STATE OF UTAH
HOLLAND CENTENNIAL COMMONS
DFCM PROJECT #06297640
CONFORMED CONSTRUCTION DOCUMENT BID SET
VOLUME II

DIXIE STATE COLLEGE
ST GEORGE, UTAH

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Prime Agency — Date

DFCM — Date

APPROVAL DOES NOT RELIEVE A/E OF DESIGN LIABILITY

APPROVALS:

Prime Agency — Date

DFCM — Date

APPROVAL DOES NOT RELIEVE A/E OF DESIGN LIABILITY

State of Utah - Department of Administrative Services

DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

4110 State Office Building / Salt Lake City, Utah 84114 / 533-5561

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Grand total: 268	

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Grand total: 134	

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NOTE:

1. SHEET G001.1 CONTAINS A LIST OF DRAWINGS WHICH COMPRISE A FULL SET OF DRAWINGS FOR THIS PROJECT. ANY CONTRACTOR, SUBCONTRACTOR, VENDOR OR ANY OTHER PERSON PARTICIPATING IN OR BIDDING ON THIS PROJECT SHALL BE RESPONSIBLE FOR THE INFORMATION CONTAINED IN ANY AND ALL SHEETS OF DRAWINGS AND SPECIFICATIONS. IF ANY PERSON, PARTY OR ENTITY ELECTS TO SUBMIT BIDS FOR ANY PORTION, OR ALL, OF THIS PROJECT, THAT PERSON, PARTY OR ENTITY SHALL BE RESPONSIBLE FOR ANY AND ALL INFORMATION CONTAINED IN THESE DRAWINGS AND SPECIFICATIONS, INCLUDING, BUT NOT LIMITED TO, ANY SUBSEQUENT ADDENDUMS OR CLARIFICATIONS THAT MAY BE ISSUED.
2. THESE DOCUMENTS SHOW THE DESIGN INTENT. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE EVERYTHING SHOWN ON THE DRAWINGS OR SPECIFIED REGARDLESS OF WHERE IT IS SHOWN ON THE DRAWINGS OR IN THE SPECIFICATIONS. FOR EXAMPLE; SOME MILLWORK DETAILS HAVE STEEL FRAMES WHICH MAY BE PROVIDED BY DIVISION 05 OR WITH THE MILLWORK AT THE CONTRACTOR'S DISCRETION, BUT IT SHALL BE PROVIDED AS PART OF THE CONTRACT.
3. EVERYTHING CALLED FOR IN THESE DOCUMENTS SHALL BE "NEW" AND PROVIDED BY THE CONTRACTOR, SUBCONTRACTOR, VENDOR OR ANY OTHER PERSON PARTICIPATING IN OR BIDDING ON THIS PROJECT UNLESS NOTED OTHERWISE AS EXISTING (EXIST), NOT IN CONTRACT (NIC) OR FOR REFERENCE ONLY. FURNISHINGS SHOWN DASHED SHALL BE FOR REFERENCE ONLY.

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DIXIE STATE COLLEGE OF UTAH
DFCM #06297640
DIXIE COLLEGE, ST. GEORGE, UT
CONFORMED CONSTRUCTION DOCUMENTS BID SET

No.	Description	Date

Job # 09625
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Drawn Author Checked Checker
Date 12/03/2010
Owner #
Ins. #

SHEET INDEX VOL. II

G001.2
Sheet Number

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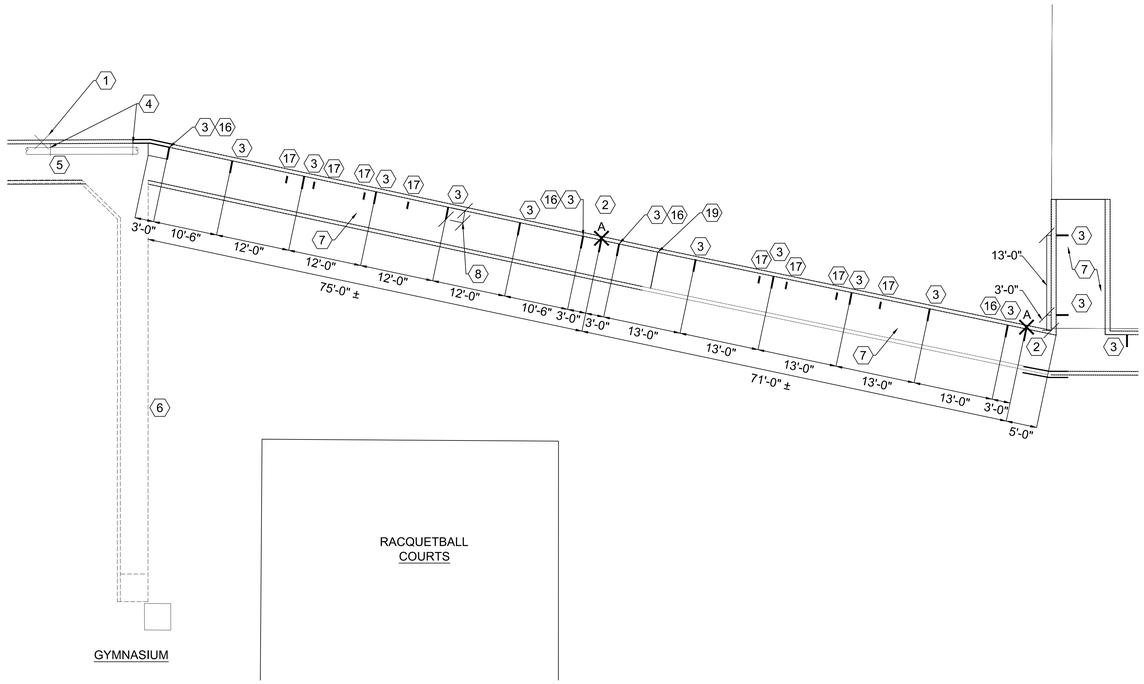
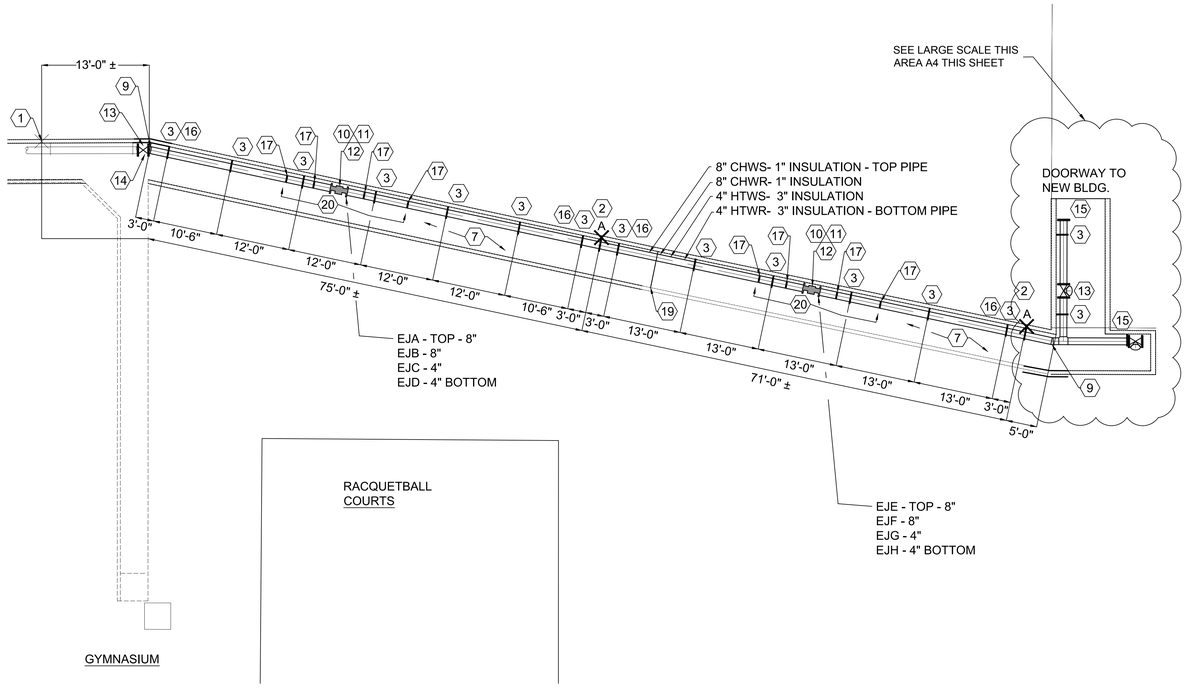


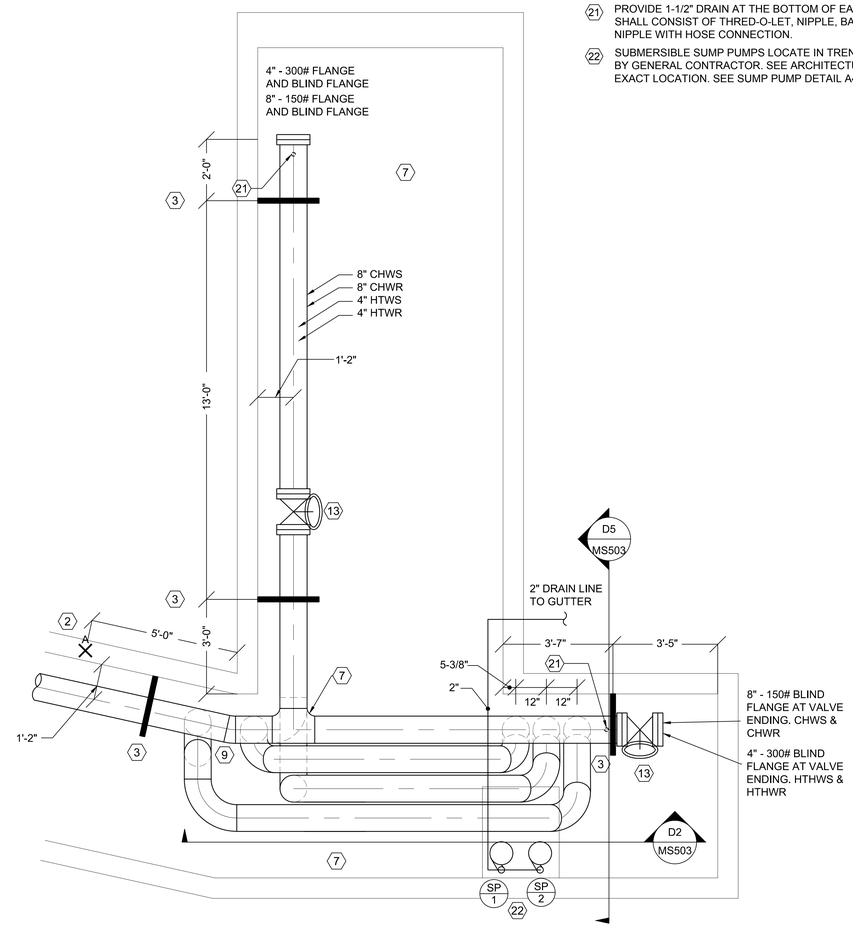
TUNNEL SUPPORTS AND ANCHOR PLAN

SCALE: 1" = 10'-0"



TUNNEL PIPING PLAN

SCALE: 1" = 10'-0"



A4 LARGE SCALE BRANCH TUNNEL

SCALE: 1/2" = 1'-0"

SHEET NOTES:

1. EXISTING ANCHOR SHALL REMAIN.
2. NEW PIPE ANCHOR. SEE DETAIL C4/MS501.
3. NEW PIPING SUPPORT. 12'-0" BETWEEN SUPPORTS EXCEPT WHERE SHOWN. SEE DETAIL D4/MS501.
4. EXISTING PIPING SUPPORT SHALL REMAIN.
5. EXISTING TUNNEL.
6. EXISTING TUNNEL TO GYMNASIUM.
7. NEW TUNNEL.
8. 24" TYPICAL ALL SUPPORTS.
9. 12° DEG. FITTING. VERIFY IN FIELD.
10. 8" FLANGED 150# EXPANSION JOINT. SEE DETAIL C2/MS501. TWO REQUIRED.
11. 4" FLANGED 300# EXPANSION JOINT. SEE DETAIL C2/MS501. TWO REQUIRED.
12. STAGGER EXPANSION JOINTS IF FLANGES ARE TO CLOSE.
13. PROVIDE GATE VALVES. STAGGER VALVES AS REQUIRED FOR ACCESS. PROVIDE TWO-8" - 150# VALVES FOR THE CHILLED WATER AND TWO-4" - 300# VALVES FOR THE HIGH TEMP WATER. MOUNT VALVES AT AN ANGLE UP TO KEEP HANDLES AS CLOSE TO PIPING AS POSSIBLE.
14. LINE UP NEW PIPING FOR CONNECTION TO EXISTING PIPING BUT DO NOT MAKE NEW TIE-INS AT THIS TIME.
15. PROVIDE FLANGED ENDS AND BLIND FLANGE CONNECTION TO BUILDING PIPING.
    4"-300#
    8"-150#
16. PIPE GUIDE A. SEE DETAIL A1/MS502.
17. PIPE GUIDE B. SEE DETAIL A5/MS502.
18. 8"x8"x8" SCH. 40 TEES FOR CHILLED WATER.
19. NEW TUNNEL CHANGES ELEVATION AT THIS APPROXIMATE LOCATION. ADJUST PIPING ACCORDINGLY. SEE CIVIL DRAWINGS FOR TUNNEL PROFILE.
20. SEE PROFILE SECTION OF EXPANSION JOINTS.
21. PROVIDE 1-1/2" DRAIN AT THE BOTTOM OF EACH PIPE. DRAIN SHALL CONSIST OF THRED-O-LET, NIPPLE, BALL VALVE, AND NIPPLE WITH HOSE CONNECTION.
22. SUBMERSIBLE SUMP PUMPS LOCATE IN TRENCH PROVIDED BY GENERAL CONTRACTOR. SEE ARCHITECTURAL FOR EXACT LOCATION. SEE SUMP PUMP DETAIL A4/ME503.

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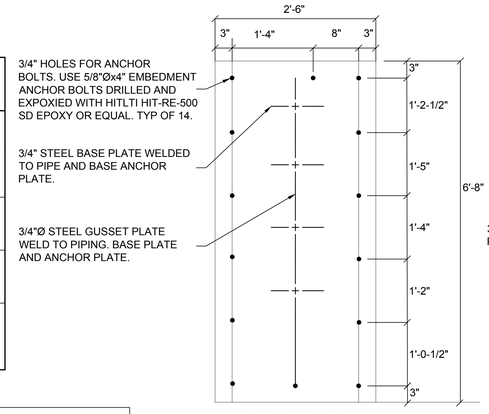
MECHANICAL PLANT SITE AND TUNNEL SUPPORTS, ANCHORS, AND PIPING PLAN

MPS101

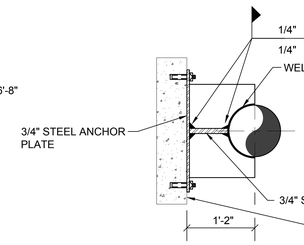
SUMP PUMP SCHEDULE

SYMBOL	SERVICE TYPE	GPM	FT. HD.	OUTLET SIZE	MOTOR		COMMENTS	SCHEDULE NOTES
					POWER	HP		
SP 1	SUBMERSIBLE	20	20	2"	208/1/60	1/2	WEIL 1413-2"	1,2,3
SP 2	SUBMERSIBLE	20	20	2"	208/1/60	1/2	WEIL 1413-2"	1,2,3

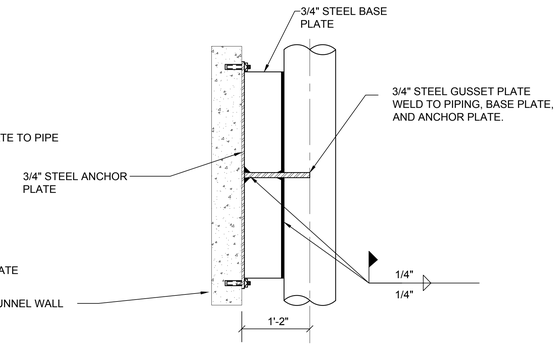
1. SEE SPECIFICATIONS FOR APPROVED MANUFACTURERS.
2. COORDINATE ELECTRICAL CONNECTION WITH ELECTRIC DRAWINGS.
3. PROVIDE WITH AUDIBLE AND BMS ALARM.



ELEVATION



SECTION



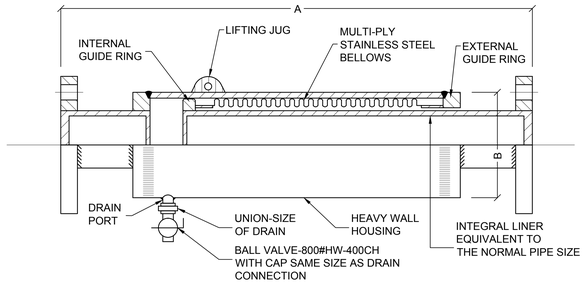
PLAN

EXPANSION JOINT SCHEDULE

SYMBOL	PIPE SIZE	END FITTING	AXIAL MOVEMENT	PSI	TEMP DEG. F	OAL (A)	HOUSING OD. (B)	EFF. AREA (IN. SQ.)	SPRING RATE lbs./in.	NOTES
EJA	8"	150# FLG'D	4"	150	53	28-1/4"	14"	88.82	332	CHILLED WATER
EJB	8"	150# FLG'D	4"	150	53	28-1/4"	14"	88.82	332	CHILLED WATER
EJC	4"	300# FLG'D	4"	300	300	26-1/2"	8-5/8"	36.02	460	HIGH TEMP. WATER
EJD	4"	300# FLG'D	4"	300	300	26-1/2"	8-5/8"	36.02	460	HIGH TEMP. WATER
EJE	8"	150# FLG'D	4"	150	53	28-1/4"	14"	88.82	332	CHILLED WATER
EJF	8"	150# FLG'D	4"	150	53	28-1/4"	14"	88.82	332	CHILLED WATER
EJG	4"	300# FLG'D	4"	300	300	26-1/2"	8-5/8"	36.02	460	HIGH TEMP. WATER
EJH	4"	300# FLG'D	4"	300	300	26-1/2"	8-5/8"	36.02	460	HIGH TEMP. WATER

1. EQUAL TO METRAFLEX METRAGATOR

NOTE:
PROVIDE PIPE GUIDES AS FOLLOWS:
1. 4" - 300# - 1ST GUIDE 1'-4" BOTH SIDES OF EXPANSION JOINT. 2ND GUIDE 4'-8" BETWEEN 1ST AND 2ND GUIDE.
2. 8" - 150# - 1ST GUIDE 2'-8" BOTH SIDES OF EXPANSION JOINT. 2ND GUIDE 9'-4" BETWEEN 1ST AND 2ND GUIDES BOTH SIDES OF EXPANSION JOINT.

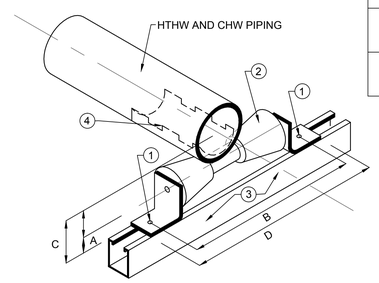


C2 EXPANSION JOINT DETAIL AND SCHEDULE
SCALE: NONE

C4 HOT AND CHILLED WATER PIPING ANCHOR DETAIL
SCALE: NONE

PIPING ROLLER ACCESSORIES

	A	B	C	D	E	DESIGN LOAD
B3126 - 4"	1-7/16"	6-1/4"	8"	7-7/8"	9/16"	600#
B3126 - 6"	1-7/16"	6-1/4"	HTW / CHW 9-1/8 / 6-11/16	7-7/8"	9/16"	600#
B3126 - 8"	1-13/16"	8-1/2"	8-7/16"	10-1/8"	9/16"	800#

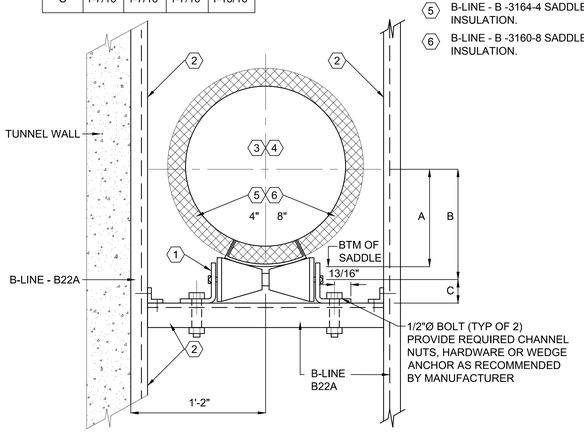


1.	9/16"Ø OPENING FOR 1/2"Ø BOLTS. (TWO)
2.	B-LINE ROLLER AND SUPPORT PART No. B3126-4 & 8. VERIFY W/ MANUFACTURER.
3.	B-LINE B-22A CHANNEL.
4.	B-LINE SADDLE PART No. B3164 FOR 3" INSULATION AND B3160 FOR 1" INSULATION. 12" LONG ℄ OF ROLLER SUPPORT. VERIFY W/ MANUFACTURER.

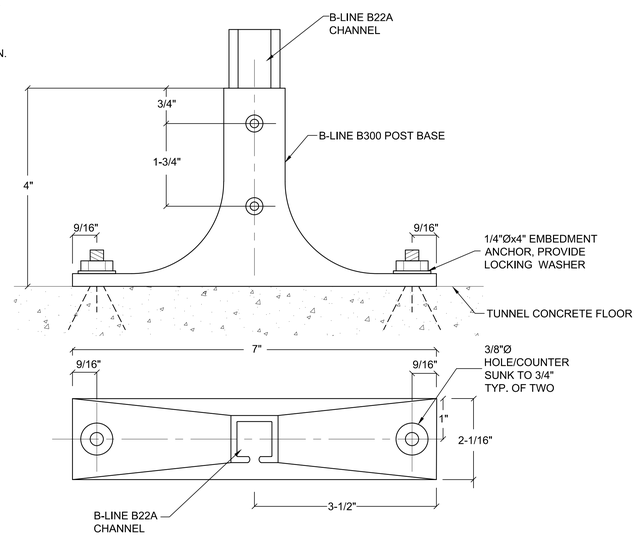
C5 PIPE ROLLER SUPPORT DETAIL
SCALE: NONE

PIPE SIZE				
	4" HTW	6" HTW	6" CHW	8" CHW
A	5-1/2"	6-9/16"	4-1/2"	5-9/16"
B	6-9/16"	7-11/16"	5-1/4"	6-5/8"
C	1-7/16"	1-7/16"	1-7/16"	1-13/16"

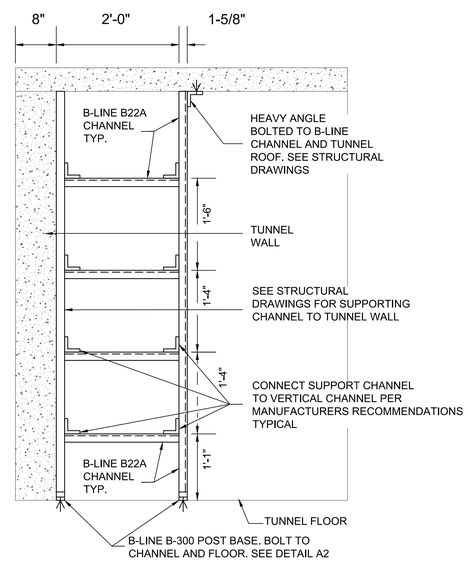
SHEET NOTES:
1. B-LINE - B3126 ROLLER SUPPORT.
2. B-LINE - B22A CHANNEL.
3. 4" HTWS & HTWR W/3" INSULATION.
4. 8" CHWS & CHWR W/ 1" INSULATION.
5. B-LINE - B -3164-4 SADDLE. 3" INSULATION.
6. B-LINE - B -3160-8 SADDLE. 1" INSULATION.



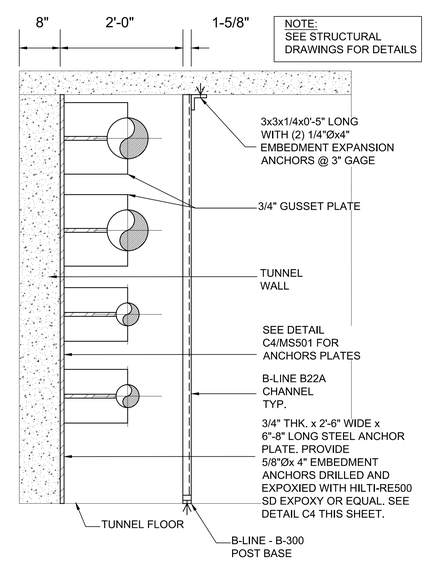
A1 PIPE ROLLER SUPPORT DETAIL
SCALE: NONE



A2 POST BASE DETAIL FOR B-LINE B22A CHANNEL SUPPORTS
SCALE: NONE



A4 PIPE SUPPORT DETAIL
SCALE: 1" = 1'-0"



A5 PIPE ANCHOR STRUCTURE DETAIL
SCALE: 1" = 1'-0"

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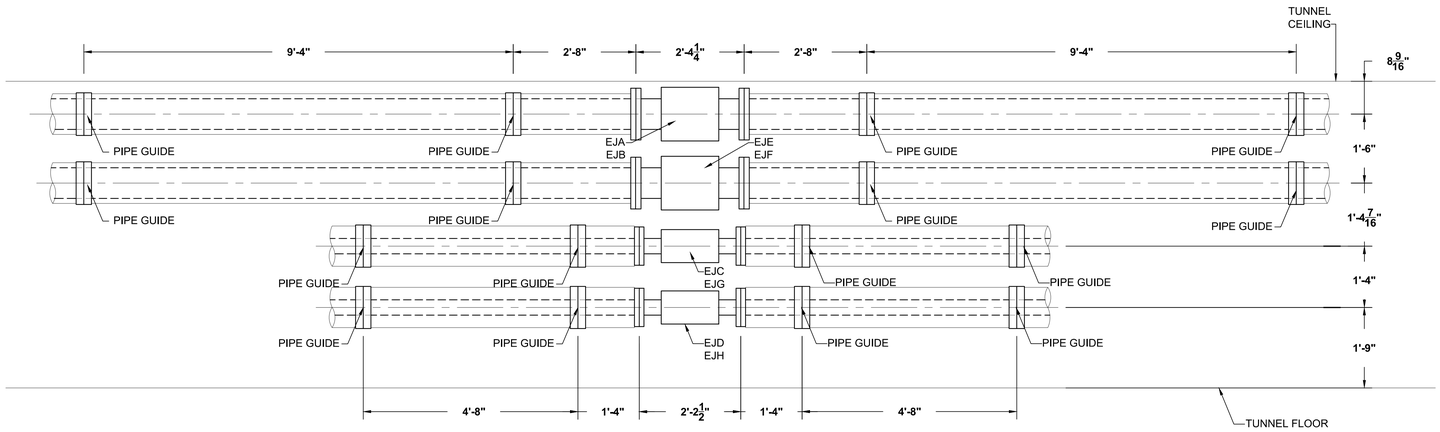
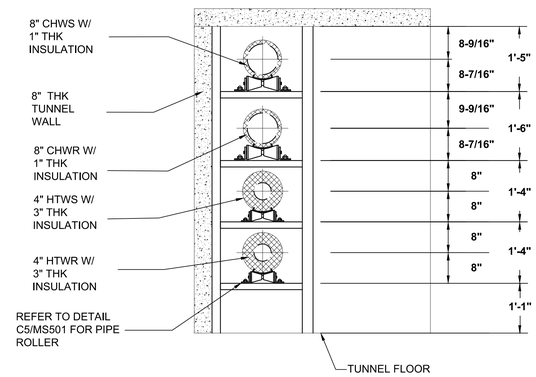
MECHANICAL PLANT SITE DETAILS AND SCHEDULES

MPS501

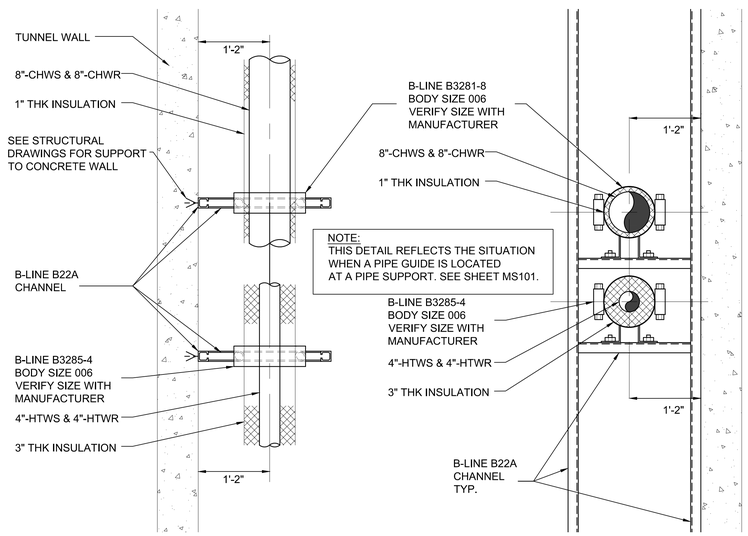


C2 SECTION OF PIPING THROUGH TUNNEL
SCALE: NONE

NOTE:
SEE DETAILS D4 AND D5 /MS501 FOR STRUCTURAL DETAILS OF PIPE SUPPORTS



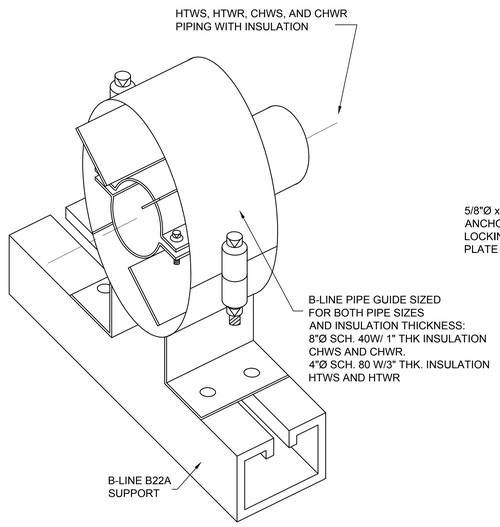
C5 TUNNEL PIPING SECTION DETAIL
SCALE: NONE



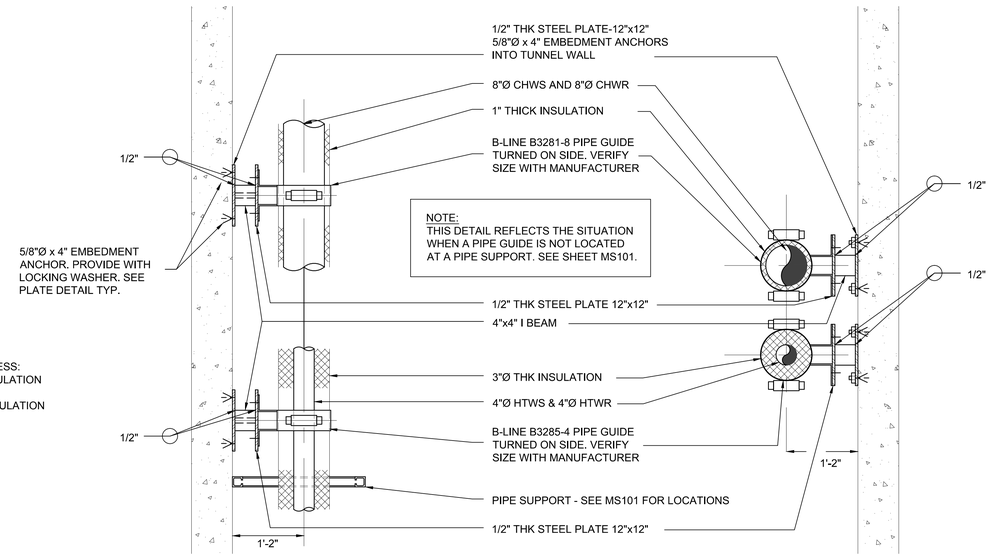
NOTE:
THIS DETAIL REFLECTS THE SITUATION WHEN A PIPE GUIDE IS LOCATED AT A PIPE SUPPORT. SEE SHEET MS101.

PLAN VIEW

ELEVATION



A1 PIPE GUIDE "A" DETAIL
SCALE: 1" = 1'-0"



NOTE:
THIS DETAIL REFLECTS THE SITUATION WHEN A PIPE GUIDE IS NOT LOCATED AT A PIPE SUPPORT. SEE SHEET MS101.

PLAN VIEW

ELEVATION

A5 PIPE GUIDE "B" DETAIL
SCALE: 1" = 1'-0"

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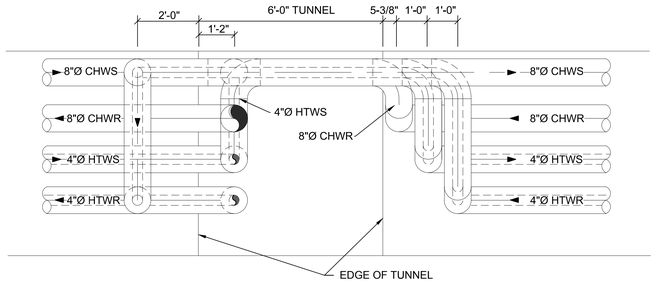
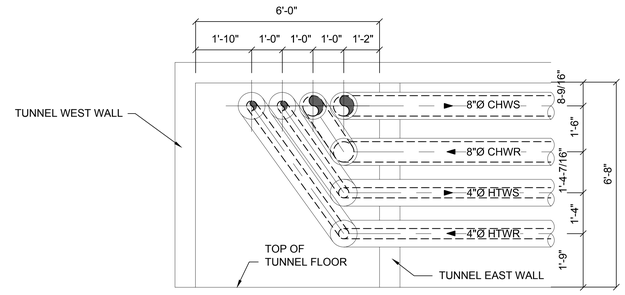
MPS502



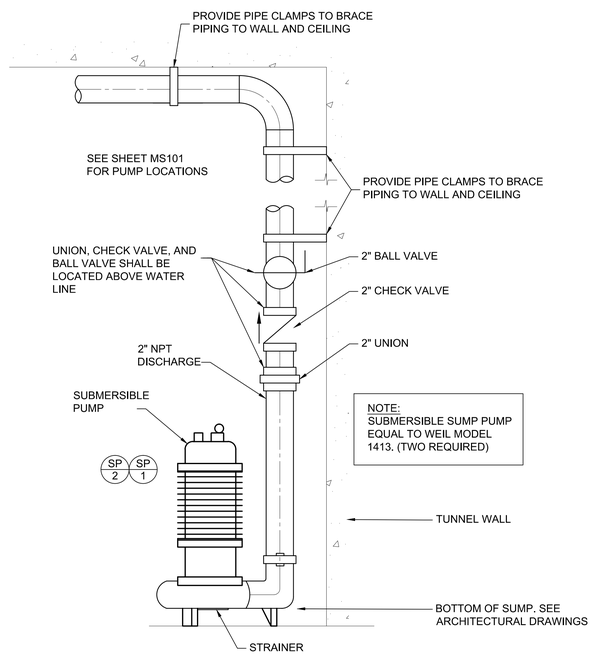
D2 SECTION
SCALE: 1/2" = 1'-0"

NOTE:

CONTRACTOR MAY CHOOSE TO CHANGE PIPING IF HE CAN MAINTAIN MORE HEAD ROOM AND ACCESS. COORDINATE WITH ENGINEER.



D5 SECTION
SCALE: 1/2" = 1'-0"



A4 SUMP PUMP DETAIL
SCALE: NONE

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MECHANICAL PLANT
SITE DETAILS AND
SCHEDULES

MPS503

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5. THE BUILDING WILL HAVE AN UNDERGROUND WATERPROOF MEMBRANE. ALL CONTRACTORS TO MINIMIZE PENETRATIONS AND COORDINATE THEM WITH THE WATERPROOFING SUBCONTRACTOR.
6. THE BUILDING WILL HAVE AN AIR AND MOISTURE BARRIER ON THE NON-GLAZED WALLS. ALL CONTRACTORS TO MINIMIZE PENETRATIONS AND COORDINATE THEM WITH THE WATERPROOFING SUBCONTRACTOR.
7. ALL PENETRATIONS IN FIRE RATED ASSEMBLIES WILL BE INSTALLED BY A SINGLE SUBCONTRACTOR. ALL CONTRACTORS TO MINIMIZE PENETRATIONS AND COORDINATE THEM WITH THE FIREPROOFING SUBCONTRACTOR.
8. WALL MOUNTED MECHANICAL AND ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, SWITCHES, AND THERMOSTATS, ARE TO BE INSTALLED AS LOCATED ON THE ELEVATIONS. MECHANICAL AND ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR TYPE AND QUANTITY. WHERE NOT INDICATED REFER TO A3/A403 FOR MOUNTING LOCATION GUIDELINES.

DRAWING INDEX

#	SHEET NAME
MH001	MECHANICAL LEGEND, SYMBOLS & ABBREVIATIONS
FP101	LEVEL 01 FIRE PROTECTION FLOOR PLAN
FP102	LEVEL 02 FIRE PROTECTION FLOOR PLAN
FP102M	LEVEL 02M FIRE PROTECTION FLOOR PLAN
FP103	LEVEL 03 FIRE PROTECTION FLOOR PLAN
FP104	LEVEL 04 FIRE PROTECTION FLOOR PLAN
FP105	LEVEL 05 FIRE PROTECTION FLOOR PLAN
FP401	ENLARGED FIRE PROTECTION PLANS
MH101	LEVEL 01 MECHANICAL FLOOR PLAN
MH102	LEVEL 02 MECHANICAL FLOOR PLAN
MH102M	LEVEL 02M MECHANICAL FLOOR PLAN
MH103	LEVEL 03 MECHANICAL FLOOR PLAN
MH104	LEVEL 04 MECHANICAL FLOOR PLAN
MH105	LEVEL 05 MECHANICAL FLOOR PLAN
MH106	ROOF MECHANICAL PLAN
MH201	MECHANICAL SECTIONS
MH202	MECHANICAL SCHEMATICS
MH203	MECHANICAL SCHEMATICS
MH204	MECHANICAL SCHEMATICS
MH205	MECHANICAL SCHEMATICS
MH301	MECHANICAL SECTIONS
MH401	ENLARGED MECHANICAL PLANS
MH402	ENLARGED MECHANICAL PLANS
MH501	MECHANICAL DETAILS
MH502	MECHANICAL DETAILS
MH503	MECHANICAL DETAILS
MH504	MECHANICAL DETAILS
MH505	MECHANICAL DETAILS
MH601	MECHANICAL SCHEDULES
MH602	MECHANICAL SCHEDULES
MH603	MECHANICAL SCHEDULES
MH604	MECHANICAL SCHEDULES
MP101	LEVEL 01 MECHANICAL PIPING FLOOR PLAN
MP102	LEVEL 02 MECHANICAL PIPING FLOOR PLAN
MP102M	LEVEL 02M MECHANICAL PIPING FLOOR PLAN
MP103	LEVEL 03 MECHANICAL PIPING FLOOR PLAN
MP104	LEVEL 04 MECHANICAL PIPING FLOOR PLAN
MP105	LEVEL 05 MECHANICAL PIPING FLOOR PLAN
PL101	LEVEL 01 PLUMBING FLOOR PLAN
PL102	LEVEL 02 PLUMBING FLOOR PLAN
PL102M	LEVEL 02 MEZZ. PLUMBING PLAN
PL103	LEVEL 03 PLUMBING FLOOR PLAN
PL104	LEVEL 04 PLUMBING FLOOR PLAN
PL105	LEVEL 05 PLUMBING FLOOR PLAN
PL106	ROOF PLUMBING FLOOR PLAN
PL201	PLUMBING SCHEMATIC
PL401	ENLARGED PLUMBING PLANS
PL402	ENLARGED PLUMBING PLANS
PL403	ENLARGED PLUMBING PLANS
PL501	PLUMBING DETAILS
PL502	PLUMBING DETAILS
PL601	PLUMBING SCHEDULES

ABBREVIATIONS

□	ROUND OR DIAMETER	LWT	LEAVING WATER TEMPERATURE
AD	ACCESS DOOR	MAX	MAXIMUM
AF	AIRFOIL	MBH	THOUSAND BRITISH THERMAL UNITS/HOUR
AFF	ABOVE FINISHED FLOOR	MECH	MECHANICAL
ALT	ALTERNATE	MIN	MINIMUM
BFP	BACK FLOW PREVENTION	MVD	MANUAL VOLUME DAMPER
BI	BACKWARD INCLINED	NC	NOISE CRITERIA OR NORMALLY CLOSED
BOD	BOTTOM OF DUCT	NIC	NOT IN CONTRACT
BOP	BOTTOM OF PIPE	NO	NUMBER
BTU/H	BRITISH THERMAL UNITS PER HOUR	NOM	NOMINAL
CAP	CAPACITY	NTS	NOT TO SCALE
CFM	CUBIC FEET PER MINUTE	OA	OUTSIDE AIR
CO	CLEAN OUT - INLINE	OBD	OPPOSED BLADE DAMPER
CV	CONSTANT VOLUME	OD	OVERFLOW DRAIN
DB	DRY BULB	OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
DIA	DIAMETER	OFOI	OWNER FURNISHED, OWNER INSTALLED
DN	DOWN	PD	PRESSURE DROP
DSN	DOWN SPOUT NOZZLE	POC	POINT OF CONNECTION
DW	DISHWASHER	PRV	PRESSURE REDUCING VALVE
(E)	EXISTING	PSI	POUNDS PER SQUARE INCH
EA	EXHAUST AIR	PSIG	POUNDS PER SQUARE INCH GAUGE
EAT	ENTERING AIR TEMPERATURE	RA	RETURN AIR
EFF	EFFICIENCY	RAD	RADIUS
ELEV	ELEVATION	RD	ROOF DRAIN
ENCL	ENCLOSURE	RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
ESP	EXTERNAL STATIC PRESSURE	SA	SUPPLY AIR
ET	EXPANSION TANK	SEN	SENSIBLE
EWC	ELECTRIC WATER COOLER	SIM	SIMILAR
EWT	ENTERING WATER TEMPERATURE	SL	SEA LEVEL
FCO	FLOOR CLEANOUT	SP	STATIC PRESSURE
FD	FLOOR DRAIN	SQ FT	SQUARE FEET
FO	FLAT OVAL	SS	SERVICE SINK OR STAINLESS STEEL
FPM	FEET PER MINUTE	TOD	TOP OF DUCT
FS	FLOOR SINK	TSP	TOTAL STATIC PRESSURE
FT	FEET	U	URINAL
FV	FACE VELOCITY	VAV	VARIABLE AIR VOLUME
GA	GAUGE	VD	VOLUME DAMPER
GAL	GALLON	VFD	VARIABLE FREQUENCY DRIVE
GD	GARAGE DRAIN	VOL	VOLUME
GPM	GALLONS PER MINUTE	VTR	VENT THROUGH ROOF
HP	HORSEPOWER	W/	WITH
HR	HOUR	W/O	WITHOUT
HT	HEIGHT	WB	WET BULB
IN	INCH	WC	WATER CLOSET
INWC	INCHES OF WATER COLUMN	WCO	WALL CLEANOUT
INWG	INCHES OF WATER GAUGE	WPD	WATER PRESSURE DROP
IPG	INHIBITED PROPYLENE GLYCOL	WT	WEIGHT
L	LAVATORY OR LOUVER		
LAT	LEAVING AIR TEMPERATURE		
LBS	POUNDS		

MECHANICAL LEGEND

NOTE: ALL ITEMS MAY NOT APPEAR ON DRAWINGS

GATE VALVE		DEIONIZED WATER	DI
OS & Y PATTERN GATE VALVE		DEIONIZED WATER RETURN	DIR
BALL VALVE		HEAT TRACING	
BUTTERFLY VALVE		CHILLED WATER SUPPLY	CHS
MOTORIZED VALVE OPERATOR	M	CHILLED WATER RETURN	CHR
GAS COCK		CONDENSER WATER SUPPLY	CS
PLUG VALVE		CONDENSER WATER RETURN	CR
CHECK VALVE (SWING OR LIFT AS REQ'D)		HEATING WATER SUPPLY	HWS
SOLENOID VALVE		HEATING WATER RETURN	HWR
AUTOMATIC CONTROL VALVE (2-WAY)		RADIANT FLOOR SUPPLY	RFS
AUTOMATIC CONTROL VALVE (3-WAY)		RADIANT FLOOR RETURN	RFR
PRESSURE REDUCING VALVE		STEAM	S
P & T RELIEF VALVE		STEAM CONDENSATE RETURN	SCR
AIR VENT (AUTOMATIC)		WATER TREATMENT	WT
CURB COCK		FUEL OIL SUPPLY	FOS
THERMAL EXPANSION VALVE		FUEL OIL RETURN	FOR
STRAINER		REFRIGERANT LIQUID	RL
CALIBRATED BALANCE VALVE		REFRIGERANT SUCTION	RS
VENTURI FLOW METER		HOT GAS	HG
REDUCER		HOT GAS BYPASS	HGBP
PET COCK OR GAUGE COCK		VACUUM	V
PRESSURE GAUGE W/GAUGE COCK		MEDICAL AIR	MA
THERMOMETER		OXYGEN	O2
TEMPERATURE & PRESSURE TEST PLUG		NITROUS OXIDE	N2O
IN-LINE PUMP		NITROGEN	N
FLOW SWITCH	F	HYDROGEN	H
AQUASTAT	A	HELIUM	HE
TEMPERATURE SENSING WELL	T	CARBON DIOXIDE	CO2
HOSE BIBB OR SILLCOCK		ARGON	AR
YARD HYDRANT	H	DUCT SIZE (IN), FIRST FIGURE IS SIDE SHOWN	18/12
FLOOR DRAIN		BURIED OR UNDERFLOOR DUCT	
FLOOR SINK		DUCT W/ ACOUSTICAL LINING	
MANHOLE		FLEXIBLE DUCT (HELICAL)	
WALL CLEANOUT		SPIN-IN FITTING W/ MVD	=
FLOOR OR GRADE CLEANOUT		FLEXIBLE DUCT CONNECTION	
GRADE CLEANOUT W/ CONCRETE PAD		SUPPLY SLOT DIFFUSER	
VENT THROUGH ROOF		SUPPLY DIFFUSER	
POST TYPE FDC CONNECTION		RETURN GRILLE	
WALL TYPE FDC CONNECTION		RADIAL SUPPLY DIFFUSERS	
FIRE HOSE CABINET		RETURN AIR DUCT SECTION	
FIRE DEPT. HORN & LIGHT		RETURN AIR DUCT UP	
EXPANSION JOINT		RETURN AIR DUCT DOWN	
FLEXIBLE PIPE CONNECTION		SUPPLY AIR DUCT SECTION	
REDUCED PRESSURE BACKFLOW PREVENTER	RPBP	SUPPLY AIR DUCT UP	
DIRECTION OF FLOW		SUPPLY AIR DUCT DOWN	
ELBOW DOWN		EXHAUST AIR DUCT SECTION	
ELBOW UP		EXHAUST AIR DUCT UP	
PIPE CAP		EXHAUST AIR DUCT DOWN	
TEE DOWN		ACCESS PANEL	
UNION		MANUAL VOLUME DAMPER	
DOMESTIC COLD WATER		GRAVITY BACKDRAFT DAMPER	G
DOMESTIC HOT WATER		MOTORIZED DAMPER	M
HOT WATER CIRC.		AIR FLOW STATION	F
TEMPERED WATER	T	FIRE DAMPER	F
SANITARY (PLBG) VENT		SMOKE DAMPER	S
SANITARY SEWER ABOVE GRADE		COMBINATION FIRE/SMOKE DAMPER	FS
SANITARY SEWER BELOW GRADE		DUCT TRANSITION	
GREASE WASTE ABOVE GRADE	GW	ELBOW W/ TURNING VANES	=
GREASE WASTE BELOW GRADE	GW	TEE W/ 45° ENTRY	=
DRAIN	D	WYE W/ 45° ENTRY	=
ROOF DRAIN	RD	THERMOSTAT OR TEMP SENSOR	T
OVERFLOW DRAIN	OD	HUMIDISTAT OR HUMIDITY SENSOR	H
STORM DRAIN ABOVE GRADE	SD	CARBON DIOXIDE SENSOR	C2
STORM DRAIN BELOW GRADE	SD	NITROGEN DIOXIDE SENSOR	N
FIRE SERVICE	F	POINT OF REMOVAL FROM EXISTING	
NATURAL GAS	G	POINT OF CONNECTION TO EXISTING	
PROPANE	P	DETAIL TAG	DETAIL NO. / DRAWING NO.
COMPRESSED AIR	CA		
INDUSTRIAL WATER (NON-POTABLE)	IW	KEYED NOTE	NOTE NO.
SOFT WATER	SW	SECTION CUT LINE	SECTION NO. / DRAWING NO.

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DFCM #06297640

DIXIE COLLEGE, ST. GEORGE, UT

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MECHANICAL LEGEND, SYMBOLS & ABBREVIATIONS

MH001

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1 LEVEL 01 FIRE PROTECTION FLOOR PLAN

SCALE: 1/8" = 1'-0"

6' 0' 4' 8' 12' 16'

KEYED NOTES

1. PROVIDE FIRE RISER, ROUTE TEST AND INSPECTION DRAIN THROUGH WALL.
2. PROVIDE POST MOUNTED FIRE DEPARTMENT CONNECTION.
3. ORDINARY HAZARD GROUP 1.
4. MAINTAIN A MINIMUM 7' CLEAR UNDER STAIR LANDING FOR EXIT PATH.
5. PROVIDE COMBINED WET STANDPIPE WITH FLOOR CONTROL AND TEST ASSEMBLY.
6. PROVIDE DRY HEADS TO PROTECT VESTIBULES AND OTHER AREAS SUBJECT TO FREEZING.

GENERAL NOTES

A. PROVIDE WET FIRE SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13.
B. PROVIDE WET STANDPIPE SYSTEM IN EACH STAIR IN ACCORDANCE WITH NFPA 13.
C. UNLESS NOTED OTHERWISE, SPACES IN THE BUILDING ARE A LIGHT HAZARD OCCUPANCY REQUIRING QUICK RESPONSE SPRINKLER HEADS.
D. COORDINATE PIPE ROUTING WITH OTHER TRADES.
E. CENTER SPRINKLER HEADS IN CEILING TILE.
F. PROVIDE SPRINKLER HEADS INDICATED ON ARCHITECTURE CEILING PLANS (WHERE APPLICABLE).
G. TIGHT CEILING SPACE WILL REQUIRE SOME SPRINKLER LINES TO OFFSET OVER OR UNDER DUCTWORK, PIPE, OR OTHER OBSTACLES. PROVIDE DRAINS AS REQUIRED.
H MAXIMUM STORAGE HEIGHT IS 8'.

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LEVEL 01 FIRE PROTECTION FLOOR PLAN

FP101

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1 LEVEL 02 FIRE PROTECTION FLOOR PLAN

SCALE: 1/8" = 1'-0"

6' 0' 4' 8' 12' 16'

KEYED NOTES

1 ORDINARY HAZARD GROUP 1.
2 PROVIDE DRY HEADS TO PROTECT VESTIBULES AND OTHER AREAS SUBJECT TO FREEZING.
3 ORDINARY HAZARD GROUP 2.
4 PROVIDE COMBINED WET STANDPIPE WITH FLOOR CONTROL AND TEST ASSEMBLY.
5 PROVIDE WET STANDPIPE WITH HOSE VALVE AT EACH FLOOR.
6 MAINTAIN A MINIMUM 7' CLEAR UNDER STAIR LANDING FOR EXIT PATH.
7 PROVIDE WINDOW SPRINKLER SYSTEM THAT COMPLIES WITH UL LISTING REQUIREMENTS. PROVIDE HORIZONTAL SPRINKLER PIPE TO PROTECT UNDER HORIZONTAL MULLIONS WITH SHIELDS TO PROTECT LOWER SPRINKLERS FROM THE SPRAY FROM HIGHER SPRINKLERS. PROVIDE WELDED STAINLESS STEEL PIPE IN THIS AREA WITH STAINLESS STEEL MOUNTING AND BRACING HARDWARE. LEAVE ALL EXPOSED PIPE CLEAN AND FREE OF MARKS.

GENERAL NOTES

A. PROVIDE WET FIRE SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13.
B. PROVIDE WET STANDPIPE SYSTEM IN EACH STAIR IN ACCORDANCE WITH NFPA 13.
C. UNLESS NOTED OTHERWISE, SPACES IN THE BUILDING ARE A LIGHT HAZARD OCCUPANCY REQUIRING QUICK RESPONSE SPRINKLER HEADS.
D. COORDINATE PIPE ROUTING WITH OTHER TRADES.
E. CENTER SPRINKLER HEADS IN CEILING TILE.
F. PROVIDE SPRINKLER HEADS INDICATED ON ARCHITECTURE CEILING PLANS (WHERE APPLICABLE).
G. TIGHT CEILING SPACE WILL REQUIRE SOME SPRINKLER LINES TO OFFSET OVER OR UNDER DUCTWORK, PIPE, OR OTHER OBSTACLES. PROVIDE DRAINS AS REQUIRED.
H MAXIMUM STORAGE HEIGHT IS 8'.

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LEVEL 02 FIRE PROTECTION FLOOR PLAN

FP102

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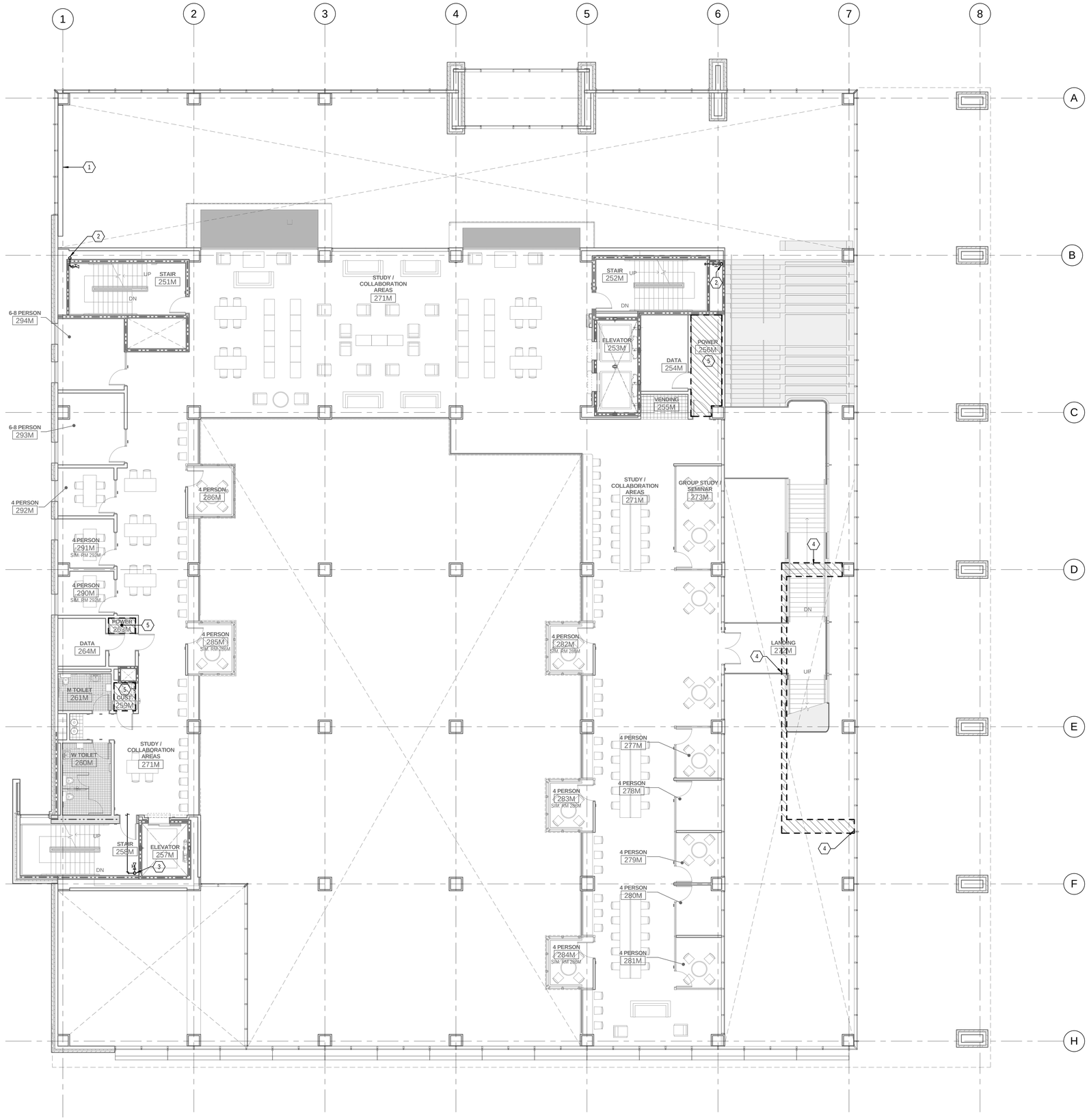

1 LEVEL 02M FIRE PROTECTION FLOOR PLAN

SCALE: 1/8" = 1'-0"

KEYED NOTES

1 PROVIDE WINDOW SPRINKLER SYSTEM THAT COMPLIES WITH UL LISTING REQUIREMENTS. PROVIDE HORIZONTAL SPRINKLER PIPE TO PROTECT UNDER HORIZONTAL MULLIONS WITH SHIELDS TO PROTECT LOWER SPRINKLERS FROM THE SPRAY FROM HIGHER SPRINKLERS. PROVIDE WELDED STAINLESS STEEL PIPE IN THIS AREA WITH STAINLESS STEEL MOUNTING AND BRACING HARDWARE. LEAVE ALL EXPOSED PIPE CLEAN AND FREE OF MARKS.

2 PROVIDE WET STANDPIPE WITH HOSE VALVE AT EACH FLOOR.

3 PROVIDE COMBINED WET STANDPIPE WITH FLOOR CONTROL AND TEST ASSEMBLY.

4 PROVIDE WINDOW SPRINKLER SYSTEM THAT COMPLIES WITH UL LISTING REQUIREMENTS FOR DRAFT CURTAIN. SEE DETAIL A6/A541. SPRINKLERS TO BE 6' ON CENTER.

5 ORDINARY HAZARD GROUP 1.

GENERAL NOTES

A. PROVIDE WET FIRE SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13.

B. PROVIDE WET STANDPIPE SYSTEM IN EACH STAIR IN ACCORDANCE WITH NFPA 13.

C. UNLESS NOTED OTHERWISE, SPACES IN THE BUILDING ARE A LIGHT HAZARD OCCUPANCY REQUIRING QUICK RESPONSE SPRINKLER HEADS.

D. COORDINATE PIPE ROUTING WITH OTHER TRADES.

E. CENTER SPRINKLER HEADS IN CEILING TILE.

F. PROVIDE SPRINKLER HEADS INDICATED ON ARCHITECTURE CEILING PLANS (WHERE APPLICABLE).

G. TIGHT CEILING SPACE WILL REQUIRE SOME SPRINKLER LINES TO OFFSET OVER OR UNDER DUCTWORK, PIPE, OR OTHER OBSTACLES. PROVIDE DRAINS AS REQUIRED.

H MAXIMUM STORAGE HEIGHT IS 8'.

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LEVEL 02M FIRE PROTECTION FLOOR PLAN

FP102M

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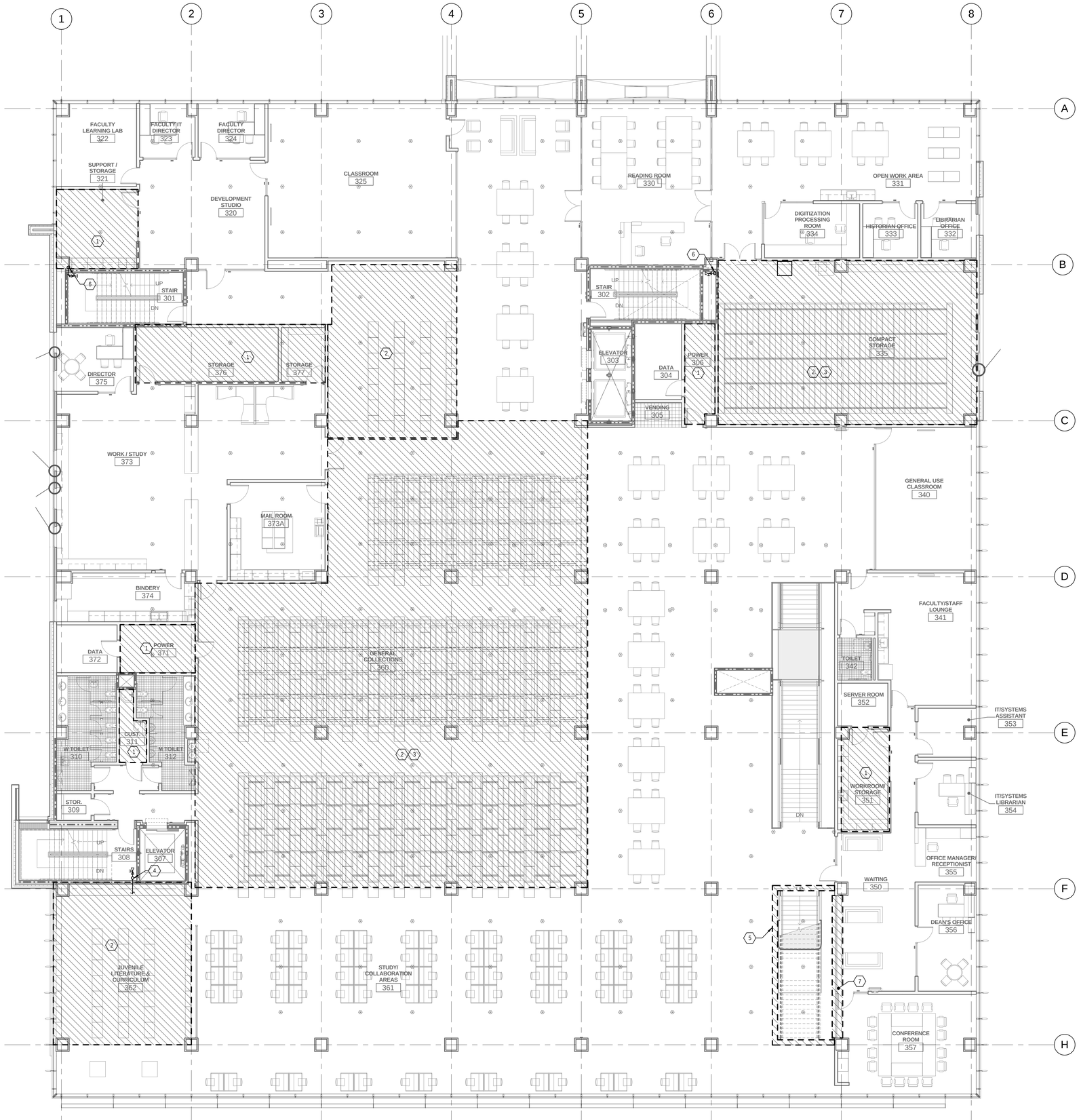

1 LEVEL 03 FIRE PROTECTION FLOOR PLAN

SCALE: 1/8" = 1'-0"

6' 0' 4' 8' 12' 16'

KEYED NOTES

1 ORDINARY HAZARD GROUP 1.
2 ORDINARY HAZARD GROUP 2.
3 SPACE SPRINKLER HEADS 8' APART OVER COMPACT STORAGE AREAS.
4 PROVIDE COMBINED WET STANDPIPE WITH FLOOR CONTROL AND TEST ASSEMBLY.
5 PROVIDE WINDOW SPRINKLER SYSTEM THAT COMPLIES WITH UL LISTING REQUIREMENTS FOR DRAFT CURTAIN. SEE DETAIL A6/A541. SPRINKLERS TO BE 6' ON CENTER.
6 PROVIDE WET STANDPIPE WITH HOSE VALVE AT EACH FLOOR.
7 PROVIDE WINDOW SPRINKLER SYSTEM THAT COMPLIES WITH UL LISTING REQUIREMENTS.

GENERAL NOTES

A. PROVIDE WET FIRE SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13.
B. PROVIDE WET STANDPIPE SYSTEM IN EACH STAIR IN ACCORDANCE WITH NFPA 13.
C. UNLESS NOTED OTHERWISE, SPACES IN THE BUILDING ARE A LIGHT HAZARD OCCUPANCY REQUIRING QUICK RESPONSE SPRINKLER HEADS.
D. COORDINATE PIPE ROUTING WITH OTHER TRADES.
E. CENTER SPRINKLER HEADS IN CEILING TILE.
F. PROVIDE SPRINKLER HEADS INDICATED ON ARCHITECTURE CEILING PLANS (WHERE APPLICABLE).
G. TIGHT CEILING SPACE WILL REQUIRE SOME SPRINKLER LINES TO OFFSET OVER OR UNDER DUCTWORK, PIPE, OR OTHER OBSTACLES. PROVIDE DRAINS AS REQUIRED.
H MAXIMUM STORAGE HEIGHT IS 8'.

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LEVEL 03 FIRE PROTECTION FLOOR PLAN

FP103

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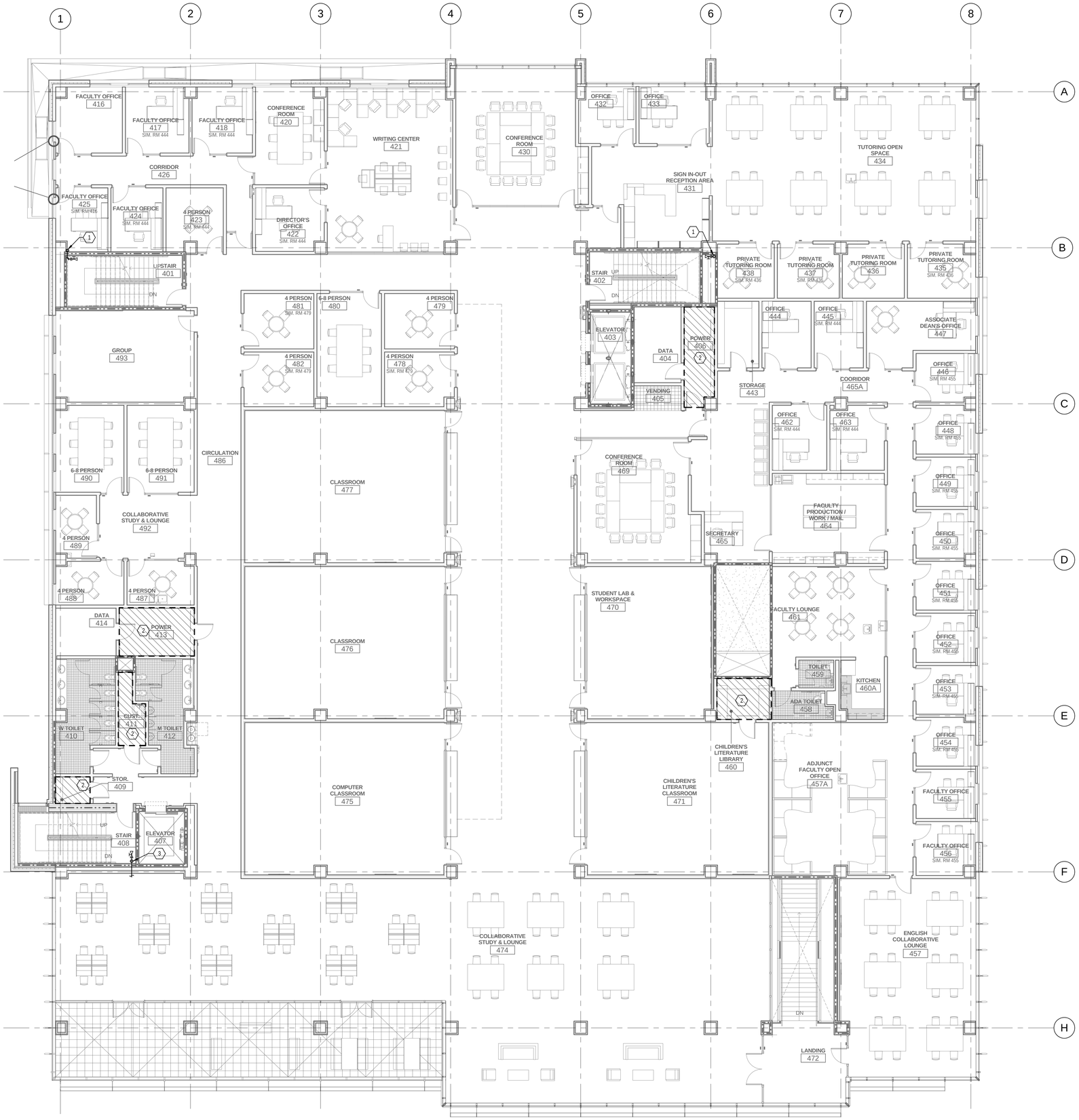

1 LEVEL 04 FIRE PROTECTION FLOOR PLAN

SCALE: 1/8" = 1'-0"

KEYED NOTES

1 PROVIDE WET STANDPIPE WITH HOSE VALVE AT EACH FLOOR.

2 ORDINARY HAZARD GROUP 1.

3 PROVIDE COMBINED WET STANDPIPE WITH FLOOR CONTROL AND TEST ASSEMBLY.

GENERAL NOTES

A. PROVIDE WET FIRE SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13.

B. PROVIDE WET STANDPIPE SYSTEM IN EACH STAIR IN ACCORDANCE WITH NFPA 13.

C. UNLESS NOTED OTHERWISE, SPACES IN THE BUILDING ARE A LIGHT HAZARD OCCUPANCY REQUIRING QUICK RESPONSE SPRINKLER HEADS.

D. COORDINATE PIPE ROUTING WITH OTHER TRADES.

E. CENTER SPRINKLER HEADS IN CEILING TILE.

F. PROVIDE SPRINKLER HEADS INDICATED ON ARCHITECTURE CEILING PLANS (WHERE APPLICABLE).

G. TIGHT CEILING SPACE WILL REQUIRE SOME SPRINKLER LINES TO OFFSET OVER OR UNDER DUCTWORK, PIPE, OR OTHER OBSTACLES. PROVIDE DRAINS AS REQUIRED.

H MAXIMUM STORAGE HEIGHT IS 8'.

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LEVEL 04 FIRE PROTECTION FLOOR PLAN

FP104

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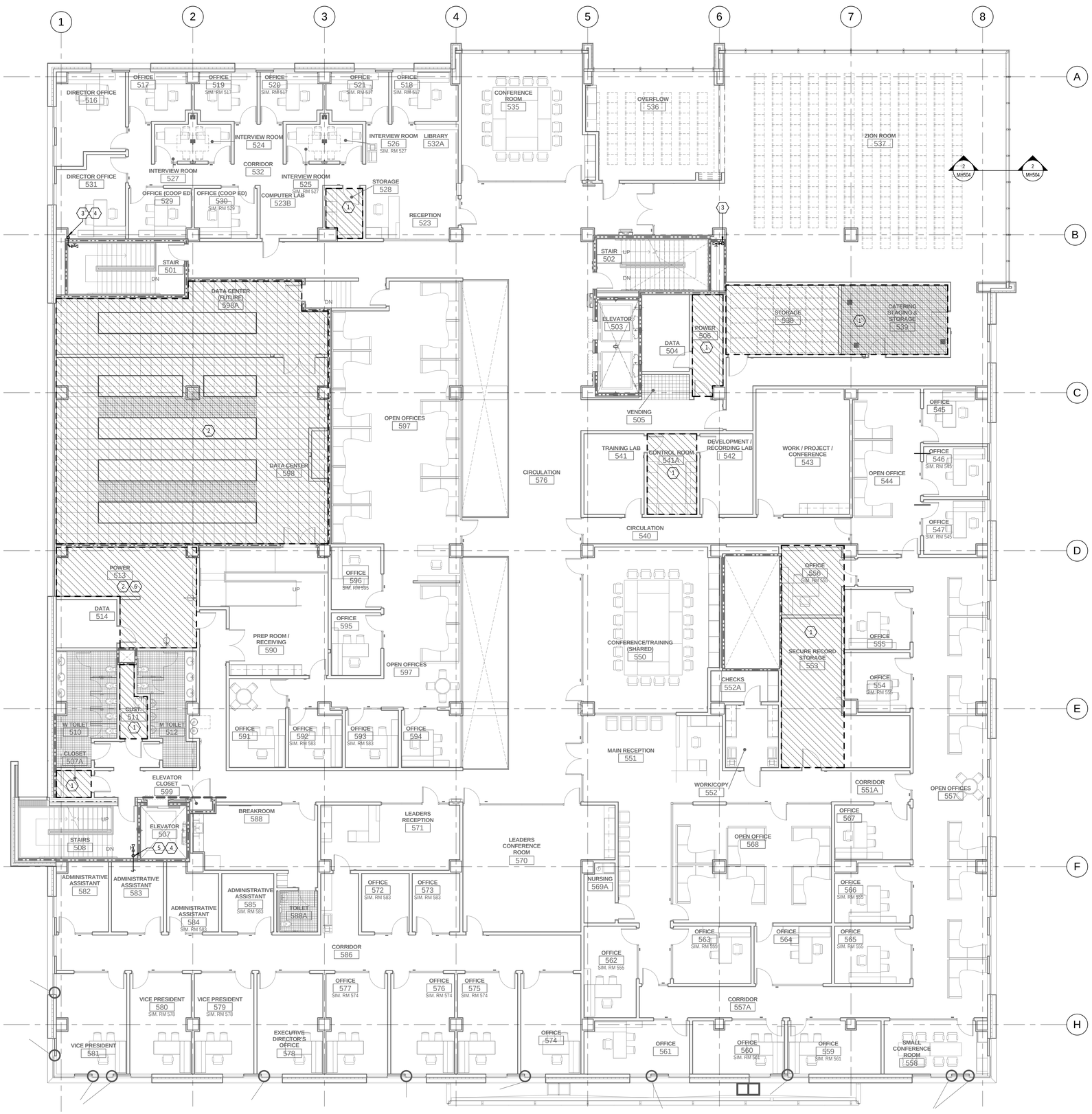

1 LEVEL 05 FIRE PROTECTION FLOOR PLAN

SCALE: 1/8" = 1'-0"

KEYED NOTES

1 ORDINARY HAZARD GROUP 1.
2 COORDINATE LAYOUT OF SPRINKLER HEADS WITH COMPUTER RACKS AND HOT AISLE CONTAINMENT WALLS IN THE DATA CENTER.
3 PROVIDE WET STANDPIPE WITH HOSE VALVE AT EACH FLOOR.
4 PROVIDE CONNECTION UP THROUGH ROOF FOR ROOF MANIFOLD. PROVIDE SHUTOFF VALVE WITH POST EXTENSION UP THROUGH ROOF.
5 PROVIDE COMBINED WET STANDPIPE WITH FLOOR CONTROL AND TEST ASSEMBLY.
6 PROVIDE 200 DEG F OR GREATER FIRE SPRINKLER HEADS FOR THIS AREA.

