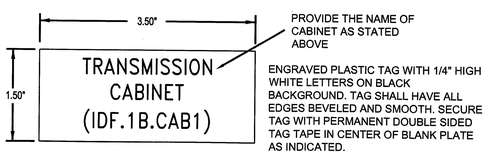
1. MEGAFRAME CABINET SYSTEM, COLOR BLACK, CHATSWORTH M1030-742. CABINET SHALL BE 84"H X 27.32"W X 30"D. RACK SHALLS SHALL BE 19" WIDE. CABINET SHALL HAVE TAPPED RAILS, TOP AND SIDE PANELS, AND PERFORATED METAL FRONT AND REAR DOORS. PROVIDE WITH VERTICAL WIRE MANAGEMENT ON BOTH SIDES OF CABINET.
2. ONE RACK SPACE BLANK FILLER PLATE, COLOR BLACK. PROVIDE WITH IDENTIFICATION TAG AT TOP OF RACK, SEE "TYPICAL COMMUNICATIONS RACK ENGRAVED TAG DETAIL".
3. TWO RACK SPACE UNIVERSAL HORIZONTAL CABLE MANAGER ON FRONT AND BACK SIDE OF RACK WITH A SNAP ON COVER, CHATSWORTH 30530-719 OR EQUAL.
4. 48 PORT CATEGORY 6A HORIZONTAL PATCH PANEL, SEE SINGLE LINE DIAGRAMS FOR PATCH PANEL AMOUNT AND REQUIREMENTS.
5. RACK MOUNTED SURGE PROTECTION POWER STRIP, REFER TO SPECIFICATIONS FOR REQUIREMENTS.



FRONT ELEVATION



ISOMETRIC ELEVATION

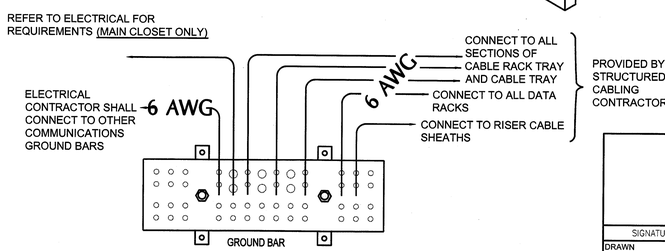


TYPICAL COMMUNICATIONS CABINET ENGRAVED TAG DETAIL (2)

NO SCALE

GROUNDING NOTES:

1. REFER TO GROUNDING REQUIREMENTS ON ELECTRICAL SHEETS FOR ELECTRICAL CONTRACTOR SCOPE.
2. ALL GROUND CONNECTIONS SHALL BE MADE WITH HEAVY DUTY 2 HOLE COMPRESSION LUGS WITH STAINLESS STEEL HEX HEAD CAP SCREWS WITH SS LOCKING NUTS (TWO SCREWS AND NUTS PER 2 HOLE LUG).
3. PROVIDE GROUNDING BUSBARS IN ALL COMMUNICATION CLOSETS AND DATA CENTER. GROUND MAIN BUSBAR TO BUILDING MAIN ELECTRICAL SERVICE GROUND WITH INSULATED (GREEN) COPPER GROUNDING CONDUCTOR (SIZE PER NEC) AND #6 BETWEEN BUSBARS IN THAT PARTICULAR SPACE. RUN CONDUCTOR FROM BUSBAR LOCATION TO BUILDING SERVICE GROUND IN EMT CONDUIT. PROVIDE INSULATED GROUNDING BUSHING - MALLEABLE IRON, AT CONDUIT ENDS AND GROUND PER NEC. GROUNDING TO BUILDING STRUCTURE, CONDUITS OR UTILITY PIPING IN LIEU OF BONDING TO BUILDING MAIN ELECTRICAL SERVICE GROUND IS NOT ACCEPTABLE.
4. GROUND ALL COMMUNICATION RACK/CABINET WITH #6 AWG INSULATED (GREEN) COPPER GROUNDING CONDUCTOR TO MAIN GROUNDING BUSBAR. GROUND RACKS INDIVIDUALLY TO BUSBAR (DO NOT LOOP GROUNDS). ROUTE CONDUCTOR ALONG RACK REAR AND IN CABLE RUNWAY TO GROUNDING BUSBAR.
5. GROUND EACH CONDUIT AND CONDUIT SUPPORTS STRUTS IN ALL COMMUNICATIONS ROOMS WITH #6 AWG INSULATED (GREEN) COPPER GROUNDING CONDUCTOR TO GROUNDING BUSBAR. ROUTE CONDUCTOR IN CABLE RUNWAY TO GROUNDING BUSBAR. ALL CONDUITS SHALL HAVE A BARE EQUIPMENT GROUND WIRE, CONTINUOUS FROM ALL EQUIPMENT CONNECTIONS, AND BONDED AT ALL BOXES, RUN TO THE FEED PANEL, AND SUBSEQUENTLY TO THE BUILDING EQUIPMENT GROUND.
6. GROUND CABLE RUNWAY WITH #6 AWG INSULATED (GREEN) COPPER GROUNDING CONDUCTOR TO GROUNDING BUSBAR. ROUTE CONDUCTOR IN CABLE RUNWAY TO GROUNDING BUSBAR.



TYPICAL COMMUNICATIONS GROUNDING BUSBAR DETAIL

COMMUNICATIONS GROUNDING DETAIL (3)

NO SCALE T701

SYM	ZONE		DATE	APPROVED

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SUBMITTED - ARCHITECTS RECORD Toby S. Smith	12/18/13
ST of LICENSURE: FL LICENSE NO: 71672	
APPROVED Scott Robinson	12-18-13
George Dutt	12-18-13

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

IDF.1B - ENLARGED CABINET ELEVATIONS

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 135

T801

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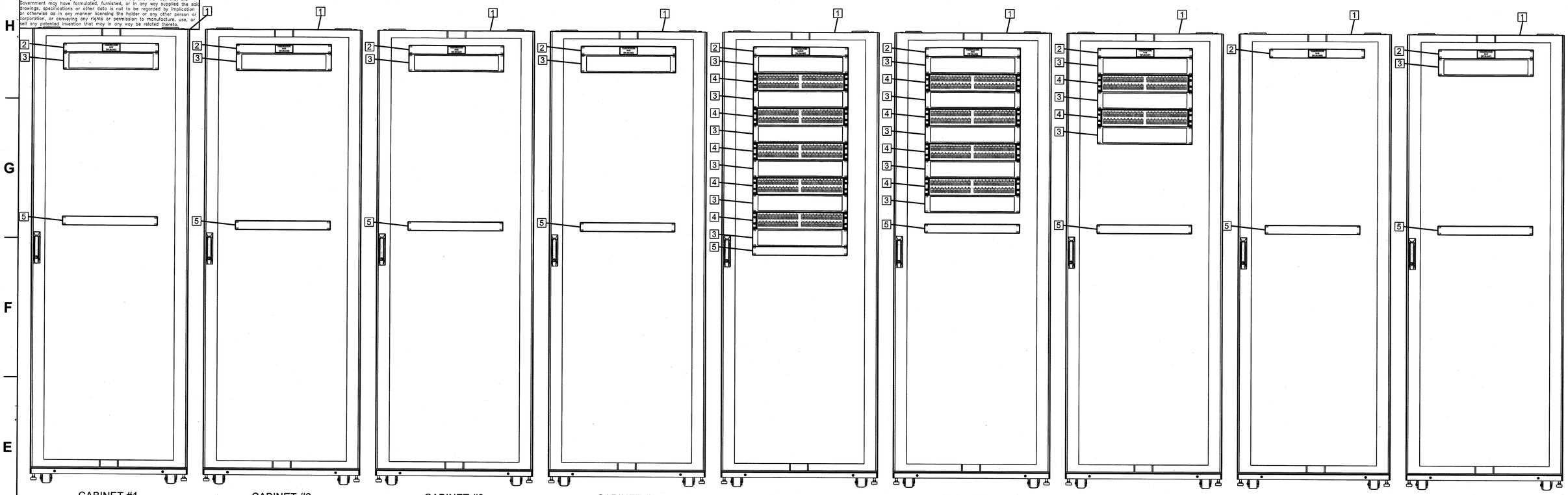
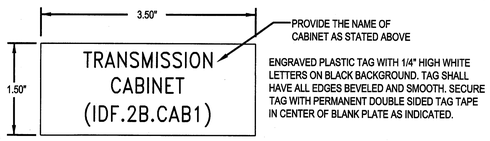


IDF - ENLARGED CABINET ELEVATIONS (1)

NO SCALE

SHEET NOTES [X]

1. MEGAFRAME CABINET SYSTEM, COLOR BLACK, CHATSWORTH M1030-742. CABINET SHALL BE 84"H X 27.32"W X 30"D. RACK SHALLS SHALL BE 19" WIDE. CABINET SHALL HAVE TAPPED RAILS, TOP AND SIDE PANELS, AND PERFORATED METAL FRONT AND REAR DOORS. PROVIDE WITH VERTICAL WIRE MANAGEMENT ON BOTH SIDES OF CABINET.
2. ONE RACK SPACE BLANK FILLER PLATE, COLOR BLACK. PROVIDE WITH IDENTIFICATION TAG AT TOP OF RACK, SEE "TYPICAL COMMUNICATIONS RACK ENGRAVED TAG DETAIL".
3. TWO RACK SPACE UNIVERSAL HORIZONTAL CABLE MANAGER ON FRONT AND BACK SIDE OF RACK WITH A SNAP ON COVER, CHATSWORTH 30530-719 OR EQUAL.
4. 48 PORT CATEGORY 6A HORIZONTAL PATCH PANEL, SEE SINGLE LINE DIAGRAMS FOR PATCH PANEL AMOUNT AND REQUIREMENTS.
5. RACK MOUNTED SURGE PROTECTION POWER STRIP, REFER TO SPECIFICATIONS FOR REQUIREMENTS.



ENGRAVED PLASTIC TAG WITH 1/4" HIGH WHITE LETTERS ON BLACK BACKGROUND. TAG SHALL HAVE ALL EDGES BEVELED AND SMOOTH. SECURE TAG WITH PERMANENT DOUBLE SIDED TAG TAPE IN CENTER OF BLANK PLATE AS INDICATED.

TYPICAL COMMUNICATIONS CABINET ENGRAVED TAG DETAIL (2)

NO SCALE

SYM	ZONE		DATE	APPROVED

REVISIONS

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

IDF - ENLARGED CABINET ELEVATIONS

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 136

T802

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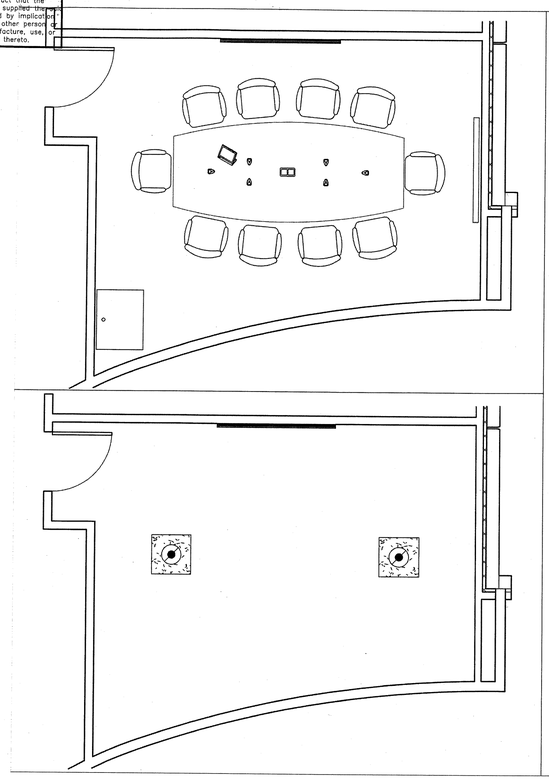
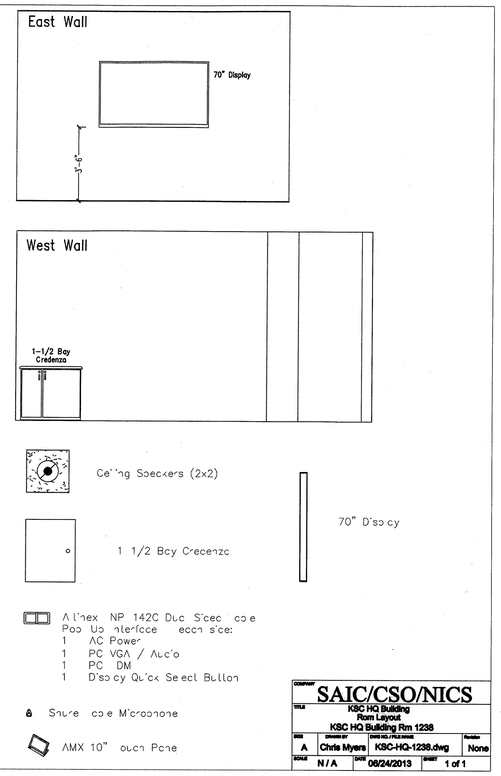
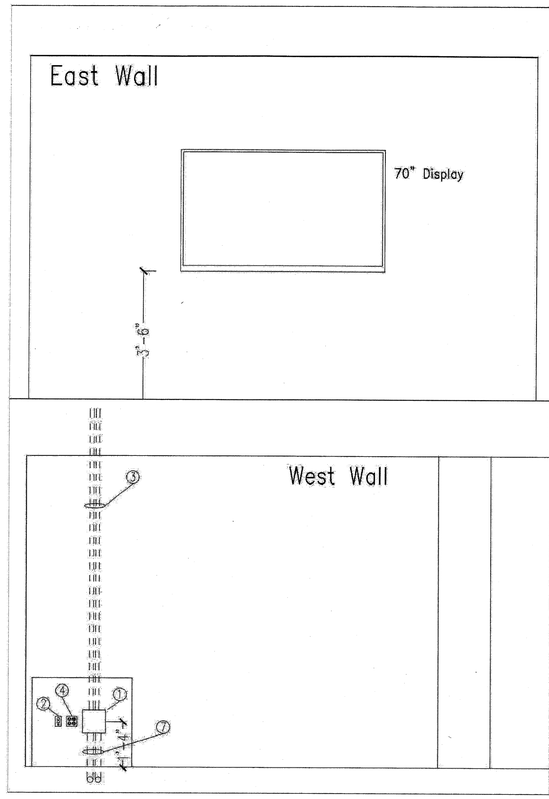
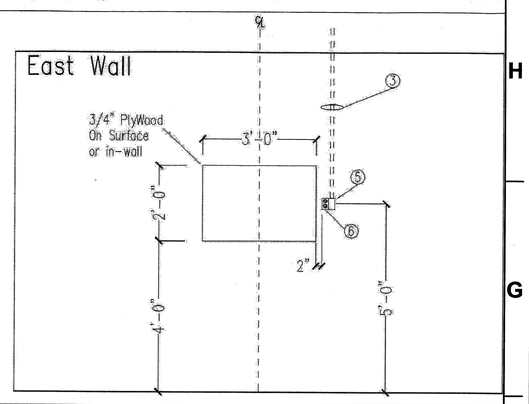




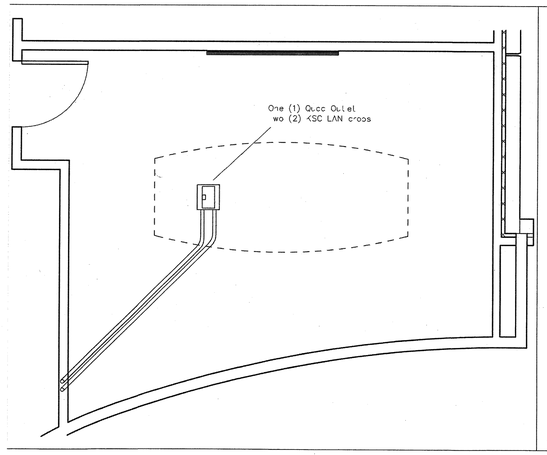
COMPANY	SAIC/CSO/NICS
TITLE	KSC HQ Building Rom Layout KSC HQ Building Rm 1238
SIZE A	DRAWN BY Chris Myers
DWG NO. / FILE NAME KSC-HQ-1238.dwg	Revision None
SCALE N / A	DATE 06/24/2013
SHEET 1 of 1	

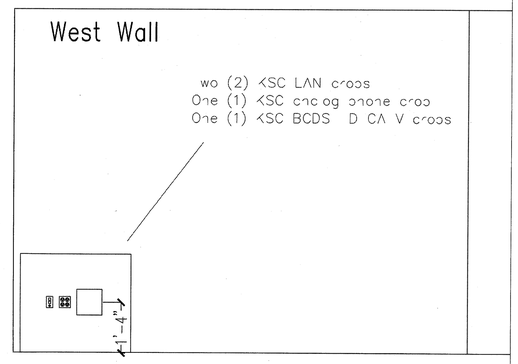




Power and Communicaitons Requirements for Display Wall		
Item	QTY	Requirements
1	1	8x8 Access Panel to Conduits to Ceiling and Floor
2	1	COMM: 1–Analog Phone, 2–KSC LAN, 1–CATV
3	3	1–1/4" Conduit from wall boxes to stub out above ceiling
4	1	2–Gang Quad AC Power Outlet Behind Credenza
5	1	1–Gang Wall Box for Display Cables to Ceiling
6	1	1–Gang Duplex AC Power for Display
7	2	2" Conduit from access panel to Floor Box

COMPANY	SAIC/CSO/NICS
TITLE	KSC HQ Building Display Wall Detail KSC HQ Building Rm 1238
SIZE A	DRAWN BY Chris Myers
DWG NO. / FILE NAME KSC-HQ-1238.dwg	
SCALE N / A	DATE 06/24/2013
SHEET 1 of 1	





Floor Boxes & Conduits

1. Install the floor box under the table leg for cabe access.
2. Install Two (2) total 2" conduits – between the floor box and the 8x8 access panel behind the credenza.
   2.1. Include in each conduit a standard pull cable secured at each end

NICS Communications Requiremens

1. Two (2) CAT6e KSC Network cables to the conference table
2. Two (2) CAT6e KSC Network drops to the credenza wall
3. One (1) CAT6e KSC Analog Phone connection to the credenza wall
   3.1. Standard analog phone line with local KSC phone number for conferencing (drop terminated to a KSC CFP wall plate behind the credenza)
4. One (1) BCDS / Digital CATV drop terminated to a KSC CFP wall plate on the wall behind the credenza

COMPANY	SAIC/CSO/NICS
TITLE	KSC HQ Building Floor Box and Comm Requirements KSC HQ Building Rm 1238
SIZE A	DRAWN BY Chris Myers
DWG NO. / FILE NAME KSC-HQ-1238.dwg	Revision None
SCALE N / A	DATE 06/24/2013
SHEET 1 of 1	

DRAWINGS ARE FOR REFERENCE ONLY

SYM	ZONE		DATE	APPROVED

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CHECKED Heather Callaway	12.18.13
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ST of LICENSURE: FL LICENSE NO: 71672	
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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

AUDIO / VISUAL
CONFERENCE ROOM - 1238

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 137

AV101

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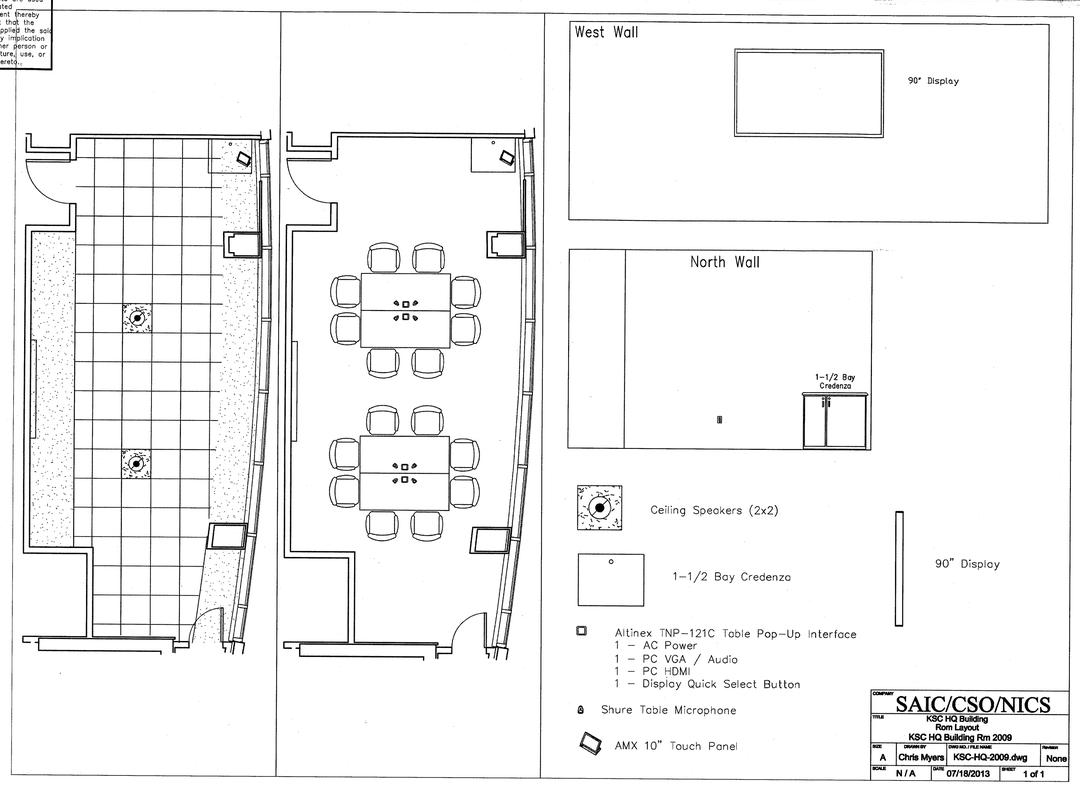
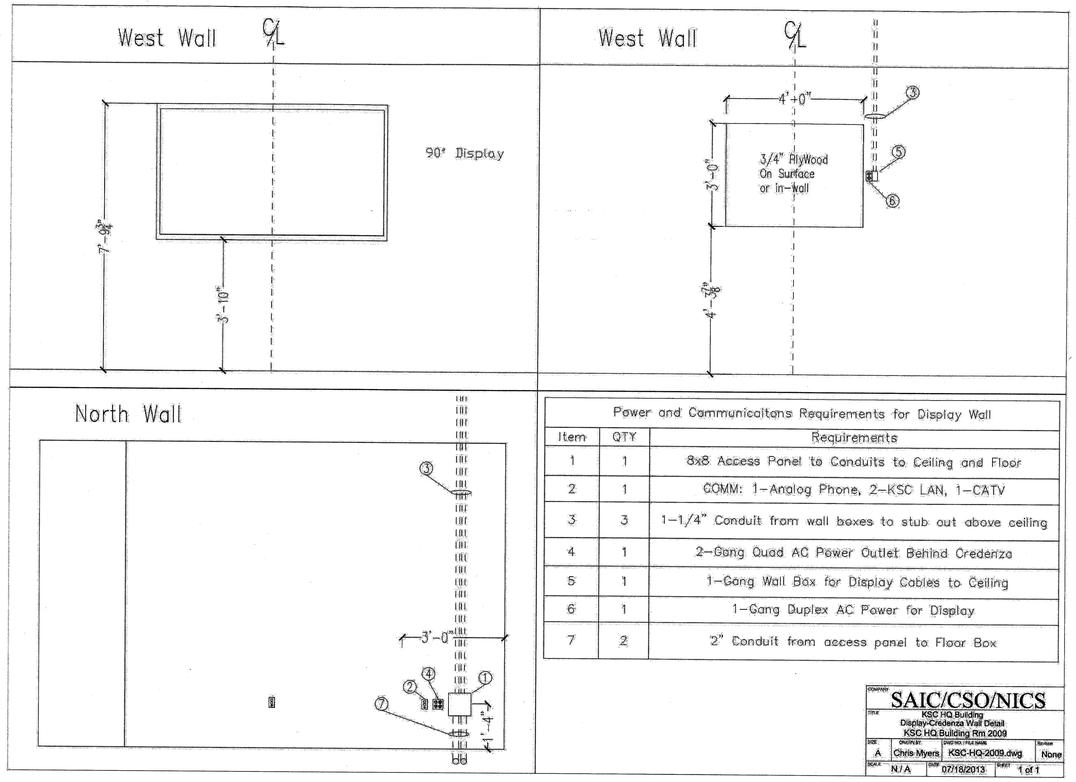
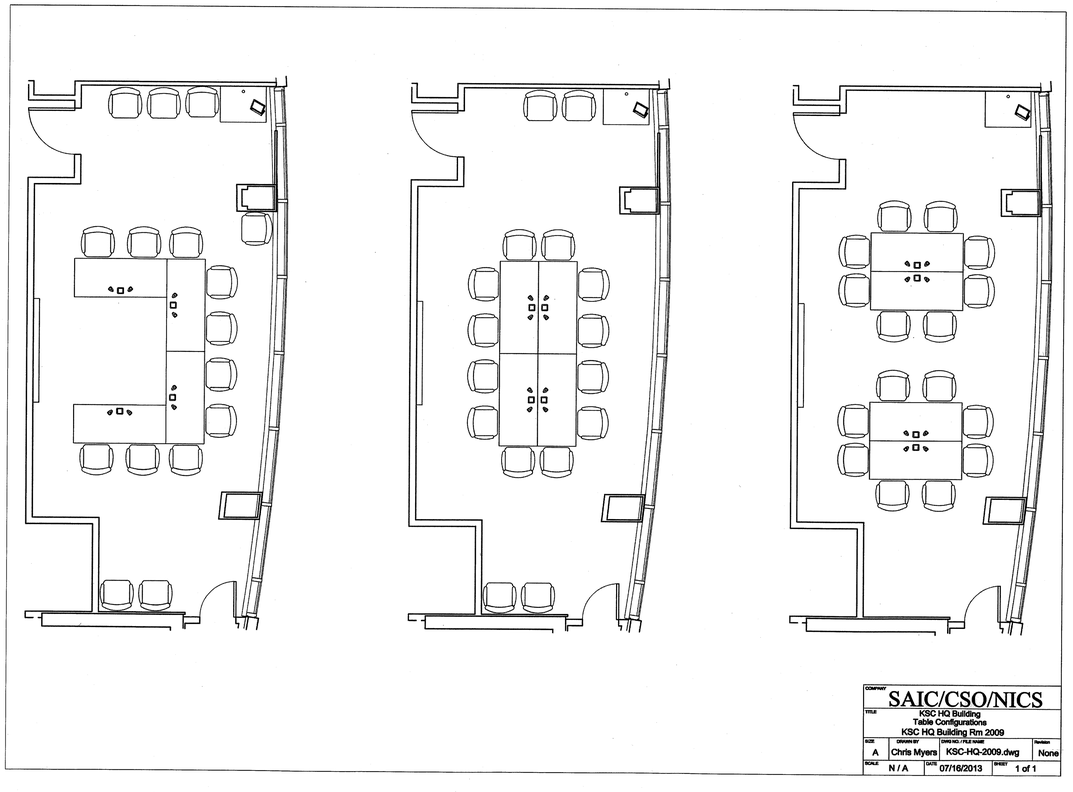


COMPANY	SAIC/CSO/NICS
TITLE	KSC HQ Building Rom Layout KSC HQ Building Rm 2009
SIZE A	DRAWN BY Chris Myers
DWG NO. / FILE NAME	KSC-HQ-2009.dwg
Revision	None
SCALE N / A	DATE 07/18/2013
SHEET 1 of 1	



Power and Communicaitons Requirements for Display Wall		
Item	QTY	Requirements
1	1	8x8 Access Panel to Conduits to Ceiling and Floor
2	1	COMM: 1-Analog Phone, 2-KSC LAN, 1-CATV
3	3	1-1/4" Conduit from wall boxes to stub out above ceiling
4	1	2-Gang Quad AC Power Outlet Behind Credenza
5	1	1-Gang Wall Box for Display Cables to Ceiling
6	1	1-Gang Duplex AC Power for Display
7	2	2" Conduit from access panel to Floor Box

COMPANY	SAIC/CSO/NICS
TITLE	KSC HQ Building Display-Credenza Wall Detail KSC HQ Building Rm 2009
SIZE A	DRAWN BY Chris Myers
DWG NO. / FILE NAME	KSC-HQ-2009.dwg
Revision	None
SCALE N / A	DATE 07/18/2013
SHEET 1 of 1	



COMPANY	SAIC/CSO/NICS
TITLE	KSC HQ Building Table Configuratione KSC HQ Building Rm 2009
SIZE A	DRAWN BY Chris Myers
DWG NO. / FILE NAME	KSC-HQ-2009.dwg
Revision	None
SCALE N / A	DATE 07/16/2013
SHEET 1 of 1	

DRAWINGS ARE FOR REFERENCE ONLY

SYM	ZONE		DATE	APPROVED

REVISIONS

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ST of LICENSURE: FL	
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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

AUDIO / VISUAL
CONFERENCE ROOM - 2009

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 138

AV102

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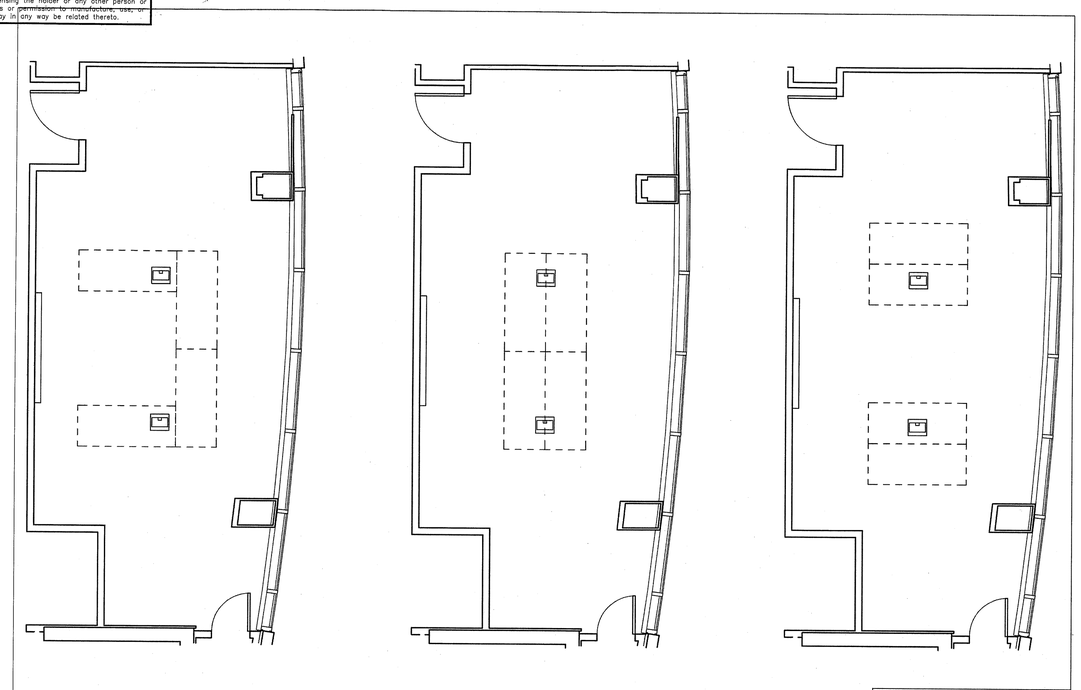
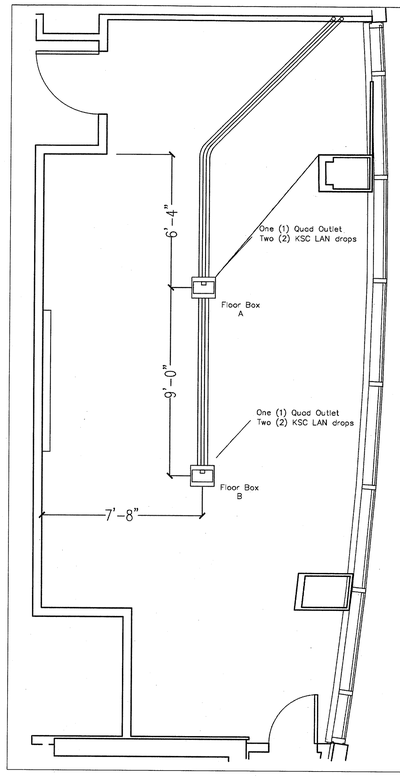
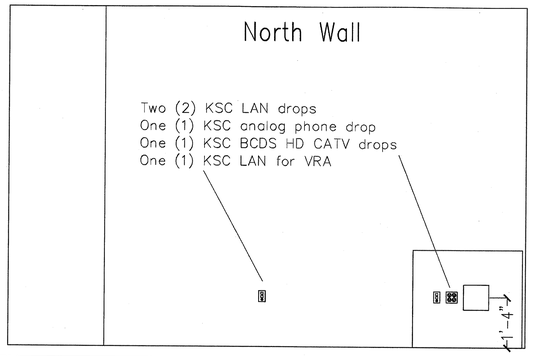


COMPANY	SAIC/CSO/NICS
TITLE	KSC HQ Building Floor Box Table Location KSC HQ Building Rm 2009
SIZE: A	DRAWN BY: Chris Myers
DWG NO. / FILE NAME: KSC-HQ-2009.dwg	Revision: None
SCALE: N / A	DATE: 07/18/2013
SHEET: 1 of 1	





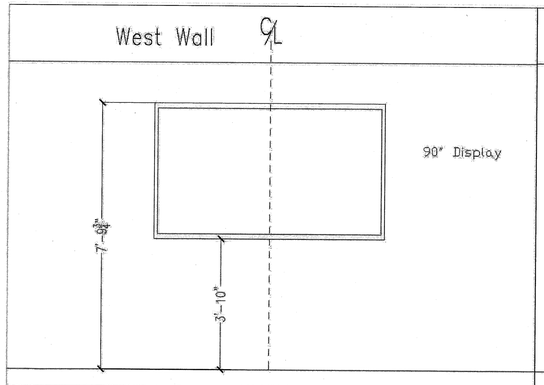
Floor Boxes & Conduits

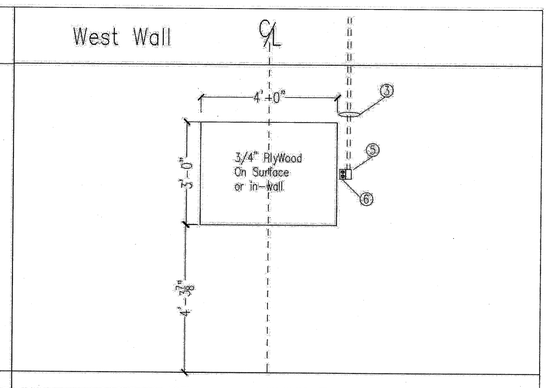
1. Install the floor boxes to be located where indicated.
2. Install Two (2) 2" conduits – between floor box A and the 8x8 access panel behind the credenza.
3. Install Two (2) 2" conduits – between floor box A and box B.
4. Include in each conduit a standard pull cable secured at each end.

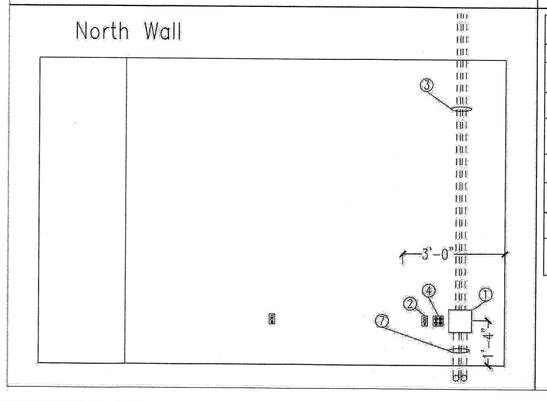
NICS Communications Requiremens

1. Two (2) CAT6e KSC LAN drops to Floor Box A
2. Two (2) CAT6e KSC LAN drops to Floor Box B
3. Two (2) CAT6e KSC LAN drops to the credenza wall
4. One (1) CAT6e KSC LAN drop for VRA on North Wall
5. One (1) CAT6e KSC Analog Phone connection to the credenza wall
   5.1. Standard analog phone line with local KSC phone number for conferencing (drop terminated to a KSC CFP wall plate behind the credenza)
6. One (1) BCDS / Digital CATV drop terminated to a KSC CFP wall plate on the wall behind the credenza

COMPANY	SAIC/CSO/NICS
TITLE	KSC HQ Building Floor Box and Comm Requirements KSC HQ Building Rm 2009
SIZE: A	DRAWN BY: Chris Myers
DWG NO. / FILE NAME: KSC-HQ-2009.dwg	Revision: None
SCALE: N / A	DATE: 07/18/2013
SHEET: 1 of 1	







Power and Communicaitons Requirements for Display Wall

Item	QTY	Requirements
1	1	8x8 Access Panel to Conduits to Ceiling and Floor
2	1	COMM: 1–Analog Phone, 2–KSC LAN, 1–CATV
3	3	1–1/4" Conduit from wall boxes to stub out above ceiling
4	1	2–Gang Quad AC Power Outlet Behind Credenza
5	1	1–Gang Wall Box for Display Cables to Ceiling
6	1	1–Gang Duplex AC Power for Display
7	2	2" Conduit from access panel to Floor Box

COMPANY	SAIC/CSO/NICS
TITLE	KSC HQ Building Display-Credenza Wall Detail KSC HQ Building Rm 2009
SIZE: A	DRAWN BY: Chris Myers
DWG NO. / FILE NAME: KSC-HQ-2009.dwg	Revision: None
SCALE: N / A	DATE: 07/18/2013
SHEET: 1 of 1	

DRAWINGS ARE FOR REFERENCE ONLY

SYM	ZONE		DATE	APPROVED

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SIGNATURES	DATE
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CHECKED Heather Callaway	12.18.13
SUBMITTED: ARCHENG OF RECORD Toby S. Smart	12/18/13
ST of LICENSURE: FL LICENSE NO: 71672	
APPROVED Scott Robinson	12-18-13
George Dutt	12-18-13

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

AUDIO / VISUAL
CONFERENCE ROOM - 2009

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 139

AV103

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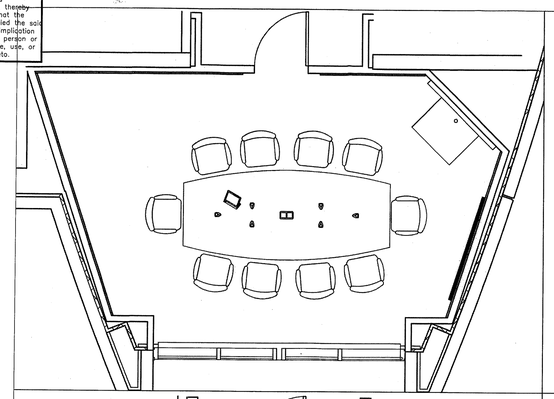
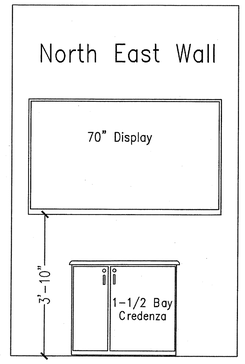
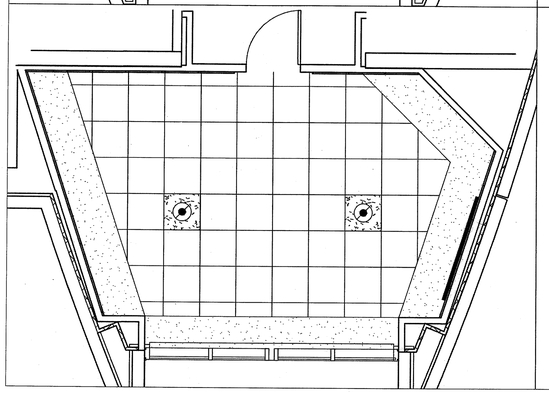






Ceiling Speakers (2x2)

1-1/2 Bay Credenza

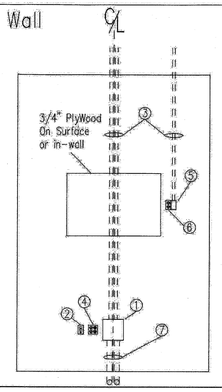
70" Display

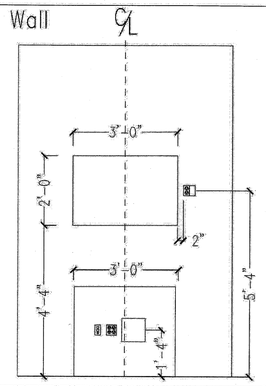
Altinex TNP-142C Dual Sided Table Pop-Up Interface – each side:
1 – AC Power
1 – PC VGA / Audio
1 – PC HDMI
1 – Display Quick Select Button

Shure Table Microphone

AMX 10" Touch Panel

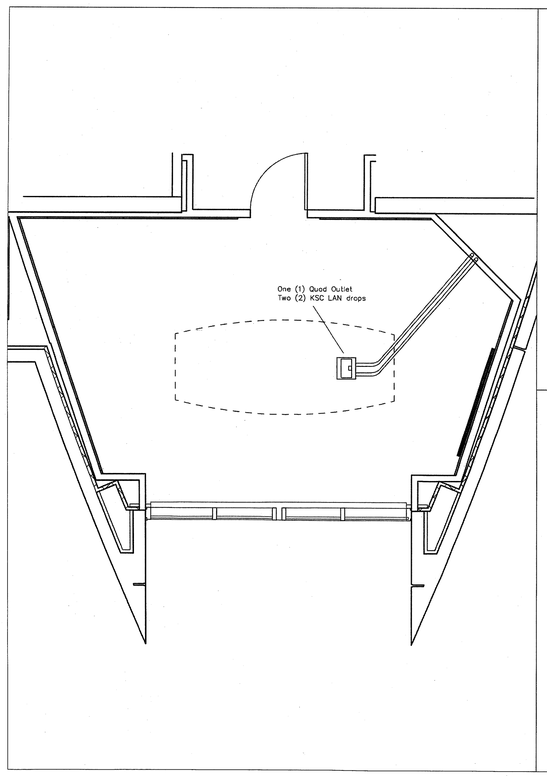
COMPANY: SAIC/CSO/NICS			
TITLE: KSC HQ Building Rm 2025, 3025, 4025, 5025, 6025, 7025 Rom Layout			
SIZE: A	DRAWN BY: Chris Myers	DWG NO. / FILE NAME: KSC-HQ-2025.dwg	Revision: None
SCALE: N / A	DATE: 06/24/2013	SHEET: 1 of 1	

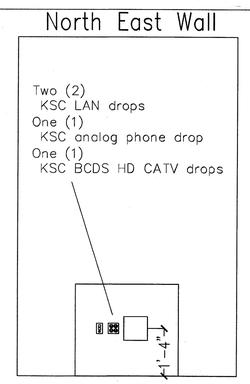




Power and Communicaitons Requirements for Display Wall		
Item	QTY	Requirements
1	1	8x8 Access Panel to Conduits to Ceiling and Floor
2	1	COMM: 1–Analog Phone, 2–KSC LAN, 1–CATV
3	3	1–1/4" Conduit from wall boxes to stub out above ceiling
4	1	2–Gang Quad AC Power Outlet Behind Credenza
5	1	1–Gang Wall Box for Display Cables to Ceiling
6	1	1–Gang Duplex AC Power for Display
7	2	2" Conduit from access panel to Floor Box

COMPANY: SAIC/CSO/NICS			
TITLE: KSC HQ Building Rm 2025, 3025, 4025, 5025, 6025, 7025 Display Wall Detail			
SIZE: A	DRAWN BY: Chris Myers	DWG NO. / FILE NAME: KSC-HQ-2025.dwg	Revision: None
SCALE: N / A	DATE: 06/24/2013	SHEET: 1 of 1	





Floor Boxes & Conduits

1. Install the floor box under a table leg for cabe access.
2. Install Two (2) total 2" conduits – between the floor box and the 8x8 access panel behind the credenza.
   2.1. Include in each conduit a standard pull cable secured at each end

NICS Communications Requiremens

1. Two (2) CAT6e KSC Network cables to the conference table
2. Two (2) CAT6e KSC Network drops to the credenza wall
3. One (1) CAT6e KSC Analog Phone connection to the credenza wall
   3.1. Standard analog phone line with local KSC phone number for conferencing (drop terminated to a KSC CFP wall plate behind the credenza)
4. One (1) BCDS / Digital CATV drop terminated to a KSC CFP wall plate on the wall behind the credenza

COMPANY: SAIC/CSO/NICS			
TITLE: KSC HQ Building Rm 2025, 3025, 4025, 5025, 6025, 7025 Floor Box and Comm Requirements			
SIZE: A	DRAWN BY: Chris Myers	DWG NO. / FILE NAME: KSC-HQ-2025.dwg	Revision: None
SCALE: N / A	DATE: 06/24/2013	SHEET: 1 of 1	

DRAWINGS ARE FOR REFERENCE ONLY

SYM	ZONE		DATE	APPROVED

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SIGNATURES	DATE
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CHECKED Heather Callaway	12.18.13
SUBMITTED AS AN AS-BUILT RECORD Toby Stanfield	12/18/13
ST of LICENSURE: FL LICENSE NO: 71672	
APPROVED Scott Robinson	12.18.13
George Dutt	12-18-13

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
AUDIO / VISUAL
CONFERENCE ROOMS - 2025, 3025, 4025, 5025, 6025, 7025

AV104

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

P.C.N. NO. 98745.1a SHEET 140

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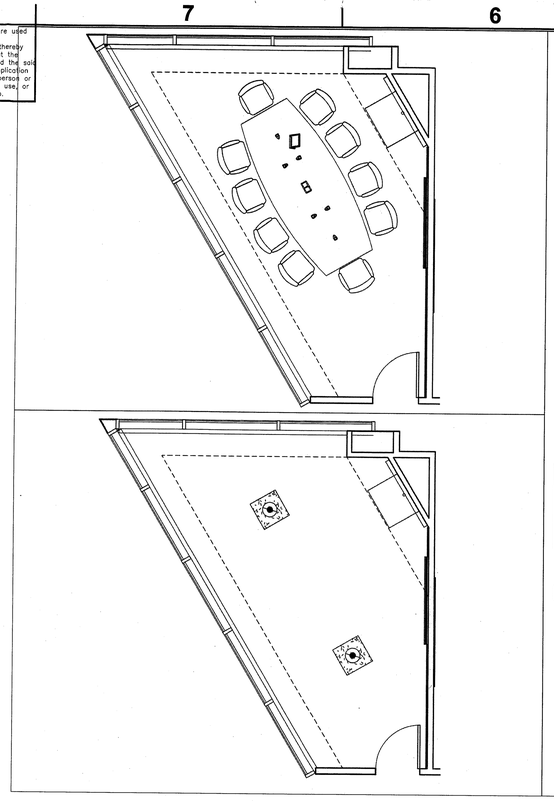
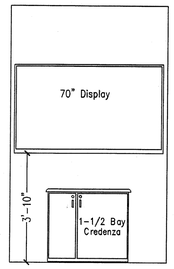


North East Wall



Ceiling Speakers (2x2)

1-1/2 Bay Credenza

70" Display

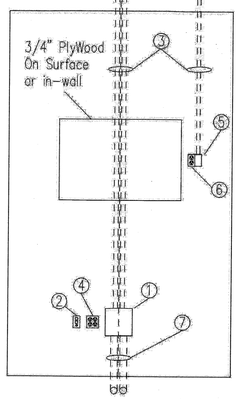
Altinex TNP-142C Dual Sided Table Pop-Up Interface – each side:
1 – AC Power
1 – PC VGA / Audio
1 – PC HDMI
1 – Display Quick Select Button

Shure Table Microphone

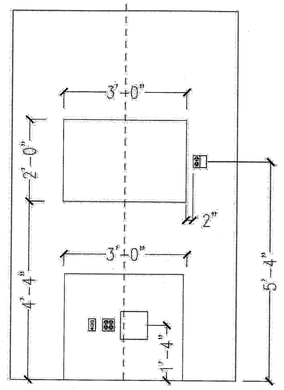
AMX 10" Touch Panel

COMPANY	SAIC/CSO/NICS
TITLE	KSC HQ Building Rom Layout KSC HQ Building Rm 2040
SIZE	A
DRAWN BY	Chris Myers
DWG NO. / FILE NAME	KSC-HQ-2040.dwg
Revision	None
SCALE	N / A
DATE	06/24/2013
SHEET	1 of 1

North East Wall



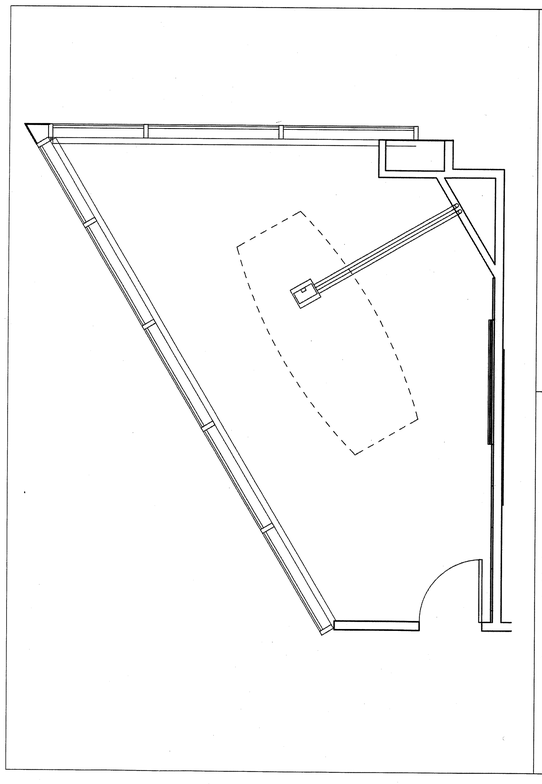
North East Wall



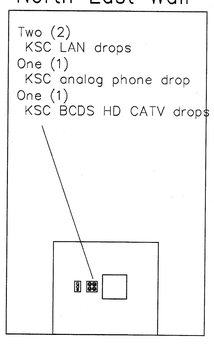
Power and Communicaitons Requirements for Display Wall

Item	QTY	Requirements
1	1	8x8 Access Panel to Conduits to Ceiling and Floor
2	1	COMM: 1–Analog Phone, 2–KSC LAN, 1–CATV
3	3	1–1/4" Conduit from wall boxes to stub out above ceiling
4	1	2–Gang Quad AC Power Outlet Behind Credenza
5	1	1–Gang Wall Box for Display Cables to Ceiling
6	1	1–Gang Duplex AC Power for Display
7	2	2" Conduit from access panel to Floor Box

COMPANY	SAIC/CSO/NICS
TITLE	KSC HQ Building Display Wall Detail KSC HQ Building Rm 2040
SIZE	A
DRAWN BY	Chris Myers
DWG NO. / FILE NAME	KSC-HQ-2040.dwg
Revision	None
SCALE	N / A
DATE	06/24/2013
SHEET	1 of 1



North East Wall



Floor Boxes & Conduits

1. Install the floor box under a table leg for cabe access.
2. Install Two (2) total 2" conduits – between the floor box and the 8x8 access panel behind the credenza.
   2.1. Include in each conduit a standard pull cable secured at each end.