GENERAL NOTES

A. PROVIDE WET FIRE SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13.
B. PROVIDE WET STANDPIPE SYSTEM IN EACH STAIR IN ACCORDANCE WITH NFPA 13.
C. UNLESS NOTED OTHERWISE, SPACES IN THE BUILDING ARE A LIGHT HAZARD OCCUPANCY REQUIRING QUICK RESPONSE SPRINKLER HEADS.
D. COORDINATE PIPE ROUTING WITH OTHER TRADES.
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HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH

DFCM #06297640

DIXIE COLLEGE, ST. GEORGE, UT

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LEVEL 05 FIRE PROTECTION FLOOR PLAN

FP105

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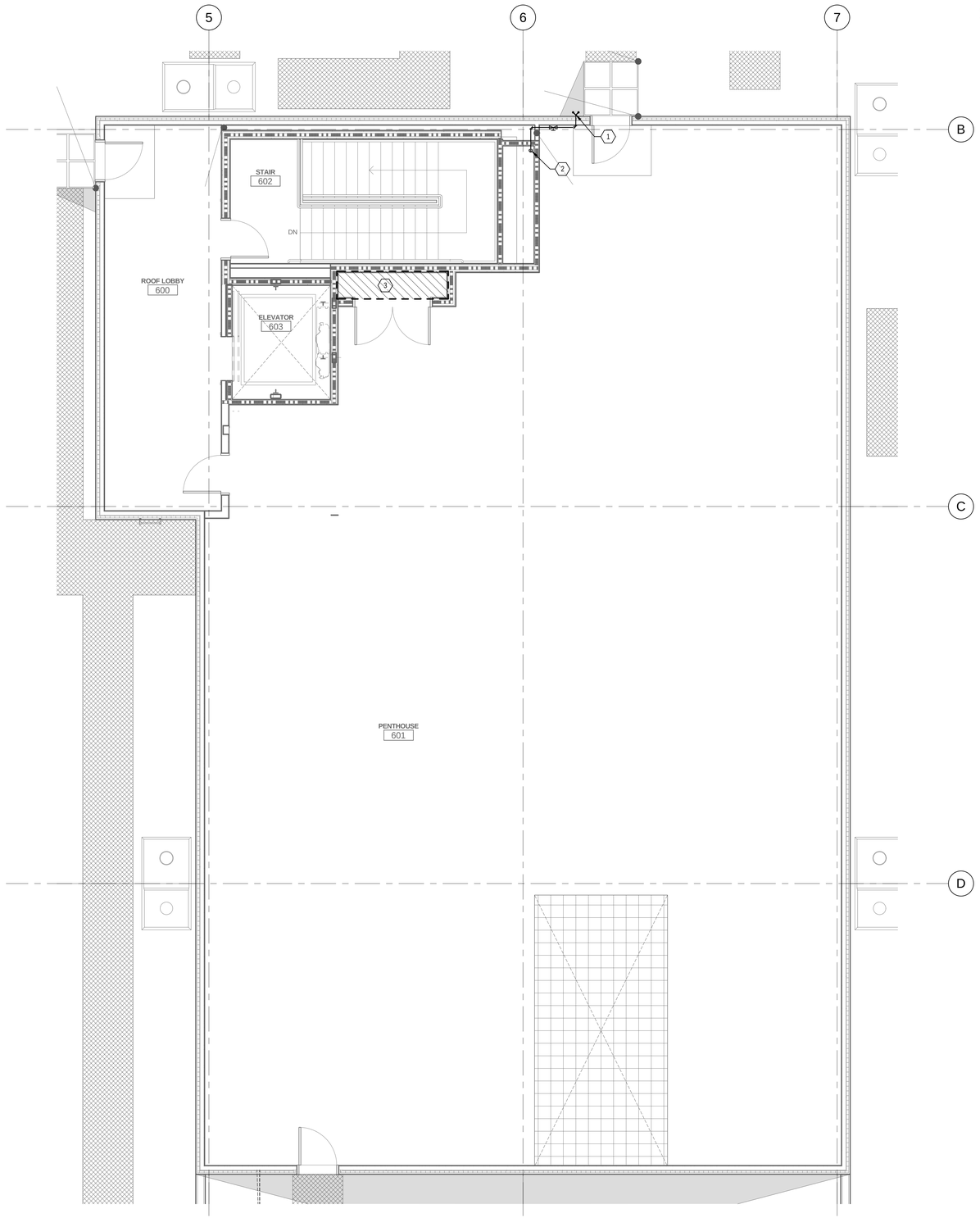

KEYED NOTES

1 PROVIDE ROOF MANIFOLD WITH SHUTOFF VALVE IN PENTHOUSE.

2 PROVIDE WET STANDPIPE WITH HOSE VALVE AT EACH FLOOR.

3 DO NOT ROUTE PIPE OR DUCT THROUGH ELEVATOR EQUIPMENT CLOSET.

GENERAL NOTES

A. PROVIDE WET FIRE SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13.

B. PROVIDE WET STANDPIPE SYSTEM IN EACH STAIR IN ACCORDANCE WITH NFPA 13.

C. UNLESS NOTED OTHERWISE, SPACES IN THE BUILDING ARE A LIGHT HAZARD OCCUPANCY REQUIRING QUICK RESPONSE SPRINKLER HEADS.

D. COORDINATE PIPE ROUTING WITH OTHER TRADES.

E. CENTER SPRINKLER HEADS IN CEILING TILE.

F. PROVIDE SPRINKLER HEADS INDICATED ON ARCHITECTURE CEILING PLANS (WHERE APPLICABLE).

G. TIGHT CEILING SPACE WILL REQUIRE SOME SPRINKLER LINES TO OFFSET OVER OR UNDER DUCTWORK, PIPE, OR OTHER OBSTACLES. PROVIDE DRAINS AS REQUIRED.

H MAXIMUM STORAGE HEIGHT IS 8'.

1 ENLARGED PENTHOUSE FIRE PROTECTION PLAN

SCALE: 1/4" = 1'-0"

6' 0' 4' 8' 12' 16'

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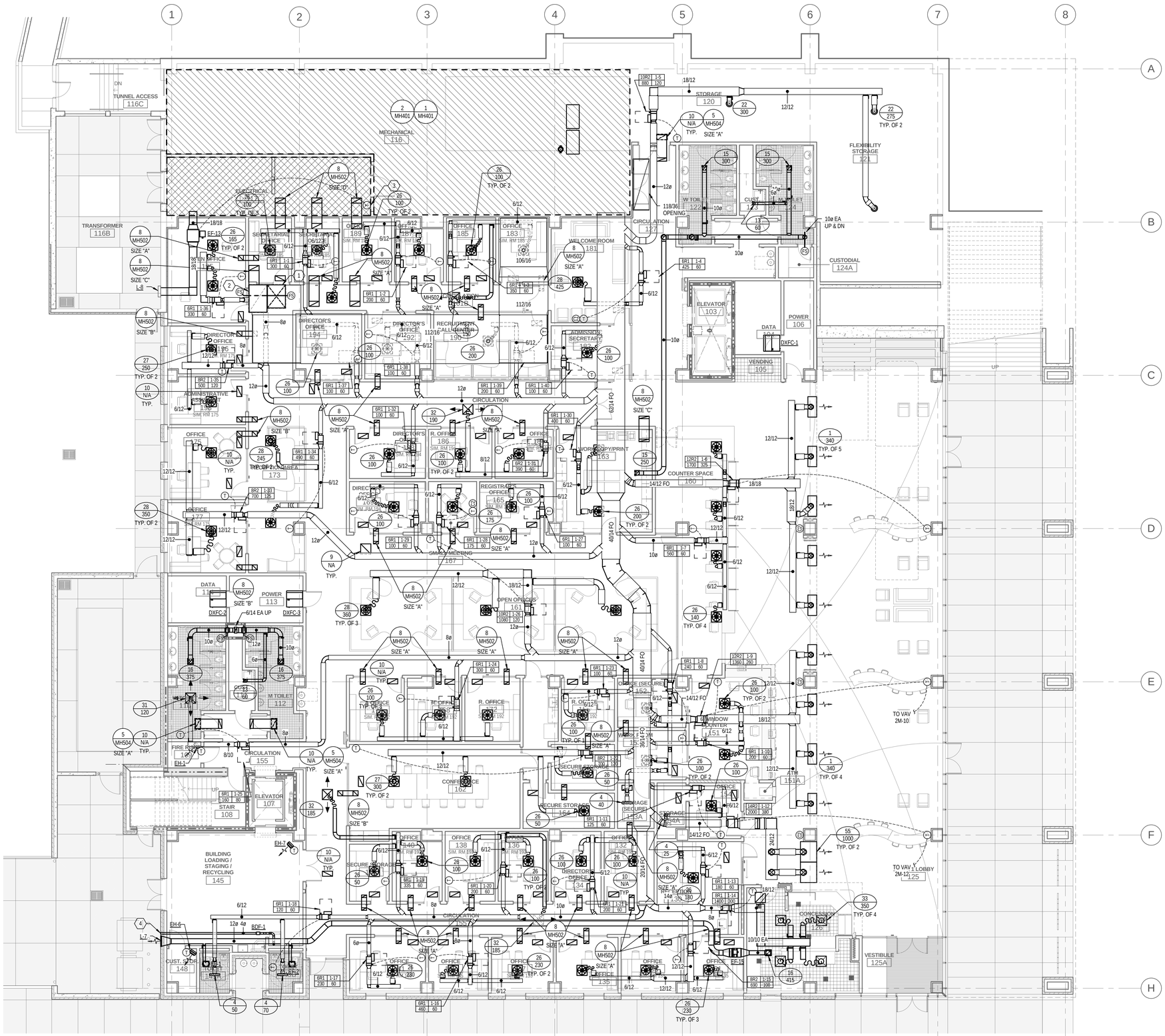
ENLARGED FIRE PROTECTION PLANS

FP401



1 LEVEL 01 MECHANICAL FLOOR PLAN

SCALE: 1/8" = 1'-0"

KEYED NOTES

1. 40/52 SUPPLY AIR DUCT UP, PROVIDE FIRE/SMOKE DAMPER AT SECOND FLOOR SLAB PENETRATION.
2. 40/62 RETURN AIR DUCT UP, PROVIDE FIRE/SMOKE DAMPER AT SECOND FLOOR SLAB PENETRATION.
3. PROVIDE LINE VOLTAGE THERMOSTAT.
4. PROVIDE TERMINATION CAP FOR DRYER EXHAUST DUCT WITH BIRD SCREEN.

GENERAL NOTES

A. ALL RUN-OUTS TO VAV'S ARE TO BE NECK SIZE UNLESS NOTED OTHERWISE.

B. ALL RUN-OUTS TO DIFFUSER'S ARE TO BE NECK SIZE UNLESS NOTED OTHERWISE.

C. WALL MOUNTED MECHANICAL AND ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, SWITCHES, AND THERMOSTATS, ARE TO BE INSTALLED AS LOCATED ON THE ELEVATIONS. MECHANICAL AND ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR TYPE AND QUANTITY. WHERE NOT INDICATED REFER TO A3/A403 FOR MOUNTING LOCATION GUIDELINES.

D. REFER TO VERTICAL ZONING PLANS ON ARCHITECTURAL DRAWINGS FOR GUIDANCE ON INSTALLATION HEIGHT OF MECHANICAL, PLUMBING AND FIRE SPRINKLER SYSTEM COMPONENTS. COORDINATE WITH OTHER TRADES PRIOR TO INSTALLATION.

E. PROVIDE ACCESS DOORS WHERE REQUIRED FOR EQUIPMENT, VALVES, DAMPERS, ETC.

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LEVEL 01 MECHANICAL FLOOR PLAN

MH101

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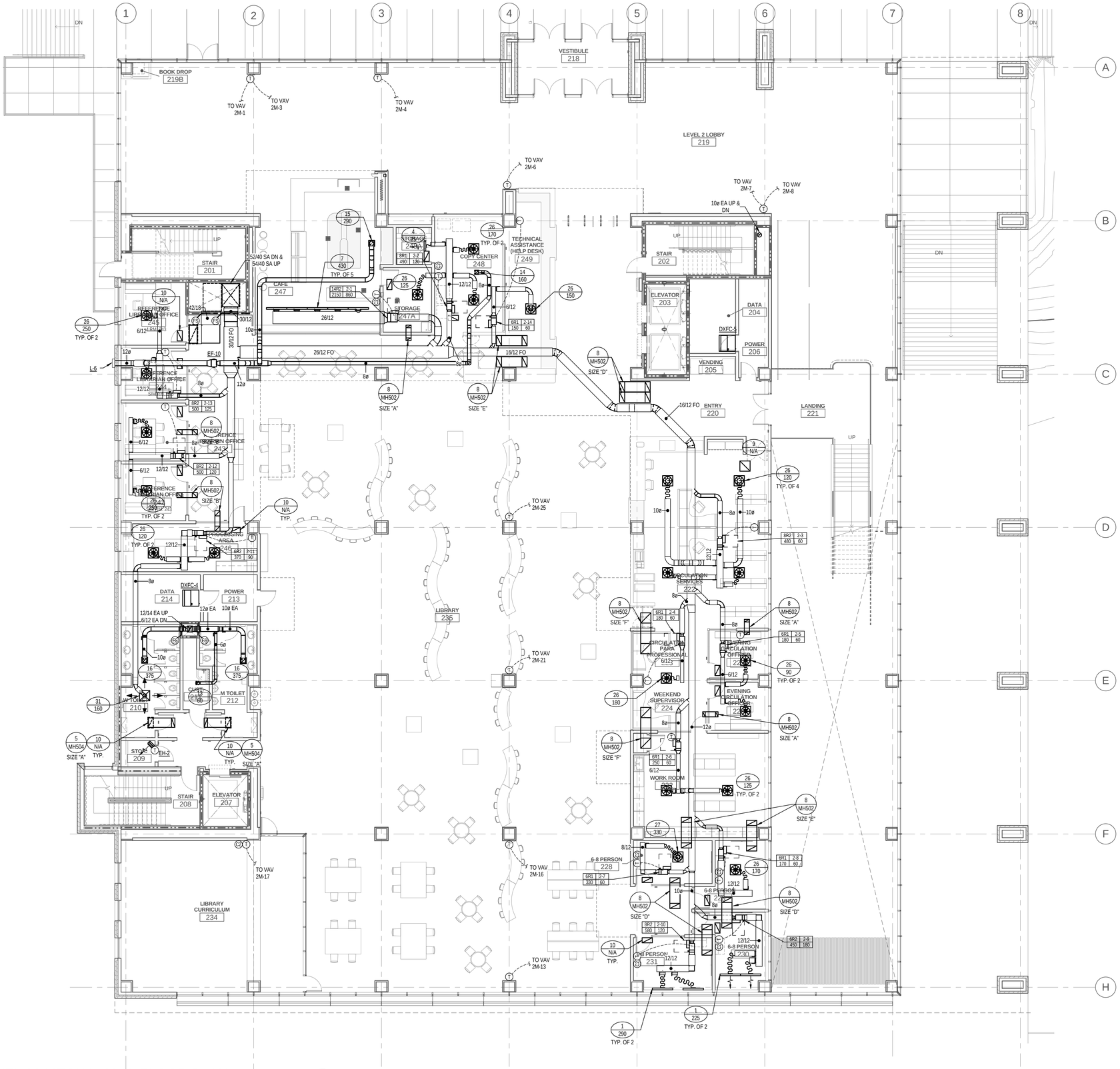

1 LEVEL 02 MECHANICAL FLOOR PLAN

SCALE: 1/8" = 1'-0"

GENERAL NOTES

A. ALL RUN-OUTS TO VAV'S ARE TO BE NECK SIZE UNLESS NOTED OTHERWISE.

B. ALL RUN-OUTS TO DIFFUSER'S ARE TO BE NECK SIZE UNLESS NOTED OTHERWISE.

C. WALL MOUNTED MECHANICAL AND ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, SWITCHES, AND THERMOSTATS, ARE TO BE INSTALLED AS LOCATED ON THE ELEVATIONS. MECHANICAL AND ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR TYPE AND QUANTITY. WHERE NOT INDICATED REFER TO A3/A403 FOR MOUNTING LOCATION GUIDELINES.

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LEVEL 02 MECHANICAL FLOOR PLAN

MH102

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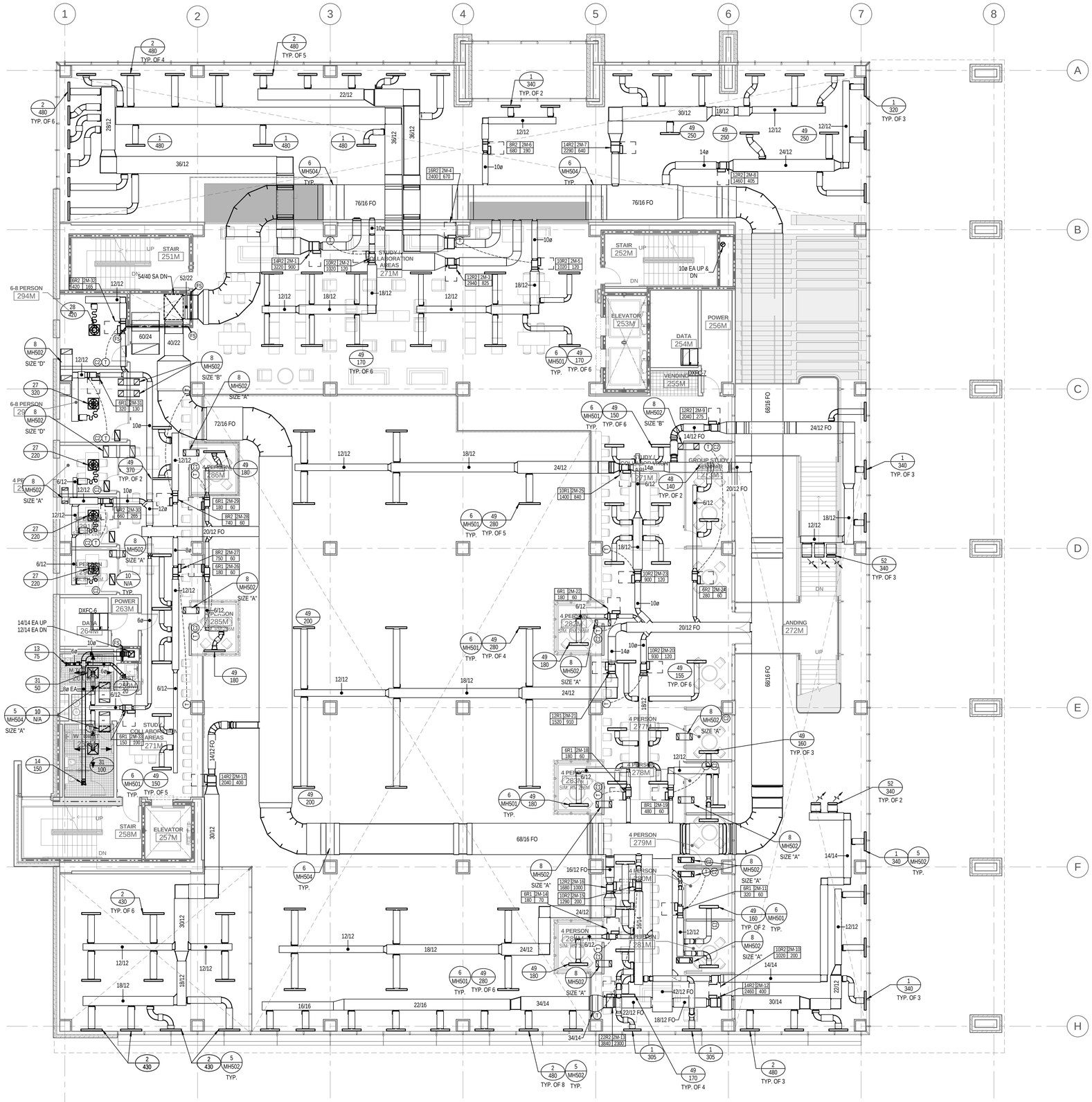

1 LEVEL 02M MECHANICAL FLOOR PLAN

SCALE: 1/8" = 1'-0"

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GENERAL NOTES

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B. ALL RUN-OUTS TO DIFFUSER'S ARE TO BE NECK SIZE UNLESS NOTED OTHERWISE.

C. WALL MOUNTED MECHANICAL AND ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, SWITCHES, AND THERMOSTATS, ARE TO BE INSTALLED AS LOCATED ON THE ELEVATIONS. MECHANICAL AND ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR TYPE AND QUANTITY. WHERE NOT INDICATED REFER TO A3/A403 FOR MOUNTING LOCATION GUIDELINES.

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E. PROVIDE ACCESS DOORS WHERE REQUIRED FOR EQUIPMENT, VALVES, DAMPERS, ETC.

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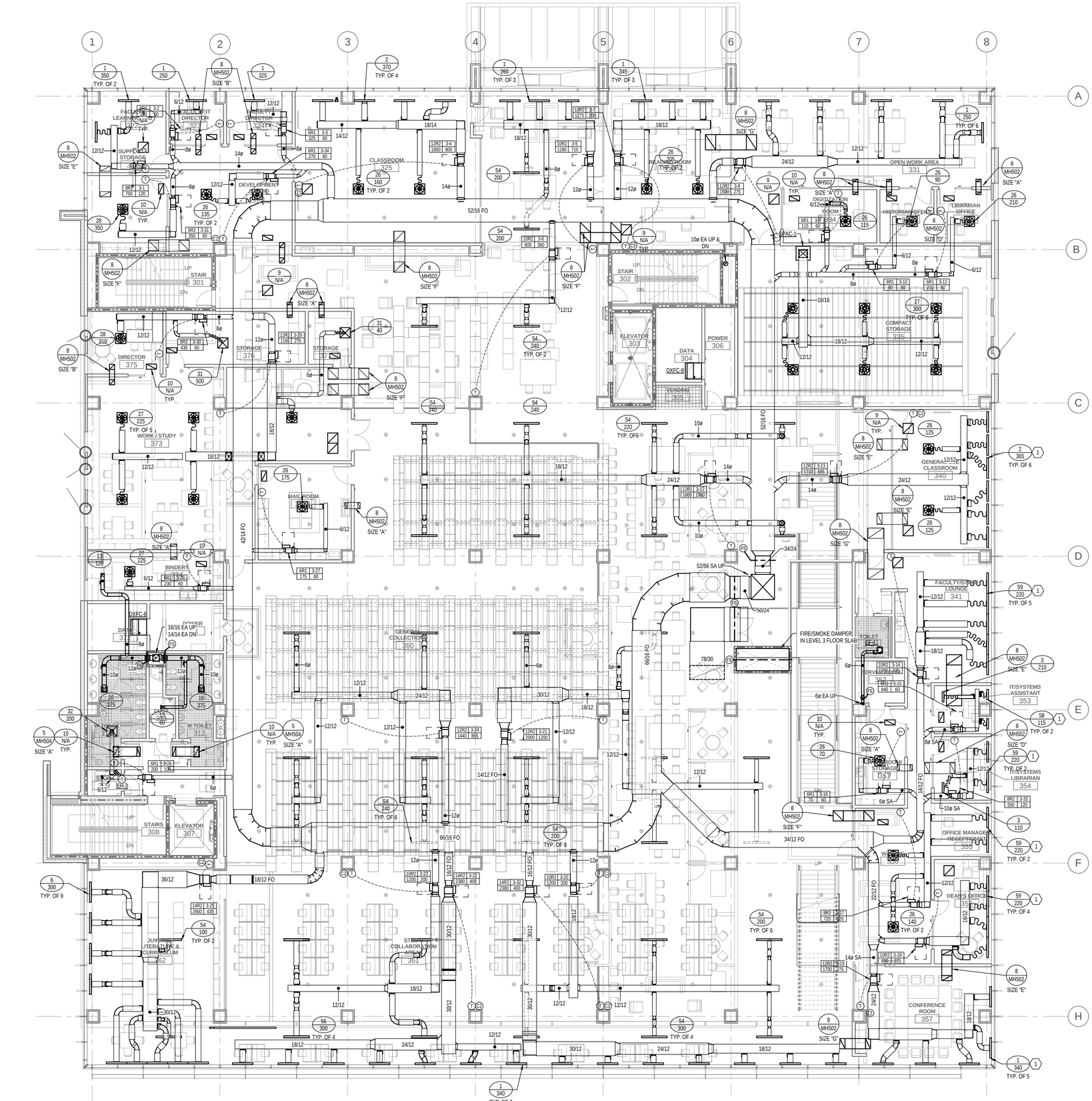
LEVEL 02M
MECHANICAL FLOOR PLAN

MH102M



1 LEVEL 03 MECHANICAL FLOOR PLAN

SCALE: 1/8" = 1'-0"

KEYED NOTES

1. PROVIDE SLOT DIFFUSER COMPATIBLE WITH PERIMETER CEILING SYSTEM. COORDINATE MANUFACTURER AND MODEL WITH CEILING PROVIDER.

GENERAL NOTES

A. ALL RUN-OUTS TO VAV'S ARE TO BE NECK SIZE UNLESS NOTED OTHERWISE.

B. ALL RUN-OUTS TO DIFFUSER'S ARE TO BE NECK SIZE UNLESS NOTED OTHERWISE.

C. WALL MOUNTED MECHANICAL AND ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, SWITCHES, AND THERMOSTATS, ARE TO BE INSTALLED AS LOCATED ON THE ELEVATIONS. MECHANICAL AND ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR TYPE AND QUANTITY. WHERE NOT INDICATED REFER TO A3/A403 FOR MOUNTING LOCATION GUIDELINES.

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E. PROVIDE ACCESS DOORS WHERE REQUIRED FOR EQUIPMENT, VALVES, DAMPERS, ETC.

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LEVEL 03 MECHANICAL FLOOR PLAN

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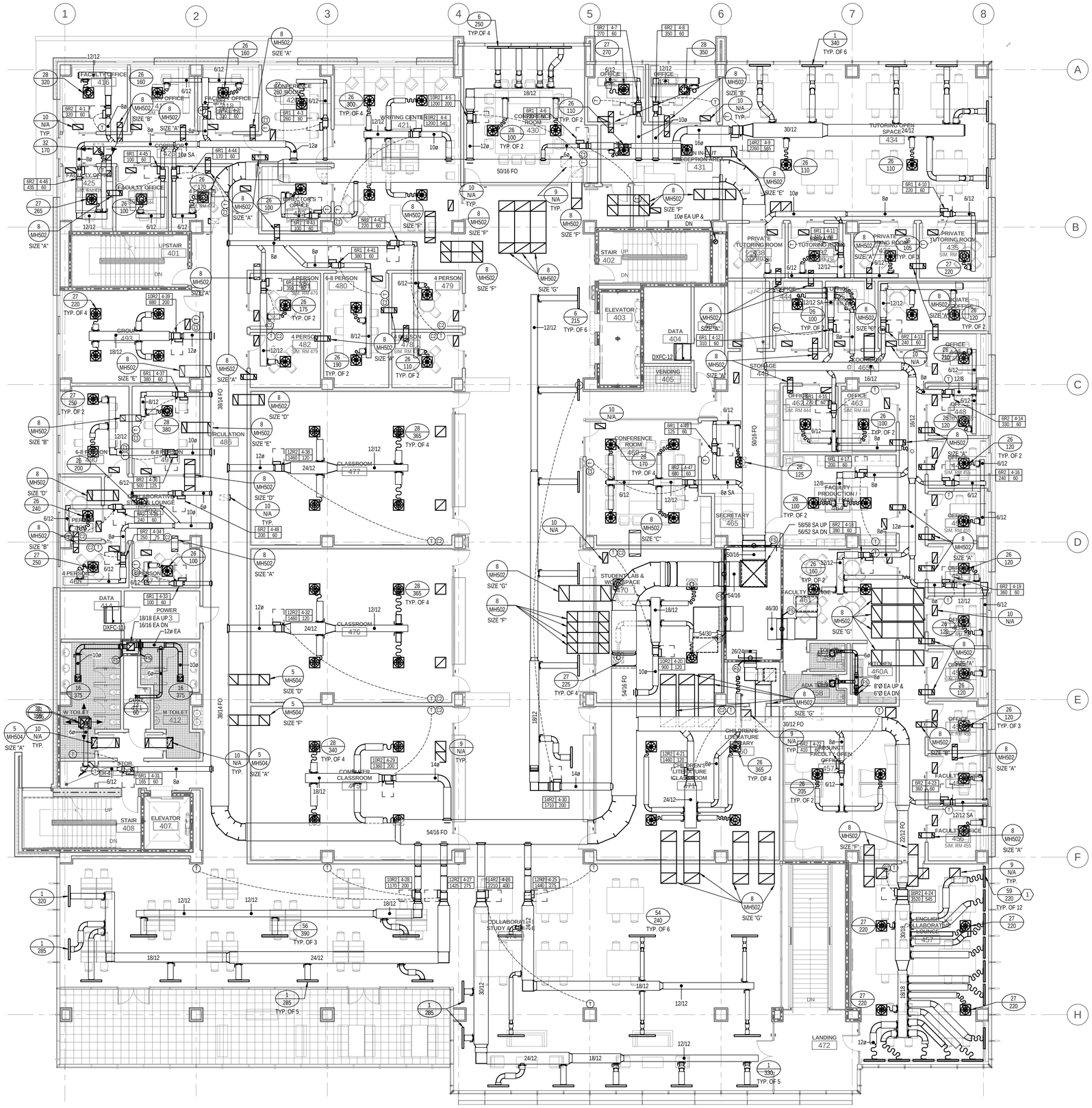

1 LEVEL 04 MECHANICAL FLOOR PLAN

SCALE: 1/8" = 1'-0"

KEYED NOTES

1. PROVIDE SLOT DIFFUSER COMPATIBLE WITH PERIMETER CEILING SYSTEM. COORDINATE MANUFACTURER AND MODEL WITH CEILING PROVIDER.

GENERAL NOTES

A. ALL RUN-OUTS TO VAV'S ARE TO BE NECK SIZE UNLESS NOTED OTHERWISE.

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LEVEL 04 MECHANICAL FLOOR PLAN

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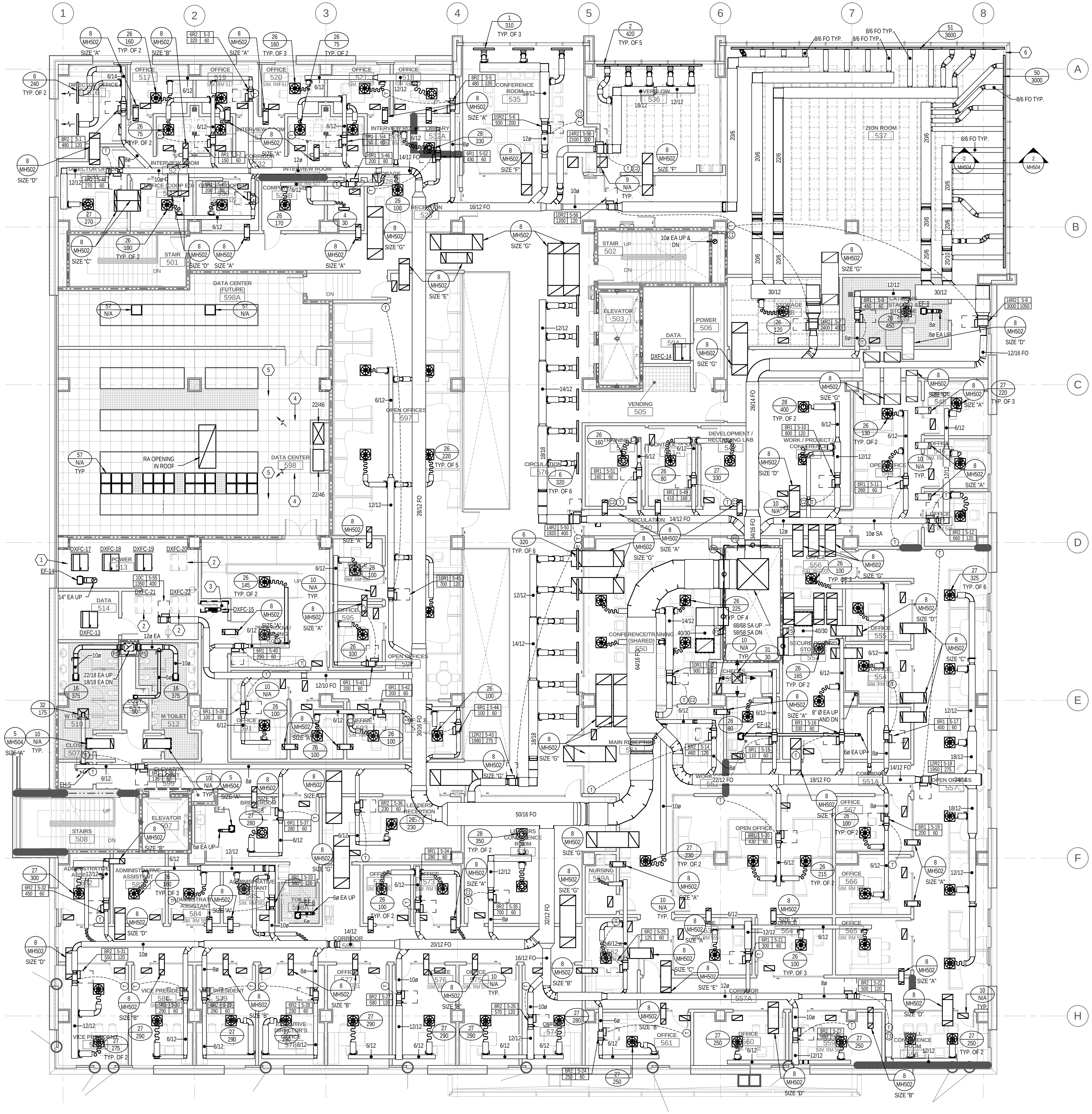

LEVEL 05 MECHANICAL FLOOR PLAN

SCALE: 1/8" = 1'-0"

KEYED NOTES

1. PROVIDE (2) HYDROKNOWZ HYDROGEN SENSORS AND (2) SBS #HGDI HYDROGEN SENSORS AND TIE INTO BAS GENERATED ALARM IF HYDROGEN IS DETECTED. INSTALL ONE SENSOR IN THE TOP OF EACH BATTERY CABINET.
2. FUTURE DXFC UNITS TO BE INSTALLED DURING THE INSTALLATION OF FUTURE UPS BATTERY BACKUP.
3. DO NOT ROUTE PIPE OR DUCT THROUGH ELEVATOR EQUIPMENT CLOSET.
4. DUCT UNDER FLOOR WITH DATA AND POWER CABLES. KEEP DUCT ABOVE CABLES.
5. PROVIDE WATER SENSOR UNDER FLOOR. MONITOR WITH BUILDING AUTOMATION SYSTEM. GENERATE AN ALARM IF WATER IS DETECTED..
6. PROVIDE BLANK CORNER FITTING TO PROVIDE A CONTINOUS SLOT APPEARANCE BETWEEN AIR DEVICE 50 & 51.

GENERAL NOTES

A. ALL RUN-OUTS TO VAV'S ARE TO BE NECK SIZE UNLESS NOTED OTHERWISE.
B. ALL RUN-OUTS TO DIFFUSER'S ARE TO BE NECK SIZE UNLESS NOTED OTHERWISE.
C. WALL MOUNTED MECHANICAL AND ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, SWITCHES, AND THERMOSTATS, ARE TO BE INSTALLED AS LOCATED ON THE ELEVATIONS. MECHANICAL AND ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR TYPE AND QUANTITY. WHERE NOT INDICATED REFER TO A3/A403 FOR MOUNTING LOCATION GUIDELINES.
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LEVEL 05 MECHANICAL FLOOR PLAN

MH105

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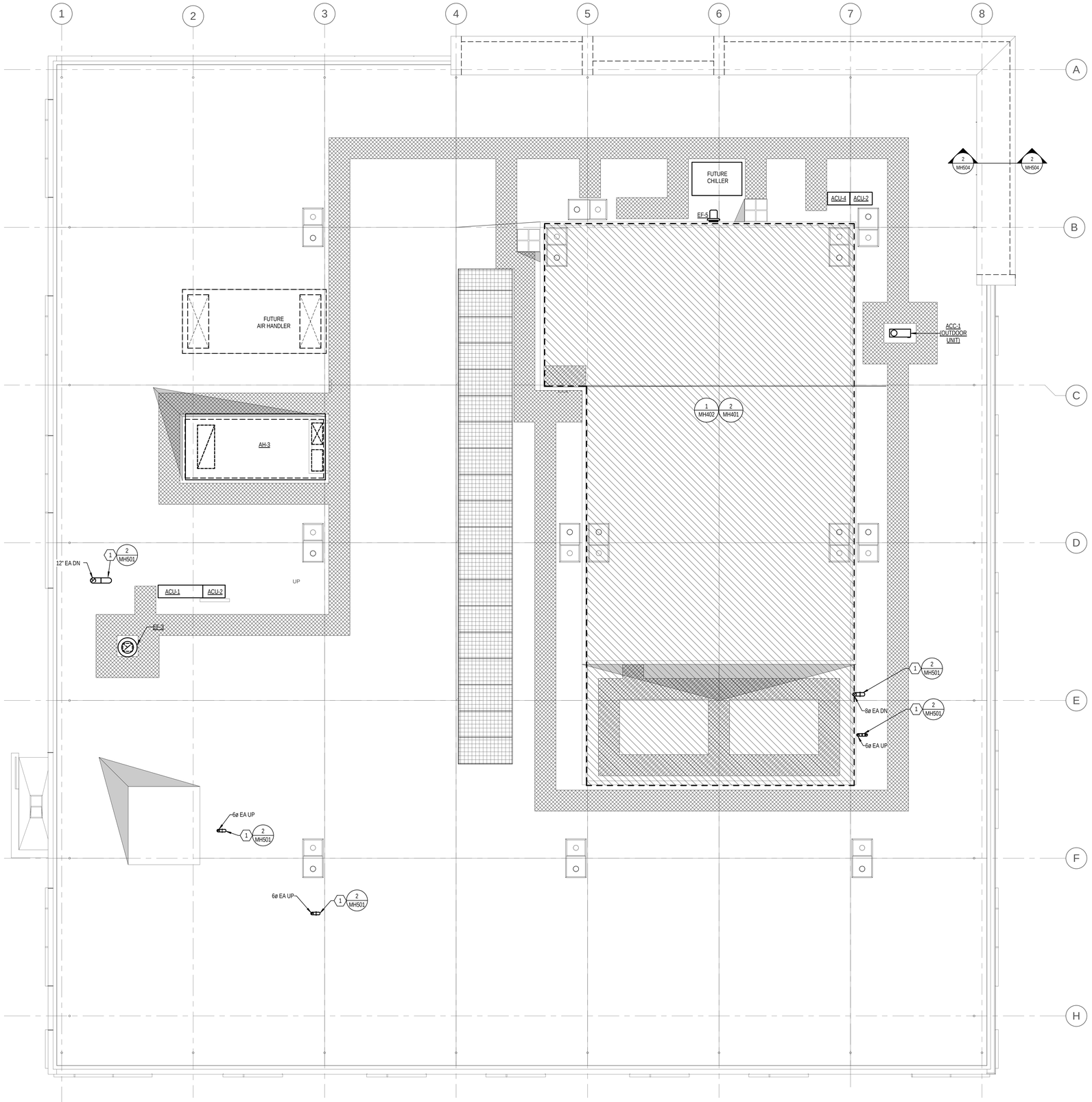

1 ROOF MECHANICAL PLAN

SCALE: 1/8" = 1'-0"

KEYED NOTES

1 PROVIDE GOOSENECK WITH BIRD SCREEN AT TERMINATION.

GENERAL NOTES

A. ALL RUN-OUTS TO VAV'S ARE TO BE NECK SIZE UNLESS NOTED OTHERWISE.

B. ALL RUN-OUTS TO DIFFUSER'S ARE TO BE NECK SIZE UNLESS NOTED OTHERWISE.

C. WALL MOUNTED MECHANICAL AND ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, SWITCHES, AND THERMOSTATS, ARE TO BE INSTALLED AS LOCATED ON THE ELEVATIONS. MECHANICAL AND ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR TYPE AND QUANTITY. WHERE NOT INDICATED REFER TO A3/A403 FOR MOUNTING LOCATION GUIDELINES.

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ROOF MECHANICAL PLAN

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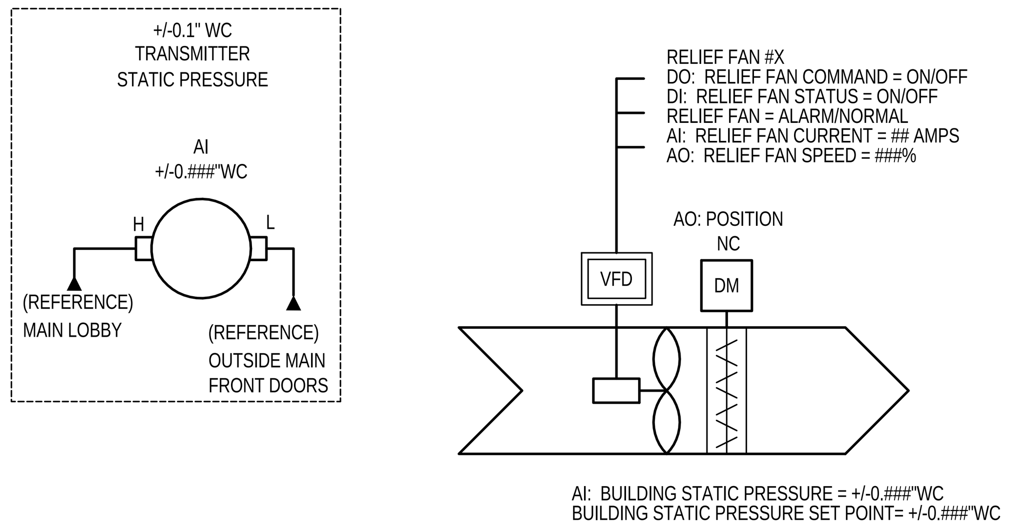
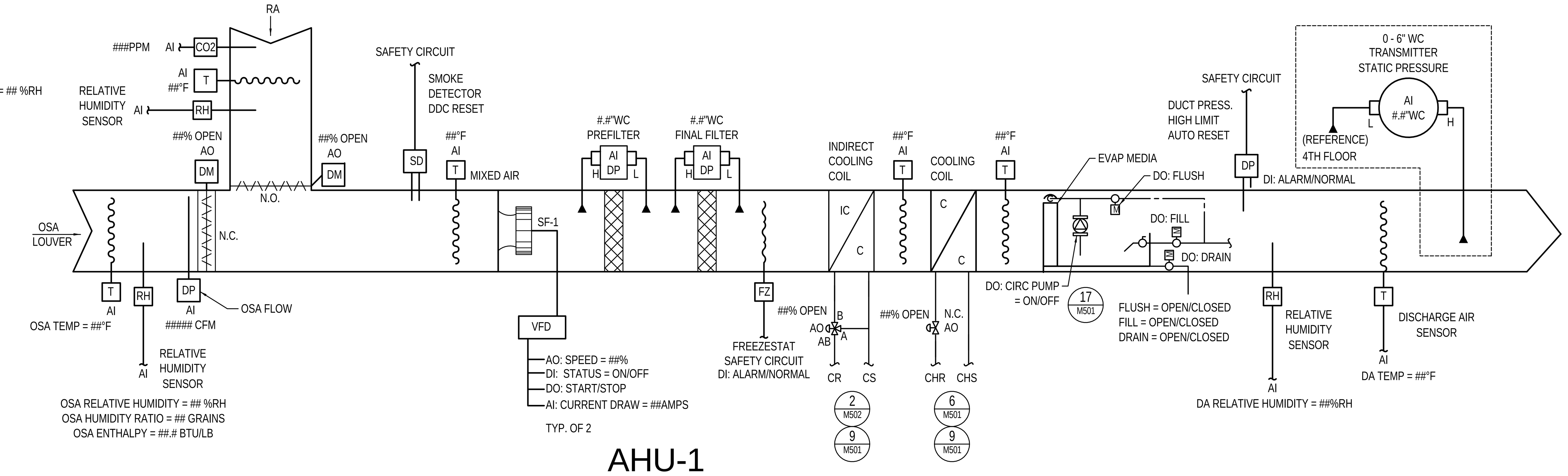


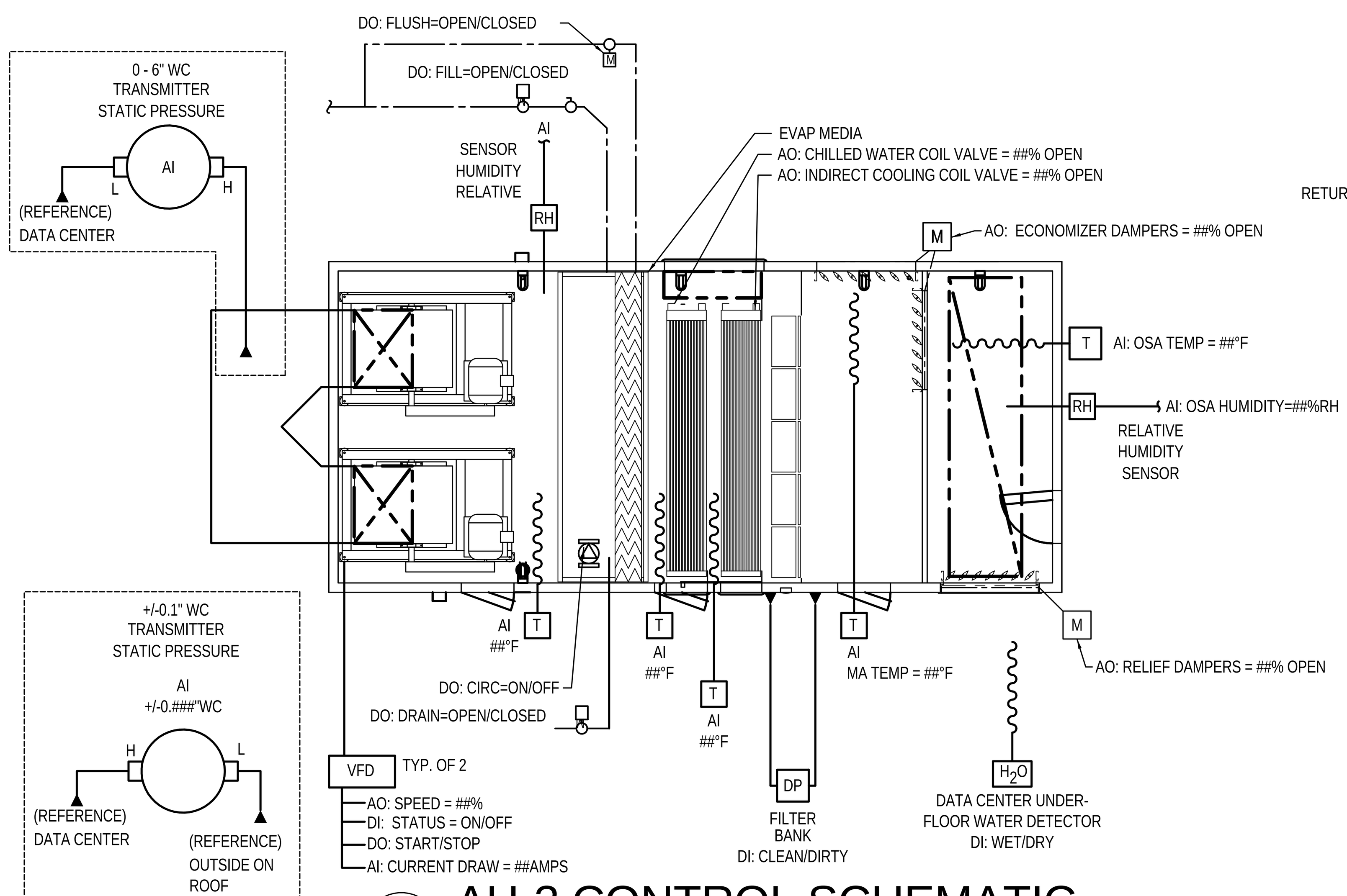
4 RELIEF FANS RF 1-3 DDC CONTROL DIAGRAM

NO SCALE, TYPICAL OF 3



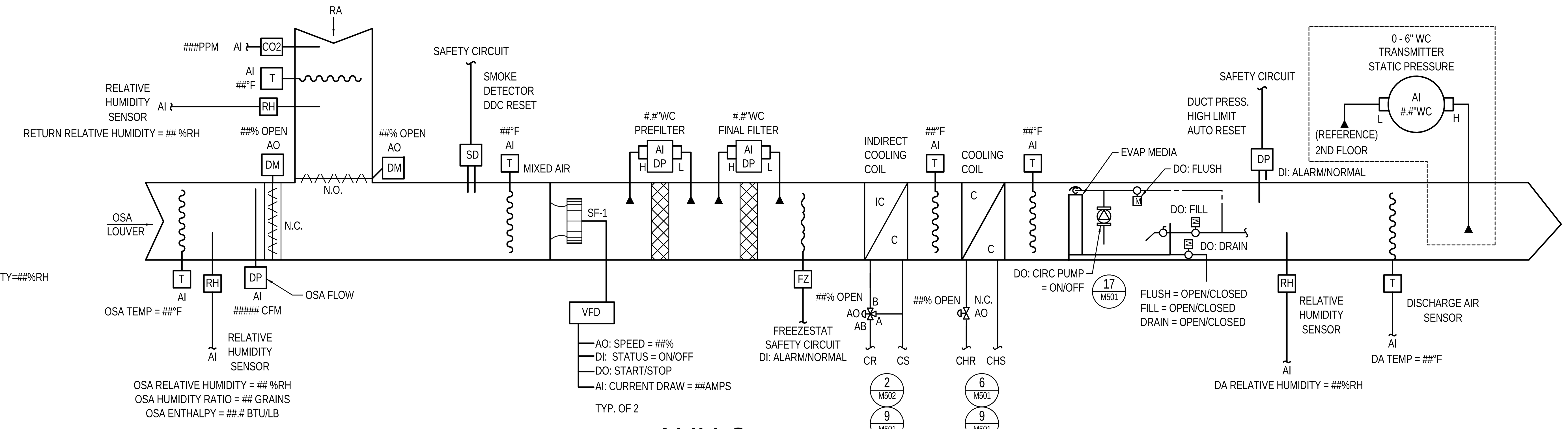
5 AHU-1 DDC CONTROL DIAGRAM

NO SCALE



3 AH-3 CONTROL SCHEMATIC

NO SCALE



1 AHU-2 DDC CONTROL DIAGRAM

NO SCALE

VARIABLE AIR VOLUME AIR HANDLING UNIT AH-3:

THE AIR HANDLERS SHALL OPERATE IDENTICAL TO AH-1 & 2 EXCEPT FOR THE FOLLOWING:

1. THE AIR HANDLER SHALL OPERATE CONTINUOUSLY SUBJECT TO SAFETY INTERLOCKS.
2. THE CONTROL SYSTEM SHALL SEQUENCE ALL COOLING AND HEATING DEVICES IN THE AIR HANDLER TO MAINTAIN DISCHARGE AIR TEMPERATURE AT 68°F (PROGRAMMABLE) THROUGHOUT THE YEAR.
3. CYCLE OR LOCKOUT THE EVAPORATIVE MEDIA PUMPS TO MAINTAIN A SPACE HUMIDITY HIGHER THAN 20%RH BUT LOWER THAN 60%RH.
4. PROVIDE ABILITY TO MODULATE FAN SPEED TO MAINTAIN A RETURN AIR TEMPERATURE SET POINT OF 93°F (ADJUSTABLE).
5. MODULATE RELIEF AIR DAMPER TO MAINTAIN A SPACE STATIC PRESSURE SET POINT OF 0.03"WC (ADJUSTABLE).
6. GENERATE AN ALARM IF:
   - 6.1. DISCHARGE AIR TEMPERATURE > 70°F.
   - 6.2. RETURN AIR TEMPERATURE>92°F FOR MORE THAN 5 MINUTES.
   - 6.3. ANY EQUIPMENT FAILURE IS DETECTED.
   - 6.4. WATER IS DETECTED UNDER THE DATA CENTER FLOOR.

VARIABLE AIR VOLUME AIR HANDLING UNITS (AH-1, 2, & 3):

1. AIR HANDLERS ARE MEDIUM PRESSURE VAV SYSTEM WITH OUTSIDE AIR ECONOMIZER, VARIABLE SPEED SUPPLY FANS, AIRFLOW MEASURING STATION, VARIABLE SPEED RETURN FANS, INDIRECT EVAPORATIVE COOLING COILS, CHILLED WATER COOLING COILS, AND DIRECT EVAPORATIVE COOLERS.
2. THE AIR HANDLER SHALL OPERATE DURING OCCUPIED PERIODS AS DETERMINED BY THE OPERATING SCHEDULE ON THE CENTRAL CONTROL SYSTEM. THE FOLLOWING HARD-WIRED SAFETY INTERLOCKS SHALL DISABLE THE AIR HANDLER: SMOKE DETECTORS IN SUPPLY AND RETURN AIR STREAMS, DUCT STATIC PRESSURE HIGH LIMIT SWITCH, FREEZE STAT, AND FIRE ALARM SYSTEM INTERLOCKS.
3. FAN SPEED OF ALL SUPPLY FANS SHALL MODULATE TO MAINTAIN THE PROGRAMMED SETPOINT AT THE DUCT STATIC PRESSURE SENSOR. THE SENSOR IS TO BE LOCATED IN THE DISCHARGE AIR DUCT AFTER THE EVAPORATIVE MEDIA. THE COOLING DEMAND SHALL RESET THE DUCT STATIC PRESSURE SO THAT THE MINIMUM STATIC PRESSURE IS USED TO MAINTAIN THE GREATEST DEMAND FOR COOLING AS PER IECC 2006 AND ASHRAE 90.1.
4. THE CONTROL SYSTEM SHALL SEQUENCE ALL COOLING AND HEATING DEVICES IN THE AIR HANDLER TO MAINTAIN DISCHARGE AIR TEMPERATURE AT 54°F (PROGRAMMABLE) THROUGHOUT THE YEAR. THE SYSTEM WILL BE SEQUENCED AS FOLLOWS:

   a. MODULATE THE RETURN AIR AND OUTSIDE AIR DAMPERS TO PROVIDE OUTSIDE AIR ECONOMIZER.
   b. LEAVE OUTSIDE AIR DAMPERS 100% OPEN AND RETURN AIR DAMPERS 100% CLOSED. START CONDENSER WATER PUMP TO SUPPLY THE INDIRECT COOLING COILS, AND START THE COOLING TOWER FAN ON LOW SPEED. USE COOLING TOWER FAN VFD TO MODULATE TOWER FAN SPEED TO SATISFY DISCHARGE AIR TEMPERATURE SETPOINT OF THE AIR HANDLER.
   c. START THE FILL CYCLE OF THE DIRECT EVAPORATIVE COOLERS THEN START ITS RECIRCULATION PUMPS (SUMP PUMPS IN THE AIR HANDLERS, ONLY OPERATE WHEN THE AIR WASHER SUMP IS FULL). CONTINUE TO MODULATE TOWER FAN SPEED TO MAINTAIN DISCHARGE AIR TEMPERATURE.
   d. CONTINUE TO OPERATE THE DIRECT EVAPORATIVE COOLER RECIRCULATION PUMPS. START CHILLED WATER PUMP AND MODULATE THE PUMP SPEED TO MAINTAIN DIFFERENTIAL PRESSURE SET POINT. CHILLED WATER COIL VALVES TO MODULATE TO MAINTAIN DISCHARGE AIR TEMPERATURE SET POINT. OUTSIDE AIR DAMPERS TO REMAIN 100% OPEN UNLESS OSA ABSOLUTE HUMIDITY RATIO IS GREATER THAN 0.0092 (64 GRAINS) AND OSA ENTHALPY IS HIGHER THAN 28 BTU/ LB.
   e. THE EVAPORATIVE MEDIA PUMPS MAY ONLY OPERATE IF THE OUTSIDE AIR DAMPERS ARE FULLY OPEN.
      (NOTE THAT DISCHARGE AIR TEMPERATURE SHALL NEVER BE ALLOWED TO RISE ABOVE 54°F WHEN THE DIRECT EVAPORATIVE MEDIA IS BEING USED. THIS IS TO PREVENT OBJECTIONABLE HUMIDITY LEVELS FROM OCCURRING IN THE OCCUPIED SPACES.)
   f. IF THE DISCHARGE AIR TEMPERATURE DROPS BELOW SETPOINT, THE ABOVE COOLING SEQUENCE SHALL BE REVERSED.
   g. DIRECT EVAPORATIVE COOLER SHUTDOWN DUE TO SUPPLY AIR TEMPERATURES BEING BELOW SETPOINT SHALL RESULT IN THE DIRECT EVAPORATIVE COOLER RECIRCULATION PUMP SHUTTING DOWN.
   h. DIRECT EVAPORATIVE COOLER SHUTDOWN AT THE END OF THE PROGRAMMED OCCUPIED PERIODS DURING WHICH THE SUMP WAS FULL OF WATER (PROGRAMMABLE) WILL RESULT IN AN EVAPORATIVE MEDIA RINSE CYCLE AS FOLLOWS:
      1) CLOSE THE SOLENOID VALVE LEADING TO THE DIRECT EVAPORATIVE COOLER MAKE-UP WATER FLOAT VALVE.
      2) OPEN THE MOTORIZED BALL VALVE AT THE EVAPORATIVE COOLER SUMP DRAIN.
      3) 15 MINUTES LATER (AFTER SUMP HAS DRAINED, PROGRAMMABLE) OPEN THE MAKE-UP WATER SOLENOID VALVE IN THE WATER LINE LEADING TO THE DIRECT EVAPORATIVE COOLER MAKE-UP WATER FLOAT VALVE AND PERFORM EVAPORATIVE MEDIA FLUSH. ALLOW VALVE TO REMAIN OPEN FOR 5 MINUTES (PROGRAMMABLE) BEFORE SHUTTING.
      4) CLOSE MOTORIZED BALL VALVE AT SUMP DRAIN 10 MINUTES (PROGRAMMABLE, AFTER MEDIA HAS DRIED) AFTER SUMP FLUSH/MEDIA FLUSH SOLENOID VALVE HAS CLOSED. THE SUPPLY FANS SHALL CONTINUE TO RUN UNTIL THE SUMP DRAIN VALVE CLOSES. THIS WILL AID IN DRYING OUT THE MEDIA.

      DIRECT EVAPORATIVE COOLER START-UP FOR THE FIRST TIME DURING AN OCCUPIED PERIOD WILL PROCEED AS FOLLOWS:

      1) VERIFY THAT DIRECT EVAPORATIVE COOLER SUMP DRAIN MOTORIZED BALL VALVE IS FULLY CLOSED.
      2) OPEN THE SOLENOID VALVE LEADING TO THE DIRECT EVAPORATIVE COOLER MAKE-UP WATER FLOAT VALVE.
      3) ENABLE THE DIRECT EVAPORATIVE COOLER RECIRCULATION PUMP.

5. IF THE OUTSIDE AIR ABSOLUTE HUMIDITY RATIO IS GREATER THAN 64 GRAINS, OR IF ANY ZONE CAN'T MEET A SPACE TEMPERATURE OF 75°F FOR 15 MINUTES WITH 100% AIR FLOW; LOWER THE DISCHARGE AIR TEMPERATURE TO 52 DEG F.
6. THE CONTROL SYSTEM SHALL MONITOR THE PRESSURE DROP ACROSS THE FILTER BANK IN THE AIR HANDLER. THE INSTANTANEOUS PRESSURE DROP SHALL BE INDICATED ON THE CONTROL SYSTEM GRAPHICAL INTERFACE AS ACTUAL PRESSURE DROP IN INCHES OF WATER COLUMN. GENERATE AN ALARM CALLING FOR FILTERS TO BE CHANGED ONCE THE PRESSURE DROP MEASURED ACROSS THE FILTERS EXCEEDS 0.8" W.C. (ADJUSTABLE)
7. THE SUPPLY AIR FAN SHALL REMAIN OFF DURING UNOCCUPIED MODE, AND THE OUTSIDE AIR DAMPERS SHALL CLOSE. UPON AN UNOCCUPIED MODE CALL FOR HEATING, THE SUPPLY AIR FANS SHALL START AND RECIRCULATE 100% RETURN AIR TO THE BUILDING. THE FAN SYSTEM SHALL OPERATE UNTIL ALL SPACES ARE SATISFIED AS DESCRIBED IN THE VAV BOX SEQUENCES IN PART E. MORNING WARM-UP MODE SHALL USE THE SAME AIR HANDLER SEQUENCE AS USED FOR UNOCCUPIED HEATING MODE DESCRIBED ABOVE. UPON AN UNOCCUPIED MODE CALL FOR COOLING, THE SUPPLY FANS SHALL START AND USE THE COOLING SEQUENCE DESCRIBED IN PARAGRAPH 4 ABOVE TO MAINTAIN A 54°F DISCHARGE AIR TEMPERATURE. THE FAN SYSTEM SHALL OPERATE UNTIL ALL SPACES ARE SATISFIED AS DESCRIBED IN THE VAV BOX SEQUENCES IN PART E. MORNING COOL-DOWN MODE SHALL USE THE SAME AIR HANDLER SEQUENCE AS USED FOR UNOCCUPIED COOLING MODE DESCRIBED ABOVE.

8. DURING OCCUPIED MODE, THE CONTROL SYSTEM SHALL MONITOR THE OUTSIDE AIR FLOW RATE ACROSS THE AIRFLOW MEASURING STATION. DIVISION 230900 CONTRACTOR IS TO MONITOR THE SIGNAL FROM MEASURING STATION AND CONVERT THIS READING TO AN EQUIVALENT CFM FLOW RATE. MODULATE OSA DAMPER POSITION TO MAINTAIN MINIMUM OUTSIDE AIR FLOW RATE SETPOINT. RESET THE OUTSIDE AIR DAMPER MINIMUM POSITION TO MAINTAIN A RETURN AIR CO2 CONTENT OR ANY ZONE CO2 CONTENT OF LESS THAN 800 PPM. GENERATE A BMS ALARM IF RETURN AIR CO2 CONTENT OR ANY ZONE CO2 CONTENT EXCEEDS 1,000 PPM.

9. MEASURE BUILDING PRESSURE WITH RESPECT TO OUTDOOR PRESSURE - INDOOR PRESSURE TO BE MEASURED AT FIRST FLOOR LOBBY, AND MAINTAIN BUILDING AT POSITIVE 0.05" WC (PROGRAMMABLE). MODULATE RELIEF DAMPERS AND FAN SPEED TO MAINTAIN BUILDING STATIC PRESSURE SET POINT.

10. MONITOR OPERATION OF SUPPLY FANS AND RELIEF FANS WITH ANALOG CURRENT MEASURING TRANSDUCERS. MONITOR EVAPORATIVE COOLER PUMPS WITH CURRENT SWITCHES. GENERATE AN ALARM ON THE OPERATOR'S WORK STATION AND GENERATE AN EMAIL OR PAGER NOTIFICATION WHENEVER A FAILURE IS DETECTED.

GRAPHICS LEGEND

SAMPLE FORMAT FOR GRAPHIC DISPLAY →

SWP-1
SOLAR WATER PUMP #1
PUMP COMMAND = ON/OFF
PUMP STATUS = ON/OFF
PUMP FAN = ALARM/NORMAL

ON/OFF OR ALARM /NORMAL MEANS SHOW ONE OR THE OTHER

SAMPLE FORMAT FOR GRAPHIC DISPLAY →

SOLAR TANK TEMPERATURE = ##°F
SOLAR TANK TEMPERATURE SETPOINT= ##°F

SYMBOL MEANS ACTUAL DIGIT FORMAT THAT IS EXPECTED WITH UNITS SHOWN

SAMPLE FORMAT FOR GRAPHIC DISPLAY →

ROOM XXX CO2 CONTENT = ### PPM

XXX MEANS FILL IN ACTUAL ROOM NUMBER ON GRAPHIC

TERMS:
"ADJUSTABLE" MEANS INITIALLY SET "SET-POINT" TO VALUE SHOWN.
TEST AND BALANCE CONTRACTOR TO ADJUST AS NECESSARY AND SHOW ON AS-BUILT DRAWINGS.

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HOLLAND CENTENNIAL COMMONS
DIXIE STATE COLLEGE OF UTAH
DFCM #06297640
DIXIE COLLEGE, ST. GEORGE, UT
CONFORMED CONSTRUCTION DOCUMENTS BID SET

Rev #	Date	Description

Job # 2010-004.00
CAD File
Drawn AW Checked JMB
Date 12/03/2010
Owner # DFCM #06297640
Ins. #

MECHANICAL SECTIONS

MH201

HIGH TEMPERATURE SEQUENCE

HIGH TEMPERATURE HOT WATER EMERGENCY SHUT DOWN SEQUENCE

A. EMERGENCY SHUTDOWN SWITCH WITH MUSHROOM STYLE BUTTON LOCATED AS SHOWN ON THE DRAWINGS SHALL CLOSE THE BUILDING HTW SUPPLY ISOLATION VALVE AND THE HTW RETURN CONTROL VALVE FOR THE SYSTEM ON MANUAL ACTIVATION OF THE GLASS BREAK SWITCH. THE SHUTDOWN SHALL ALSO BE ACTIVATED VIA SOFTWARE BUT SHALL NOT OVERRIDE THE LOCAL SHUTDOWN.

HIGH TEMPERATURE HOT WATER BTU MEASURING SYSTEM

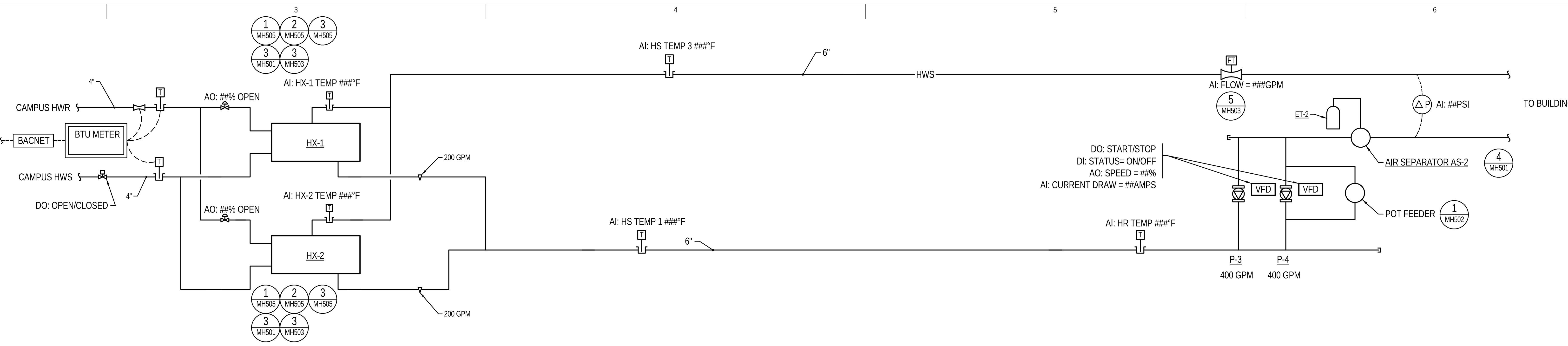
A. THE HIGH TEMPERATURE HOT WATER BTU MEASURING SYSTEM SHALL MONITOR THE HIGH TEMPERATURE HOT WATER FLOW RATE OF THE CAMPUS HIGH TEMPERATURE HOT WATER SYSTEM AND HIGH TEMPERATURE HOT WATER SUPPLY AND RETURN TEMPERATURES, CALCULATE THE BTU'S BEING PROVIDED INTO THE BUILDING, AND PROVIDE THIS INFORMATION FOR BILLING, TRENDING, ARCHIVING, READING, AND RESETTING TO COLLEGE PLANT OPERATIONS, VIA THE CAMPUS NETWORK. ANALOG HIGH TEMPERATURE WATER FLOW TO BE DISPLAYED ON THE GRAPHICS SCREEN AS AN OUTPUT FROM THE BTU MEASURING SYSTEM TO THE BAS.

HIGH TEMPERATURE HEAT EXCHANGER

A. THE HEAT EXCHANGER CONTROLLER SHALL BE ENABLED AND THE HEAT EXCHANGER PUMPS (P-3&4) SHALL BE STOPPED AND STARTED VIA THE AUTOMATION SYSTEM. A PUMP FLOW SWITCH INTERLOCK AND MANUAL TEMPERATURE RESET HIGH LIMIT (SET BY HIGH TEMP PLANT PERSONNEL, SET INITIALLY AT 205°F (ADJUSTABLE) LOCATED ON THE DISCHARGE LINE SHALL PREVENT OPERATION OF THE HEAT EXCHANGER HIGH TEMPERATURE WATER VALVE (VALVE FORCED CLOSED) IF LACK OF FLOW ON THE SECONDARY SIDE OR A HIGH TEMPERATURE CONDITION IS SENSED. A SENSOR SENSING THE SUPPLY WATER TEMPERATURE FOR EACH EXCHANGER ACTING THROUGH THE BMS CONTROLLER, SHALL MODULATE THE HIGH TEMPERATURE WATER CONTROL VALVE TO MAINTAIN THE SET POINT OF 180° (PROGRAMMABLE/ADJUSTABLE). HIGH TEMPERATURE WATER VALVE SHALL HAVE AN ELECTRIC ACTUATOR. GENERATE AN ALARM IF HEATING SYSTEM IS ENABLED AND BUILDING HEATING WATER TEMPERATURE IS OUTSIDE OF THE FOLLOWING RANGE FOR MORE THAN 30 MINUTES; 140°F & 210°F (ADJUSTABLE).

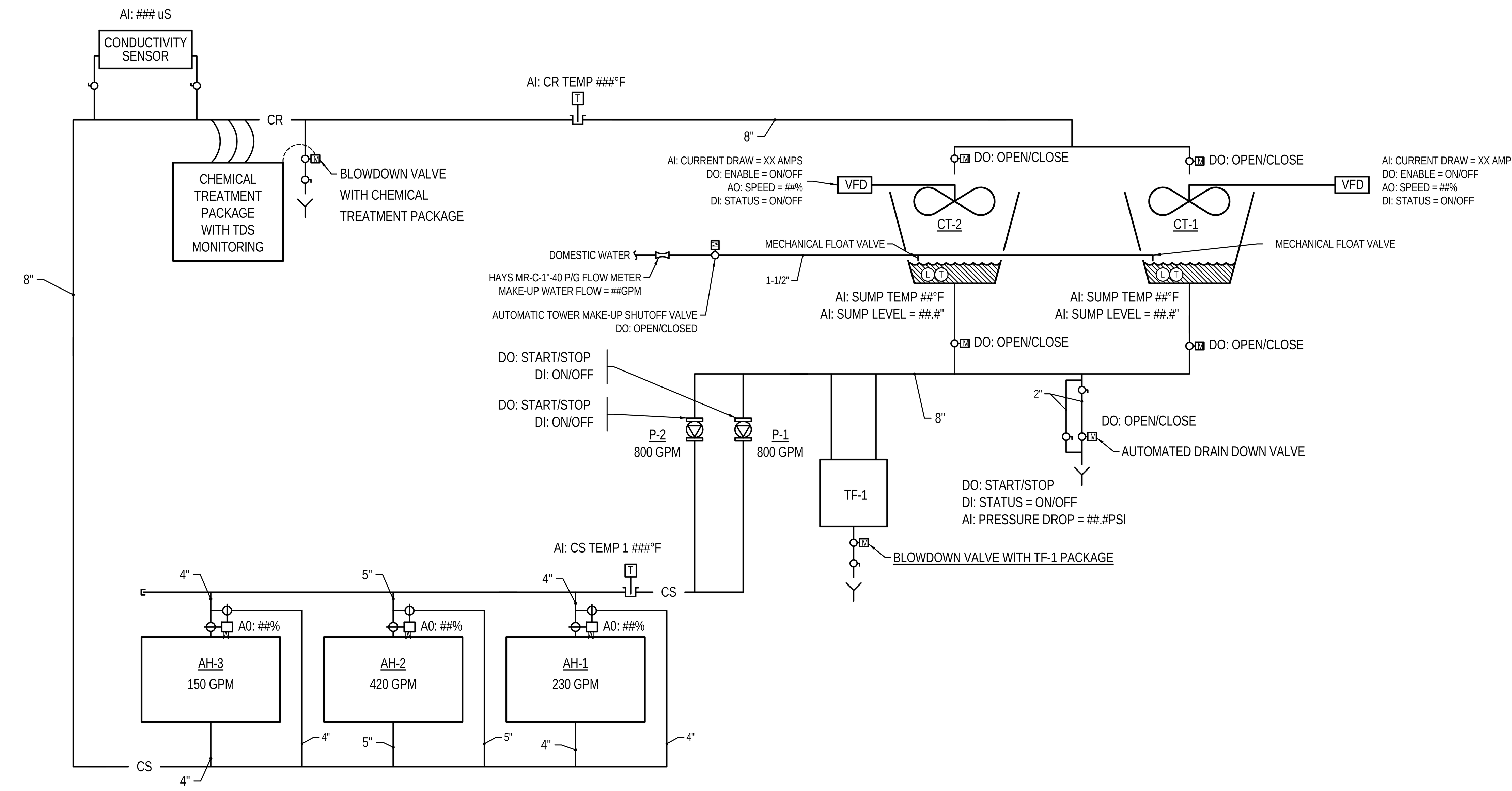
BUILDING HEATING WATER PUMPS

A. START THE BUILDING LEAD HOT WATER PUMP ANYTIME THERE IS A CALL FOR HEATING FROM ANY DEVICE IN THE BAS (I.E. VAV, FAN-COIL, AIR HANDLER, ETC.) AND HOT WATER IS AVAILABLE. DISABLE THE LEAD HEATING WATER PUMP IF THE OUTSIDE AIR TEMPERATURE IS ABOVE 55°F (ADJUSTABLE) AND NO DEVICE IS CALLING FOR HEAT. A CONTROL LOOP SENSING THE BUILDING HOT WATER DIFFERENTIAL PRESSURE SHALL MODULATE THE PUMPS VFD'S TO MAINTAIN THE SUPPLY TO RETURN WATER DIFFERENTIAL PRESSURE SET POINT OF 10 PSI (PROGRAMMABLE/ADJUSTABLE). ONE PUMP SHALL RUN CONTINUOUSLY. UPON FAILURE OF THE LEAD PUMP, THE LAG PUMP SHALL START. IF THE LEAD PUMP IS UNABLE TO MAINTAIN AT LEAST 90% OF THE DIFFERENTIAL PRESSURE SET POINT FOR OVER 30 MINUTES, THE LAG PUMP SHALL START AND OPERATE UNTIL THE VFD'S FALL BELOW 15 HERTZ AT WHICH TIME THE LAG PUMP IS TO BE DISABLED. MONITOR THE CURRENT DRAW OF THE HEATING WATER PUMPS WITH AN ANALOG CURRENT TRANSDUCER. LEAD PUMP OPERATION TO
BE ROTATED TO OPPOSITE PUMP MONTHLY ON THE FIRST MONDAY AT 9:00AM.



1 HEATING WATER SYSTEM

SCALE: NONE



2 COOLING TOWER WATER SYSTEM

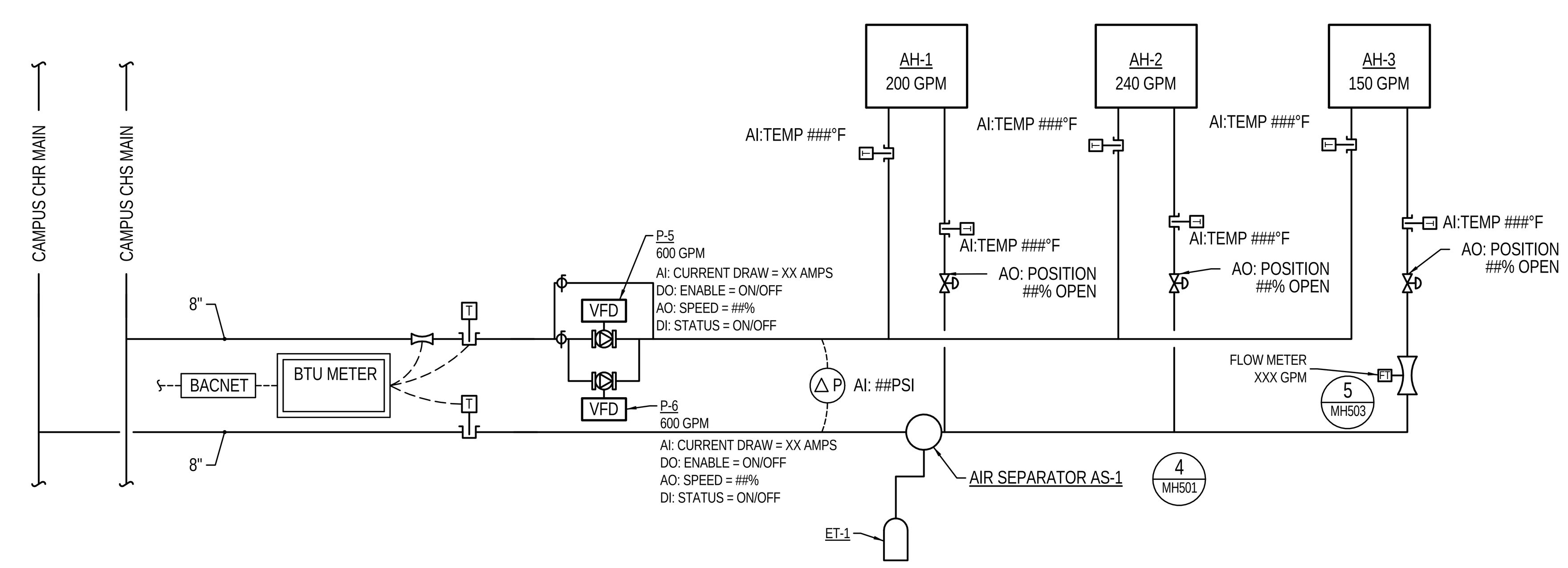
SCALE: NONE

COOLING TOWER SERVING AIR HANDLER AH-1, 2, & 3 (CT-1&2):

1. START COOLING TOWERS UPON A CALL FROM AIR HANDLER AH-1, 2, OR 3; FOR COOL WATER . THE TWO TOWERS OPERATE TOGETHER AT THE SAME TIME.
2. START TOWER FANS AT LOW SPEED AND SLOWLY RAMP-UP TO SATISFY DISCHARGE AIR TEMPERATURE SETPOINT AT AIR HANDLER AH-1, 2, & 3. TOWER FAN VFD'S ARE LOCATED INSIDE THE PENTHOUSE.
3. THE COOLING TOWER WATER SYSTEM SHALL OPERATE UPON A CALL FOR COOLING FROM THE AIR HANDLER CONTROL SEQUENCE. THE PRIMARY COOLING TOWER WATER PUMP SHALL OPERATE TO CIRCULATE WATER THROUGH THE COOLING TOWER. STATUS OF THE COOLING TOWER WATER PUMPS SHALL BE MONITORED BY ADJUSTABLE SETPOINT MOTOR CURRENT SWITCHES. UPON LOSS OF FLOW/PUMP FAILURE, AN ALARM SHALL BE GENERATED ON AN AUTOMATIC PAGER OR E-MAIL NOTIFICATION AS DIRECTED BY OWNER, AND THE SECONDARY PUMP SHALL START. THE COOLING TOWER FAN SPEED SHALL MODULATE TO MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINTS OF AIR HANDLER AH-1, 2, & 3.
4. WHILE COOLING TOWER LEVELS WILL BE CONTROLLED BY FLOAT TYPE MAKE-UP VALVES; A CONTROLS CONTRACTOR PROVIDED AND INSTALLED ANALOG ULTRASONIC TOWER SUMP WATER LEVEL SENSOR FOR EACH SUMP TO MEASURE THE INCHES OF WATER SHALL BE MONITORED BY THE CONTROL SYSTEM.
5. EACH TOWER FAN INCLUDES A VIBRATION CUT-OUT SWITCH (2 TOTAL). INDICATE ON BUILDING CONTROL SYSTEM IF TOWER IS FORCED TO SWITCH OFF DUE TO VIBRATION SWITCH. ALSO MONITOR EACH FAN'S CURRENT DRAW WITH AN ANALOG MOTOR CURRENT SENSOR AND GENERATE AN ALARM ON THE BUILDING CONTROL SYSTEM AND GENERATE AN AUTOMATIC PAGER OR E-MAIL NOTIFICATION AS DIRECTED BY THE OWNER.
6. HARDWIRE SUMP LOW LEVEL SWITCHES TO LOCKOUT TOWER WATER PUMPS OPERATION (2 TOTAL).
7. A SEPARATE COOLING TOWER WATER CONDUCTIVITY CONTROLLER PROVIDED BY THE CONTROLS CONTRACTOR SHALL BE MONITORED BY THE CONTROL SYSTEM.
8. THE WATER TREATMENT SYSTEM SHALL BE PROVIDED WITH A SEPARATE CONDUCTIVITY SENSOR. ON A CALL FOR BLOWDOWN (CLOSING A DRY CONTACT), THE DRAIN VALVE ON THE SOLIDS SEPARATOR SHALL BE OPENED. WATER TREATMENT CHEMICALS SHALL ALSO BE METERED INTO THE SYSTEM BASED ON THE VOLUME OF WATER PASSING THROUGH THE MAKE UP WATER METER. INTERLOCK WIRING BETWEEN THE CONDUCTIVITY CONTROLLER CONTACT AND THE MOTORIZED BLOW-DOWN VALVE IS THE RESPONSIBILITY OF THE 230900 CONTRACTOR. MOTORIZED BLOW-DOWN VALVE WILL BE PROVIDED BY THE 232500 CONTRACTOR.
9. MONITOR THE CONDENSER WATER TEMPERATURE IN THE SUMP OF EACH COOLING TOWER. MODULATE THE COOLING TOWER FANS VFD SPEED TO MAINTAIN SUMP WATER TEMPERATURE SET POINT. GENERATE AN ALARM, CLOSE THE MAKE-UP VALVE, AND OPEN THE SUMP DRAIN VALVE IF SUMP WATER TEMPERATURE IS LESS THAN 35 DEGREES FOR 5 HOURS. DO NOT GENERATE AN ALARM IF THERE IS NO WATER IN THE SUMP, AS DETERMINED BY THE WATER LEVEL SENSOR.

CONTROL VALVE (V)

PLAN CODE	SERVICE	TYPE	FLUID	FLUID TEMP (°F)	FLOW (GPM)	PRESSURE DROP RANGE (PSI)	REMARKS
V-1	COOLING TOWER BYPASS	2-POSITION BUTTERFLY	FW	70	800	N/A	3-WAY 8" LINE SIZE
V-2	HX-1 HEATING WATER TEMP CONTROL	MODULATING BALL VALVE	HW	300	200	7-12	2-WAY -
V-3	HX-2 HEATING WATER TEMP CONTROL	MODULATING BALL VALVE	HW	300	200	7-12	2-WAY -
V-4	AH-3 CHILLED WATER COIL	MODULATING BALL VALVE	CW	45	150	2-4	2-WAY -
V-5	AH-2 CHILLED WATER COIL	MODULATING BALL VALVE	CW	45	240	2-4	2-WAY -
V-6	AH-1 CHILLED WATER COIL	MODULATING BALL VALVE	CW	45	200	2-4	2-WAY -
V-7	AH-1 INDIRECT EVAPORATIVE COIL	MODULATING BALL VALVE	FW	70	230	2-4	3-WAY -
V-8	AH-2 INDIRECT EVAPORATIVE COIL	MODULATING BALL VALVE	FW	70	420	2-4	3-WAY -
V-9	AH-3 INDIRECT EVAPORATIVE COIL	MODULATING BALL VALVE	FW	70	150	2-4	3-WAY -
V-10	COOLING TOWER ISOLATION	2-POSITION BUTTERFLY	FW	70	400	N/A	2-WAY 6" LINE SIZE
V-11	COOLING TOWER ISOLATION	2-POSITION BUTTERFLY	FW	70	400	N/A	2-WAY 6" LINE SIZE
V-12	COOLING TOWER ISOLATION	2-POSITION BUTTERFLY	FW	70	400	N/A	2-WAY 6" LINE SIZE
V-13	COOLING TOWER ISOLATION	2-POSITION BUTTERFLY	FW	70	400	N/A	2-WAY 6" LINE SIZE



3 CHILLED WATER SYSTEM

SCALE: NONE

CHILLED WATER SYSTEM SEQUENCE

A. ALL INFORMATION DESCRIBED IN THE CONTROL SCHEMATICS OF THE PLANS SHALL BE AVAILABLE FOR MONITORING AND CONTROL.

B. ANALOG MOTOR CURRENT SENSORS SHALL MONITOR THE CURRENT DRAW OF EACH PUMP. UPON PUMP OR MOTOR FAILURE, A FAILURE ALARM SHALL BE INDICATED.

C. THE CHILLED WATER PUMPS' SPEED SHALL BE MODULATED TO CONTROL THE CHILLED WATER DIFFERENTIAL PRESSURE SET POINT. CHWS DIFFERENTIAL PRESSURE SET POINT SHALL BE FIELD SET BY BALANCING CONTRACTOR TO ACHIEVE OPTIMUM OPERATION AND SHALL BE RESET SO MAXIMUM VALVE POSITION IS 95% OPEN.

D. CHILLED WATER PUMPS SHALL BE CONTROLLED IN A LEAD/LAG, FAILOVER, AND MONTHLY DUTY ROTATION FASHION. START THE LEAD PUMP WHENEVER THERE IS A CALL FOR MORE THAN 10% COOLING FROM ANY DEVICE DIRECTLY SERVED BY THE CHILLED WATER LOOP. DISABLE THE CHILLED WATER PUMPS WHEN THE GREATEST CALL FOR COOLING FOR ANY DEVICE IS LESS THAN 5%.

E. ANALOG CHILLED WATER FLOW TO BE DISPLAYED ON THE GRAPHICS SCREEN AS AN OUTPUT FROM THE FLOW MEASURING SYSTEM TO THE BAS.

GRAPHICS LEGEND

SAMPLE FORMAT FOR GRAPHIC DISPLAY

SWP-1
SOLAR WATER PUMP #1
PUMP COMMAND = ON/OFF
PUMP STATUS = ON/OFF
PUMP FAN = ALARM/NORMAL

ON/OFF OR ALARM /NORMAL MEANS SHOW ONE OR THE OTHER

SAMPLE FORMAT FOR GRAPHIC DISPLAY

SOLAR TANK TEMPERATURE = ##°F
SOLAR TANK TEMPERATURE SETPOINT= ##°F

SYMBOL MEANS ACTUAL DIGIT FORMAT THAT IS EXPECTED WITH UNITS SHOWN

SAMPLE FORMAT FOR GRAPHIC DISPLAY

ROOM XXX CO2 CONTENT = ### PPM

XXX MEANS FILL IN ACTUAL ROOM NUMBER ON GRAPHIC

TERMS:
"ADJUSTABLE" MEANS INITIALLY SET "SET-POINT" TO VALUE SHOWN. TEST AND BALANCE CONTRACTOR TO ADJUST AS NECESSARY AND SHOW ON AS-BUILT DRAWINGS.

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HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #06297640
DIXIE COLLEGE, ST. GEORGE, UT
CONFORMED CONSTRUCTION DOCUMENTS BID SET

Rev #	Date	Description

Job # 2010-004.00
CAD File
Drawn AW Checked JMB
Date 12/03/2010
Owner # DFCM #06297640
Ins. #

MECHANICAL SCHEMATICS

MH202

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GRAPHICS LEGEND

SWP-1
SOLAR WATER PUMP #1
PUMP COMMAND = ON/OFF
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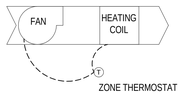
NO GRAPHIC SCREEN

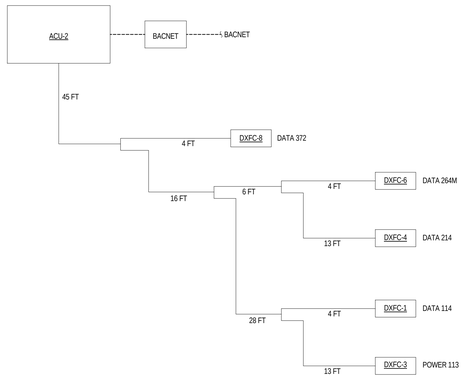


3 UNIT HEATER/ CABINET UNIT HEATER SCHEMATIC

SCALE: NONE

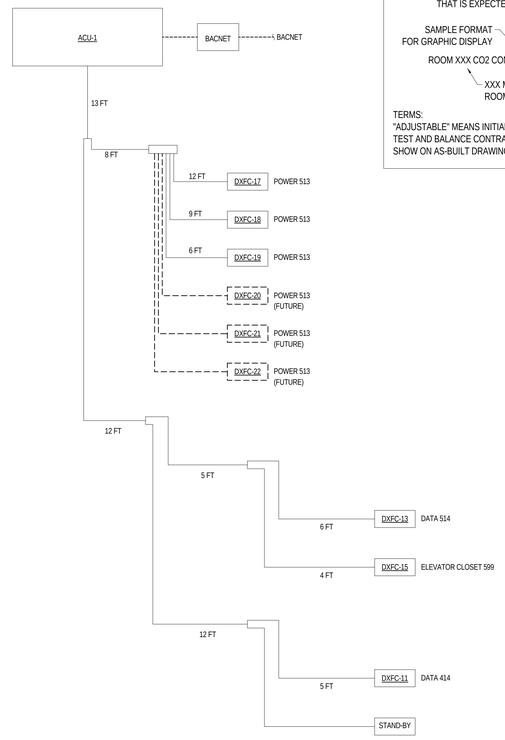
UNIT HEATERS SEQUENCE
A. A wall mounted line voltage thermostat shall cycle the fan to maintain space temperature set point of 65°F.

CABINET AND UNIT HEATERS
A. Shall be controlled by an integral factory provided and mounted thermostat



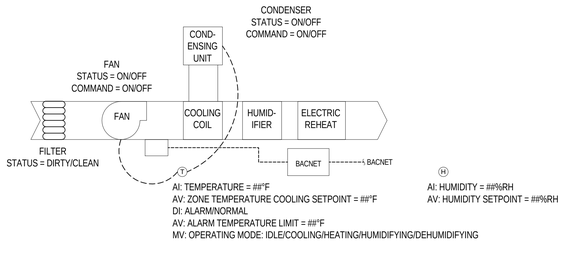
4 ACU-2 SCHEMATIC

SCALE: NONE



1 ACU-1 SCHEMATIC

SCALE: NONE



6 SPECIAL COLLECTIONS SPLIT SYSTEM FANCOIL SCHEMATIC

SCALE: NONE

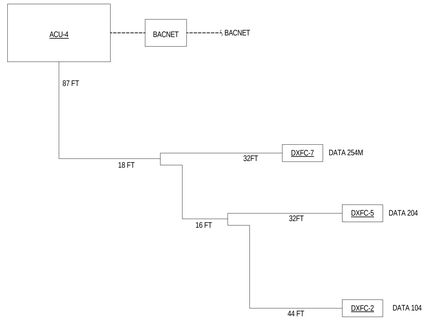
SPLIT SYSTEM FANCOILS SEQUENCE (Control by factory controls, monitoring by 230900.)

A. COOLING MODE:
A.1. Start condensing unit on the roof and the single DX fan coil unit it serves whenever space temperature rises above set point (70ºF, 3ºF dead band, off at 67ºF, & all set points adjustable). Monitor DX fan coil fan motor and condenser on roof with adjustable set point motor current switches. Generate an alarm upon failure fan motor or condensing unit. Monitor pressure drop across filter in fan coil, and generate a filter change-out alarm when filter differential reaches 0.5" W.C. (adjustable). Generate an alarm if space temperature exceeds 75ºF for 15 minutes.

B. HEATING MODE:
B.1. Start fan coil and energize reheat when space temperaturedrops below 67°F (3°F deadband). Monitor reheat status. Generate an alarm if space temperature drops below 64°F for more than 15 minutes.

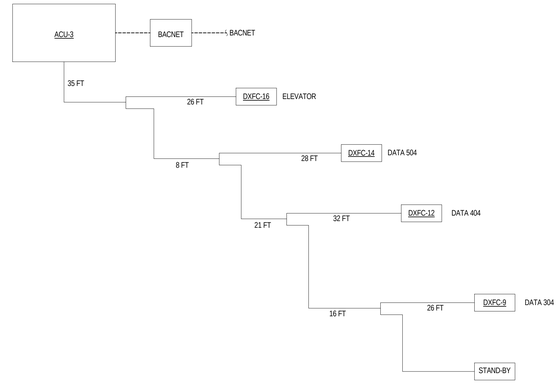
C. HUMIDIFICATION MODE:
C.1. Start humidfier when space humidity drops below 35%RH (5% deadband). Generate an alarm if space humidity ever falls below 25% for more than 15 minutes. Monitor humidifier status.

D. DEHUMIDIFICATION MODE:
D.1. Start fan coil and condensing unit if space humidity rises above 40%RH (5% deadband). Energize reheat as needed to maintain space temperature set point. Generate an alarm if space humidity rises above 50%RH for more than 15 minutes.



5 ACU-4 SCHEMATIC

SCALE: NONE



2 ACU-3 SCHEMATIC

SCALE: NONE

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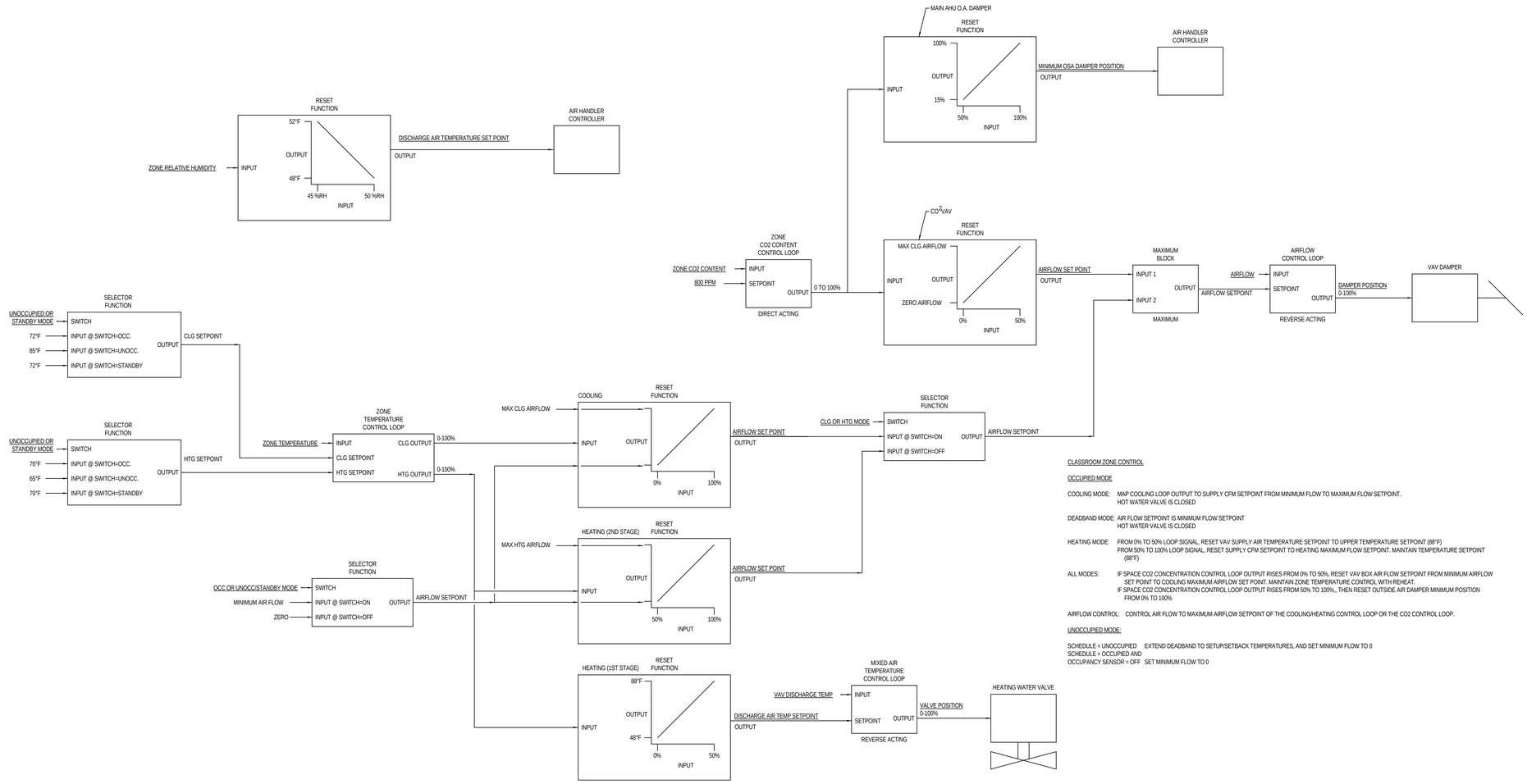
MECHANICAL SCHEMATICS

MH203



2 ZONE CONTROL SCHEMATIC

SCALE: NONE

CLASSROOM ZONE CONTROL

OCCUPIED MODE

COOLING MODE: MAP COOLING LOOP OUTPUT TO SUPPLY CFM SETPOINT FROM MINIMUM FLOW TO MAXIMUM FLOW SETPOINT.
HOT WATER VALVE IS CLOSED

DEADBAND MODE: AIR FLOW SETPOINT IS MINIMUM FLOW SETPOINT
HOT WATER VALVE IS CLOSED

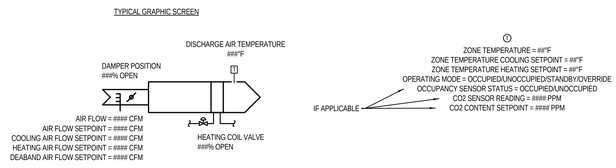
HEATING MODE: FROM 0% TO 50% LOOP SIGNAL, RESET VAV SUPPLY AIR TEMPERATURE SETPOINT TO UPPER TEMPERATURE SETPOINT (88°F)
FROM 50% TO 100% LOOP SIGNAL, RESET SUPPLY CFM SETPOINT TO HEATING MAXIMUM FLOW SETPOINT. MAINTAIN TEMPERATURE SETPOINT (88°F)

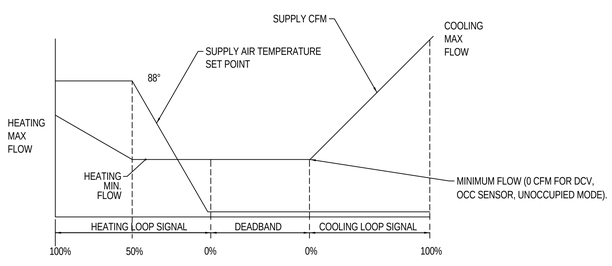
ALL MODES: IF SPACE CO2 CONCENTRATION CONTROL LOOP OUTPUT RISES FROM 0% TO 50%, RESET VAV BOX AIR FLOW SETPOINT FROM MINIMUM AIRFLOW SET POINT TO COOLING MAXIMUM AIRFLOW SET POINT. MAINTAIN ZONE TEMPERATURE CONTROL WITH REHEAT.
IF SPACE CO2 CONCENTRATION CONTROL LOOP OUTPUT RISES FROM 50% TO 100%,, THEN RESET OUTSIDE AIR DAMPER MINIMUM POSITION FROM 0% TO 100%

AIRFLOW CONTROL: CONTROL AIR FLOW TO MAXIMUM AIRFLOW SETPOINT OF THE COOLING/HEATING CONTROL LOOP OR THE CO2 CONTROL LOOP.

UNOCCUPIED MODE:

SCHEDULE = UNOCCUPIED EXTEND DEADBAND TO SETUP/SETBACK TEMPERATURES, AND SET MINIMUM FLOW TO 0
SCHEDULE = OCCUPIED AND
OCCUPANCY SENSOR = OFF SET MINIMUM FLOW TO 0





VAV ZONES WITH REHEAT COIL

A. OCCUPIED MODE: OCCUPIED MODE OF THE ZONE CONTROLLER SHALL BE DETERMINED BY THE CENTRAL CONTROL. IN THE OCCUPIED MODE IF THE SPACE TEMPERATURE IS BETWEEN THE HEATING TEMPERATURE AND THE COOLING TEMPERATURE SET POINT, THE BOX SHALL BE IN A DEAD BAND MODE. THE VAV CONTROLLER SHALL MODULATE THE PRIMARY DAMPER TO MAINTAIN THE VENTILATION MINIMUM CFM SET POINT. DURING OCCUPIED HOURS OF OPERATION, WHEN THE CONTROLS CONTRACTOR PROVIDED MOTION SENSOR IS NOT SENSING OCCUPANCY, THE VAV CONTROLLER WILL MAINTAIN OCCUPIED ZONE SET POINTS BUT MINIMUM AIRFLOW SET POINT SHALL BE SET TO ZERO CFM. WHEN THE CONTROLS CONTRACTOR PROVIDED MOTION SENSOR SENSES AN INDIVIDUAL(S) IN THE ZONE, THE CONTROLLER SHALL RETURN THE MINIMUM AIRFLOW SET POINT(S) TO THE MINIMUM VENTILATION SET POINTS AS SHOWN ON THE DRAWINGS. EACH OFFICE VAV CONTROLLER WILL BE PROVIDED WITH A SPARE INPUT (IN ADDITION TO THE DAT INPUT) THAT WILL MONITOR THE STATUS OF THE OCCUPANCY SENSOR IN THE ROOM. THE CONTROLS CONTRACTOR WILL PROVIDE THE INTERLOCK WIRING AS WELL AS ANY DEVICES NEEDED TO ACCOMPLISH THE ENTIRE SEQUENCE OF OPERATION. THIS HARD-WIRED CONNECTION WILL BE THE METHOD OF INTERCONNECTION BETWEEN THE MOTION SENSOR AND THE HVAC CONTROLS SYSTEM. VAV CONTROLLERS CAN BE OVERRIDDEN TO THE OCCUPIED MODE BY THE CENTRAL CONTROL SYSTEM OR BY A BUTTON ON THE THERMOSTAT IF THE THERMOSTAT IS PROVIDED WITH AN OVERRIDE BUTTON. THERMOSTATS IN PUBLIC AREAS SHALL NOT HAVE SET POINT ADJUSTABILITY KNOBS (SLIDERS) OR OVERRIDE BUTTONS.

B. UNOCCUPIED MODE: DURING UNOCCUPIED HOURS OF OPERATION, THE VAV CONTROLLER SHALL BE IN UNOCCUPIED MODE UNLESS ZONE IS OVERRIDDEN TO THE OCCUPIED MODE BY EITHER THE THERMOSTAT OVERRIDE BUTTON OR OVERRIDDEN BY THE BAS. IN THE UNOCCUPIED MODE THE VAV BOX DAMPER SHALL BE CLOSED AND THE REHEAT COIL VALVE CLOSED. ON A FALL IN SPACE TEMPERATURE BELOW THE UNOCCUPIED HEATING TEMPERATURE SET POINT (55°F) THE CONTROL VALVE SHALL OPEN AND THE VAV AIR DAMPER SHALL CONTROL TO THE HEATING AIRFLOW SET POINT TO MAINTAIN THE NIGHT SET BACK SETTING. ON A RISE IN SPACE TEMPERATURE ABOVE THE UNOCCUPIED COOLING TEMPERATURE SET POINT (80°F) THE VAV AIR DAMPER SHALL CONTROL TO THE COOLING AIRFLOW SET POINT TO MAINTAIN THE NIGHT SET BACK SETTING.

C. HEATING: ON A FALL IN SPACE TEMPERATURE BELOW THE HEATING TEMPERATURE SET POINT (68°F, ADJUSTABLE), THE CONTROLLER SHALL THAN MODULATE THE REHEAT COIL VALVE OPEN AS WELL AS MODULATE THE SUPPLY AIR VOLUME BETWEEN THE VENTILATION MINIMUM AND THE HEATING MAXIMUM AIR FLOW SET POINT. THE HEATING AIR FLOW SET POINT SHALL BE A FUNCTION OF THE HEATING CALCULATION PERCENTAGE TO MINIMIZE THE AMOUNT OF REHEAT. ON A 100% CALL FOR HEAT, THE VAV BOX SHALL CONTROL TO THE MAXIMUM HEATING AIR FLOW SET POINT AND THE REHEAT COIL VALVE SHALL BE WIDE OPEN. THE REVERSE SHALL OCCUR ON AN INCREASE IN SPACE TEMPERATURE EQUAL TO OR GREATER THAN THE HEATING TEMPERATURE SET POINT. WHEN THE HEATING WATER TEMP IS BELOW 100°F (ADJUSTABLE), THE HEATING AIRFLOW SET POINT SHALL BE SET TO ZERO. WHEN THE DISCHARGE AIR IS ABOVE 65°F (ADJUSTABLE) IN THE OCCUPIED MODE, THE COOLING AIRFLOW SET POINT SHALL BE SET TO ZERO.

D. COOLING: WHEN THE SPACE TEMPERATURE IS EQUAL TO OR GREATER THAN THE COOLING TEMPERATURE SET POINT (72°F) THE VAV BOX CONTROLLER SHALL ENTER THE COOLING MODE. THE CONTROLLER SHALL MODULATE THE AIRFLOW SET POINT FROM THE MINIMUM VENTILATION SET POINT TO THE COOLING MAXIMUM SET POINT.

E. VENTILATION: VAV BOXES SERVING HIGH USAGE AREAS (AS SHOWN ON THE PLANS) SHALL HAVE A CO2 SENSOR LOCATED IN THE RETURN AIR LOCATED IN A REASONABLE AND ACCESSIBLE LOCATION FOR MAINTENANCE. THE CO2 SENSOR SHALL DETERMINE THE VENTILATION MINIMUM CFM SET POINT FOR THE VAV BOX DDC CONTROLLER SERVING THAT ZONE. THE LOCAL DDC CONTROL LOOP SHALL THEN MODULATE THE VAV DAMPER TO MAINTAIN THE VENTILATION MINIMUM AIR REQUIRED TO MAINTAIN A CO2 LEVEL SET POINT OF 800 PPM (ADJUSTABLE) OR LESS, IN THE SPACE, AS WELL AS MAINTAIN THE ZONE TEMPERATURE AT SET POINT AS DESCRIBED ABOVE. SHOULD BOTH THE CO2 LEVEL MONITORED VENTILATION REQUIREMENT AND THE ZONE TEMPERATURE REQUIREMENT BE SATISFIED, THE AIRFLOW SET POINT OF THE VAV BOX CAN GO TO 0 CFM (ADJUSTABLE). THIS SEQUENCE MUST BE INTEGRAL TO THE CONTROLLER AND NOT HANDLED AT THE NETWORK MANAGER LEVEL. COMMISSIONING AGENT TO VERIFY DEMAND CONTROLLED VENTILATION OF CO2 DETECTORS. IF THE CO2 LEVEL REMAINS ABOVE SET POINT FOR MORE THAN 30 MINUTES (ADJUSTABLE) THEN OPEN THE RESPECTIVE AIR HANDLER'S OUTSIDE AIR DAMPERS IN 10% INCREMENTS (ADJUSTABLE) EVERY 5 MINUTES (ADJUSTABLE) UNTIL CO2 LEVEL DROPS BELOW SET POINT. ONCE CO2 IS WITHIN ACCEPTABLE RANGE, THAT AIR HANDLER'S OUTSIDE AIR DAMPER MAY RETURN TO MINIMUM SET POINT UNLESS PRIORITY OF ANOTHER COMMAND IS ISSUED. IF ANY CO2 READING IS ABOVE 1,000 PPM OR BELOW 350 PPM (BOTH ADJUSTABLE) IT SHALL BE AUTOMATICALLY NULLIFIED FROM AIR HANDLER LOGIC PROGRAMMING DUE TO OUT OF RANGE ERROR. THE BAS SHALL GENERATE AN OUT OF RANGE ALARM.

DUAL MAXIMUM SEQUENCE

OCCUPIED MODE:
COOLING MODE: MAP COOLING LOOP OUTPUT TO SUPPLY CFM SET POINT FROM MINIMUM FLOW TO COOLING MAX FLOW SET POINT.
HOTWATER VALVE IS CLOSED.

DEADBAND MODE: AIR FLOW SET POINT IS MINIMUM FLOW SET POINT.
HOTWATER VALVE IS CLOSED.

HEATING MODE: FROM 0% TO 50% LOOP SIGNAL, RESET SUPPLY AIR TEMPERATURE SET POINT TO UPPER TEMPERATURE SET POINT (88°F).

FROM 50% TO 100% LOOP SIGNAL, RESET SUPPLY CFM SET POINT TO HEATING MAX FLOW SET POINT.
MAINTAIN TEMPERATURE SET POINT (88°F).

MODULATE HOT WATER VALVE USING PI CONTROL LOOP TO MAINTAIN SUPPLY AIR TEMPERATURE SET POINT.

MODULATE VAV DAMPER POSITION TO MAINTAIN SUPPLY CFM SET POINT.

UNOCCUPIED MODE:
WHEN SCHEDULE = UNOCCUPIED, EXTEND DEADBAND TO SETUP/SETBACK TEMPERATURES, AND SET MINIMUM FLOW = 0.

WHEN SCHEDULE = OCCUPIED AND OCCUPANCY SENSOR = OFF, SET MINIMUM FLOW = 0.

DCV OVERRIDE: MODULATE DAMPER POSITION USING PI CONTROL LOOP TO MAINTAIN CO2 SETPOINT.
REGARDLESS OF COOLING OR DEADBAND MODE, MODULATE HEATING WATER VALVE USING
PI CONTROL LOOP TO MAINTAIN SPACE TEMPERATURE.

1 VAV DUAL MAXIMUM SCHEMATIC

SCALE: NONE

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HOLLAND CENTENNIAL COMMONS

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MECHANICAL SCHEMATICS

MH204

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TYPICAL GRAPHIC SCREEN

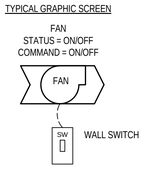
1 RESTROOM EXHAUST FAN SCHEMATIC

SCALE: NONE

RESTROOMS EXHAUST FAN SEQUENCE

A. Exhaust fan is enabled when the building is in the occupied mode. This fan to be monitored by the building control system.

TYPICAL GRAPHIC SCREEN



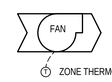
2 KITCHEN EXHAUST FAN SCHEMATIC

SCALE: NONE

CAFE EXHAUST FAN SEQUENCE

A. Fan shall run subject to a wall button located near the food preparation area. This fan to be monitored by the building control system. Momentary button to engage a latching relay. Control system to momentarily disengage latching relay at end of occupied BAS schedule to stop fan. A second momentary button shall also be able to disengage latching relay to stop fan.

TYPICAL GRAPHIC SCREEN



ZONE TEMPERATURE = ##°F
ZONE TEMPERATURE COOLING SETPOINT = ##°F
ZONE TEMPERATURE HEATING SETPOINT = ##°F
ALARM/NORMAL
ALARM TEMPERATURE LIMIT = ##°F

3 EXHAUST FAN/TRANSFER FAN SCHEMATIC

SCALE: NONE

EXHAUST FANS AND TRANSFER FANS SERVING ELECTRICAL AND COMM. ROOMS SEQUENCE

A. Fans shall start on an increase in space temperature above their respective cooling temperature set point via a wall mounted line voltage thermostat. The zone temperature in these spaces shall be monitored by the BAS and an alarm shall be generated if zone temperature rises above 80°F. This fan(s) to be monitored by the building control system.

TYPICAL GRAPHIC SCREEN

4 JANITOR EXHAUST FAN SCHEMATIC

SCALE: NONE

JANITOR ROOMS EXHAUST FAN SEQUENCE

A. Fan(s) shall run continuously. This fan to be monitored by the building control system. Generate an alarm upon fan failure.

GRAPHICS LEGEND

SAMPLE FORMAT
FOR GRAPHIC DISPLAY

SWP-1
SOLAR WATER PUMP #1
PUMP COMMAND = ON/OFF
PUMP STATUS = ON/OFF
PUMP FAN = ALARM/NORMAL

ON/OFF OR ALARM /NORMAL
MEANS SHOW ONE OR THE OTHER

SAMPLE FORMAT
FOR GRAPHIC DISPLAY

SOLAR TANK TEMPERATURE = ##°F
SOLAR TANK TEMPERATURE SETPOINT= ##°F

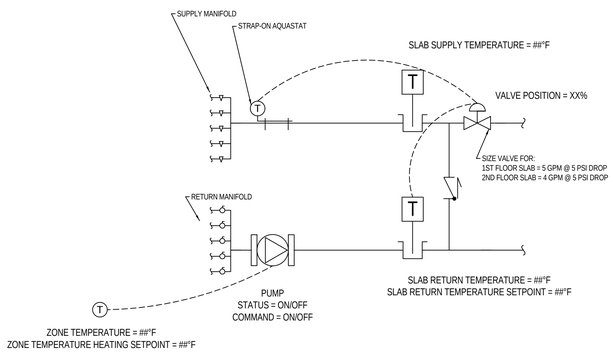
SYMBOL MEANS ACTUAL DIGIT FORMAT
THAT IS EXPECTED WITH UNITS SHOWN

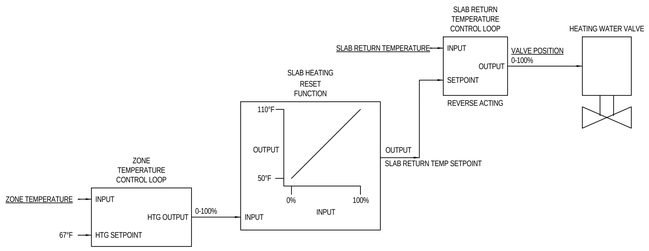
SAMPLE FORMAT
FOR GRAPHIC DISPLAY

ROOM XXX CO2 CONTENT = ### PPM

XXX MEANS FILL IN ACTUAL
ROOM NUMBER ON GRAPHIC

TERMS:
"ADJUSTABLE" MEANS INITIALLY SET "SET-POINT" TO VALUE SHOWN. TEST AND BALANCE CONTRACTOR TO ADJUST AS NECESSARY AND SHOW ON AS-BUILT DRAWINGS.





6 SLAB HEATING CONTROL SCHEMATIC

NO SCALE

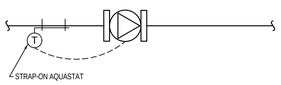
SLAB HEATING SEQUENCE OF OPERATION:

A. IF A LOBBY ZONE TEMPERATURE (AS MEASURE BY AN INCONSPICUOUS TEMPERATURE SENSOR MOUNTED NEAR THE ENTRY DOOR) DROPS BELOW 67 DEG F (ADJUSTABLE); ENABLE THAT ZONE'S CIRCULATION PUMP AND ENABLE THE FOLLOWING CONTROL LOOP(S).

B. 2ND FLOOR LOBBY: MODULATE THE SPRING-RETURN TWO-WAY CONTROL VALVE TO MAINTAIN A RETURNING WATER TEMPERATURE OF 110 DEG F. INSTALL A STRAP-ON AQUASTAT ON THE HEATING WATER SUPPLY PIPE FEEDING THE SUPPLY MANIFOLD AND INTERRUPT THE POWER TO THE 3-WAY VALVE IF THE TEMPERATURE OF THE WATER ENTERING THE SLAB EVER CLIMBS ABOVE 140 DEG F (ADJUSTABLE).

C. 1ST FLOOR LOBBY: MODULATE THE SPRING-RETURN TWO-WAY CONTROL VALVE TO MAINTAIN A RETURNING WATER TEMPERATURE OF 90 DEG F. INSTALL A STRAP-ON AQUASTAT ON THE HEATING WATER SUPPLY PIPE FEEDING THE SUPPLY MANIFOLD AND INTERRUPT THE POWER TO THE 3-WAY VALVE IF THE TEMPERATURE OF THE WATER ENTERING THE SLAB EVER CLIMBS ABOVE 120 DEG F (ADJUSTABLE).

D. THE SPRING LOADED VALVE SHALL SPRING CLOSED TO PROTECT THE SLAB FROM EXCESSIVELY HOT WATER.



5 DOMESTIC CIRC. PUMP DDC CONTROL DIAGRAM

NO SCALE

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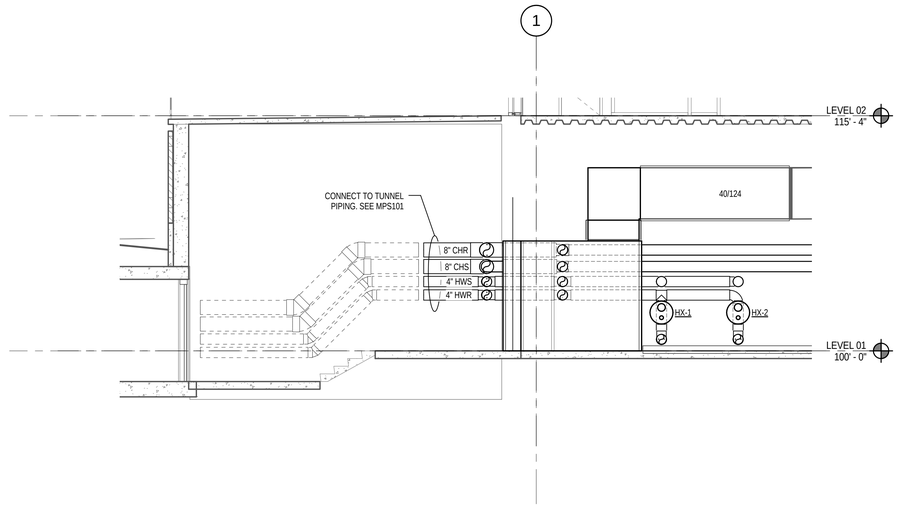
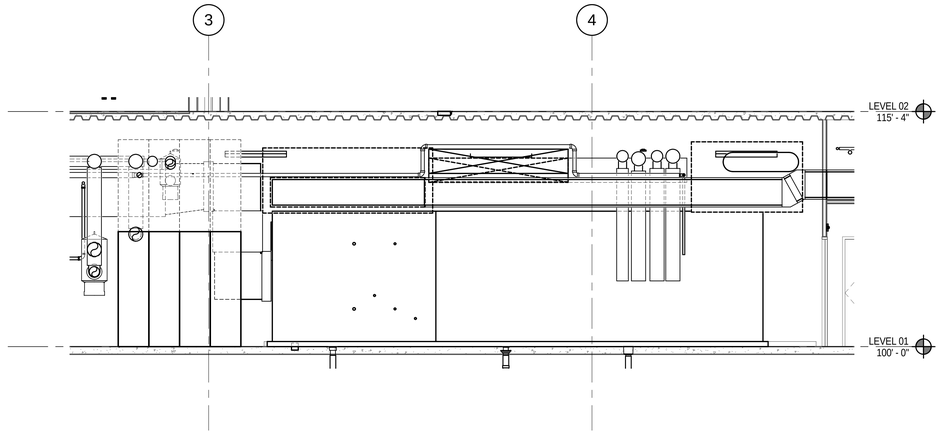
MECHANICAL SCHEMATICS

MH205



2 MECHANICAL ROOM SECTION

SCALE: 1/4" = 1'-0"



1 MECANICAL ROOM SECTION

SCALE: 1/4" = 1'-0"

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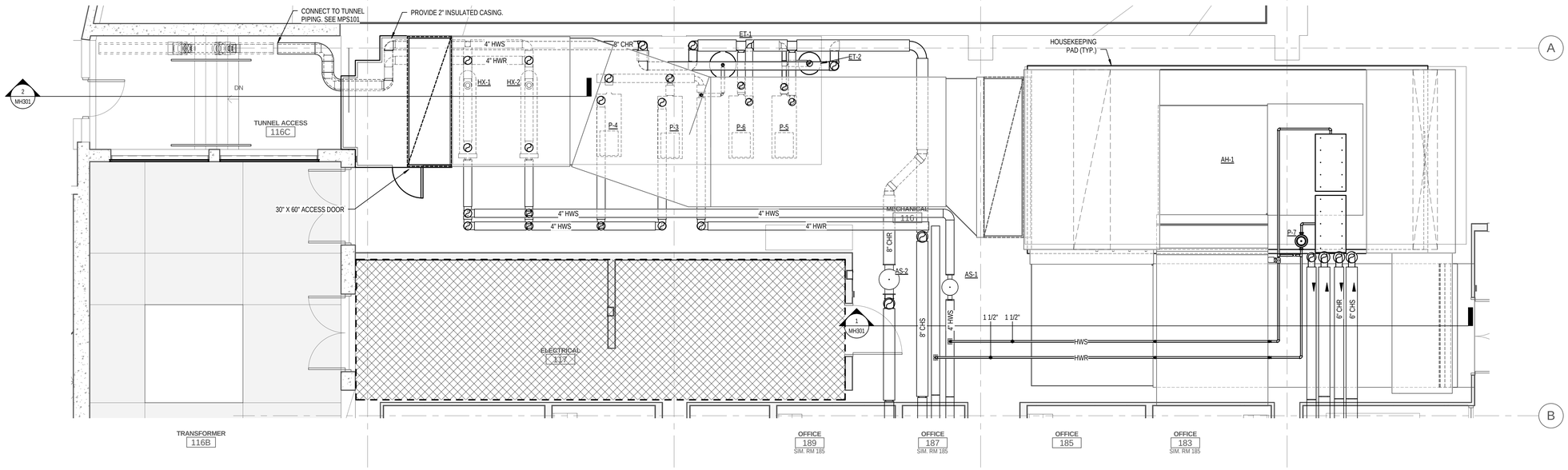
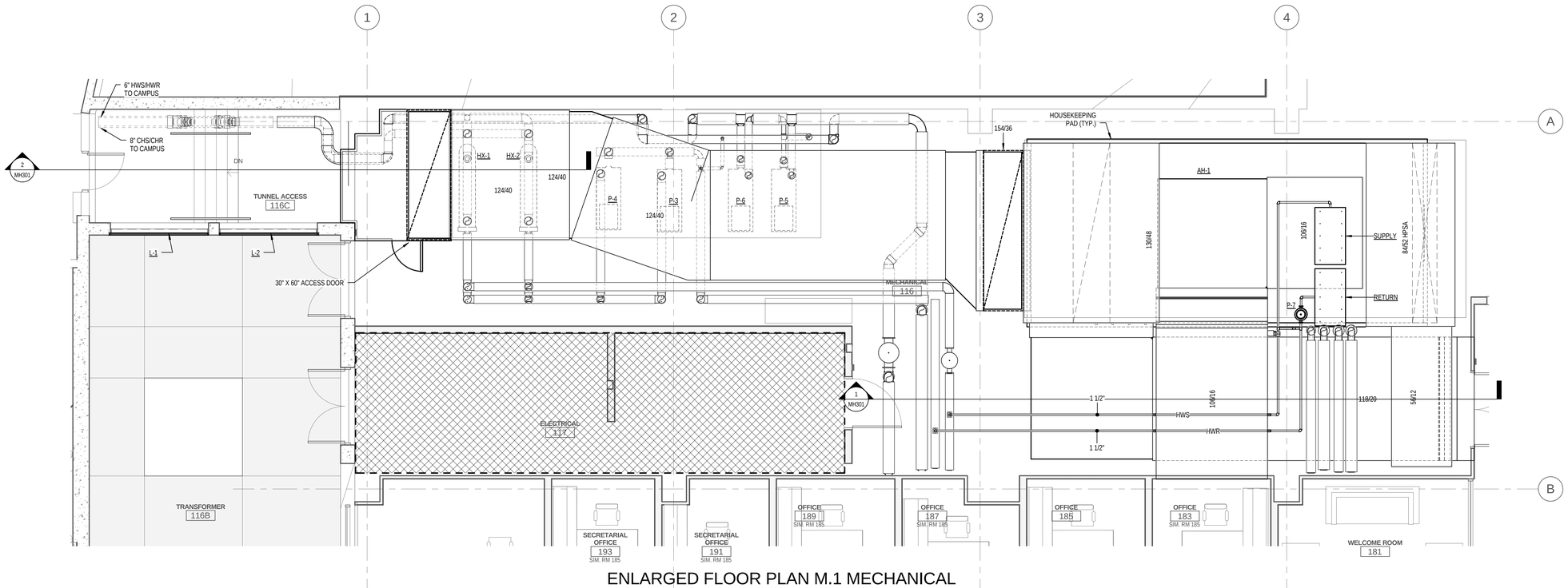
MECHANICAL SECTIONS

MH301



ENLARGED FLOOR PLAN M.1 MECHANICAL PIPING

2 SCALE: 1/4" = 1'-0"



ENLARGED FLOOR PLAN M.1 MECHANICAL HVAC

1 SCALE: 1/4" = 1'-0"

GENERAL NOTES

A. COORDINATE HOUSEKEEPING PADS WITH MECHANICAL EQUIPMENT.
B. COORDINATE WITH ALL TRADES PRIOR TO INSTALLING ANY DUCT, PIPE, OR EQUIPMENT.

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ENLARGED MECHANICAL PLANS

MH401

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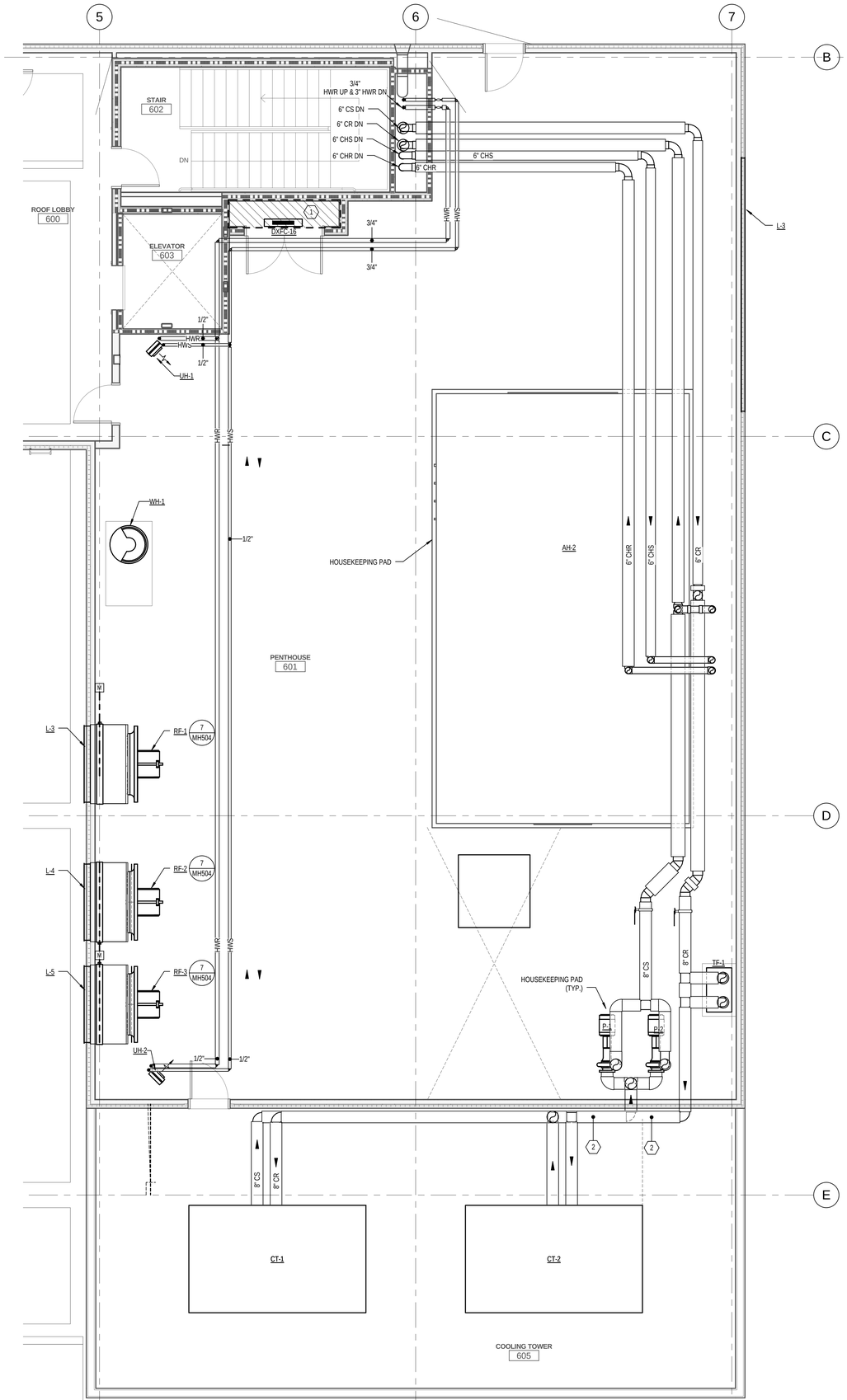
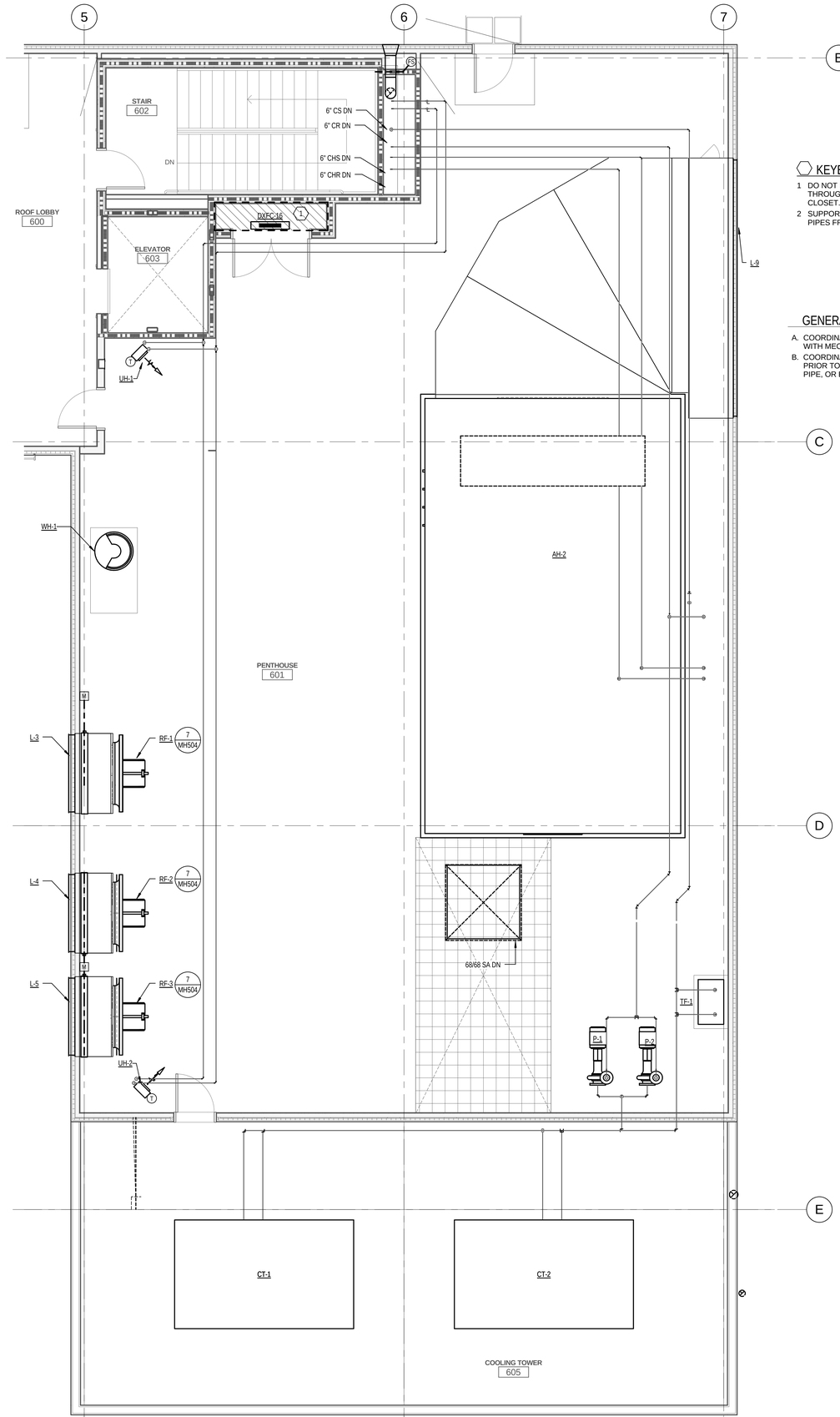


2 ENLARGED PENTHOUSE MECHANICAL PIPING

SCALE: 1/4" = 1'-0"



1 ENLARGED PENTHOUSE MECHANICAL HVAC

SCALE: 1/4" = 1'-0"

KEYED NOTES

1. DO NOT ROUTE PIPE OR DUCT THROUGH ELEVATOR EQUIPMENT CLOSET.
2. SUPPORT CONDENSER WATER PIPES FROM PENTHOUSE WALL.

GENERAL NOTES

A. COORDINATE HOUSEKEEPING PADS WITH MECHANICAL EQUIPMENT.

B. COORDINATE WITH ALL TRADES PRIOR TO INSTALLING ANY DUCT, PIPE, OR EQUIPMENT.

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ENLARGED MECHANICAL PLANS

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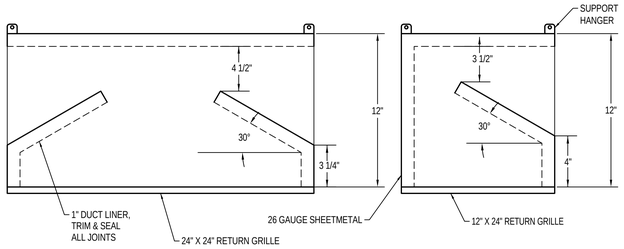
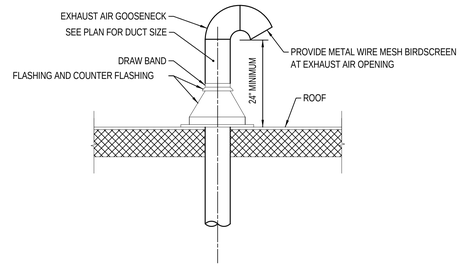


TYPICAL OF ALL RETURN AIR GRILLES AS INDICATED ON AIR DEVICE SCHEDULE

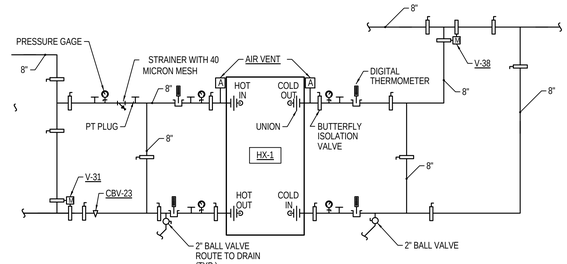
1 RETURN AIR SHEETMETAL SOUND BOOT DETAIL

NO SCALE



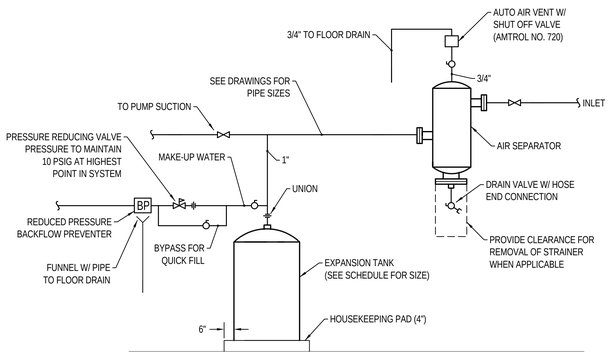
2 EXHAUST AIR ROOF TERMINATION DETAIL

NO SCALE



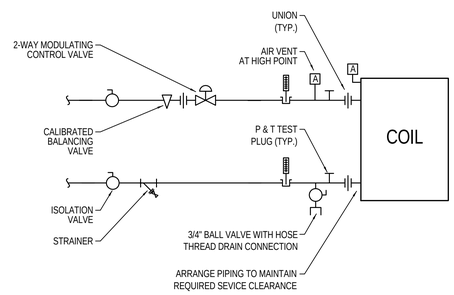
3 HEAT EXCHANGER-1

NO SCALE



4 AIR SEPARATOR/EXPANSION TANK PIPING DETAIL

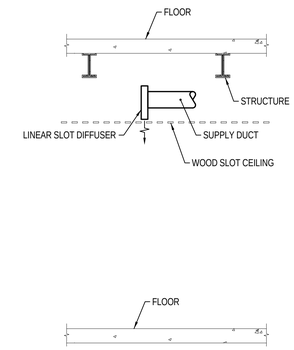
NO SCALE



NOTE: APPLIES TO ALL VAV BOXES, FAN COIL UNITS, AND AHU-3

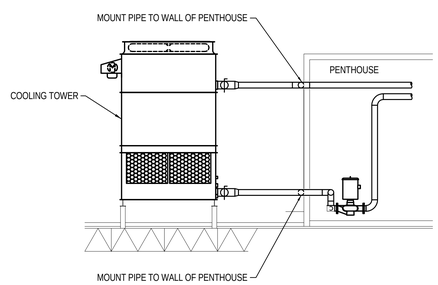
5 COIL PIPING DIAGRAM (2-WAY VALVE)

NO SCALE

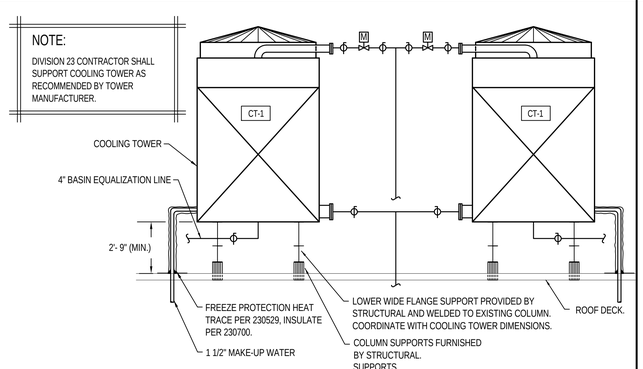


6 LINEAR DIFFUSER ABOVE CEILNG DETAIL

NO SCALE



7 COOLING TOWER PIPE SUPPORT DETAIL



8 COOLING TOWER INSTALLATION DETAIL

NO SCALE

9

NO SCALE

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HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #06297640
DIXIE COLLEGE, ST. GEORGE, UT
CONFORMED CONSTRUCTION DOCUMENTS BID SET

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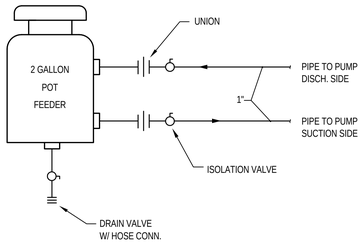
Owner # DFCM #06297640
Ins. #

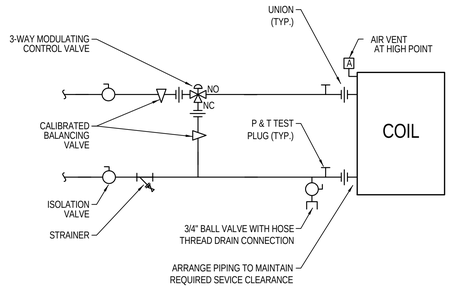
MECHANICAL DETAILS

MH501



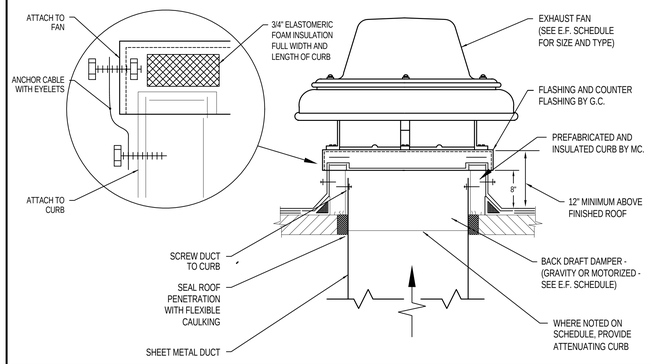
1 CHEMICAL POT FEEDER PIPING DETAIL

NO SCALE



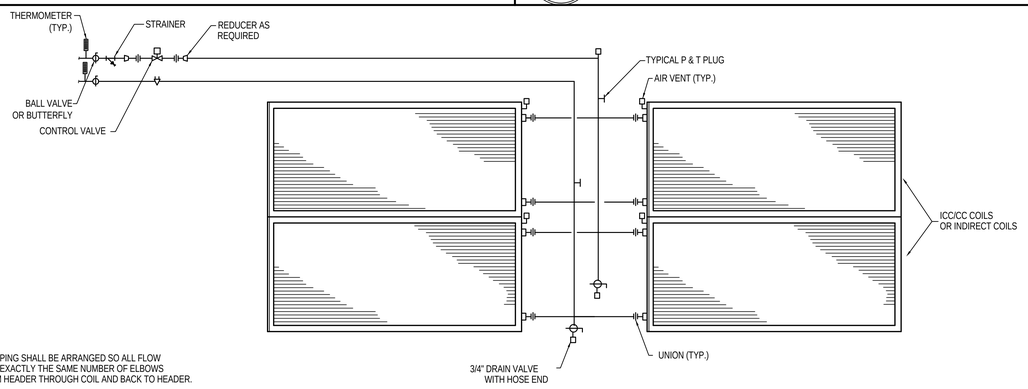
2 COIL PIPING DIAGRAM (3-WAY VALVE)

NO SCALE



3 EXHAUST FAN AND CURB DETAIL

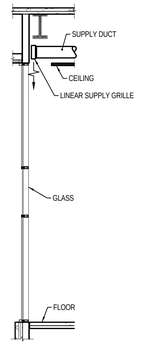
NO SCALE



NOTE:
COIL HEADER PIPING SHALL BE ARRANGED SO ALL FLOW CIRCUITS HAVE EXACTLY THE SAME NUMBER OF ELBOWS AND TEES FROM HEADER THROUGH COIL AND BACK TO HEADER.

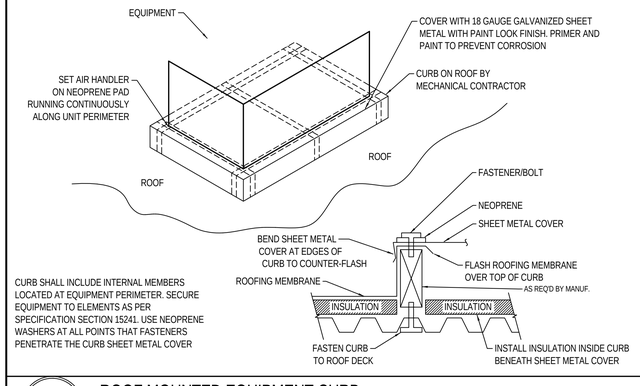
4 COIL CONNECTION DETAIL

NO SCALE



5 LINEAR DIFFUSER AT EDGE OF CEILING

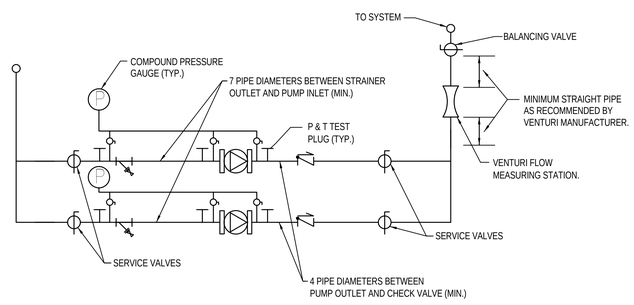
NO SCALE



CURB SHALL INCLUDE INTERNAL MEMBERS LOCATED AT EQUIPMENT PERIMETER. SECURE EQUIPMENT TO ELEMENTS AS PER SPECIFICATION SECTION 15241. USE NEOPRENE WASHERS AT ALL POINTS THAT FASTENERS PENETRATE THE CURB SHEET METAL COVER

6 ROOF MOUNTED EQUIPMENT CURB

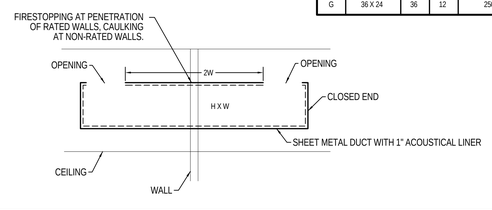
NO SCALE



7 PARALLEL INLINE PUMP PIPING DETAIL

NO SCALE

SIZE	OPENING (INXIN)	W (IN)	H (IN)	MAX. TRANSFER (CFM)	APPROX. ΔP (INWC)
A	12 X 6	12	6	230	0.02
B	12 X 12	12	6	380	0.02
C	24 X 6	24	6	400	0.02
D	24 X 12	24	6	680	0.02
E	24 X 12	24	12	920	0.02
F	24 X 24	24	12	1500	0.02
G	36 X 24	36	12	2500	0.02



8 TRANSFER AIR DUCT (PLENUM/PLENUM)

NO SCALE

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HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
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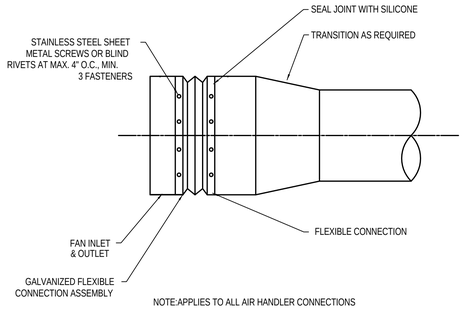
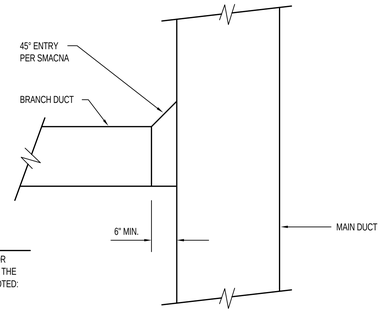
MECHANICAL DETAILS

MH502



1 FLEXIBLE CONNECTION DETAIL

NO SCALE

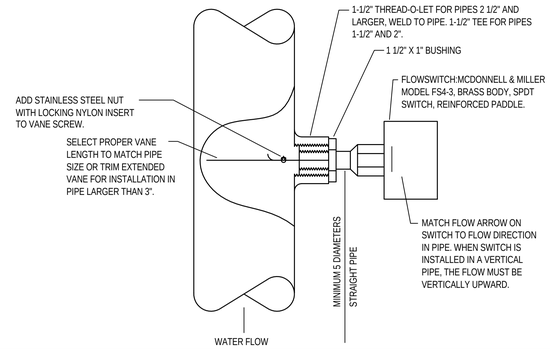


NOTE:

WHEN USING THIS TAKE-OFF FOR HIGH VELOCITY DUCT SYSTEMS THE ENTRY OPENING SHOULD BE NOTED: "NOT TO EXCEED 1500 FPM" TO AVOID NOISE GENERATION.

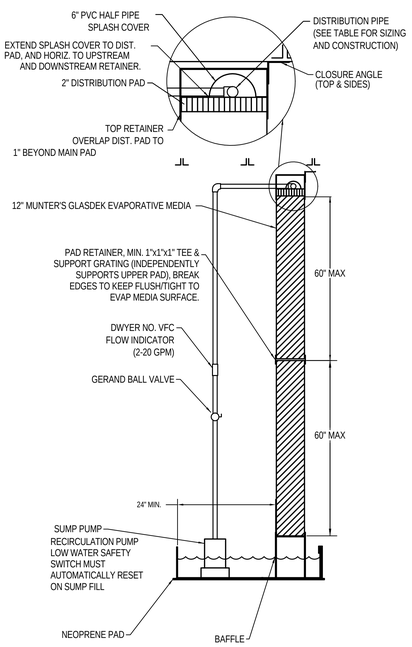
2 TYPICAL DUCT TAKEOFF DETAIL

NO SCALE

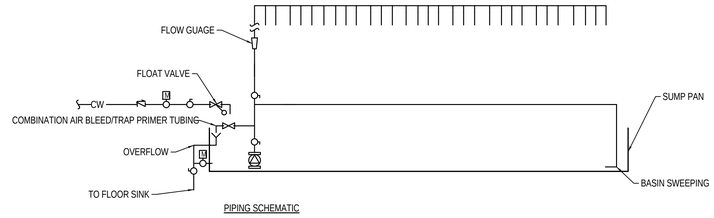


3 FLOW SWITCH INSTALLATION DETAIL

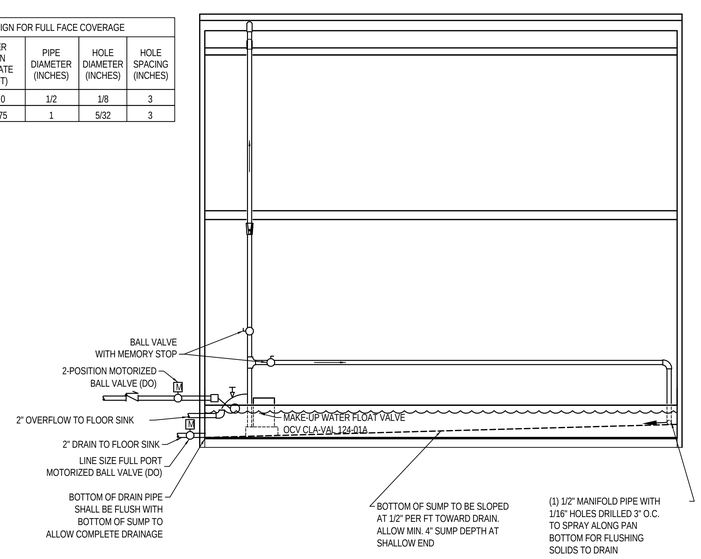
NO SCALE



DISTRIBUTION PIPE DESIGN FOR FULL FACE COVERAGE					
MEDIA DEPTH (INCHES)	MAX. HEADER LENGTH** (FEET)	HEADER DESIGN FLOW RATE (GPM/FT)	PIPE DIAMETER (INCHES)	HOLE DIAMETER (INCHES)	HOLE SPACING (INCHES)
4 OR 6	12	.67-1.0	1/2	1/8	3
8 OR 12	16	.75-1.75	1	5/32	3



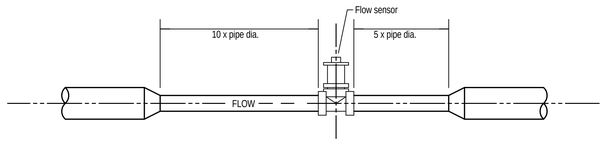
PIPING SCHEMATIC



NOTE: ALL METAL SUPPORTS, BASIN, & DISTRIBUTION HEADER COVER TO BE STAINLESS STEEL.