NICS Communications Requiremens

1. Two (2) CAT6e KSC Network cables to the conference table
2. Two (2) CAT6e KSC Network drops to the credenza wall
3. One (1) CAT6e KSC Analog Phone connection to the credenza wall
   3.1. Standard analog phone line with local KSC phone number for conferencing (drop terminated to a KSC CFP wall plate behind the credenza)
4. One (1) BCDS / Digital CATV drop terminated to a KSC CFP wall plate on the wall behind the credenza

COMPANY	SAIC/CSO/NICS
TITLE	KSC HQ Building Floor Box and Comm Requirements KSC HQ Building Rm 2040
SIZE	A
DRAWN BY	Chris Myers
DWG NO. / FILE NAME	KSC-HQ-2040.dwg
Revision	None
SCALE	N / A
DATE	06/24/2013
SHEET	1 of 1

DRAWINGS ARE FOR REFERENCE ONLY

SYM	ZONE		DATE	APPROVED

REVISIONS

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SIGNATURES	DATE
DRAWN Michelle StClergy	12.18.13
CHECKED Heather Callaway	12.18.13
SUBMITTED AS-BUILT RECORD Toby S. Cash	12/18/13
ST of LICENSURE: FL LICENSE NO: 71672	
APPROVED Scott Robinson	12-18-13
George Dutt	12-18-13

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

AUDIO / VISUAL
CONFERENCE ROOM - 2240

AV105

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 141

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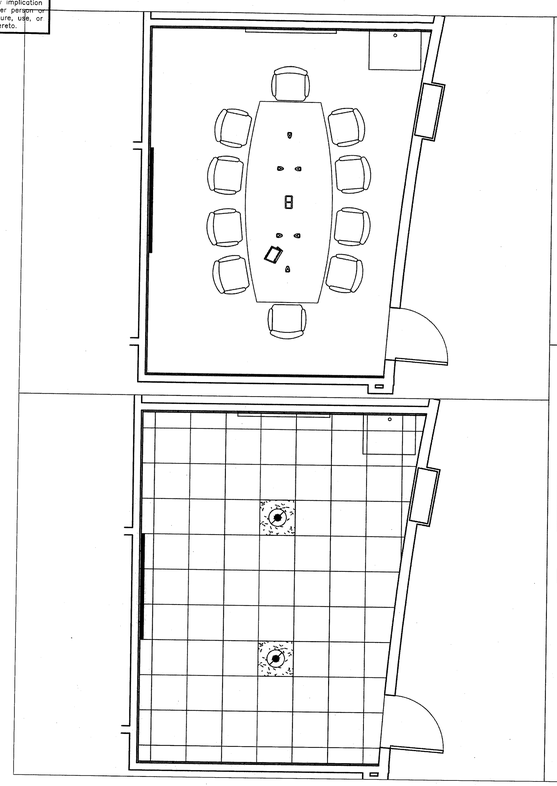
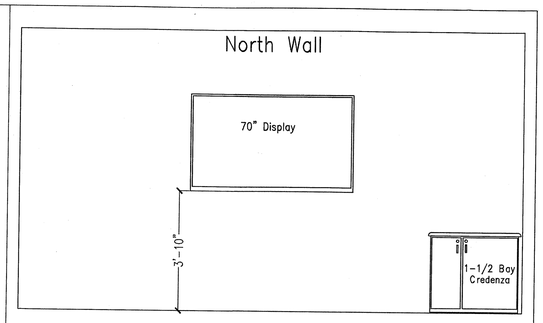




Ceiling Speakers (2x2)

1-1/2 Bay Credenza

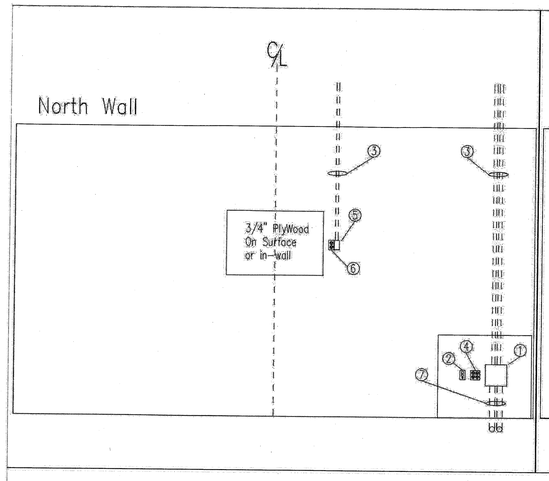
70" Display

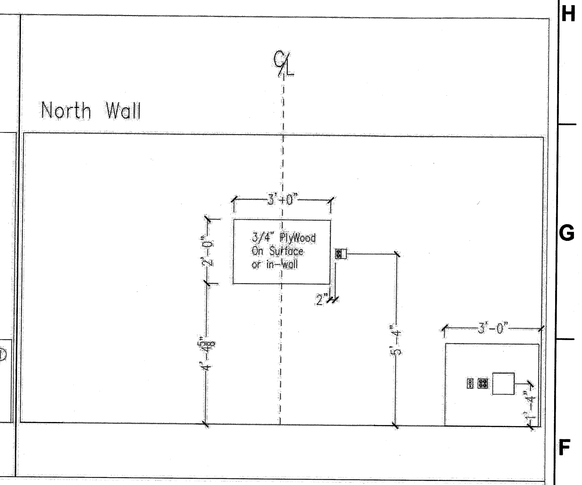
Altinex TNP-142C Dual Sided Table Pop-Up Interface – each side:
1 – AC Power
1 – PC VGA / Audio
1 – PC HDMI
1 – Display Quick Select Button

Shure Table Microphone

AMX 10" Touch Panel

COMPANY	SAIC/CSO/NICS
TITLE	KSC HQ Building Rm 3007A, 4007A, 5007A, 6007A Room Layout
SIZE A	DRAWN BY Chris Myers
DWG NO. / FILE NAME	KSC-HQ-3007A.dwg
REVISION	None
SCALE N/A	DATE 06/24/2013
SHEET 1 of 1	





Power and Communicaitons Requirements for Display Wall		
Item	QTY	Requirements
1	1	8x8 Access Panel to Conduits to Ceiling and Floor
2	1	COMM: 1–Analog Phone, 2–KSC LAN, 1–CATV
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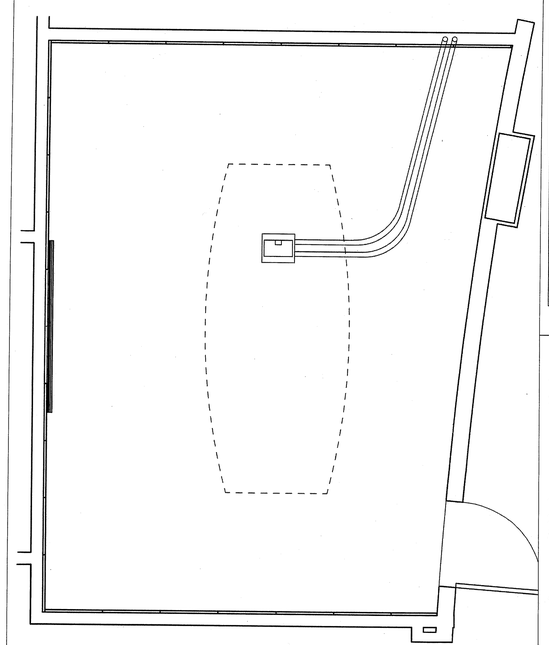
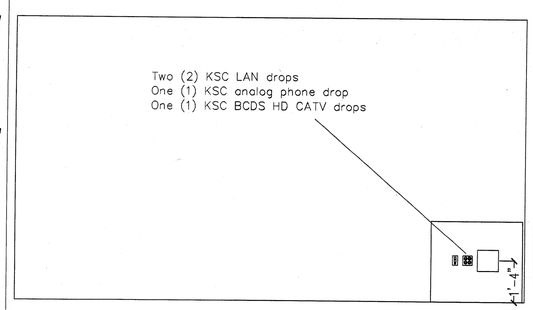
4	1	2–Gang Quad AC Power Outlet Behind Credenza
5	1	1–Gang Wall Box for Display Cables to Ceiling
6	1	1–Gang Duplex AC Power for Display
7	2	2" Conduit from access panel to Floor Box

COMPANY	SAIC/CSO/NICS
TITLE	KSC HQ Building Rm 3007A, 4007A, 5007A, 6007A Display Wall Detail
SIZE A	DRAWN BY Chris Myers
DWG NO. / FILE NAME	KSC-HQ-3007A.dwg
REVISION	None
SCALE N/A	DATE 06/24/2013
SHEET 1 of 1	





Floor Boxes & Conduits

1. Install the floor box under a table leg for cabe access.
2. Install Two (2) total 2" conduits – between the floor box and the 8x8 access panel behind the credenza.
   2.1. Include in each conduit a standard pull cable secured at each end

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4. One (1) BCDS / Digital CATV drop terminated to a KSC CFP wall plate on the wall behind the credenza

COMPANY	SAIC/CSO/NICS
TITLE	KSC HQ Building Rm 3007A, 4007A, 5007A, 6007A Floor Box and Comm Requirements
SIZE A	DRAWN BY Chris Myers
DWG NO. / FILE NAME	KSC-HQ-3007A.dwg
REVISION	None
SCALE N/A	DATE 06/24/2013
SHEET 1 of 1	

DRAWINGS ARE FOR REFERENCE ONLY

SYM	ZONE		DATE	APPROVED

REVISIONS

Callaway Design Group LLC
14802 North Dale Mabry Rd
Suite 201
Tampa, Florida 33618

SIGNATURES	DATE
DRAWN Michelle StClergy	12.18.13
CHECKED Heather Callaway	12.18.13
SUBMITTED ARCHITECT OF RECORD Toby S. Smith	12/18/13
ST of LICENSURE: FL LICENSE NO: 71672	
APPROVED Scott Robinson	12-18-13
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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
AUDIO VISUAL
CONFERENCE ROOMS - 3007A, 4007A, 5007A, 6007A

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 142

AV106

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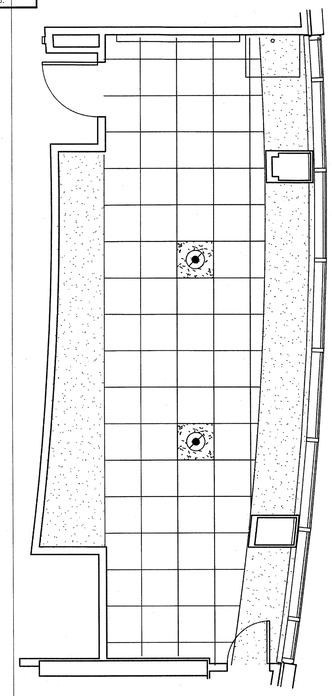
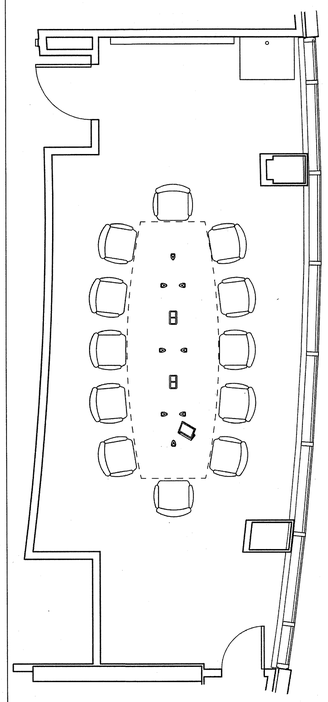
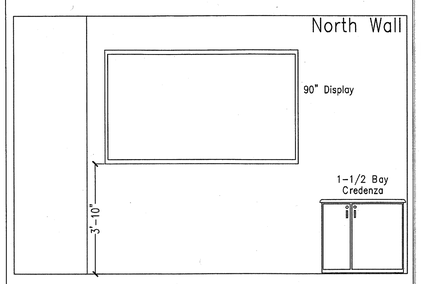






Ceiling Speakers (2x2)

1-1/2 Bay Credenza

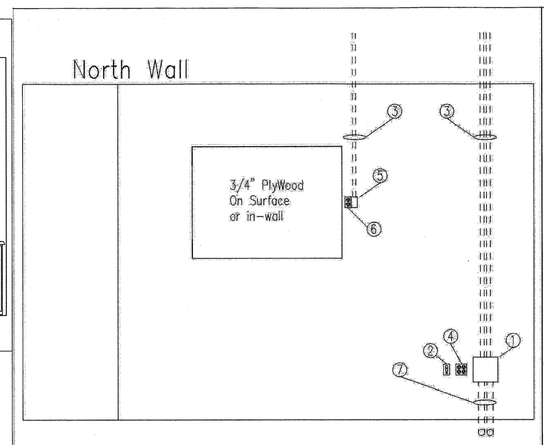
90" Display

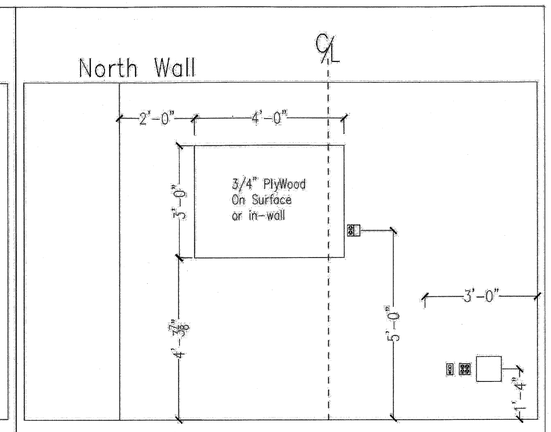
Altinex TNP-142C Dual Sided Table Pop-Up Interface – each side:
1 – AC Power
1 – PC VGA / Audio
1 – PC HDMI
1 – Display Quick Select Button

Shure Table Microphone

AMX 10" Touch Panel

COMPANY	SAIC/CSO/NICS
TITLE	KSC HQ Building Rm 3009, 4009, 5009, 6009 Rom Layout
SIZE: A	DRAWN BY: Chris Myers
DWG NO. / FILE NAME	KSC-HQ-3009.dwg
Revision	None
SCALE	N / A
DATE	06/24/2013
SHEET	1 of 1

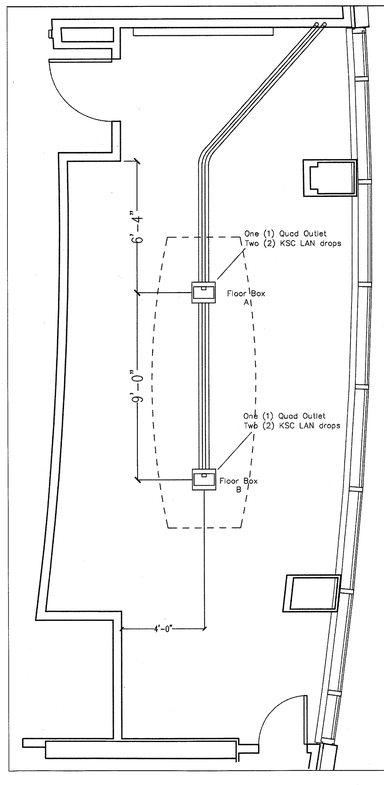


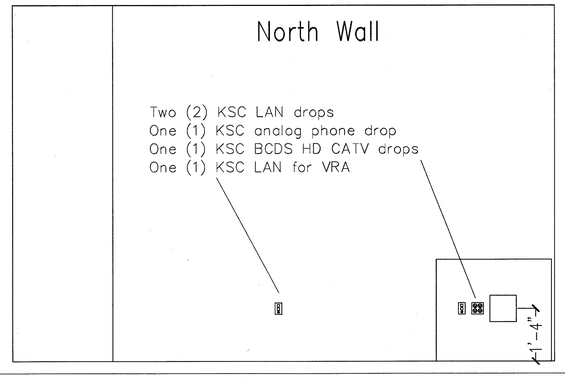


Power and Communicaitons Requirements for Display Wall

Item	QTY	Requirements
1	1	8x8 Access Panel to Conduits to Ceiling and Floor
2	1	COMM: 1–Analog Phone, 2–KSC LAN, 1–CATV
3	3	1–1/4" Conduit from wall boxes to stub out above ceiling
4	1	2–Gang Quad AC Power Outlet Behind Credenza
5	1	1–Gang Wall Box for Display Cables to Ceiling
6	1	1–Gang Duplex AC Power for Display
7	2	2" Conduit from access panel to Floor Box

COMPANY	SAIC/CSO/NICS
TITLE	KSC HQ Building Rm 3009, 4009, 5009, 6009 Display Wall Detail
SIZE: A	DRAWN BY: Chris Myers
DWG NO. / FILE NAME	KSC-HQ-3009.dwg
Revision	None
SCALE: N / A	DATE: 06/24/2013
SHEET	1 of 1





Floor Boxes & Conduits

1. Install the floor boxes to be located where indicated.
2. Install Two (2) 2" conduits – between floor box A and the 8x8 access panel behind the credenza.
3. Install Two (2) 2" conduits – between floor box A and box B.
4. Include in each conduit a standard pull cable secured at each end.

NICS Communications Requiremens

1. Two (2) CAT6e KSC LAN drops to Floor Box A
2. Two (2) CAT6e KSC LAN drops to Floor Box B
3. Two (2) CAT6e KSC LAN drops to the credenza wall
4. One (1) CAT6e KSC LAN drop for VRA on North Wall
5. One (1) CAT6e KSC Analog Phone connection to the credenza wall
   5.1. Standard analog phone line with local KSC phone number for conferencing (drop terminated to a KSC CFP wall plate behind the credenza)
6. One (1) BCDS / Digital CATV drop terminated to a KSC CFP wall plate on the wall behind the credenza

COMPANY	SAIC/CSO/NICS
TITLE	KSC HQ Building Rm 3009, 4009, 5009, 6009 Floor Box and Comm Requirements
SIZE: A	DRAWN BY: Chris Myers
DWG NO. / FILE NAME	KSC-HQ-3009.dwg
Revision	None
SCALE	N / A
DATE	06/24/2013
SHEET	1 of 1

DRAWINGS ARE FOR REFERENCE ONLY

SYM	ZONE		DATE	APPROVED

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SIGNATURES	DATE
DRAWN Michelle StClergy	12.18.13
CHECKED Heather Callaway	12.18.13
SUBMITTED: ARCHITECT OF RECORD Toby Sutton	12/18/13
ST of LICENSURE: FL LICENSE NO: 71672	
APPROVED Scott Robinson	12.18.13
George Dutt	12-18-13

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

AUDIO / VISUAL CONFERENCE ROOM - 3009

AV107

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 143

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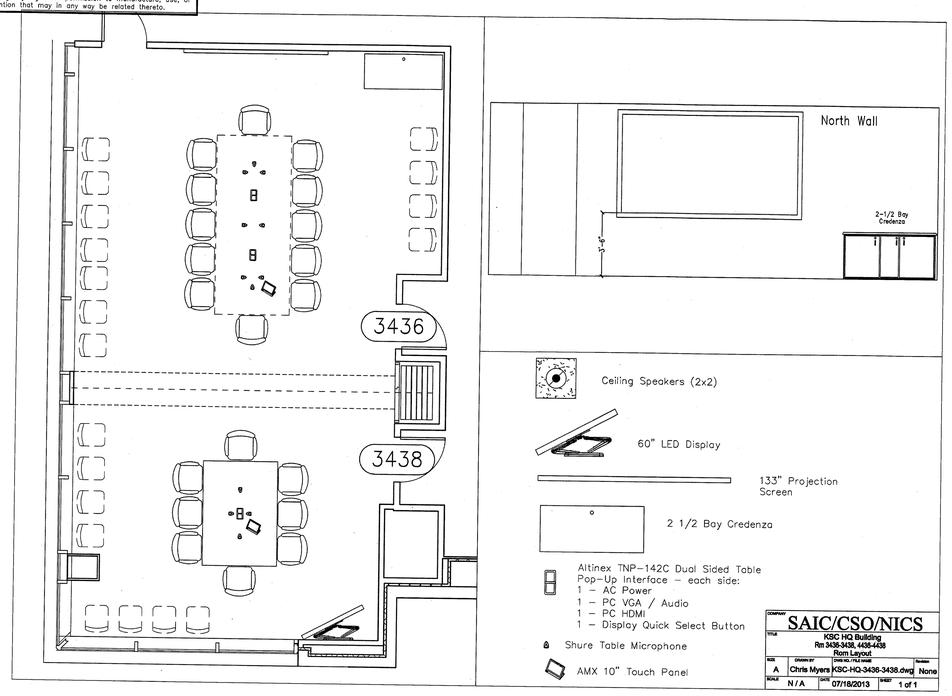
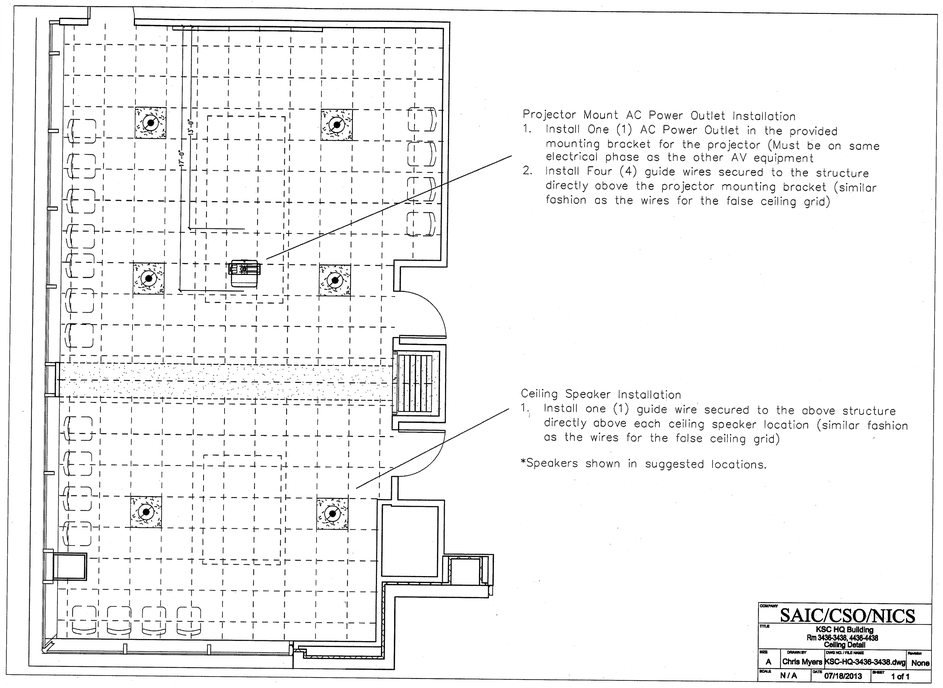


COMPANY	SAIC/CSO/NICS
TITLE	KSC HQ Building Rm 3436-3438, 4436-4438 Rom Layout
SIZE A	DRAWN BY Chris Myers
DWG NO. / FILE NAME	KSC-HQ-3436-3438.dwg
Revision	None
SCALE N/A	DATE 07/18/2013
SHEET	1 of 1

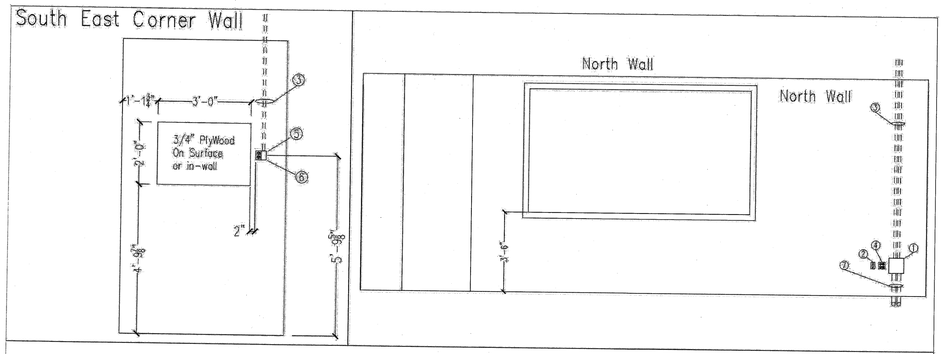


Projector Mount AC Power Outlet Installation
1. Install One (1) AC Power Outlet in the provided mounting bracket for the projector (Must be on same electrical phase as the other AV equipment
2. Install Four (4) guide wires secured to the structure directly above the projector mounting bracket (similar fashion as the wires for the false ceiling grid)

Ceiling Speaker Installation
1. Install one (1) guide wire secured to the above structure directly above each ceiling speaker location (similar fashion as the wires for the false ceiling grid)

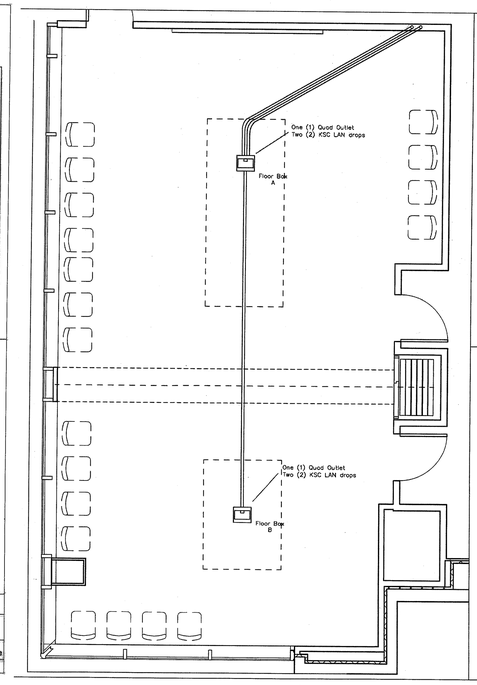
*Speakers shown in suggested locations.

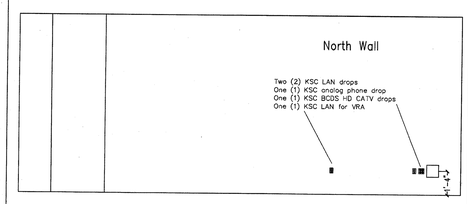
COMPANY	SAIC/CSO/NICS
TITLE	KSC HQ Building Rm 3436-3438, 4436-4438 Ceiling Detail
SIZE A	DRAWN BY Chris Myers
DWG NO. / FILE NAME	KSC-HQ-3436-3438.dwg
Revision	None
SCALE N/A	DATE 07/18/2013
SHEET	1 of 1



Power and Communicaitons Requirements for Display Wall		
Item	QTY	Requirements
1	1	8x8 Access Panel to Conduits to Ceiling and Floor
2	1	COMM: 1–Analog Phone, 2–KSC LAN, 1–CATV
3	3	1–1/4" Conduit from wall boxes to stub out above ceiling
4	1	2–Gang Quad AC Power Outlet Behind Credenza
5	1	1–Gang Wall Box for Display Cables to Ceiling
6	1	1–Gang Duplex AC Power for Display
7	2	2" Conduit from access panel to Floor Box

COMPANY	SAIC/CSO/NICS
TITLE	KSC HQ Building Rm 3436-3438, 4436-4438 Display-Credenza Wall Detail
SIZE A	DRAWN BY Chris Myers
DWG NO. / FILE NAME	KSC-HQ-3436-3438.dwg
Revision	None
SCALE N/A	DATE 07/16/2013
SHEET	1 of 1





Floor Boxes & Conduits

1. Install the floor boxes to be located where indicated.
2. Install Two (2) 2" conduits – between floor box A and the 8x8 access panel behind the credenza.
3. Install One (1) 2" conduit – between floor box A and box B.
4. Include in each conduit a standard pull cable secured at each end.

NICS Communications Requiremens

1. Four (4) CAT6e KSC LAN drops to Floor Box A
2. Two (2) CAT6e KSC LAN drops to Floor Box B
3. Two (2) CAT6e KSC LAN drops to the credenza wall
4. One (1) CAT6e KSC LAN drop for VRA on North Wall
5. One (1) CAT6e KSC Analog Phone connection to the credenza wall
   5.1. Standard analog phone line with local KSC phone number for conferencing (drop terminated to a KSC CFP wall plate behind the credenza)
6. One (1) BCDS / Digital CATV drop terminated to a KSC CFP wall plate on the wall behind the credenza

COMPANY	SAIC/CSO/NICS
TITLE	KSC HQ Building Rm 3436-3438, 4436-4438 Floor Box and Comm Requirements
SIZE A	DRAWN BY Chris Myers
DWG NO. / FILE NAME	KSC-HQ-3436-3438.dwg
Revision	None
SCALE N/A	DATE 07/18/2013
SHEET	1 of 1

DRAWINGS ARE FOR REFERENCE ONLY

SYM	ZONE		DATE	APPROVED

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CHECKED Heather Callaway	12.18.13
SUBMITTED: ARCHIVING OF RECORD Toby S. Scott	12/18/13
ST of LICENSURE: FL LICENSE NO: 71672	
APPROVED Scott Robinson	12-18-13
George Dutt	12-18-13

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
AUDIO VISUAL
CONFERENCE ROOMS - 3436, 3438, 4436, 4438

AV108

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 144

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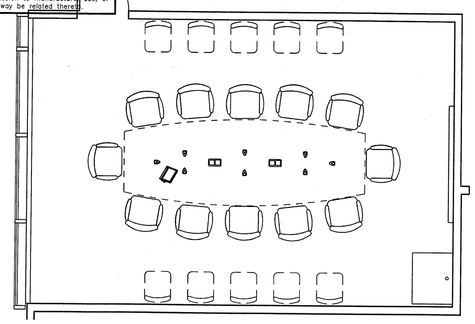
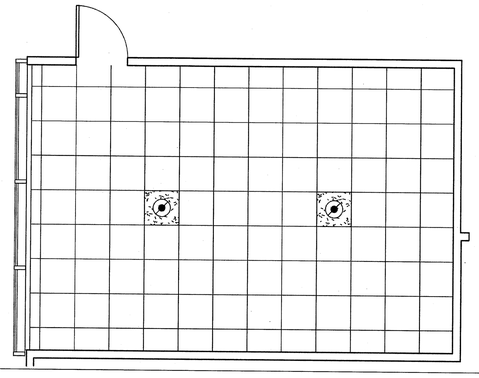
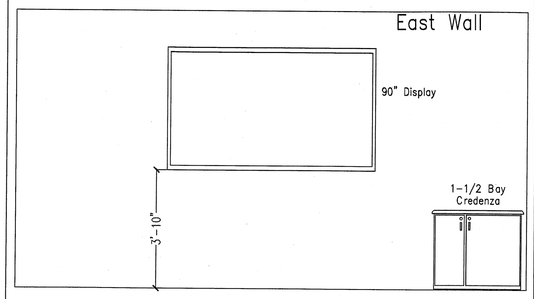






Ceiling Speakers (2x2)

1-1/2 Bay Credenza

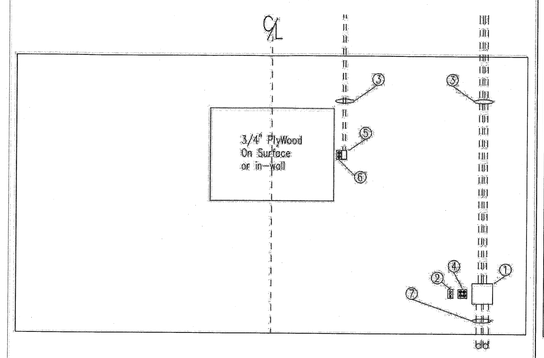
90" Display

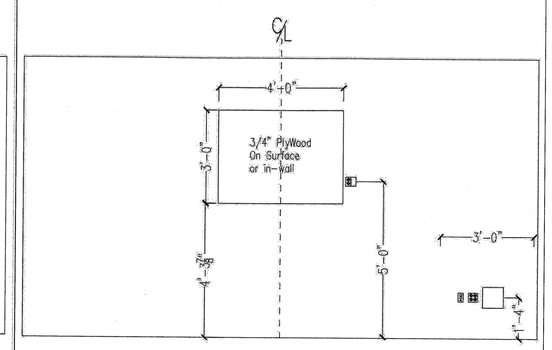
Altinex TNP-142C Dual Sided Table Pop-Up Interface – each side:
1 – AC Power
1 – PC VGA / Audio
1 – PC HDMI
1 – Display Quick Select Button

Shure Table Microphone

AMX 10" Touch Panel

COMPANY	SAIC/CSO/NICS
TITLE	KSC HQ Building Rom Layout KSC HQ Building Rm 6440
SIZE A	DRAWN BY Chris Myers
DWG NO / FILE NAME	KSC-HQ-6440.dwg
Revision	None
SCALE N / A	DATE 07/18/2013
SHEET 1 of 1	





Power and Communicaitons Requirements for Display Wall

Item	QTY	Requirements
1	1	8x8 Access Panel to Conduits to Ceiling and Floor
2	1	COMM: 1-Analog Phone, 2-KSC LAN, 1-CATV
3	3	1-1/4" Conduit from wall boxes to stub out above ceiling
4	1	2-Gang Quad AC Power Outlet Behind Credenza
5	1	1-Gang Wall Box for Display Cables to Ceiling
6	1	1-Gang Duplex AC Power for Display
7	2	2" Conduit from access panel to Floor Box

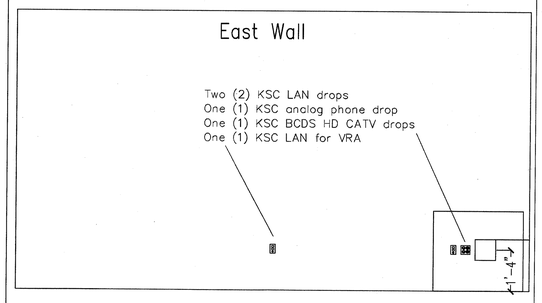
COMPANY	SAIC/CSO/NICS
TITLE	KSC HQ Building Display Wall Detail KSC HQ Building Rm 6440
SIZE A	DRAWN BY Chris Myers
DWG NO / FILE NAME	KSC-HQ-6440.dwg
Revision	None
SCALE N / A	DATE 07/18/2013
SHEET 1 of 1	

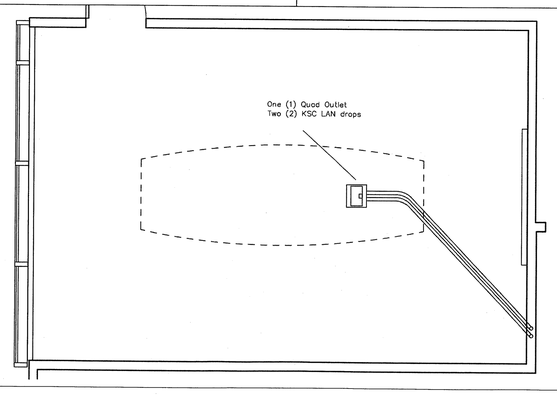
Floor Boxes & Conduits

1. Install the floor box under a table leg for cabe access.
2. Install Two (2) total 2" conduits – between the floor box and the 8x8 access panel behind the credenza.
   2.1. Include in each conduit a standard pull cable secured at each end

NICS Communications Requiremens

1. Two (2) CAT6e KSC Network cables to the conference table
2. Two (2) CAT6e KSC Network drops to the credenza wall
3. One (1) CAT6e KSC LAN drop for VRA on East Wall
4. One (1) CAT6e KSC Analog Phone connection to the credenza wall
   4.1. Standard analog phone line with local KSC phone number for conferencing (drop terminated to a KSC CFP wall plate behind the credenza)
5. One (1) BCDS / Digital CATV drop terminated to a KSC CFP wall plate on the wall behind the credenza





COMPANY	SAIC/CSO/NICS
TITLE	KSC HQ Building Floor Box and Comm Requirements KSC HQ Building Rm 6440
SIZE A	DRAWN BY Chris Myers
DWG NO / FILE NAME	KSC-HQ-6440.dwg
Revision	None
SCALE N / A	DATE 07/18/2013
SHEET 1 of 1	

DRAWINGS ARE FOR REFERENCE ONLY

SYM	ZONE		DATE	APPROVED

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SIGNATURES	DATE
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CHECKED Heather Callaway	12.18.13
SUBMITTED ARCHITECT OF RECORD Toby S. Smith	12/18/13
ST of LICENSURE: FL LICENSE NO.: 71672	
APPROVED Scott Robinson	12-18-13
George Dutt	12-18-13

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

AUDIO / VISUAL
CONFERENCE ROOM - 6440

AV109

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 145

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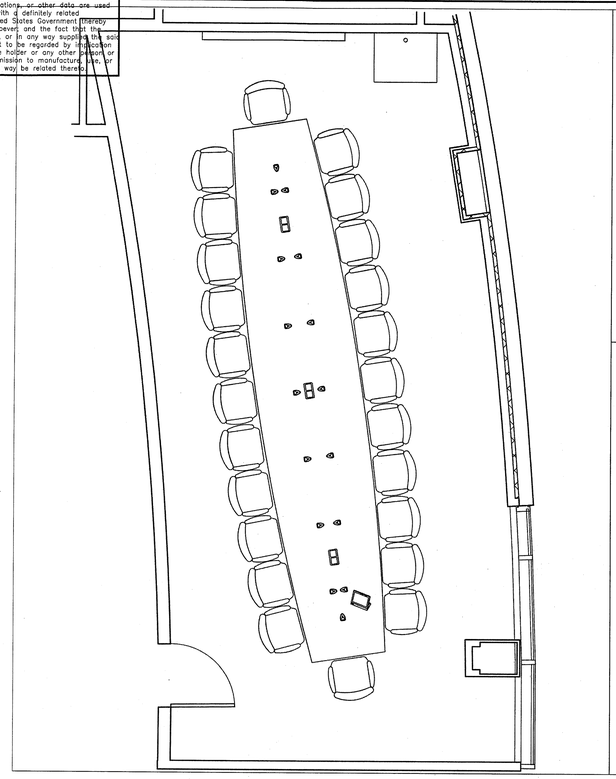
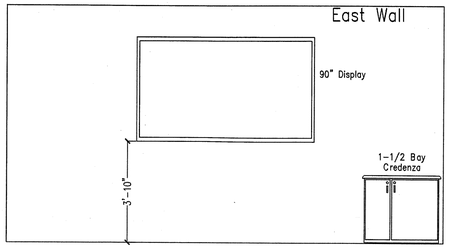




Ceiling Speakers (2x2)

1-1/2 Bay Credenza

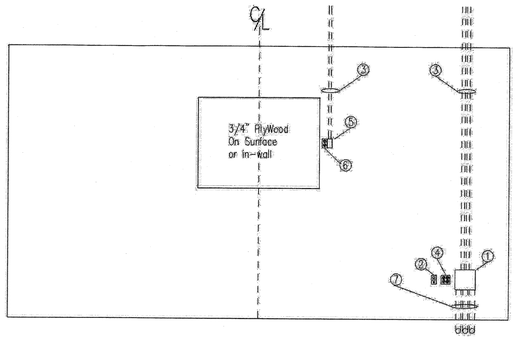
90" Display

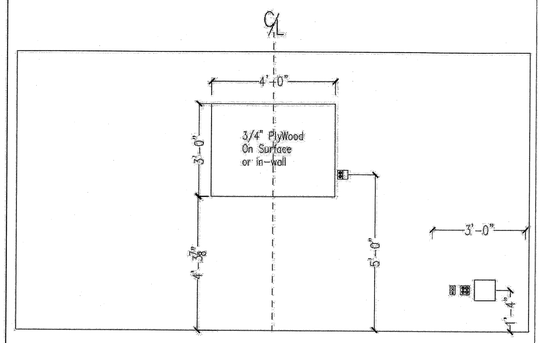
Altinex TNP-142C Dual Sided Table Pop-Up Interface – each side:
1 – AC Power
1 – PC VGA / Audio
1 – PC HDMI
1 – Display Quick Select Button

Shure Table Microphone

AMX 10" Touch Panel

COMPANY	SAIC/CSO/NICS
TITLE	KSC HQ Building Rom Layout KSC HQ Building Rm 7007
SIZE A	DRAWN BY Chris Myers
DWG NO. / FILE NAME	KSC-HQ-7007.dwg
Revision	None
SCALE N / A	DATE 06/24/2013
SHEET 1 of 1	

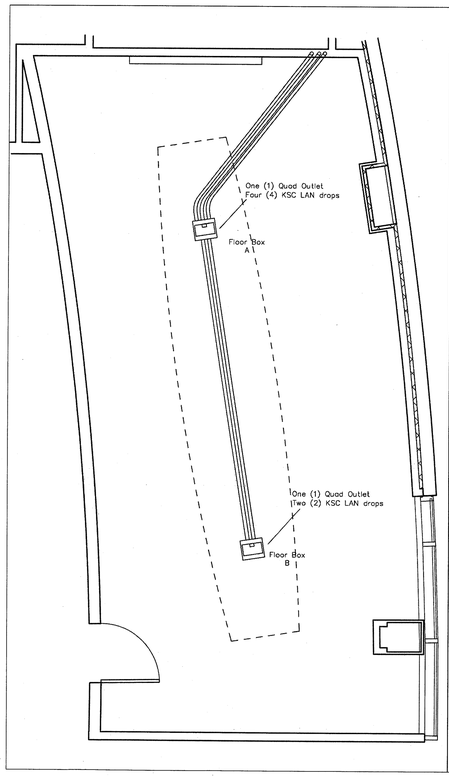


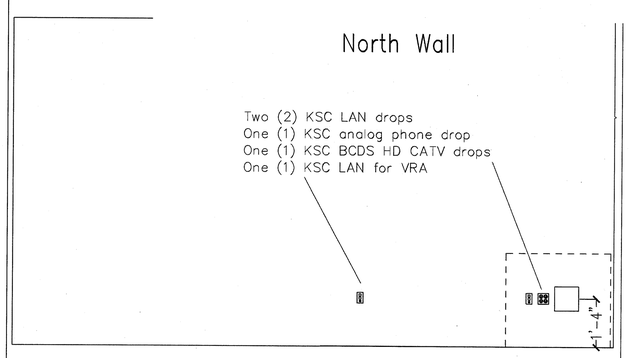


Power and Communicaitons Requirements for Display Wall

Item	QTY	Requirements
1	1	8x8 Access Panel to Conduits to Ceiling and Floor
2	1	COMM: 1-Analog Phone, 2-KSC LAN, 1-CATV
3	3	1-1/4" Conduit from wall boxes to stub out above ceiling
4	1	2-Gang Quad AC Power Outlet Behind Credenza
5	1	1-Gang Wall Box for Display Cables to Ceiling
6	1	1-Gang Duplex AC Power for Display
7	3	2" Conduit from access panel to Floor Box

COMPANY	SAIC/CSO/NICS
TITLE	KSC HQ Building Display Wall Detail KSC HQ Building Rm 7007
SIZE A	DRAWN BY Chris Myers
DWG NO. / FILE NAME	KSC-HQ-7007.dwg
Revision	None
SCALE N / A	DATE 06/24/2013
SHEET 1 of 1	





Floor Boxes & Conduits

1. Install the floor boxes under a table leg at each end of the table.
2. Install Three (3) 2" conduits – between floor box A and the 8x8 access panel behind the credenza.
3. Install Two (2) 2" conduits – between floor box A and box B.
4. Include in each conduit a standard pull cable secured at each end.