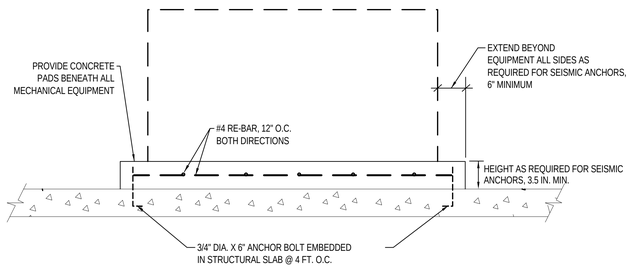
4 EVAPORATIVE MEDIA DETAIL (SINGLE MEDIA)

NO SCALE



5 FLOW MEASURING STATION INSTALLATION DETAIL

NO SCALE



6 HOUSEKEEPING PAD DETAIL

NO SCALE

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HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #06297640
DIXIE COLLEGE, ST. GEORGE, UT
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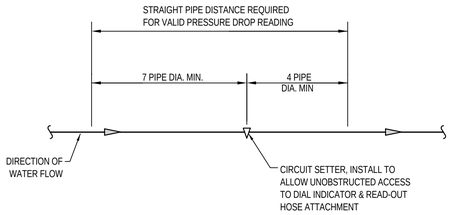
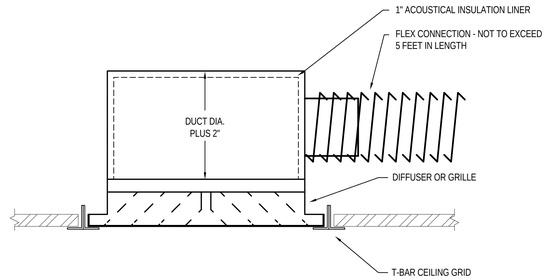
MECHANICAL DETAILS

MH503



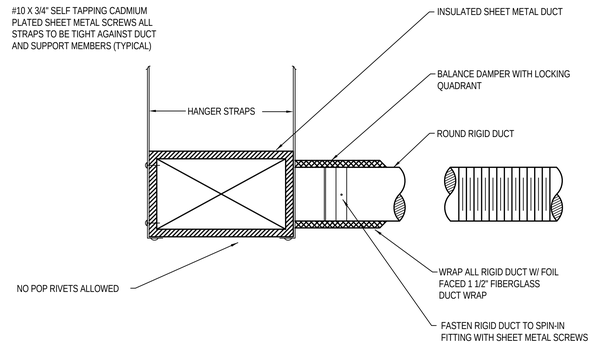
1 CIRCUIT SETTER DETAIL

NO SCALE



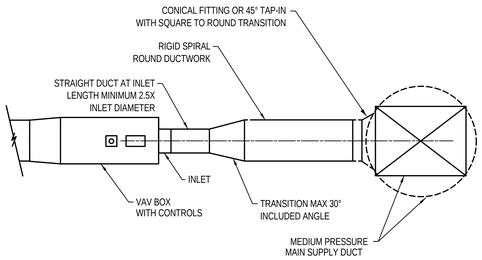
2 DIFFUSER AND GRILLE CONNECTION DETAIL

NO SCALE



3 FLEX DUCT/SPIN-IN FITTING DETAIL

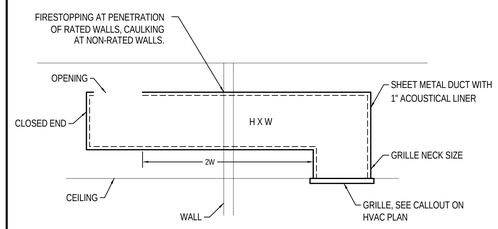
NO SCALE



4 TYPICAL MEDIUM PRESSURE TAKE-OFF VAV DETAIL

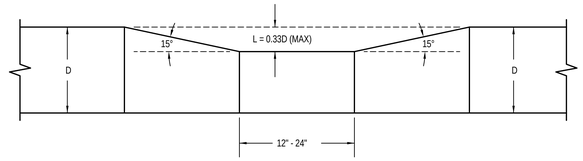
NO SCALE

SIZE	OPENING (INXIN)	W (IN)	H (IN)	GRILLE NECK (INXIN)	MAX. TRANSFER (CFM)	APPROX. ΔP (INWC)
A	22 X 8	22	6	22 X 10	400	0.05
B	22 X 16	22	12	22 X 22	850	0.05



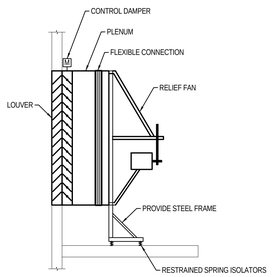
5 TRANSFER AIR DUCT (GRILLE/PLENUM)

NO SCALE



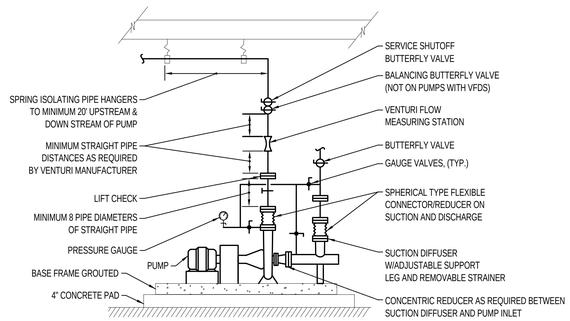
6 TYPICAL DUCT SLICE DETAIL

NO SCALE



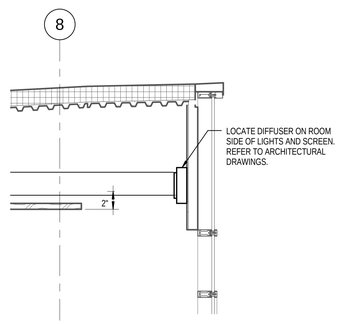
7 RELIEF FAN DETAIL

NO SCALE



8 TYPICAL PUMP INSTALLATION DETAIL

NO SCALE



9 ZION ROOM LINEAR DIFFUSER

NO SCALE

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MECHANICAL DETAILS

MH504

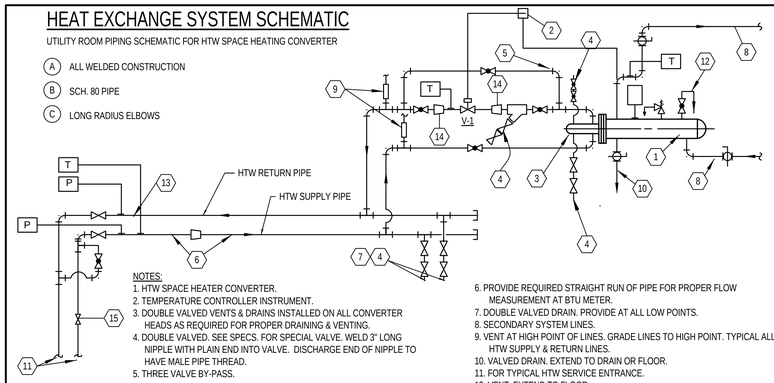
HEAT EXCHANGE SYSTEM SCHEMATIC

UTILITY ROOM PIPING SCHEMATIC FOR HTW SPACE HEATING CONVERTER

(A) ALL WELDED CONSTRUCTION

(B) SCH. 80 PIPE

(C) LONG RADIUS ELBOWS



NOTES:
1. HTW SPACE HEATER CONVERTER.
2. TEMPERATURE CONTROLLER INSTRUMENT.
3. DOUBLE VALVED VENTS & DRAINS INSTALLED ON ALL CONVERTER HEADS AS REQUIRED FOR PROPER DRAINING & VENTING.
4. DOUBLE VALVED. SEE SPECS. FOR SPECIAL VALVE. WELD 3" LONG NIPPLE WITH PLAIN END INTO VALVE. DISCHARGE END OF NIPPLE TO HAVE MALE PIPE THREAD.
5. THREE VALVE BY-PASS.
6. PROVIDE REQUIRED STRAIGHT RUN OF PIPE FOR PROPER FLOW MEASUREMENT AT BTU METER.
7. DOUBLE VALVED DRAIN. PROVIDE AT ALL LOW POINTS.
8. SECONDARY SYSTEM LINES.
9. VENT AT HIGH POINT OF LINES. GRADE LINES TO HIGH POINT. TYPICAL ALL HTW SUPPLY & RETURN LINES.
10. VALVED DRAIN. EXTEND TO DRAIN OR FLOOR.
11. FOR TYPICAL HTW SERVICE ENTRANCE.
12. VENT. EXTEND TO FLOOR.
13. PROVIDE TEMPERATURE WELLS & OTHER SENSING POINTS FOR CENTRAL CONTROL SYSTEM.
14. ECCENTRIC REDUCER.
15. EMERGENCY SHUT-OFF VALVE

VALVES:

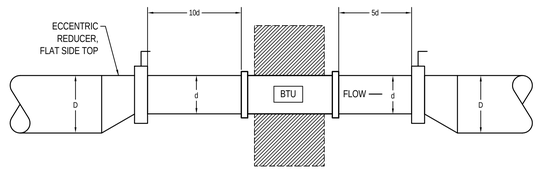
- GATE VALVE
- GLOBE VALVE
- PLUG VALVE
- CHECK VALVE (ARROW INDICATES DIRECTION OF FLOW)
- ANGLE VALVE
- ANGLE SAFETY OR RELIEF VALVE
- SAFETY OR RELIEF VALVE
- SOLENOID OPERATED VALVE
- CONTROL VALVE OR SPECIAL VALVE
- THREE-WAY VALVE
- PRESSURE REGULATING VALVE
- BALL OR BUTTERFLY VALVE

MISCELLANEOUS:

- REDUCER
- STRAINER
- ORIFICE OR FLOW NOZZLE
- PLUG, CAP OR BLIND FLANGE
- FLANGE OR UNION
- OPEN DRAIN FUNNEL
- HOSE BIBB
- T — THERMOMETER
- P — PRESSURE GAGE
- DRIP PAN
- M — METER
- VENT
- VTR — VENT THRU ROOF

1 HTW HEAT EXCHANGER DETAIL

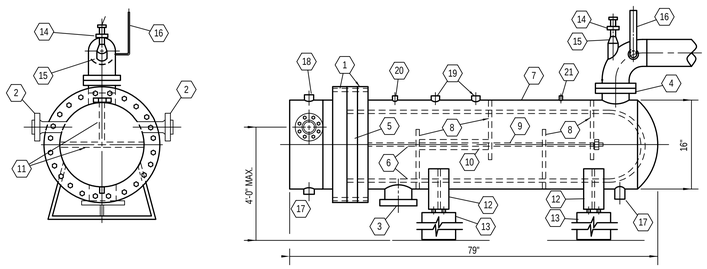
NO SCALE



2 BTU METER

NO SCALE

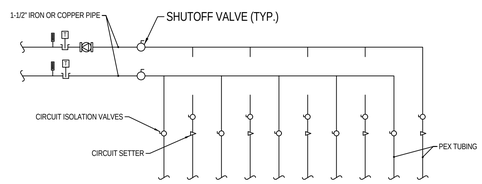
GENERAL NOTE:
ALL CONNECTIONS TO HEAT EXCHANGER TO HAVE BACKWELDED NIPPLE OR CONNECTOR WELDED DIRECTLY TO TANK.



NOTES:
1. BONNET FLANGES 400 LB. ANSI.
2. RADIAL FLANGE HTW SUPPLY & RETURN 400 LBS. ANSI.
3. INLET FLANGE
4. OUTLET FLANGE
5. TUBE SHEET
6. TUBE BUNDLE
7. SHELL
8. BAFFLES
9. STAY RODS
10. SPACER
11. TUBE PASS PARTITIONS AS REQUIRED.
12. CRADLE. (MAKE PROVISIONS FOR EXPANSION OF UNIT) BY MECHANICAL DIVISION CONTRACTOR, COORDINATE WITH STRUCTURAL.
13. CONCRETE OR STRUCTURAL SUPPORT PIER. BY MECHANICAL DIVISION CONTRACTOR, COORDINATE WITH STRUCTURAL.
14. THERMOMETER WELL FOR CONTROL ELEMENT. ARRANGE PIPING TO PROVIDE WELL IMMEDIATELY ADJACENT TO CONVERTER OUTLET.
15. SOCKET WELDED ELBOWLETS. LOCATE AS NEAR TO SHELL OUTLET AS POSSIBLE.
16. THERMOMETER WITH SEPARABLE SOCKET.
17. DRAIN CONNECTION
18. VENT CONNECTIONS AS REQUIRED.
19. RELIEF VALVE CONNECTIONS
20. VENT
21. COUPLING FOR PRESSURE GAGE.

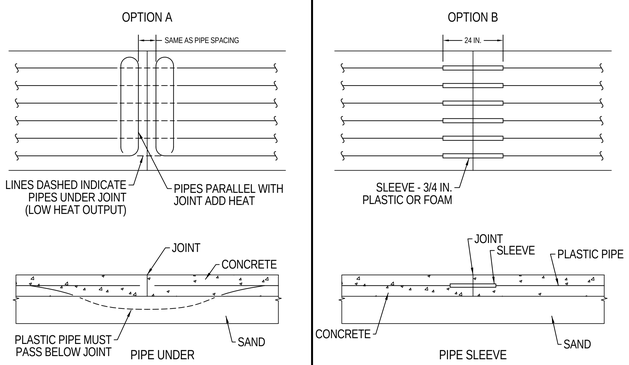
3 HTW SPACE HEATING CONVERTER (HX-1 & 2)

NO SCALE



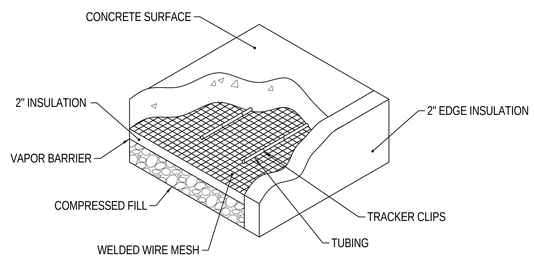
4 RADIANT HEATING MANIFOLD INSTALLATION DETAIL

NO SCALE



5 RADIANT FLOOR TUBING JOINT DETAIL

NO SCALE



6 RADIANT TUBING INSTALLATION DETAIL

NO SCALE

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON
SASAKI
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HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH

DFCM #06297640

DIXIE COLLEGE, ST. GEORGE, UT

CONFORMED CONSTRUCTION DOCUMENTS BID SET

Rev #	Date	Description

Job # 2010-004.00
CAD File
Drawn MCS Checked JMB
Date 12/03/2010
Owner # DFCM #06297640
Ins. #

MECHANICAL DETAILS

MH505

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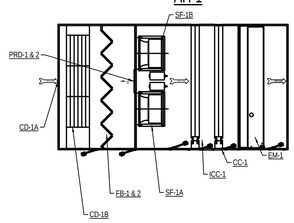
AH-1



AH-1

AIR HANDLER (AH)

PLAN CODE	CFM	MIN. OSA (CFM)	ESP (IN WC)	MAX. OVERALL DIMENSIONS			UNIT WEIGHT (LB)
				LENGTH (IN)	WIDTH (IN)	HEIGHT (IN)	
AH-1	52,000	10,000	3.0	384	196	102	23,000

1. HEIGHT INCLUDES 8" BASE RAIL.
2. ALL ACCESS SECTIONS ARE 18" WIDE EXCEPT 24" FAN ACCESS.
3. SOLID LINER UPSTREAM OF FANS AND DOWNSTREAM OF DIRECT EVAPORATIVE SECTION, PERFORATED LINER ALL OTHER LOCATIONS, 2" PLENUM WALLS

FILTER BANK (FB)

PLAN CODE	TYPE	MERV[1]	MAX. CLEAN PD (IN WC)	DESIGN PD (IN WC)	INDIVIDUAL FILTER DIMENSIONS			QUANTITIY (EA)
					LENGTH (IN)	HEIGHT (IN)	DEPTH (IN)	
FB-1	PLEATED WASHABLE FILTERS	7	0.30	0.50	24	24	2	40
FB-2	PLEATED FILTERS	13	0.50	1.0	24	24	4	40

1. MERV RATINGS BASED ON ASHRAE 52.2

SUPPLY FAN (SF)

PLAN CODE	FAN										MOTOR			
	TYPE	CONFIGURATION	CONSTRUCTION	FLOW (CFM)	TSP (IN WC)	MAX BHP	EAT (F)	WHEEL SIZE (IN)	WHEEL SPEED (RPM)	CLASS	HP	VOLTAGE/ PHASE	VOLUME CONTROL	NOTE
SF-1a	BI AF	PLENUM	ALUMINUM	26,000	5.5	30	55	36.5	972	II	40	460/3	VFD	- -
SF-1b	BI AF	PLENUM	ALUMINUM	26,000	5.5	30	55	36.5	972	II	40	460/3	VFD	- -

COIL (_C)

PLAN CODE	SERVICE	AIR SIDE					FLUID SIDE						CONFIGURATION		
		VOLUME (CFM)	MAX FACE VELOCITY (FPM)	EAT (DBT / WBT)	LAT (DBT/WBT)	MAX. APD (IN WC)	FLUID	EFT (F)	LFT (F)	FLOW RATE (GPM)	MAXIMUM FPD (FT)	MIN. TUBE VELOCITY (FPS)	MIN. ROWS	FPI	NOMINAL COIL
ICC-1	INDIRECT COOLING	52,000	465	107/66.3	73.8/55.2	0.31	FW	71.5.1	86.9	115/COIL	18	3.5	8	12	32 CIRCUITS/COIL, FLAT FINS, 2 COILS @ 48" X 168"
								-	-						
CC-1	CHILLED	52,000	465	80/62	53.9/52.3	0.29 WET	FW	45.0	58.6	100/COIL	14	3.5	6	8	32 CIRCUITS/COIL, FLAT FINS, 2 COILS @ 48" X 168"

EVAPORATIVE MEDIA (EM)

PLAN CODE	PERFORMANCE				MEDIA [1]		CIRCULATION PUMP				SUMP CONSTRUCTION
	AIR VOLUME (CFM)	SATURATION EFFICIENCY (%)	MAXIMUM ACTIVE MEDIA FACE VELOCITY (FPM)	MAXIMUM PRESSURE DROP (IN WC)	THICKNESS (IN)	CONSTRUCTION	GPM	TDH FT	HP	VOLTAGE/ PHASE	
EM-1	52,000	89	600	0.30	12	GLASDEK w/ MI-T-EDGE	12	20	3/4	120/1	STAINLESS STEEL

1. REFERENCE DETAIL 4, SHEET M-503.

CONTROL DAMPER SCHEDULE (CD)

PLAN CODE	SERVICE	TYPE	AIR FLOW VOLUME (CFM)	DIMENSIONS		MAX FACE VELOCITY (FPM)	METHOD OF CONTROL	BLADE ORIENTATION	MANUFACTURER & MODEL NO
				WIDTH (IN)	HEIGHT (IN)				
CD-1A	AH-1 OUTSIDE AIR (1)	MOTORIZED/ MODULATING	52,000	144	30	1750	DDC/MIXED AIR TEMPERATURE	PARALLEL HORIZONTAL	RUSKIN CD-60
CD-1B	AH-1 RETURN AIR	MOTORIZED/ MODULATING	52,000	144	30	1750	DDC/MIXED AIR TEMPERATURE	PARALLEL HORIZONTAL	RUSKIN CD-60

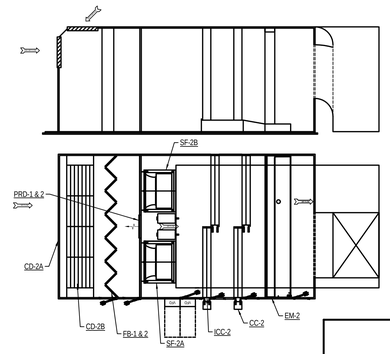
(1) PROVIDE WITH RUSKIN AMS-50 AIRFLOW MONITORING SECTION WITH NO AIRFLOW STRAIGHTENING SECTION.

PRESSURE RELIEF DOORS (PRD)

PLAN CODE	QUANT.	SERVICE	PRESSURE SETTING (IN WC)	SIZE (IN X IN)
PRD-1	5	SUPPLY	6	18 X 18
PRD-2	5	RETURN	2	18 X 18

SIDE VIEW

AH-2



AH-2

AIR HANDLER (AH)

PLAN CODE	CFM	MIN. OSA (CFM)	ESP (IN WC)	MAX. OVERALL DIMENSIONS			UNIT WEIGHT (LB)
				LENGTH (IN)	WIDTH (IN)	HEIGHT (IN)	
AH-2	82,000	15,000	3.0	636	240	120	85,000

1. HEIGHT INCLUDES 8" BASE RAIL.
2. ALL ACCESS SECTIONS ARE 18" WIDE EXCEPT 24" FAN ACCESS.
3. SOLID LINER UPSTREAM OF FANS AND DOWNSTREAM OF DIRECT EVAPORATIVE SECTION, PERFORATED LINER ALL OTHER LOCATIONS, 2" PLENUM WALLS

FILTER BANK (FB)

PLAN CODE	TYPE	MERV[1]	MAX. CLEAN PD (IN WC)	DESIGN PD (IN WC)	INDIVIDUAL FILTER DIMENSIONS			QUANTITIY (EA)
					LENGTH (IN)	HEIGHT (IN)	DEPTH (IN)	
FB-1	PLEATED WASHABLE FILTERS	7	0.30	0.50	24	24	2	60
FB-2	PLEATED FILTERS	13	0.50	1.0	24	24	4	60

1. MERV RATINGS BASED ON ASHRAE 52.2

SUPPLY FAN (SF)

PLAN CODE	FAN										MOTOR			
	TYPE	CONFIGURATION	CONSTRUCTION	FLOW (CFM)	TSP (IN WC)	MAX BHP	EAT (F)	WHEEL SIZE (IN)	WHEEL SPEED (RPM)	CLASS	HP	VOLTAGE/ PHASE	VOLUME CONTROL	NOTE
SF-2a	BI AF	PLENUM	ALUMINUM	41,000	5.5	47	55	-	113	II	60	460/3	VFD	DIRECT DRIVE -
SF-2b	BI AF	PLENUM	ALUMINUM	41,000	5.5	47	55	-	113	II	60	460/3	VFD	DIRECT DRIVE -

COIL (_C)

PLAN CODE	SERVICE	AIR SIDE					FLUID SIDE						CONFIGURATION		
		VOLUME (CFM)	MAX FACE VELOCITY (FPM)	EAT (DBT / WBT)	LAT (DBT/WBT)	MAX. APD (IN WC)	FLUID	EFT (F)	LFT (F)	FLOW RATE (GPM)	MAXIMUM FPD (FT)	MIN. TUBE VELOCITY (FPS)	MIN. ROWS	FPI	NOMINAL COIL
ICC-2	INDIRECT COOLING	82,000	460	107/66.3	73.8/55.2	0.30	FW	-	86.2	105/COIL	19	4.3	8	12	30 CIRCUITS/COIL, FLAT FINS, 4 COILS @ 60" X 107"
								-	-						
CC-2	CHILLED	82,000	460	80/62	54.5/52.9	0.30 WET	FW	45.0	61.8	60/COIL	18	3.7	6	8	20 CIRCUITS/COIL, FLAT FINS, 4 COILS @ 60" X 107"

EVAPORATIVE MEDIA (EM)

PLAN CODE	PERFORMANCE				MEDIA [1]		CIRCULATION PUMP				SUMP CONSTRUCTION
	AIR VOLUME (CFM)	SATURATION EFFICIENCY (%)	MAXIMUM ACTIVE MEDIA FACE VELOCITY (FPM)	MAXIMUM PRESSURE DROP (IN WC)	THICKNESS (IN)	CONSTRUCTION	GPM	TDH FT	HP	VOLTAGE/ PHASE	
EM-2	82,000	89	600	0.30	12	GLASDEK w/ MI-T-EDGE	15	20	3/4	120/1	STAINLESS STEEL

1. REFERENCE DETAIL 4, SHEET M-503.

CONTROL DAMPER SCHEDULE (CD)

PLAN CODE	SERVICE	TYPE	AIR FLOW VOLUME (CFM)	DIMENSIONS		MAX FACE VELOCITY (FPM)	METHOD OF CONTROL	BLADE ORIENTATION	MANUFACTURER & MODEL NO
				WIDTH (IN)	HEIGHT (IN)				
CD-2A	AH-2 OUTSIDE AIR (1)	MOTORIZED/ MODULATING	82,000	42	192	1,500	DDC/MIXED AIR TEMPERATURE	PARALLEL HORIZONTAL	RUSKIN CD-60
CD-2B	AH-2 RETURN AIR	MOTORIZED/ MODULATING	82,000	42	192	1,500	DDC/MIXED AIR TEMPERATURE	PARALLEL HORIZONTAL	RUSKIN CD-60

(1) PROVIDE WITH RUSKIN AMS-50 AIRFLOW MONITORING SECTION WITH NO AIRFLOW STRAIGHTENING SECTION.

PRESSURE RELIEF DOORS (PRD)

PLAN CODE	QUANT.	SERVICE	PRESSURE SETTING (IN WC)	SIZE (IN X IN)
PRD-1	5	SUPPLY	6	18 X 18
PRD-2	5	RETURN	2	18 X 18

SITE ELEVATION = 2800 FT
SELECT ALL EQUIPMENT FOR SCHEDULED PERFORMANCE AT THIS ELEVATION

VCBO ARCHITECTURE
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SASAKI
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HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #06297640
DIXIE COLLEGE, ST. GEORGE, UT
CONFORMED CONSTRUCTION DOCUMENTS BID SET

Rev #	Date	Description

Job # 2010-004.00
CAD File
Drawn AW Checked JMB
Date 12/03/2010
Owner # DFCM #06297640
Ins. #

MECHANICAL SCHEDULES

MH601

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EXHAUST FAN (EF)

PLAN CODE	AREA SERVED	TYPE	VOLUME (CFM)	ESP (IN WC)	SPEED (RPM)	MOTOR LOAD (B.H.P.)	MOTOR SIZE (H.P.)	MOTOR VOLTAGE & PHASE	DAMPER (GRAVITY OR MOTOR)	METHOD OF CONTROL	OPENING SIZE (IN.)	MAX. OPERATING WT. (LBS.)	MANUFACTURER/ MODEL	REMARKS
EF-1	TOILET 136	CEILING FAN	75	0.3	1000	-	46 W	120/1	GRAVITY	INTERLOCK W/ LIGHT SWITCH	6 X 6	20	COOK GC-142	PROVIDE WITH GRILLE & DAMPER
EF-2	TOILET 135	CEILING FAN	75	0.3	100	-	46 W	120/1	GRAVITY	INTERLOCK W/ LIGHT SWITCH	6 X 6	20	COOK GC-142	PROVIDE WITH GRILLE & DAMPER
EF-3	RESTROOMS	CENTRIFUGAL ROOF MOUNTED	4415	0.65	1725	.91	1	460/3	GRAVITY	DDC	30 X 30	260	COOK 210C7B	PROVIDE WITH DISCONNECT
EF-4	BREAKROOM	CEILING FAN	145	0.2	1200	-	83 W	120/1	GRAVITY	SWITCH	6 X 6	20	COOK GC-162	PROVIDE WITH GRILLE & DAMPER
EF-5	RESTROOMS	CENTRIFUGAL WALL MOUNTED	660	0.8	1924	.19	1/4	120/1	GRAVITY	DDC	10 X 10	60	COOK 100W3B	PROVIDE WITH DISCONNECT
EF-6	TOILET 588A	CEILING FAN	75	0.3	1000	-	46 W	120/1	GRAVITY	INTERLOCK W/ LIGHT SWITCH	6 X 6	20	COOK GC-142	PROVIDE WITH GRILLE & DAMPER
EF-7	TOILET 459	CEILING FAN	75	0.3	1000	-	46 W	120/1	GRAVITY	INTERLOCK W/ LIGHT SWITCH	6 X 6	20	COOK GC-142	PROVIDE WITH GRILLE & DAMPER
EF-8	TOILET 458	CEILING FAN	75	0.3	1000	-	46 W	120/1	GRAVITY	INTERLOCK W/ LIGHT SWITCH	6 X 6	20	COOK GC-142	PROVIDE WITH GRILLE & DAMPER
EF-9	CATERING/STOR. 539	CEILING FAN	185	0.2	1365	-	58 W	120/1	GRAVITY	SWITCH	8 X 6	30	COOK GC-320	PROVIDE WITH GRILLE & DAMPER
EF-10	VENUE 247 & COPY CENTER 248	IN-LINE	450	0.35	1254	.056	1/6	120/1	GRAVITY	DDC	15 x 15	160	COOK 90SQIB	PROVIDE WITH BACKDRAFT DAMPER, SPRING ISOLATORS AND DISCONNECT
EF-11	TOILET 342	CEILING FAN	75	0.3	1000	-	46 W	120/1	GRAVITY	INTERLOCK W/ LIGHT SWITCH	6 X 6	20	COOK GC-142	PROVIDE WITH GRILLE & DAMPER
EF-12	COPY CENTER 552	CEILING FAN	85	0.2	1000	-	48 W	120/1	GRAVITY	SWITCH	6 X 6	20	COOK GC-142	PROVIDE WITH BACKDRAFT DAMPER
EF-13	ELECTRICAL ROOM 117	IN-LINE	1830	0.2	598	-	1/6	120/1	GRAVITY	LINE VOLTAGE THERMOSTAT	26 X 26	330	COOK 180SQIB	PROVIDE WITH BACKDRAFT DAMPER, SPRING ISOLATORS AND DISCONNECT
EF-14	UPS ROOM 513	CEILING FAN	400	0.37	1,075	-	268 W	120/1	GRAVITY	CONTINUOUS BAS MONITOR	21 X 14	60	COOK GC-640	PROVIDE WITH GRILLE & BACKDRAFT DAMPER
EF-15	CONCESSION STAND	IN-LINE	415	0.3	821	.045	1/6	120/1	GRAVITY	DDC	20 X 20	250	COOK 135SQI-HP	PROVIDE WITH BACKDRAFT DAMPER, SPRING ISOLATORS AND DISCONNECT

PUMP (P) (1)

PLAN CODE	TYPE	DUTY	FLOW (GPM)	DEVELOPED PRESSURE (FT)	PUMP SPEED (RPM)	MIN. EFF. (%)	FLUID	SIZE	MOTOR LOAD (BHP)	MOTOR SIZE (HP)	MOTOR VOLTAGE & PHASE	REMARKS
P-1	VERTICAL INLINE	COOLING TOWER	800	60	1,750	78	FW	5x5x9.5	16	20	460/3 (2)	SPLIT COUPLED -
P-2	VERTICAL INLINE	COOLING TOWER	800	60	1,750	78	FW	5x5x9.5	16	20	460/3 (2)	SPLIT COUPLED -
P-3	BASE MOUNTED	PRIMARY HEATING WATER	160	80	1,571	70	FW	3x2.5x10	5	7.5	460/3	SPLIT COUPLED VFD
P-4	BASE MOUNTED	PRIMARY HEATING WATER	160	80	1,571	70	FW	3x2.5x10	5	7.5	460/3	SPLIT COUPLED VFD
P-5	BASE MOUNTED	CHILLED WATER	600	70	1,674	80	FW	5x4x9.5	13.2	15	460/3	SPLIT COUPLED VFD
P-6	BASE MOUNTED	CHILLED WATER	600	70	1,674	80	FW	5x4x9.5	13.2	15	460/3	SPLIT COUPLED VFD
P-7	INLINE	2 ND FLOOR RADIANT	15	25	3500	-	FW	-	0.4	0.4	120/1	B&G PL-55
P-8	INLINE	2 ND FLOOR RADIANT	15	25	3500	-	FW	-	0.4	0.4	120/1	B&G PL-55

(1) IF PUMP IS PROVIDED WITH VFD, PROVIDE FULL SIZE IMPELLER.

(2) TO BE ON EMERGENCY POWER.

LOUVER SCHEDULE (L)

PLAN CODE	CFM	FACE VELOCITY FPM	FREE AREA SQ. FT.	MAX. DIMENSIONS (W x H) (IN)	MANUFACTURER & MODEL NO.
L-1	26,000	486	26.7	96 x 96	RUSKIN ELF6375DX
L-2	26,000	486	26.7	96 x 96	RUSKIN ELF6375DX
L-3	38,000	2,500	18	72 X 72	RUSKIN ELF6375DX
L-4	38,000	2,500	18	72 X 72	RUSKIN ELF6375DX
L-5	38,000	2,500	18	72 X 72	RUSKIN ELF6375X
L-6	450	450	1	24 X 12	RUSKIN ELF6375DX
L-7	565	565	1	24 X 12	RUSKIN ELF6375DX
L-8	1830	732	2.5	30 x 24	RUSKIN ELF6375DX
L-9	82,000	410	100	240 X 120	RUSKIN ELF6375DX

EXPANSION TANK (ET)

PLAN CODE	SYSTEM SERVED	WATER TEMP. (°F)	% GLYCOL	TANK VOL. (GAL)	ACCEPTANCE VOL. (GAL)	PRE-CHARGE (PSI)	MAX. DIMENSIONS DIA. (IN.)	MAX. DIMENSIONS H (IN.)	MAX. DIMENSIONS OPERATING WT. (LBS)	MANUFACTURER & MODEL NO.	REMARKS
ET-1	HEATING WATER	180	0	80	52	85	24	60	730	AMTROL ST-448-C	-
ET-2	CHILLED WATER	60	0	80	34	15	24	50	450	AMTROL AX-144V	-
ET-3	COMPUTER ROOM	60	0	80	34	15	24	50	450	AMTROL AX-144V	-

AIR SEPARATOR (AS)

PLAN CODE	DESIGN FLOW (GPM)	SYSTEM SERVED	CONNECTION SIZE	MAX. FLOW (GPM)	MAX P.D. (FT)	MAX. DIMENSIONS DIA. (IN.)	MAX. DIMENSIONS H (IN.)	MAX. DIMENSIONS FLANGE TO FLANGE (IN.)	MAX. OPER. WT. (LBS.)	MANUFACTURER & MODEL NO.
AS-1	400	HEATING WATER	6"	400	2	13	31	27.7	200	SPIROVENT SENIOR VSR-600
AS-2	625	CHILLED WATER	8"	625	2	16	39	33.6	360	SPIROVENT SENIOR VHR-800
AS-3	180	COMPUTER ROOM	4"	360	2	8.6	30.9	27.7	152	SPIROVENT SENIOR VHR-400

AIR DEVICE SCHEDULE

PLAN CODE / GRILLE CFM

PLAN CODE	TYPE & DUTY	FACE SIZE	NECK SIZE	CEILING TYPE (2)	MAX. CFM	MAX. T.P. (IN. W.C.)	N.C. LEVEL MAX	MIN. THROW (FT) (T50)	4-WAY MIN. THROW (T50)	2-WAY MIN. THROW (T50)	MANUFACTURER & MODEL NO.	REMARKS
1	LINEAR-SUPPLY	48"L	10"ø	MATCH CEILING	340	0.06	10	21	-	-	THUS FL-15	1 @ 1.5" SLOT PROVIDE WITH 48' INSULATED PLENUM, JET THROW
2	LINEAR-SUPPLY	48"L	12"ø	MATCH CEILING	480	0.13	21	26	-	-	THUS FL-15	1 @ 1.5" SLOT PROVIDE WITH 48' INSULATED PLENUM, JET THROW
3	LINEAR-SUPPLY	24"L	8"ø	MATCH CEILING	240	0.10	34	14	-	-	TEMPO L.D.	3 @ 1" SLOT
4	LINEAR-SUPPLY	24"L	6"ø	MATCH CEILING	80	0.08	32	12	-	-	TEMPO L.D.	1 @ 1" SLOT
6	LINEAR-SUPPLY	48"L	10"ø	MATCH CEILING	320	0.09	33	13	-	-	TEMPO L.D.	2 @ 1" SLOT
7	LINEAR-SUPPLY	48"L	12"ø	MATCH CEILING	480	0.10	34	14	-	-	TEMPO L.D.	3 @ 1" SLOT
9	PERFORATED RETURN	24" X 24"	22" X 22"	MATCH CEILING	1200	0.05	17	-	-	-	TITUS PAR	-
10	PERFORATED RETURN	24" X 12"	22"X 10"	MATCH CEILING	600	0.06	10	-	-	-	TITUS PAR	-
13	PERFORATED EXHAUST GRILLE	8" X 8"	6" X 6"	MATCH CEILING	120	0.12	10	-	-	-	TITUS 8F	-
14	PERFORATED EXHAUST GRILLE	10" X 10"	8" X 8"	MATCH CEILING	225	0.12	12	-	-	-	TITUS 8F	-
15	PERFORATED EXHAUST GRILLE	12" X 12"	10" X 10"	MATCH CEILING	360	0.12	14	-	-	-	TITUS 8F	-
16	PERFORATED EXHAUST GRILLE	14" x 14"	12" X 12"	MATCH CEILING	550	0.12	16	-	-	-	TITUS 8F	-
22	RADIAL BLADE DIFFUSER	15"ø	10"ø	SURFACE	330	0.14	29	10 (1)	-	-	AIR DIFFUSION PRODUCTS, INC. DNR	-
26	RADIAL BLADE DIFFUSER	24" X 24"	8"ø	GRID	210	0.14	29	8 (1)	-	-	AIR DIFFUSION PRODUCTS, INC. DNR	-
27	RADIAL BLADE DIFFUSER	24" X 24"	10"ø	GRID	330	0.14	29	10 (1)	-	-	AIR DIFFUSION PRODUCTS, INC. DNR	-
28	RADIAL BLADE DIFFUSER	24" X 24"	12"ø	GRID	470	0.14	30	12 (1)	-	-	AIR DIFFUSION PRODUCTS, INC. DNR	-
31	ADJUSTABLE LOUVERED	24" X 24"	6"	MATCH CEILING	170	0.13	25	ADJUSTABLE	11	18	TITUS TDCA	18" X 18" CORE
32	ADJUSTABLE LOUVERED	24" X 24"	8"ø	MATCH CEILING	310	0.13	27	ADJUSTABLE	14	24	TITUS TDCA	18" X 18" CORE
33	ADJUSTABLE LOUVERED	24" X 24"	10"ø	MATCH CEILING	440	0.13	28	ADJUSTABLE	17	26	TITUS TDCA	18" X 18" CORE
38	BAR FLOOR DIFFUSER	4"	4" X L	- -	150/FT	0.10	34	-	-	-	TITUS CT-480	-
48	LINEAR-SUPPLY	24"L	8"ø	MATCH CEILING	140	0.01	16	14	-	-	TITUS FL-10	1 @ 1.0" SLOT PROVIDE WITH 48' INSULATED PLENUM, JET THROW
49	LINEAR-SUPPLY	48"L	12"ø	MATCH CEILING	280	0.10	19	20	-	-	TITUS FL-10	1 @ 1.0" SLOT PROVIDE WITH 48' INSULATED PLENUM, JET THROW
50	LINEAR-SUPPLY	480"L	10 @ 8 X 6 FO	MATCH CEILING	3000	0.07	17	22	-	-	TITUS FL-15	1 @ 1.5" SLOT, PROVIDE WITH 48' INSULATED PLENUM AND BLANKS AS REQUIRED., JET THROW
51	LINEAR-SUPPLY	624"L	12 @ 8 X 6 FO	MATCH CEILING	3600	0.07	17	22	-	-	TITUS FL-15	1 @ 1.5" SLOT, PROVIDE WITH 48" INSULATED PLENUM AND BLANKS AS REQUIRED. JET THROW
52	DRUM LOUVER	22" X 10"	19" X 7"	SURFACE	405	-	21	30	-	-	TITUS US-DL	-
54	LINEAR-SUPPLY	60"L	6"ø	DUCT	240	0.12	22	22	-	-	TITUS FL-15	1 @ 1.5" SLOT, PROVIDE WITH 60" INSULATED PLENUM , HIGH THROW
55	LINEAR-SUPPLY	48"L	12"ø	SURFACE	1000	0.23	17	38	-	-	TITUS FL-30	1 @ 3" SLOT, PROVIDE WITH 48" INSULATED PLENUM , JET THROW
56	LINEAR-SUPPLY	60"L	10"ø	SURFACE	400	0.12	17	29	-	-	TITUS FL-30	1 @ 3" SLOT, PROVIDE WITH 60" INSULATED PLENUM , JET THROW
57	EGG CRATE RETURN AIR	24" X 24"	22" X 22"	GRID	2500	0.1	25	-	-	-	TITUS 50F	PROVIDE WITH 1" X 1" GRID
58	PLENUM SLOT DIFFUSER	24"L	10"ø	-	115	0.1	24	36	-	-	TITUS (3) TBD-30	2 @ 3/4" SLOT, PROVIDE WITH 24" INSULATED PLENUM
59	PLENUM SLOT DIFFUSER	48"L	12"ø	-	230	0.1	25	24	-	-	TITUS (3) TBD-30	2 @ 3/4" SLOT, PROVIDE WITH 48" INSULATED PLENUM

(1) RECOMMENDED MIN. DISTANCE BETWEEN DIFFUSERS IN 9' CEILING. (2) VERIFY FRAME TYPE OF ALL AIR DEVICES WITH ARCHITECTURAL REFLECTED CEILING PLAN BEFORE ORDERING.

(3) AIR DEVICE TO BE COMPATIBLE WITH PERIMETER CEILING SYSTEM. COORDINATE DIFFUSER MANUFACTURER AND MODEL WITH THE CEILING PROVIDER.

RELIEF FAN (RF)

ACCESSORIES: 1)UNIT MOUNTED DISCONNECT 2)FACTORY ROOF CURB 3)PREMIUM EFFICIENCY MOTOR 4)24VAC MODULATING MOTORIZED DAMPER 5)SPRING VIBRATION ISOLATORS 6)BELT GUARD 7)INSULATED HOUSING

PLAN CODE	TYPE	VOLUME (CFM)	ESP (IN WC)	SPEED (RPM)	MOTOR LOAD (B.H.P.)	MOTOR SIZE (H.P.)	MOTOR VOLTAGE & PHASE	METHOD OF CONTROL	OPENING SIZE	MAX. OPERATING WT. (LBS.)	MANUFACTURER MODEL	SERVICE	ACCESSORIES
RF-1	PROPELLER	38,000	0.35	559	5.1	7.5	460/3	DDC/VFD	74 X 74	510	COOK 60EW622B	-	1, 3, 4, 5, 6
RF-2	PROPELLER	38,000	0.35	559	5.1	7.5	460/3	DDC/VFD	74 X 74	510	COOK 60EW622B	-	1, 3, 4, 5, 6
RF-3	PROPELLER	38,000	0.35	559	5.1	7.5	460/3	DDC/VFD	74 X 74	510	COOK 60EW622B	-	1, 3, 4, 5, 6

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ARCHITECTURE
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CRANE
BRUNJES
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HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH

DFCM #06297640

DIXIE COLLEGE, ST. GEORGE, UT

CONFORMED CONSTRUCTION DOCUMENTS BID SET

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MECHANICAL SCHEDULES

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AIR COOLED CONDENSING UNIT SCHEDULE (ACU) ①②③

PLAN CODE	AREA SERVED	MIN. SEER	NET COOLING MBH	ELECTRICAL: VOLTAGE & PHASE	ELECTRICAL: MCA	ELECTRICAL: MOCP	MAX. DIMENSIONS: LENGTH (IN.)	MAX. DIMENSIONS: WIDTH (IN.)	MAX. DIMENSIONS: HEIGHT (IN.)	MAX. DIMENSIONS: OPERATING WT. (LBS)	MANUFACTURER & MODEL NO.	REMARKS
ACU-1	DATA & POWER ROOMS	13	340.8	460/3	69	82	153	29	64	1970	LG ARUN390DT2	-
ACU-2	DATA & POWER ROOMS	13	142.2	460/3	34	50	51	29	64	700	LG ARUN154DT2	-
ACU-3	DATA & POWER ROOMS	13	123.9	460/3	34	50	51	29	64	700	LG ARUN154DT2	-
ACU-4	DATA & POWER ROOMS	13	101.2	460/3	33	45	51	29	64	700	LG ARUN134DT2	-

1. PROVIDE LOW AMBIENT KIT DOWN TO 15 DEG F.
2. TO BE ON EMERGENCY POWER.
3. CONDENSING TEMPERATURE = 120°

HEAT EXCHANGER (HX)

PLAN CODE	SYSTEM SERVED	HOT SIDE: GPM	HOT SIDE: EWT/LWT °F	HOT SIDE: P.D. (FT.)	HOT SIDE: FLUID	HOT SIDE: SYSTEM OPERATING PRESSURE (PSIG)	COLD SIDE: CAP. (MBH)	COLD SIDE: EWT/LWT °F	COLD SIDE: GPM	COLD SIDE: P.D. (FT.)	COLD SIDE: FLUID	COLD SIDE: SYSTEM OPERATING PRESSURE (PSIG)	FOULING RESISTANCE	UNIT BOX DIMENSIONS: L (IN.)	W (IN.)	H (IN.)	WEIGHT (LBS.)	TYPE	MANUFACTURER & MODEL NO.
HX-1	BUILDING HEAT	160	230/180	10	FW	400	4,000	140/180	200	10	FW	125	0.0005	86	32	39	3,000	SHELL & TUBE	B & G HWHE 18-6-60, 4PASS
HX-2	BUILDING HEAT	160	230/180	10	FW	400	4,000	140/180	200	10	FW	125	0.0005	86	32	39	3,000	SHELL & TUBE	B & G HWHE 18-6-60, 4PASS

SPECIAL COLLECTIONS AIR CONDITIONING SCHEDULE (SPAC) (ACC-1) ①

PLAN CODE	NOMINAL TONS	SENS. CAP. (MBH)	TOTAL CAP. (MBH)	OSA DB (°F)	EVAPORATOR FAN: AIR FLOW (CFM)	EVAPORATOR FAN: H.P.	HUMIDIFIER: LBS HR / kW	COOLING COIL: AREA (FT)²	COOLING COIL: ROWS	REHEAT COIL - INSIDE UNIT: kW	REHEAT COIL: VOLT/PH	MANUFACTURER & MODEL No.	ELECTRICAL: FLA	MCA	MOCP	VOLT/PH	MAX. DIMENSIONS INDOOR/OUTDOOR UNIT: L x W x H (IN.)	WT.	OPTIONS REQUIRED (ALSO SEE SPEC'S.): FLOOR STAND HEIGHT	DISCHARGE PLENUM ARRANGEMENT	REMARKS
SPAC-1	3	36	36	-	1,800	0.75	11 / 4.8	2.4	3	9	460/3□	LIEBERT BU036E-AAEI	19.2	24	25	460/3Ø	33 X 33 X 94	535	-	UPFLOW	PROVIDE WITH SOLID DISCHARGE PLENUM
ACC-1	3	36	36	120								LIEBERT PFH_42A	8.1	9.7	15	460/3Ø	48 X 18 X 31	241			PROVIDE 14" VIBRATION ISOLATION CURB FOR OUTDOOR UNIT

1. TO BE ON EMERGENCY POWER.

UNIT HEATER SCHEDULE (UH) HORIZONTAL BLOW

PLAN CODE	CFM @ ELEV.	HEATING CAP. (MBH) (LOW SPD)	GPM	WPD (FT)	EWT/LWT (°F)	EAT (°F)	MOTOR: HP	MOTOR: VOLTAGE & PHASE	MOUNTING	MOUNTING HEIGHT TO BOTTOM OF HEATER	MANUFACTURER & MODEL NO.	REMARKS
UH-1	315	8	.8	.02	180/160	60	1/25	115/1	②	9'-6"	TRANE UHSA-020-W2	HORIZONTAL BLOW
UH-2	315	8	.8	.02	180/160	60	1/25	115/1	②	9'-6"	TRANE UHSA-020-W2	HORIZONTAL BLOW

①WALL BRACKET ②HANG FROM CEILING OR ROOF STRUCTURE.

VAV REHEAT BOXES

PLAN CODE — BOX NO.
MAX COOLING CFM — MIN. COOLING CFM

PLAN CODE	Inlet Size	Max (Primary CFM)	Min Oper PD (in.wg)	Min (Primary CFM)	Reheat (CFM)	EAT °F	LAT °F	EWT °F	LWT °F	Fluid Flow (GPM)	Coil Capacity (MBH)	MBH to Space at 15F TD	Fluid PD (ft.wg)	Rows	Max Discharge NC	Max Radiated NC
6R1	6	450	0.3	60	200	55	88	180	151	0.4	6	3	0.1	1	<20	20
6R2	6	450	0.4	60	450	55	88	180	137	0.7	14	6	0.1	2	<20	20
8R1	8	800	0.2	120	400	55	88	180	165	1.8	12	6	2.0	1	<20	24
8R2	8	800	0.4	120	800	55	88	180	141	1.3	25	11	0.3	2	<20	22
10R1	10	1350	0.3	200	550	55	88	180	165	2.4	17	8	0.6	1	<20	<20
10R2	10	1350	0.5	200	1350	55	88	180	141	2.2	42	19	1.1	2	<20	<20
12R1	12	2100	0.3	275	800	55	88	180	165	3.5	25	11	1.6	1	21	21
12R2	12	2100	0.7	275	2100	55	88	180	143	3.7	66	29	3.7	2	<20	<20
14R1	14	3000	0.3	400	1200	55	88	180	164	4.8	37	17	4.2	1	23	28
14R2	14	3000	0.6	400	3000	55	88	180	143	5.1	94	41	4.3	2	<20	25
16R1	16	4000	0.4	525	1400	55	88	180	161	4.8	44	19	4.5	1	24	30
16R2	16	3800	0.7	525	3400	55	88	180	138	5.1	106	47	4.6	2	<20	26
24/16R1	24x16	8000	0.5	1050	2000	55	87	180	148	4.0	61	28	4.5	1	35	36
24/16R2	24x16	6000	0.7	1050	4200	55	88	180	120	4.4	131	58	4.5	2	29	30

Footnotes:
A - Selections based upon Price as manufacturer.
B - Sound power levels and NC's are based on tests conducted in accordance with ARI Standard 880-98.
C - Room NC levels shown include attenuation factors obtained from ARI Standard 885-98.
D - Check submittal drawings for exact dimensions.
E - Airflow units are cubic feet per minute, water flow units are US galons per minute, all temperatures in degrees Fahrenheit, heat loss in feet of water, air pressure drop in inches of water gauge.
F - Airflow units are liters per second, water flow units are liters per second, all temperatures in degrees Centigrade, heat loss in kilopascals, air pressure drop in Pascals.
G - Blanks (--) indicate a sound power level of NC under 20.
H - Water coil performance has been rated and certified in accordance with the edition of ARI Standard 410.

DX FAN COIL UNIT SCHEDULE (DXFC) ①

PLAN CODE	AREA SERVED	CFM (ALT.)	CAPACITY: SENS. MBH	CAPACITY: TOTAL MBH	AIR SIDE: EAT (°F) db	AIR SIDE: LAT (°F) db	REFRIGERANT TYPE	MAX. DIMENSIONS: LENGTH (IN)	WIDTH (IN)	HEIGHT (IN)	OPERATING WT. (LBS.)	BLOWER WATTS	ELECT. VOLT/PHASE	MCA	MANUFACTURER & MODEL NO.	REMARKS
DXFC-1	DATA 114	671	19.6	28.0	80.6	66.2	R-410	38	38	13	75	-	208/1	2	LG ARNU283TPC2	-
DXFC-2	DATA 104	883	25.3	36.2	80.6	66.2	R-410	38	38	13	75	-	208/1	2	LG ARNU363TNC2	-
DXFC-3	POWER 113	883	25.3	36.2	80.6	66.2	R-410	38	38	13	75	-	208/1	2	LG ARNU363TNC2	-
DXFC-4	DATA 214	883	25.3	36.2	80.6	66.2	R-410	38	38	13	75	-	208/1	2	LG ARNU363TNC2	-
DXFC-5	DATA 204	883	25.3	36.2	80.6	66.2	R-410	38	38	13	75	-	208/1	2	LG ARNU363TNC2	-
DXFC-6	DATA 264M	494	16.9	24.2	80.6	66.2	R-410	43	7	12	35	-	208/1	2	LG ARNU243S5L2	-
DXFC-7	DATA 254M	883	25.3	36.2	80.6	66.2	R-410	38	38	13	75	-	208/1	2	LG ARNU363TNC2	-
DXFC-8	DATA 372	883	25.3	36.2	80.6	66.2	R-410	38	38	13	75	-	208/1	2	LG ARNU363TNC2	-
DXFC-9	DATA 304	883	25.3	36.2	80.6	66.2	R-410	38	38	13	75	-	208/1	2	LG ARNU363TNC2	-
DXFC-10	←							NOT USED								→
DXFC-11	DATA 414	883	25.3	36.2	80.6	66.2	R-410	38	38	13	75	-	208/1	2	LG ARNU363TNC2	-
DXFC-12	DATA 404	883	25.3	36.2	80.6	66.2	R-410	38	38	13	75	-	208/1	2	LG ARNU363TNC2	-
DXFC-13	DATA 514	883	25.3	36.2	80.6	66.2	R-410	38	38	13	75	-	208/1	2	LG ARNU363TNC2	-
DXFC-14	DATA 504	883	25.3	36.2	80.6	66.2	R-410	38	38	13	75	-	208/1	2	LG ARNU363TNC2	-
DXFC-15	ELEVATOR CLOSET 599	247	6.7	9.6	80.6	66.2	R-410	36	7	12	25	-	208/1	2	LG ARNU093SEL2	-
DXFC-16	ELEVATOR CLOSET -	247	6.7	9.6	80.6	66.2	R-410	36	7	12	25	-	208/1	2	LG ARNU093SEL2	-
DXFC-17	POWER 513	1095	33.7	48.1	80.6	66.2	R-410	38	38	13	75	-	208/1	2	LG ARNU483TMC2	-
DXFC-18	POWER 513	1095	33.7	48.1	80.6	66.2	R-410	38	38	13	75	-	208/1	2	LG ARNU483TMC2	-
DXFC-19	POWER 513	1095	33.7	48.1	80.6	66.2	R-410	38	38	13	75	-	208/1	2	LG ARNU483TMC2	-
DXFC-20	POWER 513	1095	33.7	48.1	80.6	66.2	R-410	38	38	13	75	-	208/1	2	LG ARNU483TMC2	FUTURE
DXFC-21	POWER 513	1095	33.7	48.1	80.6	66.2	R-410	38	38	13	75	-	208/1	2	LG ARNU483TMC2	FUTURE
DXFC-22	POWER 513	1095	33.7	48.1	80.6	66.2	R-410	38	38	13	75	-	208/1	2	LG ARNU483TMC2	FUTURE

1. TO BE ON EMERGENCY POWER.

TOWER FILTRATION (TF)

PLAN CODE	PUMP: FLOW (GPM)	PUMP: HEAD (FT)	PUMP: MOTOR (HP)	PUMP: TYPE.	PUMP: VOLT/PH	FILTER: TYPE.	MANUFACTURER & MODEL NO.
TF-1	145	80	3	END SUCTION	460/3	SELF CLEANING AUTO BACKFLUSH	LAKOS TBI-0145

COOLING TOWER (CT) ①

PLAN CODE	PERFORMANCE: FLOW (GPM)	PERFORMANCE: EWT (F)	PERFORMANCE: LWT (F)	PERFORMANCE: WB (F)	ELECTRICAL: MOTOR (HP)	ELECTRICAL: SUMP HEAT (KW)	DIMENSIONS: LENGTH (IN)	DIMENSIONS: WIDTH (IN)	DIMENSIONS: HEIGHT (IN)	DIMENSIONS: WEIGHT (LBS)	FAN	MANUFACTURER & MODEL	NOTES
CT-1	400	86	71.5	67.5	15	NONE	168	102	204	12,000	15 HP (VFD)	EVAPCO AT-19-514	GPM: MIN=400, MAX=1,789
CT-2	400	86	71.5	67.5	15	NONE	168	102	205	12,000	15 HP (VFD)	EVAPCO AT-19-514	GPM: MIN=400, MAX=1,789

① TO BE ON EMERGENCY POWER.

ELECTRIC UNIT HEATER SCHEDULE (EH)

PLAN CODE	ELECTRICAL: TOTAL KW	NO. OF STEPS	VOLTAGE & PHASE	FAN H.P.	MAX A.R.	BTU/HR (MBH)	CFM (STD.)	MOUNTING	ΔT (°F)	THROW AT 9' MOUNTING (FT.)	MAX. DIMENSIONS: LENGTH (IN)	WIDTH (IN)	HEIGHT (IN)	WEIGHT (LBS)	MANUFACTURER & MODEL NO.	REMARKS
EH-1 THROUGH EH-7	3.3	1	208/1	1/125	15.9	11.2	400	HORIZONTAL	26	12	18	15	7	-	TRANE UHEC-031	-

DRYER BOOSTER FAN (DBF)

PLAN CODE	AREA SERVED	TYPE	CFM @ ELEV.	ESP (@ ELEV.)	FAN RPM	MOTOR: H.P.	MOTOR: VOLTAGE & PHASE	SONES	METHOD OF CONTROL	OPENING SIZE	MAX. OPERATING WT. (LBS.)	MANUFACTURER / MODEL	REMARKS
DBF-1	BUILDING LOADING 145	IN-LINE	133	.4	2761	78 WATTS	115/1	2.4	DRYER VENT PRESSURE SWITCH	4"Ø	15	FANTECH DBF110	-

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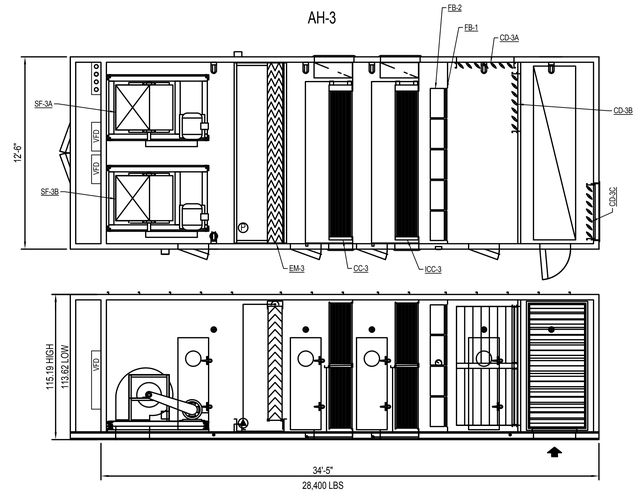

AIR HANDLER (AH)

PLAN CODE	CFM	MIN. OSA (CFM)	ESP (IN WC)	MAX. OVERALL DIMENSIONS			
				LENGTH (IN)	WIDTH (IN)	HEIGHT (IN)	UNIT WEIGHT (LB)
AH-3	38,000	-	2.5	413	150	115	28,400

1. HEIGHT INCLUDES 8" BASE RAIL.
2. ALL ACCESS SECTIONS ARE 18" WIDE EXCEPT 24" FAN ACCESS.
3. SOLID LINER UPSTREAM OF FANS AND DOWNSTREAM OF DIRECT EVAPORATIVE SECTION, PERFORATED LINER ALL OTHER LOCATIONS, 2" PLENUM WALLS

FILTER BANK (FB)

PLAN CODE	MERV [1]	MAX. CLEAN PD (IN WC)	DESIGN PD (IN WC)	INDIVIDUAL FILTER DIMENSIONS			QUANTITIY (EA)
				LENGTH (IN)	HEIGHT (IN)	DEPTH (IN)	
FB-1	7	0.30	0.50	24	24	2	35
FB-2	13	0.50	1.0	24	24	4	35

1. MERV RATINGS BASED ON ASHRAE 52.2

SUPPLY FAN (SF) 1

PLAN CODE	FAN										MOTOR			
	TYPE	CONFIGURATION	CONSTRUCTION	FLOW (CFM)	TSP (IN WC)	MAX BHP	EAT (F)	WHEEL SIZE (IN)	WHEEL SPEED (RPM)	CLASS	HP	VOLTAGE/ PHASE	VOLUME CONTROL	NOTE
SF-3a	CA SWSI	CENTRIFUGAL	ALUMINUM	19,000	4	17	68	30	1526	III	20	460/3	VFD	- -
SF-3b	CA SWSI	CENTRIFUGAL	ALUMINUM	19,000	4	17	68	30	1526	III	20	460/3	VFD	- -

1. TO BE ON EMERGENCY POWER.

COIL (_C)

PLAN CODE	SERVICE	AIR SIDE					FLUID SIDE						CONFIGURATION		
		VOLUME (CFM)	MAX FACE VELOCITY (FPM)	EAT (DBT / WBT)	LAT (DBT/WBT)	MAX. APD (IN WC)	FLUID	EFT (F)	LFT (F)	FLOW RATE (GPM)	MAXIMUM FPD (FT)	MIN. TUBE VELOCITY (FPS)	MIN. ROWS	FPI	NOMINAL COIL
ICC-3	AH-3	38,000	460	107/66.3	74	0.30	WATER	71.5	86.5	75/COIL	10	3	8	12	30 CIRCUITS/COIL, FLAT FINS, 2 COILS @ 45" X 132"
CC-3	AH-3	38,000	460	80/62	52/51.5	0.43 WET	WATER	45	60	75/COIL	9	3	6	12	30 CIRCUITS/COIL, FLAT FINS, 2 COILS @ 45" X 132"

EVAPORATIVE MEDIA (EM) 2

PLAN CODE	PERFORMANCE				MEDIA [1]		CIRCULATION PUMP				SUMP CONSTRUCTION
	AIR VOLUME (CFM)	SATURATION EFFICIENCY (%)	MAXIMUM ACTIVE MEDIA FACE VELOCITY (FPM)	MAXIMUM PRESSURE DROP (IN WC)	THICKNESS (IN)	CONSTRUCTION	GPM	TDH FT	HP	VOLTAGE/ PHASE	
EM-3	38,000	>90%	500	0.75	12	- -	11	20	1/4	120/1□	S.S.

1. REFERENCE DETAIL 4, SHEET M-503.
2. TO BE ON EMERGENCY POWER.

CONTROL DAMPER SCHEDULE (CD) 2

PLAN CODE	SERVICE	TYPE	AIR FLOW VOLUME (CFM)	DIMENSIONS		MAX FACE VELOCITY (FPM)	METHOD OF CONTROL	BLADE ORIENTATION	MANUFACTURER & MODEL NO
				WIDTH (IN)	HEIGHT (IN)				
CD-3A	AH-3 OUTSIDE AIR 1	MOTORIZED/ MODULATING	38,000	47	95	1,500	DDC/MIXED AIR TEMPERATURE	PARALLEL HORIZONTAL	TRANE ALUM. AIRFOIL
CD-3B	AH-3 RETURN AIR	MOTORIZED/ MODULATING	38,000	47	95	1,500	DDC/MIXED AIR TEMPERATURE	PARALLEL HORIZONTAL	TRANE ALUM. AIRFOIL
CD-3C	AH-3 RELIEF AIR	MOTORIZED/ MODULATING	38,000	45	98	1,500	DATA CENTER STATIC PRESSURE	PARALLEL HORIZONTAL	TRANE ALUM. AIRFOIL

1 PROVIDE WITH RUSKIN AMS-50 AIRFLOW MONITORING SECTION WITH NO AIRFLOW STRAIGHTENING SECTION.

2 TO BE ON EMERGENCY POWER.

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HOLLAND CENTENNIAL COMMONS

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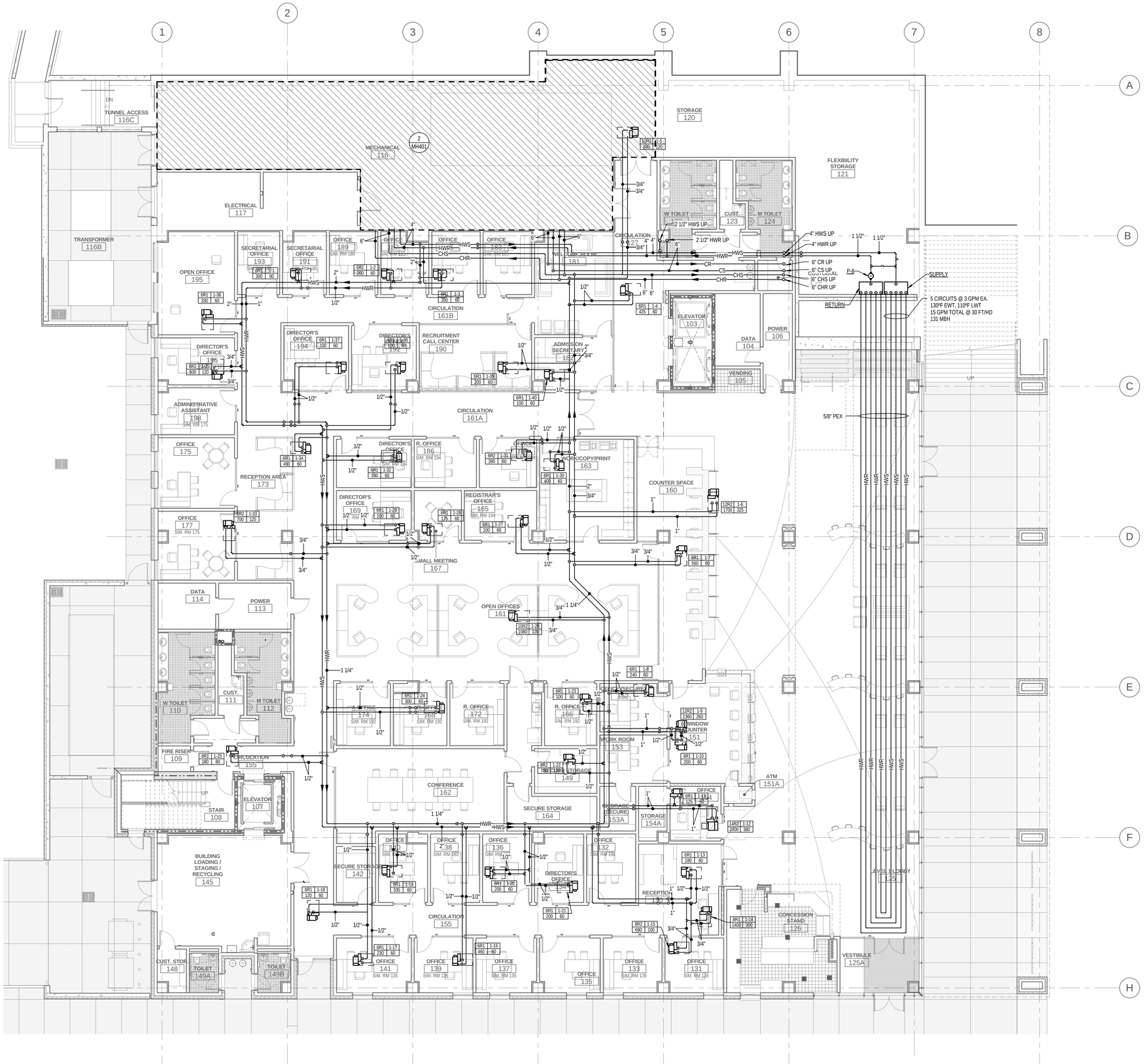

GENERAL NOTES

A. REFER TO VERTICAL ZONING PLANS ON ARCHITECTURAL DRAWINGS FOR GUIDANCE ON INSTALLATION HEIGHT OF MECHANICAL, PLUMBING AND FIRE SPRINKLER SYSTEM COMPONENTS. COORDINATE WITH OTHER TRADES PRIOR TO INSTALLATION.

B. PROVIDE ACCESS DOORS WHERE REQUIRED FOR EQUIPMENT, VALVES, DAMPERS, ETC.

1 LEVEL 01 MECHANICAL PIPING FLOOR PLAN

SCALE: 1/8" = 1'-0"

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

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HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH

DFCM #06297640

DIXIE COLLEGE, ST. GEORGE, UT

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LEVEL 01 MECHANICAL PIPING FLOOR PLAN

MP101

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12/3/2010 12:20:58 PM

1 LEVEL 02 MECHANICAL PIPING FLOOR PLAN

SCALE: 1/8" = 1'-0"

GENERAL NOTES

A. REFER TO VERTICAL ZONING PLANS ON ARCHITECTURAL DRAWINGS FOR GUIDANCE ON INSTALLATION HEIGHT OF MECHANICAL, PLUMBING AND FIRE SPRINKLER SYSTEM COMPONENTS. COORDINATE WITH OTHER TRADES PRIOR TO INSTALLATION.

B. PROVIDE ACCESS DOORS WHERE REQUIRED FOR EQUIPMENT, VALVES, DAMPERS, ETC.

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LEVEL 02 MECHANICAL PIPING FLOOR PLAN

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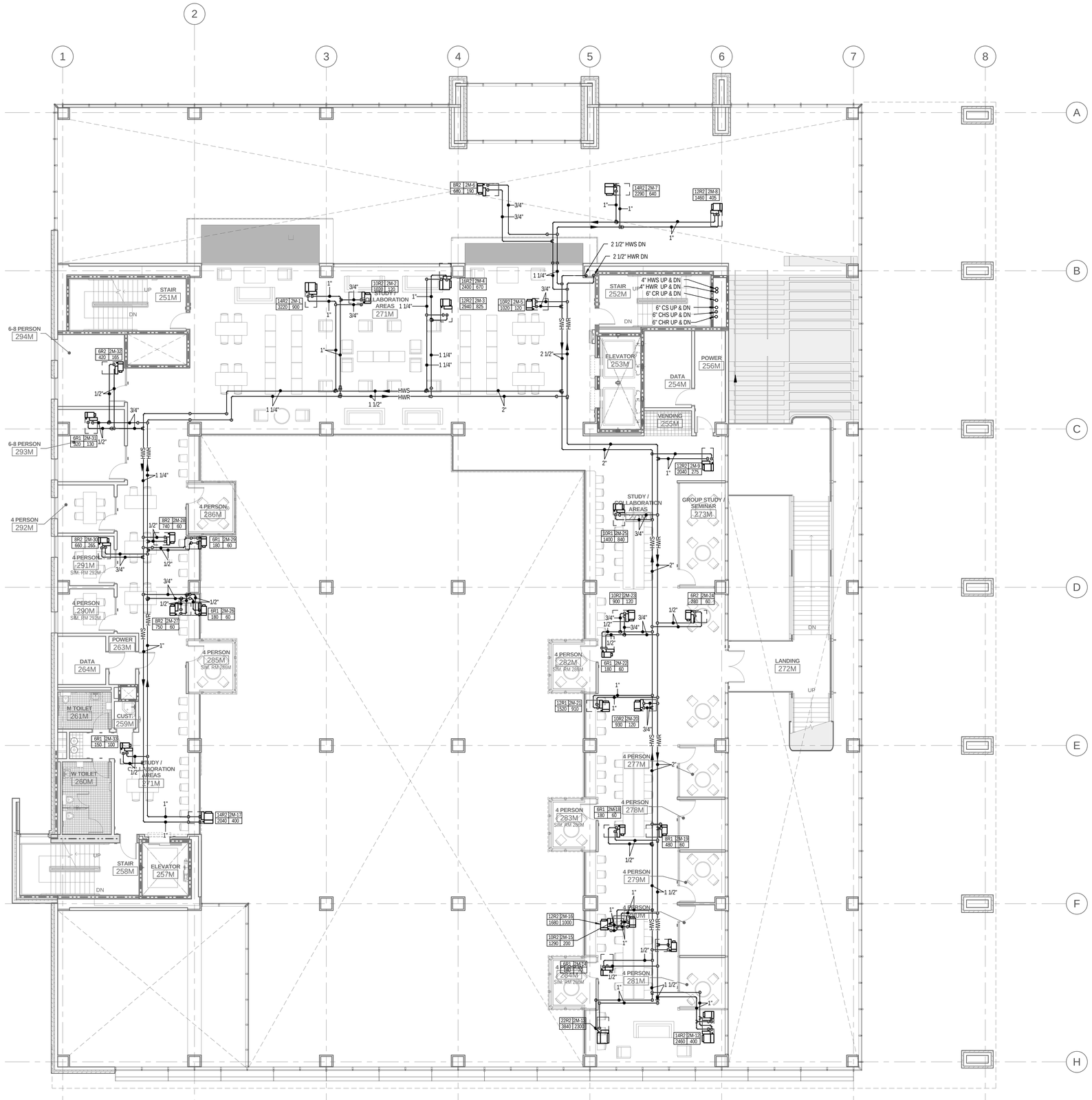

1 LEVEL 02M MECHANICAL PIPING FLOOR PLAN

SCALE: 1/8" = 1'-0"

GENERAL NOTES

A. REFER TO VERTICAL ZONING PLANS ON ARCHITECTURAL DRAWINGS FOR GUIDANCE ON INSTALLATION HEIGHT OF MECHANICAL, PLUMBING AND FIRE SPRINKLER SYSTEM COMPONENTS. COORDINATE WITH OTHER TRADES PRIOR TO INSTALLATION.