NICS Communications Requiremens

1. Four (4) CAT6e KSC LAN drops to Floor Box A
2. Two (2) CAT6e KSC LAN drops to Floor Box B
3. Two (2) CAT6e KSC LAN drops to the credenza wall
4. One (1) CAT6e KSC LAN drop for VRA on North Wall
5. One (1) CAT6e KSC Analog Phone connection to the credenza wall
   5.1. Standard analog phone line with local KSC phone number for conferencing (drop terminated to a KSC CFP wall plate behind the credenza)
6. One (1) BCDS / Digital CATV drop terminated to a KSC CFP wall plate on the wall behind the credenza

COMPANY	SAIC/CSO/NICS
TITLE	KSC HQ Building Floor Box and Comm Requirements KSC HQ Building Rm 7007
SIZE A	DRAWN BY Chris Myers
DWG NO. / FILE NAME	KSC-HQ-7007.dwg
Revision	None
SCALE N / A	DATE 06/24/2013
SHEET 1 of 1	

DRAWINGS ARE FOR REFERENCE ONLY

SYM	ZONE		DATE	APPROVED

REVISIONS

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Suite 201
Tampa, Florida 33618

SIGNATURES	DATE
DRAWN Michelle StClergy	12.18.13
CHECKED Heather Callaway	12.18.13
SUBMITTED ARCHESIA OF RECORD Toby S. Smith	12/18/13
ST of LICENSURE: FL	
LICENSE NO: 71672	
APPROVED Scott Robinson	12-18-13
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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

AUDIO / VISUAL CONFERENCE ROOM - 7007

AV110

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 146

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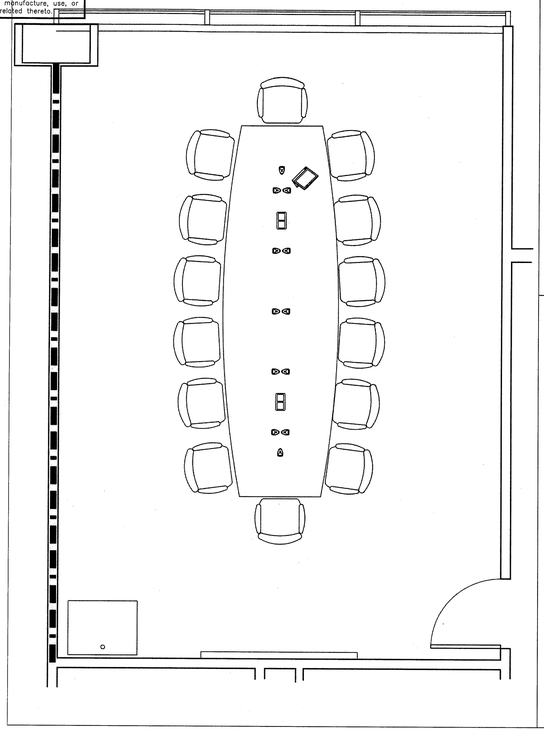
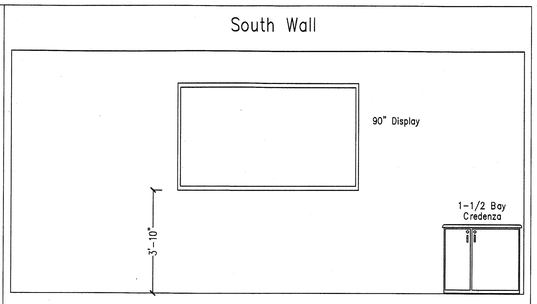




Ceiling Speakers (2x2)

1-1/2 Bay Credenza

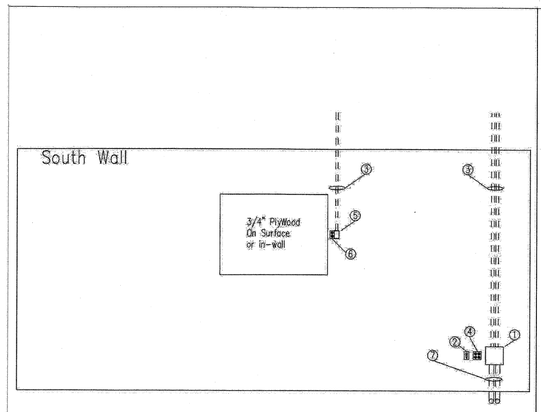
90" Display

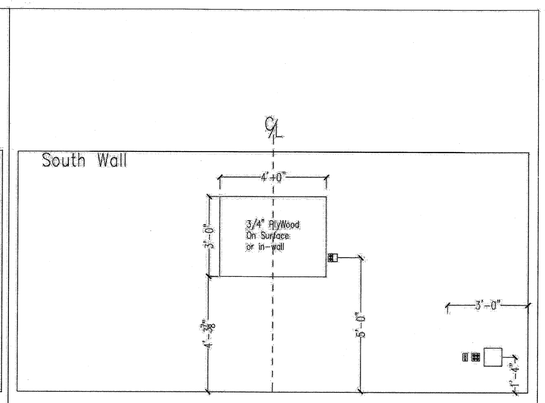
Altinex TNP-142C Dual Sided Table
Pop-Up Interface – each side:
1 – AC Power
1 – PC VGA / Audio
1 – PC HDMI
1 – Display Quick Select Button

Shure Table Microphone

AMX 10" Touch Panel

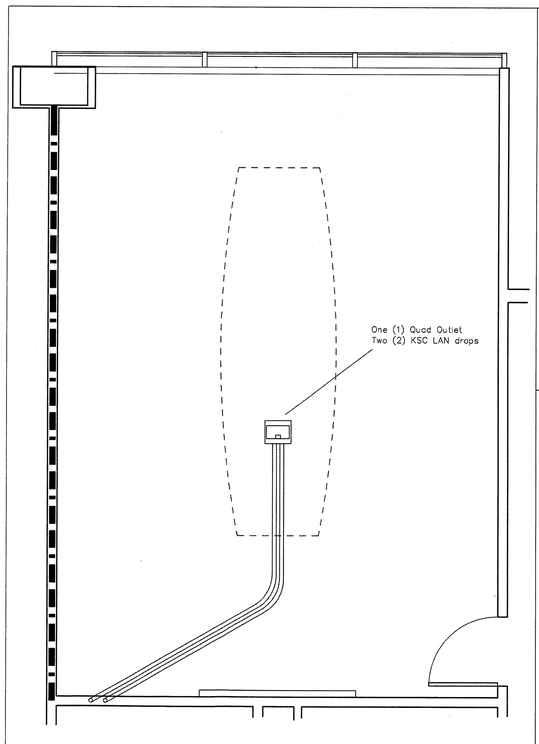
COMPANY: SAIC/CSO/NICS			
TITLE: KSC HQ Building Rom Layout KSC HQ Building Rm 7206A			
SIZE: A	DRAWN BY: Chris Myers	DWG NO. / FILE NAME: KSC-HQ-7206A.dwg	Revision: None
SCALE: N / A	DATE: 07/18/2013	SHEET: 1 of 1	

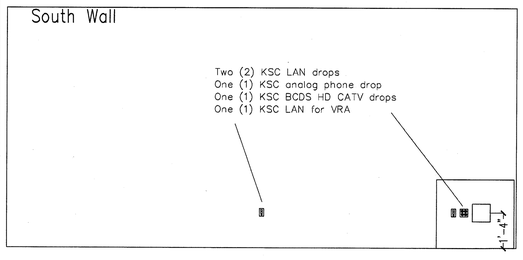




Power and Communicaitons Requirements for Display Wall		
Item	QTY	Requirements
1	1	8x8 Access Panel to Conduits to Ceiling and Floor
2	1	COMM: 1–Analog Phone, 2–KSC LAN, 1–CATV
3	3	1–1/4" Conduit from wall boxes to stub out above ceiling
4	1	2–Gang Quad AC Power Outlet Behind Credenza
5	1	1–Gang Wall Box for Display Cables to Ceiling
6	1	1–Gang Duplex AC Power for Display
7	2	2" Conduit from access panel to Floor Box

COMPANY: SAIC/CSO/NICS			
TITLE: KSC HQ Building Display Wall Detail KSC HQ Building Rm 7206A			
SIZE: A	DRAWN BY: Chris Myers	DWG NO. / FILE NAME: KSC-HQ-7206A.dwg	Revision: None
SCALE: N / A	DATE: 07/18/2013	SHEET: 1 of 1	





Floor Boxes & Conduits

1. Install the floor box under a table leg for cabe access.
2. Install Two (2) total 2" conduits – between the floor box and the 8x8 access panel behind the credenza.
   2.1. Include in each conduit a standard pull cable secured at each end

NICS Communications Requiremens

1. Two (2) CAT6e KSC Network cables to the conference table
2. Two (2) CAT6e KSC Network drops to the credenza wall
3. One (1) CAT6e KSC LAN drop for VRA on East Wall
4. One (1) CAT6e KSC Analog Phone connection to the credenza wall
   4.1. Standard analog phone line with local KSC phone number for conferencing (drop terminated to a KSC CFP wall plate behind the credenza)
5. One (1) BCDS / Digital CATV drop terminated to a KSC CFP wall plate on the wall behind the credenza

COMPANY: SAIC/CSO/NICS			
TITLE: KSC HQ Building Floor Box and Comm Requirements KSC HQ Building Rm 7206A			
SIZE: A	DRAWN BY: Chris Myers	DWG NO. / FILE NAME: KSC-HQ-7206A.dwg	Revision: None
SCALE: N / A	DATE: 07/18/2013	SHEET: 1 of 1	

DRAWINGS ARE FOR REFERENCE ONLY

SYM	ZONE		DATE	APPROVED

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APPROVED Scott Robinson	12-18-13
George Dutt	12-18-13

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

AUDIO / VISUAL
CONFERENCE ROOM - 7206A

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 147

AV111

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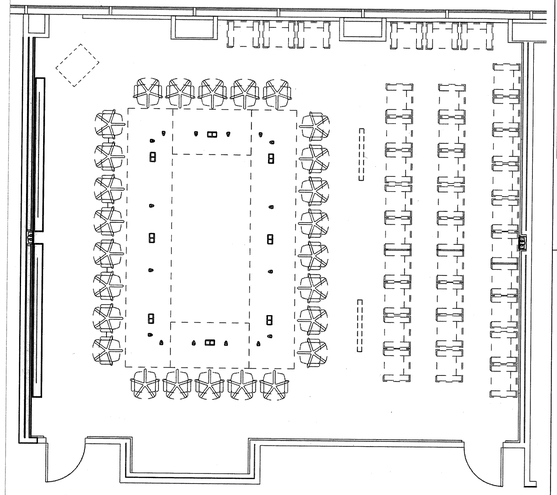
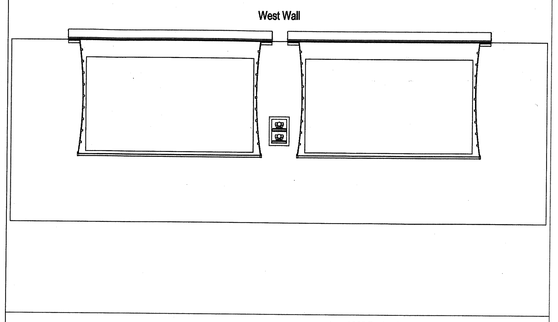
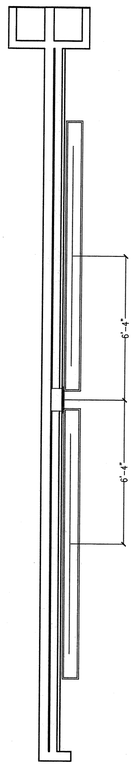
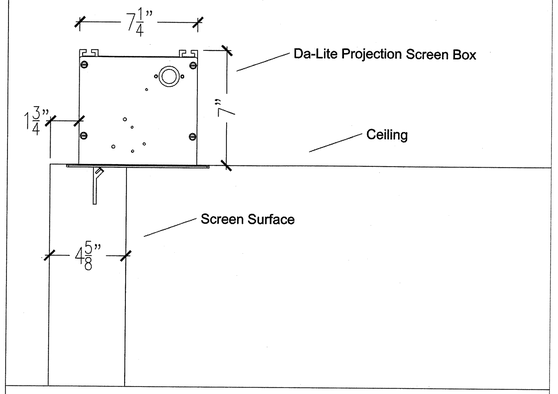
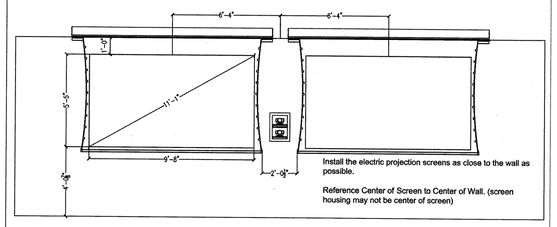




COMPANY	SAIC/CSO/NICS
TITLE	KSC HQ Building Rom Layout KSC HQ Building Rm 7212
SIZE: A	DRAWN BY: Chris Myers
DWG NO. / FILE NAME: KSC-HQ-7212.dwg	Revision: None
SCALE: N / A	DATE: 07/18/2013
SHEET: 1 of 1	



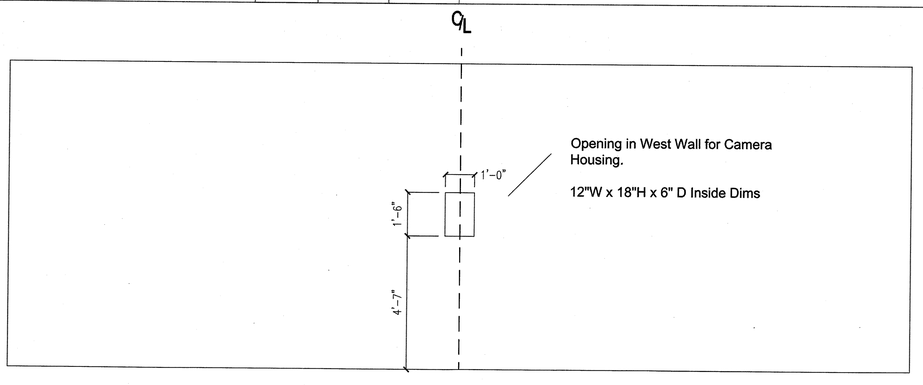


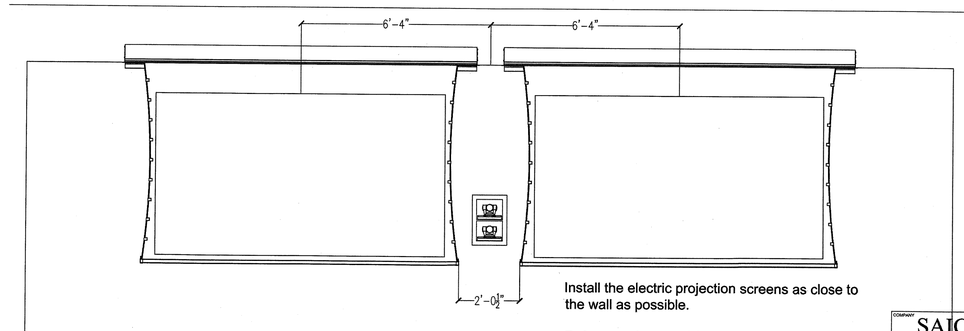


Install the electric projection screens as close to the wall as possible.

Reference Center of Screen to Center of Wall. (screen housing may not be center of screen)

COMPANY	SAIC/CSO/NICS
TITLE	KSC HQ Building Projection Screens KSC HQ Building Rm 7212
SIZE: A	DRAWN BY: Chris Myers
DWG NO. / FILE NAME: KSC-HQ-7212.dwg	Revision: None
SCALE: N / A	DATE: 07/18/2013
SHEET: 1 of 1	





Install the electric projection screens as close to the wall as possible.

Reference Center of Screen to Center of Wall.

COMPANY	SAIC/CSO/NICS
TITLE	KSC HQ Building Display Wall Detail KSC HQ Building Rm 7212
SIZE: A	DRAWN BY: Chris Myers
DWG NO. / FILE NAME: KSC-HQ-7212.dwg	Revision: None
SCALE: N / A	DATE: 07/18/2013
SHEET: 1 of 1	

DRAWINGS ARE FOR REFERENCE ONLY

SYM	ZONE		DATE	APPROVED

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LICENSE NO: 71672	
APPROVED Scott Robinson	12-18-13
Georgia Duff	12-18-13

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

AUDIO / VISUAL
CONFERENCE ROOM - 7212

AV112

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a | SHEET 148

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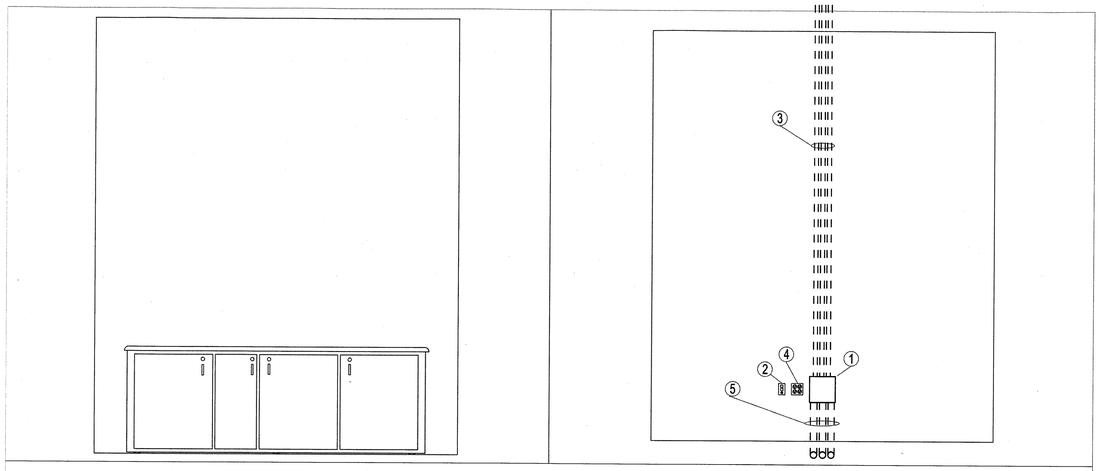
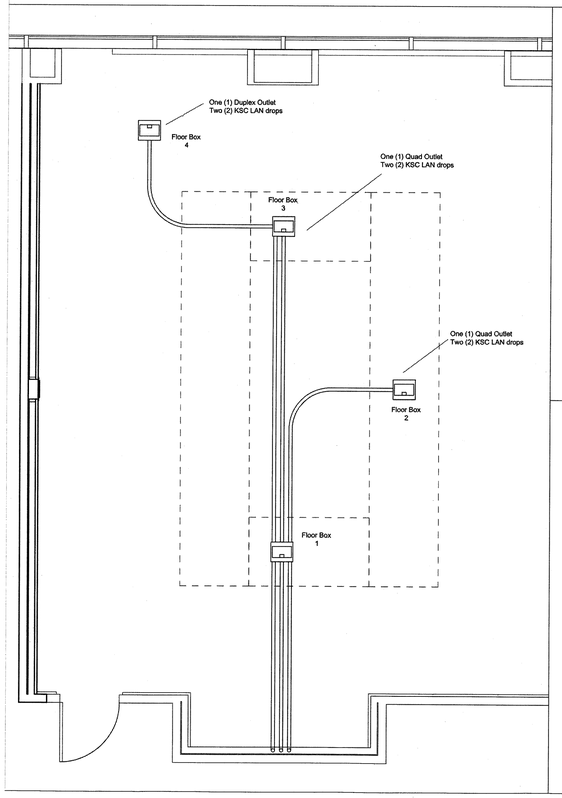


Power and Communicaitons Requirements for Display Wall

Item	QTY	Requirements
1	1	8x8 Access Panel to Conduits to Ceiling and Floor
2	1	COMM: 1-Analog Phone, 2-KSC LAN, 1-CATV
3	3	1-1/4" Conduit from wall boxes to stub out above ceiling
4	1	2-Gang Quad AC Power Outlet Behind Credenza
5	3	2" Conduit from access panel to Floor Box

COMPANY: SAIC/CSO/NICS			
TITLE: KSC HQ Building Credenza Wall Detail KSC HQ Building Rm 7212			
SIZE: A	DRAWN BY: Chris Myers	DWG NO. / FILE NAME: KSC-HQ-7212.dwg	Revision: None
SCALE: N / A	DATE: 07/18/2013	SHEET: 1 of 1	



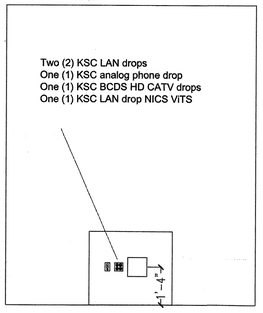
Floor Boxes & Conduits

1. Install a total of three (3) floor boxes under the conference table for cabe access.
2. Install a one (1) floor box under the podium
3. Install three (3) total 2" conduits - between the Floor Box 1 and the 8x8 access panel behind the credenza.
4. Install one (1) total 2" conduit - between the Floor Box 1 and the Floor Box 2.
5. Install two (2) total 2" conduits - between the Floor Box 1 and the Floor Box 3.
6. Install one (1) total 2" conduit - between the Floor Box 3 and the Floor Box 4.
   6.1. Include in each conduit a standard pull cable secured at each end

NICS Communications Requiremens

4. Two (2) CAT6e KSC Network cables to the conference table
5. Two (2) CAT6e KSC Network drops to the credenza wall
6. One (1) CAT6e KSC LAN drop for VRA on East Wall
7. One (1) CAT6e KSC Analog Phone connection to the credenza wall
   7.1. Standard analog phone line with local KSC phone number for conferencing (drop terminated to a KSC CFP wall plate behind the credenza)
8. One (1) BCDS / Digital CATV drop terminated to a KSC CFP wall plate on the wall behind the credenza

South Wall



COMPANY: SAIC/CSO/NICS			
TITLE: KSC HQ Building Floor Box and Comm Requirements KSC HQ Building Rm 7212			
SIZE: A	DRAWN BY: Chris Myers	DWG NO. / FILE NAME: KSC-HQ-7212.dwg	Revision: None
SCALE: N / A	DATE: 07/18/2013	SHEET: 1 of 1	

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KSC CENTRAL CAMPUS
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VOL. 4 OF 4

AUDIO / VISUAL
CONFERENCE ROOM - 7212

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 149

AV113

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ELECTRICAL DESIGN NOTES

1. THIS DRAWING LOCATES ELECTRICAL POINTS OF CONNECTION FOR EACH ITEM OF FOOD SERVICE EQUIPMENT AND DOES NOT INDICATE EXACT UTILITY ROUGH-IN LOCATIONS.
   SYSTEMS SHALL BE IN ACCORDANCE WITH ALL APPLICABLE CODES AND MEET WITH THE APPROVAL OF ALL GOVERNING AUTHORITIES. LOCATIONS, SIZES, AND HEIGHTS ABOVE FLOOR ARE APPROXIMATE AS THEY WILL OCCUR ON EQUIPMENT ITEMS SHOWN.
2. POWER TO ALL ELECTRICALLY OPERATED COOKING EQUIPMENT UNDER HOODS TO BE FROM PANEL WHERE MAIN BREAKER IS INTERWIRED WITH THE FIRE PROTECTION SYSTEM SO THAT POWER SHUT-OFF IS ACHIEVED UPON EITHER MANUAL OR AUTOMATIC OPERATION OF THE PROTECTION SYSTEM.
3. AT REMOTE FIRE CABLE PULL BOX, PROVIDE AN EMPTY JUNCTION BOX AND CONDUIT CONCEALED IN WALL CONDUIT TO EXTEND TO 6" ABOVE FINISHED CEILING. COORDINATE EXACT REQUIREMENTS WITH FOOD SERVICE EQUIPMENT.
4. PROVIDE CONDUIT AND WIRING BETWEEN ELECTRIC DEFROST EVAPORATOR COILS AND REMOTE CONDENSING UNITS.
5. PROVIDE CONDUIT AND WIRING BETWEEN VENTILATORS, VENTILATOR CONTROL PANELS, REMOTE FIRE SWITCHES, MAKE-UP AIR UNITS, POLUTION CONTROL UNITS, AND EXHAUST FANS.
6. PROVIDE CONDUIT AND WIRING BETWEEN WALL SWITCH AND LIGHT FIXTURES INSTALLED IN VENTILATORS.
7. PROVIDE CONDUIT AND WIRING BETWEEN FUEL LINE SOLENOID SHUT-OFF VALVE, SHUNT-TRIP BREAKERS, CONTACTORS, AND FIRE PROTECTION SYSTEM.
8. UTILITIES SHOWN ARE FOR ITEMS OF FOOD SERVICE EQUIPMENT ONLY AND THIS DRAWING MUST BE USED IN CONJUNCTION WITH THE ELECTRICAL DRAWINGS FOR OTHER REQUIRED UTILITIES.
9. UTILITIES ARE TO BE CONCEALED IN WALLS AND STUBBED OUT OF WALLS. DO NOT STUB OUT OF FLOOR AND RUN EXPOSED ON THE FACE OF THE WALL.
10. VENTILATOR CONTROLS AND FIRE AND PROTECTION SYSTEM EACH REQUIRE EMERGENCY SEPARATE CIRCUIT ELECTRICAL SERVICE.
11. ELECTRICAL COMPONENTS MUST NOT INTERFERE WITH THE OPERATION OF THE ITEMS OF FOOD SERVICE EQUIPMENT.
12. ANY AND ALL EXPOSED CONDUIT TO BE STAINLESS STEEL, CHROME-PLATED OR ENCLOSED IN CONCEALED, MOUNTED STAINLESS STEEL CHASE.
13. PROVIDE COMPUTER GRADE, CLEAN GROUND SERVICE FOR ELECTRONIC LOCATIONS. 3/4" CONDUIT BETWEEN P.O.S. ARCHITECTURAL PLANS FOR CLOCKS, INTERCOM, TIME CLOCKS, POINT-OF-SALE (POS) AND OTHER ITEMS LOCATED IN FOOD SERVICE AREAS BUT NOT INCLUDED IN THE FOOD SERVICE EQUIPMENT PACKAGE.
14. LIGHTS IN VENTILATORS WILL BE PRE-WIRED TO A JUNCTION BOX ON EACH VENTILATOR SECTION. ELECTRICAL TRADE TO INTERWIRE VENTILATOR SECTIONS AND WIRE TO LIGHT SWITCH IN VENTILATOR
15. ALL OUTLETS AND SWITCHES ABOVE WORKTABLES OR SINKS MUST BE CLEAR OF THE BACKSPLASH. THIS WILL BE A MIN. OF 12" TO THE BOTTOM OF THE ELECTRICAL FIXTURE, AND HIGHER AT SINKS AND DRAINBOARDS. K.E.C. TO VERIFY THIS HEIGHT WITH EQUIPMENT SHOP DRAWINGS.
16. ALL 120V OUTLETS SHALL BE PROVIDED WITH GFCI PROTECTION.

LEGEND - ELECTRICAL CONNECTIONS

- DUPLEX RECEPT. 120-VOLT, GROUND TYPE, HORIZONTAL MOUNT
- SIMPLEX RECEPT., 120-VOLT, GROUND TYPE, HORIZONTAL MOUNT
- QUAD RECEPT. 120-VOLT, OFFICE AREA(S) GROUND TYPE, HORIZONTAL MOUNT
- SPECIAL PURPOSE OUTLET, 120-VOLT, GROUND TYPE, HORIZONTAL MOUNT
- SPECIAL PURPOSE OUTLET, 208/240-VOLT AS INDICATED, GROUND TYPE, HORIZONTAL MOUNT
- JUNCTION BOX
- F FLOOR PEDESTAL RECEPTACLE
- F FLOOR RECEPTACLE, FLUSH MOUNTED
- C CEILING DROP CORD RECEPTACLE
- ELEC. DISCONNECT BY ELEC CONTRACTOR
- LOAD CENTER OR CONTROL PANEL BY K.E.C.
- FIELD WIRING, EXPOSED FLEX
- SUGGESTED ELECTRICAL PANEL LOCATION
- S WALL SWITCH BY E.C. FOR HOOD FAN CONTROL
- TELEPHONE OR INTERCOM OUTLET
- DATA OUTLET, 3/4" CONDUIT TO ABOVE CEILING
- C DATA LINE FROP FROM CEILING J-BOX PROVIDE 5' OF CABLE FROM CEILING
- F HOOD FIRE PULL STATION BY K.E.C.

GENERAL DESIGN NOTES

1. SHEET FS103 LOCATES REQUIRED POINTS OF CONNECTION FOR EACH ITEM OF FOOD SERVICE EQUIPMENT.
   THE MECHANICAL SYSTEMS TO ACCOMODATE THESE REQUIREMENTS SHALL BE IN ACCORDANCE WITH ALL APPLICABLE CODES AND MEET WITH THE APPROVAL OF ALL GOVERNING AUTHORITIES. LOCATIONS, SIZES, AND HEIGHTS ABOVE FLOOR ARE INDICATED AS THEY WILL OCCUR ON FOOD SERVICE EQUIPMENT ITEMS SHOWN.
2. SUPPLY LINES FOR ALL GAS COOKING EQUIPMENT ITEMS SHALL BE FITTED WITH A MECHANICAL SOLENOID SHUT-OFF VALVES.
3. MECHANICAL SUBCONTRACTOR SHALL PROVIDE EXHAUST AND MUA DUCTS FROM EXHAUST HOODS AND CONDENSATE HOODS BASED ON DUCT COLLAR SIZES, CFM QUANTITIES, AND STATIC PRESSURES INDICATED ON SHEET FS104
4. ALL HORIZONTAL PIPING RUNS EXTENDED TO AND CONNECTED TO EQUIPMENT ITEMS SHALL BE AT THE HIGHEST PRACTICAL ELEVATION AND NOT LESS THAN 6" ABOVE THE FLOOR SO AS TO PROVIDE CLEARANCE FOR CLEANING.
5. UTILITIES ARE TO BE CONCEALED IN WALLS AND STUBBED OUT OF WALLS. DO NOT STUB OUT OF THE FLOOR AND RUN EXPOSED ON THE FACE OF THE WALL.
6. UTILITIES INDICATED ARE CONNECTION POINTS FOR ITEMS OF FOOD SERVICE EQUIPMENT ONLY. AREA DRAINS ARE NOT INDICATED SEE PLUMBING / MECHANICAL SHEETS FOR ALL OTHER REQUIRED UTILITIES.
7. GREASE TRAPS LOCATED INSIDE OF BUILDING ARE TO BE RECESSED, FLUSH WITH TOP OF FINISHED FLOOR, AND REMOVAL OF COVER SHALL NOT INTERFERE WITH THE OPERATION OF EQUIPMENT ITEMS.
8. INDIRECT WASTES FROM FOOD SERVICE EQUIPMENT ARE TO BE EXTENDED OVER BUILDING DRAINS BY PLUMBING CONTRACTOR.
9. ANY AND ALL EXPOSED PIPING OR FITTINGS TO BE STAINLESS STEEL, CHROME-PLATED, OR ENCLOSED IN A CONCEALED, MOUNTED STAINLESS STEEL CHASE.
10. ALL GAS EQUIP. TO BE CONNECTED WITH HOSEMASTER "SUPER-SWIVEL" OR APPROVED EQUAL QUICK DISCONNECT KITS WITH RESTRAINTS & BALL VALVES, SIZED TO SUPPLY GAS AT THE RATE REQUIRED BY APPLIANCE MFGR.
11. THE CONTRACTOR SHALL CONFIRM THE LOCATION OF REMOTE REFRIGERATION CONDENSERS. THE LOCATION INDICATED ON THESE DRAWINGS MAY NOT BE THE ACTUAL LOCATION, AND IS SHOWN FOR SCHEMATIC INFORMATION ONLY.
12. EXHAUST HOODS SHALL BE PROVIDED WITH HEAT SENSORS THAT SHALL AUTOMATICALLY ACTIVATE EXHAUST FANS WHEN COOKING APPLIANCES ARE ACTIVATED
13. VERIFY GAS TYPE WITH THE GENERAL CONTRACTOR PRIOR TO ORDERING ANY GAS-FIRED EQUIPMENT.
14. THE CONTRACTOR SHALL SUPPLY RIGID CONDUIT AS REQUIRED TO ENCLOSE FLEXIBLE LINES USED BY THE REMOTE BEVERAGE DISPENSING SYSTEMS

LEGEND - PLUMBING CONNECTIONS

- HW-HOT WATER, OR CW-COLD WATER
- GAS
- WASTE, DIRECT-CONNECTED UNLESS NOTED "OPEN HUB"
- AREA DRAIN (FLOOR DRAIN)
- FLOOR DRAIN W/ATTACHED FUNNEL
- FLOOR SINK WITH 3/4 GRATE UNLESS NOTED OTHERWISE
- FIELD CONNECTIONS
- 6" PVC SODA LINE CHASE, 24" SWEEP ELLS
- CHILLED WATER LOOP

FOODSERVICE EQUIPMENT SCHEDULE

ITEM NO.	QTY	BY CONTRACTOR	BY FSE EXCHANGE OR VENDOR	DESCRIPTION	ELECTRICAL GENERATOR	ELECTRICAL FLAMPS	ELECTRICAL KW	ELECTRICAL HP	ELECTRICAL VOLTS	ELECTRICAL PHASE	ELECTRICAL DIRECT PLUG	WATER COLD	WATER HOT	WASTE DIRECT	WASTE INDIRECT	GAS SIZE	GAS MBTUH	CHILLED WATER SIZE	CHILLED WATER GPM	REMARKS
1	2	●		AIR CURTAIN		6			120		J									
2	-			SPARE NUMBER																
3	1		●	CHEMICAL STORAGE SHELVING																
4	-			SPARE NUMBER																
5	1	●		WATER FILTER								1/2"								
6	1	●		ICE MACHINE & BIN		14			208	3	J	1/2"			1"					
7	1	●		FLOOR TROUGH																
8	10	●		HAND SINK								1/2"	1/2"	2"						SOAP & TOWEL DISPENSER, WASTE CONTAINER
9	-			SPARE NUMBER																
10	-			SPARE NUMBER																
11	-			SPARE NUMBER																
12	-			SPARE NUMBER																
13	1	●		CONDENSATE HOOD																
14	1	●		PRE-RINSE SPRAY								1/2"	1/2"							
15	1	●		DISHWASHER, HIGH TEMP		46			208	3	J		3/4"		2"					
16	1	●		SOILED DISHTABLE											2"					
17	1	●		CLEAN DISHTABLE																
18	-			SPARE NUMBER																
19	-			SPARE NUMBER																
20	-			SPARE NUMBER																
21	1	●		WALK-IN COOLER / FREEZER	●	15			120	1	J									15A POWER LOAD FOR LIGHTS AND DOOR HEATERS ONLY
22	2	●		MED TEMP EVAP COIL	●	7			120	1	J				1"					
23	1	●		REMOTE CONDENSER, MED TEMP	●	11			208	1	J							1/2"	4.2	
24	2	●		LOW TEMP EVAP COIL	●	13			208	1	J				1"					
25	1	●		REMOTE CONDENSER, LOW TEMP	●	21			208	1	J							1/2"	5.1	
26	-			SPARE NUMBER																
27	-			SPARE NUMBER																
28	1	●		STAINLESS STEEL WALL COVERING																
29	-			SPARE NUMBER																
30	-			SPARE NUMBER																
31	-			SPARE NUMBER																
32	3	●		HOOD FIRE PULL STATION																
33	1		●	TILTING KETTLE AND STAND		28			208	3	J	1/2"								
34	1	●		POT WASH SINK								1/2"	1/2"		2"					
35	1	●		EXHAUST HOOD		15			120	1	J									HOOD LIGHTS ONLY
36	2		●	FRYER BATTERY		15			120	1	P					3/4	150			
37	1		●	TILT SKILLET												3/4	46			
38	1		●	COMBI OVEN		12			120	1	P	3/4"			1"	3/4	76			
39	1		●	CONVECTION OVEN, DOUBLE		12			120	1	P					3/4	120			
40	1	●		RANGE, 36"												3/4	140			
41	-			SPARE NUMBER																
42	2	●		FLOOR TROUGH											2"					
43	-			SPARE NUMBER																
44	-			SPARE NUMBER																
45	1	●		PREP SINK TABLE								1/2"	1/2"		2"					
46	1	●		WALL SHELF																
47	-			SPARE NUMBER																
48	-			SPARE NUMBER																
49	-			SPARE NUMBER																
50	1	●		EXHAUST HOOD		15			120	1	J									ANSUL FIRE SYSTEM ONLY
51	-			SPARE NUMBER																
52	1		●	REFRIGERATED DRAWER BASE		10			120	1	P									
53	1	●		CHARBROILER, 36"												3/4	110			
54	1	●		GRIDDLE, 48"												3/4	140			
55	1		●	REFRIG PREP TABLE, MOBILE		12			120	1	P									
56	1	●		THREE COMPARTMENT SINK								1/2"	1/2"		2"					
57	-			SPARE NUMBER																
58	-			SPARE NUMBER																
59	-			SPARE NUMBER																
60	-	●		WALK-IN COOLER (SUBWAY)		15			120	1	J									15A POWER LOAD FOR LIGHTS AND DOOR HEATERS ONLY
61	-	●		MED TEMP EVAP COIL		5			120	1	J				1"					
62	-	●		REMOTE CONDENSER		10			208	3	J							1/2"	3	
63	-			SPARE NUMBER																
64	-			SPARE NUMBER																
65	2		●	ICE/BEVERAGE DISPENSER		10			120	1	P				1"					
66	2		●	ICE MAKER		14			208	1	P	3/8"			1"					
67	1		●	SKELETON WALL																
68	1		●	DISPLAY BREAD CABINET																
69	2		●	COLD PAN UNIT, 48"		12			120	1	P									
70	1		●	HOT FOOD TOASTING STATION		15			120	1	P									
71	1		●	FRONT COUNTER, CASH UNIT																
72	1		●	COOKIE DISPLAY CASE																
73	1		●	SAFE, UNDER COUNTER																
74	1		●	POS REGISTER		5			120	1	P									SOAP & TOWEL DISPENSER, WASTE CONTAINER
75	4		●	MENU BOARD, SOFFIT MTD		15			120	1	P									SOAP & TOWEL DISPENSER, WASTE CONTAINER
76	1		●	DISPLAY REFRIGERATOR		6			120	1	P									
77	1		●	BACK COUNTER, HAND SINK UNIT								1/2"	1/2"	2"						
78	1		●	BACK COUNTER, REFRIG. 60"		12			120	1	P									
79	1		●	RAPID COOK OVEN		28			208	1	P									
80	1		●	COMBI BREAD CABINET																
81	1		●	BREAD OVEN		32			208	3	P	3/8"								
82	1	●		THREE COMPARTMENT SINK								1/2"	1/2"		2"					
83	2	●		HAND SINK								1/2"	1/2"	2"						SOAP & TOWEL DISPENSER, WASTE CONTAINER
84	2		●	BAG IN BOX RACK																
85	2		●	CARBONATOR		10			120	1	P									
86	3		●	CO2 TANK																
87	-			SPARE NUMBER																
88	-			SPARE NUMBER																
89	-			SPARE NUMBER																
90	-			SPARE NUMBER																
91	-			SPARE NUMBER																
92	-			SPARE NUMBER																
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97	-			SPARE NUMBER																
98	-			SPARE NUMBER																
99	-			SPARE NUMBER																
100	-			SPARE NUMBER																

SYM	ZONE		DATE	APPROVED

REVISIONS

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CHECKED Philip Bean	12.18.13
SUBMITTED: ARCHENG OF RECORD Philip Bean	12/18/13
ST of LICENSURE: FL	
LICENSE NO: AR 10739	
APPROVED Steve Bellisario	12.18.13
Thomas Wilczek	12-19-13

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

FOOD SERVICE EQUIPMENT SCHEDULE

FS100

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 150

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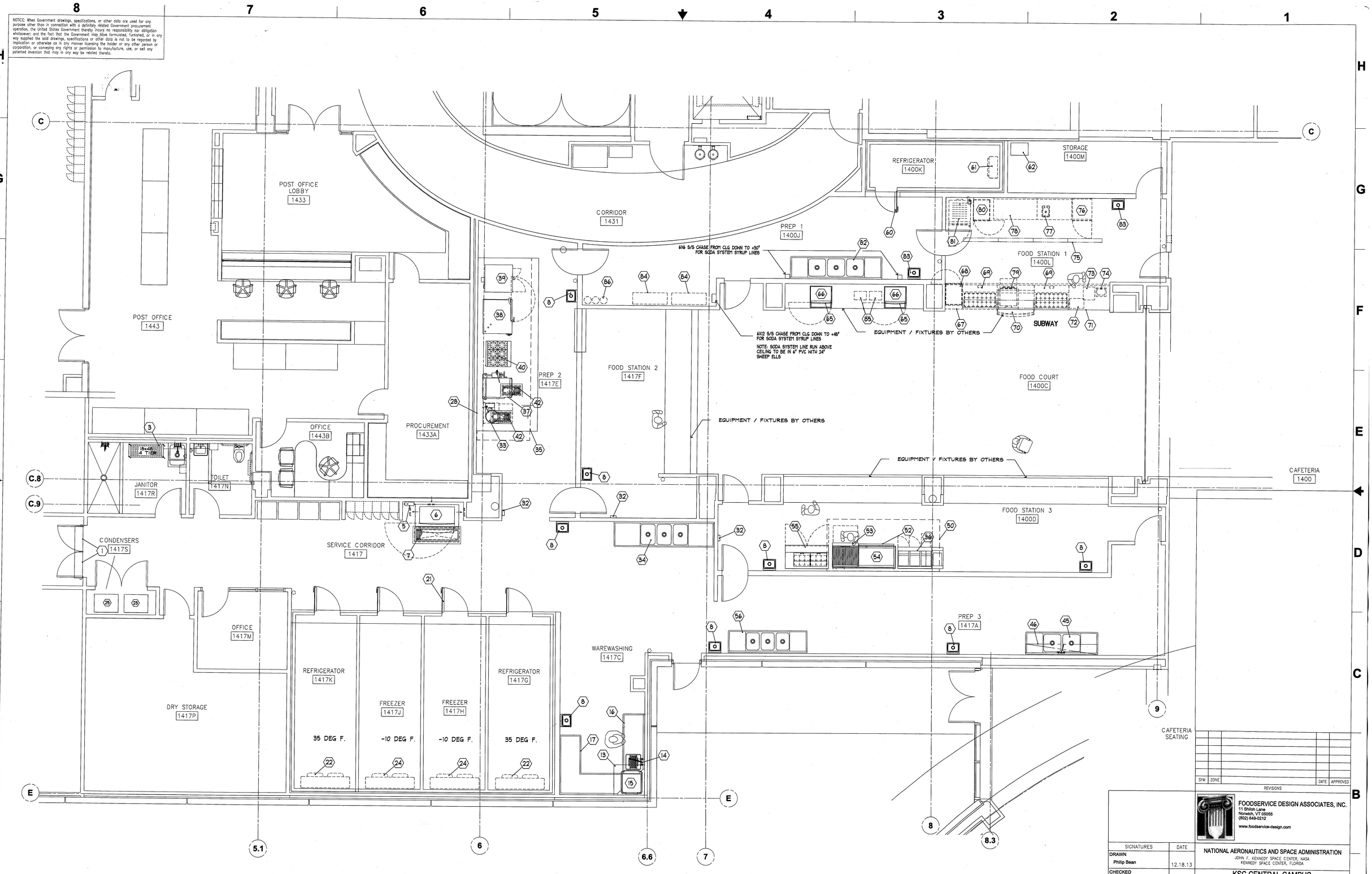

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REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

FOOD SERVICE EQUIPMENT PLAN

FS101

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 151

KSC FORM 1-11 (3/76)(C/G 3/94)

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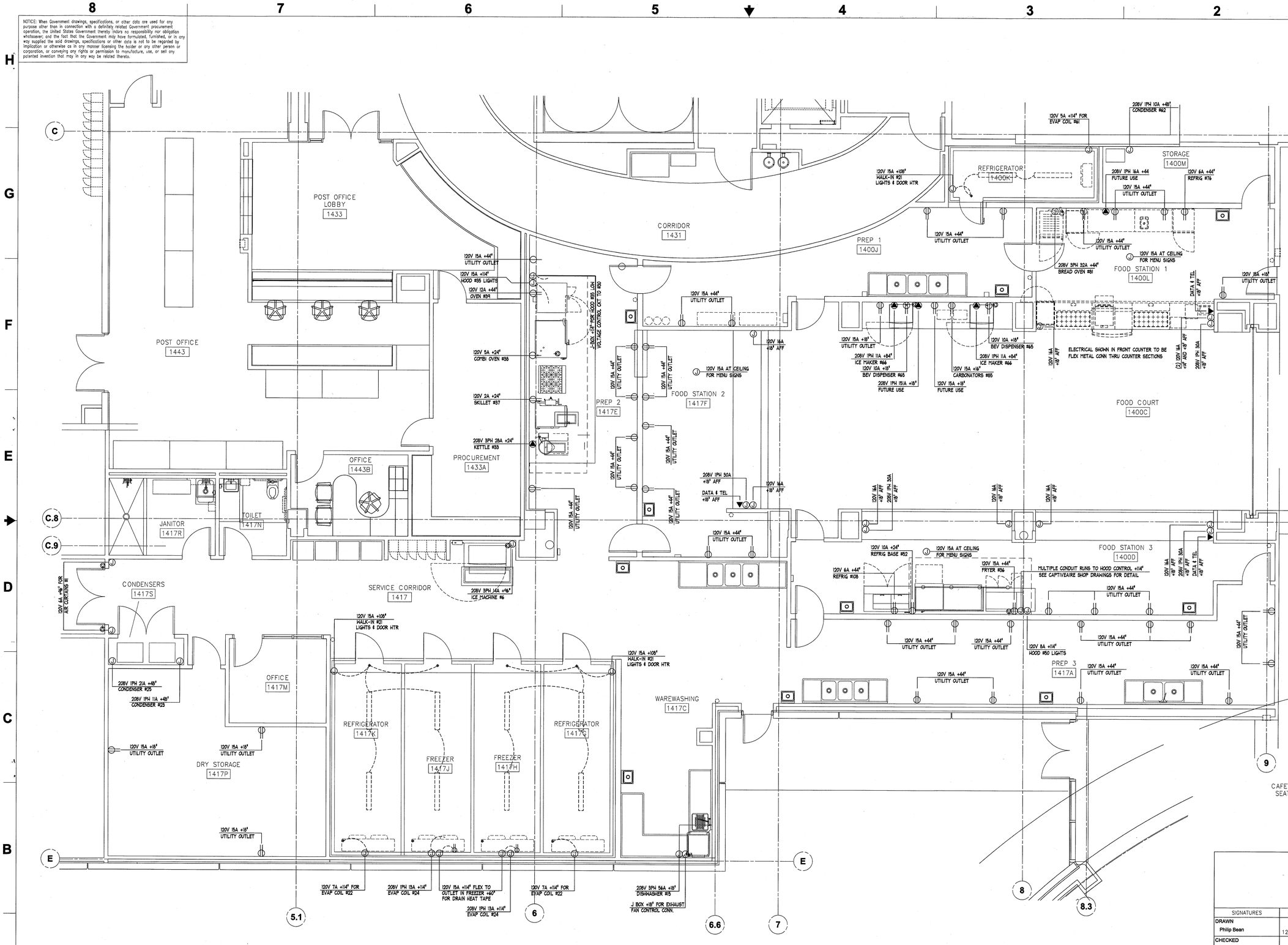

LEGEND - ELECTRICAL CONNECTIONS

- DUPLEX RECEPT. 120-VOLT, GROUND TYPE, HORIZONTAL MOUNT
- SIMPLEX RECEPT., 120-VOLT, GROUND TYPE, HORIZONTAL MOUNT
- QUAD RECEPT. 120-VOLT, OFFICE AREA(S) GROUND TYPE, HORIZONTAL MOUNT
- SPECIAL PURPOSE OUTLET, 120-VOLT, GROUND TYPE, HORIZONTAL MOUNT
- SPECIAL PURPOSE OUTLET, 208/240-VOLT AS INDICATED, GROUND TYPE, HORIZONTAL MOUNT
- J JUNCTION BOX
- F FLOOR PEDESTAL RECEPTACLE
- F FLOOR RECEPTACLE, FLUSH MOUNTED
- C CEILING DROP CORD RECEPTACLE
- ELEC. DISCONNECT BY ELEC CONTRACTOR
- LOAD CENTER OR CONTROL PANEL BY K.E.C.
- FIELD WIRING, EXPOSED FLEX
- SUGGESTED ELECTRICAL PANEL LOCATION
- S WALL SWITCH BY E.C. FOR HOOD FAN CONTROL
- TELEPHONE OR INTERCOM OUTLET
- DATA OUTLET, 3/4" CONDUIT TO ABOVE CEILING
- C DATA LINE FROP FROM CEILING J-BOX PROVIDE 5' OF CABLE FROM CEILING
- F HOOD FIRE PULL STATION BY K.E.C.