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LEVEL 02M
MECHANICAL PIPING
FLOOR PLAN

MP102M

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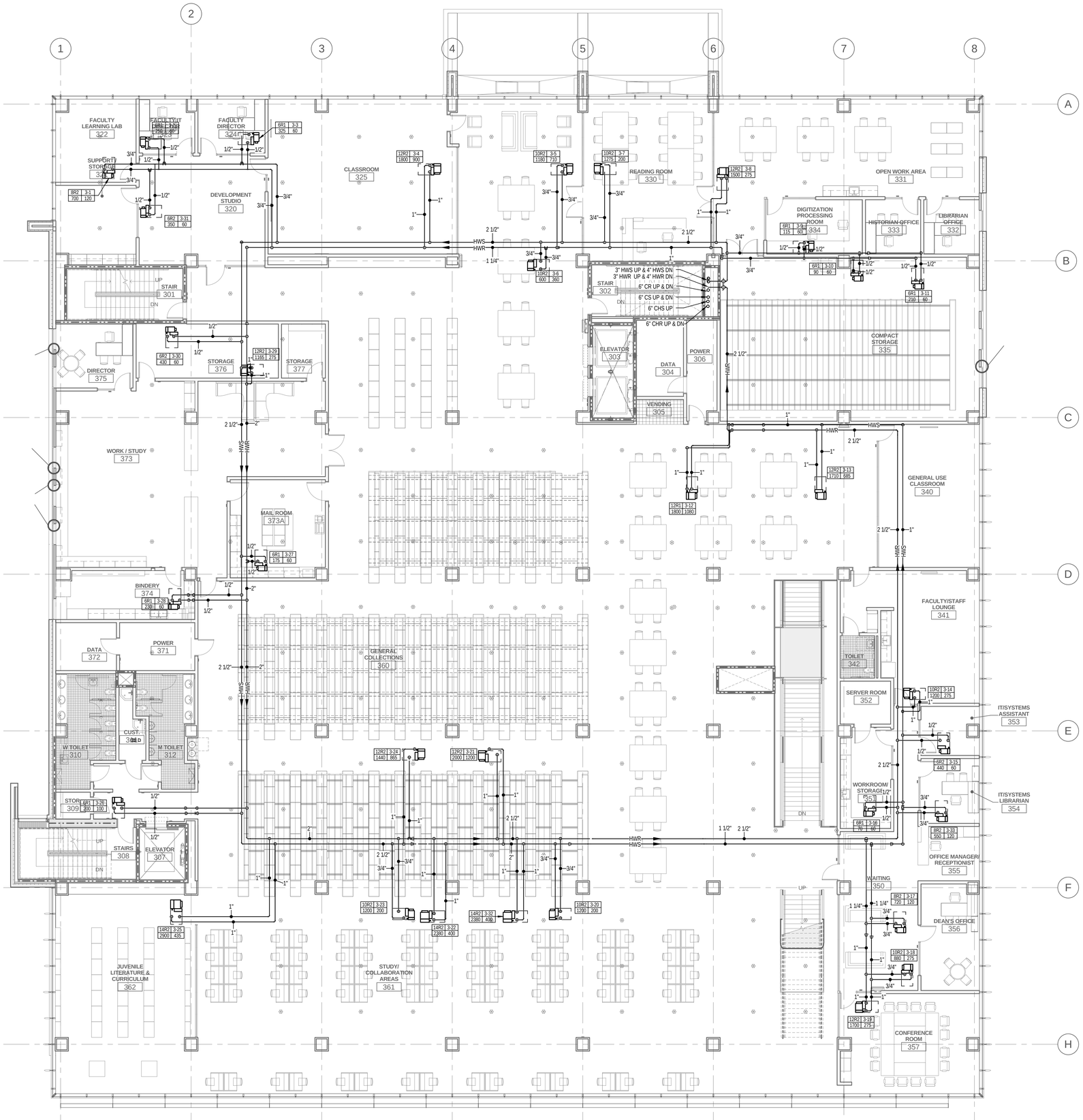

1 LEVEL 03 MECHANICAL PIPING FLOOR PLAN

SCALE: 1/8" = 1'-0"

GENERAL NOTES

A. REFER TO VERTICAL ZONING PLANS ON ARCHITECTURAL DRAWINGS FOR GUIDANCE ON INSTALLATION HEIGHT OF MECHANICAL, PLUMBING AND FIRE SPRINKLER SYSTEM COMPONENTS. COORDINATE WITH OTHER TRADES PRIOR TO INSTALLATION.

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LEVEL 03 MECHANICAL PIPING FLOOR PLAN

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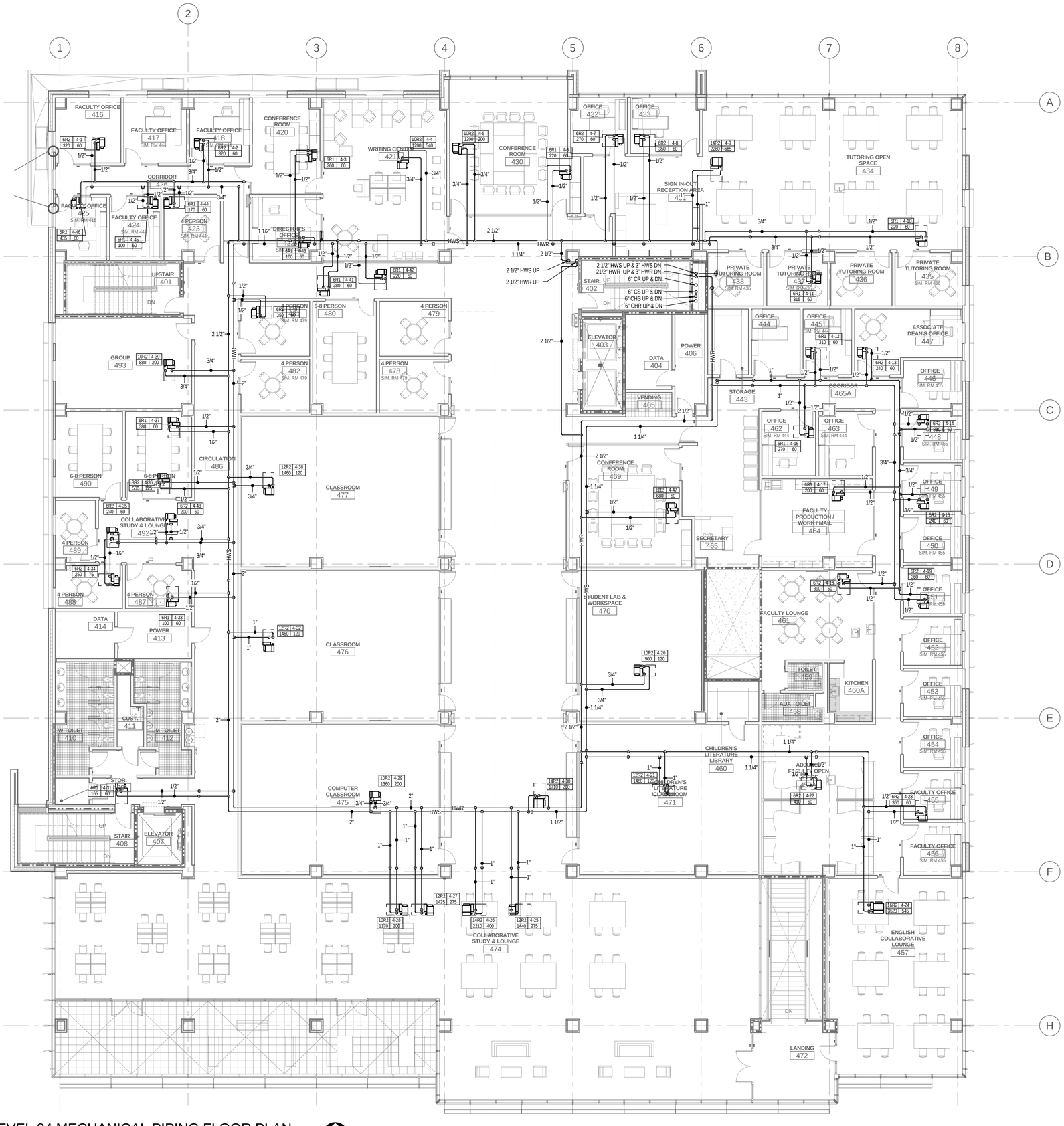

1 LEVEL 04 MECHANICAL PIPING FLOOR PLAN

SCALE: 1/8" = 1'-0"

GENERAL NOTES

A. REFER TO VERTICAL ZONING PLANS ON ARCHITECTURAL DRAWINGS FOR GUIDANCE ON INSTALLATION HEIGHT OF MECHANICAL, PLUMBING AND FIRE SPRINKLER SYSTEM COMPONENTS. COORDINATE WITH OTHER TRADES PRIOR TO INSTALLATION.

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LEVEL 04 MECHANICAL PIPING FLOOR PLAN

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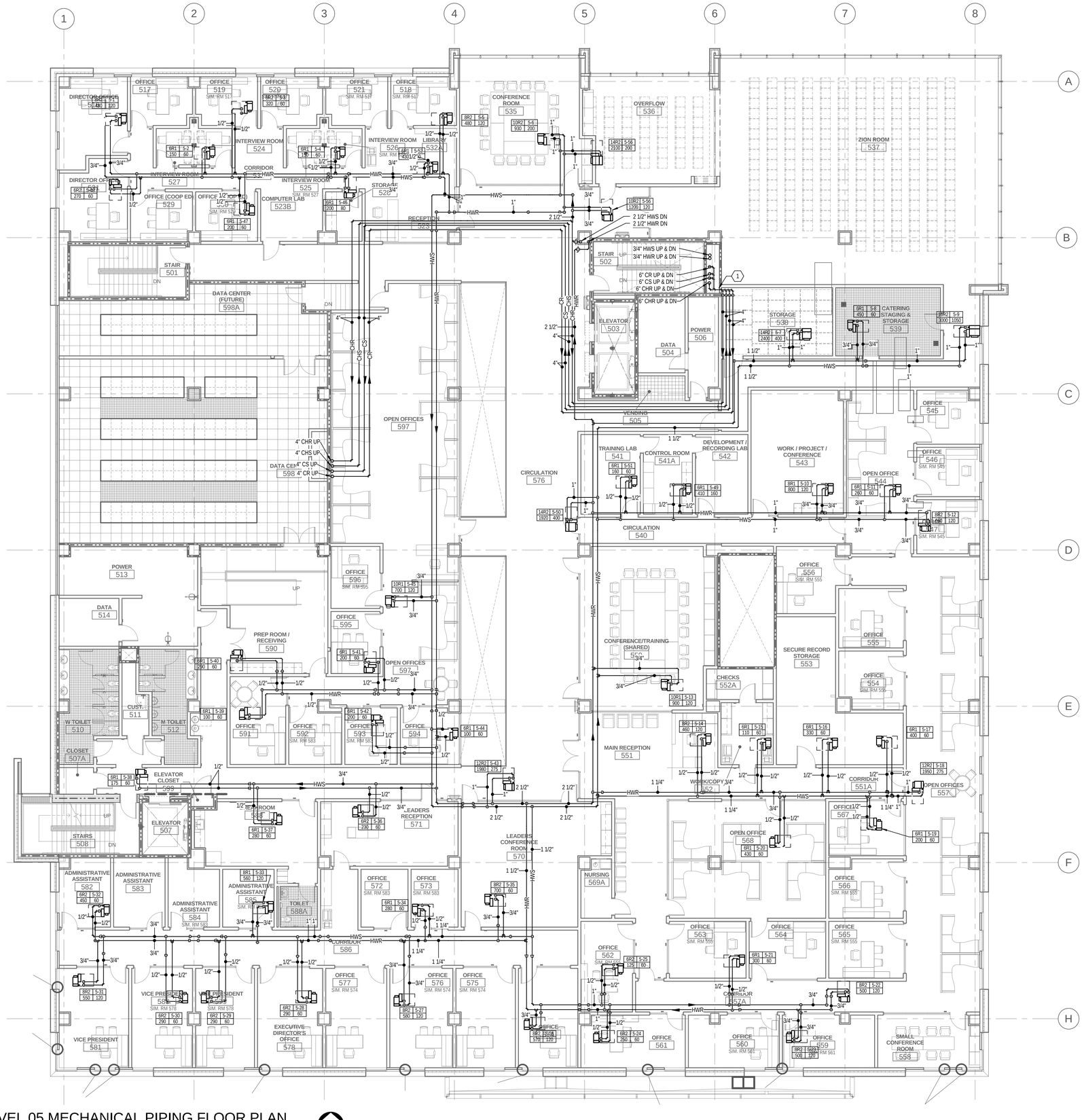

1 LEVEL 05 MECHANICAL PIPING FLOOR PLAN

SCALE: 1/8" = 1'-0"

KEYED NOTES

1 STACK CONDENSER AND CHILLED WATER PIPING VERTICALLY.

GENERAL NOTES

A. REFER TO VERTICAL ZONING PLANS ON ARCHITECTURAL DRAWINGS FOR GUIDANCE ON INSTALLATION HEIGHT OF MECHANICAL, PLUMBING AND FIRE SPRINKLER SYSTEM COMPONENTS. COORDINATE WITH OTHER TRADES PRIOR TO INSTALLATION.

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LEVEL 05 MECHANICAL PIPING FLOOR PLAN

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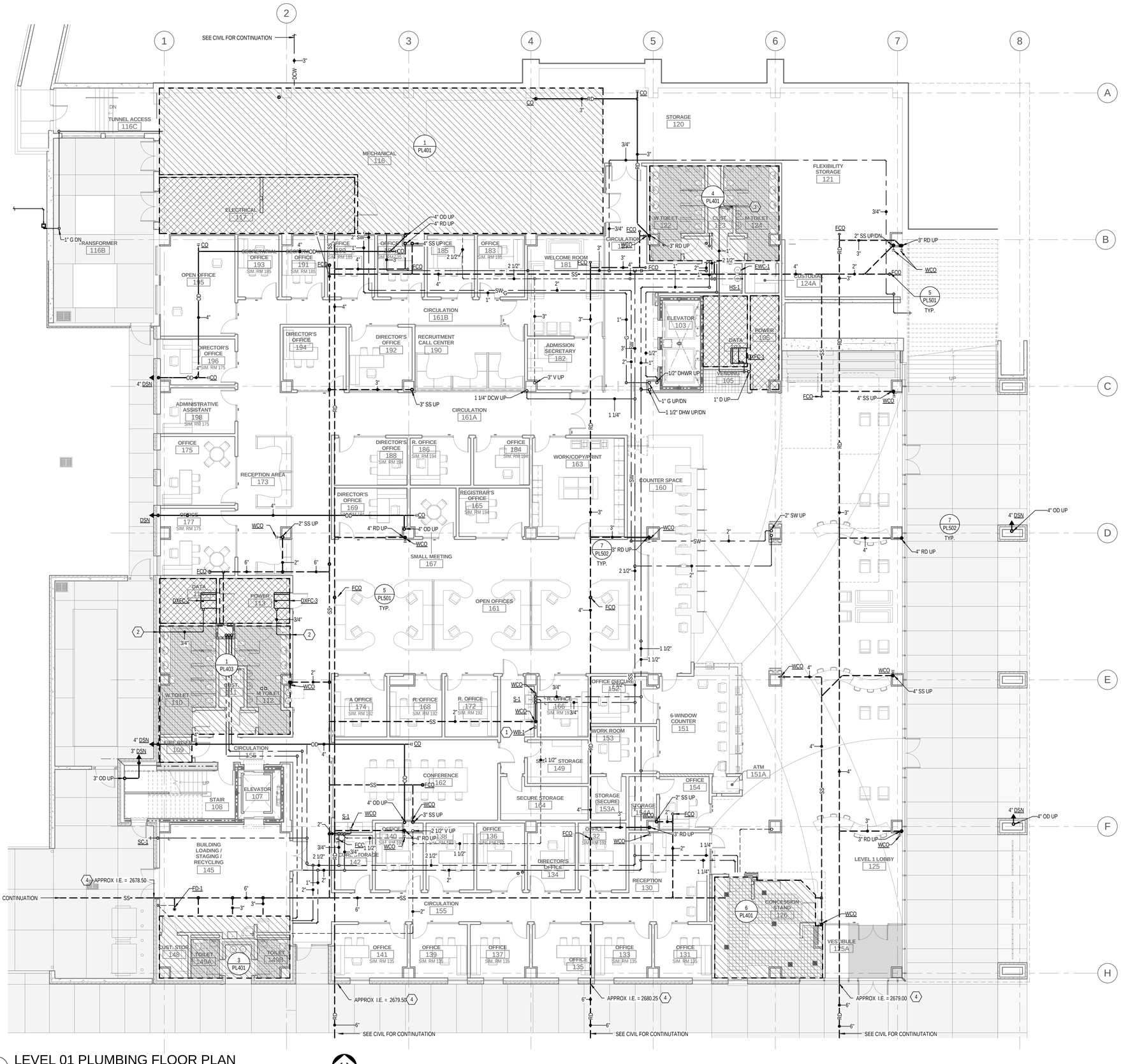

KEYED NOTES

1. RUN 1/2" LINE FROM DOMESTIC COLD WATER AT S-1 TO WB-1 FOR REFRIGERATOR.
2. 3/4" CONDENSATE LINE DOWN IN WALL TO TAIL PIECE OF LAVATORY.
3. 3/4" CONDENSATE LINE DOWN IN WALL TO TAIL PIECE OF SERVICE SINK.
4. CONTRACTOR TO COORDINATE ELEVATIONS OF PIPES UNDER SLAB PRIOR TO INSTALLATION.

GENERAL NOTES

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B. PROVIDE ACCESS DOORS WHERE REQUIRED FOR EQUIPMENT, VALVES, DAMPERS, ETC.

C. LOCATE CLEANOUTS PER PLAN. IF A CONFLICT ARISES WITH LOCATIONS SHOWN ON PLANS, PROPOSE NEW CLEANOUT LOCATIONS FOR ARCHITECT'S APPROVAL.

1 LEVEL 01 PLUMBING FLOOR PLAN

SCALE: 1/8" = 1'-0"

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LEVEL 01 PLUMBING FLOOR PLAN

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KEYED NOTES

1. RUN 1/2" LINE FROM DOMESTIC COLD WATER AT S-1 TO EWH-1 AND 1/2" HOT WATER FROM EWH-1 TO S-1.
2. 3/4" CONDENSATE LINE DOWN IN WALL TO TAIL PIECE OF LAVATORY.

GENERAL NOTES

A. REFER TO VERTICAL ZONING PLANS ON ARCHITECTURAL DRAWINGS FOR GUIDANCE ON INSTALLATION HEIGHT OF MECHANICAL, PLUMBING AND FIRE SPRINKLER SYSTEM COMPONENTS. COORDINATE WITH OTHER TRADES PRIOR TO INSTALLATION.

B. PROVIDE ACCESS DOORS WHERE REQUIRED FOR EQUIPMENT, VALVES, DAMPERS, ETC.

C. LOCATE CLEANOUTS PER PLAN. IF A CONFLICT ARISES WITH LOCATIONS SHOWN ON PLANS, PROPOSE NEW CLEANOUT LOCATIONS FOR ARCHITECT'S APPROVAL.

1 LEVEL 02 PLUMBING FLOOR PLAN

SCALE: 1/8" = 1'-0"

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LEVEL 02 PLUMBING FLOOR PLAN

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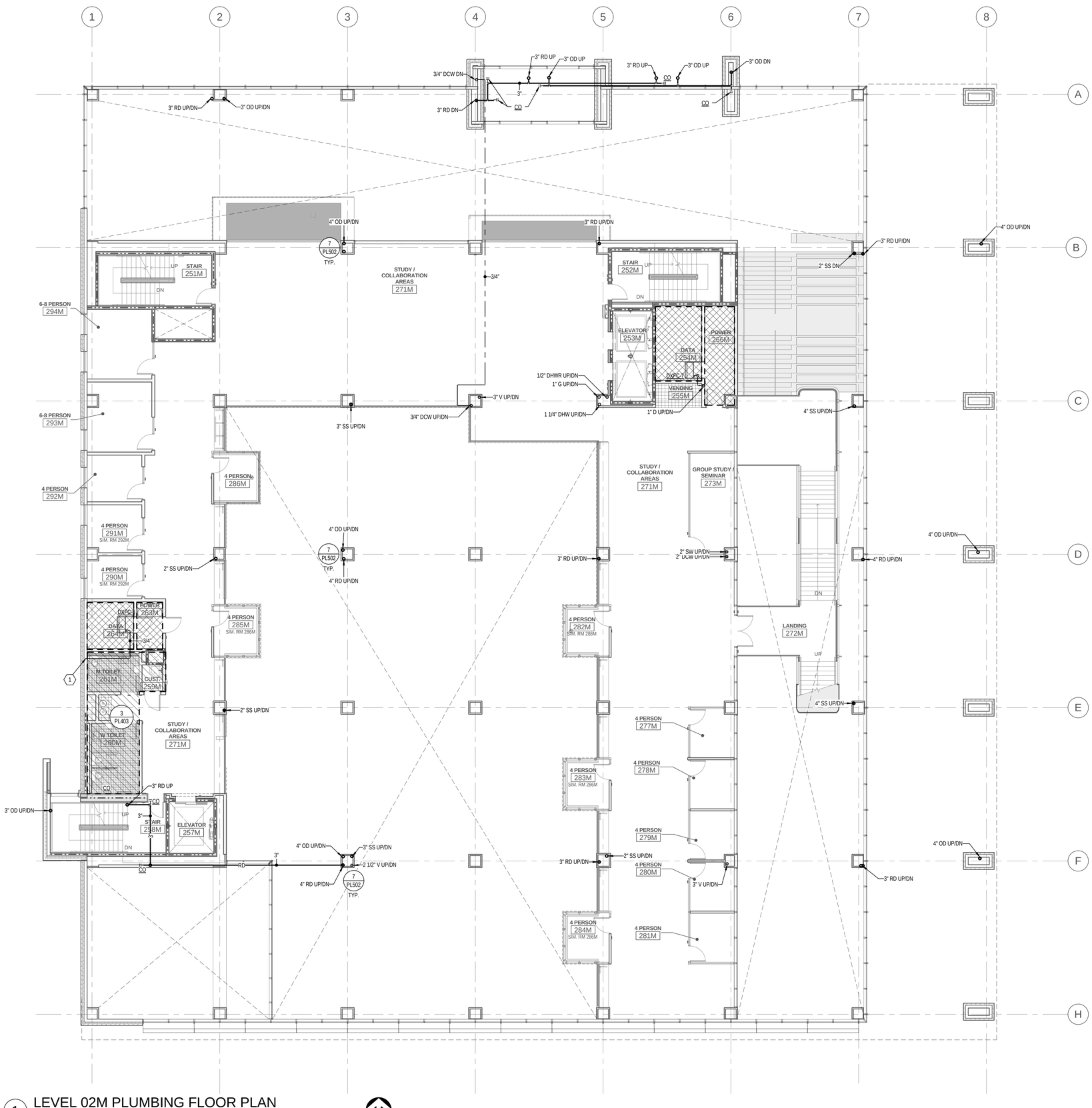

1 LEVEL 02M PLUMBING FLOOR PLAN

SCALE: 1/8" = 1'-0"

GENERAL NOTES

A. REFER TO VERTICAL ZONING PLANS ON ARCHITECTURAL DRAWINGS FOR GUIDANCE ON INSTALLATION HEIGHT OF MECHANICAL, PLUMBING AND FIRE SPRINKLER SYSTEM COMPONENTS. COORDINATE WITH OTHER TRADES PRIOR TO INSTALLATION.

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LEVEL 02 MEZZ.
PLUMBING PLAN

PL102M

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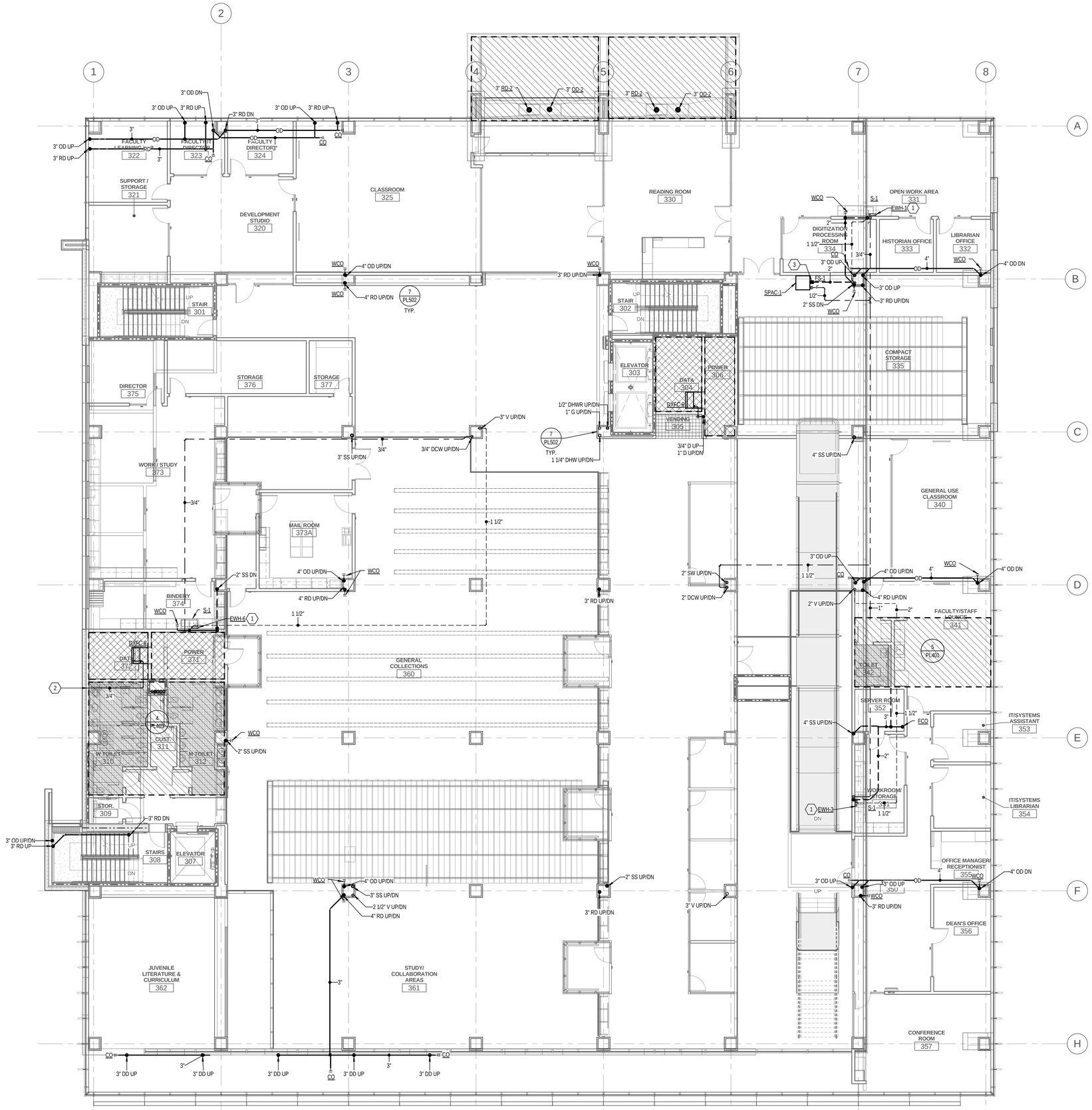

1 LEVEL 03 PLUMBING FLOOR PLAN

SCALE: 1/8" = 1'-0"

KEYED NOTES

1. RUN 1/2" LINE FROM DOMESTIC COLD WATER AT S-1 TO EWH-1 AND 1/2" HOT WATER FROM EWH-1 TO S-1.
2. 3/4" CONDENSATE LINE DOWN IN WALL TO TAIL PIECE OF LAVATORY.
3. CONNECT TO HUMIDIFIER DRAIN.

GENERAL NOTES

A. REFER TO VERTICAL ZONING PLANS ON ARCHITECTURAL DRAWINGS FOR GUIDANCE ON INSTALLATION HEIGHT OF MECHANICAL, PLUMBING AND FIRE SPRINKLER SYSTEM COMPONENTS. COORDINATE WITH OTHER TRADES PRIOR TO INSTALLATION.

B. PROVIDE ACCESS DOORS WHERE REQUIRED FOR EQUIPMENT, VALVES, DAMPERS, ETC.

C. LOCATE CLEANOUTS PER PLAN. IF A CONFLICT ARISES WITH LOCATIONS SHOWN ON PLANS, PROPOSE NEW CLEANOUT LOCATIONS FOR ARCHITECT'S APPROVAL.

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LEVEL 03 PLUMBING FLOOR PLAN

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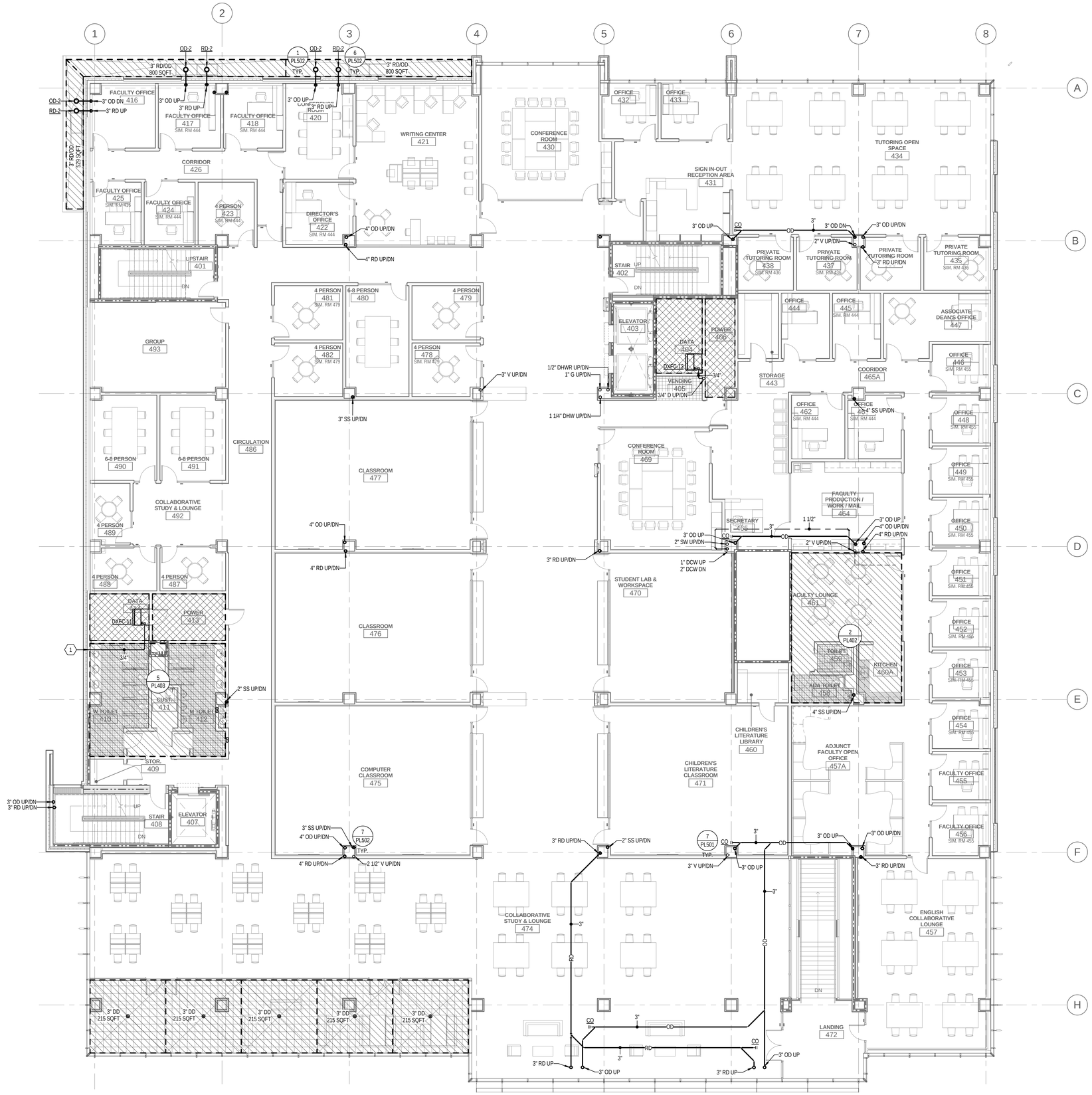

1 LEVEL 04 PLUMBING FLOOR PLAN

SCALE: 1/8" = 1'-0"

KEYED NOTES

1 3/4" CONDENSATE LINE DOWN IN WALL TO TAIL PIECE OF LAVATORY.

GENERAL NOTES

A. REFER TO VERTICAL ZONING PLANS ON ARCHITECTURAL DRAWINGS FOR GUIDANCE ON INSTALLATION HEIGHT OF MECHANICAL, PLUMBING AND FIRE SPRINKLER SYSTEM COMPONENTS. COORDINATE WITH OTHER TRADES PRIOR TO INSTALLATION.

B. PROVIDE ACCESS DOORS WHERE REQUIRED FOR EQUIPMENT, VALVES, DAMPERS, ETC.

C. LOCATE CLEANOUTS PER PLAN. IF A CONFLICT ARISES WITH LOCATIONS SHOWN ON PLANS, PROPOSE NEW CLEANOUT LOCATIONS FOR ARCHITECT'S APPROVAL.

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LEVEL 04 PLUMBING FLOOR PLAN

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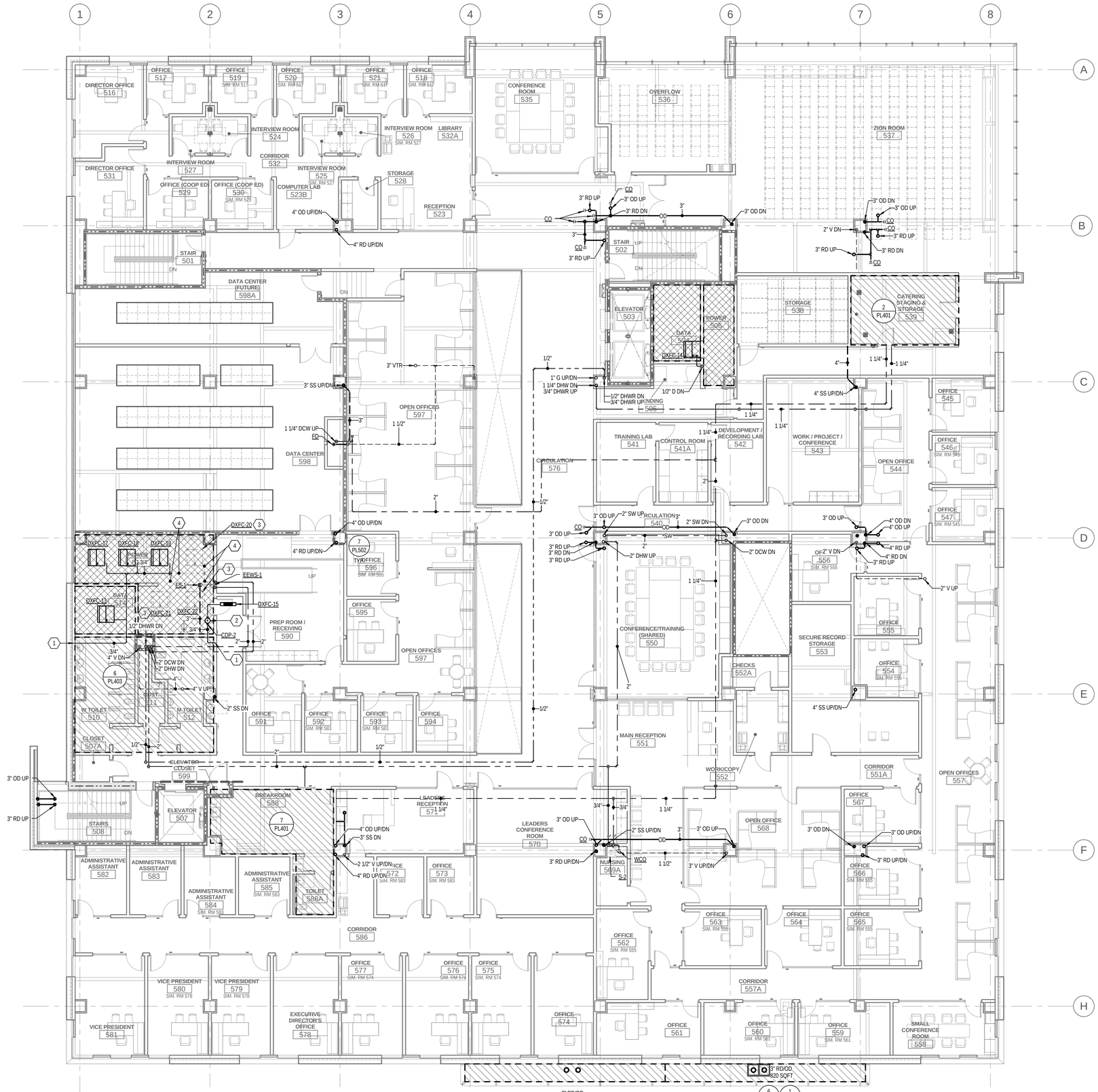

1 LEVEL 05 PLUMBING FLOOR PLAN

SCALE: 1/8" = 1'-0"

KEYED NOTES

1. 3/4" CONDENSATE LINE DOWN IN WALL TO TAIL PIECE OF LAVATORY.
2. MOUNT CONDENSATE PUMP INSIDE OF WALL MOUNTED FAN COIL.
3. FUTURE DXFC UNITS TO BE INSTALLED DURING THE INSTALLATION OF FUTURE UPS BATTERY BACKUP.
4. FUTURE CONDENSATE PIPING SHOWN DASHED TO BE INSTALLED WHEN FUTURE DXFC UNITS ARE INSTALLED.

GENERAL NOTES

A. REFER TO VERTICAL ZONING PLANS ON ARCHITECTURAL DRAWINGS FOR GUIDANCE ON INSTALLATION HEIGHT OF MECHANICAL, PLUMBING AND FIRE SPRINKLER SYSTEM COMPONENTS. COORDINATE WITH OTHER TRADES PRIOR TO INSTALLATION.

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LEVEL 05 PLUMBING FLOOR PLAN

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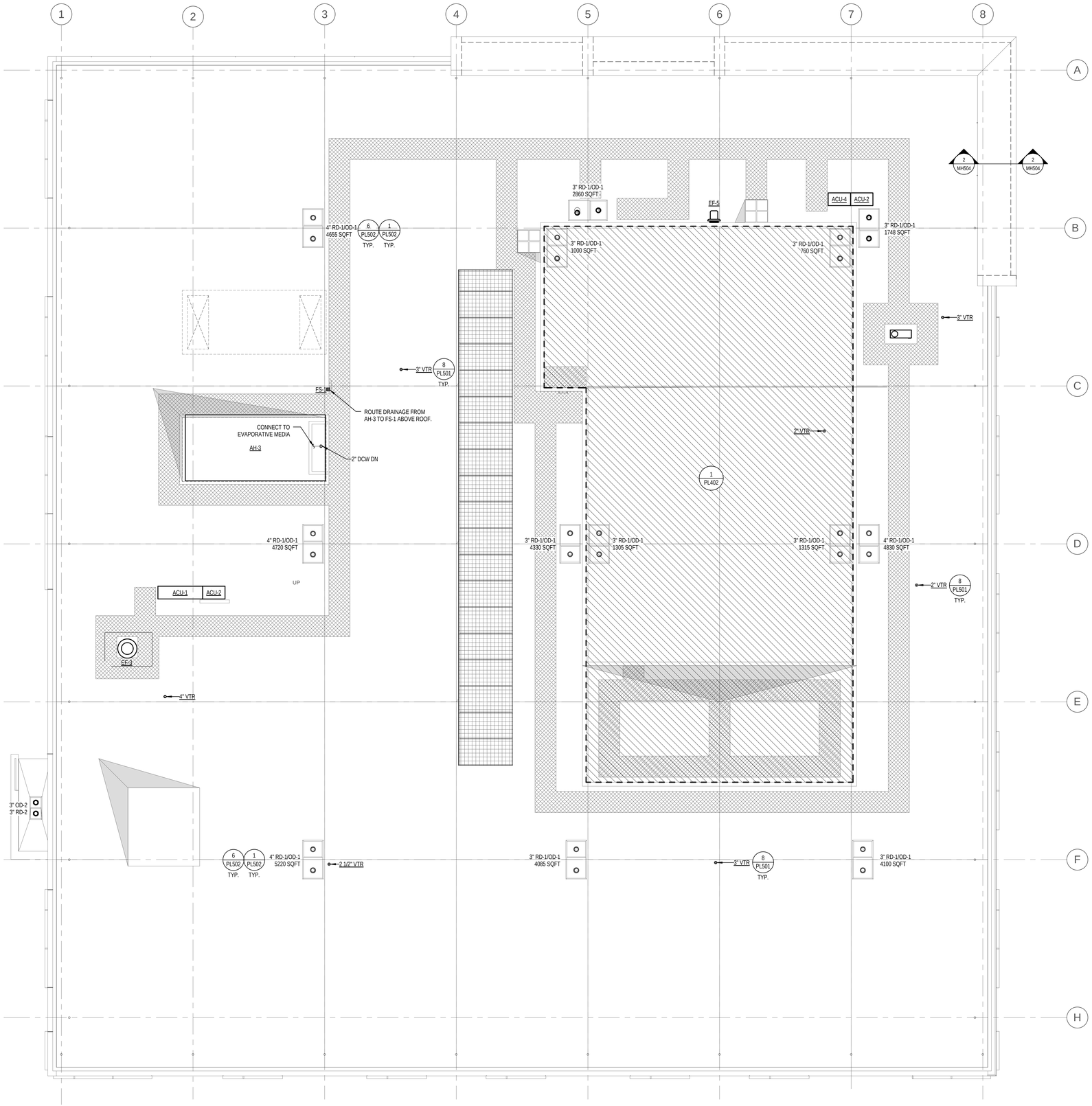

1 ROOF PLUMBING PLAN

SCALE: 1/8" = 1'-0"

6' 0' 4' 8' 12' 16'

GENERAL NOTES

A. REFER TO VERTICAL ZONING PLANS ON ARCHITECTURAL DRAWINGS FOR GUIDANCE ON INSTALLATION HEIGHT OF MECHANICAL, PLUMBING AND FIRE SPRINKLER SYSTEM COMPONENTS. COORDINATE WITH OTHER TRADES PRIOR TO INSTALLATION.

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ROOF PLUMBING
FLOOR PLAN

PL106

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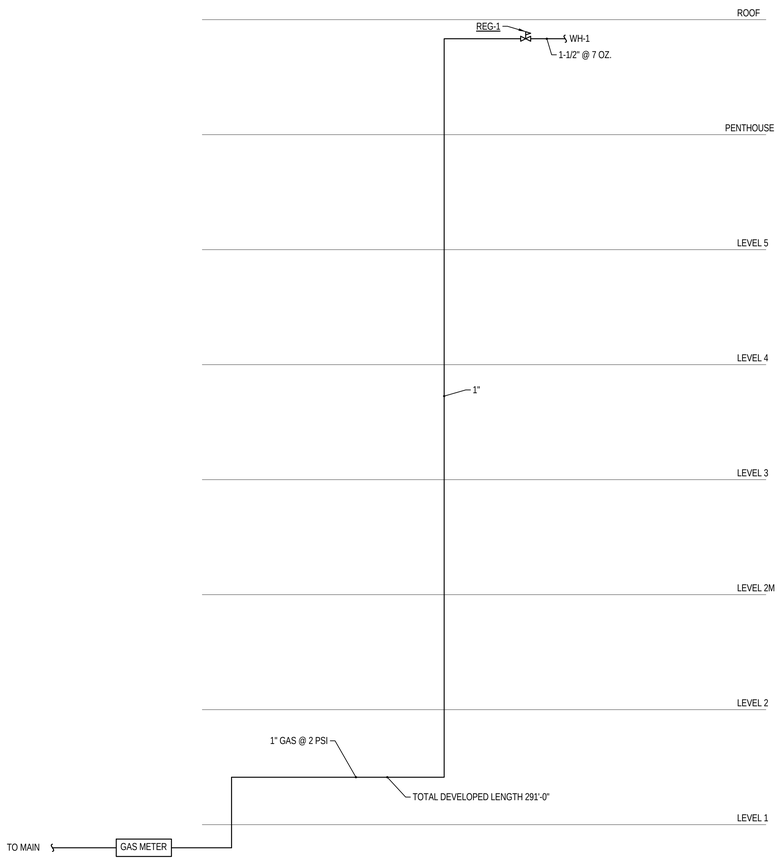
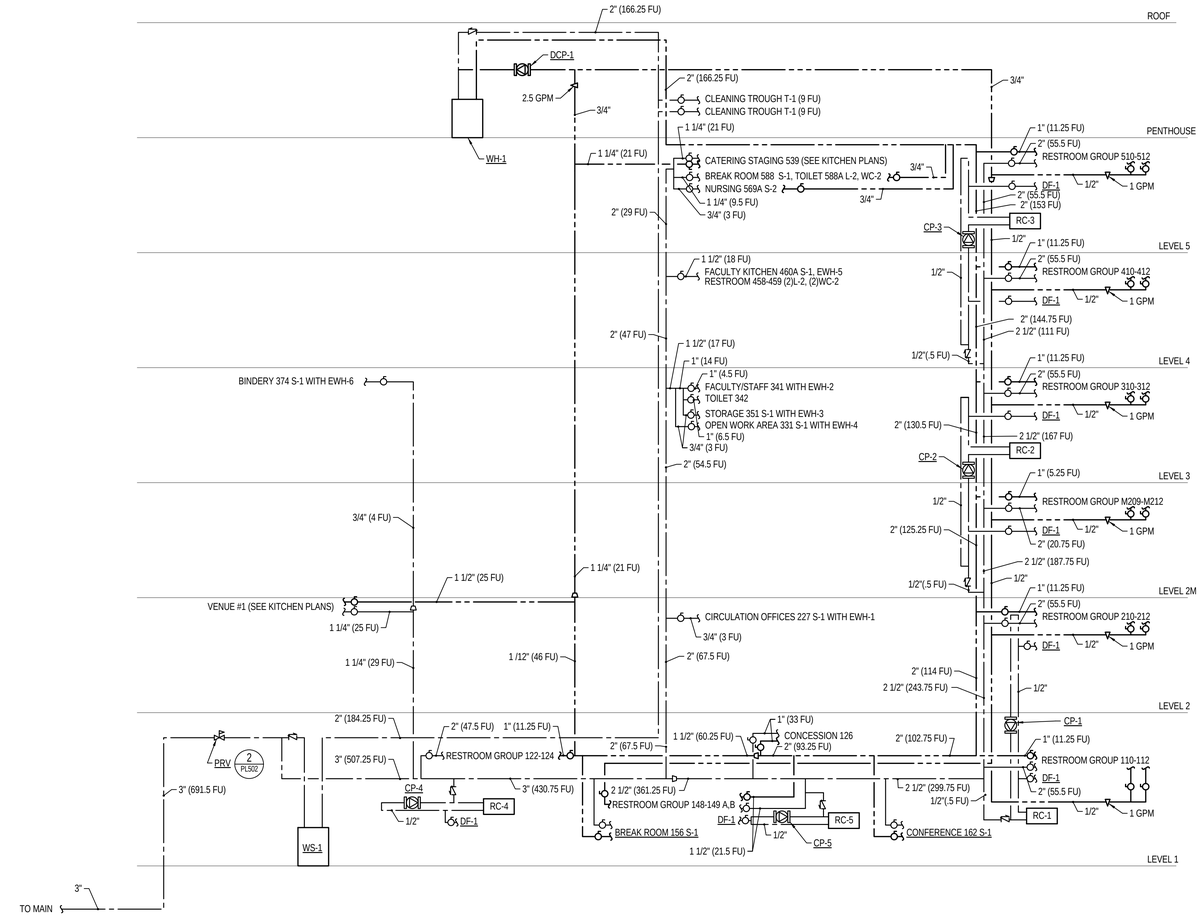


2 GAS SCHEMATIC

SCALE: NONE



1 DOMESTIC WATER SCHEMATIC

SCALE: NONE

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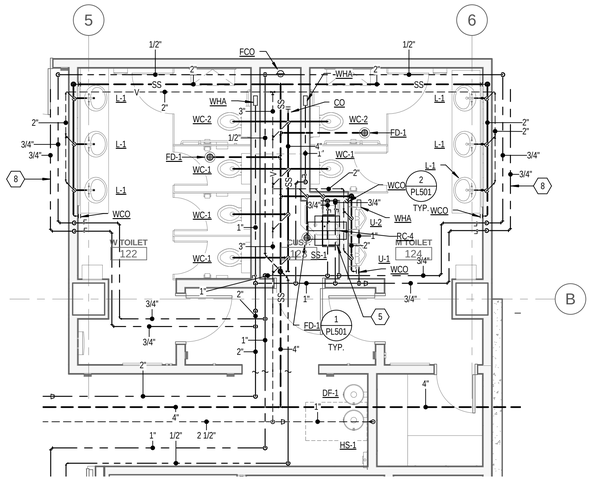
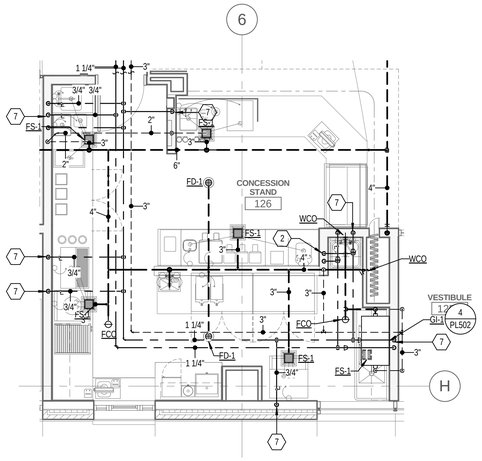
Drawn AW Checked JMB
Date 12/03/2010
Owner # DFCM #06297640
Ins. #

PLUMBING SCHEMATIC

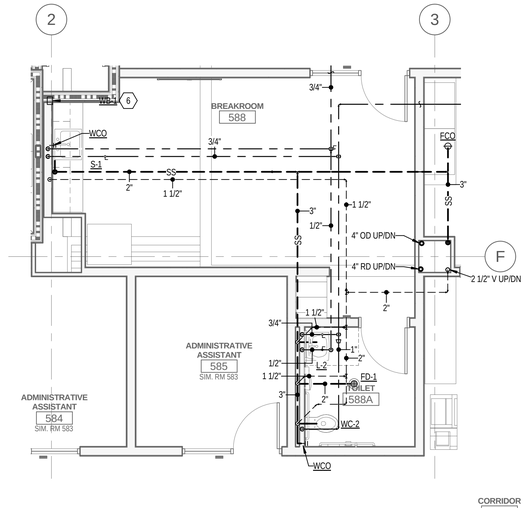
PL201



4 ENLARGED TOLIETS/CUSTODIAL 122-124
SCALE: 1/4" = 1'-0"



6 ENLARGED CONCESSION STAND 126
SCALE: 1/4" = 1'-0"



7 ENLARGED BREAKROOM 588 TOILET 588A
SCALE: 1/4" = 1'-0"

KEYED NOTES

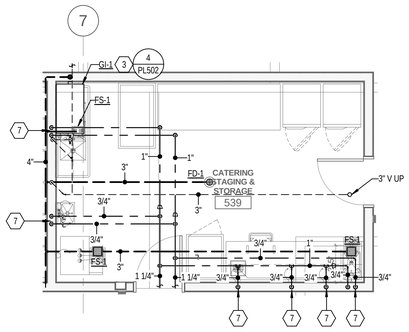
1. RUN 3/4" LINE FROM DOMESTIC COLD WATER AT S-1 TO EWH-1 AND 3/4" HOT WATER FROM EWH-1 TO S-1 AND L-2.
2. ROUTE 1" DOMESTIC HOT WATER AND 1" DOMESTIC COLD WATER INSIDE SHORT WALL TO FIXTURES. SEE KITCHEN PLANS FOR WATER REQUIREMENTS.
3. PROVIDE A 2" VENT OF THE INLET AND OUTLET OF GI-1.
4. PROVIDE WB-2 IN WALL BEHIND WASHING MACHINE. ROUTE 3/4" DOMESTIC HOT AND DOMESTIC COLD WATER TO BOX. ROUTE 2" SANITARY AND 1 1/2" VENT FROM WALL BOX.
5. ROUTE CHILLED WATER ACCORDING TO MANUFACTURER'S SPECIFICATIONS FROM RC-4 TO AND FROM DF-1 AND HS-1. PROVIDE CP-4 ON THE RETURN LINE OF THE PIPE IN THE CUSTODIAL CLOSET.
6. RUN 1/2" LINE FROM DOMESTIC COLD WATER AT S-1 TO WB-1 FOR REFRIGERATOR.
7. CONNECT WATER SUPPLY TO KITCHEN EQUIPMENT. REFER TO FOOD SERVICE PLANS.
8. PIPES ARE SHOWN SPREAD APART FOR CLARITY. ROUTE PIPES IN WALL.
9. PIPE DRAINS FROM CONDENSATE DRAIN PAN AND EVAPORATIVE COOLING SUMP TO FLOOR SINK.

GENERAL NOTES

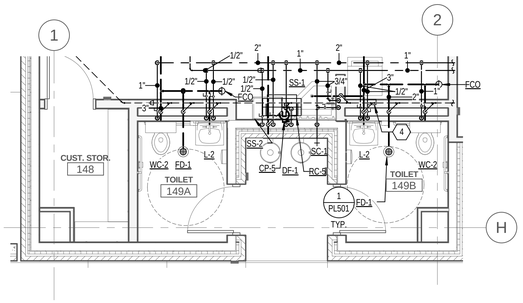
A. REFER TO VERTICAL ZONING PLANS ON ARCHITECTURAL DRAWINGS FOR GUIDANCE ON INSTALLATION HEIGHT OF MECHANICAL, PLUMBING AND FIRE SPRINKLER SYSTEM COMPONENTS. COORDINATE WITH OTHER TRADES PRIOR TO INSTALLATION.

B. PROVIDE ACCESS DOORS WHERE REQUIRED FOR EQUIPMENT, VALVES, DAMPERS, ETC.

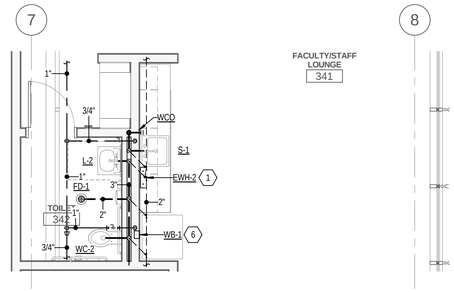
C. LOCATE CLEANOUTS PER PLAN. IF A CONFLICT ARISES WITH LOCATIONS SHOWN ON PLANS, PROPOSE NEW CLEANOUT LOCATIONS FOR ARCHITECT'S APPROVAL.



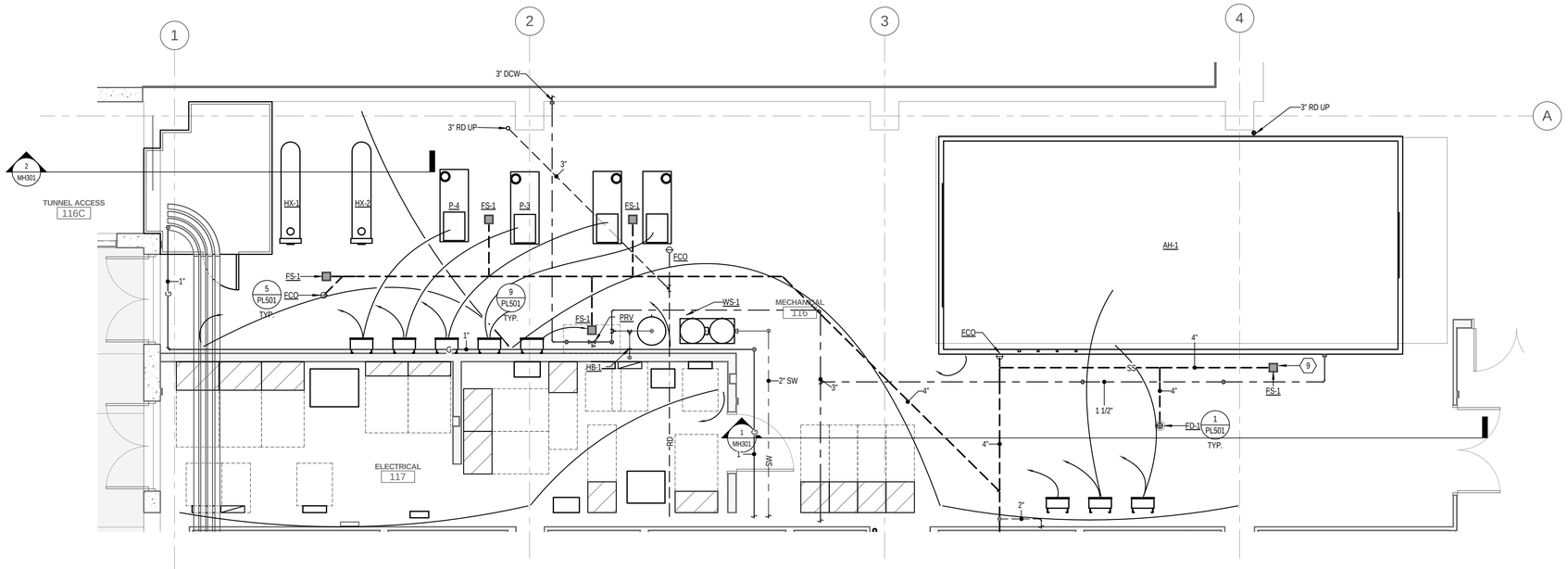
2 ENLARGED CATERING STAGING AND STORAGE 539
SCALE: 1/4" = 1'-0"



3 ENLARGED TOLIETS/CUSTODIAL 149A,B
SCALE: 1/4" = 1'-0"



5 ENLARGED FACULTY/STAFF 341 AND TOILET 342
SCALE: 1/4" = 1'-0"



1 ENLARGED MECHANICAL ROOM 116
SCALE: 1/4" = 1'-0"

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HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #06297640
DIXIE COLLEGE, ST. GEORGE, UT
CONFORMED CONSTRUCTION DOCUMENTS BID SET

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ENLARGED PLUMBING PLANS

PL401

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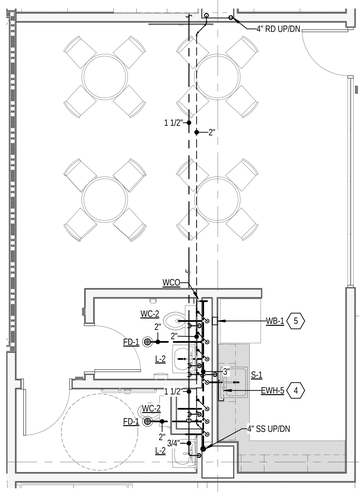
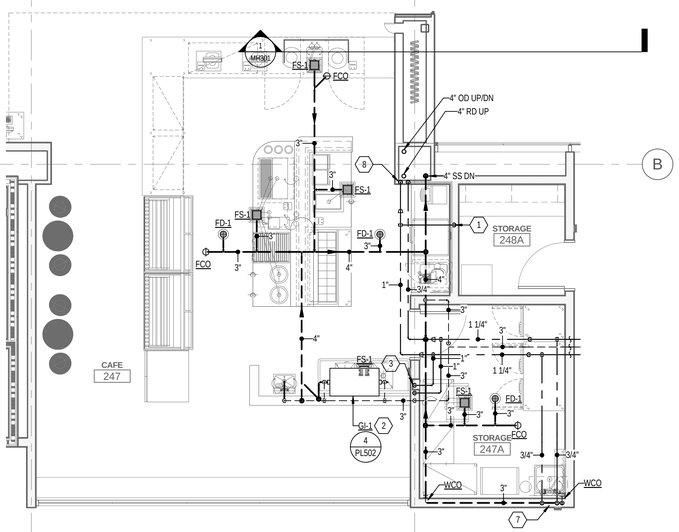


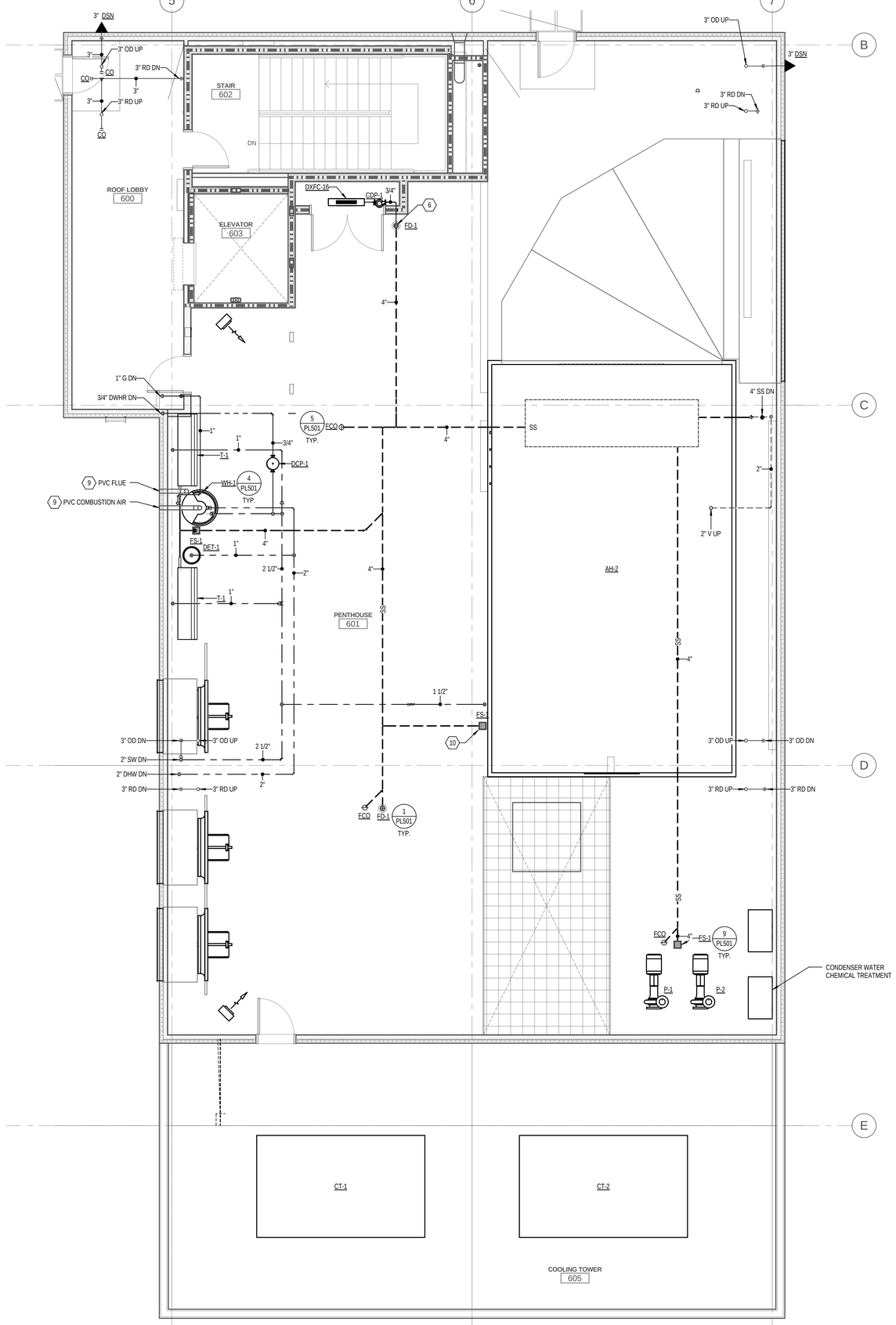
2 ENLARGED FACULTY LOUNGE & RESTROOMS 460

SCALE: 1/4" = 1'-0"



3 ENLARGED CAFE 247

SCALE: 1/4" = 1'-0"



1 ENLARGED PENTHOUSE PLUMBING PLAN 515

SCALE: 1/4" = 1'-0"

KEYED NOTES

1 DROP 1" DOMESTIC COLD WATER TO ISLAND ICE MAKERS. SEE FOOD SERVICE PLANS FOR WATER REQUIREMENTS.

2 PROVIDE A 2" VENT OF THE INLET AND OUTLET OF GI-1.

3 ROUTE 1" DOMESTIC HOT WATER AND 1" DOMESTIC COLD WATER INSIDE SHORT WALL TO FIXTURES. SEE KITCHEN PLANS FOR WATER REQUIREMENTS.

4 RUN 3/4" LINE FROM DOMESTIC COLD WATER AT S-1 TO EWH-1 AND 3/4" HOT WATER FROM EWH-1 TO S-1 AND (2)L-2.

5 RUN 1/2" LINE FROM DOMESTIC COLD WATER AT S-1 TO WB-1 FOR REFRIGERATOR.

6 3/4" CONDENSATE LINE DOWN IN WALL TO FLOOR DRAIN.

7 CONNECT WATER SUPPLY TO KITCHEN EQUIPMENT. REFER TO FOOD SERVICE PLANS.

8 DROP 3/4" DOMESTIC HOT WATER NAD 3/4" DOMESTIC COLD WATER UNDERGROUND AND ROUTE TO SINK IN NORTH COUNTER, REFER TO FOOD SERVICE PLANS FOR LOCATION OF SINK.

9 PROVIDE INSULATION JACKET ON PVC PIPING APPROVED FOR USE IN RETURN AIR PLENUMS. TERMINATE PIPE OUTSIDE PENTHOUSE PER MANUFACTURERS RECOMMENDATIONS.

10 PIPE DRAINS FROM CONDENSATE DRAIN PAN AND EVAPORATIVE COOLING SUMP TO FLOOR SINK.

GENERAL NOTES

A. REFER TO VERTICAL ZONING PLANS ON ARCHITECTURAL DRAWINGS FOR GUIDANCE ON INSTALLATION HEIGHT OF MECHANICAL, PLUMBING AND FIRE SPRINKLER SYSTEM COMPONENTS. COORDINATE WITH OTHER TRADES PRIOR TO INSTALLATION.

B. PROVIDE ACCESS DOORS WHERE REQUIRED FOR EQUIPMENT, VALVES, DAMPERS, ETC.

C. LOCATE CLEANOUTS PER PLAN. IF A CONFLICT ARISES WITH LOCATIONS SHOWN ON PLANS, PROPOSE NEW CLEANOUT LOCATIONS FOR ARCHITECT'S APPROVAL.

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HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH

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ENLARGED PLUMBING PLANS

PL402

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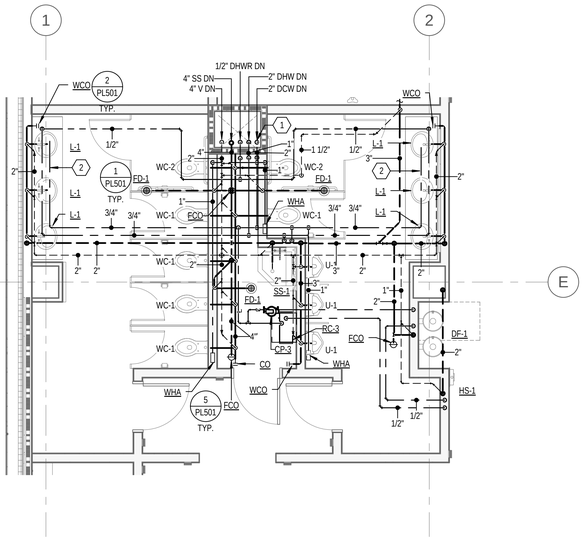
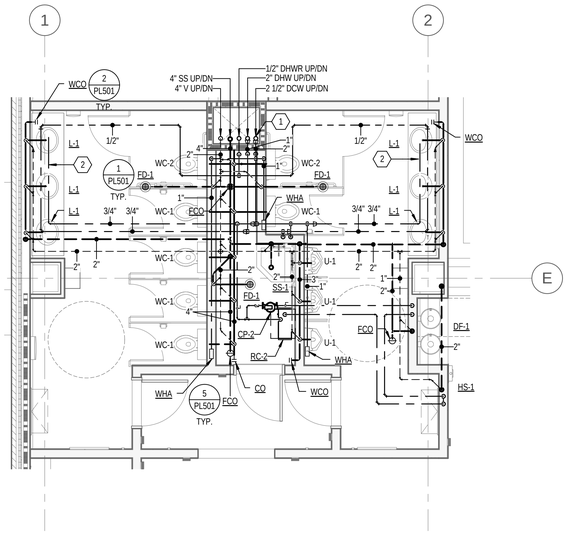


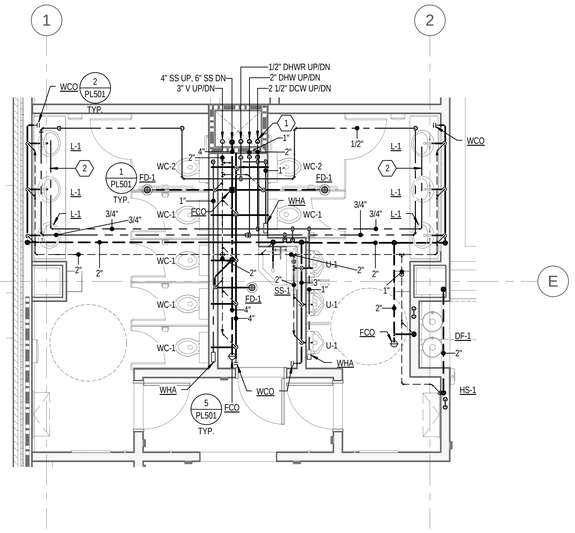
6 ENLARGED LEVEL 5 RESTROOM

SCALE: 1/4" = 1'-0"



4 ENLARGED LEVEL 3 RESTROOM

SCALE: 1/4" = 1'-0"



2 ENLARGED LEVEL 2 RESTROOM

SCALE: 1/4" = 1'-0"

KEYED NOTES

1. DOMESTIC HOT AND COLD WATER BRANCHES TO COME OFF MAIN AT 6'-0" ABOVE FINISHED FLOOR. PROVIDE SHUTOFF VALVE AT THIS HEIGHT AND THEN RISE UP TO 10'-6".
2. ROUTE DOMESTIC WATER PIPES IN WALL BEHIND LAVATORIES.

GENERAL NOTES

A. REFER TO VERTICAL ZONING PLANS ON ARCHITECTURAL DRAWINGS FOR GUIDANCE ON INSTALLATION HEIGHT OF MECHANICAL, PLUMBING AND FIRE SPRINKLER SYSTEM COMPONENTS. COORDINATE WITH OTHER TRADES PRIOR TO INSTALLATION.