SYM	ZONE		DATE	APPROVED

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

FOOD SERVICE ELECTRICAL PLAN

FS102

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 152

KSC FORM 1-11 (3/76)(C/G 3/94)

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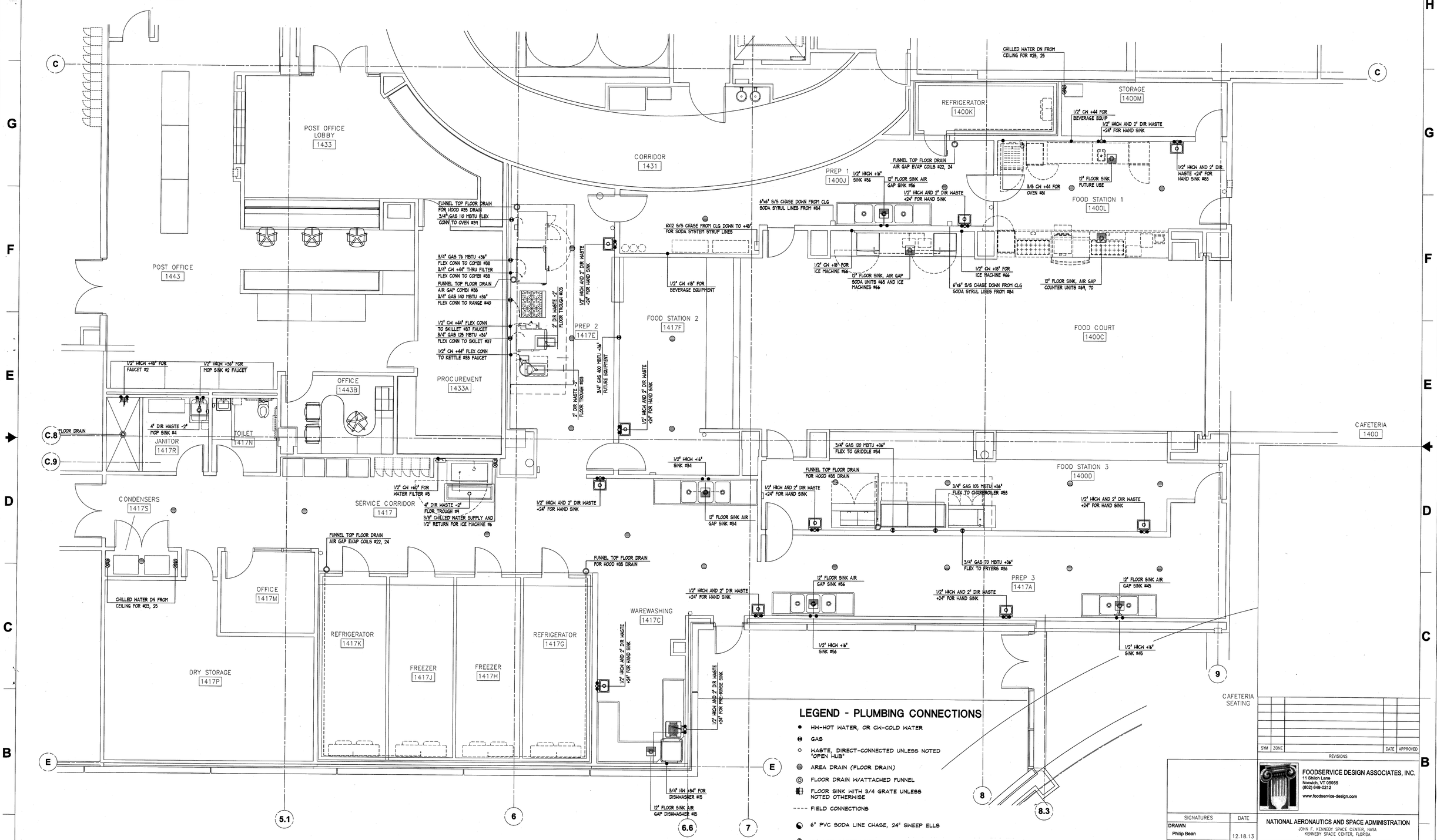

LEGEND - PLUMBING CONNECTIONS

- HW-HOT WATER, OR CW-COLD WATER
- GAS
- WASTE, DIRECT-CONNECTED UNLESS NOTED "OPEN HUB"
- AREA DRAIN (FLOOR DRAIN)
- FLOOR DRAIN W/ATTACHED FUNNEL
- FLOOR SINK WITH 3/4 GRATE UNLESS NOTED OTHERWISE
- FIELD CONNECTIONS
- 6" PVC SODA LINE CHASE, 24" SWEEP ELLS
- CHILLED WATER LOOP

SYM	ZONE		DATE	APPROVED

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REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

FOOD SERVICE PLUMBING PLAN

FS103

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 153

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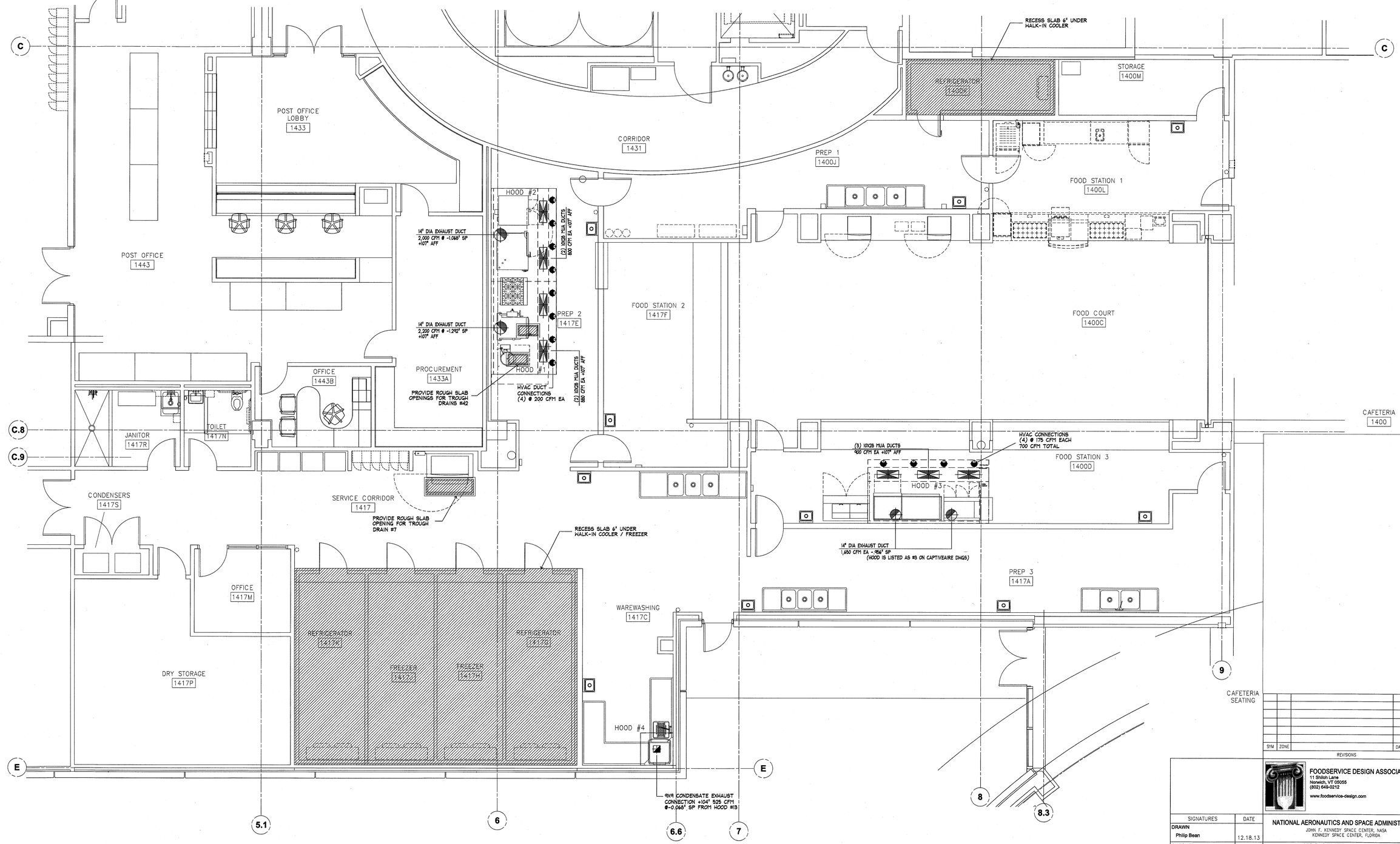

SYM	ZONE		DATE	APPROVED

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FS104

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

FOOD SERVICE MECHANICAL PLAN

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 154

KSC FORM 1-11 (3/76)(C/G 3/94)

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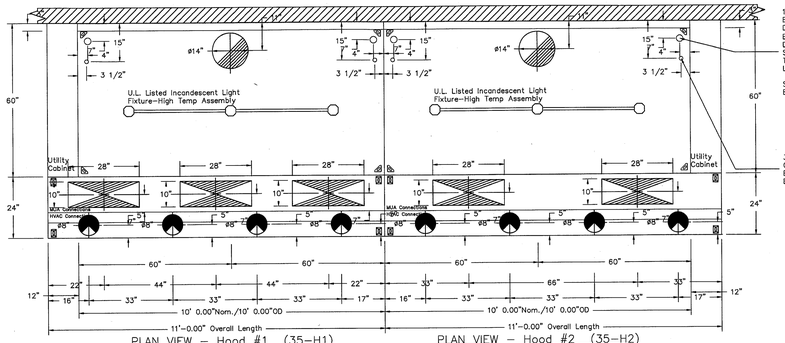
HOOD INFORMATION

HOOD NO.	TAG		LENGTH	MAX COOKING TEMP.	TOTAL EXH. CFM	EXHAUST PLENUM SIZE(S) WIDTH	LENG.	DIA.	CFM	S.P.	MUA CFM	AC CFM	HOOD CONSTRUCTION	HOOD CONFIG. END TO END	ROW
1	35-H1		10' 0.00"	450 Deg.	2200			14"	2200	-1.292"	1760	800	430 SS 100%	LEFT	ALONE
2	35-H2		10' 0.00"	450 Deg.	2000			14"	2000	-1.068"	1600	748	430 SS 100%	RIGHT	ALONE
3	50		12' 0.00"	500 Deg.	3300			14"	1650	-0.956"	2700	700	430 SS 100%	ALONE	ALONE
								14"	1650	-0.956"					
4	13		3' 6.00"	700 Deg.	525	9"	9"		525	-0.068"	0	0	304 SS 100%	ALONE	ALONE

HOOD INFORMATION

HOOD NO.	TAG	FILTER(S) TYPE	QTY.	HEIGHT	LENGTH	LIGHT(S) QTY.	TYPE	WIRE GUARD	UTILITY CABINET(S) LOCATION	FIRE SYSTEM TYPE	SIZE	ELECTRICAL MODEL #	SWITCHES QUANTITY	FIRE SYSTEM PIPING	HOOD HANGING WGHT
1	35-H1	s/s Cartridge Filter	6	16"	20"	3	Incandescent	NO	Left	Wet Chem R102	3.0/1.5	EMSplus21WL_BACNET	1 Light 1 Other	NO	772 LBS
2	35-H2	s/s Cartridge Filter	6	16"	20"	3	Incandescent	NO						NO	661 LBS
3	50	s/s Cartridge Filter	4	16"	16"	4	Incandescent	NO	Left	Wet Chem R102	3.0/1.5	EMSplus11W4_BACNET	1 Light 1 Other	NO	1066 LBS
			4	16"	20"										
4	13	s/s Cartridge Filter				0								NO	163 LBS



PLAN VIEW – Hood #1 (35-H1)
10' 0.00" LONG

PLAN VIEW – Hood #2 (35-H2)
10' 0.00" LONG

1.5" I.P.S. DRAIN DROP
ENGINEER IS RESPONSIBLE FOR DRAIN LINE DESIGN BEYOND THE HOOD. DRAIN LINE MUST BE INSTALLED PER LOCAL CODES. DRAIN LINE MUST BE SLOPED (MINIMUM ¼ INCH PER FOOT). AVOID ANY UNNECESSARY 90 DEGREE TURNS, IF COMBINED WITH OTHER DRAIN LINES, THEN PIPE SIZE SHOULD BE INCREASED ACCORDINGLY. P-TRAPS SHOULD NOT BE USED IN THE GREASE DRAIN LINE AND HEAT TAPE MUST BE USED WHERE DRAIN LINE IS RUN IN ENVIRONMENTS THAT WOULD SOLIDIFY GREASE.

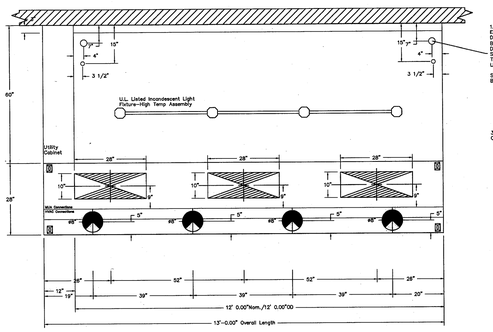
SIZE BUILDING GREASE INTERCEPTOR ACCORDINGLY.
BOTH ENDS

3/4" I.P.S. (N.P.T.) HOT WATER CONNECTION STUBS ARE PREFIT BY FACTORY.
BOTH ENDS

ACPSP ships loose for field installation

ACPSP ships loose for field installation

NOTE: ALL EXHAUST HOODS AND RELATED COMPONENTS SHALL COMPLY WITH NFPA #96 NSF UL 710 & ULC710 STANDARDS E.T.L LISTED 3054804-001 TESTED TO UL 710 STANDARDS

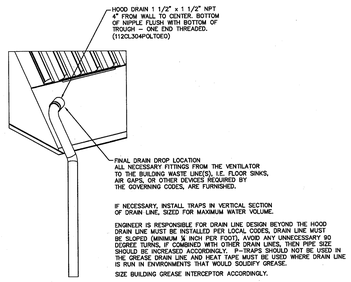


1.5" I.P.S. DRAIN DROP
ENGINEER IS RESPONSIBLE FOR DRAIN LINE DESIGN BEYOND THE HOOD. DRAIN LINE MUST BE INSTALLED PER LOCAL CODES. DRAIN LINE MUST BE SLOPED (MINIMUM ¼ INCH PER FOOT). AVOID ANY UNNECESSARY 90 DEGREE TURNS, IF COMBINED WITH OTHER DRAIN LINES, THEN PIPE SIZE SHOULD BE INCREASED ACCORDINGLY. P-TRAPS SHOULD NOT BE USED IN THE GREASE DRAIN LINE AND HEAT TAPE MUST BE USED WHERE DRAIN LINE IS RUN IN ENVIRONMENTS THAT WOULD SOLIDIFY GREASE.

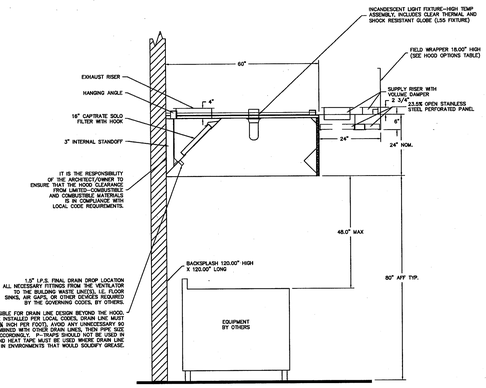
SIZE BUILDING GREASE INTERCEPTOR ACCORDINGLY.
BOTH ENDS

3/4" I.P.S. (N.P.T.) HOT WATER C

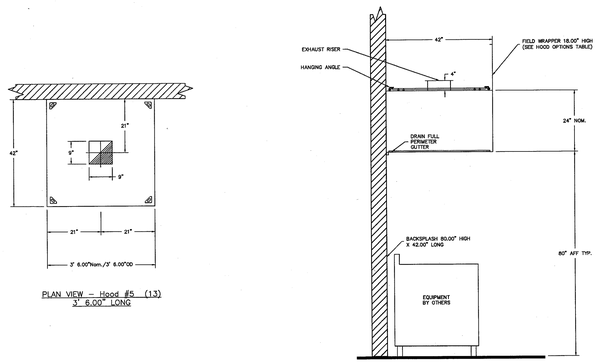
sds 12' and longer.



DRAIN KIT DETAIL

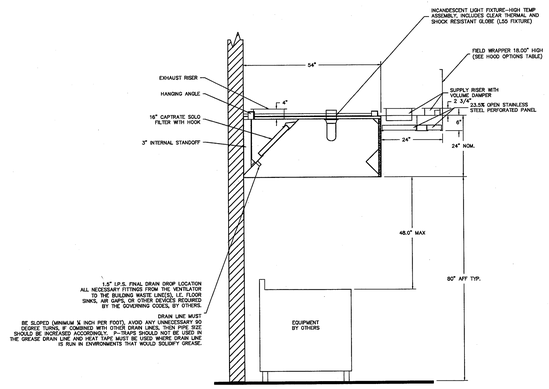


SECTION VIEW – MODEL 6024ND-2-ACPSP-F
HOODS – #1 (35-H1), #2 (35-H2)



SECTION VIEW – MODEL 4224VHB-G
HOOD – #4 (13)

PLAN VIEW – Hood #5 (13)
3' 6.00" LONG



SECTION VIEW – MODEL 6424ND-2-ACPSP-F
HOOD – #3 (47), #4 (60)

GENERAL NOTE
MODEL NUMBERS AND INFORMATION PROVIDED ON THIS DRAWING ARE BASED ON CAPTIVEAIRE PRODUCTS. PROVIDE CAPTIVEAIRE OR APPROVED EQUAL

SYM	ZONE		DATE	APPROVED

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CHECKED Scott Towner	12.18.13
SUBMITTED: ARCHENG OF RECORD Philip Beard	12/18/13
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APPROVED Steve Belfiore	12-18-13
Thomas Wheeler	12-19-13

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

FOOD SERVICE MECHANICAL DETAILS

FS105

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 155

KSC FORM 1-11 (3/76)(C/G 3/94)

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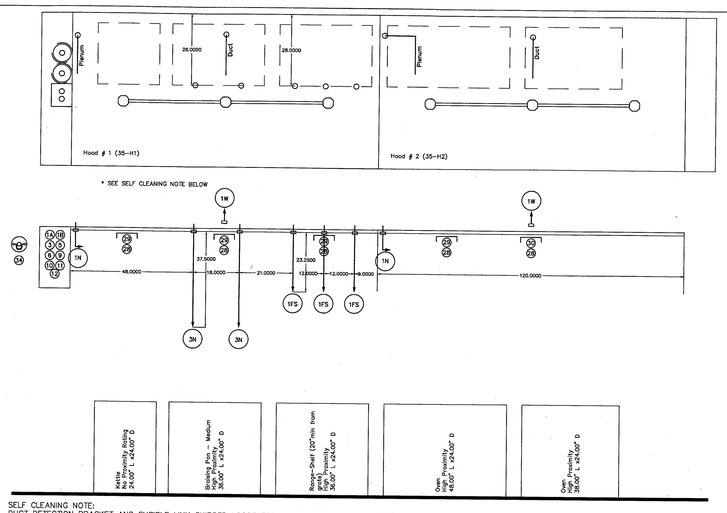


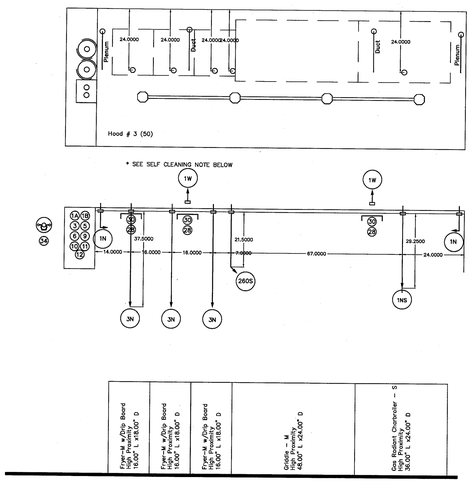
NOTES
- FIELD PIPE DROPS AS SHOWN
  SLEEVING, ELBOWS, TEES, AND NOZZLES SUPPLIED BY CAS
- RELOCATE NOZZLES IF FLOW PATTERN IS BLOCKED BY SHELVING, SALAMANDERS, ETC.
- MAXIMUM 9 ELBOWS IN SUPPLY LINE.
- MINIMUM 72 INCHES OF AGENT LINE FROM TANK TO FIRST NOZZLE.
- IF APPLICABLE, PIRE-PIPED CHARBROILER DROPS ARE SHIPPED LOOSE.
- FACTORY PIPING EXTENDS A MAXIMUM OF 6" ABOVE THE TOP OF THE HOOD.

- APPLIANCE DIMENSIONS LISTED REPRESENT THE COOKING SURFACE SIZE, NOT THE OVERALL APPLIANCE SIZE.

- THIS FIRE SYSTEM COMPLIES WITH U.L. 300 REQUIREMENTS

System Size: -3.0/1.5 Total FP required: 13
Hood # 1 10' 0.00" Long x 60" Wide x 24" High
Riser # 1 Size: 14" Dia.
Hood # 2 10' 0.00" Long x 60" Wide x 24" High
Riser # 1 Size: 14" Dia.

SELF CLEANING NOTE:
DUCT DETECTION BRACKET AND FUSIBLE LINK SHIPPED LOOSE FOR FIELD INSTALLATION IN DUCT.
DETECTOR MUST BE DOWNSTREAM OF PATH OF WATER FROM SELF CLEANING HOOD.
MAXIMUM DISTANCE BETWEEN DUCT DETECTOR AND HOOD RISER IS 20 FEET.
RECOMMENDED DISTANCE OF DETECTOR INSTALLATION IS 10 FEET FROM HOOD RISER.



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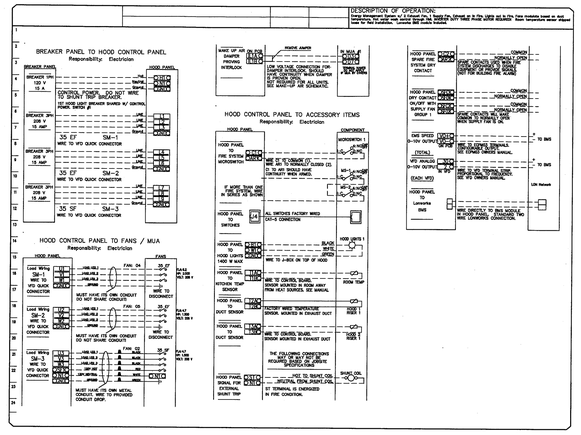
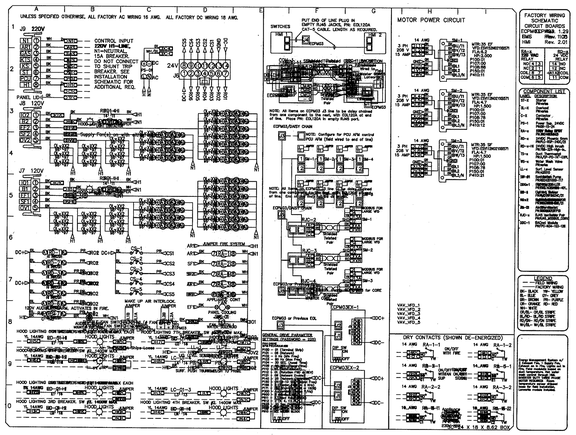
- RELOCATE NOZZLES IF FLOW PATTERN IS BLOCKED BY SHELVING, SALAMANDERS, ETC.
- MAXIMUM 9 ELBOWS IN SUPPLY LINE.
- MINIMUM 72 INCHES OF AGENT LINE FROM TANK TO FIRST NOZZLE.
- IF APPLICABLE, PRE-PIPED CHARBROILER DROPS ARE SHIPPED LOOSE.
- FACTORY PIPING EXTENDS A MAXIMUM OF 6" ABOVE THE TOP OF THE HOOD.

- APPLIANCE DIMENSIONS LISTED REPRESENT THE COOKING SURFACE SIZE, NOT THE OVERALL APPLIANCE SIZE.

- THIS FIRE SYSTEM COMPLIES WITH U.L. 300 REQUIREMENTS

System Size: -3.0/1.5 Total FP required: 16
Hood # 4 12' 0.00' Long x 60" Wide x 24" High
Riser # 1 Size: 14" Dia.
Riser # 2 Size: 14" Dia.
Hood # 4 Metal Blow-Off Caps included.





ELECTRICAL PACKAGES

NO.	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED				
				LOCATION	QUANTITY		TYPE	#	H.P.	VOLT	FLA
2		EMSplus21WL Or Approved Equal	Utility Cabinet Left	Utility Cabinet Left	1 Light	EMSplus WL Hot Water Wash, Controls only. Use with AM-2 M4QD Panel. Or Approved Equal	Supply	3	2	208	4.7
				Hood # 1	1 Other		Exhaust	3	2.000	208	6.2
							Exhaust	3	1.500	208	4.7
3		EMSplus11WA Or Approved Equal	Utility Cabinet Left	Utility Cabinet Left	1 Light	EMSplus WA Hot Water Control Or Approved Equal	Supply	3	1.0	208	2.7
				Hood # 3	1 Other		Exhaust	3	3.000	208	8.4

GENERAL NOTE
MODEL NUMBERS AND INFORMATION PROVIDED ON THIS DRAWING ARE BASED ON CAPTIVEAIRE PRODUCTS. PROVIDE CAPTIVEAIRE OR APPROVED EQUAL

SYM	ZONE		DATE	APPROVED

REVISIONS

FOODSERVICE DESIGN ASSOCIATES, INC.
11 Shiloh Lane
Norwich, VT 05055
(802) 649-0212
www.foodservice-design.com

SIGNATURES	DATE
DRAWN Scott Towner	12.18.13
CHECKED Scott Towner	12.18.13
SUBMITTED ARCHIVING OF RECORD Paul Bean	12/18/13
ST of LICENSURE: FL	
LICENSE NO: AR 10739	
APPROVED Steve Berlinger	12-18-13
Thomas Wilczek	12-19-13

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

FOOD SERVICE
MECHANICAL DETAILS

FS106

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 156

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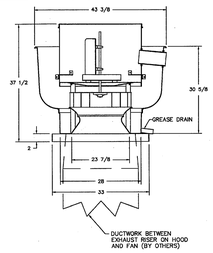
EXHAUST FAN INFORMATION

FAN UNIT NO.	TAG	FAN UNIT MODEL # or approved equal		TAG	CFM	ESP.	RPM	H.P.	#	VOLT	FLA	WEIGHT (LBS.)	SONES
1	13-EF	DU30HFA		13-EF	525	1.000	1531	0.250	1	115	4.0	59	12.3
4	35 EF	NCA24HPFA		35 EF	2200	2.400	1109	2.000	3	208	6.2	241	21
5	35 EF	NCA16HPFA		35 EF	2000	2.000	1376	1.500	3	208	4.7	154	12.6
6		KB18			3300	1.250	1311	3.000	3	208	8.4	1268	15

MUA FAN INFORMATION

FAN UNIT NO.	TAG	FAN UNIT MODEL #	BLOWER	HOUSING	CFM	ESP.	RPM	H.P.	#	VOLT	FLA	WEIGHT (LBS.)	SONES
2	35 SF	A2-012 or approved equal	G12	A2	3360	0.650	848	1.500	3	208	4.7	833	24
3	SP 50	A2-012 or approved equal	G12	A2	2700	0.650	768	0.750	3	208	2.7	826	20

FAN #4 NCA24HPFA – EXHAUST FAN (35 EF)



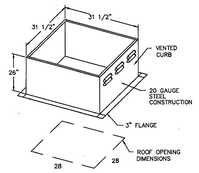
FEATURES:

- ROOF MOUNTED FANS
- RESTAURANT MODEL
- UL705 AND UL762
- AMCA SOUND AND AIR CERTIFIED
- WIRING FROM MOTOR TO DISCONNECT SWITCH
- WEATHERPROOF DISCONNECT
- HIGH HEAT OPERATION 300°F (149°C)
- GREASE CLASSIFICATION TESTING

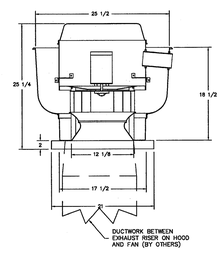
NORMAL TEMPERATURE TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

ABNORMAL FLARE-UP TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.

OPTIONS
GREASE BOX



FAN #1 DU30HFA – EXHAUST FAN (13-EF)

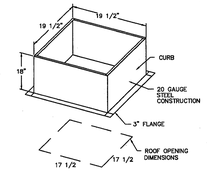


FEATURES:

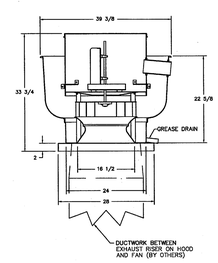
- ROOF MOUNTED FANS
- RESTAURANT MODEL
- UL705 AND UL762
- VARIABLE SPEED CONTROL
- INTERNAL WIRING
- WEATHERPROOF DISCONNECT
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE)
- HIGH HEAT OPERATION 300°F (149°C)
- GREASE CLASSIFICATION TESTING

NORMAL TEMPERATURE TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

ABNORMAL FLARE-UP TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.



FAN #6 NCA16HPFA – EXHAUST FAN (35 EF)



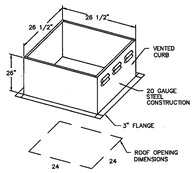
FEATURES:

- ROOF MOUNTED FANS
- RESTAURANT MODEL
- UL705 AND UL762
- AMCA SOUND AND AIR CERTIFIED
- WIRING FROM MOTOR TO DISCONNECT SWITCH
- WEATHERPROOF DISCONNECT
- HIGH HEAT OPERATION 300°F (149°C)
- GREASE CLASSIFICATION TESTING

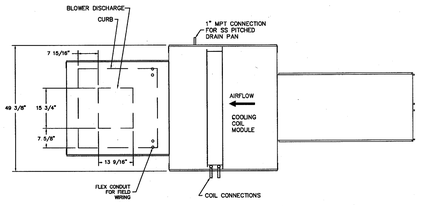
NORMAL TEMPERATURE TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

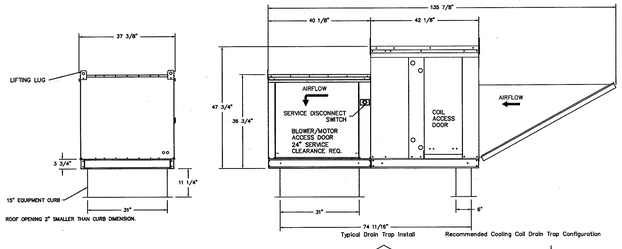
ABNORMAL FLARE-UP TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.

OPTIONS
GREASE BOX



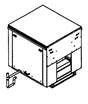
FAN #2 A2-012 – SUPPLY FAN (35 SF)
1. UNTEMPERED SUPPLY UNIT WITH 12" BLOWER IN SIZE #2 HOUSING
2. INTAKE HOOD WITH EZ FILTERS
3. DOWN DISCHARGE – AIR FLOW RIGHT -> LEFT
4. CM COIL MODULE FOR SIZE 2 MODULAR FANS – 2,000 THRU 5,300 CFM (10 TON, SWS1004B-37.5X36.0) NOT STOCKED. ALLOW 5-6 WEEKS LEAD TIME.
5. INSULATED BLOWER HOUSING SIZES 1-2 COMMERCIAL MODULAR

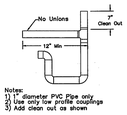




Typical Drain Trap Install

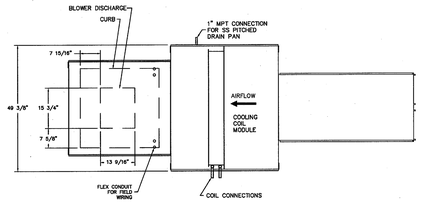
Recommended Cooling Coil Drain Trap Configuration

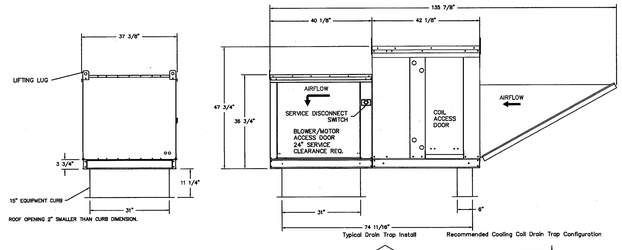




Notes:
1) 1" diameter PVC Pipe only
2) Use only low profile couplings
3) Add clean out as shown

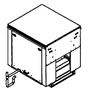
FAN #3 A2-012 – SUPPLY FAN (SP 50)
1. UNTEMPERED SUPPLY UNIT WITH 12" BLOWER IN SIZE #2 HOUSING
2. INTAKE HOOD WITH EZ FILTERS
3. DOWN DISCHARGE – AIR FLOW RIGHT -> LEFT
4. CM COIL MODULE FOR SIZE 2 MODULAR FANS – 2,000 THRU 5,300 CFM (10 TON, SWS1004B-37.5X36.0) NOT STOCKED. ALLOW 5-6 WEEKS LEAD TIME.
5. INSULATED BLOWER HOUSING SIZES 1-2 COMMERCIAL MODULAR

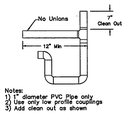




Typical Drain Trap Install

Recommended Cooling Coil Drain Trap Configuration





Notes:
1) 1" diameter PVC Pipe only
2) Use only low profile couplings
3) Add clean out as shown

GENERAL NOTE
MODEL NUMBERS AND INFORMATION PROVIDED ON THIS DRAWING ARE BASED ON CAPTIVEAIRE PRODUCTS. PROVIDE CAPTIVEAIRE OR APPROVED EQUAL

MUA FAN INFORMATION

FAN UNIT NO.	TAG	FAN UNIT MODEL # or approved equal	BLOWER	HOUSING	CFM	ESP.	RPM	H.P.	#	VOLT	FLA	COOLING COIL ENTERING DB TEMP.	COOLING COIL ENTERING WB TEMP.	COOLING COIL LEAVING DB TEMP.	COOLING COIL LEAVING WB TEMP.	COOLING COIL TOTAL CAPACITY	COOLING COIL SENSIBLE CAPACITY	WEIGHT (LBS.)	SONES	WATER FLOW (GPM)	MAX FACE VEL (FT/ MIN)	FILTERS
2		A2-012-CW	G12-PB	A2	3360	.883	848	2.0	3	208	4.7	84°F	80.0°F	55.0°F	55.0°F	312.8 MBH	108.2 MBH	833	18.2	41.14	358.4	3X EZ CLEAN METAL MESH
3		A2-012-CW	G12-PB	A2	2700	.800	768	1.0	3	208	2.7	84°F	80.0°F	55.0°F	55.0°F	250.5MBH	86.59 MBH	826	18.2	33.06	288	3X EZ CLEAN METAL MESH

SYM	ZONE			DATE	APPROVED

REVISIONS

FOODSERVICE DESIGN ASSOCIATES, INC.
11 Shiloh Lane
Norwich, VT 05055
(802) 649-0212
www.foodservice-design.com

SIGNATURES	DATE
DRAWN Scott Towner	12.18.13
CHECKED Scott Towner	12.18.13
SUBMITTED: ARCHITECT OF RECORD Philip Bell	12/18/13
ST of LICENSURE: FL LICENSE NO: AR 10739	
APPROVED Steve Bochner	12-18-13
Thomas Witczak	12-19-13

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

FOOD SERVICE MECHANICAL DETAILS

FS107

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 157

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EXHAUST FAN INFORMATION

FAN UNIT NO.	TAG	FAN UNIT MODEL #	CFM	ESP.	RPM	H.P.	ø	VOLT	FLA	WEIGHT (LBS.)	SONES
1		KB18	3300	1.250	1313	3.000	3	208	8.4	1268	15

FAN OPTIONS

FAN UNIT NO.	TAG	OPTION (Qty. – Descr.)
1		1 – Pollution Control Unit with Prefilter and Dual High Efficiency Filters. Size 3

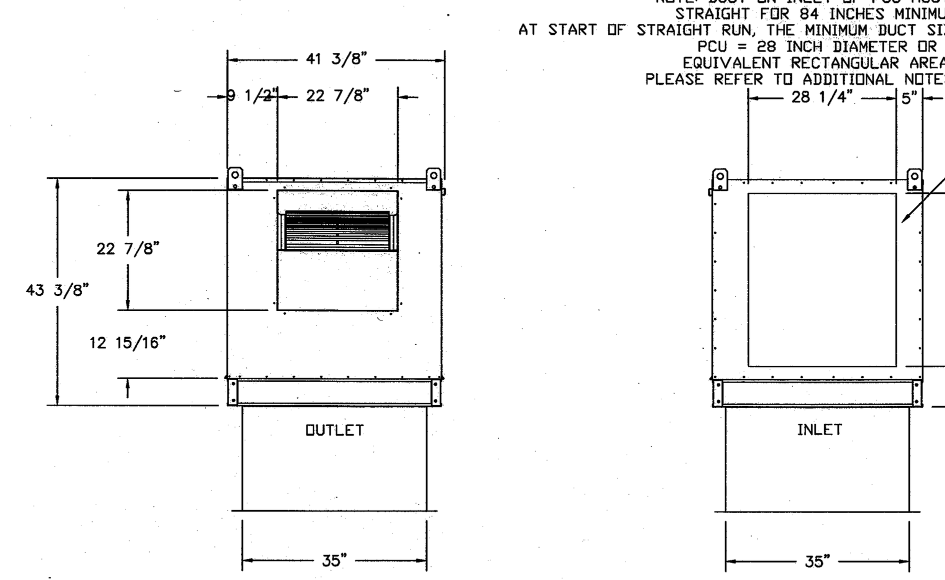
CURB ASSEMBLIES

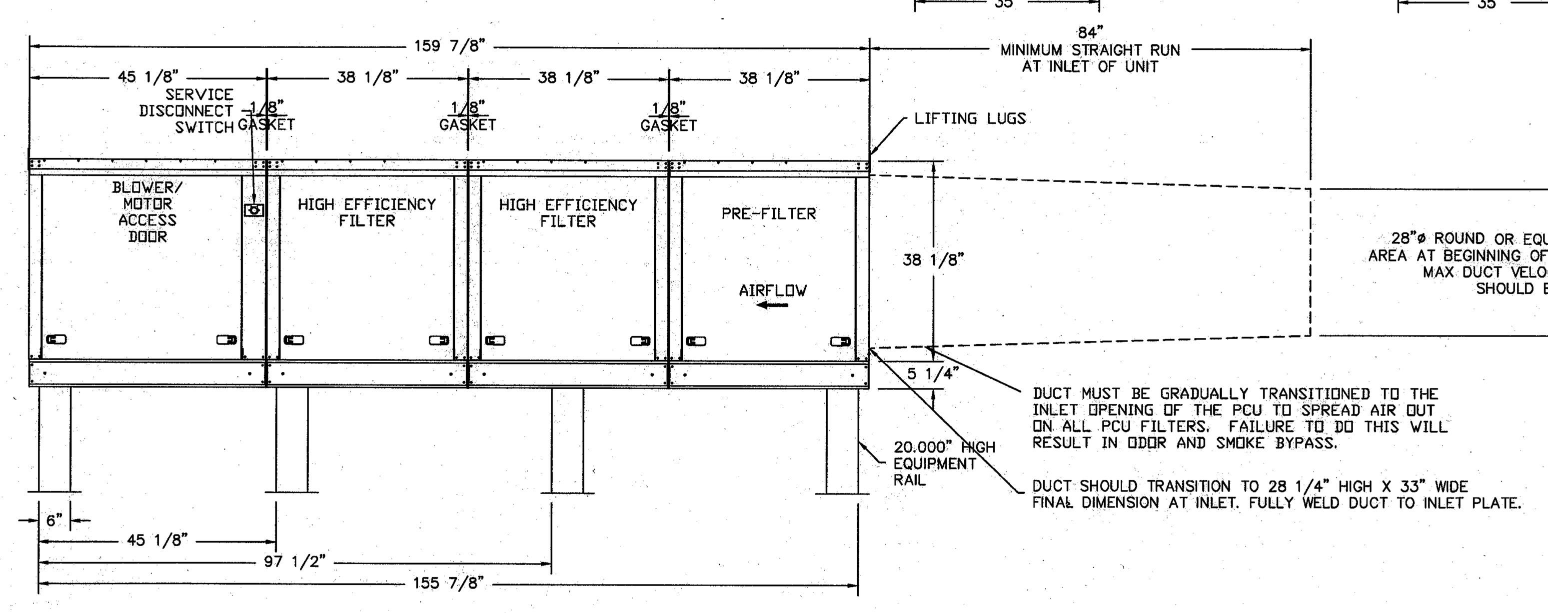
NO.	ON FAN	WEIGHT	ITEM	SIZE
1		30 LBS	Rail	6.000"W x 35.000"L x 20.000"H
			Rail	6.000"W x 35.000"L x 20.000"HAlong Length,
			Rail	6.000"W x 35.000"L x 20.000"HAlong Length,
			Rail	6.000"W x 35.000"L x 20.000"HAlong Length,

PCU FILTER SPECIFICATIONS					
DESIGN CFM – 3300					
MODULE	FILTER TYPE or approved equal	FILTER EFFICIENCY	QTY	SIZE	S.P.(Clean) (in.W.C)
1	Captrate SOLO	MERV 8	8	25X20X2	0.369
2	High Efficiency	MERV 14	8	20X25X4	0.329
3	High Efficiency	MERV 14	8	20X25X4	0.329
					1.027 TOTAL

DESCRIPTION:
FAN #1 KB18 – EXHAUST FAN – POLLUTION CONTROL UNIT. INCLUDES STEEL PRE FILTER MODULE, HIGH EFFICIENCY MERV 14 FILTER MODULE, AND HIGH EFFICIENCY MERV 14 FILTER MODULE. SIZE 3. DOES NOT INCLUDE FAN.

NOTE: DUCT ON INLET OF PCU MUST BE STRAIGHT FOR 84 INCHES MINIMUM.
AT START OF STRAIGHT RUN, THE MINIMUM DUCT SIZE APPROACHING THE PCU = 28 INCH DIAMETER OR EQUIVALENT RECTANGULAR AREA.
PLEASE REFER TO ADDITIONAL NOTES 1-3





NOTES:
1. ALL DIMENSIONS ARE NOMINAL AND GIVEN IN INCHES.

2. C/US UL710 LISTED FOR GREASE DUCT INSTALLATION

3. PCU EXHAUST FAN WITH 18 INCH WHEEL. UL762 LISTED. SIZE 3.

4. WHEN USED IN KITCHEN GREASE DUCT, UNIT MUST BE INSTALLED DOWNSTREAM OF A LISTED HOOD ASSEMBLY OF A UL710 LISTED HOOD ASSEMBLY OR A NFPA 96 COMPLIANT HOOD AS LONG AS IT IS INSTALLED WITH A FIRE SUPPRESSION SYSTEM THAT IS INTERLOCKED WITH THE NFPA 96 COMPLIANT HOOD FIRE SYSTEM.

5. CLEARANCE ON FILTER ACCESS SIDE OF THE PCU SHOULD BE A MINIMUM OF 36' FOR PROPER SERVICE OF THE UNIT. ALL OTHER SIDES SHOULD FOLLOW CLEARANCE TO COMBUSTIBLE GUIDELINES PER CODE.

6. UNIT CONTAINS PRESSURE MONITORING SWITCH. REFER TO ELECTRICAL SCHEMANTIC OR OPERATION MANUAL FOR MORE INFORMATION.

7. 1 1/2' NPT DRAIN SUPPLIED IN EACH MODULE FOR WASHDOWN AND IS CAPPED FOR EASY CLEANOUT.

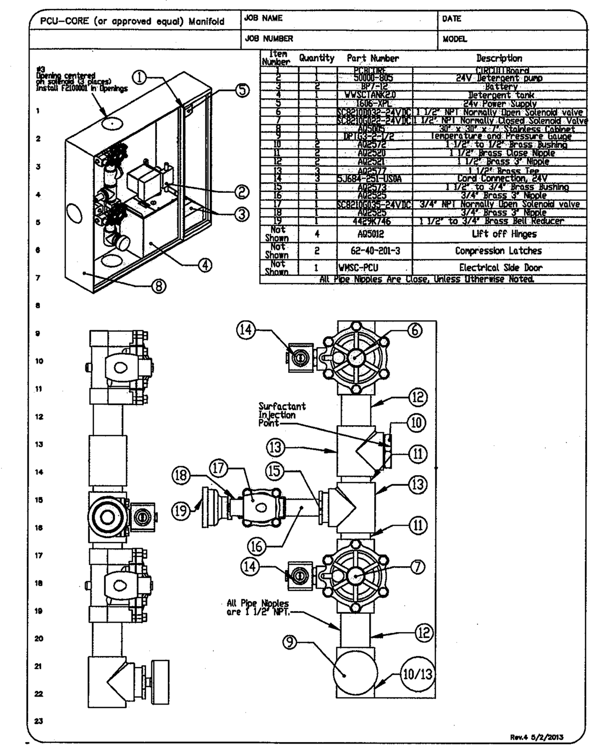
8. FIRE SYSTEM TO BE INSTALLED INDOORS OR IN A WEATHERTIGHT ENCLOSURE MAINTAINED BETWEEN 32° AND 130° F. THIS ENCLOSURE IS PROVIDED BY OTHERS.

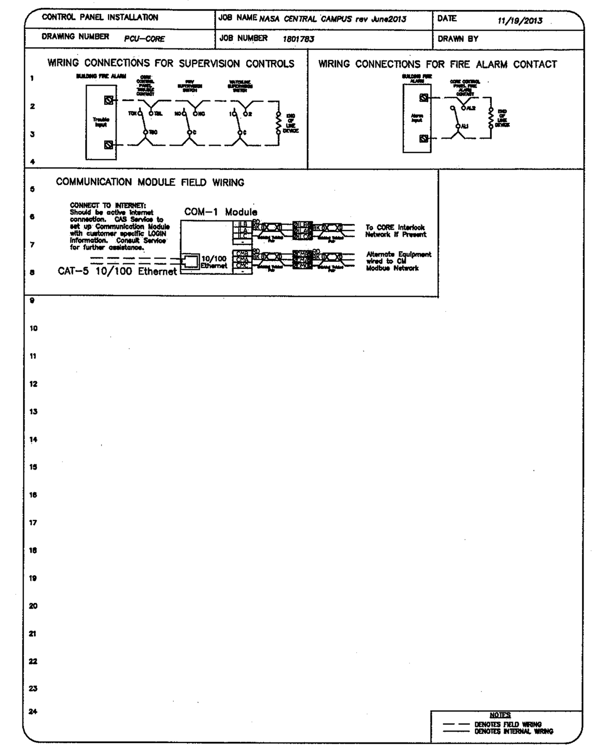
FAN #1 KB18 – PCU #1 PCU-PF-HE-HE-3
FAN WEIGHT = 1268 / CURB WEIGHT = 120

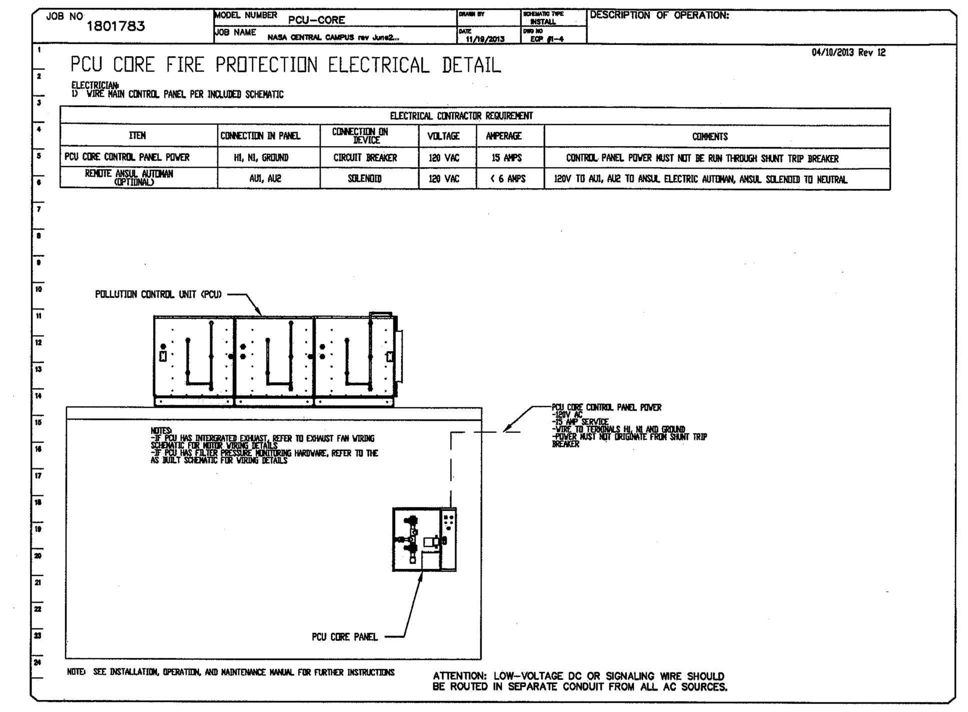
INLET NOTES:
1. LENGTH OF STRAIGHT DUCT ON INLET OF PCU TO BE 3 TIMES THE EQUIVALENT DUCT DIAMETER TO AVOID SYSTEM EFFECT.

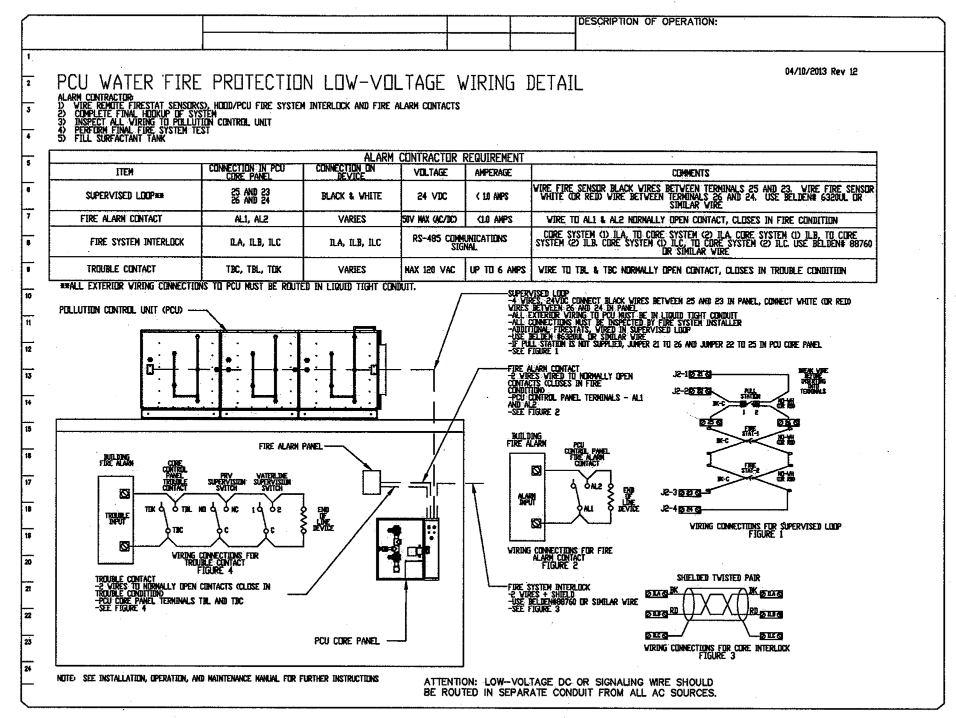
2. MAX INLET DUCT VELOCITY TO BE 800 FPM INTO THE PCU. DUCTWORK SHOULD BE SIZED APPROPRIATELY.

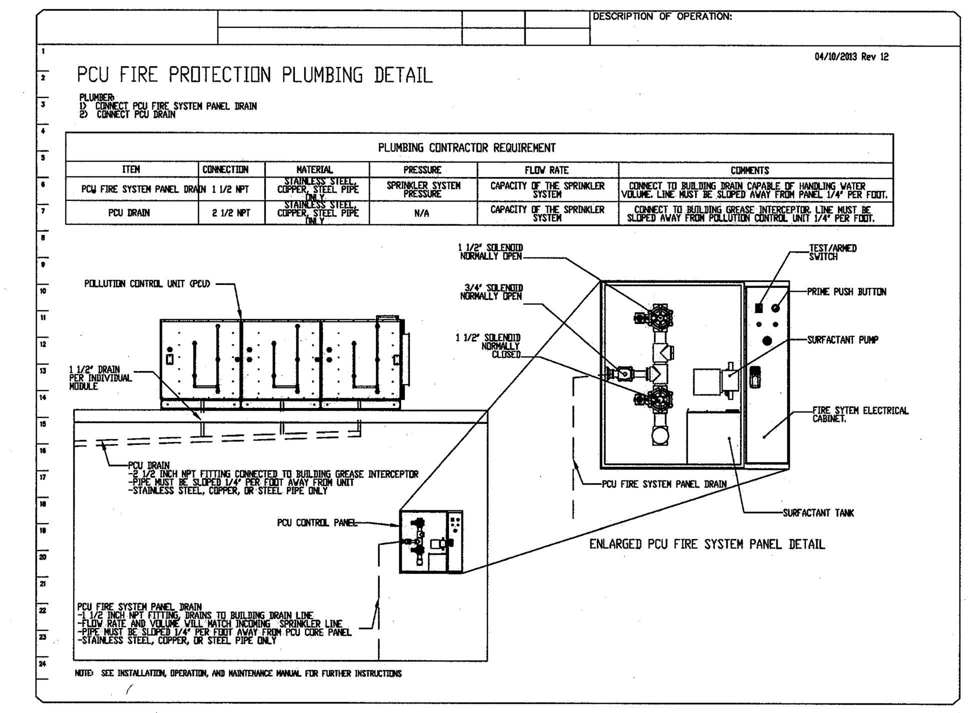
3. DUCT MUST BE GRADUALLY TRANSITIONED TO THE INLET OPENING OF THE PCU TO SPREAD AIR OUT ON ALL PCU FILTERS. FAILURE TO DO THIS WILL RESULT IN ODOR AND SMOKE BYPASS.