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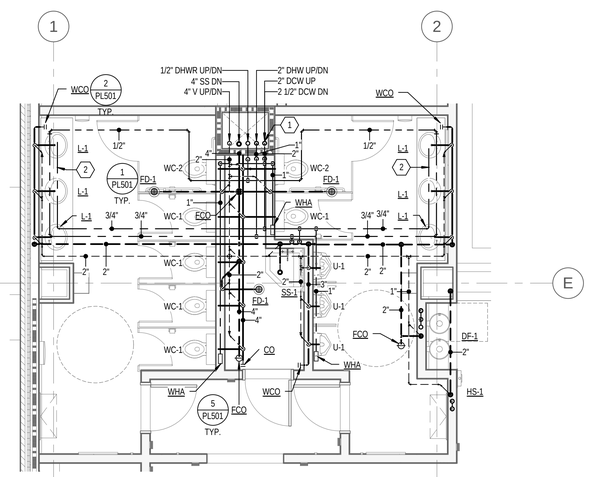
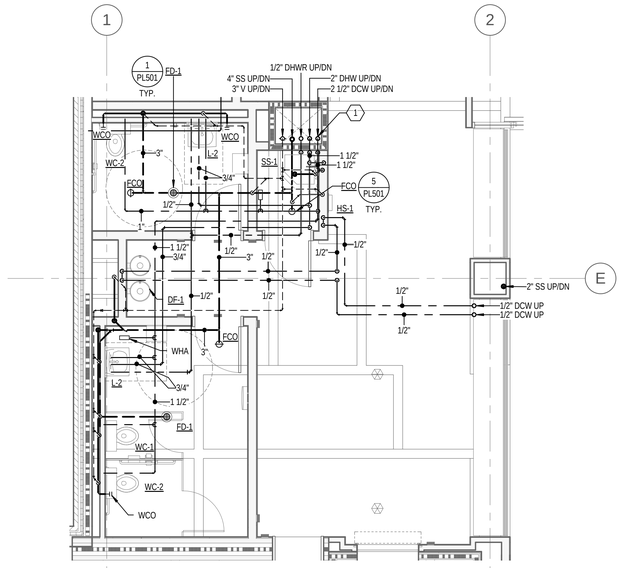


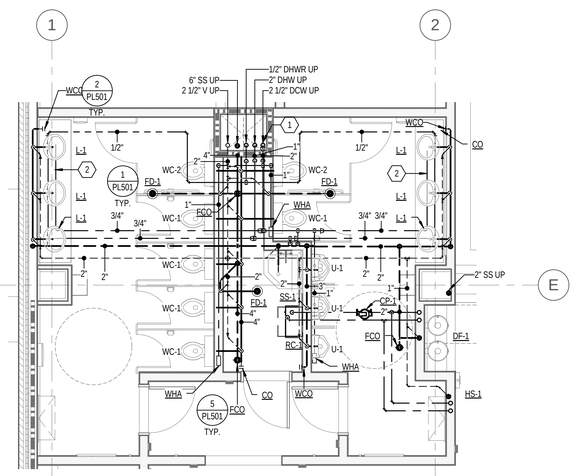
5 ENLARGED LEVEL 4 RESTROOM

SCALE: 1/4" = 1'-0"



3 ENLARGED LEVEL 2M TOILETS/CUSTODIAL

SCALE: 1/4" = 1'-0"



1 ENLARGED LEVEL 1 WEST RESTROOM

SCALE: 1/4" = 1'-0"

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HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH

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DIXIE COLLEGE, ST. GEORGE, UT

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ENLARGED PLUMBING PLANS

PL403

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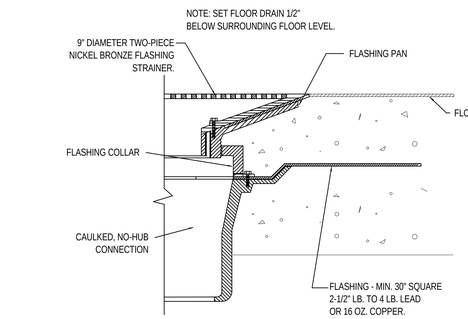
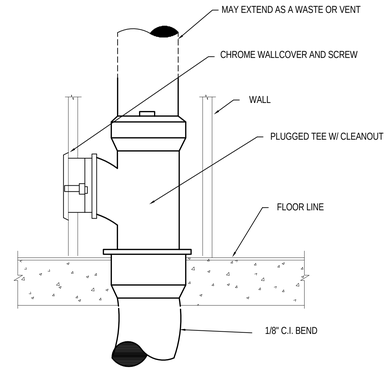


1 FLOOR DRAIN DETAIL

NO SCALE



2 WALL CLEANOUT DETAIL

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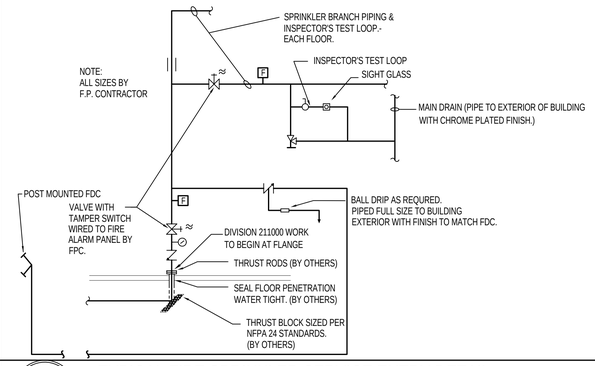
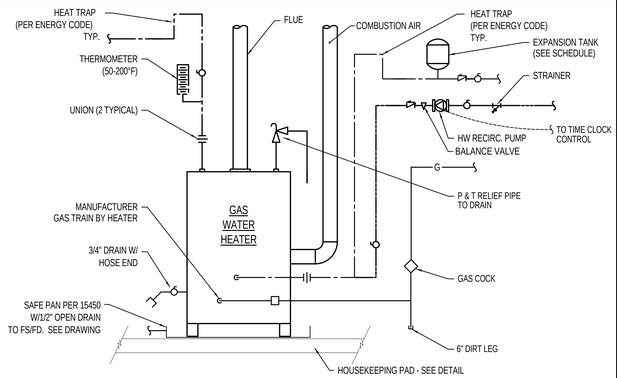


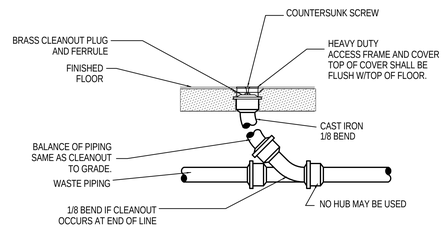
3 TYPICAL FIRE SPRINKLER SERVICE ENTRY DETAIL

NO SCALE



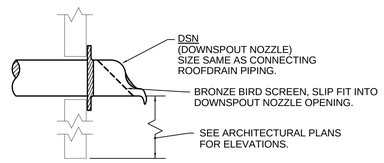
4 GAS WATER HEATER PIPING DETAIL

NO SCALE



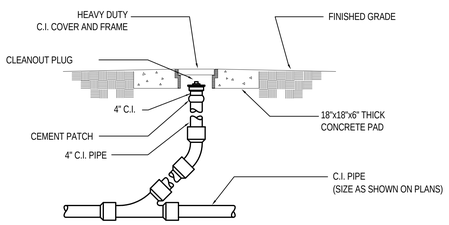
5 FLOOR CLEANOUT DETAIL

NO SCALE



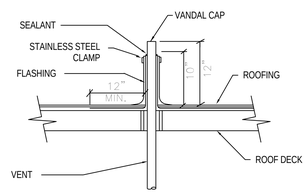
6 DOWNSPOUT NOZZLE DETAIL

NO SCALE



7 CLEANOUT TO GRADE DETAIL (COTG)

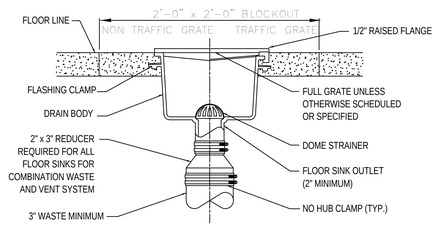
NO SCALE



NOTE: MECHANICAL CONTRACTOR COORDINATE ALL ROOF PENETRATION ACCESSORIES WITH ROOFER

8 VENT THRU ROOF DETAIL

NO SCALE



9 FLOOR SINK DETAIL

NO SCALE

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HOLLAND CENTENNIAL COMMONS

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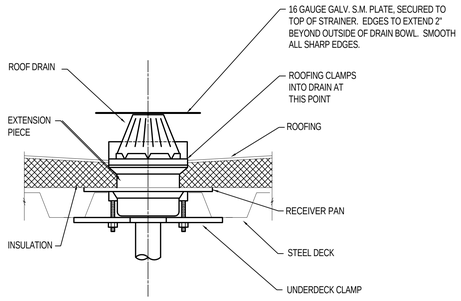
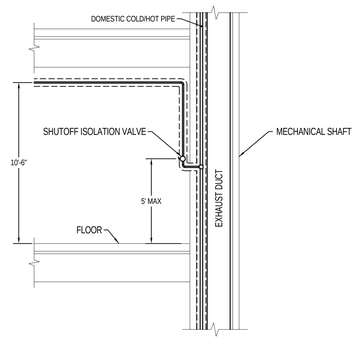
PLUMBING DETAILS

PL501



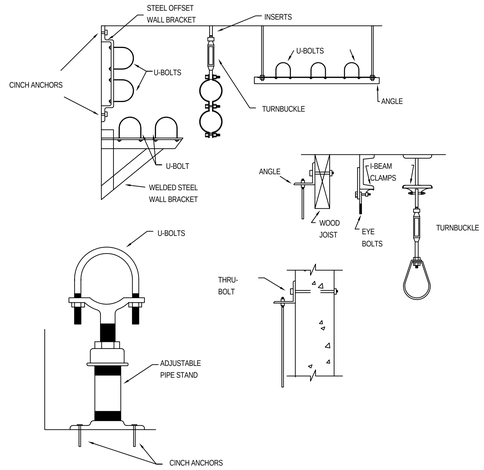
1 OVERFLOW ROOF DRAIN WITH HOOD DETAIL

NO SCALE



3 BRANCH PIPE SHUTOFF CONNECTION FOR RESTROOMS

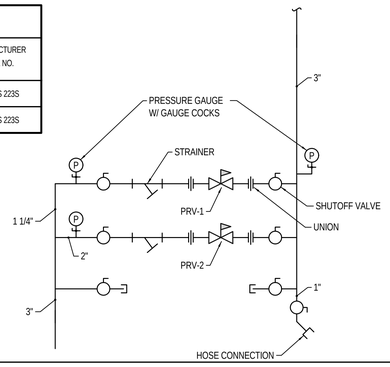
NO SCALE



5 TYPICAL PIPE SUPPORT DETAILS

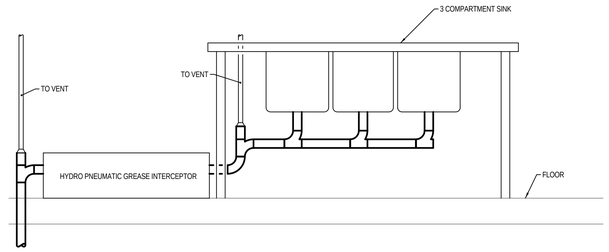
NO SCALE

PRV SCHEDULE				
PLAN CODE	SIZE	MAX GPM	PRESSURE SETTING (PSIG)	MANUFACTURER & MODEL NO.
PRV-1	1 1/4"	0-60	60	WATTS 223S
PRV-2	2"	60-140	55	WATTS 223S



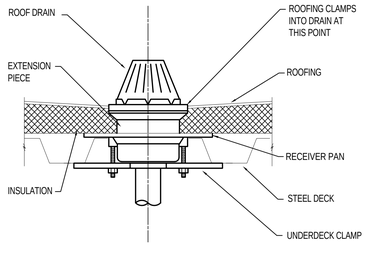
2 PRV STATION DETAIL

NO SCALE



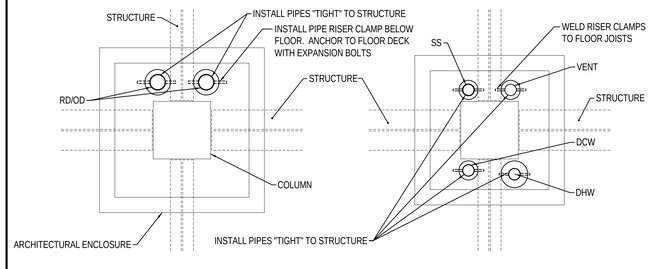
4 GREASE INTERCEPTOR DETAIL

NO SCALE



6 ROOF DRAIN DETAIL

NO SCALE



**SEE FLOOR PLANS FOR CONFIGURATIONS OF PIPES

7 RISER INSTALLATION AT COLUMN

NO SCALE

8

NO SCALE

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PLUMBING DETAILS

PL502

GAS FIRED WATER HEATER SCHEDULE (WH)

PLAN CODE	INPUT (BTUH)	OUTPUT (BTUH)	EFFICIENY %	FUEL	CAP. (GAL)	RECOVERY RATE (GPH)	TEMP. RISE (°F)	FLUE DIA.	FLUE TYPE	MAX. DIMENSIONS DIAMETER (IN)	MAX. DIMENSIONS HEIGHT (IN)	VOLTAGE & PHASE	MANUFACTURER & MODEL NO.	OPTIONS	REMARKS
WH-1	499,900	475,000	95	NG	130	576	100	4"	4"	35	76	120/1	A.O. SMITH BTH-500	-	1-1/2 GAS CONNECTION, 1,000 LB. OPERATING WEIGHT

WATER SOFTENER SCHEDULE (WS)

PLAN CODE	CONTINUOUS FLOW RATE (2)	ΔP (ft. wg.) (2)	CAPACITY (GRAINS @ LB.) (2)	CONTROL	COMMENTS	VOLTAGE & PHASE	SOFTENER TANK SIZE (DIAMETER X H)	BRINE TANK SIZE (DIAMETER X H)	MANUFACTURER & MODEL NO.	REMARKS
WS-1	58	4.2	125,000 @ 50	(1)	WITH REMOVE FILL OPTION AND NECESSARY PIPE	120/1	24" X 84"(2)	24" x 48"	CULLIGAN HCE 210-2	ALTERNATING CONFIGURATION

(1) AUTOMATIC REGENERATION SYSTEM BASED ON FLOW
(2) PERFORMANCE LISTED IS FOR A SINGLE TANK

DOMESTIC EXPANSION TANK SCHEDULE (DET)

PLAN CODE	SYSTEM SERVED	WATER TEMP. (°F)	% GLYCOL	TANK VOL. (GAL)	ACCEPTANCE VOL. (GAL)	PRE-CHARGE (PSI)	MAX. DIMENSIONS DIA. (IN.)	MAX. DIMENSIONS H (IN.)	MAX. DIMENSIONS OPERATING WT. (LBS)	MANUFACTURER & MODEL NO.
DET-1	DOMESTIC HOT WATER	140	0	6.4	3.2	55	12	16	52	AMTROL ST-12-C

NATURAL GAS PRESSURE REGULATOR SCHEDULE

PLAN CODE	TYPE	INLET PRESURE (PSIG)	OUTLET PRESURE (OZ/SQ IN)	LOAD (MBH)	GAS DELIVERY (CU. FT/H)	SERVES
REG-1	SELF-OPERATING SPRING LOADED DIAPHRAM	2 LB.	4 0Z.	500	562	WH-1

DOMESTIC HOT WATER RECIRCULATION PUMP SCHEDULE (DCP)

PLAN CODE	DUTY	GPM	FEET OF HEAD	PUMP RPM	MOTOR FLA	MOTOR VOLTAGE & PHASE	WEIGHT (LBS)	MANUFACTURER & MODEL NO.	REMARKS
DCP-1	DOMESTIC HOT WATER RECIRC.	8.5	14	3300	2.3	115/1	8	B & G NRF-22	-

ELECTRIC WATER HEATER

PLAN CODE	RECOVERY (GPM)	INPUT (KW)	TEMP. RISE °F	VOLT & PHASE	MAX. OPERATING WEIGHT	MANUFACTURE	REMARKS
EWH-1	1.0	7.0	41	277/1	5 LBS.	CHRONOMITE M-30	UNDER COUNTER INSTANTANEOUS. MOUNT UNIT TO WALL AS REQUIRED. DIMENSIONS: 10" X 6" X 3"
EWH-2	-	16.6	57	208/1	8 LBS.	EEMAX EX1608ML	UNDER COUNTER INSTANTANEOUS. MOUNT UNIT TO WALL AS REQUIRED. DIMENSIONS: 9" X 10" X 3"
EWH-3	1.0	7.0	41	277/1	5 LBS.	CHRONOMITE M-30	UNDER COUNTER INSTANTANEOUS. MOUNT UNIT TO WALL AS REQUIRED. DIMENSIONS: 10" X 6" X 3"
EWH-4	1.0	7.0	41	277/1	5 LBS.	CHRONOMITE M-30	UNDER COUNTER INSTANTANEOUS. MOUNT UNIT TO WALL AS REQUIRED. DIMENSIONS: 10" X 6" X 3"
EWH-5	-	16.6	57	208/1	8 LBS.	EEMAX EX1608ML	UNDER COUNTER INSTANTANEOUS. MOUNT UNIT TO WALL AS REQUIRED. DIMENSIONS: 9" X 10" X 3"
EWH-6	1.0	7.0	41	277/1	5 LBS.	CHRONOMITE M-30	UNDER COUNTER INSTANTANEOUS. MOUNT UNIT TO WALL AS REQUIRED. DIMENSIONS: 10" X 6" X 3"

REMOTE WATER CHILLERS (RC)

PLAN CODE	DESCRIPTION	ROUGH-IN SIZE C.W.	ROUGH-IN SIZE H.W.	ROUGH-IN SIZE WASTE	ROUGH-IN SIZE VENT	COMMENTS
RC-1	REMOTE WATER CHILLER	PER MANUFACTURER	-	PER MANUFACTURER	PER MANUFACTURER	ELKAY: MODEL ER19, 50°F WATER, TWO STATION, 19 GPH CAPACITY, 1/2 HP COMPRESSOR, 120V/60 HZ, 9.2 AMPS.
RC-2	REMOTE WATER CHILLER	PER MANUFACTURER	-	PER MANUFACTURER	PER MANUFACTURER	ELKAY: MODEL ER19, 50°F WATER, TWO STATION, 19 GPH CAPACITY, 1/2 HP COMPRESSOR, 120V/60 HZ, 9.2 AMPS.
RC-3	REMOTE WATER CHILLER	PER MANUFACTURER	-	PER MANUFACTURER	PER MANUFACTURER	ELKAY: MODEL ER19, 50°F WATER, TWO STATION, 19 GPH CAPACITY, 1/2 HP COMPRESSOR, 120V/60 HZ, 9.2 AMPS.
RC-4	REMOTE WATER CHILLER	PER MANUFACTURER	-	PER MANUFACTURER	PER MANUFACTURER	ELKAY: MODEL ER19, 50°F WATER, TWO STATION, 19 GPH CAPACITY, 1/2 HP COMPRESSOR, 120V/60 HZ, 9.2 AMPS.
RC-5	REMOTE WATER CHILLER	PER MANUFACTURER	-	PER MANUFACTURER	PER MANUFACTURER	ELKAY: MODEL ER19, 50°F WATER, TWO STATION, 19 GPH CAPACITY, 1/2 HP COMPRESSOR, 120V/60 HZ, 9.2 AMPS.

CONDENSATE PUMP SCHEDULE (CDP)

PLAN CODE	TYPE	SYSTEM SERVED	FLOW (GPH)	PRESSURE (FT)	FLUID	ELECTRICAL SIZE (A)	ELECTRICAL VOLTAGE & PHASE	PUMP & MOTOR WT (LBS)	MANUFACTURER & MODEL NO
CDP-1	CONDENSATE REMOVAL	FAN COILS	2	2	WATER	.24	115/1	2	LITTLE GIANT EC-400
CDP-2	CONDENSATE REMOVAL	FAN COILS	2	2	WATER	.24	115/1	2	LITTLE GIANT EC-400

COOL WATER CIRCULATION PUMP SCHEDULE (CP)

PLAN CODE	DUTY	GPM	FEET OF HEAD	PUMP RPM	MOTOR FLA H.P.	MOTOR VOLTAGE & PHASE	WEIGHT (LBS)	MANUFACTURER & MODEL NO.	REMARKS
CP-1	RC-1 COOL WATER CIRC.	6.3	10	2940	.12	115/1	9	B & G NRF-22	-
CP-2	RC-2 COOL WATER CIRC.	6.3	10	2940	.12	115/1	9	B & G NRF-22	-
CP-3	RC-3 COOL WATER CIRC.	6.3	10	2940	.12	115/1	9	B & G NRF-22	-
CP-4	RC-4 COOL WATER CIRC.	6.3	10	2940	.12	115/1	9	B & G NRF-22	-
CP-5	RC-5 COOL WATER CIRC.	6.3	10	2940	.12	115/1	9	B & G NRF-22	-

PLUMBING FIXTURE SCHEDULE

PLAN CODE	DESCRIPTION	ROUGH-IN SIZE C.W.	ROUGH-IN SIZE H.W.	ROUGH-IN SIZE WASTE	ROUGH-IN SIZE VENT	COMMENTS
GI-1	GREASE INTERCEPTOR	-	-	3"	2"	J.R. SMITH 8020
DF-1	DRINKING FOUNTAIN ADA COMPLIANT	1/2"	1/2"	1 1/2"	1 1/2"	HAWS 1011
FCO	FLOOR CLEANOUT	-	-	SEE PLAN	-	J.R. SMITH MANUFACTURING COMPANY SERIES 4020, CAST IRON ADJUSTABLE BODY, ABS PLUG, VANDAL PROOF SECURITY SCREWS. OR EQUAL.
FD	FLOOR DRAIN	-	-	SEE PLAN	SEE PLAN	ZURN Z-415 - PROVIDE PROSET TRAPGUARD AND DEEP SEAL TRAP
FS-1	FLOOR SINK, 12" X 12" X 8"	-	-	SEE PLAN	1 1/2"	J.R. SMITH MANUFACTURING COMPANY FIG. 3150-Y-ASB SQUARE FLOOR SINK. FLOOR SINK SHALL BE OF CAST IRON CONSTRUCTION WITH ENAMEL INTERIOR FINISH, SEDIMENT BUCKET, MINIMUM INTERIOR DIMENSIONS OF 12" X 12" X 8"D. PROVIDE WITH CAST IRON 1/2 GRATE AND PROSET TRAPGUARD AND DEEP SEAL TRAP
WHA-1	WATER HAMMER ARRESTOR	SEE PLAN	-	-	-	PRECISION PLUMBING PRODUCTS
L-1	LAVATORY, ADA COMPLIANT, COUNTER MOUNT, BATTERY POWERED SENSOR OPERATED FAUCET, GRID DRAIN	1/2"	1/2"	2"	1 1/2"	KOHLER K-2196 FAUCET: SLOAN SOLIS EAF-275
L-2	LAVATORY, ADA COMPLIANT, DECK MOUNT, BATTERY POWERED SENSOR OPERATED FAUCET, GRID	1/2"	1/2"	2"	1 1/2"	KOHLER K-1721 FAUCET: SLOAN SOLIS EAF-275
RD-1	ROOF DRAIN - PRIMARY	-	-	-	-	J.R. SMITH SERIES 1010 GENERAL PURPOSE ROOF DRAIN. ROOF DRAIN SHALL BE PROVIDED WITH DUCO CAST IRON BODY, REVERSIBLE COLLAR, COMBINED FLASHING CLAMP AND GRAVEL STOP, CAST IRON DOME, SUMP RECEIVER, UNDERDECK CLAMP AND VANDAL PROOF SECURITY SCREWS, OR EQUAL.
OD-1	ROOF DRAIN - SECONDARY	-	-	-	-	J.R. SMITH SERIES 1080 GENERAL PURPOSE OVERFLOW DRAIN. OVERFLOW DRAIN SHALL BE PROVIDED WITH DUCO CAST IRON BODY, REVERSIBLE COLLAR, COMBINED FLASHING CLAMP AND GRAVEL STOP, CAST IRON DOME, SUMP RECEIVER, UNDERDECK CLAMP, 2" CAST IRON WATER DAM AND VANDAL PROOF SECURITY SCREWS, OR EQUAL.
RD-2	ROOF DRAIN - PRIMARY	-	-	-	-	J.R. SMITH SERIES 1320 SIDE OUTLET ROOF DRAIN. ROOF DRAIN SHALL BE PROVIDED WITH DUCO CAST IRON BODY, REVERSIBLE COLLAR, COMBINED FLASHING CLAMP AND GRAVEL STOP, POLYETHYLENE DOME, SUMP RECEIVER, UNDERDECK CLAMP AND VANDAL PROOF SECURITY SCREWS, OR EQUAL.
OD-2	ROOF DRAIN - SECONDARY	-	-	-	-	J.R. SMITH SERIES 1320 SIDE OUTLET OVERFLOW DRAIN. OVERFLOW DRAIN SHALL BE PROVIDED WITH DUCO CAST IRON BODY, REVERSIBLE COLLAR, COMBINED FLASHING CLAMP AND GRAVEL STOP, POLYETHYLENE DOME, SUMP RECEIVER, UNDERDECK CLAMP, 2" CAST IRON WATER DAM AND VANDAL PROOF SECURITY SCREWS, OR EQUAL.
S-1	SINGLE COMPARTMENT, STAINLESS STEEL, LEVER HANDLE	1/2"	1/2"	2"	1 1/2"	KOHLER K-3260-3 FAUCET: MOEN CA87485 PROVIDE GRID DRAIN SEPARATELY
S-2	SINGLE COMPARTMENT, STAINLESS STEEL, WIDESPREAD HANDLE GOOSENECK FAUCET	1/2"	1/2"	2"	1 1/2"	ELKAY ELU129 FAUCET: MOEN 8270 PROVIDE GRID DRAIN SEPARATELY
SC-1	SILL COCK, FREEZE PROOF, SELF DRAINING, VANDAL RESISTANT VACUUM BREAKER	1"	-	-	-	WOODFORD MODEL B65 (CHROME)
T-1	CLEANING TROUGH, FREEZE PROOF, SELF DRAINING, VANDAL RESISTANT VACUUM BREAKER	3/4"	-	-	-	ELKAY EWMA7220 FAUCET: MOEN 200506
SS-1	SERVICE SINK, WALL MOUNTED FAUCET WITH HOSE AND VACUUM BREAKER	3/4"	3/4"	3"	1/2"	KOHLER K-6710 FAUCET: MOEN 8124
SS-2	SERVICE SINK, WALL MOUNTED FAUCET WITH HOSE AND VACUUM BREAKER	3/4"	3/4"	3"	1/2"	WHITEHAUS WH4124 FAUCET: MOEN 8126
U-1	URINAL, WALL MOUNT, SIPHON JET, VITREOUS CHINA, SENSOR FLUSH VALVE	3/4"	-	3"	1 1/2"	SLOAN WEUS 1000.1201-0.13 SOLIS FLUSH VALVE: SLOAN SOLIS 8186 0.13 GPF COLOR: WHITE FLOOR TO RIM: 23"
U-2	URINAL, ADA COMPLIANT, WALL MOUNT, SIPHON JET, VITREOUS CHINA, SENSOR FLUSH VALVE	3/4"	-	3"	1 1/2"	SLOAN WEUS 1000.1201-0.13 SOLIS FLUSH VALVE: SLOAN SOLIS 8186 0.13 GPF COLOR: WHITE FLOOR TO RIM: 17"
WC-1	WATER CLOSET, ADA COMPLIANT STANDARD WALL MOUNT, MANUAL DUAL FLUSH VALVE, SIPHON JET, VITREOUS CHINA 1.6 GPF	1"	-	3"	2"	GERBER 25-030 SEAT: CENTOCO HL1500 SERIES FLUSH VALVE: SLOAN ECOS 8115 COLOR: WHITE FLOOR TO RIM: 17"
WC-2	WATER CLOSET, ADA COMPLIANT STANDARD WALL MOUNT, MANUAL DUAL FLUSH VALVE, SIPHON JET, VITREOUS CHINA 1.6 GPF	1"	-	3"	2"	GERBER 25-030 SEAT: CENTOCO 500 SERIES FLUSH VALVE: SLOAN ECOS 8115 COLOR: WHITE FLOOR TO RIM: 15"
WCO	WALL CLEANOUT	-	-	-	-	J.R. SMITH MANUFACTURING COMPANY SERIES 4530, CAST IRON CLEANOUT TEE, ABS PLUG, STAINLESS STEEL COVER WITH VANDAL PROOF SECURITY SCREWS. OR EQUAL.
DSN	DOWNSPOUT NOZZLE	-	-	-	-	J.R. SMITH MANUFACTURING COMPANY SERIES 1770, CAST BRONZE BODY AND FLANGE. PROVIDE SIZE INDICATED ON DRAWINGS.
HS-1	HYDRATION STATION	1/2"	-	-	-	HAWS 2000 RECESSED HYDRATION STATION
DD	DECK DRAIN	-	-	3"	2"	J.R. SMITH PROMENADE 1470
WB-1	WALL BOX	1/2"	-	2"	1 1/2"	GUY GRAY MANUFACTURING CO. INC. MODEL WB-200 IN WALL, BOTTOM SUPPLY WITH DRAIN CONNECTION.
WB-2	WALL BOX	3/4"	3/4"	2"	1 1/2"	GUY GRAY MANUFACTURING CO. INC. MODEL WB-200 IN WALL, BOTTOM SUPPLY WITH DRAIN CONNECTION.
EEWS-1	EMERGENCY EYE WASH AND SHOWER	2"	2"	3"	1 1/2"	BRADLEY COMBINATION DRENCH SHOWER EYEWASH UNIT PROVIDE WITH THERMOSTATIC MIXING VALVE MODEL S193140A1AAAA00

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

SASAKI

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HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH

DFCM #06297640

DIXIE COLLEGE, ST. GEORGE, UT

CONFORMED CONSTRUCTION DOCUMENTS BID SET

Rev #	Date	Description

Job # 2010-004.00
CAD File
Drawn AW Checked JMB
Date 12/03/2010
Owner # DFCM #06297640
Ins. #

PLUMBING SCHEDULES

PL601

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SYMBOL LEGEND

SYMBOL	DESCRIPTION
REFERENCE AND LINE SYMBOLS	
A5 / E-501	DETAIL INDICATOR: A5 INDICATES DETAIL NUMBER, E-501 INDICATES DRAWING SHEET WHERE DETAIL IS SHOWN.
A5 / E-201	ELEVATION OR SECTION INDICATOR, EXTERIOR: A5 INDICATES ELEVATION OR SECTION NUMBER, E-201 INDICATES DRAWING SHEET WHERE ELEVATION OR SECTION IS SHOWN.
A5 / E-201	ELEVATION OR SECTION INDICATOR, INTERIOR: A5 INDICATES ELEVATION OR SECTION NUMBER, E-201 INDICATES DRAWING SHEET WHERE ELEVATION OR SECTION IS SHOWN.
100	ROOM OR SPACE NUMBER.
1	KEYNOTE INDICATOR.
1	REVISION INDICATOR.
CU-1	EQUIPMENT INDICATOR.
	BREAK, STRAIGHT: TO BREAK PARTS OF DRAWING.
	BREAK, ROUND.
MATCH LINE / SEE XX/X-XXX	MATCH LINE INDICATOR: CENTER, EXTRA WIDE LINE.
	NEW LINE: MEDIUM LINE.
	HIDDEN FEATURES LINE: HIDDEN, THIN LINE.
	EXISTING TO REMAIN LINE: THIN LINE.
	DEMOLITION LINE: DASHED, MEDIUM LINE.
	PROPERTY LINE: DASHED, WIDE LINE.
	CONTRACT LIMIT LINE: DASHDOT, WIDE LINE.
WIRING METHODS	
	WIRING.
	WIRING TURNED UP OR TOWARDS OBSERVER.
	WIRING TURNED DOWN OR AWAY FROM OBSERVER.
A-1,3,5	BRANCH CIRCUIT HOME RUN TO PANELBOARD: NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS. LETTER AND NUMBER NOTATIONS IDENTIFY PANEL AND CIRCUIT NUMBERS. USE #12 CONDUCTORS, EXCEPT #10 CONDUCTORS SHALL BE INSTALLED IF DISTANCES EXCEED THOSE SPECIFIED IN THE ELECTRICAL SPECIFICATIONS.
1 / A-1,3,5	BRANCH CIRCUIT HOME RUN TO PANELBOARD: NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS. LETTER AND NUMBER NOTATIONS IDENTIFY PANEL AND CIRCUIT NUMBERS. NUMBER IN BOX REFERS TO THE CONDUCTOR AND CONDUIT SCHEDULE. FOR BRANCH WIRING USE #12 CONDUCTORS, EXCEPT #10 CONDUCTORS SHALL BE INSTALLED IF DISTANCES EXCEED THOSE SPECIFIED IN THE ELECTRICAL SPECIFICATIONS.
— X —	WIRING AND/OR RACEWAY: THIN LINE. WHERE "X" = : CATV = CABLE TELEVISION — NC = NURSE CALL CCTV = CLOSED CIRCUIT TELEVISION — P = POWER RC = RIGID CONDUIT FA = FIRE ALARM — S = SOUND FO = FIBER OPTICS — T = TELEPHONE I = INTERCOM — TV = TELEVISION OTHERS AS NOTED IN OTHER SCHEDULES. RACEWAYS AND WIRING SHALL BE SIZED AS SHOWN AND/OR SPECIFIED.
	LOW VOLTAGE WIRING: DIVIDE, MEDIUM LINE.
	CONDUIT STUB. DIMENSION RECORD DRAWINGS AND MARK.
1	CONDUCTOR & CONDUIT ("CC") SCHEDULE INDICATOR. REFER TO ONE-LINE DIAGRAM.
	JUNCTION BOX.
SC	JUNCTION BOX, SYSTEMS FURNITURE COMMUNICATION CONNECTION.
SP	JUNCTION BOX, SYSTEMS FURNITURE POWER CONNECTION.
C C	CABLE TRAY ABOVE ACCESSIBLE CEILING.
	EARTH GROUND (ONE-LINE DIAGRAM).
C	JUNCTION BOX, CEILING.
A A	CABLE TRAY BELOW ACCESSIBLE FLOOR.

SYMBOL LEGEND

SYMBOL	DESCRIPTION
WIRING DEVICES	
	RECEPTACLE, DUPLEX: NEMA 5-20R.
A	RECEPTACLE, DUPLEX, ABOVE COUNTER: NEMA 5-20R.
C	RECEPTACLE, DUPLEX, CEILING: NEMA 5-20R.
DF	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, DRINKING FOUNTAIN: CONCEAL WATER COOLER RECEPTACLE BEHIND WATER COOLER. SEE MECHANICAL/PLUMBING SHOP DRAWINGS FOR INSTALLATION REQUIREMENTS.
IG	RECEPTACLE, DUPLEX, ISOLATED GROUND: NEMA 5-20R.
S	RECEPTACLE, DUPLEX, SWITCHED: NEMA 5-20R.
W	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT. INTERRUPTER, WET LABEL, "WEATHERPROOF IN USE": NEMA 5-20R.
	RECEPTACLE, DUPLEX ON EMERGENCY POWER: NEMA 5-20R.
	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER: NEMA 5-20R.
	RECEPTACLE, QUADRAPLEX: NEMA 5-20R.
	RECEPTACLE, QUADRAPLEX ON EMERGENCY POWER: NEMA 5-20R.
	RECEPTACLE, SPECIAL PURPOSE. PROVIDE RECEPTACLE TO MATCH EQUIPMENT PLUG.
	MULTI-OUTLET ASSEMBLY: NEMA 5-20R.
FB#	FLUSH FLOOR BOX, "#" SHOWN ON DRAWINGS. REFER TO WIRING DEVICE SCHEDULE IN THE ELECTRICAL SPECIFICATIONS FOR CONFIGURATION AND DEVICES.
PT#	FLUSH FIRE RATED POKE THRU. "#" SHOWN ON DRAWINGS. REFER TO WIRING DEVICE SCHEDULE IN THE ELECTRICAL SPECIFICATIONS FOR CONFIGURATION AND DEVICES.
	SWITCH, DIMMER.
X $	SWITCH, SINGLE POLE ("x" INDICATES FIXTURES CONTROLLED).
X $3	SWITCH, THREE-WAY ("x" INDICATES FIXTURES CONTROLLED).
X $4	SWITCH, FOUR-WAY ("x" INDICATES FIXTURES CONTROLLED).
$T	SWITCH, TIMER OPERATED.
$WP	SWITCH, WEATHERPROOF.
SITE ELECTRICAL AND COMMUNICATIONS UTILITIES	
—3ØUP—	ELECTRIC LINE: THIN LINE. 1Ø = SINGLE PHASE, 2Ø = 2-PHASE, 3Ø = 3-PHASE, O = OVERHEAD, U = UNDERGROUND, P = PRIMARY, S = SECONDARY
	UTILITY POLE.
	UTILITY, DISTRIBUTION SWITCH OR SWITCHING STATION.
C	UTILITY, COMMUNICATIONS MANHOLE.
E	UTILITY, ELECTRICAL MANHOLE.
T	UTILITY, TELEPHONE MANHOLE.
LIGHTING (REFER TO FIXTURE SCHEDULE FOR SYMBOLS)	
(W-3)	FIXTURE IDENTIFICATION: (W-3) INDICATES FIXTURE TYPE AS SCHEDULED.
(W-3)	FIXTURE IDENTIFICATION, EMERGENCY WITH BATTERY PACK, CONNECTED TO GENERATOR AS INDICATED: (W-3) INDICATES FIXTURE TYPE AS SCHEDULED.
EM	EMERGENCY.
NL	NIGHT LIGHT: DO NOT SWITCH.
↑	EGRESS DIRECTION ARROW.
LIGHTING CONTROL	
	OCCUPANCY SENSOR, DUAL TECHNOLOGY, OMNI-DIRECTIONAL, CEILING.
	OCCUPANCY SENSOR, DUAL TECHNOLOGY, WALL.
	OCCUPANCY SENSOR, DUAL TECHNOLOGY, DIRECTIONAL.
P	OCCUPANCY SENSOR, DUAL TECHNOLOGY, OMNI-DIRECTIONAL, CEILING, PHOTORESPONSIVE.
P	OCCUPANCY SENSOR, DUAL TECHNOLOGY, DIRECTIONAL, PHOTORESPONSIVE.
P	PHOTOCELL.
PC	INDOOR PHOTOCELL, CEILING MOUNTED WITH VARIABLE OUTPUT FOR DIMMING BALLASTS.
STRUCTURED CABLING	
	OUTLET, BUILDING STANDARD COMBINATION TELEPHONE/ DATA COMMUNICATION.
	TELEPHONE TERMINAL BOARD, FIRE TREATED PLYWOOD PAINTED.
	LAN RACK, FLOOR STANDING.

ABBREVIATIONS

NOTE: ALL ABBREVIATIONS MAY NOT BE USED.

1P	SINGLE POLE	KV	KILOVOLT
1PH	SINGLE-PHASE	KVA	KILOVOLT AMPERE
1WAY	ONE-WAY	KVAR	KILOVOLT AMPERE REACTIVE
2/C	TWO-CONDUCTOR		
2WAY	TWO-WAY	kW	KILOWATT
3/C	THREE-CONDUCTOR	kWh	KILOWATT HOUR
3PH	THREE-PHASE	LED	LIGHT EMITTING DIODE
3WAY	THREE-WAY	LFMC	LIQUID TIGHT FLEXIBLE METAL CONDUIT
4OUT	QUADRUPLE RECEPTACLE OUTLET	LFNC	LIQUID TIGHT FLEXIBLE NONMETALLIC CONDUIT
4PDT	FOUR-POLE DOUBLE THROW	LPS	LOW PRESSURE SODIUM
4PST	FOUR-POLE SINGLE THROW	LRA	LOCKED ROTOR AMPS
		LTG	LIGHTING
4W	FOUR-WIRE	LV	LOW VOLTAGE
4WAY	FOUR-WAY	MATV	MASTER ANTENNA TELEVISION SYSTEM
A	ABOVE COUNTER		
AC	ARMORED CABLE	MAX	MAXIMUM
ADA	AMERICANS WITH DISABILITIES ACT	MC	METAL CLAD
		MCA	MINIMUM CIRCUIT AMPS
ADJ	ADJACENT	MCB	MAIN CIRCUIT BREAKER
AFF	ABOVE FINISHED FLOOR	MCC	MOTOR CONTROL CENTER
AFG	ABOVE FINISHED GRADE	MCP	MOTOR CIRCUIT PROTECTION
AIC	AMPERE INTERRUPTING CAPACITY	MDP	MAIN DISTRIBUTION PANEL
ALUM	ALUMINUM	MG	MOTOR GENERATOR
AMP	AMPERE	MH	MANHOLE
ANN	ANNUNCIATOR	MIN	MINIMUM
AP	ACCESS POINT (WIRELESS DATA)	MLO	MAIN LUGS ONLY
		MOCP	MAXIMUM OVERCURRENT PROTECTION
AR	AS REQUIRED		
ASC	AMPS SHORT CIRCUIT	NA	NOT APPLICABLE
ATS	AUTOMATIC TRANSFER SWITCH	NC	NORMALLY CLOSED
		NEC	NATIONAL ELECTRICAL CODE
AV	AUDIO VISUAL		
AWG	AMERICAN WIRE GAGE	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
BB XFMR	BUCK-BOOST TRANSFORMER		
C	CEILING MOUNTED	NFC	NATIONAL FIRE CODE
CATV	COMMUNITY ANTENNA TELEVISION	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
CB	CIRCUIT BREAKER	NIC	NOT IN CONTRACT
CCBA	CUSTOM COLOR AS SELECTED BY ARCHITECT	NL	NIGHT LIGHT
		NO	NORMALLY OPEN
CCTV	CLOSED CIRCUIT TELEVISION	NTS	NOT TO SCALE
		OC	ON CENTER
CFBA	CUSTOM FINISH AS SELECTED BY ARCHITECT	OCP	OVER CURRENT PROTECTION
CF/CI	CONTRACTOR FURNISHED/ CONTRACTOR INSTALLED	OF/CI	OWNER FURNISHED/ CONTRACTOR INSTALLED
CF/OI	CONTRACTOR FURNISHED/ OWNER INSTALLED	OF/OI	OWNER FURNISHED/ OWNER INSTALLED
CKT	CIRCUIT	OFP	OBTAIN FROM PLANS
CM	CONSTRUCTION MANAGER	OH DR	OVERHEAD (COILING) DOOR
CND	CONDUIT	OL	OVERLOAD
CO	CONVENIENCE OUTLET	PB	PUSHBUTTON
COR	CONTRACTING OFFICER'S REPRESENTATIVE	PF	POWER FACTOR
		PH	PHASE
CP	CONTROL PANEL	PNL	PANEL
CT	CURRENT TRANSFORMER	PT	POTENTIAL TRANSFORMER
CTV	CABLE TELEVISION	PTZ	PAN/TILT/ZOOM
CU	COPPER	QTY	QUANTITY
dBA	UNIT OF SOUND LEVEL	R	REMOVE
DPDT	DOUBLE POLE DOUBLE THROW	RCP	REFLECTED CEILING PLAN
		RMC	RIGID METAL CONDUIT
DS	DISCONNECT SWITCH	RNC	RIGID NONMETALLIC CONDUIT
EA	EACH		
EM	EMERGENCY	RPM	REVOLUTIONS PER MINUTE
EMT	ELECTRICAL METALLIC TUBING	RR	REMOVE AND RELOCATE
		SCA	SHORT CIRCUIT AMPS
ENT	ELECTRICAL NONMETALLIC TUBING	SCBA	STANDARD COLOR AS SELECTED BY ARCHITECT
EPO	EMERGENCY POWER OFF	SF	SQUARE FOOT (FEET)
EQUIP	EQUIPMENT	SFBA	STANDARD FINISH AS SELECTED BY ARCHITECT
EX	EXISTING		
F	FURNITURE MOUNTED	SPDT	SINGLE POLE, DOUBLE THROW
FA	FIRE ALARM		
FCP	FIRE ALARM CONTROL PANEL	SPEC	SPECIFICATION
		SPST	SINGLE POLE, SINGLE THROW
FLA	FULL LOAD AMPS		
FMC	FLEXIBLE METALCONDUIT	S/S	START/STOP
FOB	FREIGHT ON BOARD	ST	SINGLE THROW
FVNR	FULL VOLTAGE NON-REVERSING	SWBD	SWITCHBOARD
		SWGR	SWITCHGEAR
FVR	FULL VOLTAGE REVERSING	TL	TWIST LOCK
G	GROUND	TP	TELEPHONE POLE
GEN	GENERATOR	TP	TWISTED PAIR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	TTB	TELEPHONE TERMINAL BOARD
GFP	GROUND FAULT PROTECTION	TV	TELEVISION
		TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSER
HD	HEAVY DUTY		
HID	HIGH INTENSITY DISCHARGE	TYP	TYPICAL
		UF	UNDERFLOOR
HOA	HAND-OFF-AUTOMATIC	UGND	UNDERGROUND
HP	HORSE POWER	UPS	UNINTERRUPTIBLE POWER SUPPLY
HPF	HIGH POWER FACTOR		
HPS	HIGH PRESSURE SODIUM	V	VOLTS
HV	HIGH VOLTAGE	VA	VOLT AMPERE
HZ	HERTZ	VFC/VFD	VARIABLE FREQUENCY MOTOR CONTROLLER
IG	ISOLATED GROUND		
IMC	INTERMEDIATE METAL CONDUIT	W/	WITH
		W/O	WITHOUT
IN/IS	INSULATED/ISOLATED	WP	WEATHERPROOF
I/O	INPUT/OUTPUT	XFMR	TRANSFORMER
IR	INFRARED		
J-BOX	JUNCTION BOX		

DEFINITIONS

NOTE: ALL DEFINITIONS MAY NOT BE USED.

INDICATED: THE TERM "INDICATED" REFERS TO GRAPHIC REPRESENTATIONS, NOTES, OR SCHEDULES ON THE DRAWINGS, OTHER PARAGRAPHS OR SCHEDULES IN THE SPECIFICATIONS, AND SIMILAR REQUIREMENTS IN THE CONTRACT DOCUMENTS. WHERE TERMS SUCH AS "SHOWN", "NOTED", "SCHEDULED", AND "SPECIFIED" ARE USED, IT IS TO HELP THE READER LOCATE THE REFERENCE, NO LIMITATION ON LOCATION IS INTENDED.

DIRECTED: TERMS SUCH AS "DIRECTED", "REQUESTED", AUTHORIZED", "SELECTED", "APPROVED", "REQUIRED", AND "PERMITTED" MEAN "DIRECTED BY THE ENGINEER", "REQUESTED BY THE ENGINEER", AND SIMILAR PHRASES.

APPROVED: THE TERM "APPROVED", WHERE USED IN CONJUNCTION WITH THE ENGINEER'S ACTION ON THE CONTRACTOR'S SUBMITTALS, APPLICATIONS, AND REQUESTS, IS LIMITED TO THE ENGINEER'S DUTIES AND RESPONSIBILITIES AS STATED IN GENERAL AND SUPPLEMENTARY CONDITIONS.

FURNISH: THE TERM "FURNISH" IS USED TO MEAN "SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND SIMILAR OPERATIONS."

INSTALL: THE TERM "INSTALL" IS USED TO DESCRIBE OPERATIONS AT PROJECT SITE INCLUDING THE ACTUAL "UNLOADING, UNPACKING, ASSEMBLY, ERECTION, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS."

PROVIDE: THE TERM "PROVIDE" MEANS "TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE."

INSTALLER: AN "INSTALLER" IS THE CONTRACTOR OR AN ENTITY ENGAGED BY THE CONTRACTOR, EITHER AS AN EMPLOYEE, SUBCONTRACTOR, OR SUB-SUBCONTRACTOR, FOR PERFORMANCE OF A PARTICULAR CONSTRUCTION ACTIVITY, INCLUDING INSTALLATION, ERECTION, APPLICATION, AND SIMILAR OPERATIONS. INSTALLERS ARE REQUIRED TO BE EXPERIENCED IN THE OPERATIONS THEY ARE ENGAGED TO PERFORM.

TECHNOLOGY SYSTEMS: THE TERM "TECHNOLOGY SYSTEMS" IS USED TO DESCRIBE ALL LOW VOLTAGE SYSTEMS GENERALLY REFERRED TO AS "SPECIAL SYSTEMS". THESE SYSTEMS INCLUDE BUT ARE NOT NECESSARILY LIMITED TO ALL SYSTEMS WHICH UTILIZE VOLTAGES OF LESS THAN 71 VOLTS SUCH AS SOUND SYSTEMS, VIDEO SYSTEMS, TV SYSTEMS, SECURITY SYSTEMS, VOICE AND DATA CABLING SYSTEMS, ETC...

GENERAL ELECTRICAL NOTES

1. CLARIFICATION METHODS: AT THE TIME OF BIDDING, BIDDERS SHALL FAMILIARIZE THEMSELVES WITH THE DRAWINGS AND SPECIFICATIONS. ANY QUESTIONS, MISUNDERSTANDINGS, CONFLICTS, DELETIONS, DISCONTINUED PRODUCTS, CATALOG NUMBER DISCREPANCIES, DISCREPANCIES BETWEEN THE EQUIPMENT SUPPLIED AND THE INTENT OR FUNCTION OF THE EQUIPMENT, ETC, SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER IN WRITING FOR CLARIFICATION PRIOR TO ISSUANCE OF THE FINAL ADDENDUM AND BIDDING OF THE PROJECT. WHERE DISCREPANCIES OR MULTIPLE INTERPRETATIONS OCCUR, THE MOST STRINGENT (WHICH IS GENERALLY RECOGNIZED AS THE MOST COSTLY) THAT MEETS THE INTENT OF THE DOCUMENTS SHALL BE ENFORCED.
2. OWNER FURNISHED ITEMS: THE OWNER WILL FURNISH MATERIAL AND EQUIPMENT AS INDICATED IN THE CONTRACT DOCUMENTS TO BE INCORPORATED INTO THE WORK. THESE ITEMS ARE ASSIGNED TO THE INSTALLER AND COSTS FOR RECEIVING, HANDLING, STORAGE, IF REQUIRED, AND INSTALLATION ARE INCLUDED IN THE CONTRACT SUM.
   A. THE INSTALLER'S RESPONSIBILITIES ARE THE SAME AS IF THE INSTALLER FURNISHED THE MATERIALS OR EQUIPMENT.
   B. THE OWNER WILL ARRANGE AND PAY FOR DELIVERY OF OWNER FURNISHED ITEMS FREIGHT ON BOARD JOB SITE AND THE INSTALLER WILL INSPECT DELIVERIES FOR DAMAGE. IF OWNER FURNISHED ITEMS ARE DAMAGED, DEFFECTIVE OR MISSING, DOCUMENT DAMAGED ITEMS WITH THE TRANSPORT COMPANY AND THE OWNER WILL ARRANGE FOR REPLACEMENT. THE OWNER WILL ALSO ARRANGE FOR MANUFACTURER'S FIELD SERVICES, AND THE DELIVERY OF MANUFACTURER'S WARRANTIES AND BONDS TO THE INSTALLER.
   C. THE INSTALLER IS RESPONSIBLE FOR DESIGNATING THE DELIVERY DATES OF OWNER FURNISHED ITEMS AND FOR RECEIVING, UNLOADING AND HANDLING OWNER FURNISHED ITEMS AT THE SITE.THE INSTALLER IS RESPONSIBLE FOR PROTECTING OWNER FURNISHED ITEMS FROM DAMAGE, INCLUDING DAMAGE FROM EXPOSURE TO THE ELEMENTS, AND TO REPAIR OR REPLACE ITEMS DAMAGED AS A RESULT OF HIS OPERATIONS.
3. EXPOSED STRUCTURE AREAS (EXCLUDING MECHANICAL, ELECTRICAL, AND COMMUNICATION SPACES): INSTALL RACEWAYS BETWEEN DECK AND STRUCTURE WHEREVER POSSIBLE IN EXPOSED STRUCTURE CEILING AREAS. ROUTE RACEWAYS IN CONCEALED AREAS WHEREVER POSSIBLE. REFER ALL CONDITIONS WHERE RACEWAYS MUST BE INSTALLED WHICH CANNOT COMPLY WITH THESE REQUIREMENTS TO THE ARCHITECT.
4. SUBMITTALS: PROVIDE SUBMITTALS IN THREE RING BINDERS WITH JOB NAME, SUBCONTRACTOR, AND VOLUME ON THE BINDING. PREPARE TABS FOR EACH SPECIFICATION SECTION REQUIRING SUBMITTALS. PREPARE INDEX OF EQUIPMENT SUBMITTED IN EACH TAB.
5. REFLECTED CEILING PLANS: COORDINATE THE LOCATION OF LIGHT FIXTURES WITH THE ARCHITECTURAL REFLECTED CEILING PLANS. REFER ALL DISCREPANCIES TO THE ARCHITECT AND ENGINEER.

GENERAL PROJECT NOTES

1. THIS SHEET CONTAINS A LIST OF DRAWINGS WHICH ARE PART OF A FULL SET OF DRAWINGS FOR THIS PROJECT. ANY CONTRACTOR, SUBCONTRACTOR, VENDOR OR ANY OTHER PERSON PARTICIPATING IN OR BIDDING ON THIS PROJECT SHALL BE RESPONSIBLE FOR THE INFORMATION CONTAINED IN ANY AND ALL SHEETS OF DRAWINGS AND SPECIFICATIONS. IF ANY PERSON, PARTY OR ENTITY ELECTS TO SUBMIT BIDS FOR ANY PORTION, OR ALL, OF THIS PROJECT, THAT PERSON, PARTY OR ENTITY SHALL BE RESPONSIBLE FOR ANY AND ALL INFORMATION CONTAINED IN THE FULL SET OF DRAWINGS AND SPECIFICATIONS, INCLUDING, BUT NOT LIMITED TO, ANY SUBSEQUENT ADDENDUMS OR CLARIFICATIONS THAT MAY BE ISSUED.
2. THESE DOCUMENTS SHOW THE DESIGN INTENT. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE EVERYTHING SHOWN ON THE DRAWINGS OR SPECIFIED REGARDLESS OF WHERE IT IS SHOWN ON THE DRAWINGS OR IN THE SPECIFICATIONS. FOR EXAMPLE: SOME MILLWORK DETAILS HAVE STEEL FRAMES WHICH MAYBE PROVIDED BY DIVISION 05 OR WITH THE MILLWORK AT THE CONTRACTOR'S DISCRETION, BUT IT SHALL BE PROVIDED AS PART OF THE CONTRACT.
3. EVERYTHING CALLED FOR IN THESE DOCUMENTS SHALL BE "NEW" AND PROVIDED BY THE CONTRACTOR, SUBCONTRACTOR, VENDOR OR ANY OTHER PERSON PARTICIPATING IN OR BIDDING ON THIS PROJECT UNLESS NOTED OTHERWISE AS EXISTING (EXIST), NOT IN CONTRACT (NIC) OR FOR REFERENCE ONLY. FURNISHINGS SHOWN DASHED SHALL BE FOR REFERENCE ONLY.

MEP GENERAL NOTES

1. THE BUILDING WILL HAVE AN UNDERGROUND WATERPROOF MEMBRANE. ALL CONTRACTORS SHALL MINIMIZE PENETRATIONS AND COORDINATE THEM WITH THE WATERPROOFING SUBCONTRACTOR.
2. THE BUILDING WILL HAVE AN AIR AND MOISTURE BARRIER ON THE NON-GLAZED WALLS. ALL CONTRACTORS SHALL MINIMIZE PENETRATIONS AND COORDINATE THEM WITH THE WATERPROOFING SUBCONTRACTOR.
3. ALL PENETRATIONS IN FIRE RATED ASSEMBLIES WILL BE INSTALLED BY A SINGLE SUBCONTRACTOR. ALL CONTRACTORS SHALL MINIMIZE PENETRATIONS AND COORDINATE THEM WITH THE FIREPROOFING SUBCONTRACTOR.

ELECTRICAL SHEET INDEX

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EJ102M	LEVEL 2 MEZZANINE AV ROUGH IN PLAN
EJ103	LEVEL 3 AV ROUGH IN PLAN
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FA105	LEVEL 5 FIRE ALARM PLAN
FA106	ROOF FIRE ALARM PLAN
FA601	FIRE ALARM RISER
FA602	FIRE ALARM MATRIX

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SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #06297640
DIXIE COLLEGE, ST. GEORGE, UT
CONFORMED CONSTRUCTION DOCUMENTS BID SET

No.	Description	Date

Job # 09625
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Date 12/03/2010
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SHEET INDEX, ABBREVIATIONS, & NOTES

EE001
Sheet Number

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SYMBOL LEGEND

SYMBOL	DESCRIPTION
ELECTRICAL POWER AND DISTRIBUTION	
	FUSE WITH RATING (ONE-LINE DIAGRAM).
	DISCONNECT, FUSED (ONE-LINE DIAGRAM).
	DISCONNECT, NONFUSED (ONE-LINE DIAGRAM).
	DISCONNECT WITH FUSE AND MOTOR STARTER COMBINATION (ONE-LINE DIAGRAM).
	OVERLOAD RELAY (ONE-LINE DIAGRAM).
	STARTER (ONE-LINE DIAGRAM).
	CIRCUIT BREAKER, MOLDED CASE (ONE-LINE DIAGRAM).
	CIRCUIT BREAKER, MOLDED CASE WITH SHUNT TRIP (ONE-LINE DIAGRAM).
MCP	CIRCUIT BREAKER, MOTOR CIRCUIT PROTECTION (ONE-LINE DIAGRAM).
	CIRCUIT BREAKER, SOLID STATE (ONE-LINE DIAGRAM).
GFP	CIRCUIT BREAKER, SOLID STATE WITH GROUND FAULT PROTECTION (ONE-LINE DIAGRAM).
	MOTOR.
	TRANSFORMER (ONE-LINE DIAGRAM).
	TRANSFORMER, CURRENT (ONE-LINE DIAGRAM).
	BATTERY (ONE-LINE DIAGRAM).
225/3 "1H"	PANELBOARD WITH MAIN LUGS ONLY. BUS SIZE AND PHASE AS SHOWN (ONE-LINE DIAGRAM).
225/3 "1H"	PANELBOARD WITH MAIN CIRCUIT BREAKER. SIZE AND PHASE AS SHOWN (ONE-LINE DIAGRAM).
225/3 "1H" 60/3	PANELBOARD WITH MAIN AND SUB FEED CIRCUIT BREAKER (ONE-LINE DIAGRAM).
225/3 "1H" 25/3	PANELBOARD WITH MAIN LUGS ONLY AND SURGE PROTECTION WITH CIRCUIT BREAKER (ONE-LINE DIAGRAM).
225/3 "1H" 225/3 "1H"	PANELBOARD WITH SUB FEED LUGS (ONE-LINE DIAGRAM).
225/3 "1H" "1H"	PANELBOARD WITH CIRCUIT BREAKER AND SUB FEED LUGS (ONE-LINE DIAGRAM).

SYMBOL LEGEND

SYMBOL	DESCRIPTION
	CT CABINET PER UTILITY'S REQUIREMENTS (ONE-LINE DIAGRAM).
	TRANSFER SWITCH (ONE-LINE DIAGRAM).
DMM	DIGITAL MULTIMETER (ONE-LINE DIAGRAM).
	SERVICE ENTRANCE SURGE PROTECTION (ONE-LINE DIAGRAM).
G	GENERATOR, POWER (ONE-LINE DIAGRAM).
M	METER.
VFC VFD	VARIABLE FREQUENCY MOTOR CONTROLLER (ONE-LINE DIAGRAM).
	DISCONNECT SWITCH, FUSED.
	DISCONNECT SWITCH, UNFUSED.
	STARTER, COMBINATION WITH DISCONNECT SWITCH.
	STARTER OR MOTOR CONTROLLER.
	PUSHBUTTON.
	PUSHBUTTONS, MOTOR CONTROL.
	PANELBOARD CABINET, FLUSH MOUNTED.
	PANELBOARD CABINET, SURFACE MOUNTED, 1 SECTION.
	PANELBOARD CABINET, SURFACE MOUNTED, 2 SECTION.
DPB	DISTRIBUTION PANEL OR SWITCHBOARD.
LP	LIGHTING RELAY, CONTACTOR PANEL, OR DIMMING ENCLOSURE.
	LIGHTING CONTROL STATION.
$ST	SWITCH, TOGGLE MOTOR STARTER WITH OVERLOAD PROTECTION.
	SPECIALIZED TRANSFER SWITCH (ONE-LINE DIAGRAM).
HC	ACCESSIBLE DOOR ENTRY PUSH PLATE OPERATOR.
	CIRCUIT BREAKER, DRAW OUT (ONE-LINE DIAGRAM).
FIRE ALARM	
FSA	FIRE SYSTEM ANNUNCIATOR.
FCP	FIRE ALARM CONTROL PANEL, SEMI-RECESSED.
FPS	FIRE ALARM NOTIFICATION POWER SUPPLY.
CM	CONTROL MODULE.
MM	MONITOR MODULE.
P	FIRE ALARM MANUAL PULL STATION.
R	SHUT DOWN RELAY: INSTALL RELAY IN CONTROL CIRCUIT OF EQUIPMENT TO BE CONTROLLED IN THE EVENT OF A FIRE.
	MAGNETIC DOOR HOLDER.
	DETECTOR, SMOKE.
	DETECTOR, SMOKE, DUCT WITH HOUSING AND SAMPLING TUBE.
	DETECTOR, HEAT.
	STROBE.
75	STROBE. SUBSCRIPT INDICATES CANDELA RATING.
WP	ALARM, HORN/SPEAKER, WEATHERPROOF.
E	SPEAKER, EVACUATION.
E	SPEAKER, EVACUATION, COMBINATION STROBE.
	DETECTOR, FLOW SWITCH: FLOW SWITCHES SHALL BE PROVIDED AND INSTALLED WITH FIRE SPRINKLER SYSTEM AND SHALL BE CONNECTED TO LOCATIONS SHOWN ON THE FIRE SPRINKLER SHOP DRAWINGS.
	DETECTOR, TAMPER SWITCH WITH VALVE: TAMPER SWITCHES SHALL BE PROVIDED AND INSTALLED WITH FIRE SPRINKLER SYSTEM AND SHALL BE CONNECTED TO LOCATIONS SHOWN ON THE FIRE SPRINKLER SHOP DRAWINGS.
SD	SMOKE DAMPER.
FSD	FIRE AND SMOKE DAMPER.
	BELL (GONG).
E 75	ALARM,SPEAKER/STROBE, ONE ASSEMBLY, CEILING MOUNTED. SUBSCRIPT INDICATES CANDELA RATING.
75	ALARM, STROBE, CEILING MOUNTED. SUBSCRIPT INDICATES CANDELA RATING.

SYMBOL LEGEND

SYMBOL	DESCRIPTION
TECHNOLOGY SYSTEMS	
X	TECHNOLOGY SYSTEM CABLE. SEE SPECIFIC JOB EQUIPMENT LIST FOR APPLICABLE DESIGNATIONS. EXAMPLES: C = CONTROL CABLE G = GROUND CABLE, 10 AWG, 1 CONDUCTOR, GREEN INSULATED L = LINE LEVEL CABLE M = MICROPHONE CABLE S = SPEAKER CABLE, 70 VOLT SYSTEM Z = SPEAKER CABLE, 8 OHM SYSTEM
S #	SPEAKER, CEILING MOUNTED.
S #	SPEAKER, WALL MOUNTED.
S 4	SPEAKER, 4".
S 6	SPEAKER, 6".
S 8	SPEAKER, 8".
S 12	SPEAKER, 12".
S B	SPEAKER, BLIND MOUNT.
S E	SPEAKER, EXISTING.
S H	HORN.
S HW	HORN, WEATHER RESISTANT.
S M	SPEAKER, MASKING.
S R	SPEAKER, RECESSED.
S S	SPEAKER, SURFACE.
XX	SPEAKER, USER DEFINED.
	SPEAKER, HIGH FREQUENCY.
	SPEAKER, LOW FREQUENCY.
	SPEAKER ENCLOSURE (CLUSTER).
	CALL SWITCH, INTERCOM.
	MICROPHONE, TABLE OR LECTERN MOUNTED.
	EQUIPMENT CABINET.
	MEDIA CONNECTION PLATE.
	AUDIO/VISUAL OUTLET.
	SCREEN, PROJECTION, CEILING MOUNTED.
	PROJECTOR, CEILING MOUNTED.
V	VIDEO CONFERENCING CAMERA.
CP	CONTROL PANEL.
M	MICROPHONE INPUT.
M	MICROPHONE INPUT, FLOOR MOUNTED.
R	REMOTE CONTROL INPUT.
$	POWER SWITCH.
S	SPEAKER SWITCH OR INPUT.
SV	SOURCE SWITCH/VOLUME CONTROL.
T	TAPE RECORD OUTPUT.
V	VOLUME CONTROL.
HC	HUB CABINET.
M	VIDEO MONITOR.
ADA	AUDIO DISTRIBUTION AMPLIFIER.
APP	AUDIO PATCH PANEL.
CP#	CONNECTION PANEL.
DVD	DIGITAL VERSATILE DISC (DVD) PLAYER.
EP	ASSISTED LISTENING EMITTER PANEL.
K	SIGNAL RELAY DPDT WITH SOCKET.
LD	LINE DRIVER (VARIZONE DIGITAL PAGING SYSTEM).
PAM	POWER AMP MODULE (VARIZONE DIGITAL PAGING SYSTEM).
RDA	RGBHV DISTRIBUTION AMPLIFIER.
RM	REMOTE CONTROL PANEL.
RMS	RGBHV MATRIX SWITCHER.
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSER, AC LINE CONDITIONER.
VCR	VIDEO CASSETTE RECORDER.
VDA	COMPOSITE VIDEO DISTRIBUTION AMPLIFIER.
VMS	COMPOSITE VIDEO MATRIX SWITCHER.
VPP	VIDEO PATCH PANEL.
YMS	S-VIDEO MATRIX SWITCHER.
PA	AMPLIFIER (ONE-LINE DIAGRAM).
PB	POWER BRIDGE (VARIZONE DIGITAL PAGING SYSTEM).
	TERMINATOR (VARIZONE DIGITAL PAGING SYSTEM).
	DIODE (ONE-LINE DIAGRAM).
I/M	TRANSFORMER, ISOLATION/MATCHING (ONE-LINE DIAGRAM).
#W	TRANSFORMER, # WATT (ONE-LINE DIAGRAM).
	MICROPHONE, HANDHELD (ONE-LINE DIAGRAM).
A	AUXILIARY INPUT.
IR	INFRARED SENSOR.

SYMBOL LEGEND

SYMBOL	DESCRIPTION
CLOCK	
C	CLOCK.
CCTV	
P	CCTV CABLE, POWER.
V	CCTV CABLE, VIDEO SIGNAL.
CCTV	CCTV HEADEND EQUIPMENT.
M	CCTV MONITOR.
	CCTV CAMERA/ENCLOSURE WITH LENS, TYPICAL. SEE SCHEDULE.
PTZ	CCTV CAMERA WITH PAN, TILT AND ZOOM.
360°	PANNING CAMERA TRANSVERSE ANGLE.
SECURITY	
X	SECURITY CABLE. SEE EQUIPMENT SCHEDULE FOR CABLE TYPE.
ACC	ACCESS CONTROL HEADEND EQUIPMENT.
CTR	SECURITY CONTROL PANEL.
SEC	INTRUSION DETECTION HEADEND EQUIPMENT.
#1	CARD ACCESS DOOR TYPE #1 OR AS NOTED. SEE SCHEDULE.
CR	CARD READER.
KCR	KEYPAD/CARD READER COMBINATION.
	DOOR SWITCH, BALANCED MAGNETIC CONTROL.
ER	EXIT REQUEST.
RL	REMOTE DOOR RELEASE BUTTON.
	BELL.
	BUZZER.
	BUZZER, COMBINATION BELL.
	SENSOR, BURIED VEHICULAR.
	SENSOR, GLASS BREAK.
	SENSOR, VOLUMETRIC.
CA	CONTROLLED ACCESS POINT.
IC	INTERCOM STATION.
IRU	DUAL TECHNOLOGY PASSIVE INFRARED SENSOR AND ULTRASONIC MOTION DETECTOR.
IR	PASSIVE INFRARED SENSOR.
P	PANIC DURESS SWITCH.
U	ULTRASONIC MOTION DETECTOR.
AP	ANNUNCIATOR PANEL.
MSI	MASTER STATION, INTERCOM.
TV DISTRIBUTION	
T	TV DISTRIBUTION CABLE, INDIVIDUAL DROPS.
TR	TV DISTRIBUTION CABLE, TRUNK.
CMB	COMBINER.
DC	DIRECTIONAL COUPLER.
DA	DISTRIBUTION AMPLIFIER (ONE-LINE DIAGRAM).
SPL	SPLITTER (ONE-LINE DIAGRAM).
	TV OUTLET.
	SATELLITE ANTENNA.
	TV ANTENNA (ONE-LINE DIAGRAM).
	TERMINATOR, 75 OHM (TV DISTRIBUTION).

VCBO
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DIXIE STATE COLLEGE OF UTAH
DFCM #06297640
DIXIE COLLEGE, ST. GEORGE, UT
CONFORMED CONSTRUCTION DOCUMENTS BID SET

No.	Description	Date

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CAD File
Drawn BXW Checked RBK
Date 12/03/2010
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Ins. #

SYMBOLS LEGEND

EE002
Sheet Number

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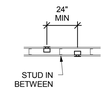
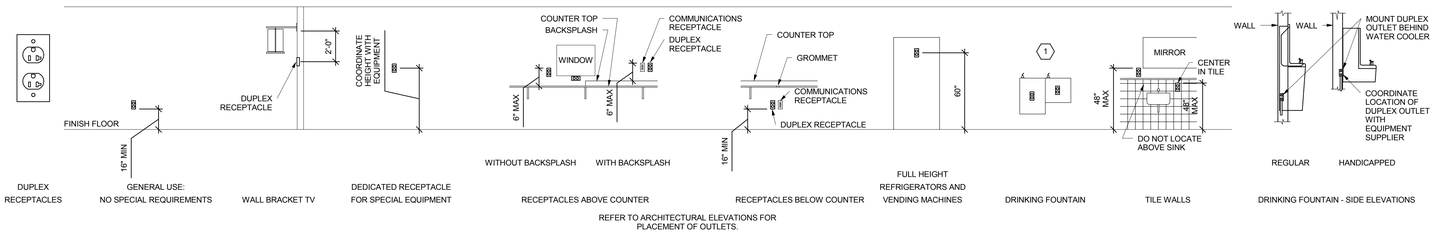


BOXES ON OPPOSITE SIDES OF WALL

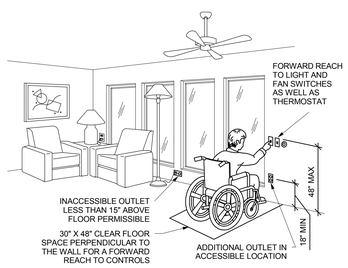
E5 BOX MOUNTING DETAILS

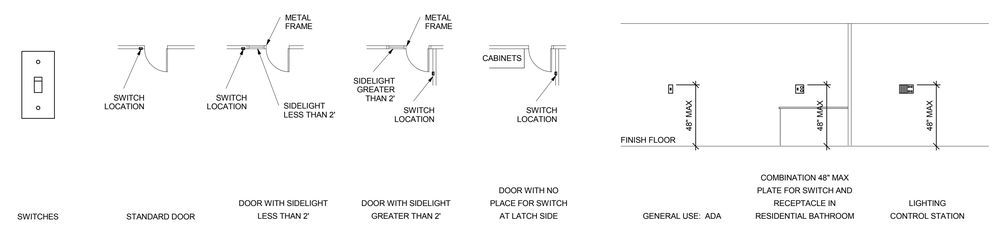
SCALE: N.T.S.



7 RECEPTACLE MOUNTING DETAILS

SCALE: N.T.S.



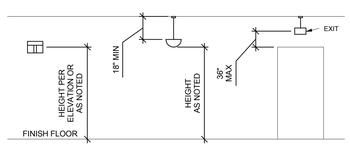


C1 ADA DETAIL

SCALE: N.T.S.

C2 SWITCH MOUNTING DETAILS

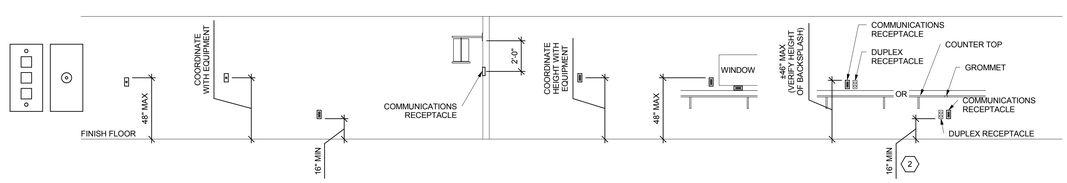
SCALE: N.T.S.



WALL MOUNTED LIGHT FIXTURE

PENDANT LIGHT FIXTURE

PENDANT EXIT SIGNS



COMMUNICATION RECEPTACLES

WALL PHONE

PAY PHONE

GENERAL USE: NO SPECIAL REQUIREMENTS

WALL BRACKET TV

DEDICATED RECEPTACLE FOR SPECIAL EQUIPMENT

ABOVE COUNTER - TYPICAL

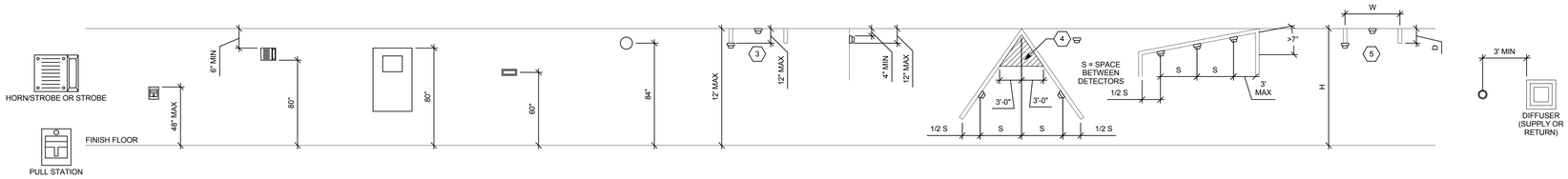
RECEPTACLES ABOVE OR BELOW COUNTER

B1 LIGHTING MOUNTING DETAILS

SCALE: N.T.S.

B2 COMMUNICATIONS MOUNTING DETAILS

SCALE: N.T.S.



FIRE ALARM

PULL STATION

HORN, CHIME, OR STROBE

FIRE ALARM CONTROL PANEL "FCP"

FIRE SYSTEM ANNUNCIATOR "FSA"

BELL

SMOKE DETECTOR BETWEEN BEAMS

WALL MOUNTED SMOKE DETECTOR

SMOKE DETECTOR ON SLOPED CEILING (PEAKED)

SMOKE DETECTOR ON SLOPED CEILING (SHED)

HEAT DETECTOR BETWEEN BEAMS

SMOKE DETECTOR ADJACENT TO SUPPLY AIR

A1 FIRE ALARM MOUNTING DETAILS

SCALE: N.T.S.

GENERAL SHEET NOTES

1. DETERMINE MOUNTING HEIGHTS OF ELECTRICAL AND ELECTRONIC EQUIPMENT IN THE FOLLOWING ORDER OF PRIORITY:
   1 - ELEVATIONS (ARCHITECTURAL, ELECTRICAL, MECHANICAL, ETC).
   2 - EQUIPMENT SHOP DRAWINGS.
   3 - FIELD INSTRUCTIONS.
2. LOCATE RECEPTACLES SERVING THE SAME TYPE OF USE AT A UNIFORM HEIGHT UNLESS DIRECTED OTHERWISE.
3. MECHANICAL, ELECTRICAL, AND COMMUNICATION ROOMS: COORDINATE LOCATION OF LIGHTING AND POWER RECEPTACLES WITH EQUIPMENT, PIPING, AND DUCTWORK. DO NOT INSTALL RECEPTACLES BEHIND EQUIPMENT OR WHERE OTHERWISE INACCESSIBLE. POSITION LIGHTING REGARDLESS OF WHERE SHOWN ON DRAWING TO PROVIDE PROPER ILLUMINATION.
4. MOUNT RECEPTACLE BOXES FOR SWITCHES AND RECEPTACLES WITH LONG AXIS OF THE DEVICE VERTICAL UNLESS OTHERWISE INDICATED.
5. SET BOXES WITH PLASTER RINGS FLUSH WITH FINISHED SURFACE.
6. LOCATE BOX COVERS OR DEVICE PLATES SO THEY WILL NOT SPAN DIFFERENT TYPES OF BUILDING FINISHES EITHER VERTICALLY OR HORIZONTALLY.
7. VERIFY ALL DOOR CONDITIONS ON ARCHITECTURAL DRAWINGS PRIOR TO INSTALLING SWITCHES.
8. LOCATE WIREING DEVICES WHICH ARE ADJACENT AND ARE COMPATIBLE VOLTAGES IN ONE PLATE.

SHEET KEYNOTES

1. LOCATE RECEPTACLES BEHIND DRINKING FOUNTAINS.
2. REFER TO ARCHITECTURAL ELEVATIONS FOR PLACEMENT OF OUTLETS.
3. LOCATE AT BOTTOM OF BEAMS (OR JOISTS) OR AT CEILING. (REDUCE SPACING BY .5 PERPENDICULAR TO BEAM OR JOIST DIRECTION.) FOR OTHER CONDITIONS, REFER TO NFPA 72.
4. LOCATE SMOKE DETECTOR ANYWHERE IN SHADED AREA.
5. LOCATE AT BOTTOM OF BEAMS IF EITHER D/H < .1 OR W/H < .4; OTHERWISE, LOCATE IN BEAM POCKET.

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON
SASAKI
LICENSED PROFESSIONAL ENGINEER No. 179621 RALPH B. KOEBER STATE OF UTAH
SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH

DFCM #06297640

DIXIE COLLEGE, ST. GEORGE, UT

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TYPICAL MOUNTING HEIGHT DETAILS

EE701

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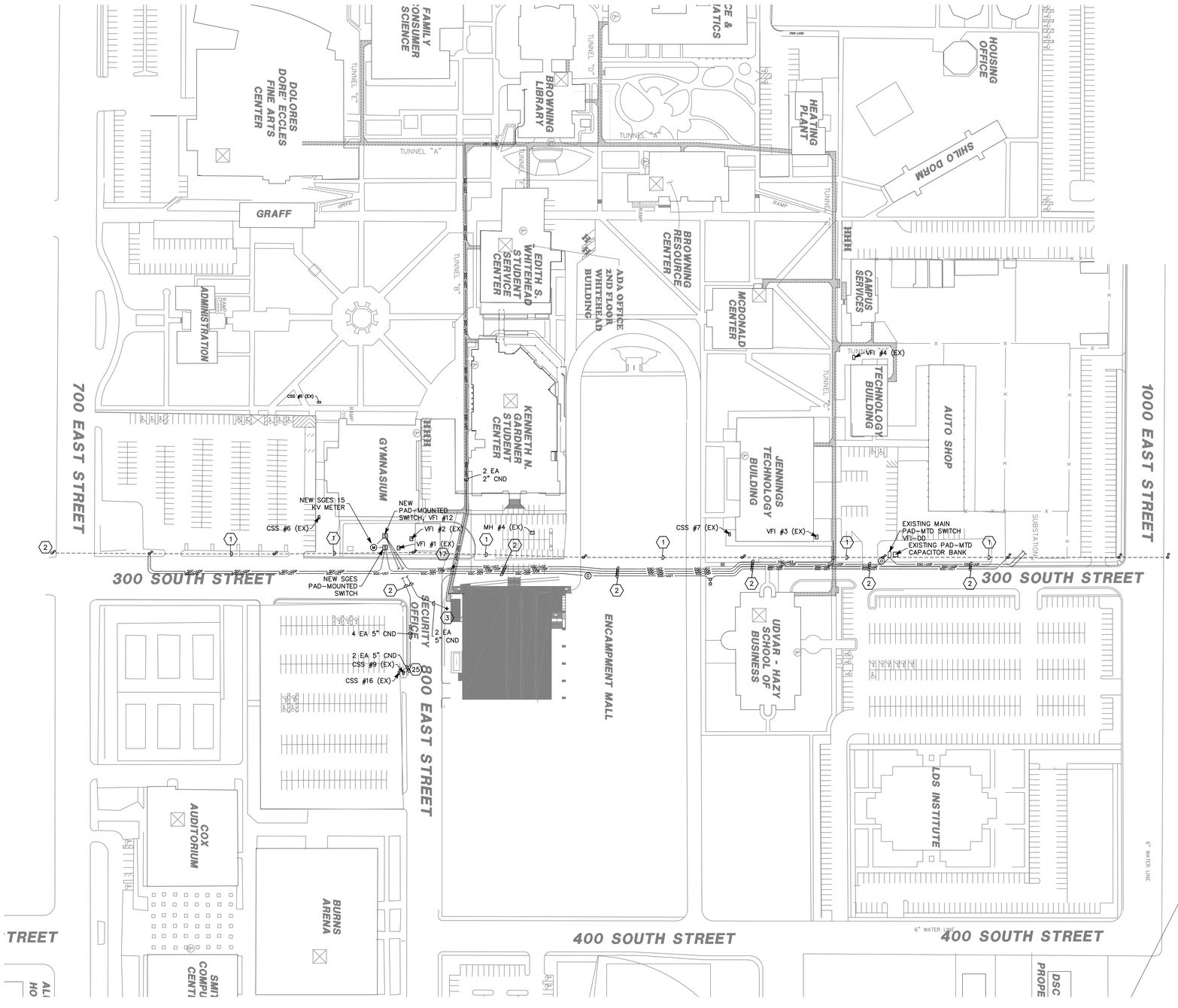
SHEET KEYNOTES

1. EXISTING OVERHEAD LINE THAT IS BEING REMOVED AND RELOCATED TO UNDERGROUND IN A SEPARATE CONTRACT.
2. UNDERGROUND CONDUIT DUCT BANK BEING INSTALLED IN A SEPARATE CONTRACT. PROVIDE NEW 15 KV CABLING PER ONE-LINE DIAGRAM.
3. COMPLETE CONDUIT RUN TO SWITCH AND TRANSFORMER AT CENTENNIAL COMMONS BUILDING.



A1 ELECTRICAL SITE UTILITY PLAN
1/80" = 1'-0"

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON
SASAKI

LICENSED PROFESSIONAL ENGINEER No. 181563 DAVID E. WESEMANN STATE OF UTAH

SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #06297640
DIXIE COLLEGE, ST. GEORGE, UT
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ELECTRICAL UTILITY PLAN

ES101
Sheet Number

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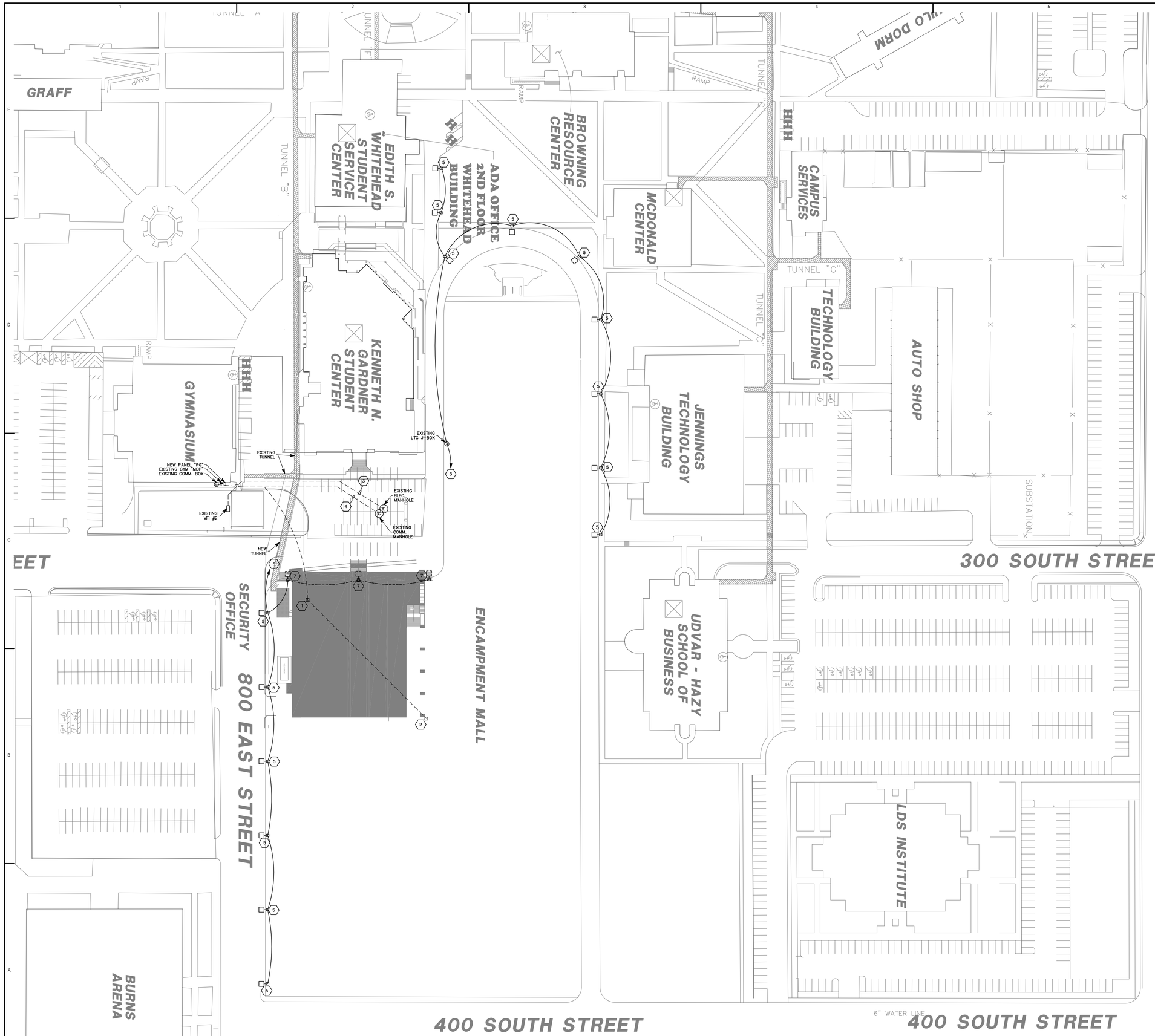

A1 SITE PLAN
1/50" = 1'-0"

SHEET KEYNOTES

1. EXISTING LIGHTING PANELBOARD AND CONTROL CABINET FOR EXTERIOR LIGHTING, FED FROM GYM "MDP" WITH 100A/2P FEEDER. REMOVE PANEL AND CONTROLS WITH ASSOCIATED CONDUIT AND WIRING. EXISTING EXTERIOR LIGHTS SHALL BE RE-CIRCUITED TO NEW PANEL "PG" AT GYM.
2. EXISTING IRRIGATION PANEL AND CONTROL BOX. FED FROM EXTERIOR LIGHTING CONTROL PANEL (REF KEYNOTE #1). REMOVE EXISTING FEEDER AND RE-FEED TO 40A/2P CB IN NEW PANEL "PG" WITH 3#4, 1#4 GR IN 1.25" CND.
3. EXISTING HV UNDERGROUND DUCTBANK AND CABLING THAT WILL BE INTERRUPTED BY NEW TUNNEL. REMOVE EXISTING HV CABLING (3 EA. #2/0 15KV) BETWEEN VFI #2 AND MANHOLE AT GARDNER CENTER. REMOVE PORTION OF CONDUIT AND RE-INSTALL OVER NEW TUNNEL (2 EA. 4" CND) CONCRETE ENCASE CONDUITS. PROVIDE NEW 3 EA. #2/0 15KV EPR CU CABLING AND 1 #2/0 THWN CU GR IN ONE CONDUIT (THE OTHER IS SPARE) AND RE-TERMINATE AT VFI #2 AND IN MANHOLE.
4. COMMUNICATIONS DUCTBANK WITH ABANDONED CABLES. REMOVE CABLES. REMOVE PORTION OF CONDUITS AT NEW TUNNEL AND RE-INSTALL (2 EA 4" CND) OVER TUNNEL. CONCRETE ENCASE CONDUITS.
5. EXISTING POLE LIGHT TO REMAIN. RE-CIRCUIT TO NEW PANEL "PG" THROUGH CONTACTOR.
6. HOMERUN CIRCUIT TO NEW PANEL "PG" THROUGH CONTACTOR WITH 2 #4, 1 #4 GR IN 1.25" CND. EXISTING CIRCUITING CAN BE INTERCEPTED AND TIED TO NEW HOMERUN.
7. REMOVE EXISTING POLE LIGHT WITH ASSOCIATED CONDUIT AND WIRING BACK TO PANELBOARD OR FIRST ACTIVE JUNCTION BOX.

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON
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SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #06297640
DIXIE COLLEGE, ST. GEORGE, UT
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SITE ELECTRICAL PLAN

ES102
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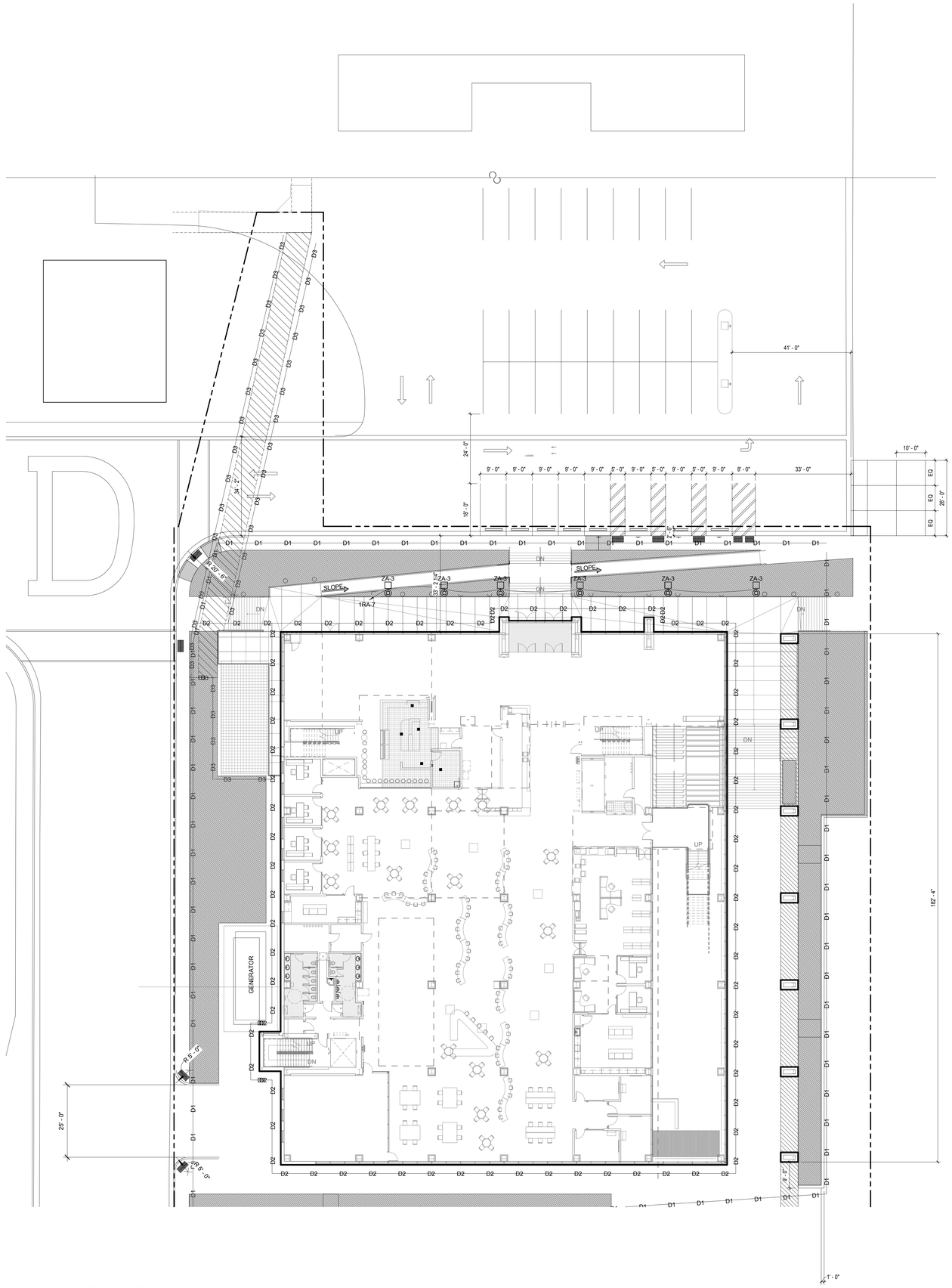

A1 OVERALL SITE ELECTRICAL PLAN

SCALE: 1/16" = 1'-0"

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

SASAKI

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SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH

DFCM #062976 40

DIXIE COLLEGE, ST. GEORGE, UT

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OVERALL SITE ELECTRICAL PLAN

ES103

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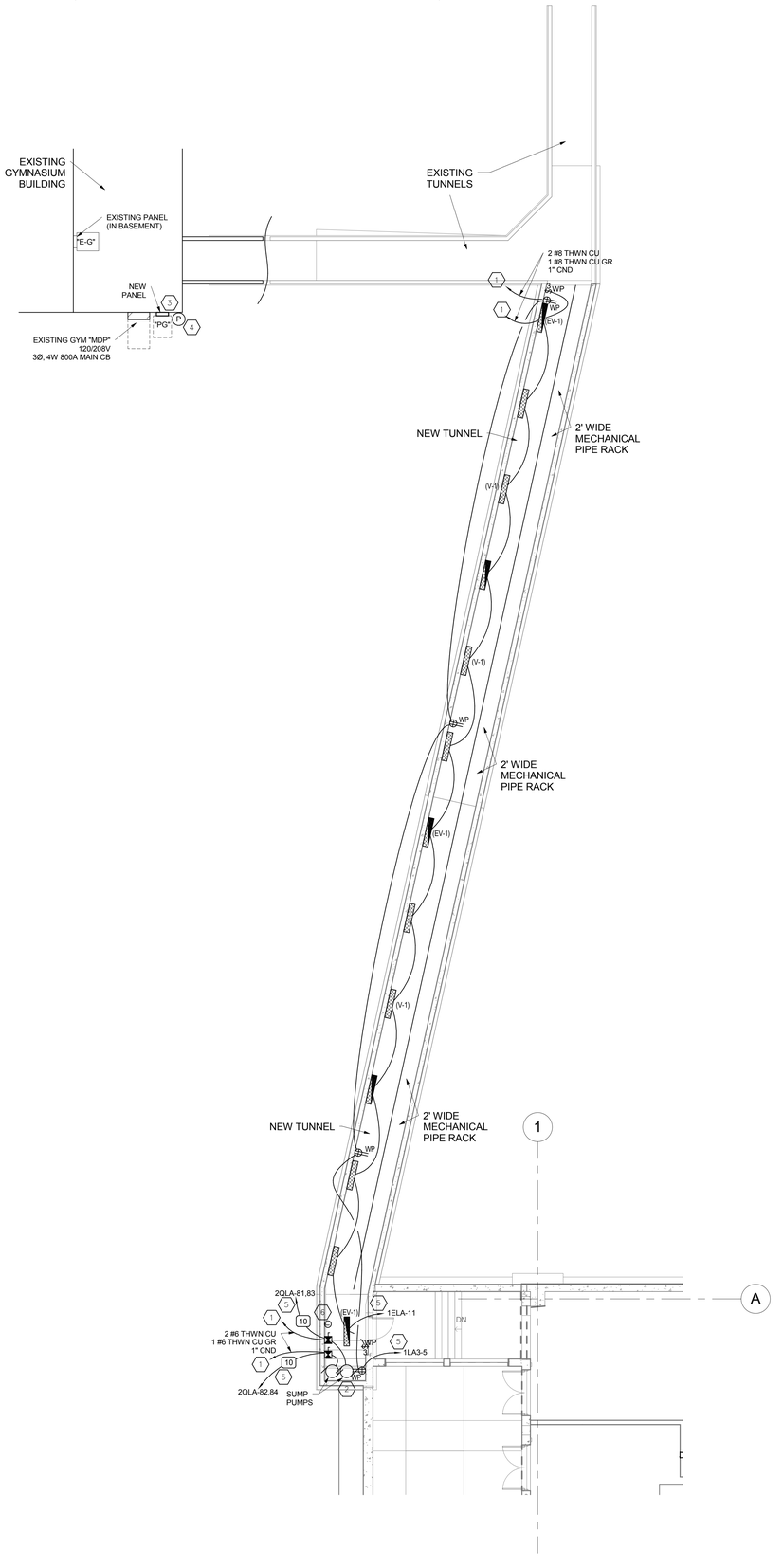

1 TUNNEL ELECTRICAL PLAN

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1 REFER TO ARCHITECTURAL AND MECHANICAL DRAWINGS AND SECTIONS FOR EXACT PLACEMENT OF FIXTURES AND DEVICES IN TUNNEL TO AVOID CONFLICTS WITH MECHANICAL PIPING.

SHEET KEYNOTES

1 CIRCUIT TO EXISTING 120/208V PANELBOARD "E-G" IN GYMNASIUM BASEMENT. PROVIDE 2 EA. 20A/1P CB'S IN PANEL FOR LIGHTING AND OUTLET CIRCUITS. THIS WILL BE A TEMPORARY SOURCE OF POWER. RECIRCUIT TO THE CENTENNIAL BUILDING ELECTRICAL SYSTEM WHEN AVAILABLE.

2 PROVIDE ELECTRICAL CONNECTIONS TO (2) SUMP PUMPS, EACH RATED AT 1/2 HP, 208V/1-PHASE. PROVIDE 30A/2P, SIZE 1 FUSIBLE COMBO STARTER FOR EACH PUMP. COORDINATE WITH MECHANICAL INSTALLER AND PROVIDE CONTROL WIRING AND CONNECTIONS. CIRCUIT TO SPARE 15A/2P CB'S IN EXISTING PANEL "E-G". THIS WILL BE A TEMPORARY SOURCE OF POWER. RECIRCUIT TO THE CENTENNIAL BUILDING ELECTRICAL SYSTEM WHEN AVAILABLE.

3 NEW 120/240 1Ø 3W, 22KAIC, 30 CKT, 100A PANELBOARD IN NEMA 3R ENCLOSURE. PROVIDE 2 EA. 30A/2P CB'S FOR REFEED OF EXISTING LTG CIRCUITS. 1 EA 40A/2P CB FOR REFEED OF IRRIGATION CONTROL BOX, AND 6 EA 20A/1P CB'S FOR MISC. CIRCUITS. FEED PANEL FROM 100A/2P CB IN ADJACENT "MDP" WITH 3#2, 1#6 GR IN 1.5" CND.

4 NEW PHOTOCELL AND 30A/8P CONTACTOR IN NEMA 3R ENCLOSURE FOR CONTROL OF EXISTING LIGHTING CIRCUITS.

5 WHEN PERMANENT POWER IN CENTENNIAL BUILDING IS AVAILABLE, REMOVE TEMPORARY POWER FROM GYMNASIUM AND RE-CIRCUIT TO CENTENNIAL PANEL AS INDICATED.

6 COMMUNICATIONS JUNCTION BOX. REFER TO SHEET ET601.

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

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SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

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TUNNEL ELECTRICAL PLAN

ES104

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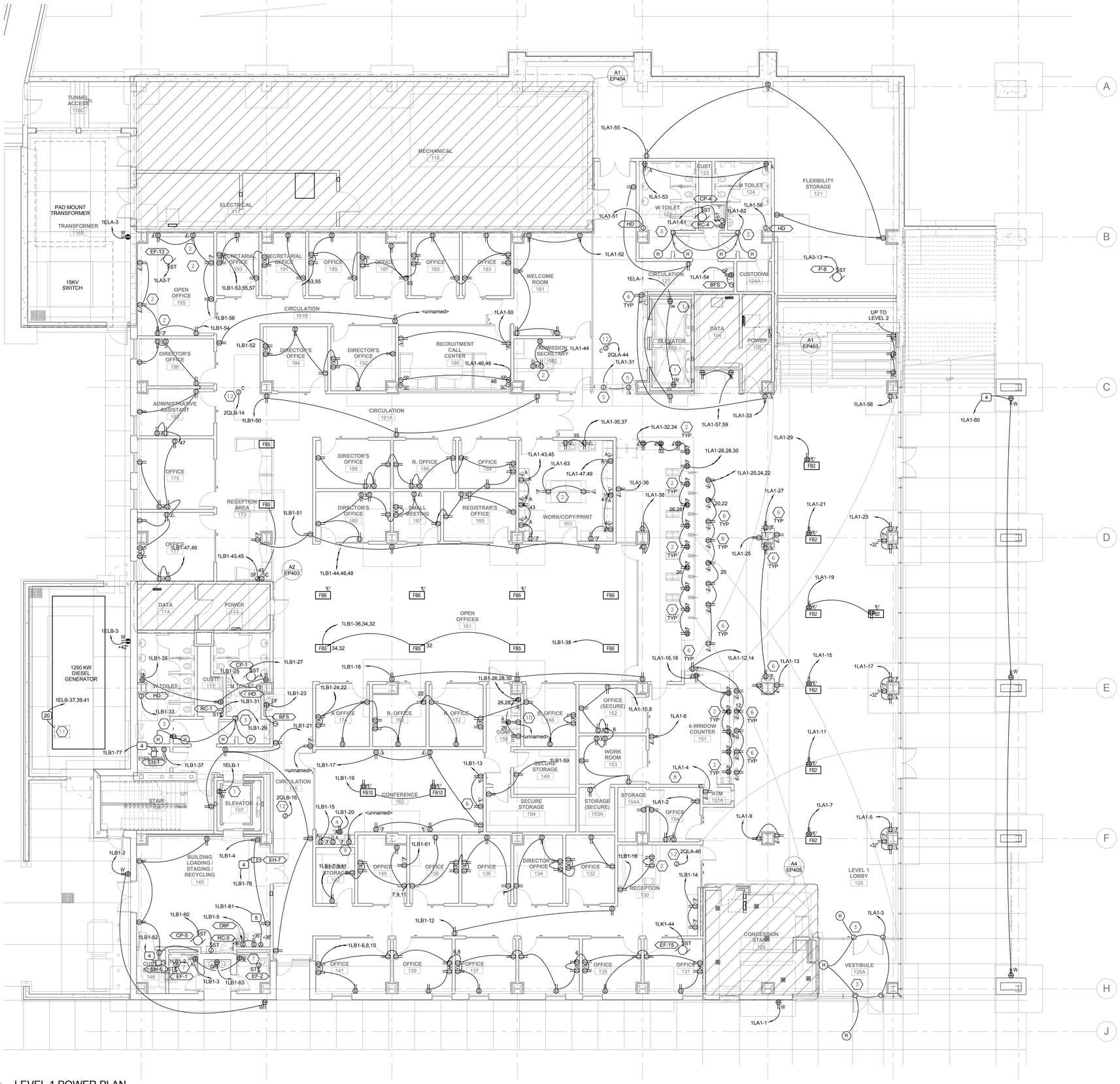

A1 LEVEL 1 POWER PLAN

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO SPECIFICATIONS FOR CONDUCTOR SIZES TO LIMIT VOLTAGE DROP FOR CIRCUITS GREATER THAN 70 FEET IN LENGTH.
2. INSTALL FIRE RATED PUTTY PADS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS ON ALL BOXES LOCATED IN RATED WALLS.
3. WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REVER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

1. RECEPTACLE IN ELEVATOR PIT. COORDINATE LOCATION WITH ELEVATOR INSTALLER.
2. OUTLET(S) MOUNTED IN MILLWORK. COORDINATE MOUNTING AND LOCATION INCLUDING CONDUIT ROUTING WITH ARCHITECTURAL DETAILS AND MILLWORK INSTALLER.
3. PROVIDE CONNECTION TO MOTORIZED DOOR OPERATOR WITH ALL POWER AND CONTROL WIRING PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
4. POWER AND VOICE DATA OUTLETS FOR A/V EQUIPMENT RACK. COORDINATE LOCATION WITH ARCHITECTURAL DETAILS AND A/V INSTALLER.
5. PROVIDE POWER AND DATA CONNECTIONS TO RFID BOOK MONITOR SYSTEM WITH ALL POWER AND CONTROL WIRING PER MANUFACTURER'S WRITTEN INSTRUCTIONS. PROVIDE 1.5" NON-METALLIC CONDUIT BETWEEN EACH DETECTION PANEL PER MANUFACTURERS REQUIREMENTS. PROVIDE 1" CONDUIT TO TELECOM ROOM FOR DATA CABLING. PROVIDE LABLELED LOCKABLE TOGGLE SWITCH ON POWER CIRCUIT IN ELECTRICAL ROOM.
6. POWER AND VOICE DATA OUTLETS FOR WALL MOUNTED A/V MONITOR OR PROJECTOR. COORDINATE LOCATION WITH ARCHITECTURAL ELEVATIONS AND A/V INSTALLER.
7. CIRCUIT EXHAUST FAN WITH RESTROOM LIGHTS. CONNECT SUCH THAT FAN RUNS WHEN LIGHTS ARE ON.
8. NO EQUIPMENT, DEVICES, RACEWAY OR WIRING SHALL BE INSTALLED ON OR THROUGH THIS WALL.
9. RECEPTACLE FOR UNDER COUNTER REFRIGERATOR. COORDINATE LOCATION WITH ARCHITECTURAL DETAILS AND MILLWORK INSTALLER.
10. RECEPTACLE FOR ABOVE COUNTER WALL MOUNTED MICROWAVE OVEN. COORDINATE LOCATION WITH ARCHITECTURAL DETAILS AND MILLWORK INSTALLER.
11. PANELBOARD SUPPLIED AND INSTALLED IN GENERATOR HOUSING BY GENERATOR SUPPLIER. FEEDER BY DIVISION 26.
12. CIRCUIT FOR BMS CONTROLS. COORDINATE AND LOCATE CIRCUIT WITH BMS CONTRACTOR.

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON
SASAKI
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HOLLAND CENTENNIAL COMMONS

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LEVEL 1 POWER PLAN

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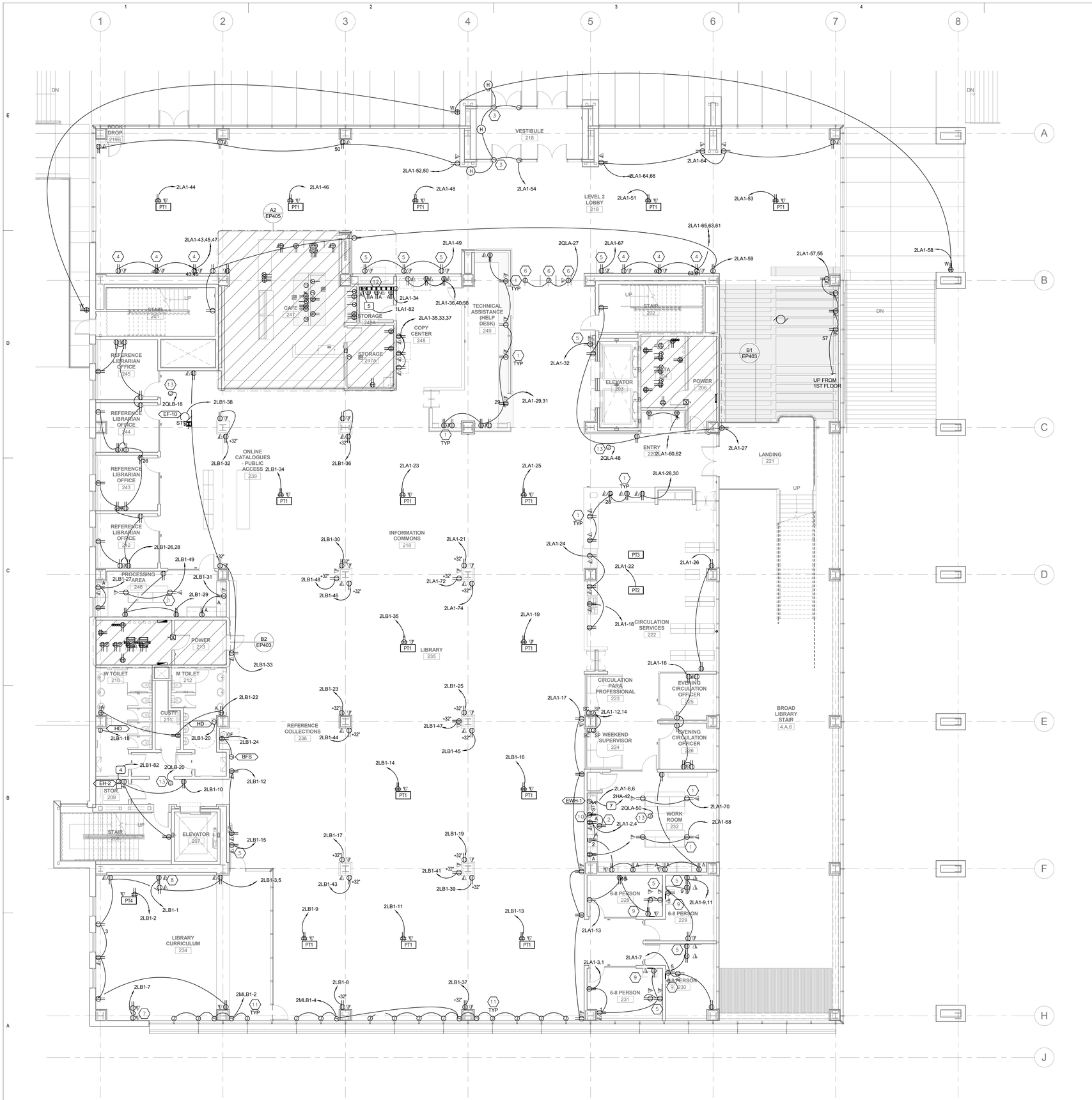

A1 LEVEL 02 POWER PLAN

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1 REFER TO SPECIFICATIONS FOR CONDUCTOR SIZES TO LIMIT VOLTAGE DROP FOR CIRCUITS GREATER THAN 70 FEET IN LENGTH.

2 INSTALL FIRE RATED PUTTY PADS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS ON ALL BOXES LOCATED IN RATED WALLS.

3 WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REVER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

1 OUTLET(S) MOUNTED IN MILLWORK. COORDINATE MOUNTING AND LOCATION INCLUDING CONDUIT ROUTING WITH ARCHITECTURAL DETAILS AND MILLWORK INSTALLER.

2 RECEPTACLE FOR UNDER COUNTER REFRIGERATOR. COORDINATE LOCATION WITH ARCHITECTURAL DETAILS AND MILLWORK INSTALLER.

3 PROVIDE CONNECTION TO MOTORIZED DOOR OPERATOR WITH ALL POWER AND CONTROL WIRING PER MANUFACTURER'S WRITTEN INSTRUCTIONS.

4 PROVIDE (10) POWER OUTLETS AND (10) VOICE DATA OUTLETS LOCATED BEHIND (10) WALL MOUNTED AV MONITORS. CIRCUIT TO BALANCE LOAD ON CIRCUITS SHOWN. REFER TO ARCHITECTURAL ELEVATIONS FOR LOCATIONS OF MONITORS.

5 POWER AND VOICE DATA OUTLETS FOR WALL MOUNTED A/V MONITOR OR PROJECTOR. COORDINATE LOCATION WITH ARCHITECTURAL ELEVATIONS AND A/V INSTALLER.

6 PROVIDE POWER AND DATA CONNECTIONS TO RFID BOOK MONITOR SYSTEM WITH ALL POWER AND CONTROL WIRING PER MANUFACTURER'S WRITTEN INSTRUCTIONS. PROVIDE 1.5" NON-METALLIC CONDUIT BETWEEN EACH DETECTION PANEL PER MANUFACTURERS REQUIREMENTS. PROVIDE 1" CONDUIT TO TELECOM ROOM FOR DATA CABLING. PROVIDE LABLELED LOCKABLE TOGGLE SWITCH ON POWER CIRCUIT IN ELECTRICAL ROOM.

7 POWER AND VOICE DATA OUTLETS FOR CLASS ROOM MONITOR. REFER TO DETAIL A6/EP501.

8 PROVIDE CEILING OUTLET FOR A/V PROJECTOR AND LOWERING DEVICE. COORDINATE EXACT LOCATION WITH A/V INSTALLER. RIGIDLY SUPPORT OUTLET INDEPENDENT OF CEILING SYSTEM.

9 POWER AND VOICE DATA OUTLETS FOR WALL MOUNTED LAPTOP STATION. COORDINATE EXACT LOCATION WITH ARCHITECTURAL ELEVATIONS AND A/V INSTALLER.

10 RECEPTACLE FOR ABOVE COUNTER WALL MOUNTED MICROWAVE OVEN. COORDINATE LOCATION WITH ARCHITECTURAL DETAILS AND MILLWORK INSTALLER.

11 PROVIDE CONNECTION TO MOTORIZED WINDOW SHADES WITH POWER AND CONTROL PER MANUFACTURERS WRITTEN INSTRUCTIONS. COORDINATE LOCATION OF CONTROL SWITCH WITH ARCHITECT.

12 WIREMOLD 4000 SERIES DIVIDED SURFACE RACEWAY FOR POWER AND VOICE/DATA OUTLETS SHOWN ABOVE COUNTER.

13 CIRCUIT FOR BMS CONTROLS. COORDINATE AND LOCATE CIRCUIT WITH BMS CONTRACTOR.

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

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LICENSED PROFESSIONAL ENGINEER
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RALPH B. KOEBER
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SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

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LEVEL 2 POWER PLAN

EP102

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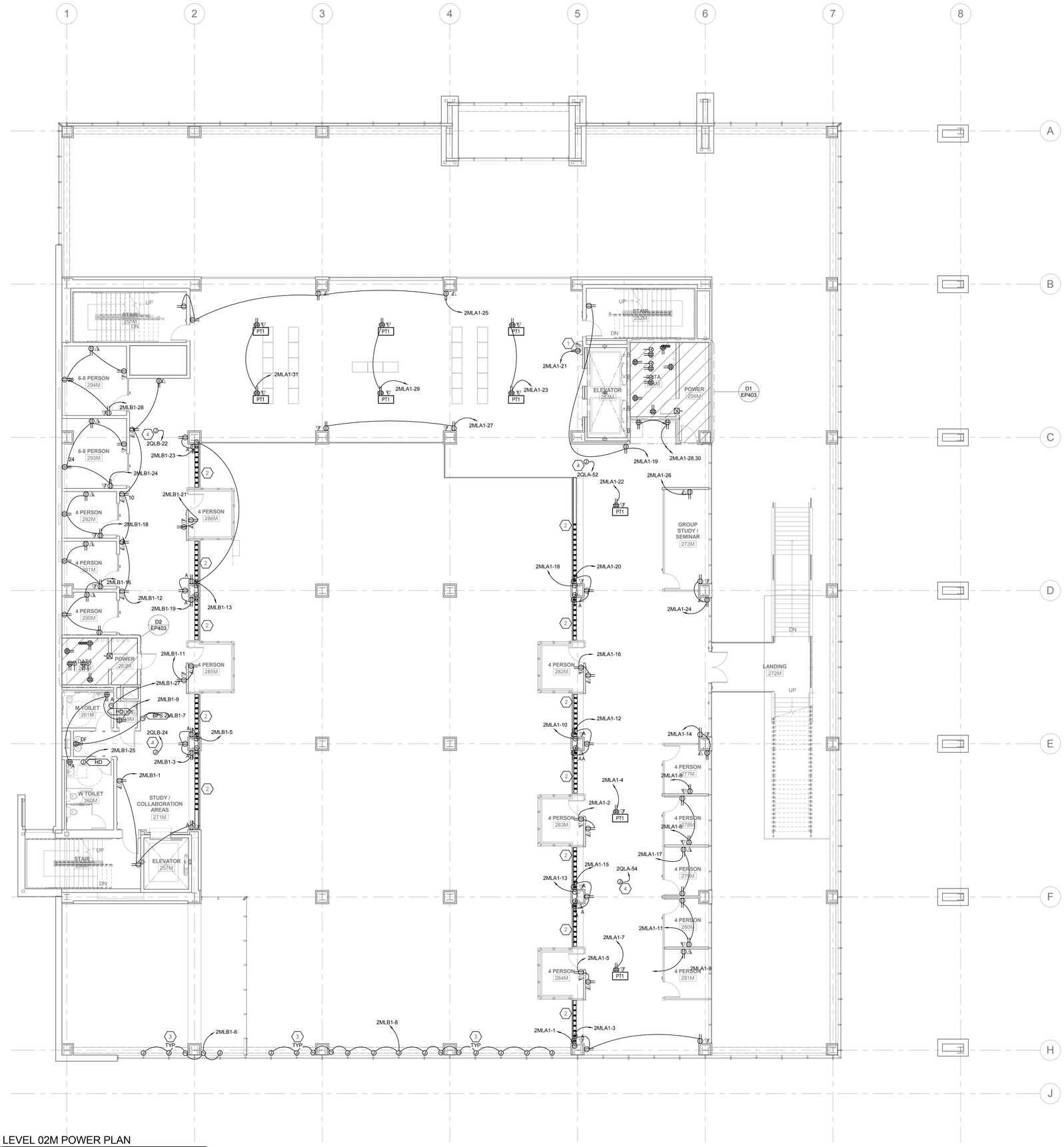

A1 LEVEL 02M POWER PLAN

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1 REFER TO SPECIFICATIONS FOR CONDUCTOR SIZES TO LIMIT VOLTAGE DROP FOR CIRCUITS GREATER THAN 70 FEET IN LENGTH.

2 INSTALL FIRE RATED PUTTY PADS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS ON ALL BOXES LOCATED IN RATED WALLS.

3 WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REVER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

1 POWER AND VOICE DATA OUTLETS FOR WALL MOUNTED A/V MONITOR OR PROJECTOR. COORDINATE LOCATION WITH ARCHITECTURAL ELEVATIONS AND A/V INSTALLER.

2 TYPE TT1 POWER ONLY TABLETOP RACEWAY. COORDINATE LENGTH OF UNIT WITH ARCHITECTURAL DETAILS. END FEED FROM COLUMN.

3 PROVIDE CONNECTION TO MOTORIZED WINDOW SHADES WITH POWER AND CONTROL PER MANUFACTURERS WRITTEN INSTRUCTIONS. COORDINATE LOCATION OF CONTROL SWITCH WITH ARCHITECT.

4 CIRCUIT FOR BMS CONTROLS. COORDINATE AND LOCATE CIRCUIT WITH BMS CONTRACTOR.

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

SASAKI

LICENSED PROFESSIONAL ENGINEER
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LEVEL 2 MEZZANINE POWER PLAN

EP102M
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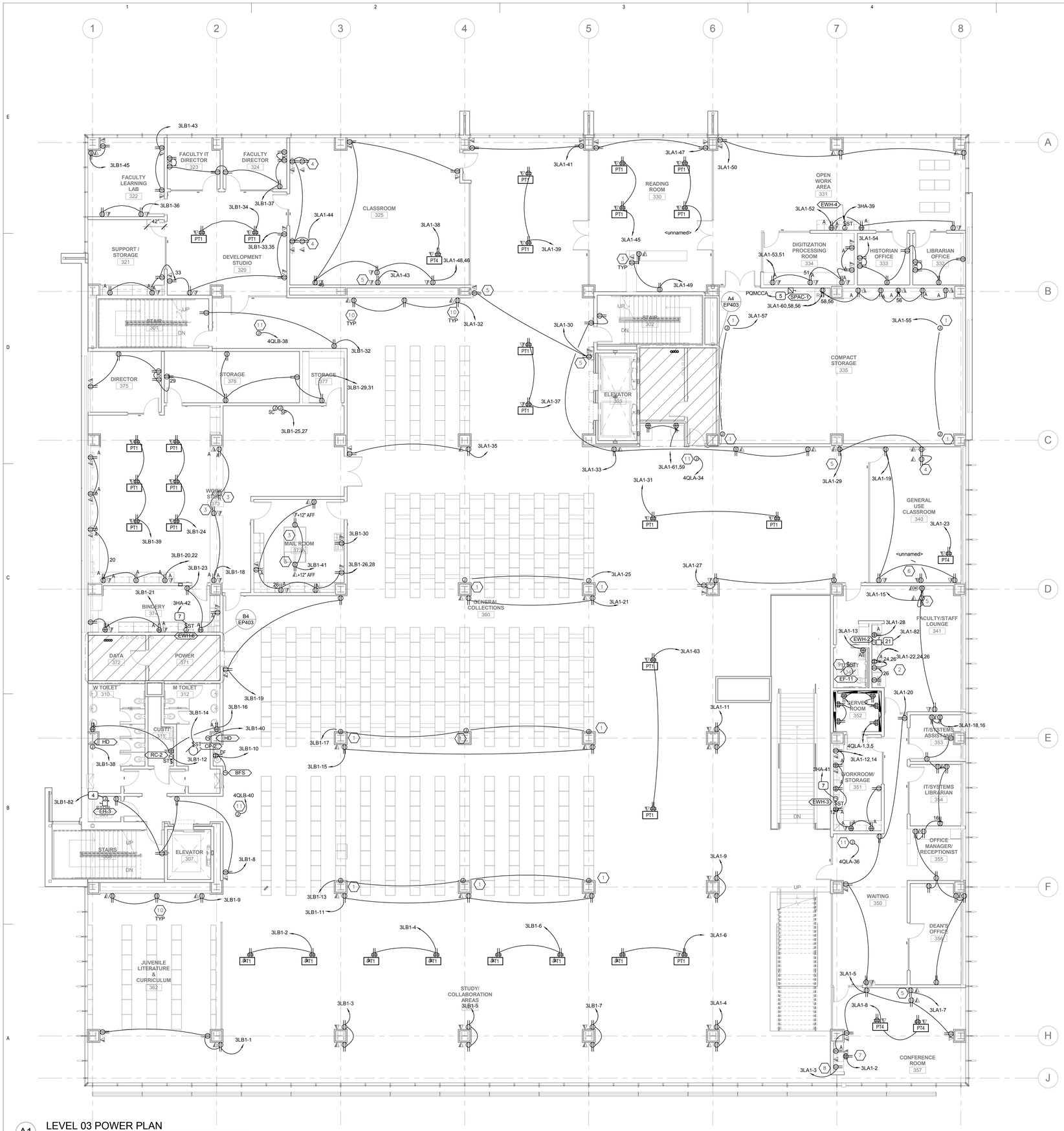

A1 LEVEL 03 POWER PLAN

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1 REFER TO SPECIFICATIONS FOR CONDUCTOR SIZES TO LIMIT VOLTAGE DROP FOR CIRCUITS GREATER THAN 70 FEET IN LENGTH.

2 INSTALL FIRE RATED PUTTY PADS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS ON ALL BOXES LOCATED IN RATED WALLS.

3 WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REVER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

1 PROVIDE CONNECTION TO MOTORIZED COMPACT STORAGE SYSTEM. COORDINATE LOCATION WITH INSTALLER.

2 RECEPTACLE FOR ABOVE COUNTER WALL MOUNTED MICROWAVE OVEN. COORDINATE LOCATION WITH ARCHITECTURAL DETAILS AND MILLWORK INSTALLER.

3 OUTLET(S) MOUNTED IN MILLWORK. COORDINATE MOUNTING AND LOCATION INCLUDING CONDUIT ROUTING WITH ARCHITECTURAL DETAILS AND MILLWORK INSTALLER.

4 POWER AND VOICE DATA OUTLETS FOR CLASS ROOM MONITOR. REFER TO DETAIL A6/EP501.

5 POWER AND VOICE DATA OUTLETS FOR WALL MOUNTED A/V MONITOR OR PROJECTOR. COORDINATE LOCATION WITH ARCHITECTURAL ELEVATIONS AND A/V INSTALLER.

6 PROVIDE CEILING OUTLET FOR A/V PROJECTOR AND LOWERING DEVICE. COORDINATE EXACT LOCATION WITH A/V INSTALLER. RIGIDLY SUPPORT OUTLET INDEPENDENT OF CEILING SYSTEM.

7 POWER AND VOICE DATA OUTLETS FOR A/V EQUIPMENT RACK. COORDINATE LOCATION WITH ARCHITECTURAL DETAILS AND A/V INSTALLER.

8 RECEPTACLE FOR UNDER COUNTER REFRIGERATOR. COORDINATE LOCATION WITH ARCHITECTURAL DETAILS AND MILLWORK INSTALLER.

9 CIRCUIT EXHAUST FAN WITH RESTROOM LIGHTS. CONNECT SUCH THAT FAN RUNS WHEN LIGHTS ARE ON.

10 POWER AND VOICE/DATA OUTLETS AT 10" AFF TO CENTER, MOUNTED HORIZONTALLY IN FACE OF BENCH.

11 CIRCUIT FOR BMS CONTROLS. COORDINATE AND LOCATE CIRCUIT WITH BMS CONTRACTOR.

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

SASAKI

LICENSED PROFESSIONAL ENGINEER
No. 179621
RALPH B. KOEBER
STATE OF UTAH

SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #062976 40
DIXIE COLLEGE, ST. GEORGE, UT
CONFORMED CONSTRUCTION DOCUMENTS BID SET

No.	Description	Date

Job # 09625
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Date 12/03/2010
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LEVEL 3 POWER PLAN

EP103

Sheet Number

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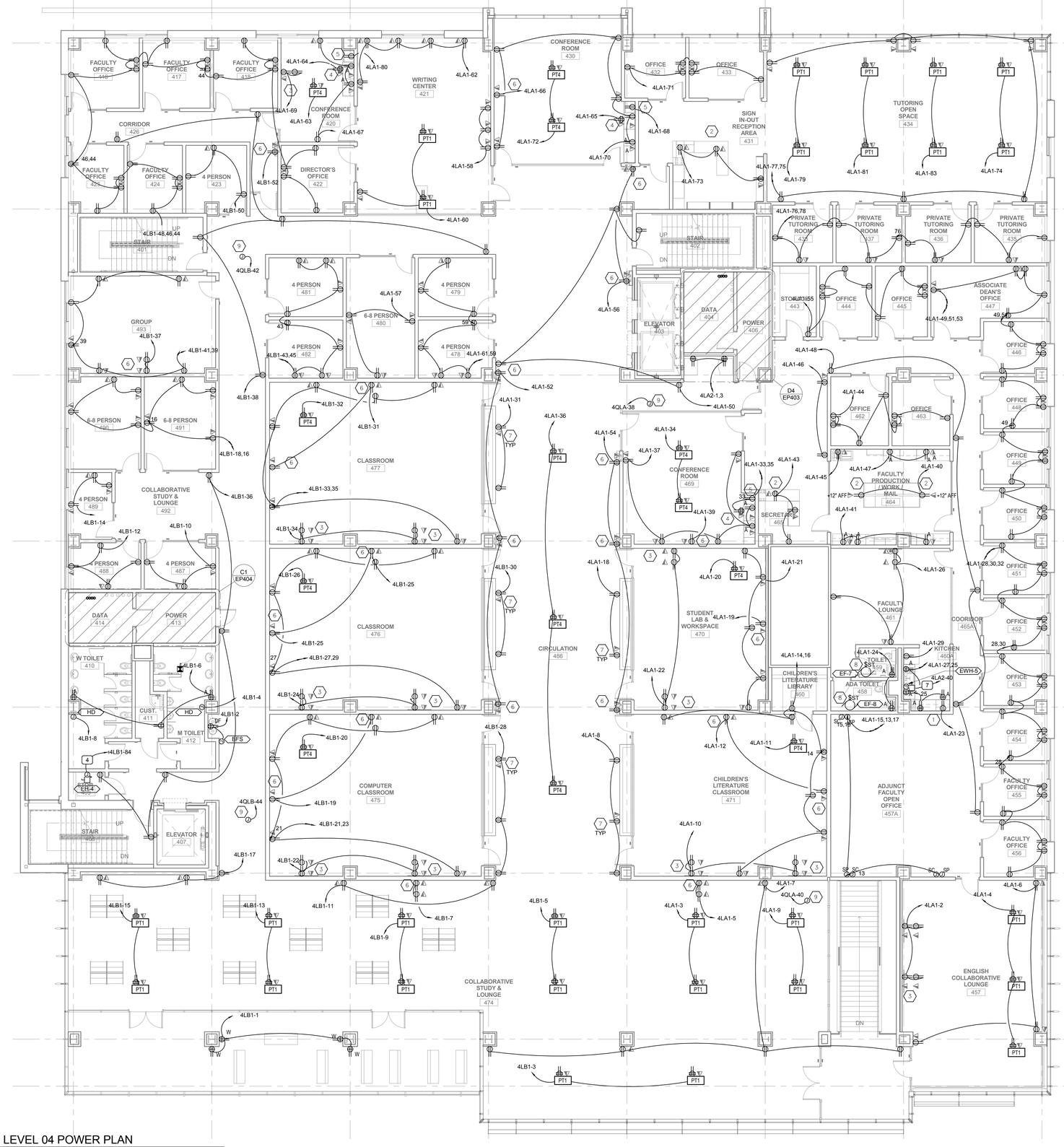

A1 LEVEL 04 POWER PLAN

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO SPECIFICATIONS FOR CONDUCTOR SIZES TO LIMIT VOLTAGE DROP FOR CIRCUITS GREATER THAN 70 FEET IN LENGTH.
2. INSTALL FIRE RATED PUTTY PADS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS ON ALL BOXES LOCATED IN RATED WALLS.
3. WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REVER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

1. RECEPTACLE FOR ABOVE COUNTER WALL MOUNTED MICROWAVE OVEN. COORDINATE LOCATION WITH ARCHITECTURAL DETAILS AND MILLWORK INSTALLER.
2. OUTLET(S) MOUNTED IN MILLWORK. COORDINATE MOUNTING AND LOCATION INCLUDING CONDUIT ROUTING WITH ARCHITECTURAL DETAILS AND MILLWORK INSTALLER.
3. POWER AND VOICE DATA OUTLETS FOR CLASS ROOM MONITOR. REFER TO DETAIL A6/EP501.
4. POWER AND VOICE DATA OUTLETS FOR A/V EQUIPMENT RACK. COORDINATE LOCATION WITH ARCHITECTURAL DETAILS AND A/V INSTALLER.
5. RECEPTACLE FOR UNDER COUNTER REFRIGERATOR. COORDINATE LOCATION WITH ARCHITECTURAL DETAILS AND MILLWORK INSTALLER.
6. POWER AND VOICE DATA OUTLETS FOR WALL MOUNTED A/V MONITOR OR PROJECTOR. COORDINATE LOCATION WITH ARCHITECTURAL ELEVATIONS AND A/V INSTALLER.
7. POWER AND VOICE/DATA OUTLETS AT 10" AFF TO CENTER, MOUNTED HORIZONTALLY IN FACE OF BENCH.
8. CIRCUIT EXHAUST FAN WITH RESTROOM LIGHTS. CONNECT SUCH THAT FAN RUNS WHEN LIGHTS ARE ON.
9. CIRCUIT FOR BMS CONTROLS. COORDINATE AND LOCATE CIRCUIT WITH BMS CONTRACTOR.

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

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SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #09297640
DIXIE COLLEGE, ST. GEORGE, UT
CONFORMED CONSTRUCTION DOCUMENTS BID SET

No.	Description	Date

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Date 12/03/2010
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LEVEL 4 POWER PLAN

EP104

Sheet Number

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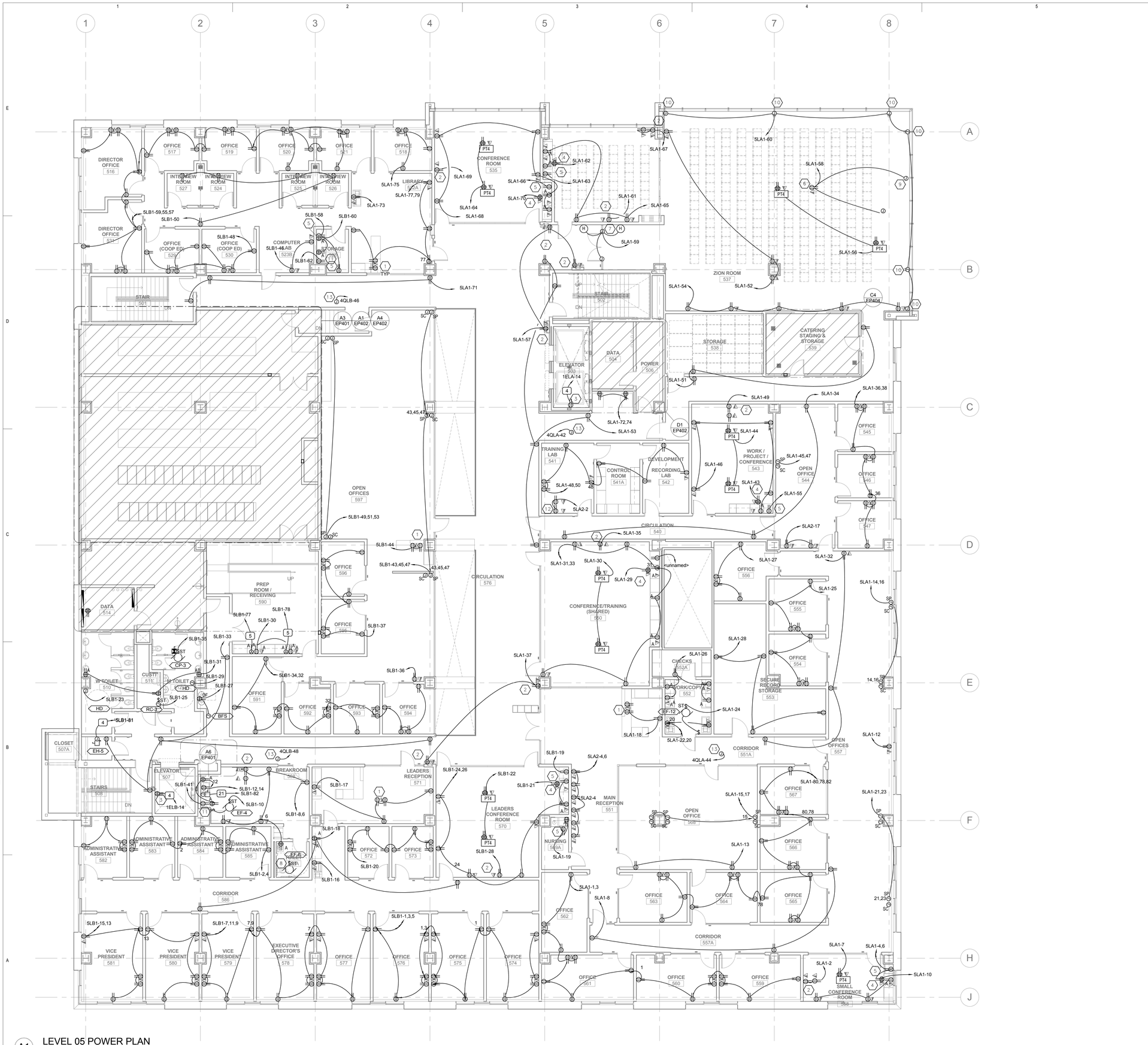

A1 LEVEL 05 POWER PLAN

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO SPECIFICATIONS FOR CONDUCTOR SIZES TO LIMIT VOLTAGE DROP FOR CIRCUITS GREATER THAN 70 FEET IN LENGTH.
2. INSTALL FIRE RATED PUTTY PADS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS ON ALL BOXES LOCATED IN RATED WALLS.
3. WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REVER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

1. OUTLET(S) MOUNTED IN MILLWORK. COORDINATE MOUNTING AND LOCATION INCLUDING CONDUIT ROUTING WITH ARCHITECTURAL DETAILS AND MILLWORK INSTALLER.
2. POWER AND VOICE DATA OUTLETS FOR WALL MOUNTED A/V MONITOR OR PROJECTOR. COORDINATE LOCATION WITH ARCHITECTURAL ELEVATIONS AND A/V INSTALLER.
3. OUTLET AT TOP OF ELEVATOR SHAFT. COORDINATE LOCATION WITH ELEVATOR EQUIPMENT INSTALLER.
4. POWER AND VOICE DATA OUTLETS FOR A/V EQUIPMENT RACK. COORDINATE LOCATION WITH ARCHITECTURAL DETAILS AND A/V INSTALLER.
5. RECEPTACLE FOR UNDER COUNTER REFRIGERATOR. COORDINATE LOCATION WITH ARCHITECTURAL DETAILS AND MILLWORK INSTALLER.
6. PROVIDE CEILING OUTLET FOR A/V PROJECTOR AND LOWERING DEVICE. COORDINATE EXACT LOCATION WITH A/V INSTALLER. RIGIDLY SUPPORT OUTLET INDEPENDENT OF CEILING SYSTEM.
7. PROVIDE CONNECTION TO MOTORIZED DOOR OPERATOR WITH ALL POWER AND CONTROL WIRING PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
8. CIRCUIT EXHAUST FAN WITH RESTROOM LIGHTS. CONNECT SUCH THAT FAN RUNS WHEN LIGHTS ARE ON.
9. PROVIDE ELECTRICAL CONNECTIONS TO MOTORIZED SCREEN WITH ALL POWER AND CONTROL WIRING PER MANUFACTURER'S WRITTEN INSTRUCTIONS. MOUNT CONTROL SWITCH IN LOCATION APPROVED BY ARCHITECT. INTERFACE WITH A/V CONTROLS PER A/V DRAWINGS.
10. PROVIDE CONNECTION TO MOTORIZED WINDOW SHADES WITH POWER AND CONTROL PER MANUFACTURERS WRITTEN INSTRUCTIONS. COORDINATE LOCATION OF CONTROL SWITCH WITH ARCHITECT.
11. RECEPTACLE FOR ABOVE COUNTER WALL MOUNTED MICROWAVE OVEN. COORDINATE LOCATION WITH ARCHITECTURAL DETAILS AND MILLWORK INSTALLER.
12. POWER AND VOICE DATA OUTLETS FOR CLASS ROOM MONITOR. REFER TO DETAIL A6/EP501.
13. CIRCUIT FOR BMS CONTROLS. COORDINATE AND LOCATE CIRCUIT WITH BMS CONTRACTOR.

VCBO ARCHITECTURE
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HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #062297640
DIXIE COLLEGE, ST. GEORGE, UT
CONFORMED CONSTRUCTION DOCUMENTS BID SET

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Job # 09625
CAD File
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LEVEL 5 POWER PLAN

EP105

Sheet Number

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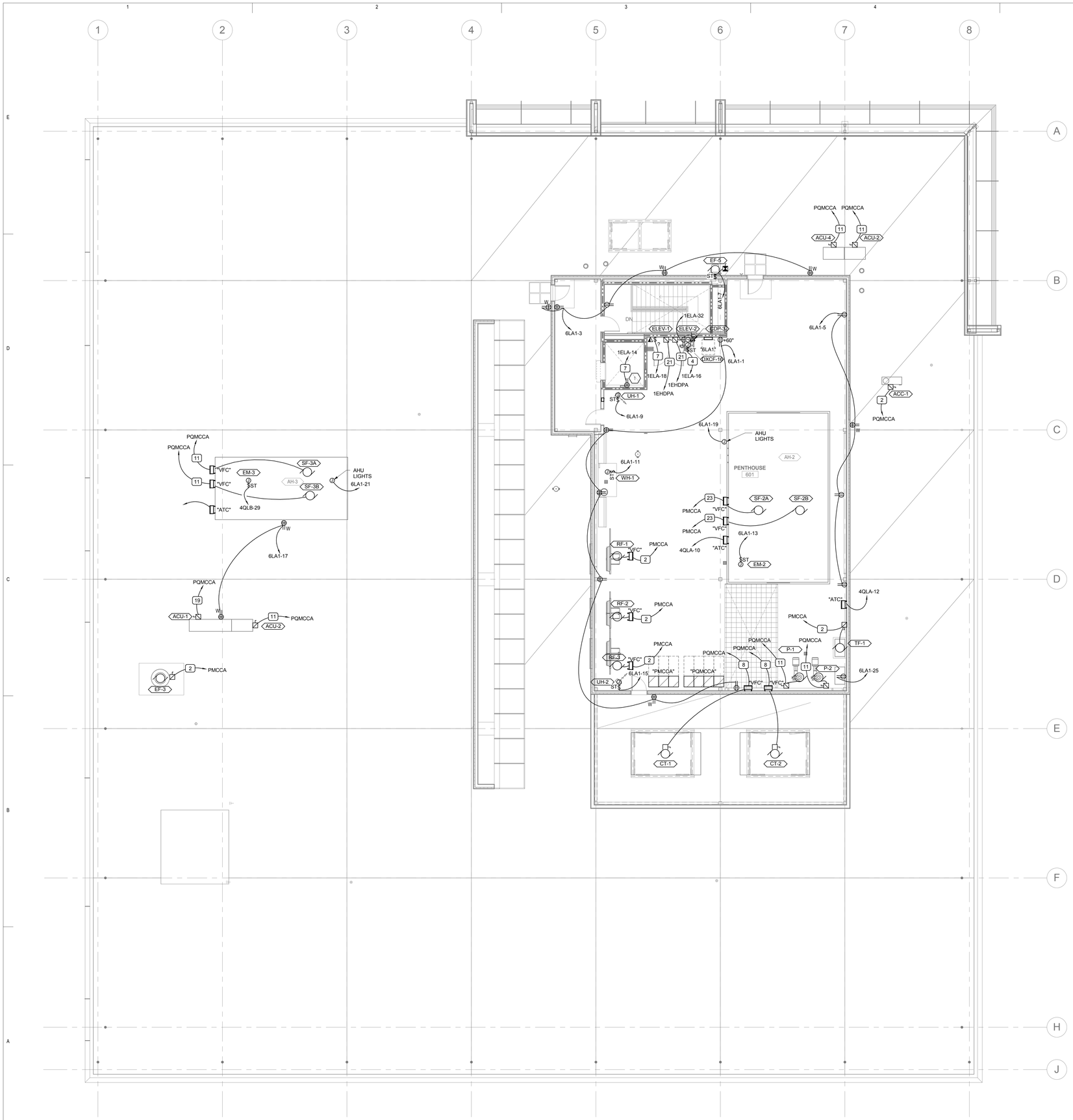

A1 ROOF POWER PLAN

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1 REFER TO SPECIFICATIONS FOR CONDUCTOR SIZES TO LIMIT VOLTAGE DROP FOR CIRCUITS GREATER THAN 70 FEET IN LENGTH.

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3 WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REVER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

1 OUTLET AT TOP OF ELEVATOR SHAFT. COORDINATE LOCATION WITH ELEVATOR EQUIPMENT INSTALLER.

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

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HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH

DFCM #06297640

DIXIE COLLEGE, ST. GEORGE, UT

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Ins. #

ROOF POWER PLAN

EP106

Sheet Number

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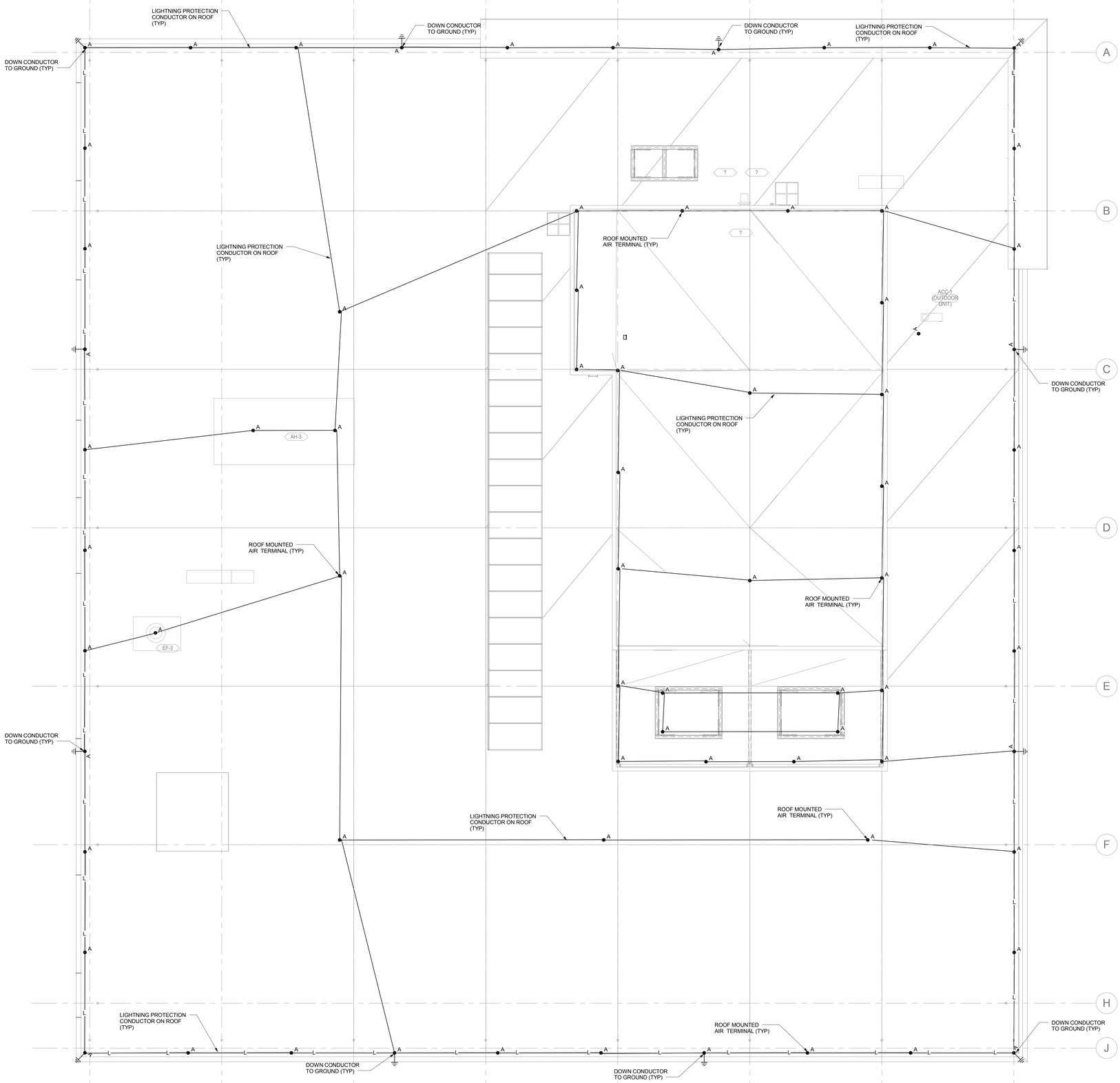

A1 ROOF LIGHTNING PROTECTION PLAN

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1 PROVIDE LIGTNING PROTECTION SYSTEM IN ACCORDANCE WITH NFPA 780. PROVIDE UL MASTER LABEL FOR SYSTEM.

SHEET KEYNOTES

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

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DIXIE STATE COLLEGE OF UTAH

DFCM #06297640

DIXIE COLLEGE, ST. GEORGE, UT

CONFORMED CONSTRUCTION DOCUMENTS BID SET

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ROOF LIGHTNING PROTECTION PLAN

EP107

Sheet Number

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GENERAL SHEET NOTES

1 REFER TO SPECIFICATIONS FOR CONDUCTOR SIZES TO LIMIT VOLTAGE DROP FOR CIRCUITS GREATER THAN 70 FEET IN LENGTH.

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COMPUTER ROOM NOTES

1 ALL UNDERFLOOR CABLING SHALL BE IN PLENUM-RATED, LIQUID-TIGHT FLEXIBLE METAL CONDUIT. OUTLET BOXES SHALL BE CAST ALUMINUM WITH STAINLESS STEEL COVER PLATES.

2 COLOR CODE ALL FLEXIBLE CONDUIT: RED COLOR FOR ALL "A" SYSTEMS POWER, BLUE COLOR FOR ALL "B" SYSTEMS POWER.

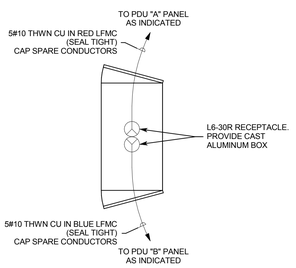
3 LABEL BRANCH AND FEEDER CABLING UNDERNEATH THE RAISED FLOOR AT EACH END WITH THE CIRCUIT NUMBER. LABEL ALL JUNCTION AND OUTLET BOXES WITH THE CIRCUIT NUMBER.

4 MINIMUM BRANCH CIRCUIT WIRING SIZE SHALL BE #10 AWG THWN CU.

SHEET KEYNOTES

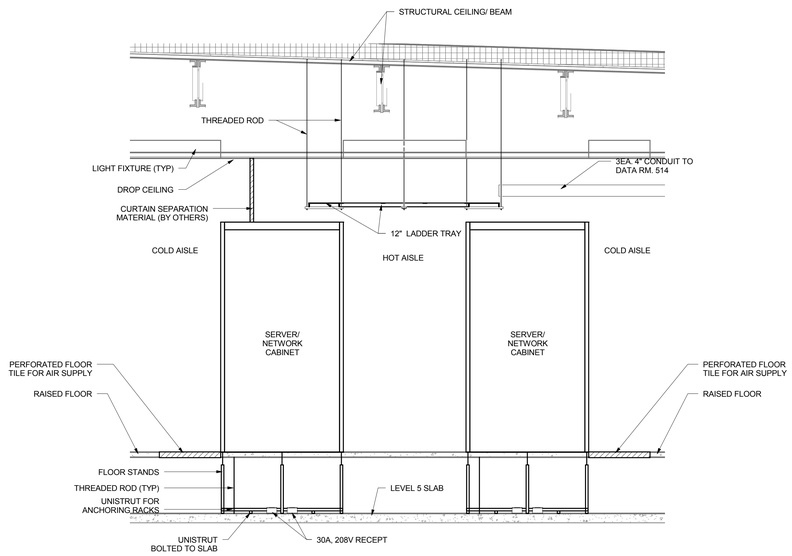
1 PROVIDE EMERGENCY POWER OFF "EPO" BUTTON AND WIRE TO SHUT OFF POWER TO COMPUTER AND AIR CONDITIONING EQUIPMENT PER EPO WIRING DETAIL ON ONE-LINE DIAGRAM. PROVIDE RED MUSHROOM TYPE BUTTON WITH PROTECTIVE COVER AND SIGNAGE "EMERGENCY POWER OFF BUTTON."