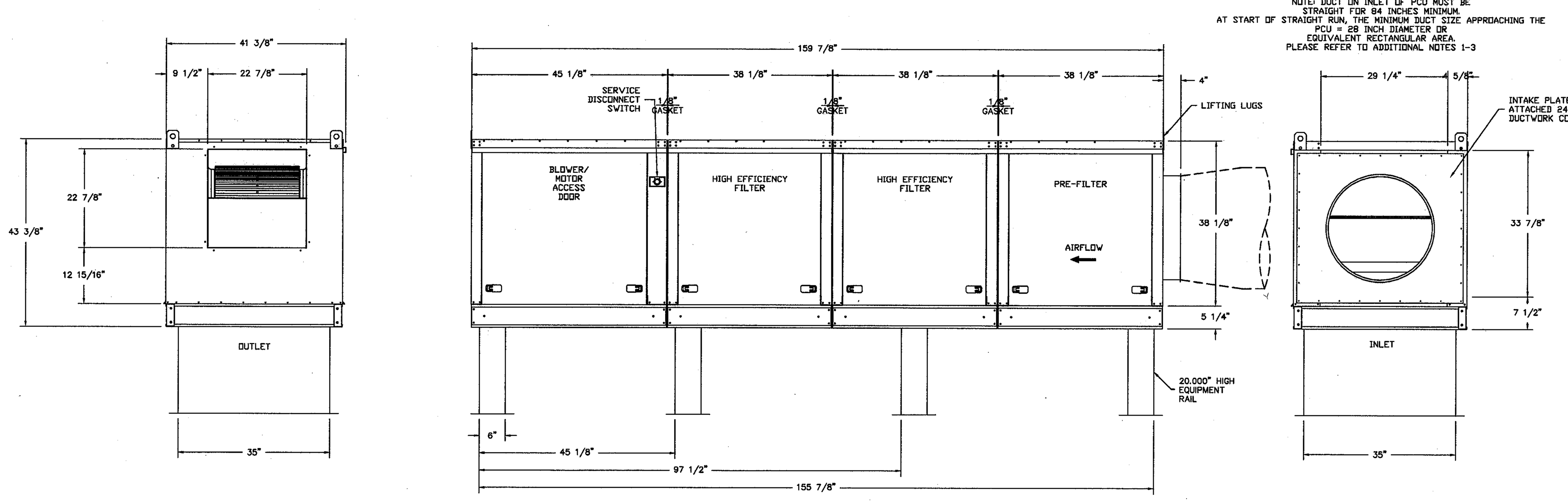






DESCRIPTION:
FAN #6 KB18 – EXHAUST FAN – POLLUTION CONTROL UNIT WITH WATER BASED PROTECTION FIRE SYSTEM INSTALLED. INCLUDES STEEL PRE FILTER MODULE AND HIGH EFFICIENCY MERV 14 FILTER MODULE PREPIPED WITH 17 3070-3/8HH-SS10 NOZZLES AND INCLUDES DOWNSTREAM PROTECTION. ELECTRIC FIRE DETECTOR AND NOZZLES ARE INCLUDED.

NOTE: DUCT ON INLET OF PCU MUST BE STRAIGHT FOR 84 INCHES MINIMUM.
AT START OF STRAIGHT RUN, THE MINIMUM DUCT SIZE APPROACHING THE PCU = 28 INCH DIAMETER OR EQUIVALENT RECTANGULAR AREA.
PLEASE REFER TO ADDITIONAL NOTES 1-3



NOTES:
1. ALL DIMENSIONS ARE NOMINAL AND GIVEN IN INCHES.

2. C/US UL710 LISTED FOR GREASE DUCT INSTALLATION

3. PCU EXHAUST FAN WITH 18 INCH WHEEL. UL762 LISTED. SIZE 3.

4. WHEN USED IN KITCHEN GREASE DUCT, UNIT MUST BE INSTALLED DOWNSTREAM OF A LISTED HOOD ASSEMBLY OF A UL710 LISTED HOOD ASSEMBLY OR A NFPA 96 COMPLIANT HOOD AS LONG AS IT IS INSTALLED WITH A FIRE SUPPRESSION SYSTEM THAT IS INTERLOCKED WITH THE NFPA 96 COMPLIANT HOOD FIRE SYSTEM.

5. CLEARANCE ON FILTER ACCESS SIDE OF THE PCU SHOULD BE A MINIMUM OF 36' FOR PROPER SERVICE OF THE UNIT. ALL OTHER SIDES SHOULD FOLLOW CLEARANCE TO COMBUSTIBLE GUIDELINES PER CODE.

6. UNIT CONTAINS PRESSURE MONITORING SWITCH. REFER TO ELECTRICAL SCHEMATIC OR OPERATION MANUAL FOR MORE INFORMATION.

7. 1 1/2' NPT DRAIN SUPPLIED IN EACH MODULE FOR WASHDOWN AND IS CAPPED FOR EASY CLEANOUT.

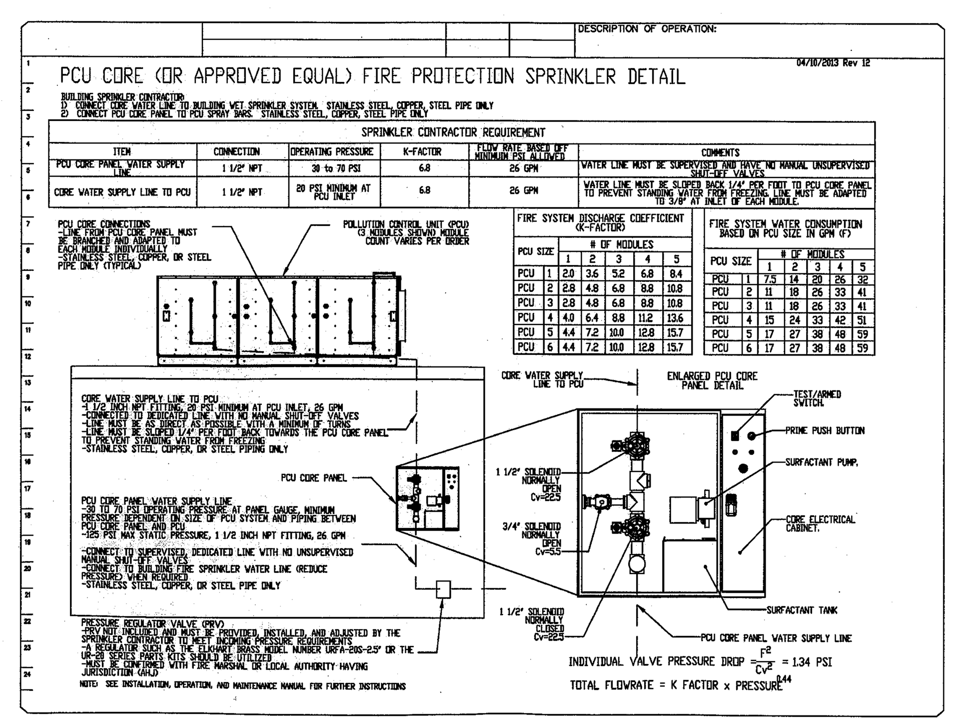
8. FIRE SYSTEM TO BE INSTALLED INDOORS OR IN A WEATHERTIGHT ENCLOSURE MAINTAINED BETWEEN 32° AND 130° F.THIS ENCLOSURE IS PROVIDED BY OTHERS.

FAN #6 KB18 – PCU #1
FAN WEIGHT = 1329 / CURB WEIGHT = 120

INLET NOTES:
1. LENGTH OF STRAIGHT DUCT ON INLET OF PCU TO BE 3 TIMES THE EQUIVALENT DUCT DIAMETER TO AVOID SYSTEM EFFECT.

2. MAX INLET DUCT VELOCITY TO BE 800 FPM INTO THE PCU. DUCTWORK SHOULD BE SIZED APPROPRIATELY.

3. DUCT MUST BE GRADUALLY TRANSITIONED TO THE INLET OPENING OF THE PCU TO SPREAD AIR OUT ON ALL PCU FILTERS. FAILURE TO DO THIS WILL RESULT IN ODOR AND SMOKE BYPASS.



GENERAL NOTE
MODEL NUMBERS AND INFORMATION PROVIDED ON THIS DRAWING ARE BASED ON CAPTIVEAIRE PRODUCTS. PROVIDE CAPTIVEAIRE OR APPROVED EQUAL

SYM	ZONE		DATE	APPROVED

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

FOOD SERVICE
MECHANICAL DETAILS

FS108

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 158

KSC FORM 1-11 (3/76)(C/G 3/94)

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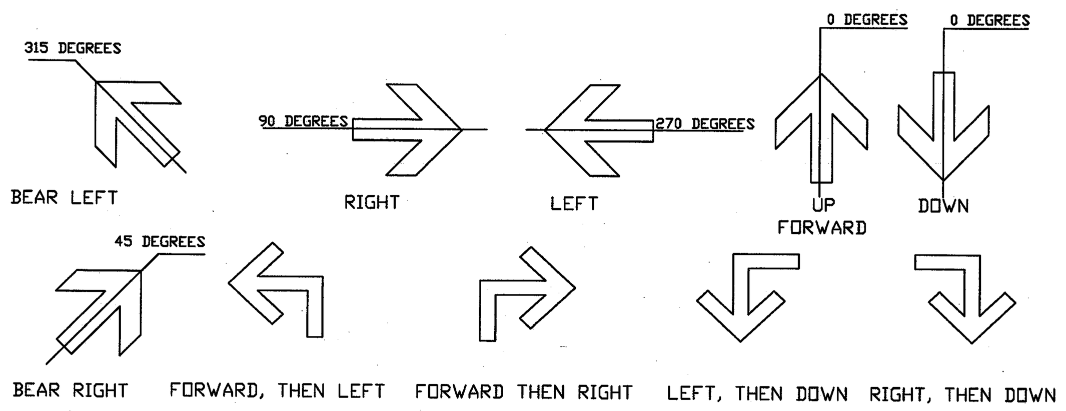
A B C D E F G H I J K L M N O
P Q R S T U V W X Y Z & a b c
d e f g h i j k l m n o p q r s t
u v w x y z 1 2 3 4 5 6 7 8 9 0
. , - ! ? $

HELVETICA BOLD ALPHABET (X-HLVMLD.SHX) (1) NTS

NOTE: NON-ILLUMINATED AND POSITIVE MESSAGES TO BE TRACKED 25 PERCENT.
NOTE: ILLUMINATED AND NEGATIVE MESSAGES TO BE TRACKED 75 PERCENT.
NOTE: TACTILE MESSAGES TO BE TRACKED 150 PERCENT.



STANDARD ARROWS (2) NTS

A B C D E F G H I J K M N O P
Q R S T U V W X Y Z + a b c d
e f g h i j k l m n o p q r s t u
v w x y z 1 2 3 4 5 6 7 8 9 0 . ,
- ! ? $

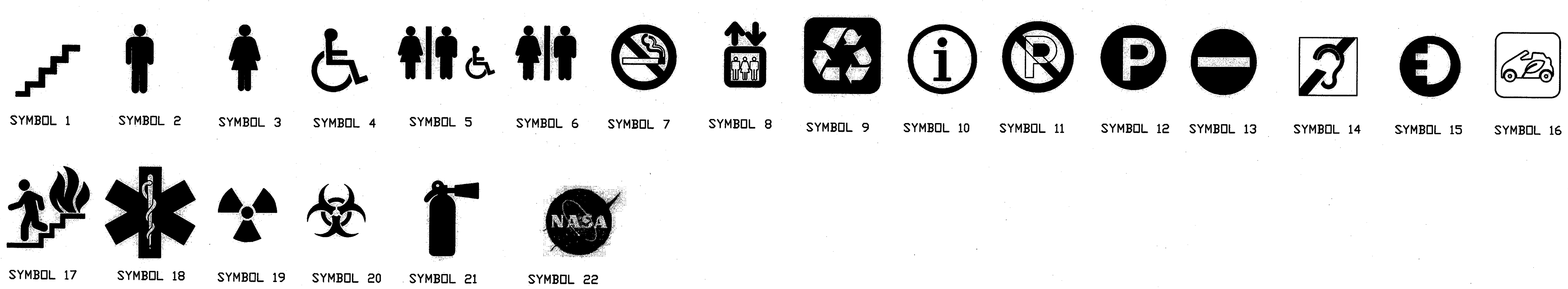
HELVETICA REGULAR ALPHABET (HELV.SHX) (6) NTS

NOTE: NON-ILLUMINATED AND POSITIVE MESSAGES TO BE TRACKED 25 PERCENT.
NOTE: ILLUMINATED AND NEGATIVE MESSAGES TO BE TRACKED 75 PERCENT.
NOTE: TACTILE MESSAGES TO BE TRACKED 150 PERCENT.

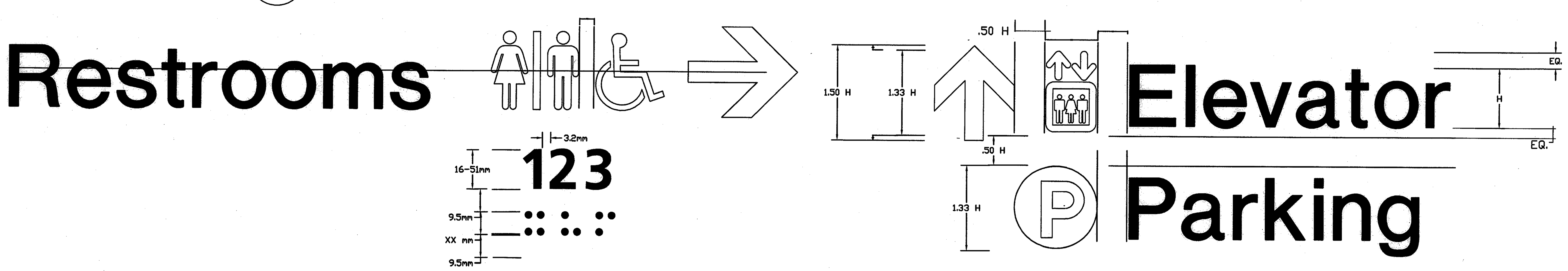
A B C D E F G H I J K M N O P
Q R S T U V W X Y Z & a b c d
e f g h i j k l m n o p q r s t u
v w x y z 1 2 3 4 5 6 7 8 9 0 . ,
- ! ? $

EUROSTYLE BOLD EXTENDED) (7) NTS

NOTE: NON-ILLUMINATED AND POSITIVE MESSAGES TO BE TRACKED 25 PERCENT.
NOTE: ILLUMINATED AND NEGATIVE MESSAGES TO BE TRACKED 75 PERCENT.
NOTE: TACTILE MESSAGES TO BE TRACKED 150 PERCENT.



SYMBOLS LEGEND (3) NTS



ALPHABET / SYMBOL / BRAILLE RELATIONSHIPS (4) NTS

THE CONTRACT DOCUMENTS PROPOSED FOR THE WORK CONSIST OF BUT ARE NOT LIMITED TO THE OWNER/ CONTRACTOR AGREEMENT, THE CONDITIONS OF THE CONTRACT (GENERAL AND SUPPLEMENTARY CONDITIONS) THE DRAWINGS, THE SPECIFICATIONS AND ALL ADDENDA ISSUED PRIOR TO AND ALL MODIFICATIONS ISSUED AFTER EXECUTION OF THE CONTRACT.

BIDDING VENDORS SHALL USE COMPLETE SETS OF BIDDING DOCUMENTS IN PREPARING BIDS. NEITHER THE OWNER'S REPRESENTATIVE, OWNER, ARCHITECT OR MFA (MARI FRITH AND ASSOCIATES, INC.) ASSUME ANY RESPONSIBILITY FOR ERRORS AND MISINTERPRETATIONS RESULTING FROM THE USE OF PARTIAL SETS OF BIDDING DOCUMENTS.

A. REFER TO THE MASTER SHEET INDEX INCLUDED IN THE COVER SHEET FOR THE LIST OF "W" SERIES DRAWINGS RELATED TO THIS SIGNAGE CONTRACT.

B. REFER TO SPECIFICATION SECTION 10 14 01 EXTERIOR SIGNS, 10 14 02 INTERIOR SIGNS AND 10 14 05, SIGNAGE MESSAGE SCHEDULE FOR SITE AND BUILDING.

C. THE FOLLOWING RELATED SPECIFICATION SECTIONS:
1. OWNER'S GENERAL PROVISIONS OF THE CONTRACT, GENERAL AND SUPPLEMENTARY CONDITIONS .
2. DIVISION 1 SECTION OF PROJECT SPECIFICATIONS
3. DIVISION 3 SECTION OF PROJECT SPECIFICATIONS
4. DIVISION 6 SECTION OF PROJECT SPECIFICATIONS
5. CIVIL ENGINEERING SECTION OF PROJECT SPECIFICATIONS FOR LOCATIONS OF SIGNS INDICATING LOCATION OF OR DIRECTION TO FIRE DEPARTMENT CONNECTIONS AND THAT OF REGULATORY PARKING SIGNAGE, AND STANDARD POLES.

D. SIGNAGE MESSAGE SCHEDULE
1. SECTION 10 14 05 IS A SEPARATE SECTION THAT INCLUDES THE SIGNAGE MESSAGE SCHEDULE FOR SITE AND BUILDING. THIS SECTION SHALL BE COORDINATED WITH REQUIREMENTS OF SECTIONS 10 14 01 AND 10 14 02 SPECIFICATIONS WHICH ARE DEDICATED TO EXTERIOR AND AND INTERIOR SIGNAGE FOR THIS PROJECT.

E. ADDITIONAL QUANTITIES – MISCELLANEOUS SIGN TYPES
1. IN ADDITION TO THE PLAN LOCATED QUANTITIES, THE FABRICATOR IS TO PROVIDE AS PART OF THE BASE BID, QUANTITIES OF THE FOLLOWING, FOR LOCATIONS TO BE FIELD DIRECTED BY GOVERNMENT.

SIGN TYPE : BJ.5 QUANTITY : SEE MESSAGE SCHEDULE
SIGN TYPE : BL QUANTITY : SEE MESSAGE SCHEDULE

2. FURNISH 100 ADDITIONAL TOP PLACARD BLANK INSERTS TO GOVERNMENT TO STORE AS ATTIC STOCK OF THE SIGN TYPE BH1. SEE ALSO GENERAL NOTES ON DETAIL SHEETS.

F. ALLOWANCES – MISCELLANEOUS SIGN TYPES
1. XXX

RELATED DOCUMENTS (5) NTS

1. MARI FRITH and ASSOCIATES shall not have control or charge of and shall not be responsible for construction means, methods, techniques, sequences or procedures, or for safety measures, precautions and programs including enforcement of Federal and State safety requirements, in connection with construction work performed by Owner's construction contractors. Nor shall MARI FRITH and ASSOCIATES be responsible for the supervision of Owner's construction contractors, subcontractors or any of their employees, agents and representatives of such contractors, or for inspecting machinery construction equipment and tools used and employed by contractors and subcontractors on Owner's construction projects. In no event shall MARI FRITH and ASSOCIATES have the right to stop the work of any of the Owner's construction contractors or subcontractors. In no event shall MARI FRITH and ASSOCIATES be liable for the acts or omissions of any construction contractors, their subcontractors, any of their agents or employees, or any other persons or entities performing any work related to this project, or for the failure of any of them to carry out construction work under contract with MARI FRITH and ASSOCIATES.

MISCELLANEOUS PROVISIONS (8) NTS

GENERAL NOTES – SITE

1. MESSAGES ILLUSTRATED IN DRAWINGS ARE NOT ACTUAL MESSAGES BUT FOR LAYOUT PURPOSES ONLY. SEE MESSAGE SCHEDULE FOR CORRECT MESSAGES.
2. SITE LOCATION PLAN SYMBOLS INDICATE GENERAL SIGN LOCATIONS. THEY ARE NOT REPRESENTATIVE OF ACTUAL SIGN SIZES OR LOCATIONS. CONDUCT EARLY PRE-COORDINATION MEETING IN ADVANCE OF PAVING TO FIELD DETERMINE EXACT AND BLOCK OUT SIGN FOOTINGS FOR HARD AND SOFT SURFACES.
3. FABRICATOR TO FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO FABRICATION INCLUDING THE SURVEY OF BELOW GRADE OBSTACLES AT SIGN LOCATIONS. A SOFT DIG AND SCAN IS REQUIRED PRIOR TO INSTALLATION TO CONFIRM PRESENCE AND LOCATION OF UNDERGROUND OBSTACLES.
4. ALL SIGNS TO BE FABRICATED AND INSTALLED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES LAW, ANSI STANDARDS AND AND ADAAG REGULATIONS.
5. TYPESTYLE TO BE HELVETICA AS SHOWN IN DRAWINGS.
6. SUBSTITUTE TYPEFACES, ARROWS, SYMBOLS WILL NOT BE ACCEPTED. ALL SYMBOLS TO BE STANDARD DOT, INTERNATIONAL SYMBOLS. IF NECESSARY, CONTACT GSA FOR INFORMATION ON AVAILABILITY.
7. ALL FASTENERS TO BE CONCEALED AND VANDAL RESISTANT UNLESS OTHERWISE NOTED.
8. FABRICATOR SHALL BE RESPONSIBLE FOR PREPARATION OF ITS SUBMITTALS AND PULLING OF ALL NECESSARY PERMITS AND VARIANCES, INCLUDING SUBMITTALS FOR RELATED DRC, PRC AND OTHER RELATED REVIEW COMMITTEES FOR THIS PROJECT'S JURISDICTION. TASKS ALSO INCLUDE COORDINATION OF ALL INSPECTIONS REQUIRED IN CONNECTION WITH THE WORK.

GENERAL NOTES – BUILDING

1. MESSAGES ILLUSTRATED IN DRAWINGS ARE NOT ACTUAL MESSAGES BUT FOR LAYOUT PURPOSES ONLY. SEE MESSAGE SCHEDULE FOR SPECIFIC MESSAGES.
2. LOCATION PLAN SYMBOLS INDICATE GENERAL SIGN LOCATIONS. THEY ARE NOT REPRESENTATIVE OF ACTUAL SIGN SIZES OR LOCATIONS. SEE SIGN ELEVATIONS FOR ACTUAL DIMENSIONS. SEE MOUNTING DETAILS AND CONDUCT PRE-CONSTRUCTION MEETING WITH CM/ARCHITECT/NASA TO FIELD DETERMINE PROTOTYPICAL LOCATIONS FOR EACH SIGN TYPE.
3. FABRICATOR TO FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO FABRICATION.
4. ALL SIGNS TO BE FABRICATED AND INSTALLED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES LAW, ANSI STANDARDS AND ADAAG REGULATIONS.
5. TYPESTYLE TO BE HELVETICA REGULAR, HELVETICA BOLD, AND OTHER FONT TO BE DETERMINED AS SHOWN ON DRAWINGS.
6. SUBSTITUTE TYPEFACES, ARROWS OR SYMBOLS WILL NOT BE ACCEPTED. ALL SYMBOLS TO BE STANDARD AIGA, DOT OR ADA SYMBOLS. IF NECESSARY, CONTACT DESIGNER FOR INFORMATION ON AVAILABILITY.
7. NOT USED

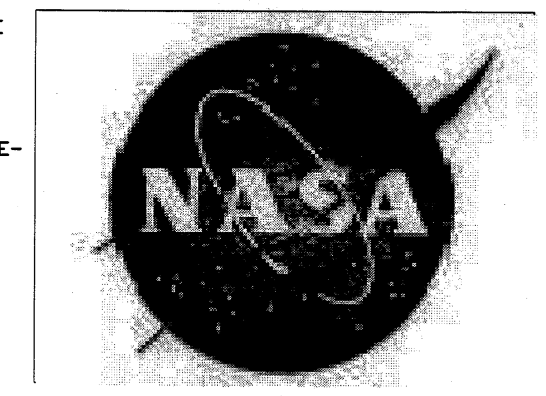
SITE SIGN TYPE NOTES

1. TYPESTYLE TO BE HELVETICA AS SHOWN ON DRAWINGS.
2. THE FOLLOWING SIGN TYPE MAY BE DOUBLE-FACED: SL .
FOR DOUBLE-FACED SIGNS, MESSAGE FACES ARE DESIGNATED AS "A" AND "B" ON THE LOCATION PLAN AND IN THE MESSAGE SCHEDULE.
3. NOT USED
4. NOT USED

BUILDING SIGN TYPE NOTES

1. FOR SINGLE-FACED SIGNS , THE SIGN DESIGNATOR LEADER LINE POINTS TO THE MESSAGE FACE.
2. FOR DOUBLE-FACED SIGNS, THE SIGN DESIGNATOR LEADER LINE POINTS TO THE 'A' MESSAGE FACE.
3. THE FOLLOWING SIGN TYPES IN THIS PROJECT ARE DOUBLE-FACED AS STANDARD DETAIL.:
BJ.5 FIRE EXTINGUISHER
BK LEED RECYCLE

NASA LOGO



SIGN IDENTIFIER METHOD

BX1-00
- 00: SIGN NUMBER
- 1: SIGN TYPE SUB SET
- X: SIGN TYPE SET
- "B" AS BUILDING SIGNAGE DESIGNATOR

LEGEND OF BUILDING SIGN TYPES

BA ENTRANCE IDENTIFICATION (BUILDING NUMBER)
BB not used
BC LEED MESSAGE
BD WALL MOUNTED BUILDING DIRECTORY
- BD1 LARGE
- BD2 SMALL

BE WALL-MTD. DIRECTIONAL
BF CONFERENCE / IN USE
BG LEED / INFORMATIONAL
BH ADA – ROOM/AREA IDENTIFICATION
- BH.1 MECHANICAL/ELEC/ROOF COMMS/JANITOR/EQUIP
- BH.2 DEPT / TENANT
- BH.3 GENERAL IDENTIFICATION
- BH.4 OFFICE IDENT. WITH NAME INSERT(S)
- BH.5 EXIT TACTILE IDENT.
- BH.6 RESTROOM IDENTIFICATION
- BH.7 STAIRWELL IDENTIFICATION
- BH.8 ELEVATOR IDENTIFICATION

BJ REGULATORY
- BJ.1 STAIR LEVEL IDENTIFICATION – SELF-LUMINOUS EXIT INSTRUCTIONS
- BJ.2 ELEVATOR REG.
- BJ.3 MAXIMUM OCCUPANCY
- BJ.4 MED TRANSIT ELEV.
- BJ.5 FIRE EXTINGUISHER
- BJ.6 STAIR RE-ENTRY

BK LEED RECYCLE
BL EVACUATION MAP CASE
BM DIMENSIONAL LETTERS

SIGN IDENTIFIER LEGEND

S X- 00
- 00: SIGN NUMBER
- X: SIGN TYPE
- S: SITE SIGNAGE DESIGNATOR

SITE SIGN TYPES

SA MONUMENT SIGN CHANNEL CUT LED
SB DIRECTOR PARKING
SC LEED ELEC.VEH. CHARGING PKG.
SD FUEL EFFICIENT VEHICLE PARKING
SE CAR POOL PARKING
SF FDC (FIRE DEPT. CONNECTION) PANEL SIGN
SG LEED EQ NO SMOKING MESSAGE WALL-MOUNTED
SH LEED EQ NO SMOKING MESSAGE POST-MOUNTED
SI not used
SK LOGO ICON SIGN
SL GOVERNMENT PARKING
SM not used

SYM	ZONE	REVISIONS	DATE	APPROVED

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APPROVED Steve Belflower	12-18-13
NASA SYS/LDE Thomas Wilczek	12-19-13

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

SIGNAGE COVER SHEET

W001

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 159

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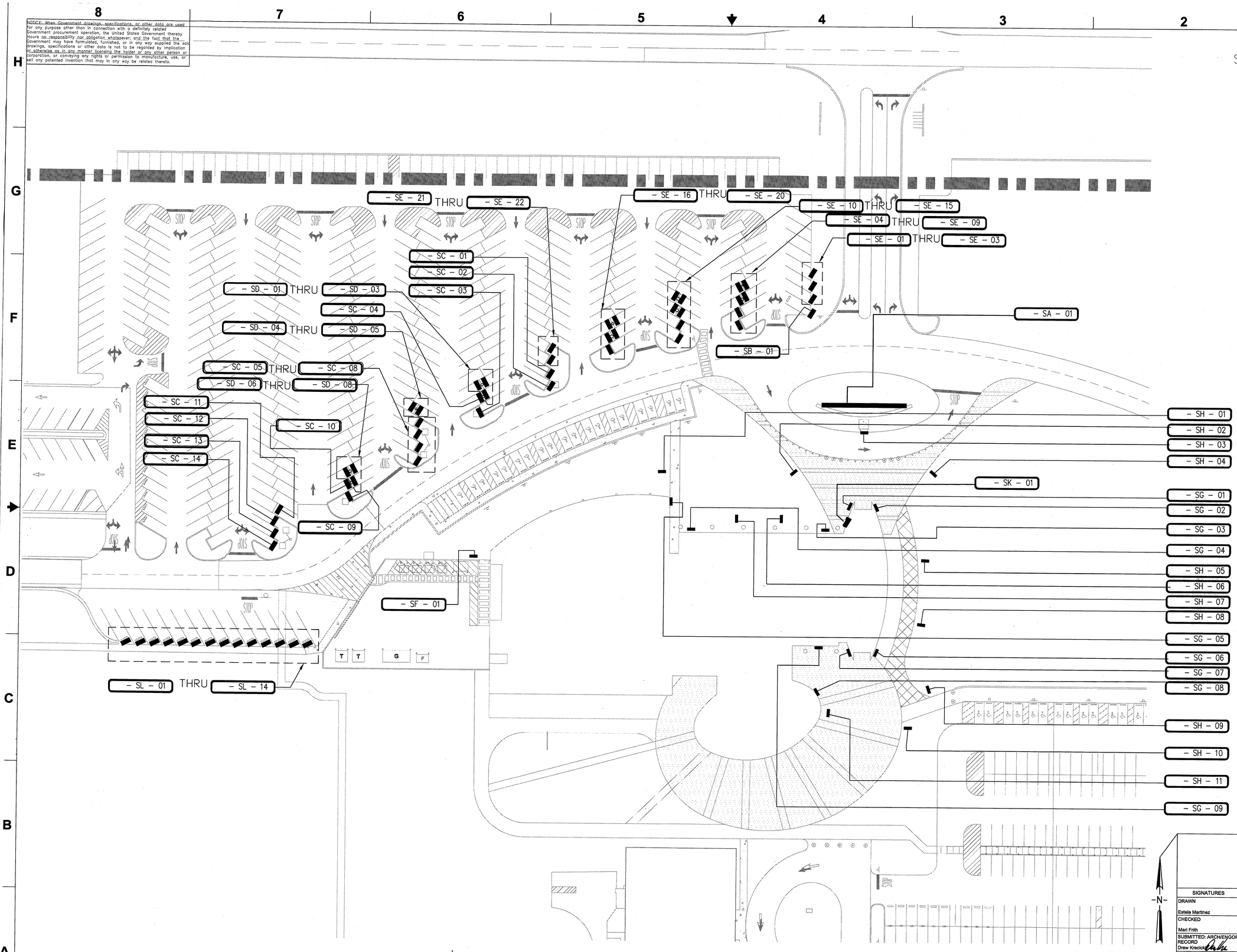

SIGNAGE SITE PLAN

1" = 30'-0"

GRAPHIC SCALE

0 30 60 120

SCALE IN FEET
1" = 30'-0"

SIGN IDENTIFIER LEGEND

S X- 00

- 00 — SIGN NUMBER
- X — SIGN TYPE
- S — SITE SIGNAGE DESIGNATOR

SITE SIGN TYPES

SA	MONUMENT SIGN CHANNEL CUT LED
SB	DIRECTOR PARKING
SC	LEED ELEC.VEH. CHARGING PKG.
SD	FUEL EFFICIENT VEHICLE PARKING
SE	CAR POOL PARKING
SF	FDC (FIRE DEPT. CONNECTION) PANEL SIGN
SG	LEED EQ NO SMOKING MESSAGE WALL-MOUNTED
SH	LEED EQ NO SMOKING MESSAGE POST-MOUNTED
SI	not used
SK	LOGO ICON SIGN
SL	GOVERNMENT PARKING
SM	not used

SYM	ZONE		DATE	APPROVED

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W101

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REPLACEMENT HEADQUARTERS BUILDING
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VOL. 4 OF 4

SIGNAGE SITE PLAN

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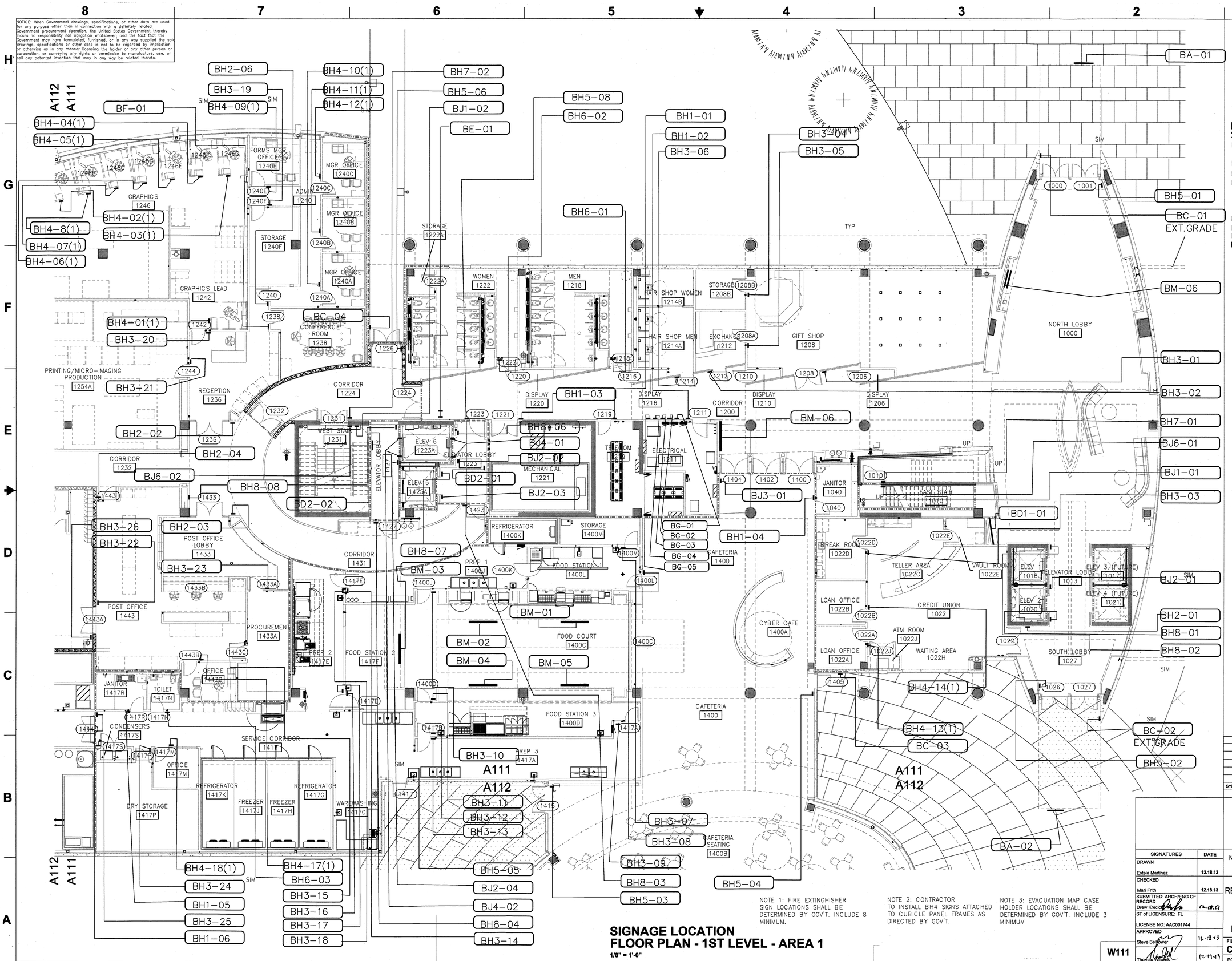

SIGNAGE LOCATION
FLOOR PLAN - 1ST LEVEL - AREA 1

1/8" = 1'-0"

NOTE 1: FIRE EXTINGHISHER SIGN LOCATIONS SHALL BE DETERMINED BY GOV'T. INCLUDE 8 MINIMUM.

NOTE 2: CONTRACTOR TO INSTALL BH4 SIGNS ATTACHED TO CUBICLE PANEL FRAMES AS DIRECTED BY GOV'T.

NOTE 3: EVACUATION MAP CASE HOLDER LOCATIONS SHALL BE DETERMINED BY GOV'T. INCLUDE 3 MINIMUM

W111

SIGN IDENTIFIER METHOD

BX1-00
- SIGN NUMBER
- SIGN TYPE SUB SET
- SIGN TYPE SET
- "B" AS BUILDING SIGNAGE DESIGNATOR

LEGEND OF BUILDING SIGN TYPES

- BA ENTRANCE IDENTIFICATION (BUILDING NUMBER)
- BB not used
- BC LEED MESSAGE
- BD WALL MOUNTED BUILDING DIRECTORY
  - BD1 LARGE
  - BD2 SMALL
- BE WALL-MTD. DIRECTIONAL
- BF CONFERENCE / IN USE
- BG LEED / INFORMATIONAL
- BH ADA – ROOM/AREA IDENTIFICATION
  - BH.1 MECHANICAL/ELEC/ROOF COMMS/JANITOR/EQUIP
  - BH.2 DEPT / TENANT
  - BH.3 GENERAL IDENTIFICATION
  - BH.4 OFFICE IDENT. WITH NAME INSERT(S)
  - BH.5 EXIT TACTILE IDENT.
  - BH.6 RESTROOM IDENTIFICATION
  - BH.7 STAIRWELL IDENTIFICATION
  - BH.8 ELEVATOR IDENTIFICATION
- BJ REGULATORY
  - BJ.1 STAIR LEVEL IDENTIFICATION – SELF-LUMINOUS EXIT INSTRUCTIONS
  - BJ.2 ELEVATOR REG.
  - BJ.3 MAXIMUM OCCUPANCY
  - BJ.4 MED TRANSIT ELEV.
  - BJ.5 FIRE EXTINGUISHER
  - BJ.6 STAIR RE-ENTRY
- BK LEED RECYCLE
- BL EVACUATION MAP CASE
- BM DIMENSIONAL LETTERS

SYM	ZONE		DATE	APPROVED

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PHASE 1
VOL. 4 OF 4

SIGNAGE LOCATION
FLOOR PLAN - 1ST LEVEL AREA 1

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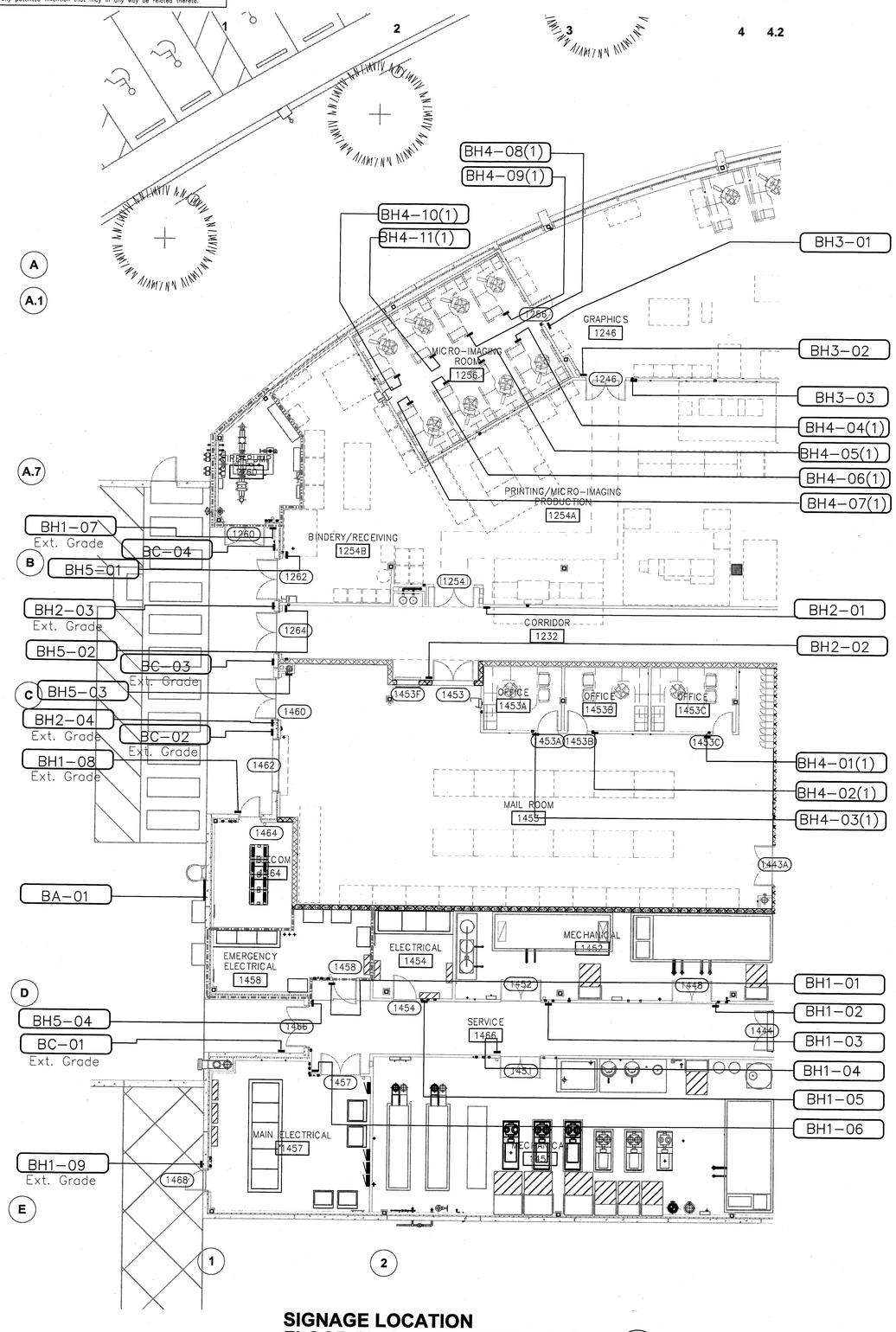

SIGNAGE LOCATION
FLOOR PLAN - 1ST LEVEL - AREA 2 (1)

1/8" = 1'-0"

NOTE 1: FIRE EXTINGHISHER SIGN LOCATIONS SHALL BE DETERMINED BY GOV'T. INCLUDE 8 MINIMUM.

NOTE 2: CONTRACTOR TO INSTALL BH4 SIGNS ATTACHED TO CUBICLE PANEL FRAMES AS DIRECTED BY GOV'T.

NOTE 3: EVACUATION MAP CASE HOLDER LOCATIONS SHALL BE DETERMINED BY GOV'T. INCLUDE 3 MINIMUM

SIGN IDENTIFIER METHOD

BX1-00
- SIGN NUMBER
- SIGN TYPE SUB SET
- SIGN TYPE SET
- "B" AS BUILDING SIGNAGE DESIGNATOR

LEGEND OF BUILDING SIGN TYPES

- BA ENTRANCE IDENTIFICATION (BUILDING NUMBER)
- BB not used
- BC LEED MESSAGE
- BD WALL MOUNTED BUILDING DIRECTORY
  - BD1 LARGE
  - BD2 SMALL
- BE WALL-MTD. DIRECTIONAL
- BF CONFERENCE / IN USE
- BG LEED / INFORMATIONAL
- BH ADA – ROOM/AREA IDENTIFICATION
  - BH.1 MECHANICAL/ELEC/ROOF COMMS/JANITOR/EQUIP
  - BH.2 DEPT / TENANT
  - BH.3 GENERAL IDENTIFICATION
  - BH.4 OFFICE IDENT. WITH NAME INSERT(S)
  - BH.5 EXIT TACTILE IDENT.
  - BH.6 RESTROOM IDENTIFICATION
  - BH.7 STAIRWELL IDENTIFICATION
  - BH.8 ELEVATOR IDENTIFICATION
- BJ REGULATORY
  - BJ.1 STAIR LEVEL IDENTIFICATION – SELF-LUMINOUS EXIT INSTRUCTIONS
  - BJ.2 ELEVATOR REG.
  - BJ.3 MAXIMUM OCCUPANCY
  - BJ.4 MED TRANSIT ELEV.
  - BJ.5 FIRE EXTINGUISHER
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- BK LEED RECYCLE
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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

SIGNAGE LOCATION
FLOOR PLAN - 1ST LEVEL AREA 2

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 162

W112

KSC FORM 1-11 (3/76)(C/G 3/94)

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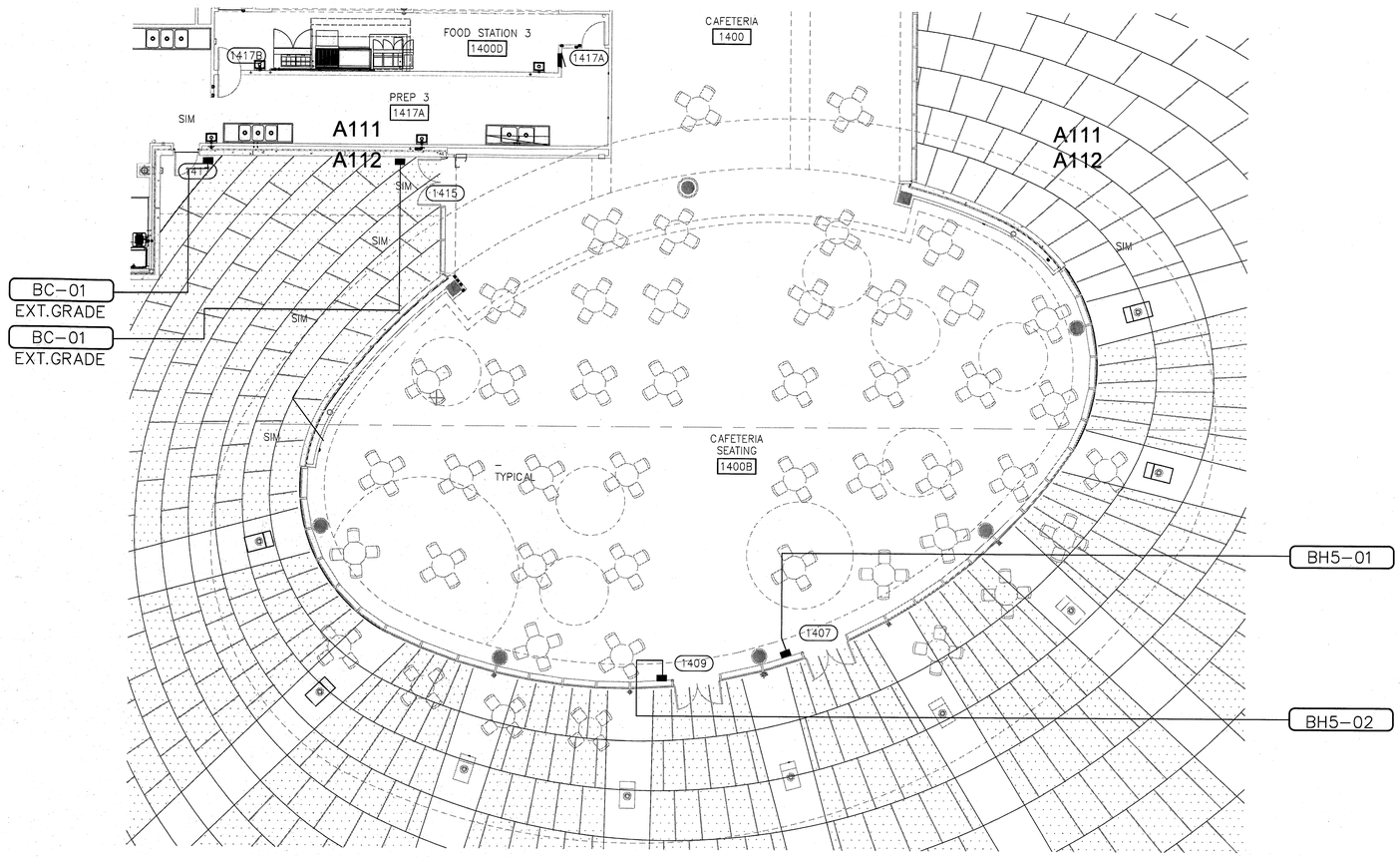

FLOOR PLAN - 1ST LEVEL - AREA 3 (1)

1/8" = 1'-0"

SIGN IDENTIFIER METHOD

BX1-00

- SIGN NUMBER
- SIGN TYPE SUB SET
- SIGN TYPE SET
- "B" AS BUILDING SIGNAGE DESIGNATOR

LEGEND OF BUILDING SIGN TYPES

- BA ENTRANCE IDENTIFICATION (BUILDING NUMBER)
- BB not used
- BC LEED MESSAGE
- BD WALL MOUNTED BUILDING DIRECTORY
  - BD1 LARGE
  - BD2 SMALL
- BE WALL-MTD. DIRECTIONAL
- BF CONFERENCE / IN USE
- BG LEED / INFORMATIONAL
- BH ADA – ROOM/AREA IDENTIFICATION
  - BH.1 MECHANICAL/ELEC/ROOF COMMS/JANITOR/EQUIP
  - BH.2 DEPT / TENANT
  - BH.3 GENERAL IDENTIFICATION
  - BH.4 OFFICE IDENT. WITH NAME INSERT(S)
  - BH.5 EXIT TACTILE IDENT.
  - BH.6 RESTROOM IDENTIFICATION
  - BH.7 STAIRWELL IDENTIFICATION
  - BH.8 ELEVATOR IDENTIFICATION
- BJ REGULATORY
  - BJ.1 STAIR LEVEL IDENTIFICATION – SELF-LUMINOUS EXIT INSTRUCTIONS
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  - BJ.3 MAXIMUM OCCUPANCY
  - BJ.4 MED TRANSIT ELEV.
  - BJ.5 FIRE EXTINGUISHER
  - BJ.6 STAIR RE-ENTRY
- BK LEED RECYCLE
- BL EVACUATION MAP CASE
- BM DIMENSIONAL LETTERS

NOTE 1: FIRE EXTINGHISHER SIGN LOCATIONS SHALL BE DETERMINED BY GOV'T. INCLUDE 8 MINIMUM.

NOTE 2: CONTRACTOR TO INSTALL BH4 SIGNS ATTACHED TO CUBICLE PANEL FRAMES AS DIRECTED BY GOV'T.

NOTE 3: EVACUATION MAP CASE HOLDER LOCATIONS SHALL BE DETERMINED BY GOV'T. INCLUDE 3 MINIMUM

SYM	ZONE	REVISIONS	DATE	APPROVED

MARI FRITH ASSOCIATES
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mari@MARIFRITH.com FL.IB787

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CHECKED Mari Frith	12.18.13
SUBMITTED: ARCH/ENG OF RECORD Drew Kreeger	12.18.13
ST of LICENSURE: FL	
LICENSE NO: AAC001744	
APPROVED Steve Belfiower	12.18.13
Thomas Wincze	12.19.13

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

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SIGNAGE LOCATION
FLOOR PLAN - 1ST LEVEL AREA 3

FILE NO.	SIZE	DWG. NO.
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W113

KSC FORM 1-11 (3/76)(C/G 3/94)

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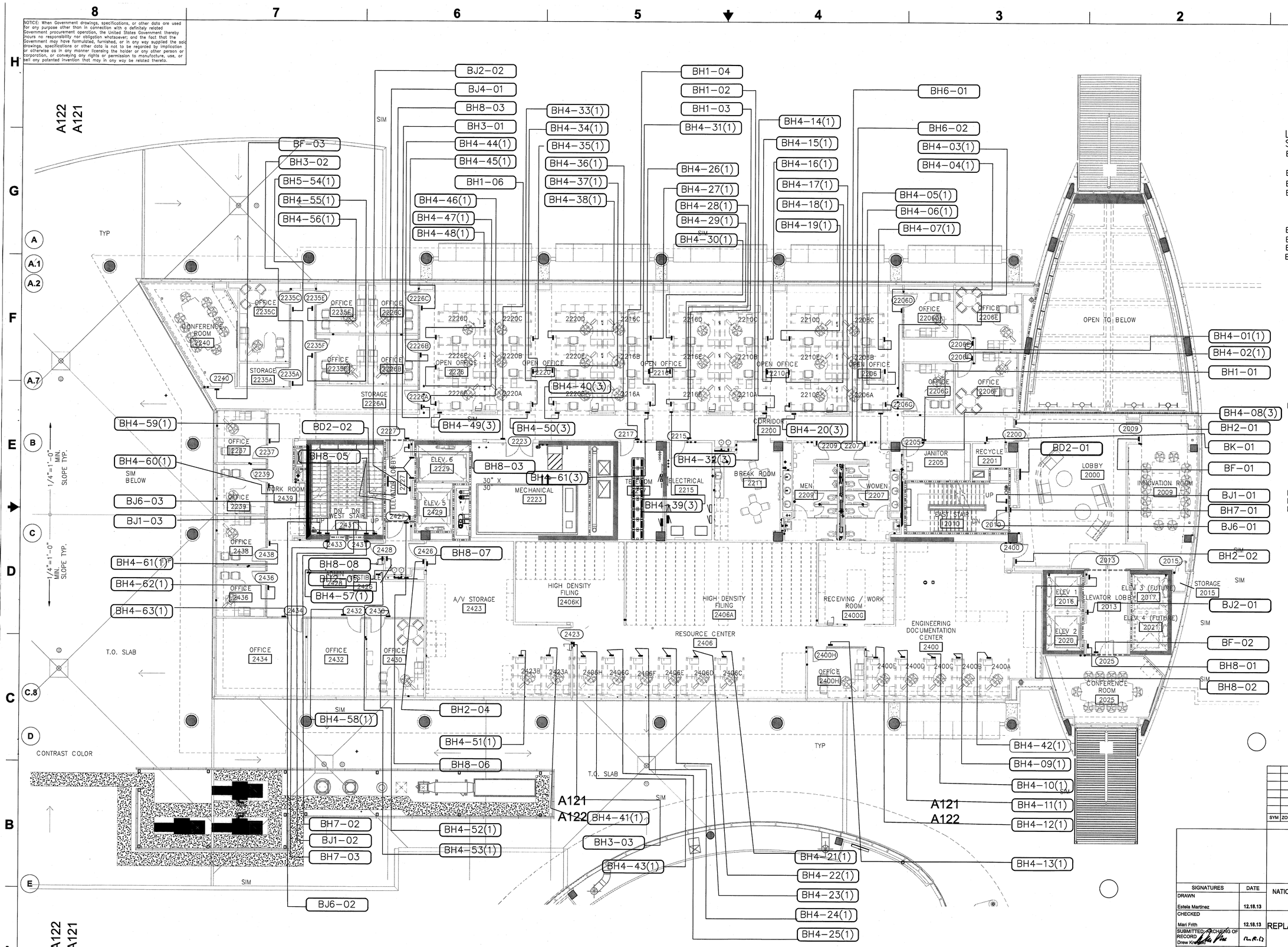

SIGNAGE LOCATION
FLOOR PLAN - 2ND LEVEL - AREA 1

1/8" = 1'-0"

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  - BJ.5 FIRE EXTINGUISHER
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SYM	ZONE		DATE	APPROVED

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LICENSE NO: AAC001744	
APPROVED Steve Bellflower	12.18.13
Thomas Wilczak	12.19.13

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

SIGNAGE LOCATION
FLOOR PLAN - 2ND LEVEL AREA 1

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 164

W121

(SC FORM 1-11 (3/76)(C/G 3/94)

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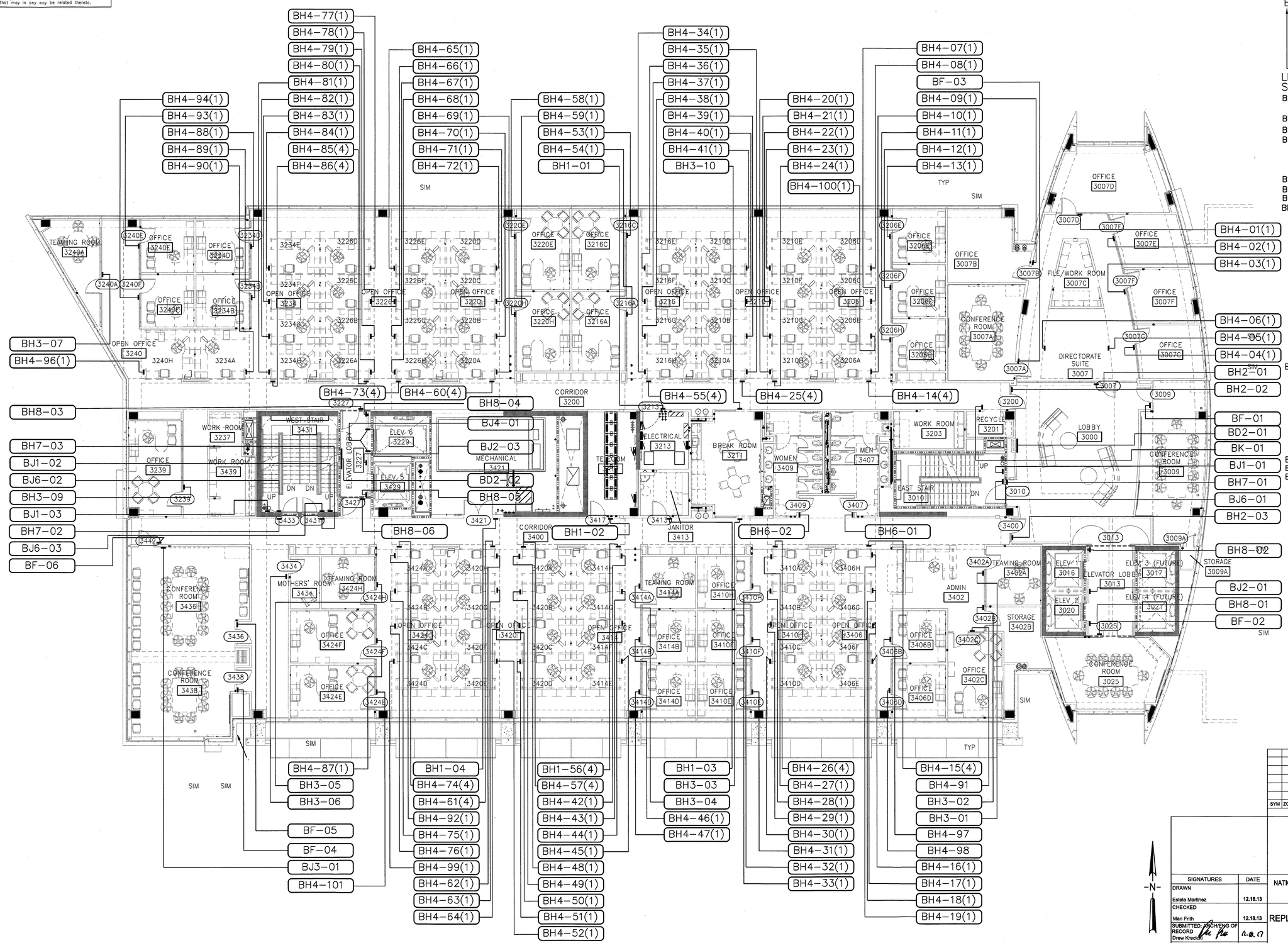

SIGNAGE LOCATION FLOOR PLAN - 3RD LEVEL

1/8" = 1'-0"

NOTE 1: FIRE EXTINGHISHER SIGN LOCATIONS SHALL BE DETERMINED BY GOV'T. INCLUDE 8 MINIMUM.

NOTE 2: CONTRACTOR TO INSTALL BH4 SIGNS ATTACHED TO CUBICLE PANEL FRAMES AS DIRECTED BY GOV'T.

NOTE 3: EVACUATION MAP CASE HOLDER LOCATIONS SHALL BE DETERMINED BY GOV'T. INCLUDE 3 MINIMUM

GRAPHIC SCALE

0 8 16 32

SCALE IN FEET
1/8" = 1'-0"

W131

SIGN IDENTIFIER METHOD

BX1-00

- SIGN NUMBER
- SIGN TYPE SUB SET
- SIGN TYPE SET
- "B" AS BUILDING SIGNAGE DESIGNATOR

LEGEND OF BUILDING SIGN TYPES

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SYM	ZONE		DATE	APPROVED

REVISIONS

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LICENSE NO: AAC001744	
APPROVED Steve Bellflower	12.18.13
Thomas Wilczek	12.19.13

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

SIGNAGE LOCATION FLOOR PLAN - 3RD LEVEL

FILE NO.	SIZE	DWG. NO.
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PCN. NO. 98745.1a		SHEET 165

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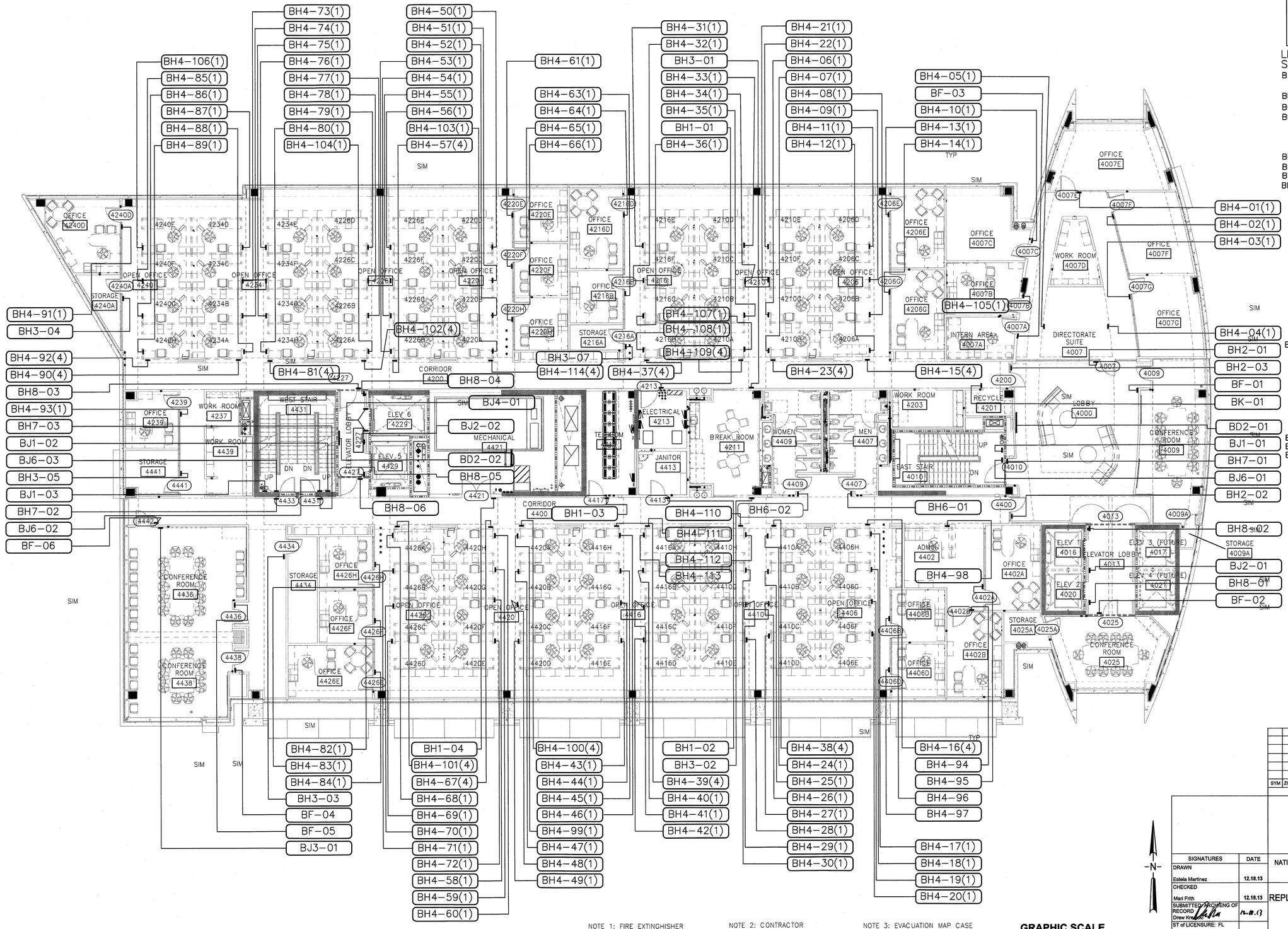

SIGNAGE LOCATION FLOOR PLAN - 4TH LEVEL

1/8" = 1'-0"

NOTE 1: FIRE EXTINGHISHER SIGN LOCATIONS SHALL BE DETERMINED BY GOV'T. INCLUDE 8 MINIMUM.

NOTE 2: CONTRACTOR TO INSTALL BH4 SIGNS ATTACHED TO CUBICLE PANEL FRAMES AS DIRECTED BY GOV'T.

NOTE 3: EVACUATION MAP CASE HOLDER LOCATIONS SHALL BE DETERMINED BY GOV'T. INCLUDE 3 MINIMUM

GRAPHIC SCALE

0 8 16 32

SCALE IN FEET 1/8" = 1'-0"

W141

SYM	ZONE		DATE	APPROVED

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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

SIGNAGE LOCATION FLOOR PLAN - 4TH LEVEL

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 166

KSC FORM 1-11 (3/76)(C/G 3/94)

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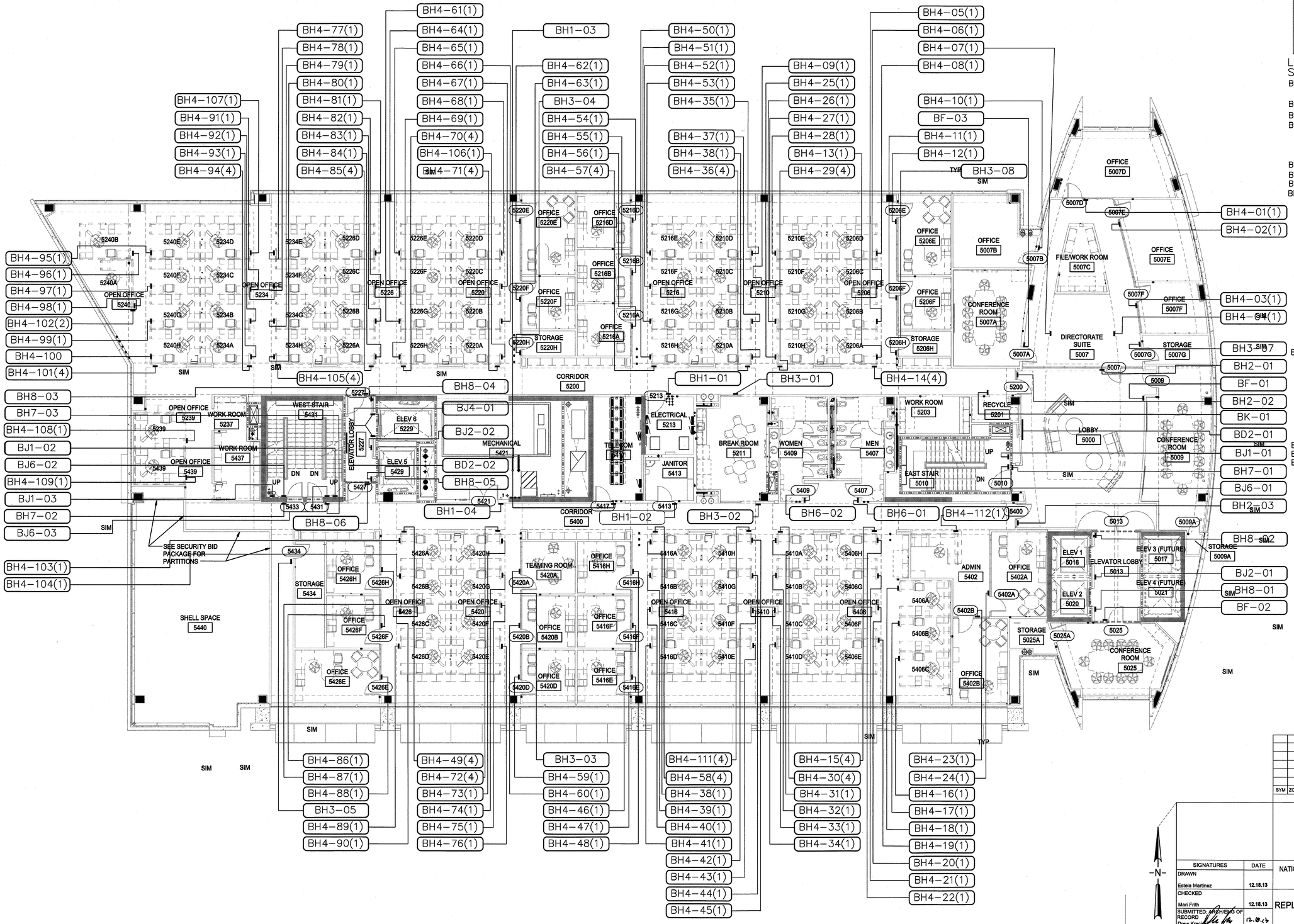

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BH4-88(1)
BH3-05
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BH4-90(1)
BH4-49(4)
BH4-72(4)
BH4-73(1)
BH4-74(1)
BH4-75(1)
BH4-76(1)
BH3-03
BH4-59(1)
BH4-60(1)
BH4-46(1)
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BH4-48(1)
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BH4-16(1)
BH4-17(1)
BH4-18(1)
BH4-19(1)
BH4-20(1)
BH4-21(1)
BH4-22(1)

SIGN IDENTIFIER METHOD

BX1-00
- SIGN NUMBER
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SIGNAGE LOCATION FLOOR PLAN - 5TH LEVEL

1/8" = 1'-0"

GRAPHIC SCALE

0 8 16 32

SCALE IN FEET 1/8" = 1'-0"

-N-

W151

SYM	ZONE		DATE	APPROVED

REVISIONS

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SIGNAGE LOCATION
FLOOR PLAN - 5TH LEVEL

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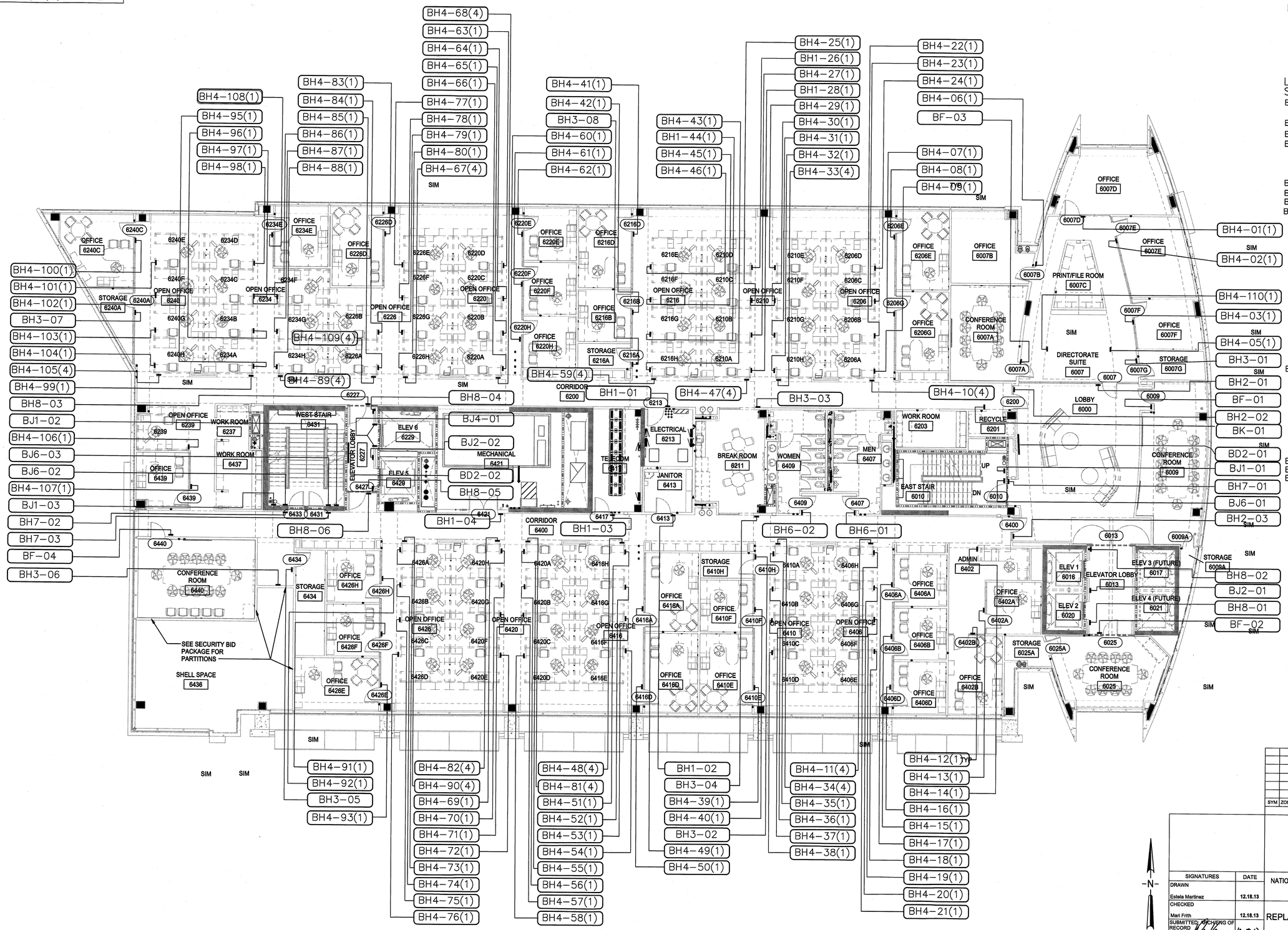

SIGNAGE LOCATION FLOOR PLAN - 6TH LEVEL

1/8" = 1'-0"

NOTE 1: FIRE EXTINGHISHER SIGN LOCATIONS SHALL BE DETERMINED BY GOV'T. INCLUDE 8 MINIMUM.

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NOTE 3: EVACUATION MAP CASE HOLDER LOCATIONS SHALL BE DETERMINED BY GOV'T. INCLUDE 3 MINIMUM

GRAPHIC SCALE

0 8 16 32

SCALE IN FEET 1/8" = 1'-0"

W161

SIGN IDENTIFIER METHOD

BX1-00

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VOL. 4 OF 4

SIGNAGE LOCATION
FLOOR PLAN - 6TH LEVEL

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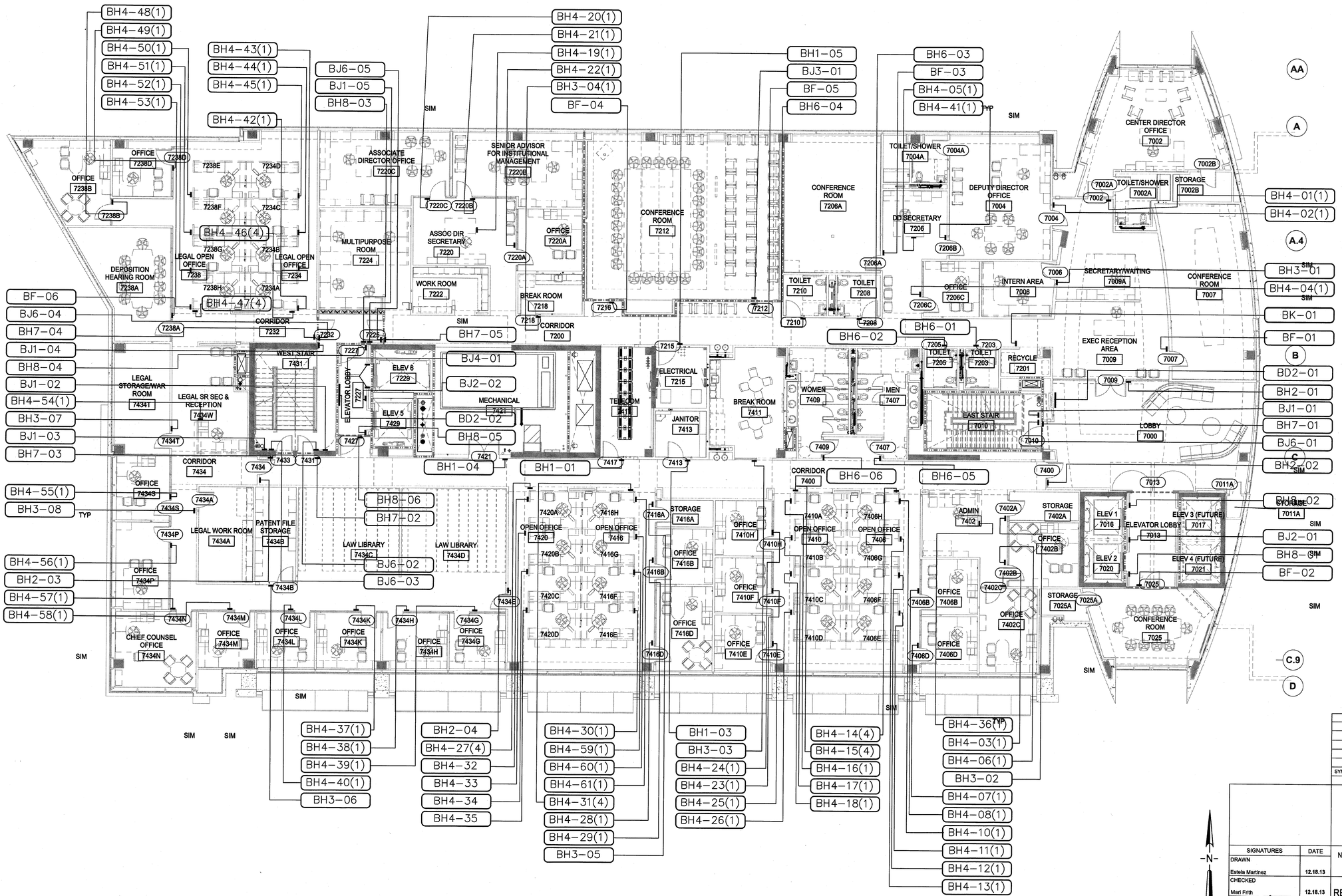


SIGNAGE LOCATION FLOOR PLAN - 7TH LEVEL

1/8" = 1'-0"

NOTE 1: FIRE EXTINGHISHER SIGN LOCATIONS SHALL BE DETERMINED BY GOV'T. INCLUDE 8 MINIMUM.

NOTE 2: CONTRACTOR TO INSTALL BH4 SIGNS ATTACHED TO CUBICLE PANEL FRAMES AS DIRECTED BY GOV'T.

NOTE 3: EVACUATION MAP CASE HOLDER LOCATIONS SHALL BE DETERMINED BY GOV'T. INCLUDE 3 MINIMUM

SIGN IDENTIFIER METHOD

BX1-00

- SIGN NUMBER
- SIGN TYPE SUB SET
- SIGN TYPE SET
- "B" AS BUILDING SIGNAGE DESIGNATOR

LEGEND OF BUILDING SIGN TYPES

- BA ENTRANCE IDENTIFICATION (BUILDING NUMBER)
- BB not used
- BC LEED MESSAGE
- BD WALL MOUNTED BUILDING DIRECTORY
  - BD1 LARGE
  - BD2 SMALL
- BE WALL-MTD. DIRECTIONAL
- BF CONFERENCE / IN USE
- BG LEED / INFORMATIONAL
- BH ADA - ROOM/AREA IDENTIFICATION
  - BH.1 MECHANICAL/ELEC/ROOF COMMS/JANITOR/EQUIP
  - BH.2 DEPT / TENANT
  - BH.3 GENERAL IDENTIFICATION
  - BH.4 OFFICE IDENT. WITH NAME INSERT(S)
  - BH.5 EXIT TACTILE IDENT.
  - BH.6 RESTROOM IDENTIFICATION
  - BH.7 STAIRWELL IDENTIFICATION
  - BH.8 ELEVATOR IDENTIFICATION
- BJ REGULATORY
  - BJ.1 STAIR LEVEL IDENTIFICATION - SELF-LUMINOUS EXIT INSTRUCTIONS
  - BJ.2 ELEVATOR REG.
  - BJ.3 MAXIMUM OCCUPANCY
  - BJ.4 MED TRANSIT ELEV.
  - BJ.5 FIRE EXTINGUISHER
  - BJ.6 STAIR RE-ENTRY
- BK LEED RECYCLE
- BL EVACUATION MAP CASE
- BM DIMENSIONAL LETTERS

SYM	ZONE		DATE	APPROVED

REVISIONS

MARI FRITH ASSOCIATES
P.O.Box 1006 Orlando, FL 32802
tel:407.8972160 fax:407.8972110
mari@MARIFRITH.com FL.IB787

SIGNATURES	DATE
DRAWN Estela Martinez	12.18.13
CHECKED Mari Frith	12.18.13
SUBMITTED: ARCH/ENG OF RECORD Drew Krecu	12.18.13
ST of LICENSURE: FL	
LICENSE NO: AAC001744	
APPROVED Steve Galloway	12-18-13
Thomas Wilczek	12-19-13

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

SIGNAGE LOCATION FLOOR PLAN - 7TH LEVEL

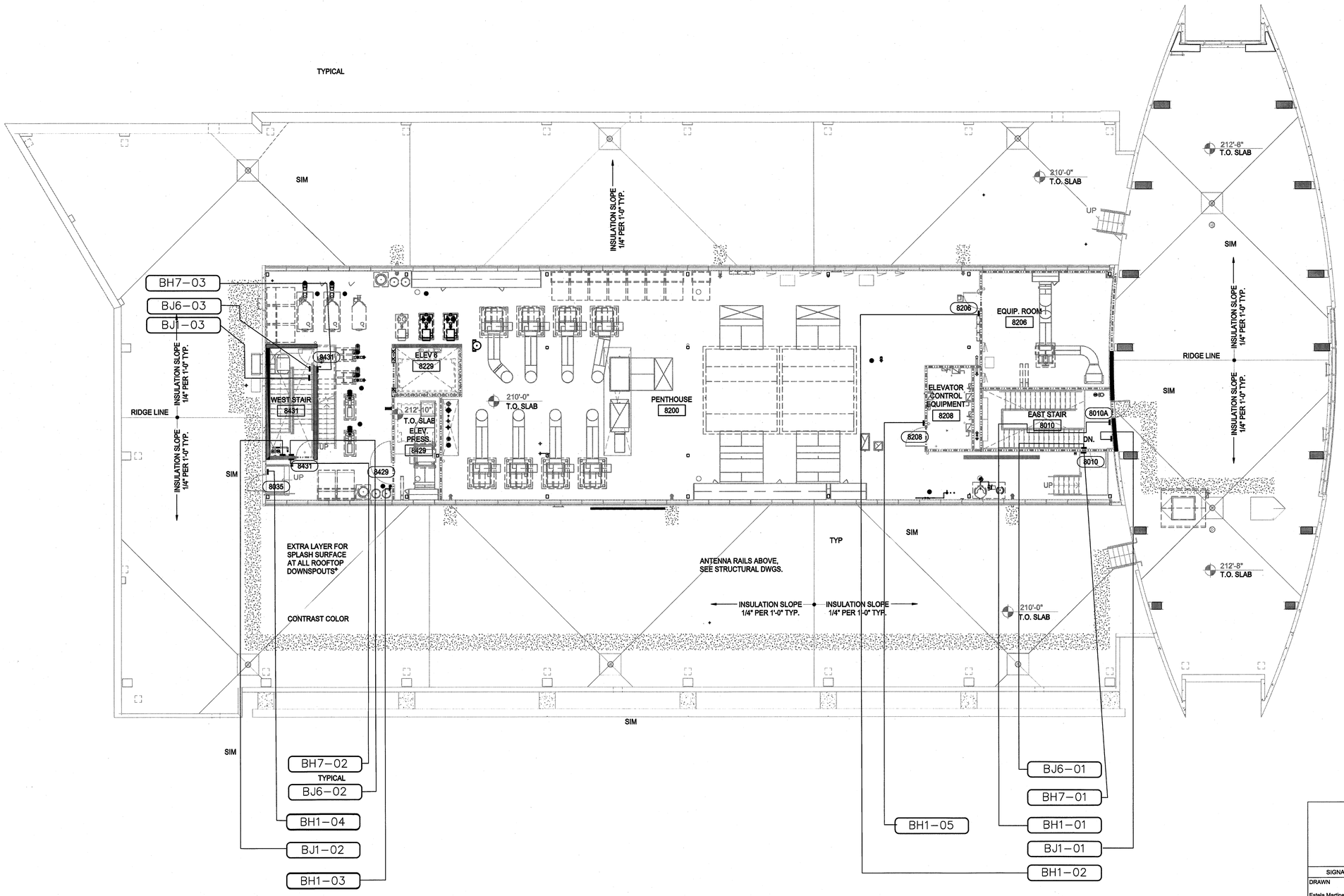
FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 169

GRAPHIC SCALE
0 8 16 32
SCALE IN FEET 1/8" = 1'-0"

W171

KSC FORM 1-11 (3/78)(C/G 3/94)

NOTICE: When Government drawings, specifications, or other data are used for any purpose other than in connection with a definitely related Government procurement operation, the United States Government thereby incurs no responsibility nor obligation whatsoever; and the fact that the Government may have formulated, furnished, or in any way supplied the said drawings, specifications or other data is not to be regarded by implication or otherwise as in any manner licensing the holder or any other person or corporation, or conveying any rights or permission to manufacture, use, or sell any patented invention that may in any way be related thereto.



SIGNAGE LOCATION ROOF PLAN

1/8" = 1'-0"

NOTE 1: FIRE EXTINGHISHER SIGN LOCATIONS SHALL BE DETERMINED BY GOV'T. INCLUDE 8 MINIMUM.

NOTE 2: CONTRACTOR TO INSTALL BH4 SIGNS ATTACHED TO CUBICLE PANEL FRAMES AS DIRECTED BY GOV'T.

NOTE 3: EVACUATION MAP CASE HOLDER LOCATIONS SHALL BE DETERMINED BY GOV'T. INCLUDE 3 MINIMUM

SIGN IDENTIFIER METHOD

BX1-00

- 00 — SIGN NUMBER
- 1 — SIGN TYPE SUB SET
- X — SIGN TYPE SET
- B — "B" AS BUILDING SIGNAGE DESIGNATOR

LEGEND OF BUILDING SIGN TYPES

- BA ENTRANCE IDENTIFICATION (BUILDING NUMBER)
- BB not used
- BC LEED MESSAGE
- BD WALL MOUNTED BUILDING DIRECTORY
  - BD1 LARGE
  - BD2 SMALL
- BE WALL-MTD. DIRECTIONAL
- BF CONFERENCE / IN USE
- BG LEED / INFORMATIONAL
- BH ADA – ROOM/AREA IDENTIFICATION
  - BH.1 MECHANICAL/ELEC/ROOF COMMS/JANITOR/EQUIP
  - BH.2 DEPT / TENANT
  - BH.3 GENERAL IDENTIFICATION
  - BH.4 OFFICE IDENT. WITH NAME INSERT(S)
  - BH.5 EXIT TACTILE IDENT.
  - BH.6 RESTROOM IDENTIFICATION
  - BH.7 STAIRWELL IDENTIFICATION
  - BH.8 ELEVATOR IDENTIFICATION
- BJ REGULATORY
  - BJ.1 STAIR LEVEL IDENTIFICATION – SELF-LUMINOUS EXIT INSTRUCTIONS
  - BJ.2 ELEVATOR REG.
  - BJ.3 MAXIMUM OCCUPANCY
  - BJ.4 MED TRANSIT ELEV.
  - BJ.5 FIRE EXTINGUISHER
  - BJ.6 STAIR RE-ENTRY
- BK LEED RECYCLE
- BL EVACUATION MAP CASE
- BM DIMENSIONAL LETTERS

SYM	ZONE		DATE	APPROVED

REVISIONS

MARI FRITH ASSOCIATES Incorporated
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SIGNATURES	DATE
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CHECKED Mari Frith	12.18.13
SUBMITTED: ARCHENG OF RECORD Drew Kraeckel	12.18.13
ST of LICENSURE: FL	
LICENSE NO: AAC001744	
APPROVED Steve Beflower	12-18-13
Thomas Wilczek	12-19-13

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

SIGNAGE LOCATION ROOF PLAN

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 170

W181

(SC FORM 1-11 (3/76)(C/G 3/94)

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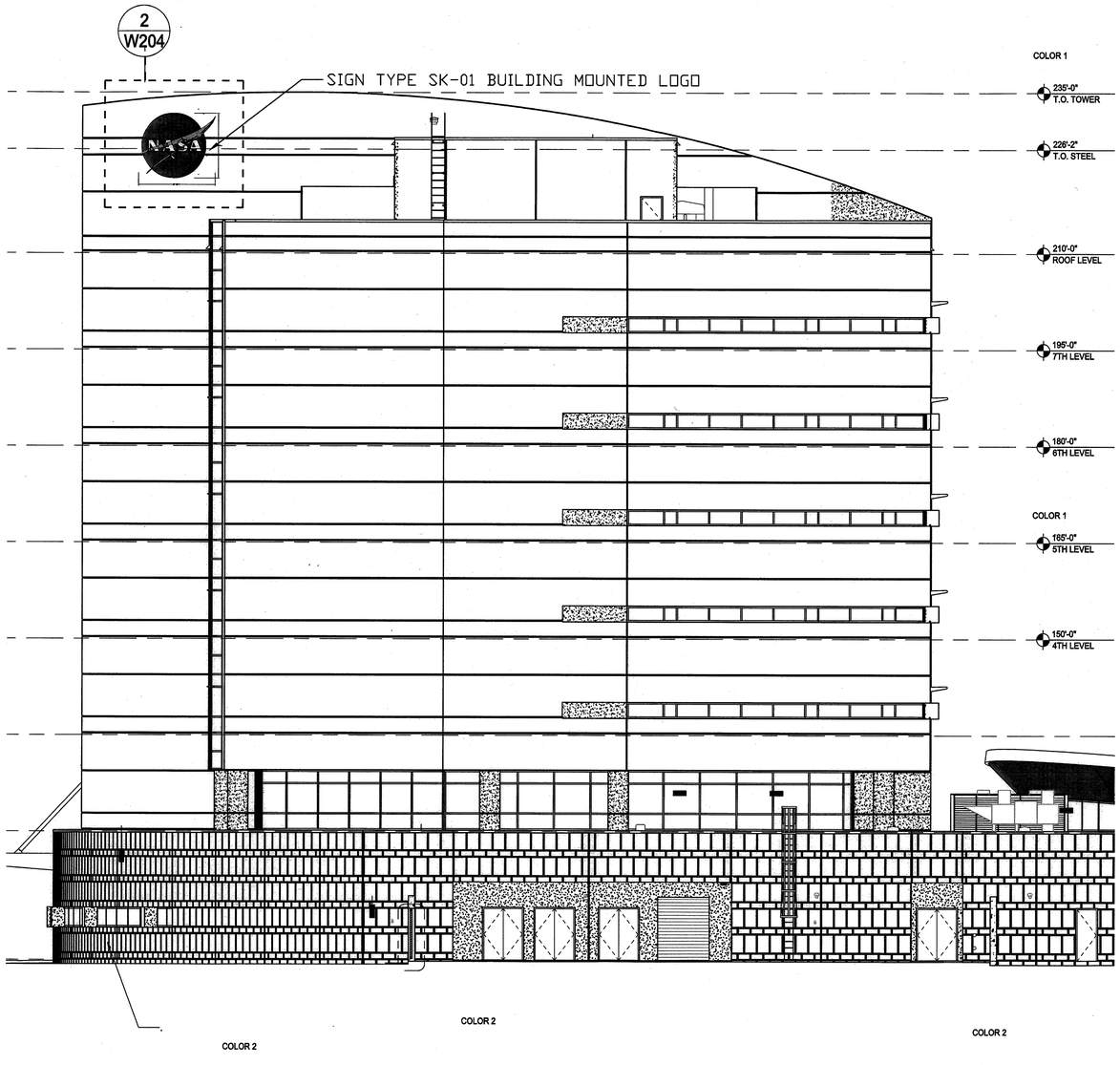
EXTERIOR LEGEND

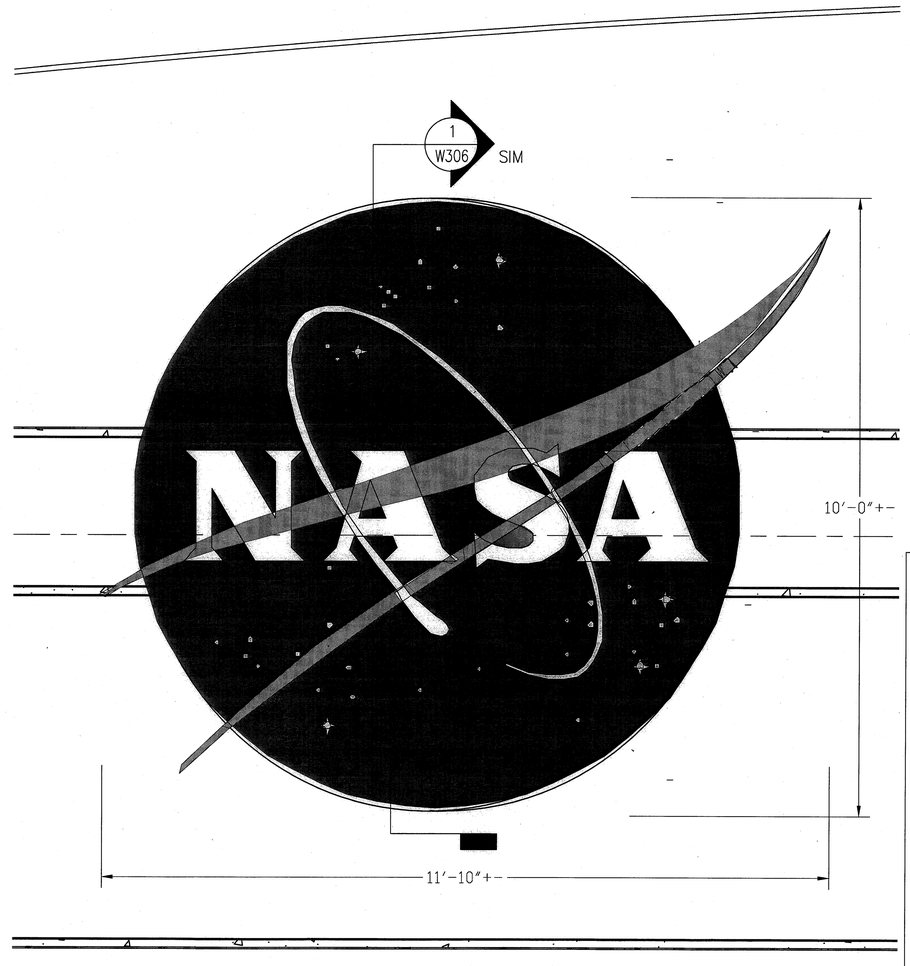
	ARCHITECTURAL PRECAST, COLOR 1
	ARCHITECTURAL PRECAST, COLOR 2
	ARCHITECTURAL PRECAST, COLOR 2

NOTE: ARCHITECTURAL FFE 100'-0" EQUALS CIVIL FFE 11.3



BUILDING 'ICON LOGO' SIGN EXTERIOR ELEVATION - WEST (1 / W204)

1/8" = 1'-0"



BUILDING 'ICON LOGO' SIGN ENLARGED ELEVATION - WEST (2 / W204)

1" = 1'-0"

SYM	ZONE		DATE	APPROVED

REVISIONS

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SIGNATURES	DATE
DRAWN Estela Martinez	12.18.13
CHECKED Mari Frith	12.18.13
SUBMITTED: ARCHITECT OF RECORD Drew Kreo	12.18.13
ST of LICENSURE: FL LICENSE NO: AAC001744	
APPROVED Steve Bellower	12.18.13
Thomas Wilczek	12.19.13

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4

EXTERIOR BUILDING MOUNTED SIGNAGE

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4

PCN. NO. 98745.1a SHEET 171

W204

KSC FORM 1-11 (3/76)(C/G 3/94)

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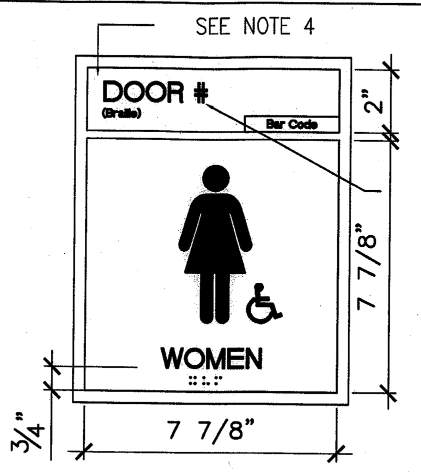
SIGN SPECIFICATIONS

SIGN SIZE: 10X8 THIN
SIGN COLOR: 525 BLUE SLATE
FRAME MOUNT: VELCRO / D-SCREW
FRAME STYLE: SQUARE 3/8"
FRAME COLOR: 204 BLACK
INSERT MOUNT: MAGNETIC

COPY SPECIFICATIONS:

OPTION: PHOTOPOLYMER/ BRAILLE

STYLE: HELVETICA MEDIUM, HMC
SIZE: 5/8" (5" & 1 1-4" SYMBOL)
COLOR: 708 WHITE
POSITION: CENTER, 1/2" RIGHT, 1/2" UPPER LEFT
NOTE: CENTER SYMBOL IN REMAINING SPACE ABOVE TEXT – 6" MIN. FIELD



SIGN TYPE BH6 RESTROOM (1 / W301) 1:4

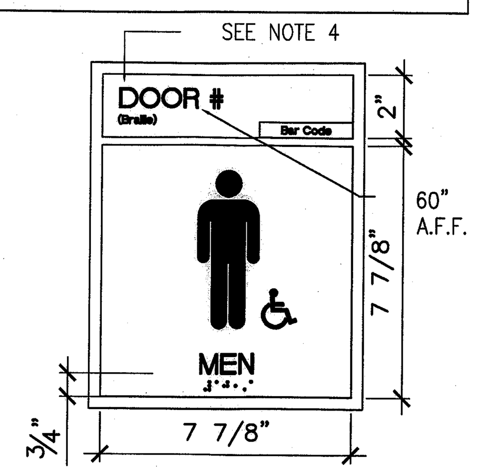
SIGN SPECIFICATIONS

SIGN SIZE: 10X8 THIN
SIGN COLOR: 525 BLUE SLATE
FRAME MOUNT: VELCRO/ D-SCREW
FRAME STYLE: SQUARE 3/8"
FRAME COLOR: 204 BLACK
INSERT MOUNT: MAGNETIC

COPY SPECIFICATIONS:

OPTION: PHOTOPOLYMER/ BRAILLE

STYLE: HELVETICA MEDIUM, HMC
SIZE: 5/8" (5" & 1 1-4" SYMBOL)
COLOR: 708 WHITE
POSITION: CENTER, 1/2" RIGHT, 1/2" UPPER LEFT
NOTE: CENTER SYMBOL IN REMAINING SPACE ABOVE TEXT – 6" MIN. FIELD



SIGN TYPE BH6 RESTROOM (5 / W301) 1:4

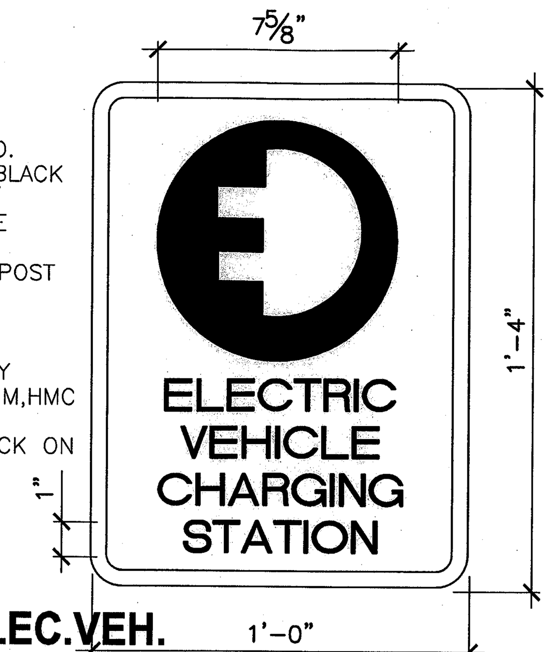
SIGN SPECIFICATIONS

SIGN SIZE: 12X16 STD.
SIGN COLOR: WHITE / BLACK BORDER / REFLECTIVE
MOUNT OPTION: SLOTTED CHANNEL POST

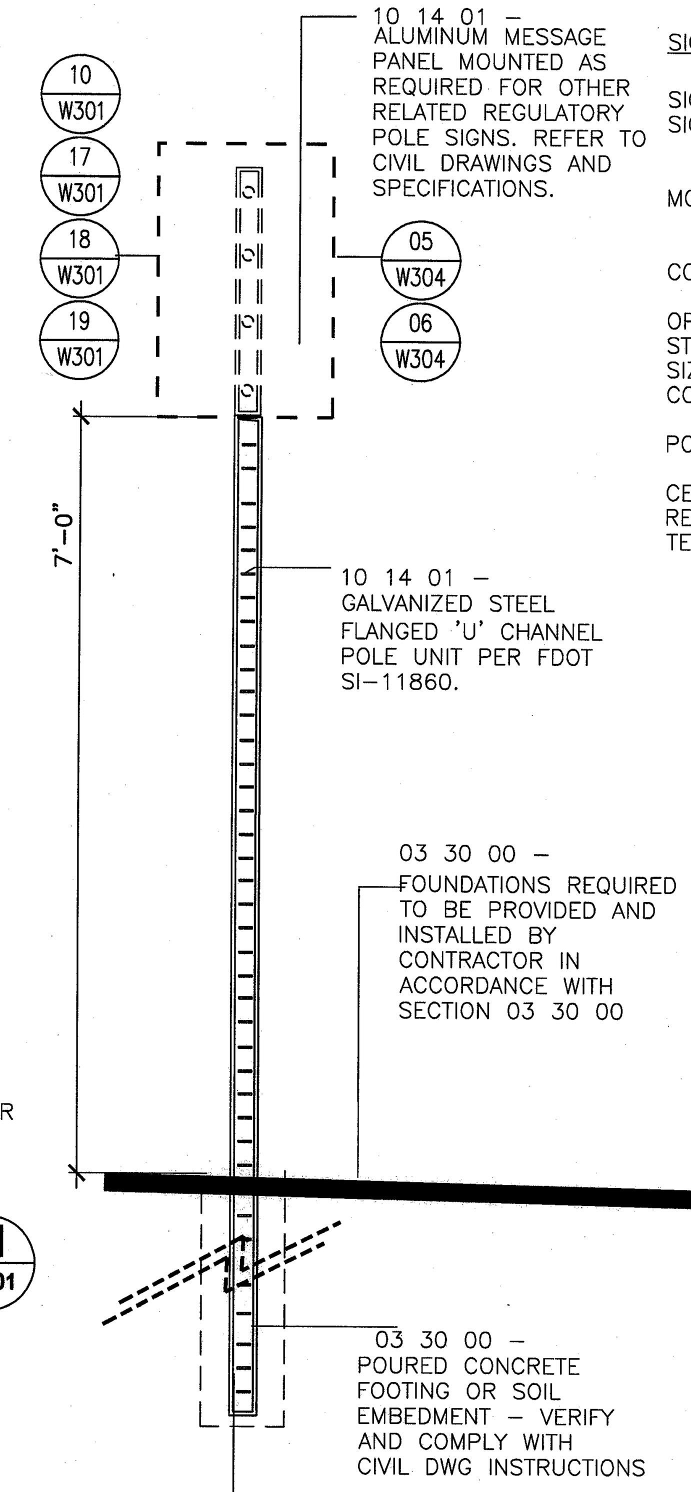
COPY SPECIFICATIONS:

OPTION: MASK AND SPRAY
STYLE: HELVETICA MEDIUM,HMC
SIZE: AS SHOWN
COLOR: BLACK WITH BLACK ON SYMBOL
POSITION: CENTER

CENTER SYMBOL IN REMAINING SPACE ABOVE TEXT



SIGN TYPE SC ELEC.VEH. CHARGE STATION PARKING (10 / W301) 1:4



SIGN TYPE SM AND SH LEED SIGN POST MOUNTS (15 / W301) 1 1/2" = 1'-0"

SIGN SPECIFICATIONS

SIGN SIZE: 12X16 STD.
SIGN COLOR: WHITE / BLACK BORDER / REFLECTIVE
MOUNT OPTION: SLOTTED CHANNEL POST

COPY SPECIFICATIONS:

OPTION: MASK AND SPRAY
STYLE: HELVETICA MEDIUM,HMC
SIZE: AS SHOWN
COLOR: BLACK WITH RED ON SYMBOL
POSITION: CENTER

CENTER SYMBOL IN REMAINING SPACE ABOVE TEXT

SIGN TYPE SH LEED EQ NO SMOKE ZONE POST MOUNTED (17 / W301) 1:4

SIGN TYPE SG LEED EQ NO SMOKE ZONE WALL MOUNTED (18 / W301) 1:4

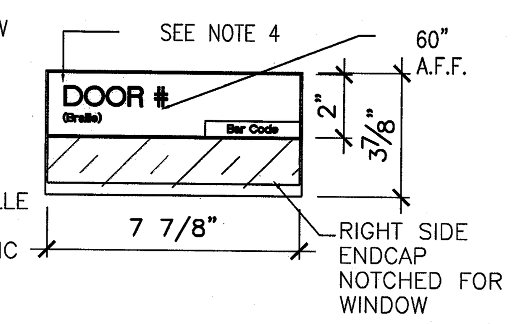
SIGN SPECIFICATIONS

SIGN SIZE: 4X8 THIN
SIGN COLOR: 525 BLUE SLATE
FRAME MOUNT: VELCRO / D-SCREW
FRAME STYLE: THIN
FRAME COLOR: 204 BLACK
INSERT MOUNT: MAGNETIC

COPY SPECIFICATIONS:

OPTION: PHOTOPOLYMER/ BRAILLE LASER PRINT
STYLE: HELVETICA MEDIUM, HMC
SIZE: 5/8"
COLOR: 708 WHITE
POSITION: 1/2" LEFT

INSERT: WHITE LASER PAPER FOR FUTURE INSERTS



SIGN TYPE BH1 ADA IDENTIFICATION COMMON (2 / W301) 1:4

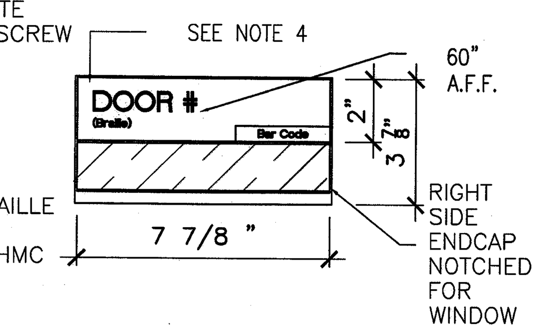
SIGN SPECIFICATIONS

SIGN SIZE: 4X8 THIN
SIGN COLOR: 525 BLUE SLATE
FRAME MOUNT: VELCRO / D-SCREW
FRAME STYLE: THIN
FRAME COLOR: 204 BLACK
INSERT MOUNT: MAGNETIC

COPY SPECIFICATIONS:

OPTION: PHOTOPOLYMER/ BRAILLE LASER PRINT INSERT
STYLE: HELVETICA MEDIUM, HMC
SIZE: 5/8"
COLOR: 708 WHITE
POSITION: 1/2" LEFT

INSERT: WHITE LASER PAPER FOR FUTURE INSERTS



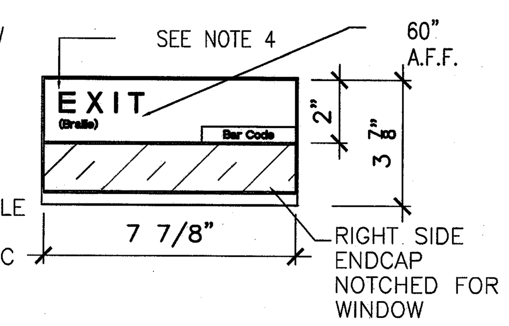
SIGN TYPE BH3 ADA IDENTIFICATION GENERAL (6 / W301) 1:4

SIGN SPECIFICATIONS

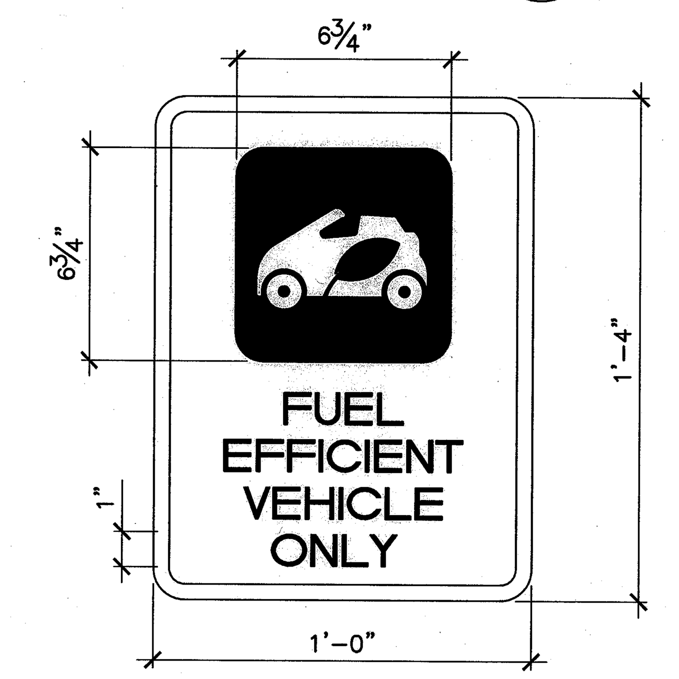
SIGN SIZE: 4X8 THIN
SIGN COLOR: 525 BLUE SLATE
FRAME MOUNT: VELCRO / D-SCREW
FRAME STYLE: THIN
FRAME COLOR: 204 BLACK
INSERT MOUNT: MAGNETIC

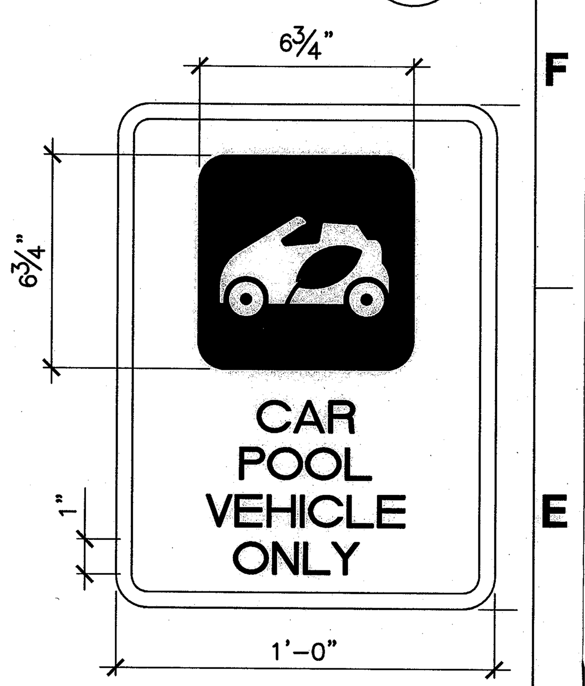
COPY SPECIFICATIONS:

OPTION: PHOTOPOLYMER/ BRAILLE LASER PRINT
STYLE: HELVETICA MEDIUM, HMC
SIZE: 5/8"
COLOR: 708 WHITE
POSITION: 1/2" LEFT
INSERT: WHITE LASER PAPER FOR FUTURE INSERT



SIGN TYPE BH5 EXIT IDENTIFICATION (11 / W301) 1:4





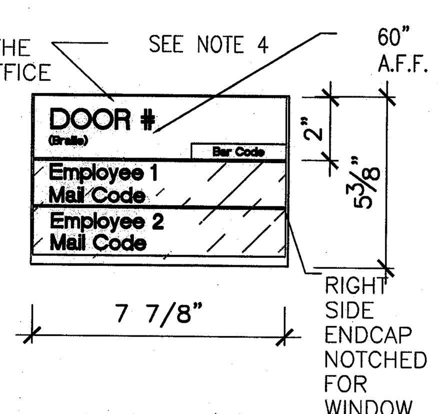
SIGN TYPE SD, SE LEED PREFERRED PARKING (19 / W301) 1:4

SIGN SPECIFICATIONS

SIGN SIZE: 6X8 THIN
SIGN COLOR: 525 BLUE SLATE
FRAME MOUNT: VELCRO/P-UNDER THE CAP- FOR OPEN OFFICE
FRAME STYLE: PANEL
FRAME COLOR: SQUARE 3/8"
INSERT MOUNT: 204 BLACK MAGNETIC
COPY SPECIFICATIONS:

OPTION: PHOTOPOLYMER/ BRAILLE LASER PRINT
STYLE: HELVETICA MEDIUM, HMC
SIZE: 5/8" FOR TACTILE, 3/8" MINIMUM FOR PERSONNEL
COLOR: 708 WHITE
POSITION: 1/2" LEFT

INSERT: WHITE LASER PAPER FOR FUTURE INSERTS



SIGN TYPE BH4 OFFICE / INSERT (2) (3 / W301) 1:4

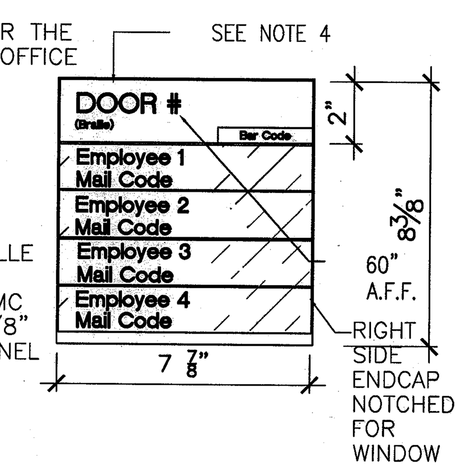
SIGN SPECIFICATIONS

SIGN SIZE: 8X8 THIN
SIGN COLOR: 525 BLUE SLATE
FRAME MOUNT: VELCRO /P-UNDER THE
FRAME STYLE: CAP- FOR OPEN OFFICE PANEL
FRAME COLOR: SQUARE 3/8" 204 BLACK
INSERT MOUNT: MAGNETIC

COPY SPECIFICATIONS:

OPTION: PHOTOPOLYMER/ BRAILLE LASER PRINT
STYLE: HELVETICA MEDIUM, HMC
SIZE: 5/8" FOR TACTILE, 3/8" MINIMUM FOR PERSONNEL
COLOR: 708 WHITE
POSITION: 1/2" LEFT

INSERT: WHITE LASER PAPER FOR FUTURE INSERTS



SIGN TYPE BH4 OFFICE / INSERT (4) (7 / W301) 1:4

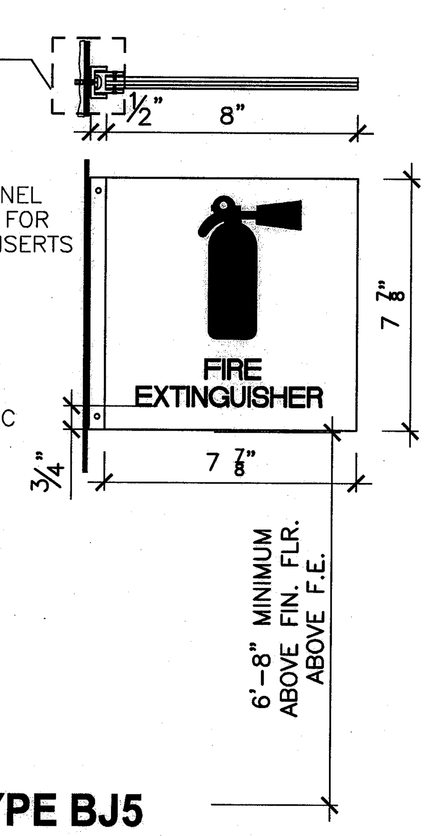
SIGN SPECIFICATIONS

SIGN SIZE: 8X8 THIN
SIGN COLOR: 525 BLUE SLATE
MOUNT METHOD: PROJECTING BRACKET/U-CHANNEL SLIDE EXTRUSION FOR DOUBLE-FACED INSERTS
FRAME STYLE: NONE
INSERT MOUNT: MAGNETIC

COPY SPECIFICATIONS:

OPTION: VINYL
STYLE: HELVETICA MEDIUM, HMC
SIZE: 5/8" (4 1/2" SYMBOL) 6" MIN. FIELD
COLOR: 708 WHITE
POSITION: CENTERED

CENTER SYMBOL IN REMAINING SPACE ABOVE TEXT



SIGN TYPE BJ5 FIRE EXTINGUISHER (12 / W301) 1:4

SIGN SPECIFICATIONS

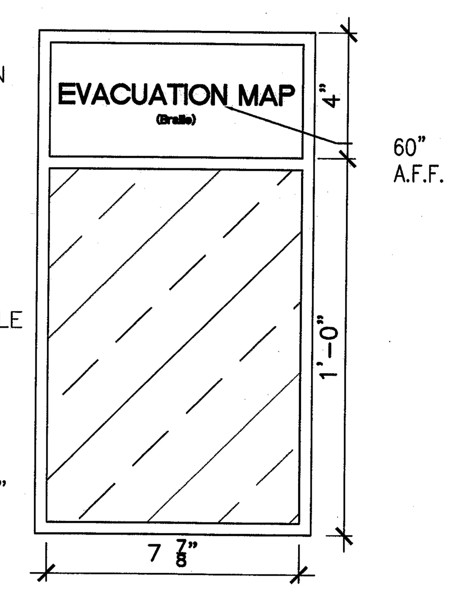
SIGN SIZE: 16X8 THIN 1/2 THIN
SIGN COLOR: 525 BLUE SLATE
FRAME MOUNT: D-SCREW
FRAME STYLE: SQUARE 3/8"
FRAME COLOR: 204 BLACK
INSERT MOUNT: MAGNETIC HOLD TECHNIQUE

COPY SPECIFICATIONS:

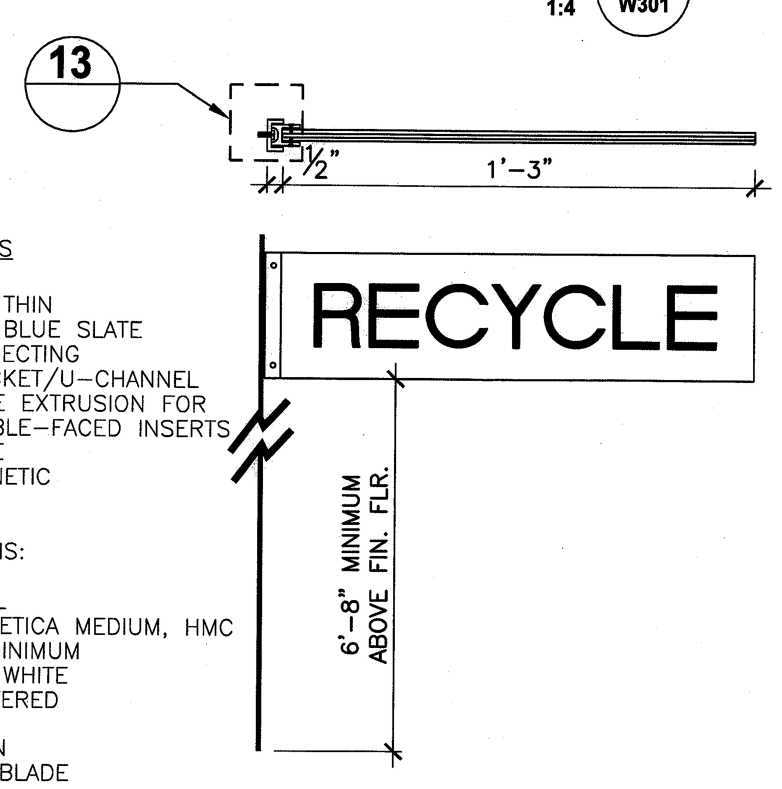
OPTION: PHOTOPOLYMER & BRAILLE
STYLE: HELVETICA MEDIUM, HMC
SIZE: 5/8"
COLOR: 708 WHITE
POSITION: CENTER

12" X 8 1/2" WINDOW FOR INSERT WITH 11" X 7 1/2" VISIBLE AREA, 1/2" TOP/BOTTOM BORDERS, BLANK

MAP GRAPHIC SHALL BE DESIGNED AND FABRICATED BY CONTRACTOR OBTAIN PLANS FROM ARCHITECTURAL LIFE SAFETY EXIT PLANS



SIGN TYPE BL EVACUATION MAP CASE (4 / W301) 1:4



SIGN SPECIFICATIONS

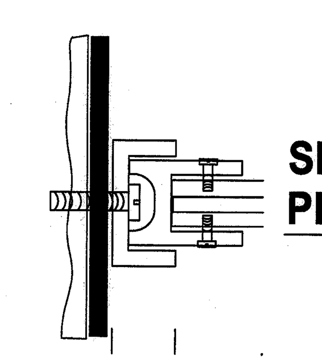
SIGN SIZE: 4X8 THIN
SIGN COLOR: 525 BLUE SLATE
FRAME MOUNT: PROJECTING BRACKET/U-CHANNEL SLIDE EXTRUSION FOR DOUBLE-FACED INSERTS
FRAME STYLE: NONE
INSERT MOUNT: MAGNETIC

COPY SPECIFICATIONS:

OPTION: VINYL
STYLE: HELVETICA MEDIUM, HMC
SIZE: 2" MINIMUM
COLOR: 708 WHITE
POSITION: CENTERED

CENTER TEXT WITHIN EXPOSED AREA OF BLADE

SIGN TYPE BK LEED MESSAGE (8 / W301) 1:4



SIGN TYPES BK AND BJ5 PROJECTING BRACKET MT (13 / W301) 1:1.

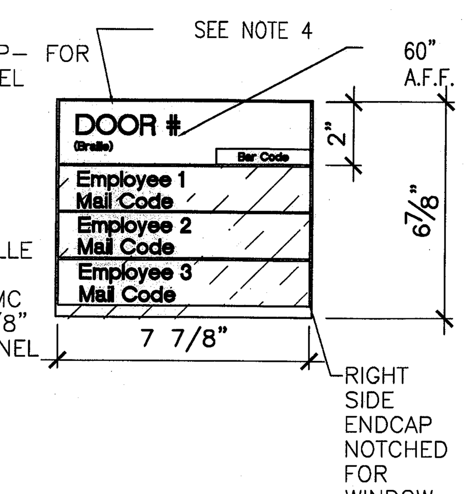
SIGN SPECIFICATIONS

SIGN SIZE: 8X8 THIN
SIGN COLOR: 525 BLUE SLATE
FRAME MOUNT: P-UNDER THE CAP- FOR
FRAME STYLE: OPEN OFFICE PANEL
FRAME COLOR: SQUARE 3/8" 204 BLACK
INSERT MOUNT: MAGNETIC

COPY SPECIFICATIONS:

OPTION: PHOTOPOLYMER/ BRAILLE LASER PRINT
STYLE: HELVETICA MEDIUM, HMC
SIZE: 5/8" FOR TACTILE, 3/8" MINIMUM FOR PERSONNEL
COLOR: 708 WHITE
POSITION: 1/2" LEFT

INSERT: WHITE LASER PAPER FOR FUTURE INSERTS



SIGN TYPE BH4 OFFICE / INSERT (3) (16 / W301) 1 1/2" = 1'-0"

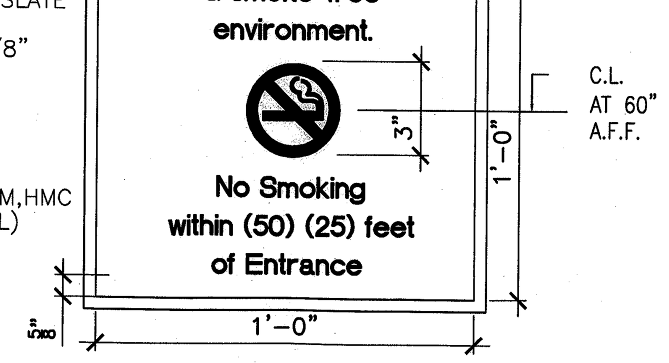
SIGN SPECIFICATIONS

SIGN SIZE: 12X12 STD.
SIGN COLOR: 525 BLUE SLATE
MOUNT OPTION: T.B.D.
FRAME STYLE: SQUARE 3/8"
FRAME COLOR: 204 BLACK

COPY SPECIFICATIONS:

OPTION: DIGITAL
STYLE: HELVETICA MEDIUM,HMC
SIZE: 5/8" (6" SYMBOL)
COLOR: 708 WHITE
POSITION: CENTER

CENTER SYMBOL IN REMAINING SPACE ABOVE TEXT



SIGN TYPE BC LEED MESSAGE (9 / W301) 1:4

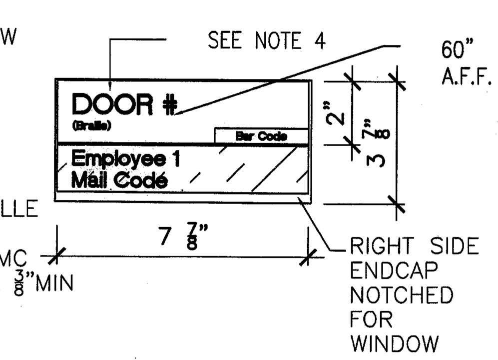
SIGN SPECIFICATIONS

SIGN SIZE: 4X8 THIN
SIGN COLOR: 525 BLUE SLATE
FRAME MOUNT: VELCRO / D-SCREW
FRAME STYLE: SQUARE 3/8"
FRAME COLOR: 204 BLACK
INSERT MOUNT: MAGNETIC

COPY SPECIFICATIONS:

OPTION: PHOTOPOLYMER/ BRAILLE LASER PRINT
STYLE: HELVETICA MEDIUM, HMC
SIZE: 5/8"MIN/ PERSONNEL 3/8"MIN
COLOR: 708 WHITE
POSITION: 1/2" LEFT

INSERT: WHITE LASER PAPER FOR FUTURE INSERTS



SIGN TYPE BH4 OFFICE / INSERT (1) (14 / W301) 1:4.

REFERENCED AND GENERAL NOTES:

1– ALL INSERT PANELS SHALL BE MAGNETICALLY ATTACHED
2– INSTALL ALL SIGNAGE PER ADAAG 2010
3– ALL SIGNS SHOWN WITH 'BAR CODE' IN RECTANGLE TO LOWER RIGHT OF SIGN PANEL SHALL RECEIVE THE MYLAR APPLIED LABEL. THESE SIGNS SHALL REQUIRE COORDINATION BETWEEN SIGN FABRICATOR AND THE BAR CODE VENDOR.
4– SIGN PLACARD SHALL BE:
A. TOP PORTION OF PLACARD OF REMOVABLE INSERT TO RECEIVE TACTILE COPY AND BRAILLE NUMERIC AREA DESIGNATOR.
B. CONTRACTOR TO FURNISH TOP PLACARD INSERTS AS 'BLANK' TO GOVERNMENT FOR GOVERNMENT TO INPUT TACTILE COPY AND BRAILLE.
C. GOVERNMENT WILL RETURN COMPLETED INSERTS TO CONTRACTOR, FOR CONTRACTOR TO INSTALL. INSTALL USING MAGNETIC HOLD TECHNIQUE.
D. CONTRACTOR TO SUPPLY 100 ADDITIONAL BLANK INSERTS FOR ATTIC STOCK STORAGE BY GOVERNMENT.

SYM	ZONE	REVISIONS	DATE	APPROVED

MARI FRITH ASSOCIATES incorporated
P.O.Box 1006 Orlando, FL 32802
tel:407.8972160 fax:407.8972110
mari@MARIFRITH.com FL.IB787

SIGNATURES	DATE
DRAWN Estela Martinez	12.18.13
CHECKED Mari Frith	12.18.13
SUBMITTED: ARCH/ENG OF RECORD Drew Krecicki	12.18.13
ST of LICENSURE: FL LICENSE NO: AAC001744	
APPROVED Steve Belflower	12.18.13
NASA SYS/DE Thomas Wilczek	12.19.13

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4
SIGNAGE DETAILS

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL.4

PCN. NO. 98745.1a — SHEET 172

W301

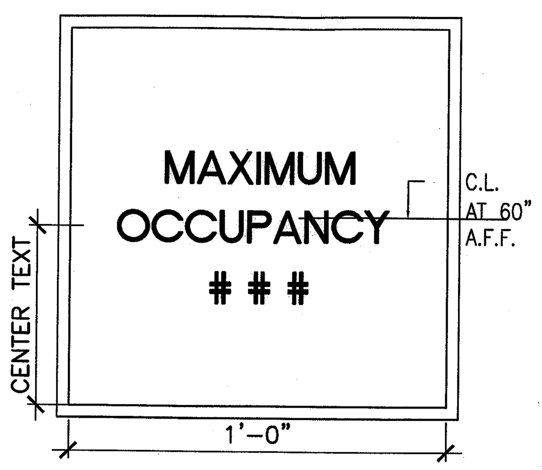
NOTICE: When Government drawings, specifications, or other data are used for any purpose other than in connection with a definitely related Government procurement operation, the United States Government thereby incurs no responsibility nor obligation whatsoever; and the fact that the Government may have formulated, furnished, or in any way supplied the said drawings, specifications or other data is not to be regarded by implication or otherwise as in any manner licensing the holder or any other person or corporation, or conveying any rights or permission to manufacture, use, or sell any patented invention that may in any way be related thereto.

SIGN SPECIFICATIONS

SIGN SIZE: 12X12 STD.
SIGN COLOR: 525 BLUE SLATE
FRAME OPTION: T.B.D.
FRAME STYLE: SQUARE 3/8"
FRAME COLOR: 204 BLACK

COPY SPECIFICATIONS:

OPTION: DIGITAL
STYLE: HELVETICA MEDIUM,HMC
TEXT SIZE: 1"
COLOR: 708 WHITE
POSITION: CENTER



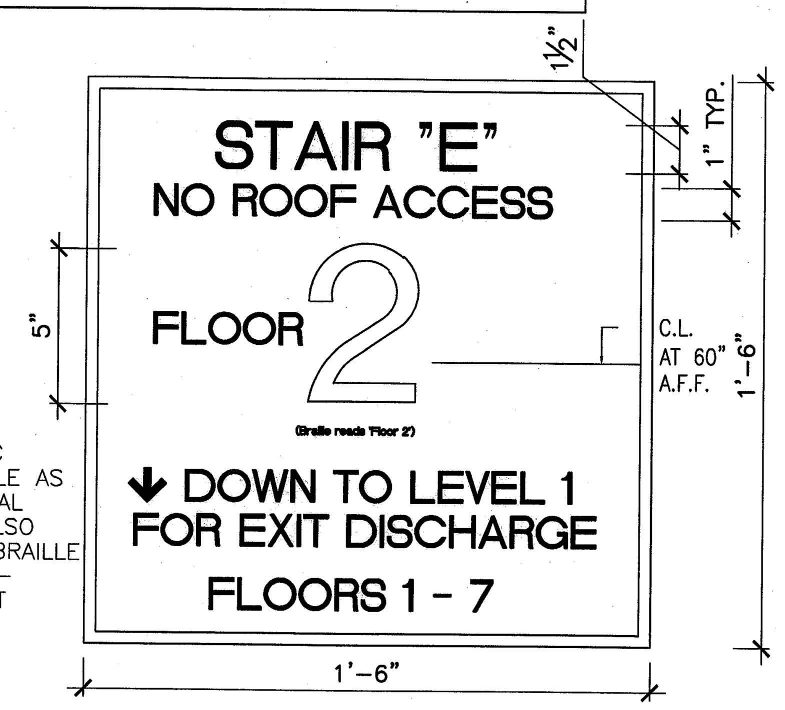
SIGN TYPE BJ3
MAXIMUM OCCUPANCY 1 W302 1:4

SIGN SPECIFICATIONS
SIGN SIZE: 18X18 THIN

SIGN COLOR: SAFETY
MOUNT OPTION: BLUE
FRAME STYLE: T.B.D.
FRAME COLOR: SQUARE 3/8"
COPY 204 BLACK

SPECIFICATIONS:

STYLE: HELVETICA MEDIUM, HMC
SIZE: 1.5" AND 1" HIGH,TACTILE AS SHOWN, EXCEPT NUMERAL WHICH SHALL BE 5", ALSO TACTILE AND GRADE II BRAILLE SELF-LUMINOUS/PHOTO-
COLOR: LUMINESCENT COMPLIANT WITH FBC1024.4



SIGN TYPE BJ1 STAIRWELL
LEVEL IDENTIFICATION
SELF-LUMINOUS 5 W302 1:4

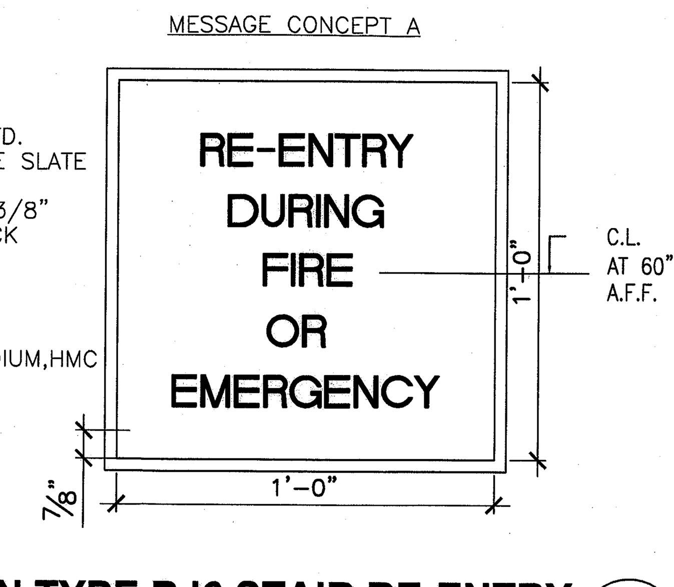
MESSAGE CONCEPT A

SIGN SPECIFICATIONS

SIGN SIZE: 12X12 STD.
SIGN COLOR: 525 BLUE SLATE
FRAME OPTION: T.B.D.
FRAME STYLE: SQUARE 3/8"
FRAME COLOR: 204 BLACK

COPY SPECIFICATIONS:

OPTION: DIGITAL
STYLE: HELVETICA MEDIUM,HMC
TEXT SIZE: 1"
COLOR: 708 WHITE
POSITION: CENTER



SIGN TYPE BJ6 STAIR RE-ENTRY
SEE MESSAGE SCHEDULE 10 W302 1:4

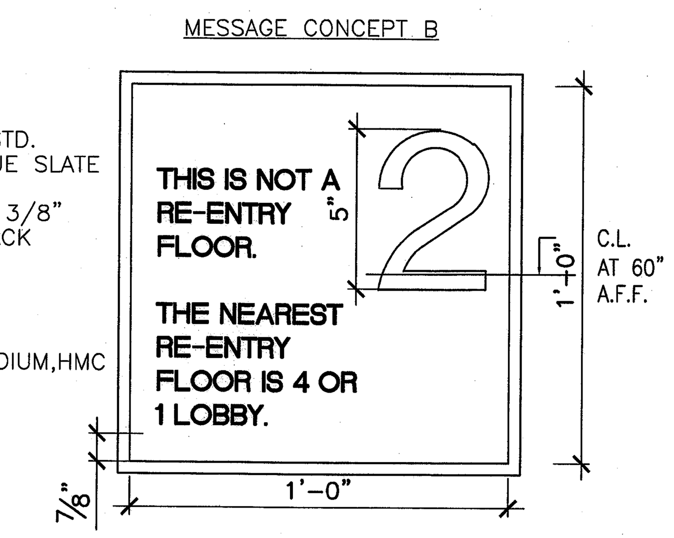
MESSAGE CONCEPT B

SIGN SPECIFICATIONS

SIGN SIZE: 12X12 STD.
SIGN COLOR: 525 BLUE SLATE
FRAME OPTION: T.B.D.
FRAME STYLE: SQUARE 3/8"
FRAME COLOR: 204 BLACK

COPY SPECIFICATIONS:

OPTION: DIGITAL
STYLE: HELVETICA MEDIUM,HMC
TEXT SIZE: 5/8"
FLOOR NO: 5" HEIGHT
COLOR: 708 WHITE
POSITION: AS SHOWN



SIGN TYPE BJ6 STAIR RE-ENTRY
SEE MESSAGE SCHEDULE 16 W302 1:4

REFERENCED AND GENERAL NOTES:

1- ALL INSERT PANELS SHALL BE MAGNETICALLY ATTACHED
2- INSTALL ALL SIGNAGE PER ADAAG 2010
3- ALL SIGNS SHOWN WITH 'BAR CODE' IN RECTANGLE TO LOWER RIGHT OF SIGN PANEL SHALL RECEIVE THE MYLAR APPLIED LABEL. THESE SIGNS SHALL REQUIRE COORDINATION BETWEEN SIGN FABRICATOR AND THE BAR CODE VENDOR.
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D. CONTRACTOR TO SUPPLY 100 ADDITIONAL BLANK INSERTS FOR ATTIC STOCK STORAGE BY GOVERNMENT.

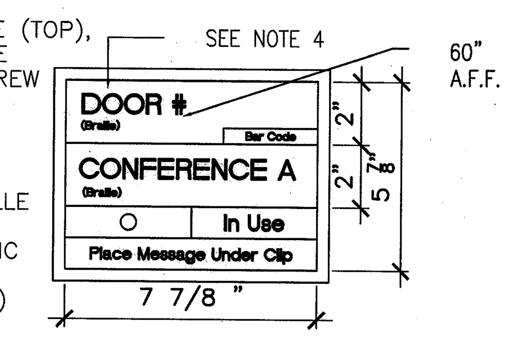
SIGN SPECIFICATIONS

SIGN SIZE: 6X8 THIN
SIGN COLOR: 208 SOFT WHITE (TOP),
MOUNT OPTION: 525 BLUE SLATE
FRAME STYLE: VELCRO /D-SCREW
FRAME COLOR: SQUARE 3/8"
204 BLACK
COPY SPECIFICATIONS:

OPTION: PHOTOPOLYMER/ BRAILLE SUBSURFACE VINYL
STYLE: HELVETICA MEDIUM, HMC
SIZE: 5/8", 1/2" AND 3/8"
COLOR: 525 BLUE SLATE (TOP) 708 WHITE
POSITION: 1/2" LEFT, CENTER

LEFT SIDE OF SLIDER TO READ "AVAILABLE"

SMART STRIP 525 BLUE SLATE
204 BLACK ENDCAPS AND WM VINYL COPY



SIGN TYPE BF
IDENTIFICATION
CONFERENCE IN USE 2 W302 1:4

SEE ELEVATOR SPEC SECTION, DIVISION 14 FOR SIGNS FURNISHED AS ELEMENTS OF THE CAB EQUIPMENT

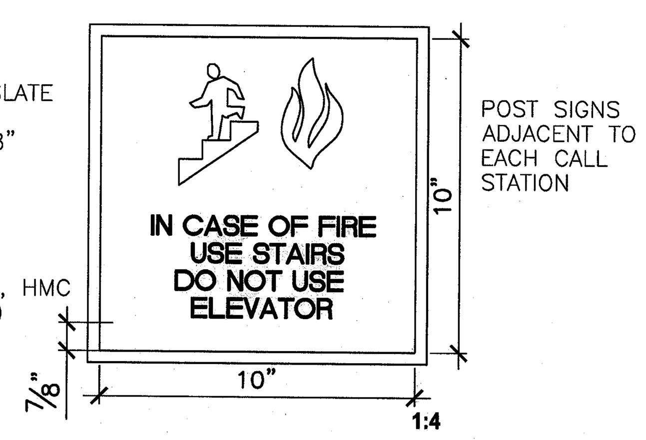
SIGN SPECIFICATIONS

SIGN SIZE: 10X10 STD.
SIGN COLOR: 525 BLUE SLATE
MOUNT OPTION: T.B.D.
FRAME STYLE: SQUARE 3/8"
FRAME COLOR: 204 BLACK

COPY SPECIFICATIONS:

OPTION: VINYL
STYLE: HELVETICA MEDIUM, HMC
SIZE: 5/8" (4" SYMBOL)
COLOR: 708 WHITE
POSITION: CENTER

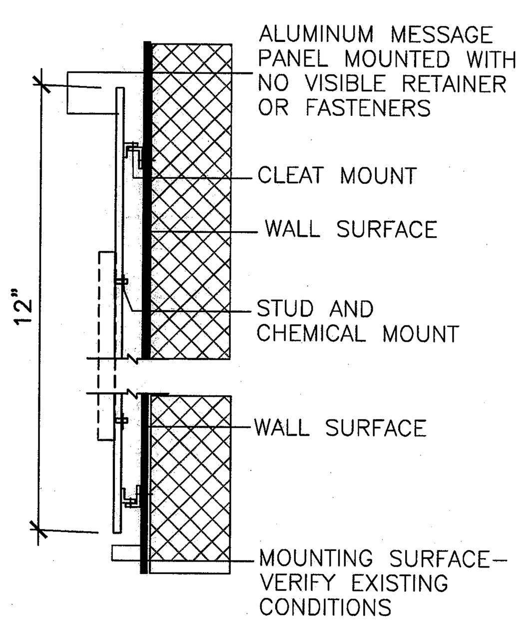
CENTER SYMBOL IN REMAINING SPACE ABOVE TEXT



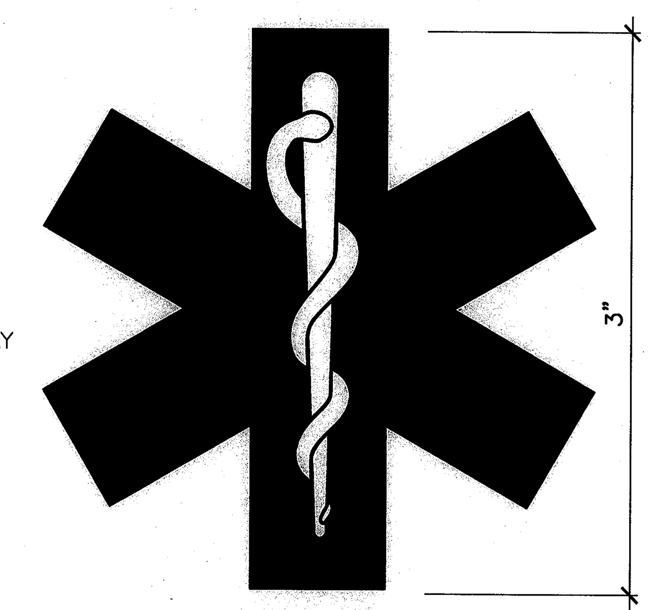
SIGN TYPE BJ2 ELEVATOR
REGULATORY 6 W302 1:4

SIGN SPECIFICATIONS

SIGN SIZE: 3" HT.
SIGN COLOR: STAINLESS STEEL INK FILLED BLACK
MOUNT: CHEMICAL MOUNT BOTH SIDES AT INSIDE OF HOISTWAY ABOVE FLOOR INDICATOR



SIGN TYPE BA
ENTRANCE IDENTIFICATION -
SECTION 11 1:4



SIGN TYPE BJ4
MEDICAL TRANSPORT
ELEVATOR 12 W302 1:4

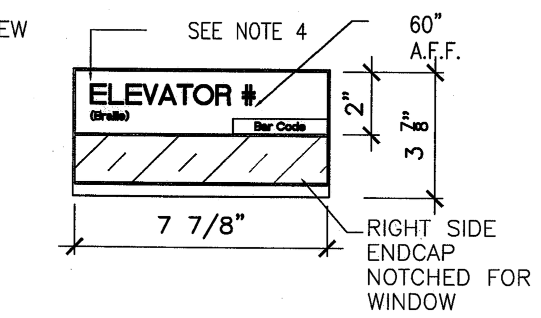
SIGN SPECIFICATIONS

SIGN SIZE: 4X8 THIN
SIGN COLOR: 525 BLUE SLATE
MOUNT OPTION: VELCRO / D-SCREW
FRAME STYLE: THIN
FRAME COLOR: 204 BLACK

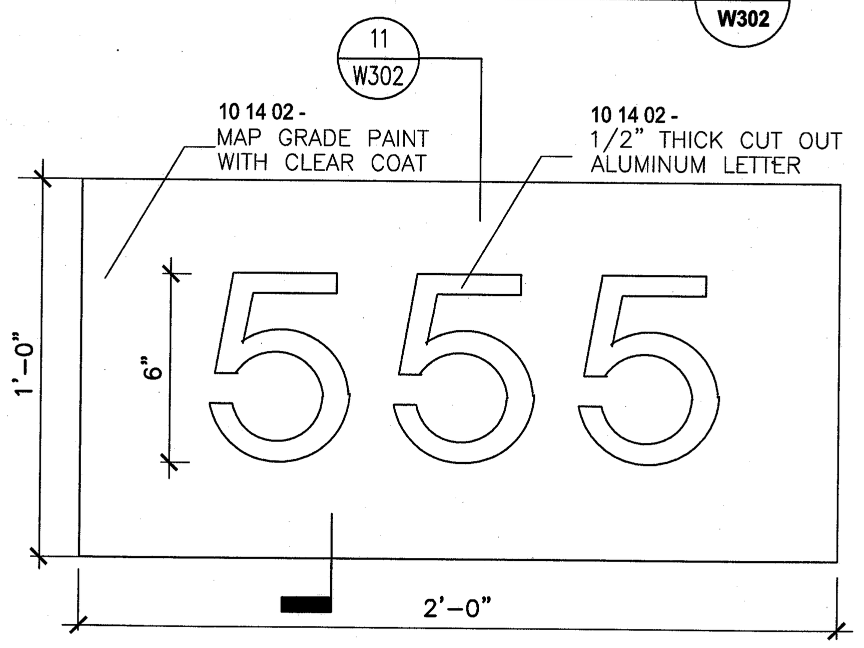
COPY SPECIFICATIONS:

OPTION: PHOTOPOLYMER/ BRAILLE LASER PRINT
STYLE: HELVETICA MEDIUM, HMC
SIZE: 5/8"
COLOR: 708 WHITE
POSITION: 1/2" LEFT

INSERT: WHITE LASER PAPER FOR FUTURE INPUT



SIGN TYPE BH8 ELEVATOR
IDENTIFICATION 17 W302 1:4

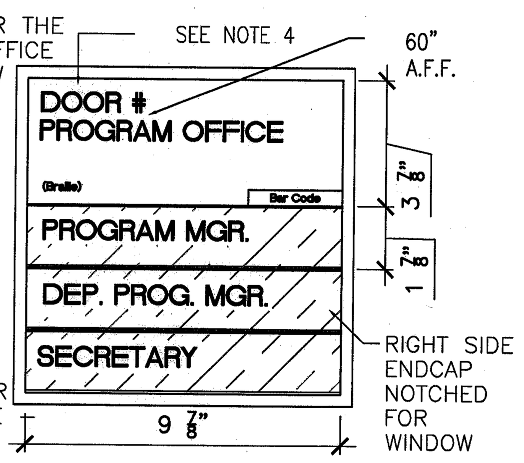


SIGN TYPE BA ENTRANCE
IDENTIFICATION - BUILDING
NUMBER 7 W302 1:4

SIGN SPECIFICATIONS
SIGN SIZE: 10X10 THIN
SIGN COLOR: 525 BLUE SLATE
FRAME MOUNT: VELCRO / P-UNDER THE CAP- FOR OPEN OFFICE PANEL OR D-SCREW
FRAME STYLE: SQUARE 3/8"
FRAME COLOR: 204 BLACK
INSERT MOUNT: MAGNETIC

COPY SPECIFICATIONS:

OPTION: PHOTOPOLYMER/ BRAILLE LASER PRINT
STYLE: HELVETICA MEDIUM, HMC
SIZE: SIGNAGE CONTRACTOR TO VERIFY TEXT SIZE MIN 5/8" HIGH FOR TACTILE
COLOR: 708 WHITE
POSITION: 1/2" LEFT
INSERT: WHITE LASER PAPER FOR FUTURE INSERTS



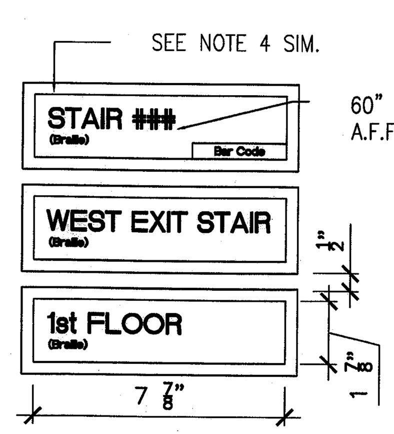
SIGN TYPE BH2
DEPT / TENANT 3 W302 1:4

SIGN SPECIFICATIONS

SIGN SIZE: 2X8 THIN
SIGN COLOR: 525 BLUE SLATE
FRAME MOUNT: VELCRO /D-SCREW
FRAME STYLE: SQUARE 3/8"
FRAME COLOR: 204 BLACK
INSERT MOUNT: MAGNETIC

COPY SPECIFICATIONS:

OPTION: PHOTOPOLYMER & BRAILLE
STYLE: HELVETICA MEDIUM, HMC
SIZE: 5/8"
COLOR: 708 WHITE
POSITION: 1/2" LEFT

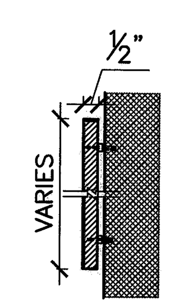


SIGN TYPE BH7
STAIRWELL IDENTIFICATION 4 W302 1:4

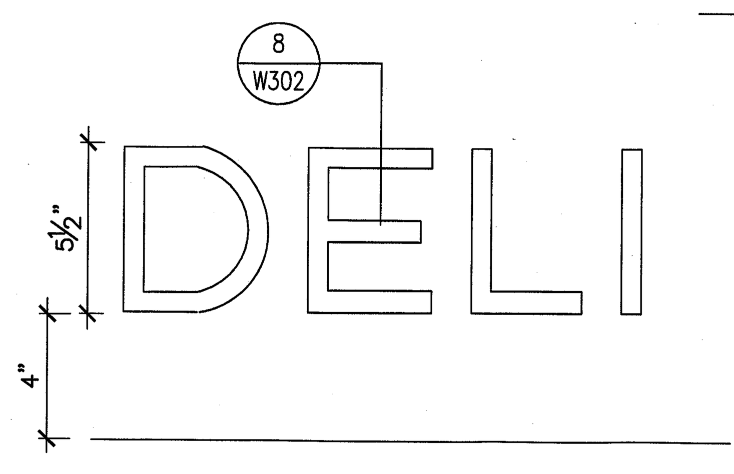
SIGN SPECIFICATIONS

SIGN SIZE: 1/2"THICK, HEIGHT VARIES
SIGN COLOR: CLEAR ANODIZED ALUMINUM
MOUNT: STUD WITH SPACER

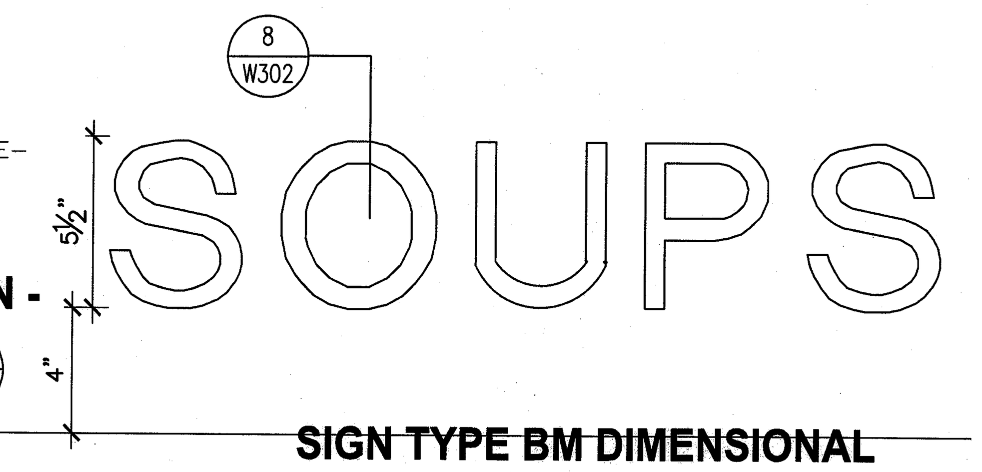
STYLE: HELVETICA MEDIUM, HMC
SIZE: VERIFY - 5 1/2" DESIGN INTENT SEE ELEVATIONS



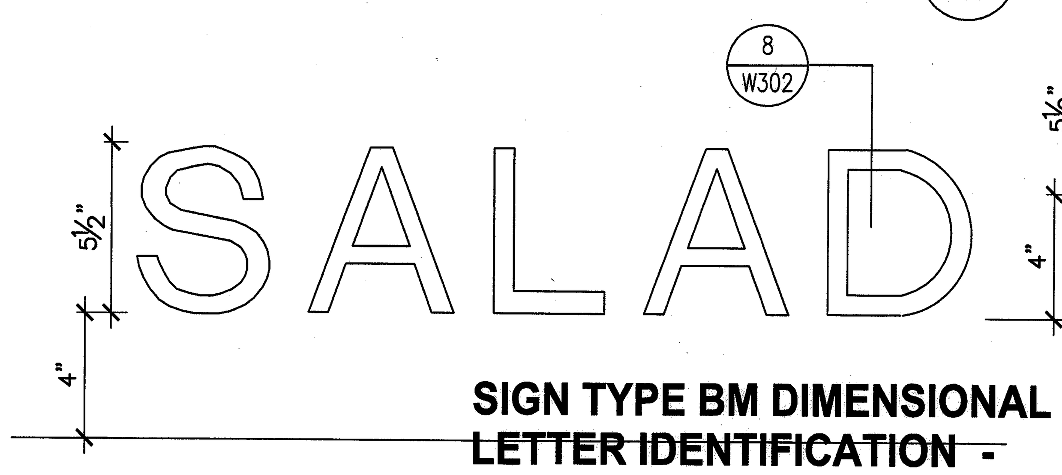
SIGN TYPE BM DIMENSIONAL
LETTER IDENTIFICATION -
SECTION 8 W302 1:4



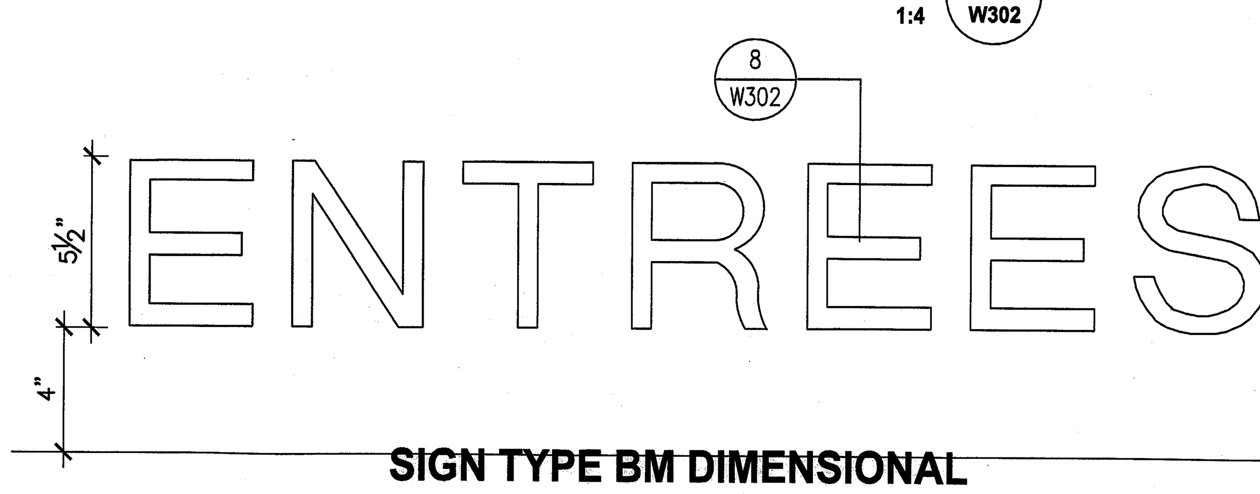
SIGN TYPE BM DIMENSIONAL
LETTER IDENTIFICATION
ELEVATION 9 W302 1:4



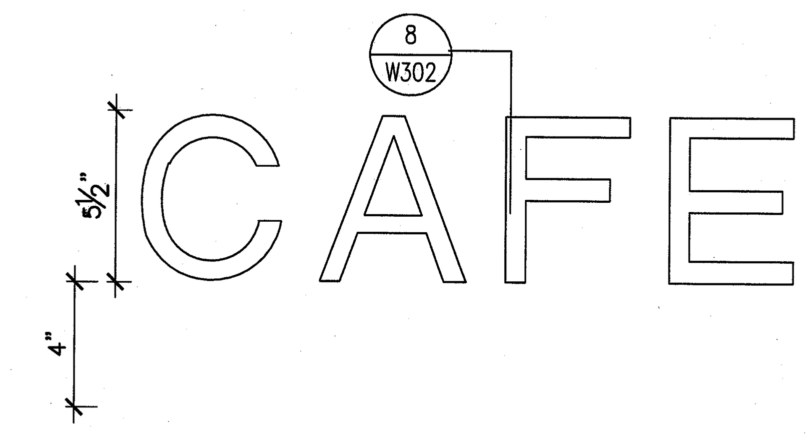
SIGN TYPE BM DIMENSIONAL
LETTER IDENTIFICATION -
ELEVATION 13 W302 1:4



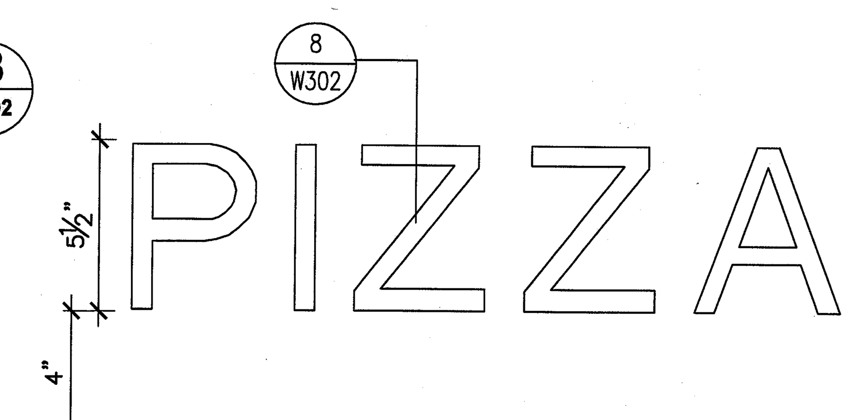
SIGN TYPE BM DIMENSIONAL
LETTER IDENTIFICATION -
ELEVATION 14 W302 1:4



SIGN TYPE BM DIMENSIONAL
LETTER IDENTIFICATION
ELEVATION 15 W302 1:4



SIGN TYPE BM DIMENSIONAL
LETTER IDENTIFICATION -
ELEVATION 18 W302 1:4



SIGN TYPE BM DIMENSIONAL
LETTER IDENTIFICATION -
ELEVATION 19 W302 1:4

SYM	ZONE	REVISIONS	DATE	APPROVED

MARI FRITH ASSOCIATES Incorporated
P.O.Box 1006 Orlando, FL 32802
tel:407.8972160 fax:407.8972110
mari@MARIFRITH.com FL.IB787

SIGNATURES	DATE
DRAWN Estela Martinez	12.18.13
CHECKED Mari Frith	12.18.13
SUBMITTED: ARCH/ENG OF RECORD Drew Krecick	12.18.13
ST of LICENSURE: FL LICENSE NO: AAC001744	
APPROVED Steve Belflower	12.18.13
NASA SYS/LDE Thomas Wilczek	12.19.13

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
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KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4
SIGNAGE DETAILS

W302

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL.4
PCN. NO. 98745.1a		SHEET 173

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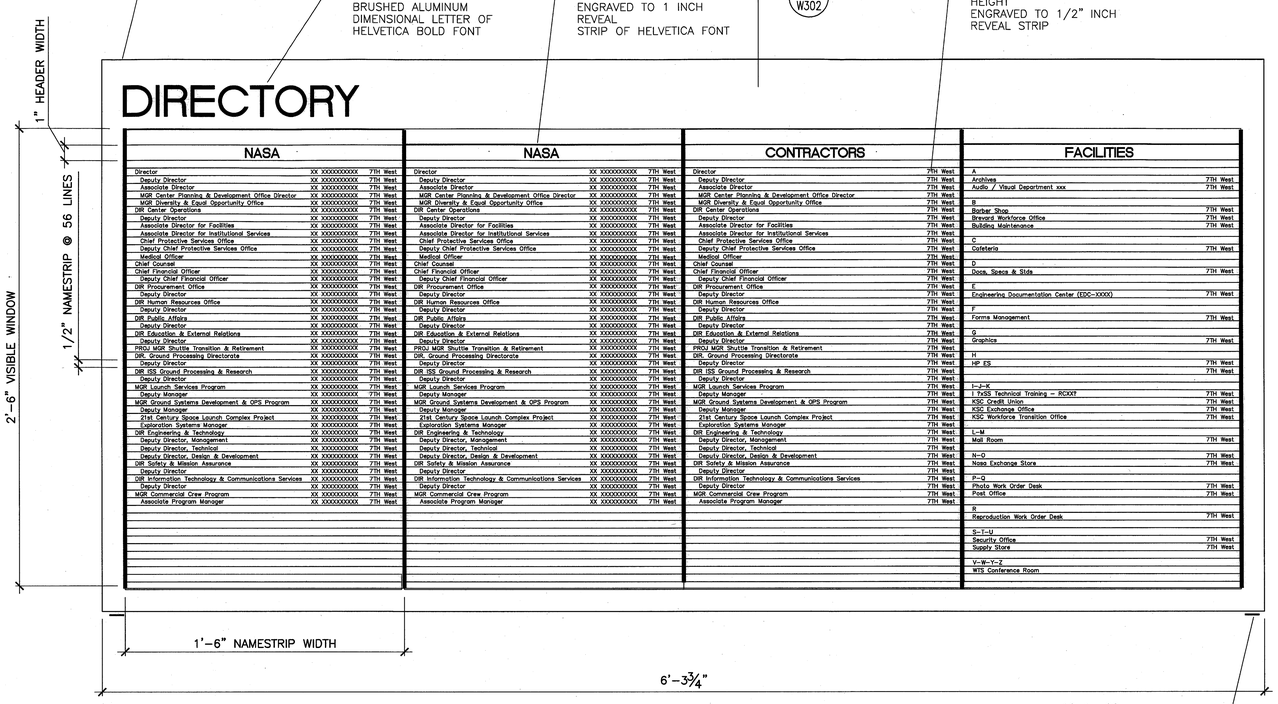


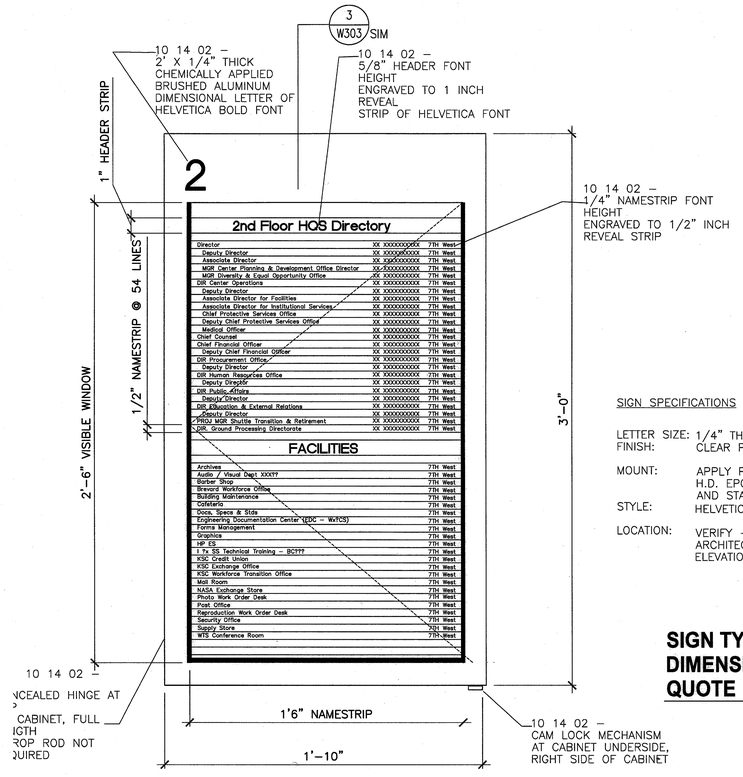
10 14 02 –
SPECIFICATIONS
36" X 75 3/4" X 2.25" ALUMINIUM CABINET ASSEMBLY. TOP HINGED WITH PROP ROD DOOR ASSIST PIVOT HINGE WITHIN FRAME. MOUNT FOR SURFACE MOUNT. DOUBLE STRENGTH CLEAR TEMPERED GLASS WITH BACKER SUBSTRATE, AND FIXED DIVIDER PANELS. INCLUDE ALL NECESSARY BLOCKING – ASSEMBLY WEIGHT ESTIMATED AT 150 LBS. PLUS GLASS (VERIFY).

INCLUDE MFG'S STANDARD ACRYLIC POLYURETHANE PAINTED ENGRAVABLE REVEAL STRIPS ENGRAVED PER MESSAGE SCHEDULE, PLUS BLANKS TO FILL CASE. INCLUDE ADDITIONAL 10% BLANK STRIPS AND BASIC ENGRAVING FEE AS UNIT CHARGE, ONE YEAR PERIOD. COLOR SHALL BE BLACK WITH WHITE CORE AND BACKER SUBSTRATE SHALL BE BLACK.

CABINET SHALL BE SATIN ANODIZED EXTRUDED ALUMINUM FRAME WITH CONCEALED HINGING AND LOCKING DEVICE.

SIGN TYPE BD1 BUILDING DIRECTORY - LARGE FOR PHASE 1 / PHASE 2 BUILDING

1 W303 1:4



10 14 02 –
SPECIFICATIONS
36" X 21" X 2.25" ALUMINIUM CABINET ASSEMBLY. LEFT SIDE–HINGED. MOUNT FOR SURFACE MOUNT. DOUBLE STRENGTH CLEAR TEMPERED GLASS WITH BACKER SUBSTRATE, AND FIXED DIVIDER PANELS. INCLUDE ALL NECESSARY BLOCKING – ASSEMBLY WEIGHT ESTIMATED AT 100 LBS. PLUS GLASS (VERIFY).

INCLUDE MFG'S STANDARD ACRYLIC POLYURETHANE PAINTED ENGRAVABLE REVEAL STRIPS ENGRAVED
PER MESSAGE SCHEDULE, PLUS BLANKS TO FILL CASE. INCLUDE ADDITIONAL 10% BLANK STRIPS AND BASIC ENGRAVING FEE AS UNIT CHARGE, ONE YEAR PERIOD. COLOR SHALL BE BLACK WITH WHITE CORE AND BACKER SUBSTRATE SHALL BE BLACK.

CABINET SHALL BE SATIN ANODIZED EXTRUDED ALUMINUM FRAME WITH CONCEALED HINGING AND LOCKING DEVICE.

SIGN TYPE BD2 BUILDING DIRECTORY - SMALL FOR FLOOR

4 W303 1:4

REFERENCED AND GENERAL NOTES:

1– ALL INSERT PANELS SHALL BE MAGNETICALLY ATTACHED
2– INSTALL ALL SIGNAGE PER ADAAG 2010
3– ALL SIGNS SHOWN WITH 'BAR CODE' IN RECTANGLE TO LOWER RIGHT OF SIGN PANEL SHALL RECEIVE THE MYLAR APPLIED LABEL. THESE SIGNS SHALL REQUIRE COORDINATION BETWEEN SIGN FABRICATOR AND THE BAR CODE VENDOR.
4– SIGN PLACARD SHALL BE:
A. TOP PORTION OF PLACARD OF REMOVABLE INSERT TO RECEIVE TACTILE COPY AND BRAILLE NUMERIC AREA DESIGNATOR.
B. CONTRACTOR TO FURNISH TOP PLACARD INSERTS AS 'BLANK' TO GOVERNMENT FOR GOVERNMENT TO INPUT TACTILE COPY AND BRAILLE.
C. GOVERNMENT WILL RETURN COMPLETED INSERTS TO CONTRACTOR, FOR CONTRACTOR TO INSTALL. INSTALL USING MAGNETIC HOLD TECHNIQUE.
D. CONTRACTOR TO SUPPLY 100 ADDITIONAL BLANK INSERTS FOR ATTIC STOCK STORAGE BY GOVERNMENT.

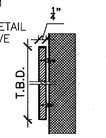
SIGN SPECIFICATIONS

LETTER SIZE: 1/4" THICK, 1.5 U/L " HT /V.I.F..
FINISH: CLEAR POLISHED ALUMINUM

MOUNT: APPLY PER ARCHITECT'S DETAIL H.D. EPOXY/CHEM. ADHESIVE AND STAND–OFF MOUNT

STYLE: HELVETICA MEDIUM, HMC

LOCATION: VERIFY –COORDINATE WITH ARCHITECTURAL ELEVATION 1 A311



SIGN TYPE BM SMALL DIMENSIONAL LETTERS FOR QUOTE

6 W303 1:4

SIGN SPECIFICATIONS

SIGN SIZE: 10X10 THIN
SIGN COLOR: 525 BLUE SLATE
FRAME MOUNT: VELCRO OR D–SCREW

FRAME STYLE: SQUARE 3/8"
FRAME COLOR: 204 BLACK
INSERT MOUNT: MAGNETIC

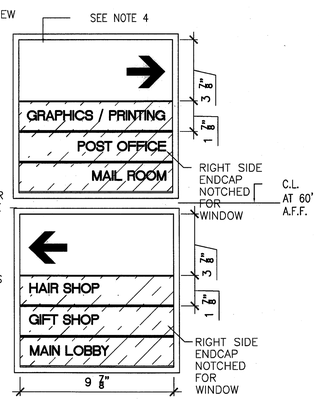
COPY SPECIFICATIONS:

OPTION: PHOTOPOLYMER/ LASER PRINT HELVETICA MEDIUM, HMC

STYLE:

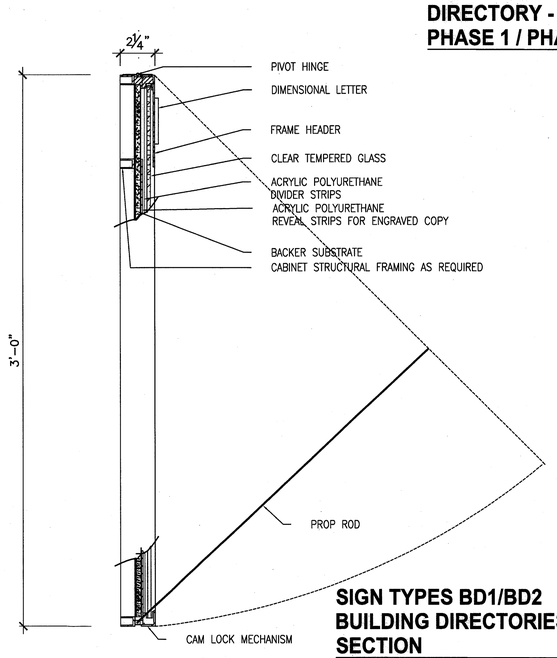
SIZE: SIGNAGE CONTRACTOR TO VERIFY TEXT SIZE MIN 5/8" HIGH

COLOR: 708 WHITE
POSITION: 1/2" LEFT
INSERT: WHITE LASER PAPER FOR FUTURE INSERTS



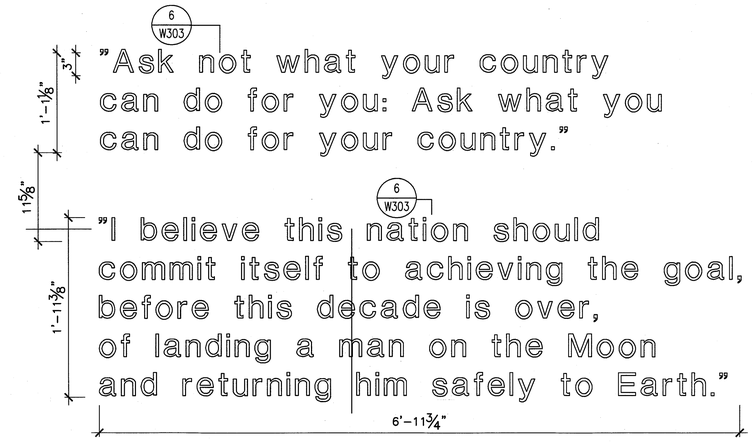
SIGN TYPE BE DIRECTIONAL

2 W303 1:4



SIGN TYPES BD1/BD2 BUILDING DIRECTORIES SECTION

3 W303 1:4



SIGN TYPE BM SMALL DIMENSIONAL LETTERS FOR QUOTE

5 W303 1:4

SYM	ZONE		DATE	APPROVED

REVISIONS

MARI FRITH ASSOCIATES Incorporated
P.O.Box 1006 Orlando, FL 32802
tel:407.8972160 fax:407.8972110
mari@MARIFRITH.com FL.IB787

SIGNATURES	DATE
DRAWN Estela Martinez	12.18.13
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ST of LICENSURE: FL	
LICENSE NO: AAC001744	
APPROVED Steve Ballower	12-18-13
NASA SYSTEM Thomas Wisnak	12-19-13

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
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W303

KSC FORM 1–11 (3/76)(C/G 3/94)

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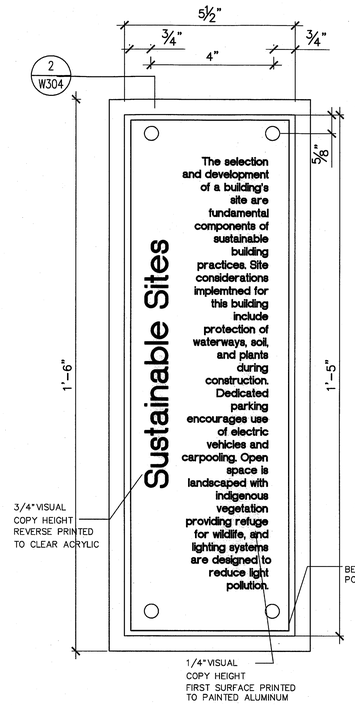
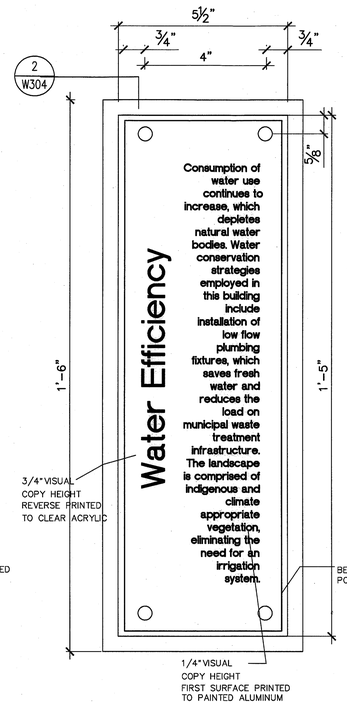
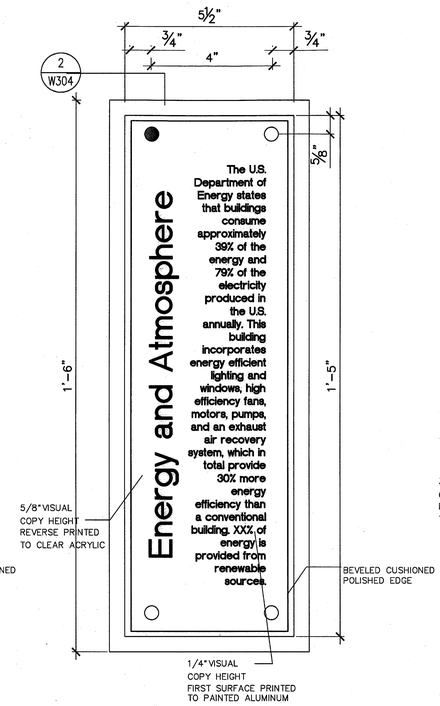
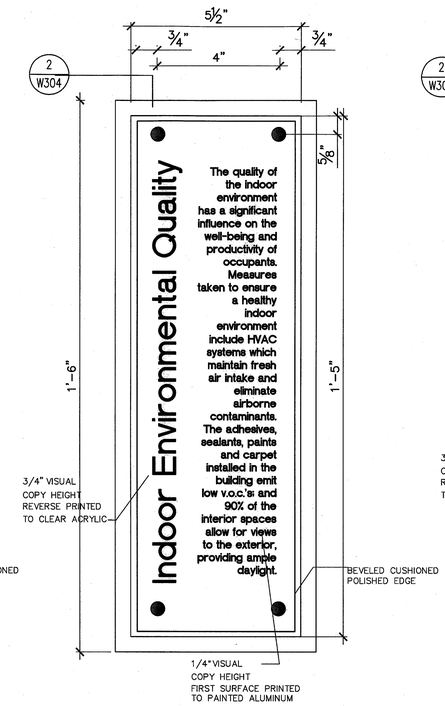
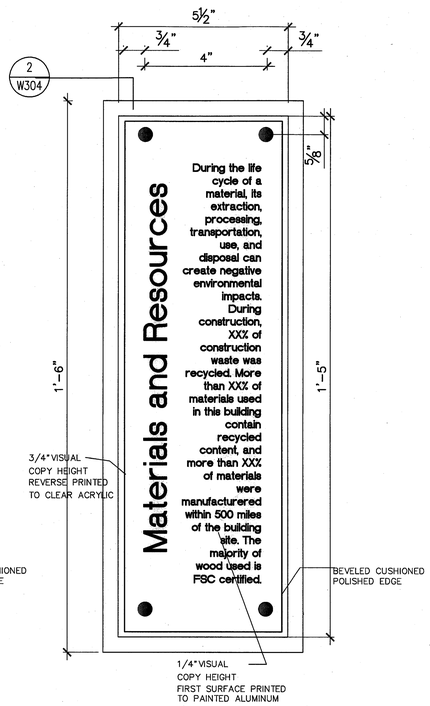




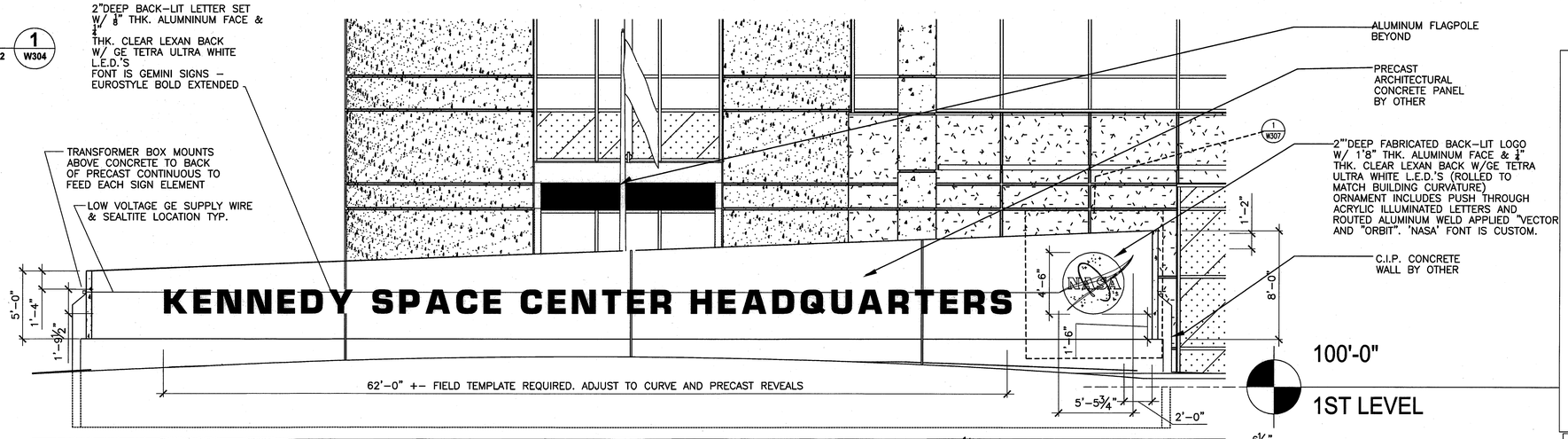


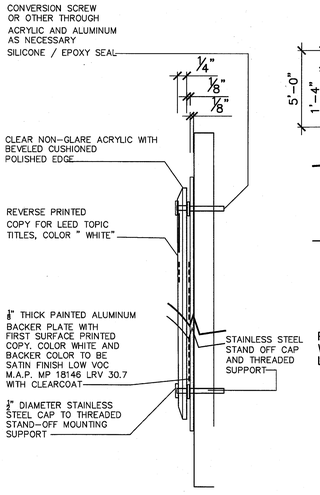




SIGN TYPE BG LEED EDUCATION INNOVATION CREDIT SIGNAGE

1 W304 — 1:2



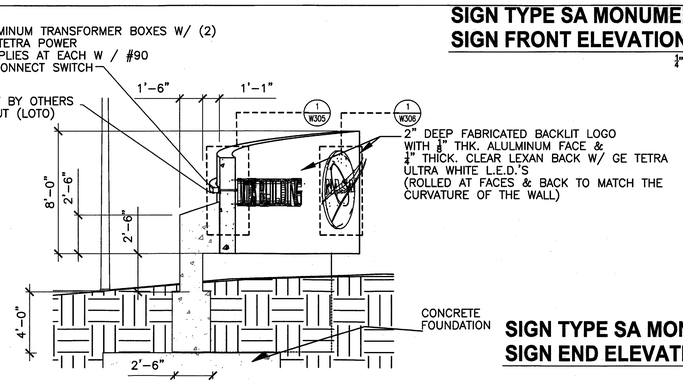


SIGN TYPE BG LEED EDUCATION INNOVATION CREDIT SIGNAGE SECTION

2 W304 — 1:2

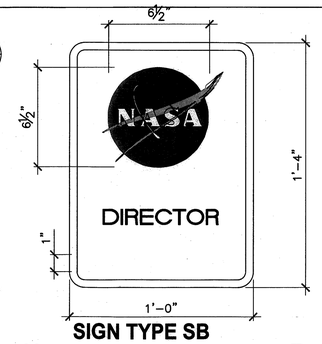
SIGN TYPE SA MONUMENT SIGN FRONT ELEVATION

3 W304 — ¼"=1'-0"



SIGN TYPE SA MONUMENT SIGN END ELEVATION

4 W304 — ¼"= 1'-0"



SIGN TYPE SB DIRECTOR PARKING

5 W304 — ¼"= 1'-0"

SIGN TYPE SL GOV.VEH. PARKING

6 W304 — ¼"= 1'-0"

SYM	ZONE		DATE	APPROVED

REVISIONS

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SIGNATURES	DATE
DRAWN Estela Martinez	12.18.13
CHECKED Mari Frith	12.18.13
SUBMITTED: ARCH/ENG OF RECORD Drew Kneece	12.18.13
ST of LICENSURE: FL LICENSE NO: AAC001744	
APPROVED Steve Belflower	12.18.13
NASA SYSTEM Thomas Wilczek	12.19.13

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA

KSC CENTRAL CAMPUS
REPLACEMENT HEADQUARTERS BUILDING
PHASE 1
VOL. 4 OF 4
SIGNAGE DETAILS

W304

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 175

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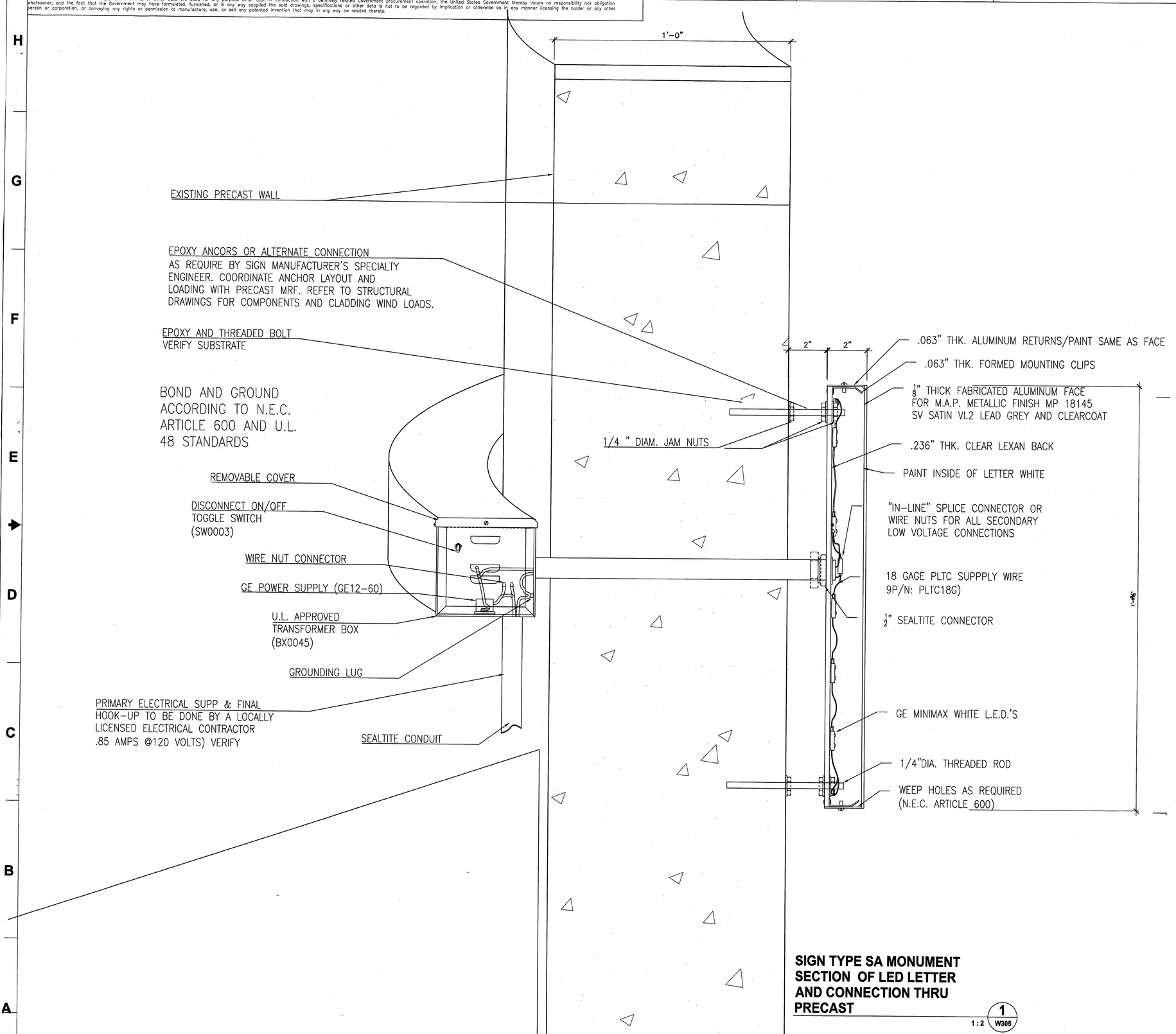

SIGN TYPE SA MONUMENT SECTION OF LED LETTER AND CONNECTION THRU PRECAST

1 / W305
1 : 2

SYM	ZONE		DATE	APPROVED

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KSC CENTRAL CAMPUS
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PHASE 1
VOL. 4 OF 4
SIGNAGE DETAILS

FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 176

W305

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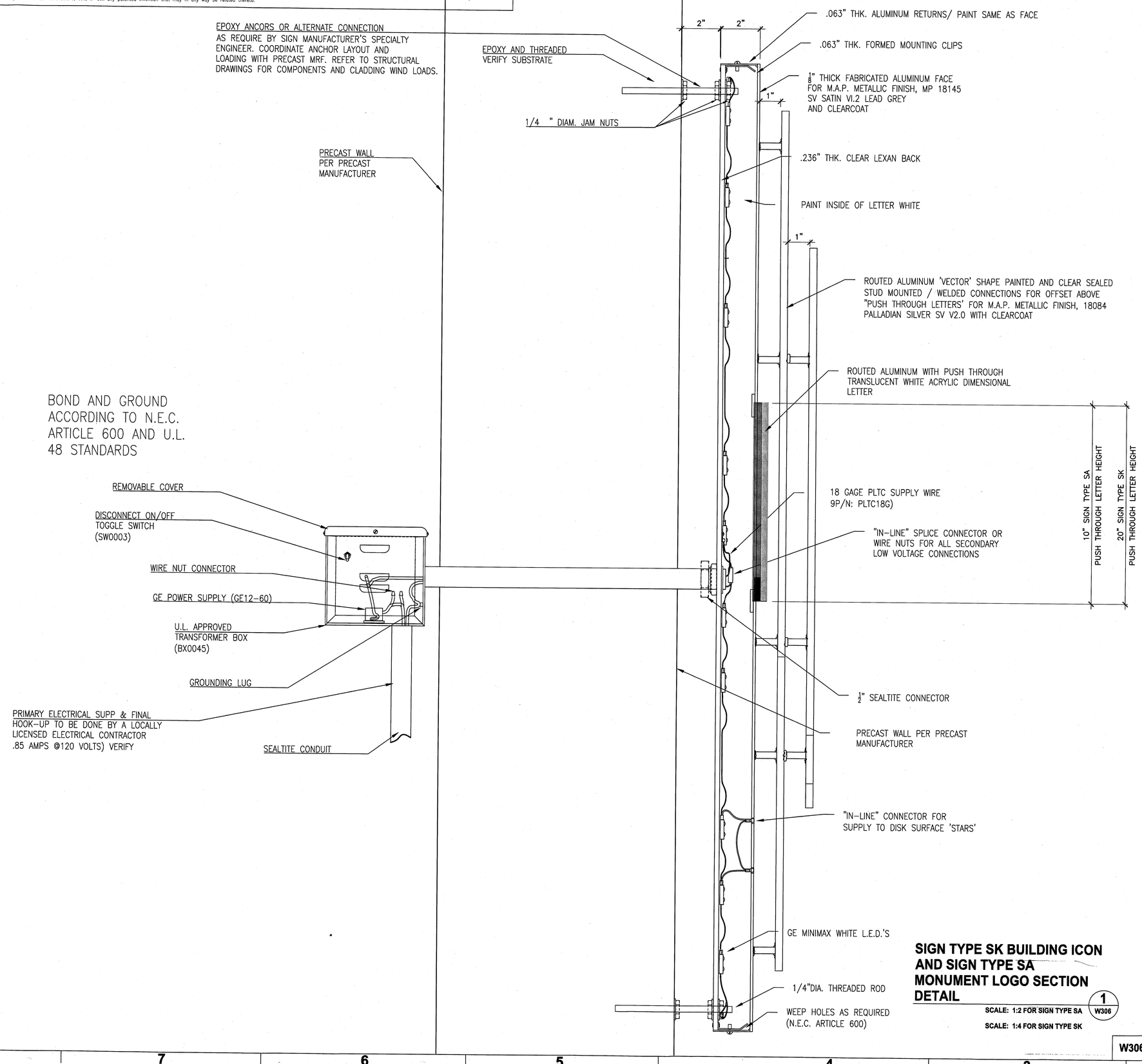

SIGN TYPE SK BUILDING ICON AND SIGN TYPE SA MONUMENT LOGO SECTION DETAIL

1 / W306

SCALE: 1:2 FOR SIGN TYPE SA

SCALE: 1:4 FOR SIGN TYPE SK

W306

SYM	ZONE	REVISIONS	DATE	APPROVED

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NASA SYS/LDE Thomas Wright	12.19.13

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KSC CENTRAL CAMPUS
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PHASE 1
VOL. 4 OF 4

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FILE NO.	SIZE	DWG. NO.
C-12070.00	F	79K39622 VOL 4
PCN. NO. 98745.1a		SHEET 177

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1
W306

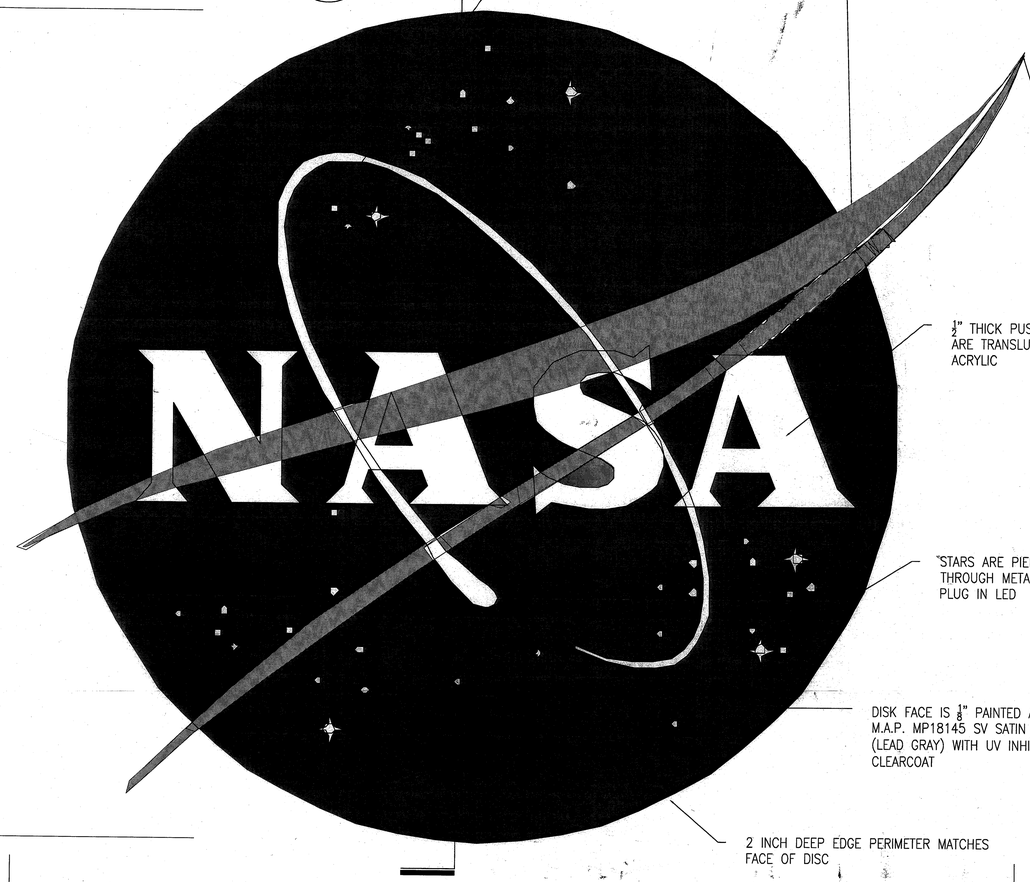
ORBIT IS M.A.P. BRIGHT WHITE SATIN LOW VOC WITH UV INHIBITOR CLEARCOAT

'VECTOR' IS M.A.P. COOL METALLIC MP 18084 LRV 55.5 (PALLADIAN SILVER SV SATIN LOW VOC WITH UV INHIBITOR CLEARCOAT

EASE CORNERS / OMIT SHARP EDGES

10'-0" DIAMETER
BUILDING FACE LOCATION SIGN TYPE SK

4'-6" DIAMETER
MONUMENT SIGN LOCATION SIGN TYPE SA



½" THICK PUSH THROUGH LETTERS ARE TRANSLUCENT WHITE ACRYLIC

STARS ARE PIERCED THROUGH METAL FOR PLUG IN LED

DISK FACE IS ⅛" PAINTED ALUMINUM M.A.P. MP18145 SV SATIN LOW VOC (LEAD GRAY) WITH UV INHIBITOR CLEARCOAT

2 INCH DEEP EDGE PERIMETER MATCHES FACE OF DISC

SIGN TYPE SA MONUMENT SIGN AND SIGN TYPE SK BUILDING SIGN TYPE SK-LOGO

1
W307

SCALE: ¼" = 1" FOR SIGN TYPE SA

SCALE: ⅛" = 1" FOR SIGN TYPE SK

5'-5 ½"
MONUMENT SIGN LOCATION SIGN TYPE SA

12'-0"
BUILDING FACE LOCATION SIGN TYPE SK

LOGO

BUILDING NAME

FIELD VERIFY RADIUS

39'-5" +-

39'-5" +-

CONTINUOUS METAL TRANSFORMER / RACEWAY ALONG BACK OF PRECAST OVER CONCRETE SHELF –
COORDINATE WITH PROJECT LICENSED ELECTRICAL CONTRACTOR FOR DETERMINATION OF MAIN FEED.
PRIMARY ELECTRICAL SUPPLY AND FINAL HOOK-UP TO BE DONE BY A LOCALLY LICENSED ELECTRICAL CONTRACTOR

CONFIRM AMPERAGE AT 120 VOLTS.

SIGN TYPE SA MONUMENT SIGN SITE PLAN

2
W307

¼"=1'-0"

SYM	ZONE		DATE	APPROVED

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W307

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