2 PROVIDE (2) L6-30R RECEPTACLES UNDER EACH RACK. CIRCUIT ONE RECEPTACLE TO PDU-1A AND THE OTHER TO PDU-1B.



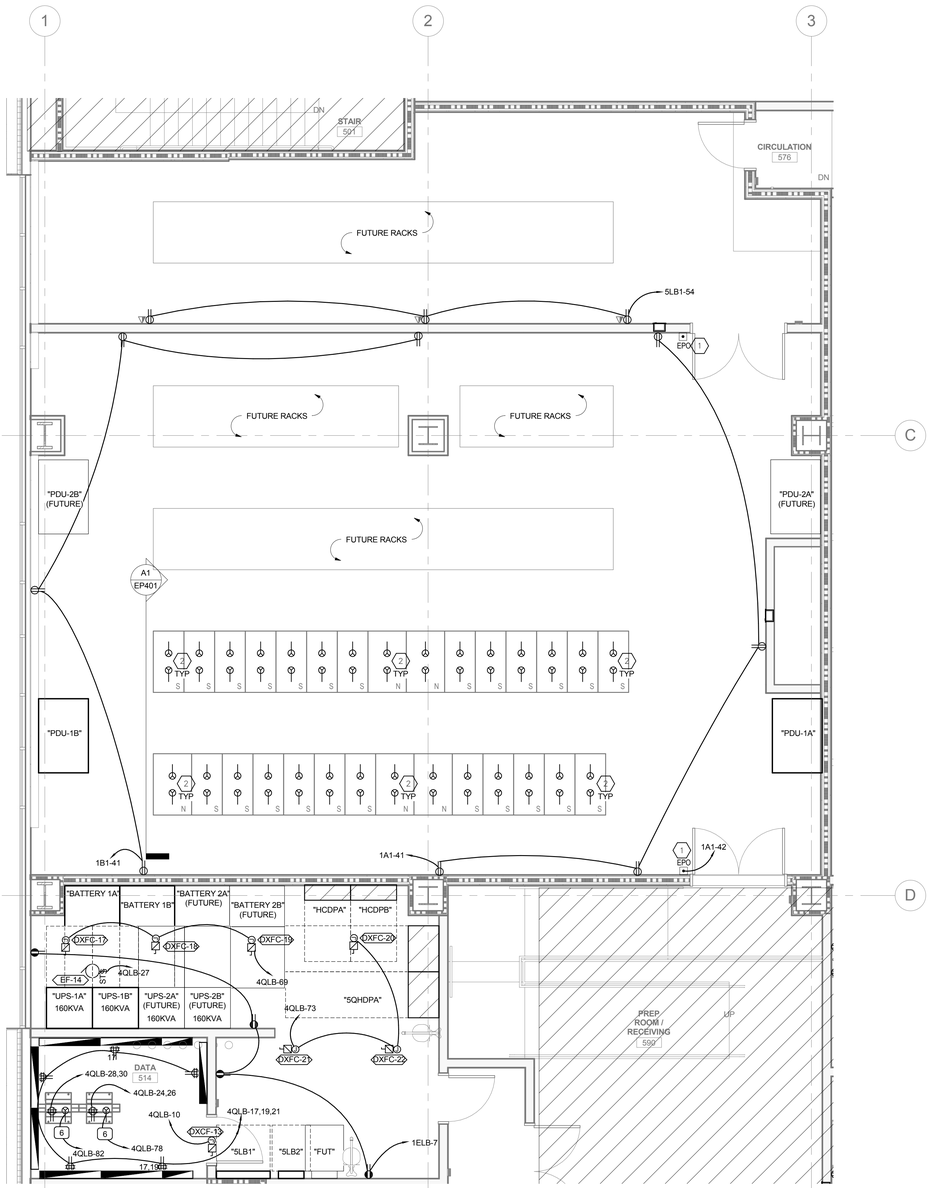
C2 TYPICAL RACK CIRCUITING DETAIL

SCALE: 1/8" = 1'-0"



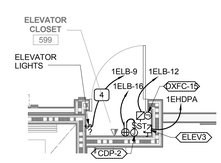
A1 COMPUTER ROOM RACK DETAIL

SCALE: 1/2" = 1'-0"



A3 ENLARGED DATA CENTER POWER PLAN

SCALE: 1/4" = 1'-0"



A6 ENLARGED ELEVATOR CLOSET POWER PLAN

SCALE: 1/4" = 1'-0"

VCBO ARCHITECTURE
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SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #0297640
DIXIE COLLEGE, ST. GEORGE, UT
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ENLARGED POWER PLANS

EP401

Sheet Number

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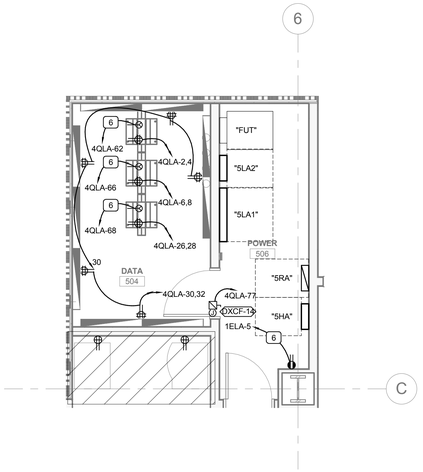
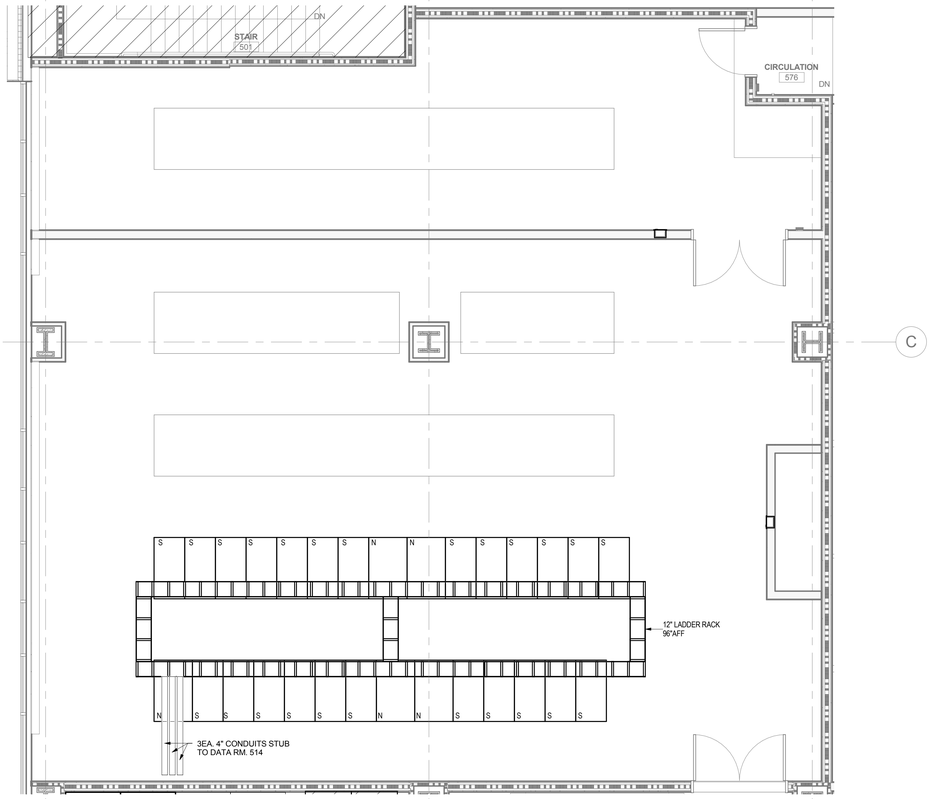


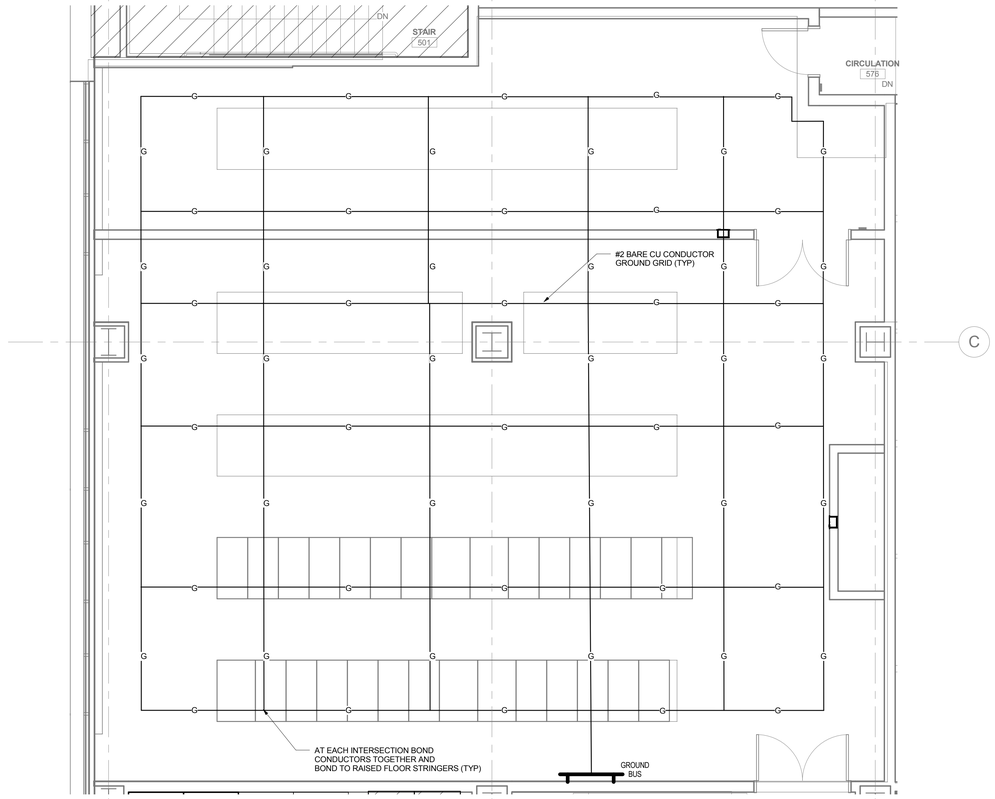
D1 ENLARGED POWER PLAN ROOM 504/506

SCALE: 1/4" = 1'-0"



A1 COMPUTER ROOM LADDER RACK PLAN

SCALE: 1/4" = 1'-0"



A4 COMPUTER ROOM GROUNDING PLAN

SCALE: 1/4" = 1'-0"

GENERAL SHEET NOTES

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SHEET KEYNOTES

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

SASAKI

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HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH

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ENLARGED COMPUTER ROOM PLANS

EP402

Sheet Number

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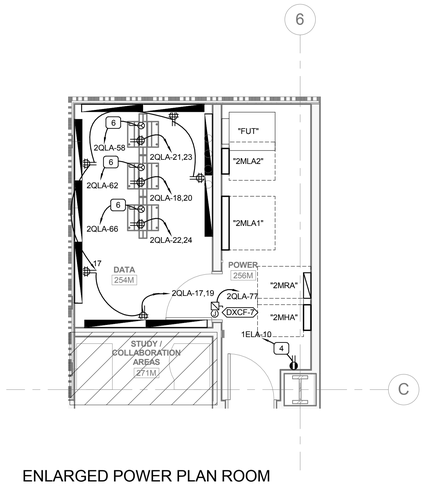
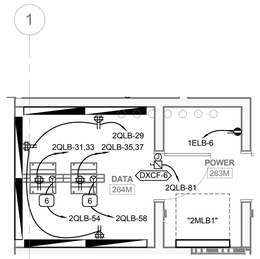


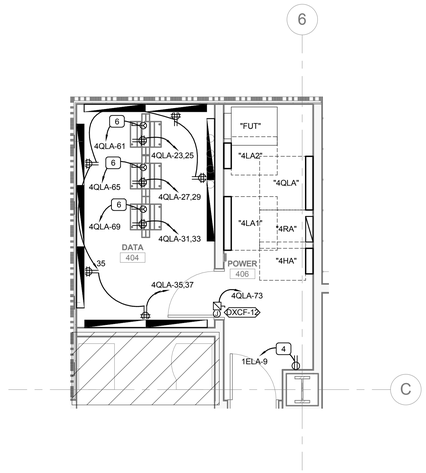
D1 ENLARGED POWER PLAN ROOM 254M/256M

SCALE: 1/4" = 1'-0"



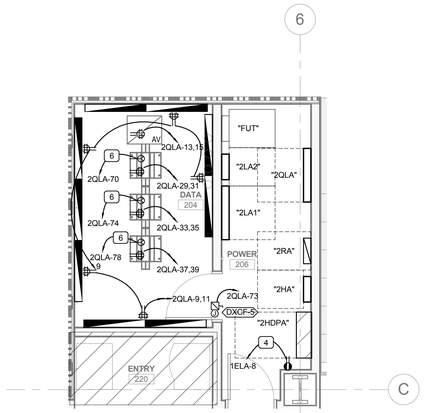
D2 ENLARGED POWER PLAN ROOM 263M/264M

SCALE: 1/4" = 1'-0"



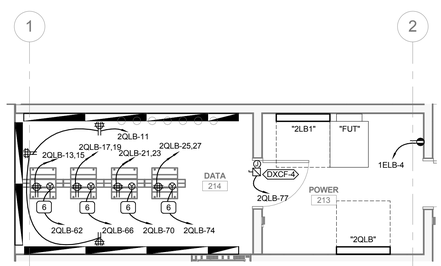
D4 ENLARGED POWER PLAN ROOM 404/406

SCALE: 1/4" = 1'-0"



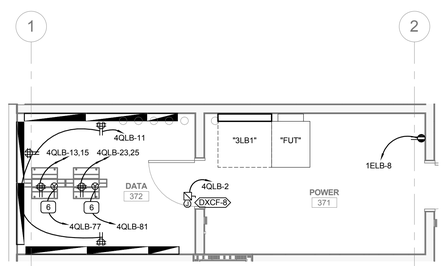
B1 ENLARGED POWER PLAN ROOM 204/206

SCALE: 1/4" = 1'-0"



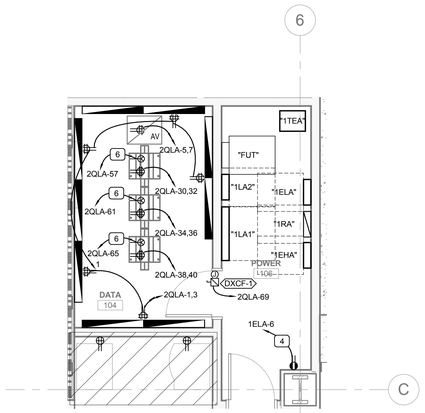
B2 ENLARGED POWER PLAN ROOM 213/214

SCALE: 1/4" = 1'-0"



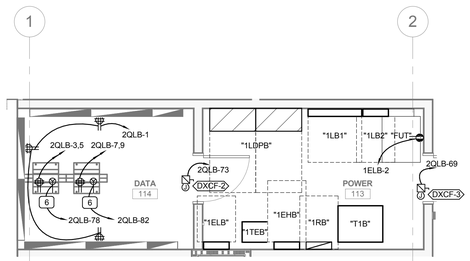
B4 ENLARGED POWER PLAN ROOM 371/372

SCALE: 1/4" = 1'-0"



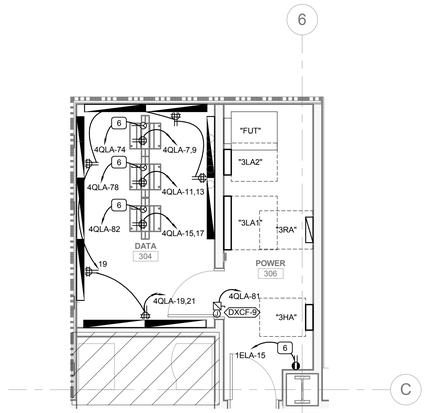
A1 ENLARGED POWER PLAN ROOM 104/106

SCALE: 1/4" = 1'-0"



A2 ENLARGED POWER PLAN ROOM 113/114

SCALE: 1/4" = 1'-0"



A4 ENLARGED POWER PLAN ROOM 304/306

SCALE: 1/4" = 1'-0"

GENERAL SHEET NOTES

1 REFER TO SPECIFICATIONS FOR CONDUCTOR SIZES TO LIMIT VOLTAGE DROP FOR CIRCUITS GREATER THAN 70 FEET IN LENGTH.

2 INSTALL FIRE RATED PUTTY PADS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS ON ALL BOXES LOCATED IN RATED WALLS.

3 WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REVER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

SASAKI

LICENSED PROFESSIONAL ENGINEER
No. 179621
RALPH B. KOEBER
STATE OF UTAH

SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #06297640
DIXIE COLLEGE, ST. GEORGE, UT
CONFORMED CONSTRUCTION DOCUMENTS BID SET

No.	Description	Date

Job # 09625
CAD File
Drawn BXW Checked RBK
Date 12/03/2010
Owner #
Ins. #

ENLARGED POWER PLANS

EP403

Sheet Number

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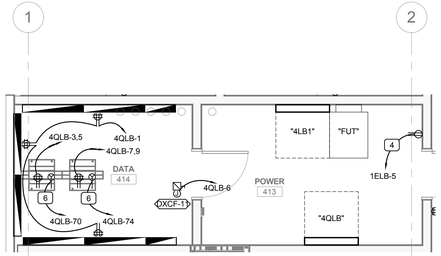
CATERING 539 FOOD SERVICE EQUIPMENT SCHEDULE

MARK	QTY	ITEM DESCRIPTION	HP	kW	FLA	VOLT	PH	Hz	HGT AFF	CONNECTION TYPE	NOTES	MARK
EB01	1	ICE MAKER			19	208	1	60	60"	HARDWIRE		EB01
EB02	1	HOT FOOD WARMING CABINET			13.3	120	1	60	18"	RECEPTACLE		EB02
EB03	1	CONVENIENCE OUTLET			10	120	1	60	48"	RECEPTACLE		EB03
EB04	1	BEVERAGE DISPENSER			14	120	1	60	48"	RECEPTACLE		EB04
EB05	1	BEVERAGE DISPENSER			14	120	1	60	48"	RECEPTACLE		EB05
EB06	1	COFFEE BREWER			20	208	1	60	48"	RECEPTACLE		EB06
EB07	1	REFRIGERATOR			8.5	120	1	60	18"	RECEPTACLE		EB07
EB08	1	FREEZER			10.8	120	1	60	18"	RECEPTACLE		EB08

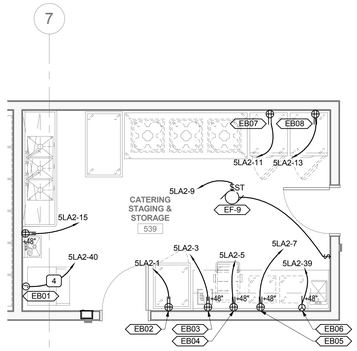
FOOD EQUIP SCHEDULE KEY

E	DIVISION 26
Q	FURNISHED WITH THE EQUIPMENT
CKT	CIRCUIT
DR	DUPLEX RECEPTACLE
SR	SINGLE RECEPTACLE
EC	DIRECT CONNECTION
AFF	ABOVE FINISHED FLOOR



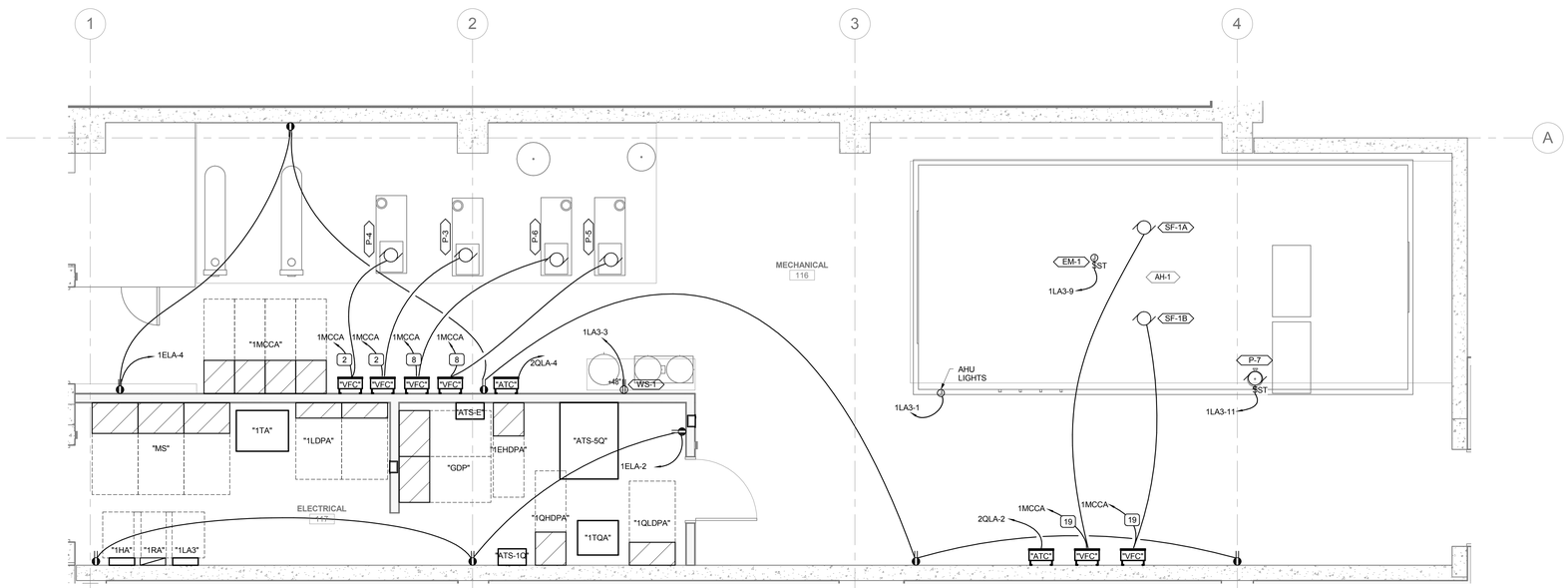
C1 ENLARGED POWER PLAN ROOM 413/414

SCALE: 1/4" = 1'-0"



C4 ENLARGED POWER PLAN CATERING 539

SCALE: 1/4" = 1'-0"



A1 ENLARGED POWER PLAN ROOM 117/118

SCALE: 1/4" = 1'-0"

GENERAL SHEET NOTES

1 REFER TO SPECIFICATIONS FOR CONDUCTOR SIZES TO LIMIT VOLTAGE DROP FOR CIRCUITS GREATER THAN 70 FEET IN LENGTH.

2 INSTALL FIRE RATED PUTTY PADS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS ON ALL BOXES LOCATED IN RATED WALLS.

3 WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REVER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

VCBO
ARCHITECTURE
VALENTINER
CRANE
BRUNJES
ONYON

SASAKI

LICENSED PROFESSIONAL ENGINEER
No. 179621
RALPH B. KOEBER
STATE OF UTAH

SPECTRUM
ENGINEERS

HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #06297640
DIXIE COLLEGE, ST. GEORGE, UT
CONFORMED CONSTRUCTION DOCUMENTS BID SET

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ENLARGED POWER PLANS

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Sheet Number

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CAFÉ 247 FOOD SERVICE EQUIPMENT SCHEDULE

MARK	QTY	ITEM DESCRIPTION	HP	kW	FLA	VOLT	PH	Hz	HGT AFF	CONNECTION TYPE	NOTES	MARK
E01		FREEZER			10.8	120	1	60	18"	RECEPTACLE		E01
E02		REFRIGERATOR			8.5	120	1	60	18"	RECEPTACLE		E02
E03		ICE MAKER			19	208	1	60	60"	HARDWIRE		E03
E04		SODA RACK			10	120	1	60	18"	RECEPTACLE		E04
E05		SLICER			9.8	120	1	60	48"	RECEPTACLE		E05
E06		MICROWAVE OVEN			10	120	1	60	78"	RECEPTACLE		E06
E07		OVEN			35	208	1	60	48"	RECEPTACLE		E07
E08		CONVENIENCE OUTLET			10	120	1	60	48"	RECEPTACLE		E08
E09		TOASTER			18	120	1	60	48"	RECEPTACLE		E09
E11		REFRIGERATED COUNTER			9	120	1	60	18"	RECEPTACLE		E11
E12		PRINTER				120	1	60	45"	RECEPTACLE		E12
E14		FOOD WARMER			10	208	1	60	18"	HARDWIRE		E14
E15		GRILL			13	208	1	60	45"	RECEPTACLE		E15
E17		SOUP WARMER			13.4	208	1	60	18"	HARDWIRE		E17
E18		HOT DOG GRILL			6.4	120	1	60	45"	RECEPTACLE		E18
E19		BUN WARMER			4.2	120	1	60	30"	RECEPTACLE		E19
E20		COFFEE MAKER			20	208	1	60	45"	RECEPTACLE		E20
E21		ICE MAKER			11	120	1	60	18"	HARDWIRE		E21
E22		PRINTER				120	1	60	45"	RECEPTACLE		E22
E24		SODA DISPENSER			10	120	1	60	12"	HARDWIRE		E24
E25		REFRIGERATOR			8.5	120	1	60	LOW	RECEPTACLE		E25
E26		REFRIGERATED CASE			29	120	1	60	LOW	RECEPTACLE		E26
E27		REFRIGERATED CASE			29	120	1	60	LOW	RECEPTACLE		E27
E28		CASH REGISTER				120	1	60	LOW	RECEPTACLE		E28
E30		CASH REGISTER				120	1	60	LOW	RECEPTACLE		E30
E32		REFRIGERATED BASE			4	120	1	60	LOW	RECEPTACLE		E32
E33		ISLAND OASIS			15	120	1	60	LOW	RECEPTACLE		E33
E34		REFRIGERATED BASE			4	120	1	60	LOW	RECEPTACLE		E34
E35		ISLAND OASIS			15	120	1	60	LOW	RECEPTACLE		E35
E36		PRINTER				120	1	60	LOW	RECEPTACLE		E36
E38		ORDER COMPUTER				120	1	60	12"	RECEPTACLE		E38

FOOD EQUIP SCHEDULE KEY

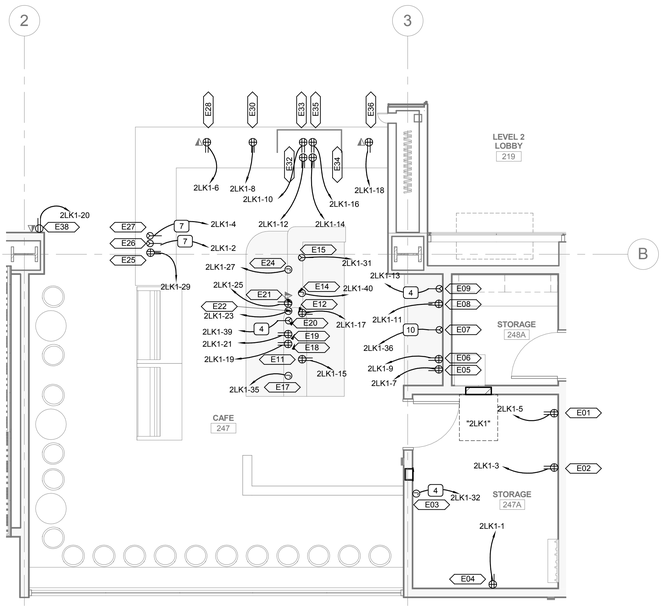
E	DIVISION 26
Q	FURNISHED WITH THE EQUIPMENT
CKT	CIRCUIT
DR	DUPLEX RECEPTACLE
SR	SINGLE RECEPTACLE
EC	DIRECT CONNECTION
AFF	ABOVE FINISHED FLOOR

CONCESSION 126 FOOD SERVICE EQUIPMENT SCHEDULE

MARK	QTY	ITEM DESCRIPTION	HP	kW	FLA	VOLT	PH	Hz	HGT AFF	CONNECTION TYPE	NOTES	MARK
EC01		ICE MAKER			19	208	1	60	60"	HARDWIRE		EC01
EC02		FREEZER TABLE			8	120	1	60	18"	RECEPTACLE		EC02
EC03		REFRIGERATED TABLE			7	120	1	60	18"	RECEPTACLE		EC03
EC04		CONVENIENCE OUTLET			10	120	1	60	48"	RECEPTACLE		EC04
EC05		CONVENIENCE OUTLET			10	120	1	60	48"	RECEPTACLE		EC05
EC06		BEVERAGE DISPENSER			14	120	1	60	48"	RECEPTACLE		EC06
EC07		BEVERAGE DISPENSER			14	120	1	60	48"	RECEPTACLE		EC07
EC08		NACHO CHEESE DISPENSER			3.5	120	1	60	48"	RECEPTACLE		EC08
EC09		NACHO CHIP WARMER			1	120	1	60	48"	RECEPTACLE		EC09
EC10		PRETZEL WARMER			2	120	1	60	48"	RECEPTACLE		EC10
EC11		CASH REGISTER				120	1	60	18"	RECEPTACLE		EC11
EC13		PRINTER				120	1	60	LOW	RECEPTACLE		EC13
EC16		SODA RACK			10	120	1	60	18"	RECEPTACLE		EC16
EC17		HOT DOG GRILL			6.4	120	1	60	48"	RECEPTACLE		EC17
EC18		BUN WARMER			4.2	120	1	60	30"	RECEPTACLE		EC18
EC19		POPCORN POPPER			14	208	1	60	48"	RECEPTACLE		EC19
EC20		ICE MAKER			11	120	1	60	18"	HARDWIRE		EC20
EC21		SODA DISPENSER			10	120	1	60	12"	HARDWIRE		EC21
EC22		REFRIGERATED TABLE			7	120	1	60	18"	RECEPTACLE		EC22
EC23		CONVENIENCE OUTLET			10	120	1	60	48"	RECEPTACLE		EC23
EC24		BLENDER			12.5	120	1	60	48"	RECEPTACLE		EC24
EC25		BLENDER			12.5	120	1	60	48"	RECEPTACLE		EC25
EC26		BLENDER			12.5	120	1	60	48"	RECEPTACLE		EC26
EC28		COFFEE MAKER			36	120/208	1	60	48"	RECEPTACLE		EC28
EC29		COFFEE WARMER			1	120	1	60	48"	RECEPTACLE		EC29
EC30		COFFEE WARMER			1	120	1	60	48"	RECEPTACLE		EC30
EC31		COFFEE WARMER			1	120	1	60	48"	RECEPTACLE		EC31
EC32		COFFEE GRINDER			6	120	1	60	48"	RECEPTACLE		EC32
EC33		REFRIGERATED BASE			7	120	1	60	18"	RECEPTACLE		EC33
EC34		ESPRESSO MACHINE			31.7	208	1	60	24"	RECEPTACLE		EC34
EC35		HOT WATER DISPENSER			12	120	1	60	18"	RECEPTACLE		EC35
EC36		PRINTER				120	1	60	18"	RECEPTACLE		EC36
EC38		REFRIGERATED DISPLAY			14.5	208	1	60	12"	HARDWIRE		EC38
EC39		REFRIGERATED DISPLAY			2.5	120	1	60	12"	RECEPTACLE		EC39
EC40		PRINTER				120	1	60	LOW	RECEPTACLE		EC40

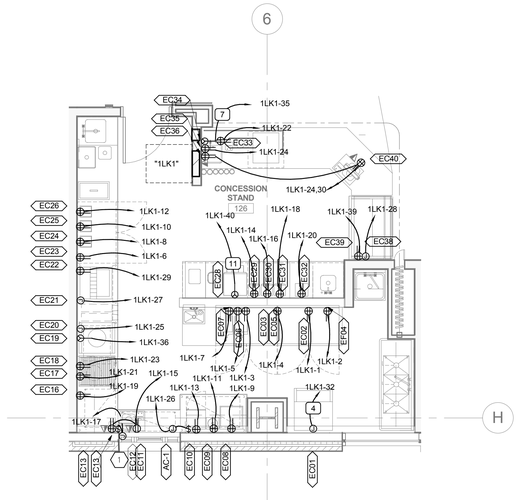
FOOD EQUIP SCHEDULE KEY

E	DIVISION 26
Q	FURNISHED WITH THE EQUIPMENT
CKT	CIRCUIT
DR	DUPLEX RECEPTACLE
SR	SINGLE RECEPTACLE
EC	DIRECT CONNECTION
AFF	ABOVE FINISHED FLOOR



A2 ENLARGED CAFE POWER PLAN 247/248

SCALE: 1/4" = 1'-0"



A4 ENLARGED POWER PLAN CONCESSION 126

SCALE: 1/4" = 1'-0"

SHEET KEYNOTES

1 PROVIDE CONNECTION TO POWERED WINDOW OPERATOR WITH ALL POWER AND CONTROL WIRING PER MANUFACTURER'S WRITTEN INSTRUCTIONS.

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

SASAKI

LICENSED PROFESSIONAL ENGINEER
No. 179621
RALPH B. KOEBER
STATE OF UTAH

SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #06297640
DIXIE COLLEGE, ST. GEORGE, UT
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ENLARGED POWER PLANS

EP405

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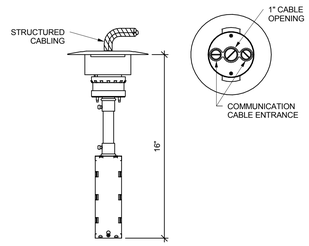
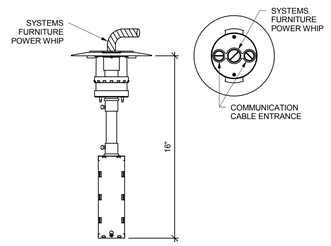


B5 FIRE RATED POKE-THRU #3

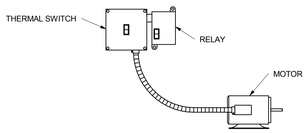
SCALE: NOT TO SCALE



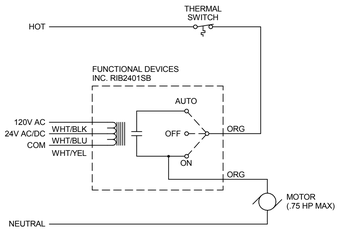
B6 FIRE RATED POKE-THRU #2

SCALE: NOT TO SCALE

NOTE: THERMAL SWITCH AND RELAY MUST BE MOUNTED WITHIN SIGHT OF MOTOR BEING CONTROLLED.



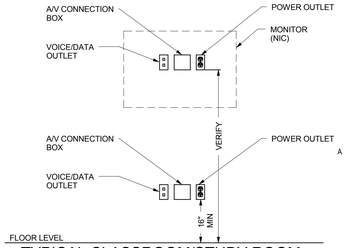
LAYOUT DIAGRAM



SCHEMATIC DIAGRAM

A4 120V FRACTIONAL MOTOR CONTROL

SCALE: NOT TO SCALE



A6 TYPICAL CLASSROOM/STUDY ROOM MONITOR LOCATION

SCALE: NOT TO SCALE

VCBO
ARCHITECTURE
VALENTINER
CRANE
BRUNJES
ONYON

SASAKI

LICENSED PROFESSIONAL ENGINEER
No. 179621
RALPH B. KOEBER
STATE OF UTAH

SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH

DFCM #06297640

DIXIE COLLEGE, ST. GEORGE, UT

CONFORMED CONSTRUCTION DOCUMENTS BID SET

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DETAILS

EP501

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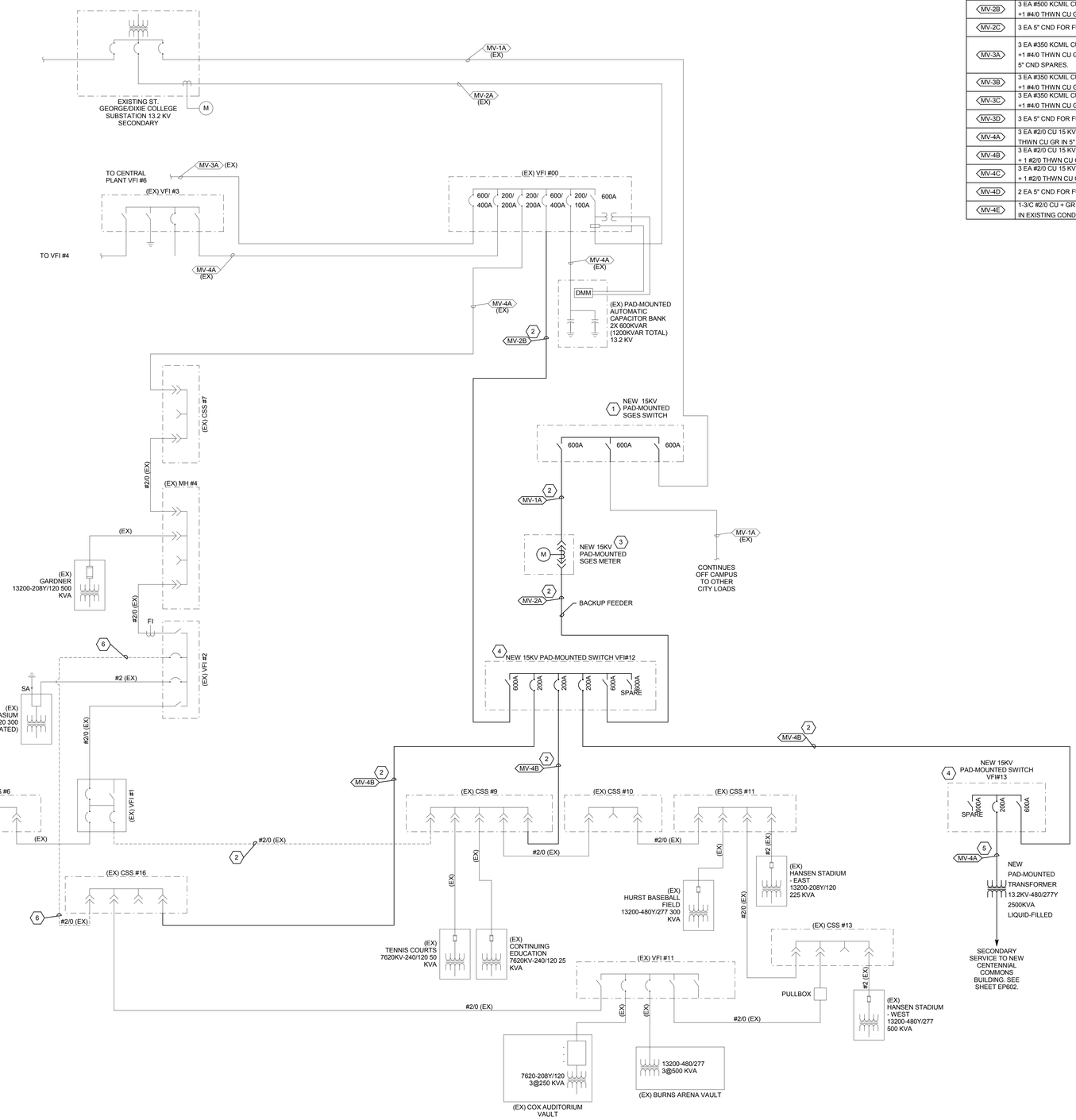

MEDIUM-VOLTAGE CABLING AND CONDUIT SCHEDULE

SYMBOL	DESCRIPTION
MV-1A	3 EA #750 KCMIL AL 15 KV CABLES WITH CONCENTRIC NEUTRAL, PER SGC STANDARDS, IN 3 EA 3" CND (EACH PHASE CONDUCTOR IN SEPARATE CONDUIT)
MV-1B	3 EA 3" CND FOR FUTURE CABLING
MV-2A	3 EA #500 KCMIL CU 15 KV EPR CONDUCTORS +1 #4/0 THWN CU GR IN 5" CND, PLUS 2 EA 5" CND SPARES.
MV-2B	3 EA #500 KCMIL CU 15 KV EPR CONDUCTORS +1 #4/0 THWN CU GR IN EXISTING CONDUIT
MV-2C	3 EA 5" CND FOR FUTURE CABLING
MV-3A	3 EA #350 KCMIL CU 15 KV EPR CONDUCTORS +1 #4/0 THWN CU GR IN 5" CND, PLUS 2 EA 5" CND SPARES.
MV-3B	3 EA #350 KCMIL CU 15 KV EPR CONDUCTORS +1 #4/0 THWN CU GR IN EXISTING CONDUIT
MV-3C	3 EA #350 KCMIL CU 15 KV EPR CONDUCTORS +1 #4/0 THWN CU GR IN 5" RGC THROUGH TUNNEL
MV-3D	3 EA 5" CND FOR FUTURE CABLING
MV-4A	3 EA #2/0 CU 15 KV EPR CONDUCTORS + 1 #2/0 THWN CU GR IN 5" CND, PLUS 1 EA 5" CND SPARE
MV-4B	3 EA #2/0 CU 15 KV EPR CONDUCTORS + 1 #2/0 THWN CU GR IN EXISTING CONDUIT
MV-4C	3 EA #2/0 CU 15 KV EPR CONDUCTORS + 1 #2/0 THWN CU GR IN 4" CND
MV-4D	2 EA 5" CND FOR FUTURE CABLING
MV-4E	1-3/C #2/0 CU + GR 15 KV MC CABLE IN TUNNEL IN EXISTING CONDUITS FOR TEMPORARY POWER

SHEET KEYNOTES

1. PROVIDE NEW PAD-MOUNTED SWITCH PER SGES STANDARDS. CUT CABLE THAT WAS INSTALLED AND LOOPED THROUGH VAULT IN A SEPARATE CONTRACT AND TERMINATE ON SWITCH AS INDICATED.
2. PROVIDE NEW CABLING AS SCHEDULED. CONDUIT WAS INSTALLED IN A SEPARATE CONTRACT. EXTEND CONDUIT AS REQUIRED TO MAKE FINAL CONNECTIONS/ TERMINATIONS.
3. PROVIDE NEW 15 KV METER PER SGES STANDARDS. PAD-VAULT WAS INSTALLED IN A SEPARATE CONTRACT.
4. PROVIDE NEW 15 KV PAD-MOUNTED VFI SWITCH AND PAD VAULT.
5. NEW CONDUIT AND CABLING AS SCHEDULED.
6. EXISTING CABLING TO REMAIN IN PLACE FOR FUTURE OR EMERGENCY USE. MOVE SWITCH TO "OPEN" POSITION AT BOTH ENDS.

CONDUCTOR AND CONDUIT SCHEDULE

SCHEDULE NUMBER
SUBSCRIPT (NOTE 5)
(E.G.) 5 IG

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

CONDUCTOR AND CONDUIT SCHEDULE NOTES

1. CONDUCTORS SHOWN ARE SHOWN FOR EACH CONDUIT WITH MODIFICATIONS AS NOTED IN NOTE 5. ALL CONDUCTORS SHOWN ARE THWN UNLESS OTHERWISE NOTED.
2. PROVIDE EQUIPMENT GROUND CONDUCTORS PER TABLE 250-122 WHEN CIRCUIT BREAKERS ARE SIZED GREATER THAN AMPERE RATING SHOWN IN TABLE.
3. PROVIDE #10 NEUTRALS FOR MULTIWIRE BRANCH CIRCUITS SERVING COMPUTERS.
4. GROUND (G) CONDUCTOR MAY BE DELETED ON SERVICE ENTRANCE CONDUCTORS.
5. SYMBOL SUBSCRIPTS:
   "IG": INCLUDE IG (INSULATED/ISOLATED GROUND CONDUCTOR) SCHEDULED ALONG WITH THE GROUND OR EQUIPMENT GROUND CONDUCTOR.
   "SE": SUBSTITUTE "SE" CONDUCTOR FOR "G" CONDUCTOR SHOWN, WHICH IS SIZED FOR THE GROUNDING OF THE SECONDARY OF THE SEPARATELY DERIVED SYSTEM.
   "2N": INCLUDE TWO NEUTRAL CONDUCTORS, SIZED AS SCHEDULED FOR PHASE AND NEUTRAL CONDUCTORS.
6. RACEWAY ONLY. CONDUCTORS PROVIDED BY UTILITY.

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

SASAKI

LICENSED PROFESSIONAL ENGINEER
No. 179621
RALPH B. KOEBER
STATE OF UTAH

SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #06297640
DIXIE COLLEGE, ST. GEORGE, UT
CONFORMED CONSTRUCTION DOCUMENTS BID SET

No.	Description	Date

Job # 09625
CAD File
Drawn DLM Checked Checker
Date 12/03/2010
Owner #
Ins. #

PARTIAL POWER ONE-LINE DIAGRAM - MEDIUM VOLTAGE

EP601
Sheet Number

A1 PARTIAL POWER ONE-LINE DIAGRAM - MEDIUM VOLTAGE
SCALE: N.T.S.

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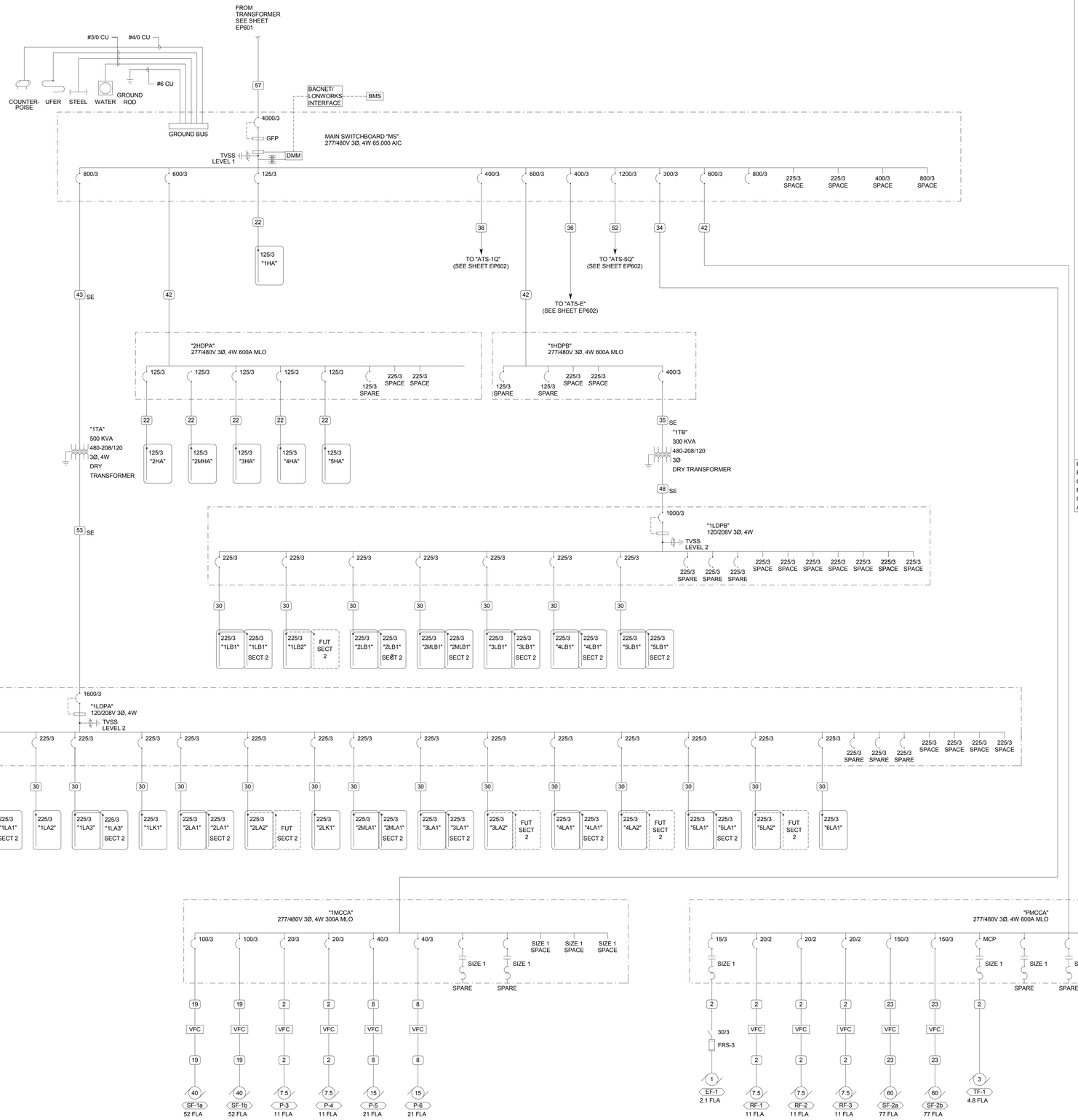

A1 POWER ONE-LINE DIAGRAM

NO SCALE

FAULT CURRENT TABLE

BUS	FAULT CURRENT
1EHA	20,000 SCA
1EHB	22,000 SCA
1ELA	2,000 SCA
1ELB	2,000 SCA
1EHDPA	36,000 SCA
1HA	46,000 SCA
1HDPB	39,000 SCA
1LA1	10,000 SCA
1LA3	21,000 SCA
1LB1	13,000 SCA
1LB2	13,000 SCA
1LDPA	23,000 SCA
1LDPA0	14,000 SCA
1LK1	7,000 SCA
1MCCA	52,000 SCA
1QHDPA	42,000 SCA
1QLDPA	9,000 SCA
2HA	32,000 SCA
2HDPA	34,000 SCA
2LA1	9,000 SCA
2LA2	9,000 SCA
2LB1	12,000 SCA
2LB2	11,000 SCA
2LK1	12,000 SCA
2MHA	26,000 SCA
2MLA1	8,000 SCA
2QLA	6,000 SCA
2QLB	6,000 SCA
3HA	22,000 SCA
3LA1	8,000 SCA
3LA2	8,000 SCA
3LB1	10,000 SCA
4HA	19,000 SCA
4LA1	7,000 SCA
4LA2	7,000 SCA
4LB1	10,000 SCA
4QLA	5,000 SCA
5HA	17,000 SCA
5LA1	7,000 SCA
5LA2	7,000 SCA
5LB1	9,000 SCA
5QHDPA	48,000 SCA
6LA1	7,000 SCA
ATS-1Q	44,000 SCA
ATS-5Q	51,000 SCA
ATS-E	44,000 SCA
HCDPA	46,000 SCA
HCDPB	46,000 SCA
MS	54,000 SCA
PMCCA	52,000 SCA
PQMCCA	36,000 SCA

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

TVSS LEVELS	
LEVEL 1	240 KA
LEVEL 2	160 KA
LEVEL 3	120 KA

GENERAL SHEET NOTES

1. PROVIDE NEMA 3R ENCLOSURES FOR EQUIPMENT LOCATED OUTDOORS. REFER TO PLANS FOR EQUIPMENT LOCATIONS.
2. REFER TO PLANS FOR CONSTRAINTS ON PHYSICAL DIMENSIONS AND CLEARANCE REQUIREMENTS OF EQUIPMENT. PROVIDE EQUIPMENT DIMENSIONS THAT FALL WITHIN THE CONSTRAINTS OF EACH SPECIFIC LOCATION.
3. ALL EQUIPMENT SHALL BE CONSTRUCTED AND BRACED FOR THE SEISMIC CONDITIONS OF THE PROJECT. REFER TO SPECIFICATIONS SECTION 16071 FOR REQUIREMENTS.

SHEET KEYNOTES

1. MONITOR THE FOLLOWING POINTS THROUGH THE BMS:
   - GENERATOR "RUN" STATUS.
   - HIGH FUEL LEVEL ALARM.
   - LOW FUEL LEVEL ALARM.
   - LEAK DETECTION ALARM.
   - SUMMARY ALARM.
2. MONITOR THE FOLLOWING POINTS THROUGH THE BMS:
   - TRANSFER SWITCH POSITION (NORMAL/EMERGENCY).
   - NORMAL POWER AVAILABLE.
   - EMERGENCY POWER AVAILABLE.
   - SUMMARY ALARM.
3. FILL WITH CONTROL WIRING PER MANUFACTURER'S WRITTEN INSTRUCTIONS OR AS COORDINATED WITH OTHER TRADES.
4. SHUNT TRIP FUSIBLE ELEVATOR DISCONNECT SWITCH. SEE SPECIFICATIONS. COORDINATE FUSE SIZE AND TYPE WITH ELEVATOR MANUFACTURER. INTERLOCK DISCONNECT WITH ELEVATOR CONTROLLER AND FIRE ALARM SYSTEM.
5. WIRE TO ELEVATOR CONTROLLERS FOR "SIGNAL BEFORE TRANSFER" AND "CONNECTED TO EMERGENCY POWER" SIGNALS.

CONDUCTOR AND CONDUIT SCHEDULE

SCHEDULE NUMBER
** SUBSCRIPT (NOTE 5)
(E.G.) 5 IG

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

CONDUCTOR AND CONDUIT SCHEDULE NOTES

1. CONDUCTORS SHOWN ARE SHOWN FOR EACH CONDUIT WITH MODIFICATIONS AS NOTED IN NOTE 5. ALL CONDUCTORS SHOWN ARE THWN UNLESS OTHERWISE NOTED.
2. PROVIDE EQUIPMENT GROUND CONDUCTORS PER TABLE 250-122 WHEN CIRCUIT BREAKERS ARE SIZED GREATER THAN AMPERE RATING SHOWN IN TABLE.
3. PROVIDE #10 NEUTRALS FOR MULTIWIRE BRANCH CIRCUITS SERVING COMPUTERS.
4. GROUND (G) CONDUCTOR MAY BE DELETED ON SERVICE ENTRANCE CONDUCTORS.
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   "IG": INCLUDE IG (INSULATED/ISOLATED GROUND CONDUCTOR) SCHEDULED ALONG WITH THE GROUND OR EQUIPMENT GROUND CONDUCTOR.
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   "2N": INCLUDE TWO NEUTRAL CONDUCTORS, SIZED AS SCHEDULED FOR PHASE AND NEUTRAL CONDUCTORS.
6. RACEWAY ONLY. CONDUCTORS PROVIDED BY UTILITY.

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON
SASAKI
LICENSED PROFESSIONAL ENGINEER No. 179621 RALPH B. KOEBER STATE OF UTAH
SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #06297640
DIXIE COLLEGE, ST. GEORGE, UT
CONFORMED CONSTRUCTION DOCUMENTS BID SET

No.	Description	Date

Job # 09625
CAD File
Drawn BXW Checked RBK
Date 12/03/2010
Owner #
Ins. #

ONE-LINE DIAGRAM

EP602

Sheet Number

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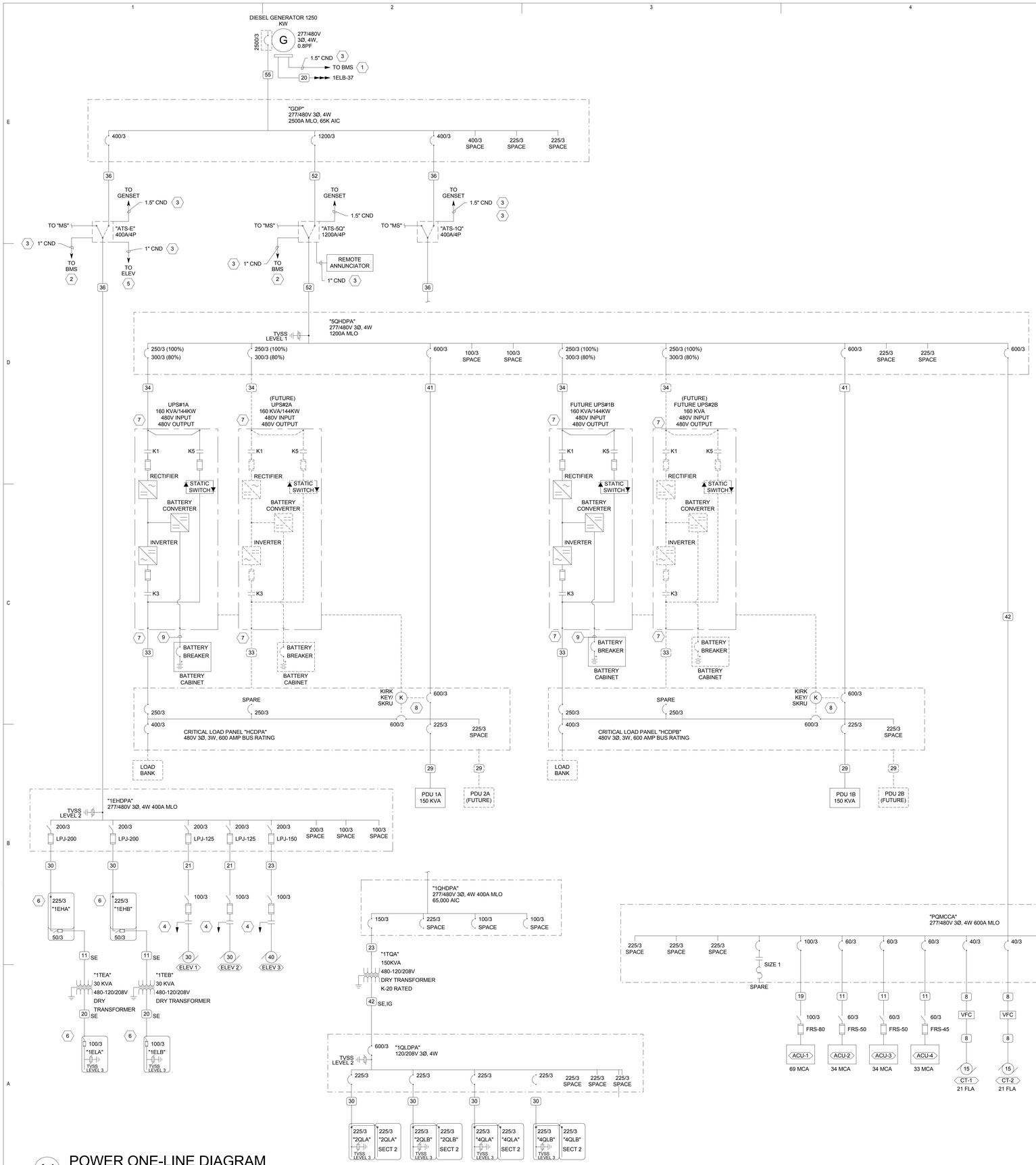
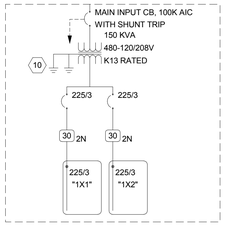


A1 POWER ONE-LINE DIAGRAM

NO SCALE

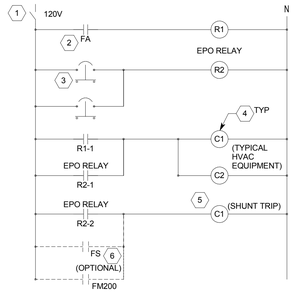


E5 TYPICAL PDU ONE-LINE DIAGRAM

NTS

DETAIL KEYNOTES

1. PROVIDE DEDICATED 20A CIRCUIT FROM "PDU" FOR CONTROL. LABEL BREAKER "EMERGENCY POWER OFF CONTROL".
2. FIRE ALARM CONTACTS FROM CONTROL MODULE OF SUPPRESSION FIRE ALARM SYSTEM. NORMALLY OPEN-CLOSE ON ALARM. COORDINATE WITH DIVISION 23 FIRE PROTECTION INSTALLER.
3. TYPICAL EMERGENCY POWER OFF (EPO) SWITCHES. PROVIDE PUSH-IN MAINTAINED CONTACT TYPE WITH LARGE RED MUSHROOM HANDLE. PROVIDE PROTECTIVE COVER AND LABEL "EMERGENCY POWER OFF SWITCH".
4. WIRE TO SHUNT TRIP COIL OF HVAC EQUIPMENT.
5. WIRE RELAY TO MAIN SHUNT TRIP CB IN PDU.
6. FIRE SUPPRESSION CONTACTS: CLOSE UPON RELEASE OF WATER AND FM200 INTO ROOM. COORDINATE WITH DIVISION 23 FIRE PROTECTION INSTALLER. DO NOT KILL POWER WITH ANY OTHER ALARM. TROUBLE OR TEST SWITCH. VERIFY WITH OWNER AND SPRINKLER/SUPPRESSION SYSTEM INSTALLERS CORRECT TIE-IN POINT PRIOR TO CONNECTION.



C5 SHUNT TRIP (EPO) DETAIL

NTS

TVSS LEVELS	
LEVEL 1	240 KA
LEVEL 2	160 KA
LEVEL 3	120 KA

SHEET KEYNOTES

1. MONITOR THE FOLLOWING POINTS THROUGH THE BMS:
- GENERATOR "RUN" STATUS.
- HIGH FUEL LEVEL ALARM.
- LOW FUEL LEVEL ALARM.
- LEAK DETECTION ALARM.
- SUMMARY ALARM.

2. MONITOR THE FOLLOWING POINTS THROUGH THE BMS:
- TRANSFER SWITCH POSITION (NORMAL/EMERGENCY).
- NORMAL POWER AVAILABLE.
- EMERGENCY POWER AVAILABLE.
- SUMMARY ALARM.

3. FILL WITH CONTROL WIRING PER MANUFACTURER'S WRITTEN INSTRUCTIONS OR AS COORDINATED WITH OTHER TRADES.
4. SHUNT TRIP FUSIBLE ELEVATOR DISCONNECT SWITCH. SEE SPECIFICATIONS. COORDINATE FUSE SIZE AND TYPE WITH ELEVATOR MANUFACTURER. INTERLOCK DISCONNECT WITH ELEVATOR CONTROLLER AND FIRE ALARM SYSTEM.
5. WIRE TO ELEVATOR CONTROLLERS FOR "SIGNAL BEFORE TRANSFER" AND "CONNECTED TO EMERGENCY POWER" SIGNALS.
6. PROVIDE FUSIBLE CIRCUIT BREAKER PANELBOARD FROM BUSSMAN OR APPROVED EQUAL.
7. TOTAL LENGTH OF INPUT AND OUTPUT FEEDERS SHALL BE EQUAL FOR ALL UPS SYSTEMS. INCLUDE FUTURE FEEDERS FOR UPS #2A & UPS #2B IN CALCULATIONS TO ENSURE THAT ALL FEEDERS WILL BE EQUAL LENGTHS. MARK FEEDER LENGTHS ON RECORD DRAWINGS.
8. PROVIDE SOLENOID-RELEASE KIRK KEY INTERLOCKS AND TIE TO UPS SYSTEM PER MANUFACTURER'S WRITTEN INSTRUCTIONS. PROVIDE AUXILIARY CONTACTS ON BYPASS BREAKER TO FORCE UPS MODULES TO BYPASS IF BYPASS BREAKER IS CLOSED.
9. PROVIDE CONDUIT AND CABLING FROM BATTERY CABINET TO UPS PER MANUFACTURER'S WRITTEN INSTRUCTION.
10. BOND EACH PDU TO RAISED FLOOR GRID AND BUILDING STEEL WITH #2 CU.

CONDUCTOR AND CONDUIT SCHEDULE

SCHEDULE NUMBER
SUBSCRIPT (NOTE 5)
(E.G.) 5 IG

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

CONDUCTOR AND CONDUIT SCHEDULE NOTES

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2. PROVIDE EQUIPMENT GROUND CONDUCTORS PER TABLE 250-122 WHEN CIRCUIT BREAKERS ARE SIZED GREATER THAN AMPERE RATING SHOWN IN TABLE.
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5. SYMBOL SUBSCRIPTS:
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   "2N": INCLUDE TWO NEUTRAL CONDUCTORS, SIZED AS SCHEDULED FOR PHASE AND NEUTRAL CONDUCTORS.
6. RACEWAY ONLY. CONDUCTORS PROVIDED BY UTILITY.

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

SASAKI

LICENSED PROFESSIONAL ENGINEER
No. 179621
RALPH B. KOEBER
STATE OF UTAH

SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #06297640
DIXIE COLLEGE, ST. GEORGE, UT
CONFORMED CONSTRUCTION DOCUMENTS BID SET

No.	Description	Date

Job # 09625
CAD File
Drawn BXW Checked RBK
Date 12/03/2010
Owner #
Ins. #

ONE-LINE DIAGRAM

EP603
Sheet Number

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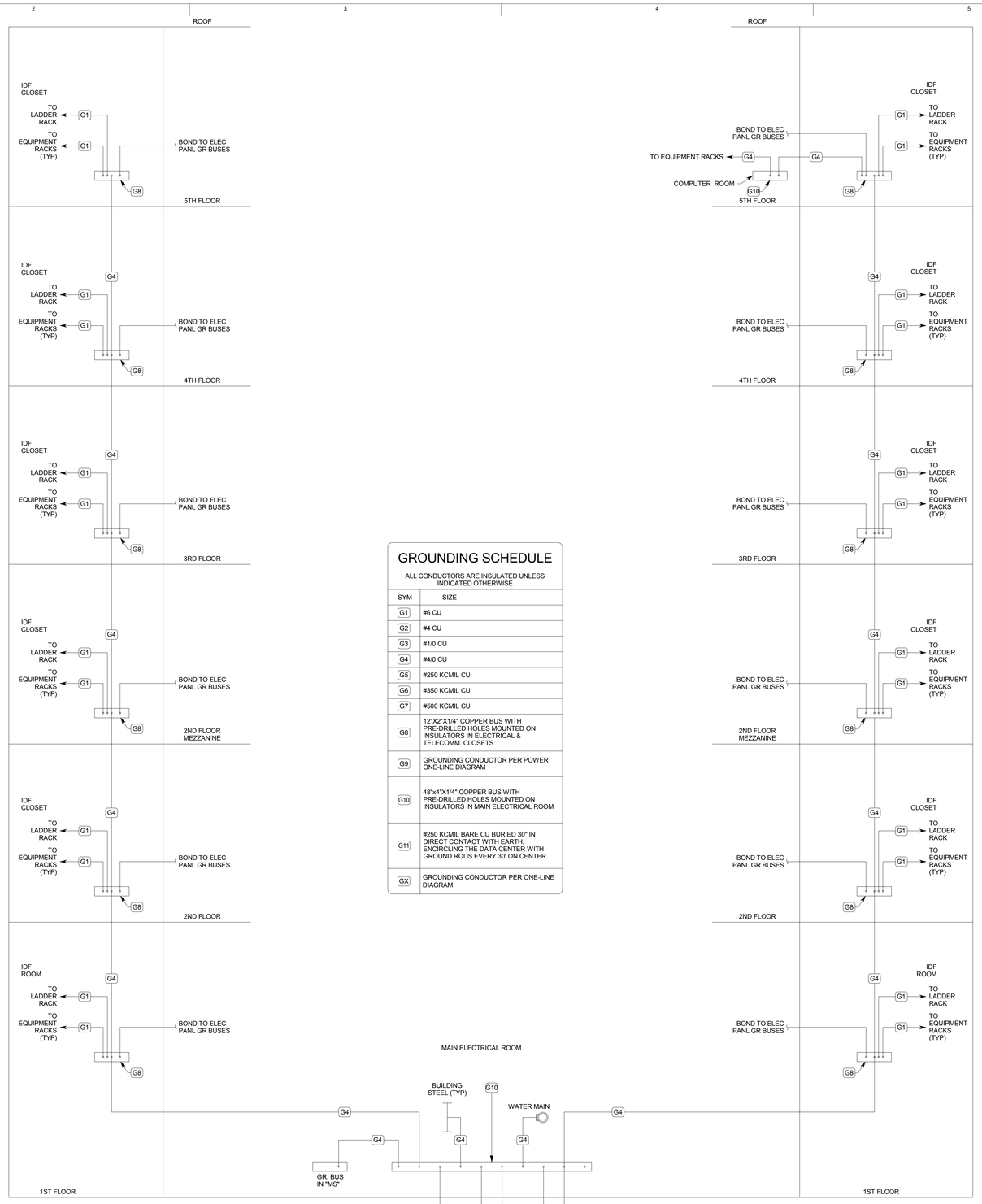
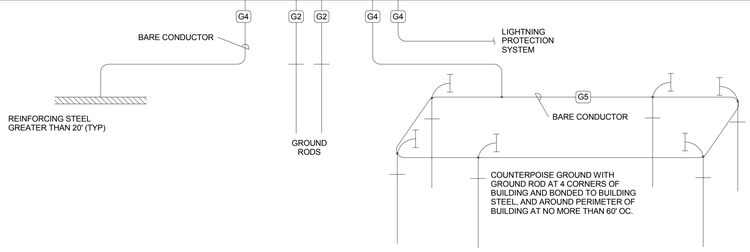


GROUNDING SCHEDULE

ALL CONDUCTORS ARE INSULATED UNLESS INDICATED OTHERWISE

SYM	SIZE
G1	#6 CU
G2	#4 CU
G3	#1/0 CU
G4	#4/0 CU
G5	#250 KCMIL CU
G6	#350 KCMIL CU
G7	#500 KCMIL CU
G8	12"X2"X1/4" COPPER BUS WITH PRE-DRILLED HOLES MOUNTED ON INSULATORS IN ELECTRICAL & TELECOMM. CLOSETS
G9	GROUNDING CONDUCTOR PER POWER ONE-LINE DIAGRAM
G10	48"x4"X1/4" COPPER BUS WITH PRE-DRILLED HOLES MOUNTED ON INSULATORS IN MAIN ELECTRICAL ROOM
G11	#250 KCMIL BARE CU BURIED 30" IN DIRECT CONTACT WITH EARTH, ENCIRCLING THE DATA CENTER WITH GROUND RODS EVERY 30' ON CENTER.
GX	GROUNDING CONDUCTOR PER ONE-LINE DIAGRAM



A1 GROUNDING RISER DIAGRAM

NO SCALE

GENERAL SHEET NOTES

1. REFER TO ONE-LINES, PLANS, AND SPECIFICATIONS FOR ADDITIONAL GROUNDING REQUIREMENTS.
2. BOND SPECIFIED GROUND CONDUCTOR TO INDIVIDUAL EQUIPMENT RACKS.
3. GROUND TELECOMMUNICATIONS EQUIPMENT ACCORDING TO ANSI/TIA/EIA 607-A

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

SASAKI

LICENSED PROFESSIONAL ENGINEER
No. 179621
RALPH B. KOEBER
STATE OF UTAH

SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #06297640
DIXIE COLLEGE, ST. GEORGE, UT
CONFORMED CONSTRUCTION DOCUMENTS BID SET

No.	Description	Date

Job # 09625
CAD File
Drawn BXW Checked RBK
Date 12/03/2010
Owner #
Ins. #

GROUNDING RISER DIAGRAM

EP604
Sheet Number

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EQUIPMENT SCHEDULE

MARK	QTY	ITEM DESCRIPTION	LOAD DATA							WIRE AND CONDUIT SIZE	OVERCURRENT PROTECTION			DISCONNECT			STARTER DATA									NOTES	MARK
			HP	kW	MCA	FLA	VOLT	PH	Hz		FURN BY	DEVICE	LOCATION	FURN BY	DEVICE	LOCATION	FURN BY	DEVICE	LOCATION	SIZE	SELECTOR SWITCH	PILOT LAMP	NORMALLY OPEN CONTACTS	NORMALLY CLOSED CONTACTS	PHASE FAILURE RELAY		
AC-1		AIR CURTAIN					120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	E	SWITCH	ADJ. TO EQUIP.								AC-1
ACC-1		AC UNIT			9.7	8.1	480	3	60	3 #12, #12 GR 0.75" CND	E	20A/3P CB	PQMCCA	E	30A/3P FRS-15	ADJ. TO EQUIP.	Q									EM POWER	ACC-1
ACU-1		AC UNIT			69		480	3	60	3 #2, #8 GR 1.25" CND	E	100A/3P CB	PQMCCA	E	100A/3P FRS-80	ADJ. TO EQUIP.	Q									EM POWER	ACU-1
ACU-2		AC UNIT			34		480	3	60	3 #6, #10 GR 1" CND	E	60A/3P CB	PQMCCA	E	60A/3P FRS-50	ADJ. TO EQUIP.	Q									EM POWER	ACU-2
ACU-3		AC UNIT			34		480	3	60	3 #6, #10 GR 1" CND	E	60A/3P CB	PQMCCA	E	60A/3P FRS-50	ADJ. TO EQUIP.	Q									EM POWER	ACU-3
ACU-4		AC UNIT			33		480	3	60	3 #6, #10 GR 1" CND	E	60A/3P CB	PQMCCA	E	60A/3P FRS-45	ADJ. TO EQUIP.	Q									EM POWER	ACU-4
BFS		WATER BOTTLE FILL STATION				0.1	120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	SAME AS OCPD	PANEL	Q										BFS
CDP-1		CONDENSATE PUMP					120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	Q										CDP-1
CDP-2		CONDENSATE PUMP					120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	Q										CDP-2
CDP-3		CONDENSATE PUMP					120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	Q										CDP-3
CP-1		CIRCULATING PUMP				0.12	120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	E	RELAY								NOTE 1	CP-1
CP-2		CIRCULATING PUMP				0.12	120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	E	RELAY								NOTE 1	CP-2
CP-3		CIRCULATING PUMP				0.12	120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	E	RELAY								NOTE 1	CP-3
CP-4		CIRCULATING PUMP				0.12	120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	E	RELAY								NOTE 1	CP-4
CP-5		CIRCULATING PUMP				0.12	120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	E	RELAY								NOTE 1	CP-5
CT-1		COOLING TOWER FAN	15			21	480	3	60	3 #8, #10 GR 1" CND	E	40A/3P CB	PQMCCA	E	VFC	ADJ. TO EQUIP.	E	VFC	ADJ. TO EQUIP.							EM POWER	CT-1
CT-2		COOLING TOWER FAN	15			21	480	3	60	3 #8, #10 GR 1" CND	E	40A/3P CB	PQMCCA	E	VFC	ADJ. TO EQUIP.	E	VFC	ADJ. TO EQUIP.							EM POWER	CT-2
DBF		DRYER BOOSTER FAN		.078			120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	CORD & PLUG	ADJ. TO EQUIP.	Q										DBF
DCP-1		DOMESTIC WATER CIRC PUMP	1/6			4.4	120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	E	RELAY	ADJ. TO EQUIP.								DCP-1
DXFC-1		DX FAN COIL UNIT			2		208	1	60	2 #12, #12 GR 0.75" CND	E	15A/2P CB	PANEL	E	30A/2P NO FUSE	ADJ. TO EQUIP.	Q									EM POWER	DXFC-1
DXFC-2		DX FAN COIL UNIT			2		208	1	60	2 #12, #12 GR 0.75" CND	E	15A/2P CB	PANEL	E	30A/2P NO FUSE	ADJ. TO EQUIP.	Q									EM POWER	DXFC-2
DXFC-3		DX FAN COIL UNIT			2		208	1	60	2 #12, #12 GR 0.75" CND	E	15A/2P CB	PANEL	E	30A/2P NO FUSE	ADJ. TO EQUIP.	Q									EM POWER	DXFC-3
DXFC-4		DX FAN COIL UNIT			2		208	1	60	2 #12, #12 GR 0.75" CND	E	15A/2P CB	PANEL	E	30A/2P NO FUSE	ADJ. TO EQUIP.	Q									EM POWER	DXFC-4
DXFC-5		DX FAN COIL UNIT			2		208	1	60	2 #12, #12 GR 0.75" CND	E	15A/2P CB	PANEL	E	30A/2P NO FUSE	ADJ. TO EQUIP.	Q									EM POWER	DXFC-5
DXFC-6		DX FAN COIL UNIT			2		208	1	60	2 #12, #12 GR 0.75" CND	E	15A/2P CB	PANEL	E	30A/2P NO FUSE	ADJ. TO EQUIP.	Q									EM POWER	DXFC-6
DXFC-7		DX FAN COIL UNIT			2		208	1	60	2 #12, #12 GR 0.75" CND	E	15A/2P CB	PANEL	E	30A/2P NO FUSE	ADJ. TO EQUIP.	Q									EM POWER	DXFC-7
DXFC-8		DX FAN COIL UNIT			2		208	1	60	2 #12, #12 GR 0.75" CND	E	15A/2P CB	PANEL	E	30A/2P NO FUSE	ADJ. TO EQUIP.	Q									EM POWER	DXFC-8
DXFC-9		DX FAN COIL UNIT			2		208	1	60	2 #12, #12 GR 0.75" CND	E	15A/2P CB	PANEL	E	30A/2P NO FUSE	ADJ. TO EQUIP.	Q									EM POWER	DXFC-9
DXFC-11		DX FAN COIL UNIT			2		208	1	60	2 #12, #12 GR 0.75" CND	E	15A/2P CB	PANEL	E	30A/2P NO FUSE	ADJ. TO EQUIP.	Q									EM POWER	DXFC-11
DXFC-12		DX FAN COIL UNIT			2		208	1	60	2 #12, #12 GR 0.75" CND	E	15A/2P CB	PANEL	E	30A/2P NO FUSE	ADJ. TO EQUIP.	Q									EM POWER	DXFC-12
DXFC-13		DX FAN COIL UNIT			2		208	1	60	2 #12, #12 GR 0.75" CND	E	15A/2P CB	PANEL	E	30A/2P NO FUSE	ADJ. TO EQUIP.	Q									EM POWER	DXFC-13
DXFC-14		DX FAN COIL UNIT			2		208	1	60	2 #12, #12 GR 0.75" CND	E	15A/2P CB	PANEL	E	30A/2P NO FUSE	ADJ. TO EQUIP.	Q									EM POWER	DXFC-14
DXFC-15		DX FAN COIL UNIT			2		208	1	60	2 #12, #12 GR 0.75" CND	E	15A/2P CB	PANEL	E	30A/2P NO FUSE	ADJ. TO EQUIP.	Q									EM POWER	DXFC-15
DXFC-16		DX FAN COIL UNIT			2		208	1	60	2 #12, #12 GR 0.75" CND	E	15A/2P CB	PANEL	E	30A/2P NO FUSE	ADJ. TO EQUIP.	Q									EM POWER	DXFC-16
DXFC-17		DX FAN COIL UNIT			2		208	1	60	2 #12, #12 GR 0.75" CND	E	20A/2P CB	PANEL	E	30A/2P FRN-	ADJ. TO EQUIP.	Q									EM POWER	DXFC-17
DXFC-18		DX FAN COIL UNIT			2		208	1	60	2 #12, #12 GR 0.75" CND	E	20A/2P CB	PANEL	E	30A/2P FRN-	ADJ. TO EQUIP.	Q									EM POWER	DXFC-18
DXFC-19		DX FAN COIL UNIT			2		208	1	60	2 #12, #12 GR 0.75" CND	E	20A/2P CB	PANEL	E	30A/2P FRN-	ADJ. TO EQUIP.	Q									EM POWER	DXFC-19
DXFC-20		DX FAN COIL UNIT			2		208	1	60	2 #12, #12 GR 0.75" CND	E	20A/2P CB	PANEL	E	30A/2P FRN-	ADJ. TO EQUIP.	Q									EM POWER	DXFC-20
DXFC-21		DX FAN COIL UNIT			2		208	1	60	2 #12, #12 GR 0.75" CND	E	20A/2P CB	PANEL	E	30A/2P FRN-	ADJ. TO EQUIP.	Q									EM POWER	DXFC-21
DXFC-22		DX FAN COIL UNIT			2		208	1	60	2 #12, #12 GR 0.75" CND	E	20A/2P CB	PANEL	E	30A/2P FRN-	ADJ. TO EQUIP.	Q									EM POWER	DXFC-22
EF-1		EXHAUST FAN		.048			120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	E	SWITCH	ADJ. TO EQUIP.								EF-1
EF-2		EXHAUST FAN		.048			120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	E	SWITCH	ADJ. TO EQUIP.								EF-2
EF-3		EXHAUST FAN	1			2.1	480	3	60	3 #12, #12 GR 0.75" CND	E	15A/3P CB	PMCCA	E	30A/3P FRS-3	ADJ. TO EQUIP.	E	FVNR		0	HOA	R,G	2	2			EF-3
EF-4		EXHAUST FAN		.084			120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	E	SWITCH	ADJ. TO EQUIP.								EF-4
EF-5		EXHAUST FAN	1/4			5.8	120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	E	RELAY	ADJ. TO EQUIP.							NOTE 1	EF-5
EF-6		EXHAUST FAN		.048			120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	E	SWITCH	ADJ. TO EQUIP.								EF-6
EF-7		EXHAUST FAN		.048			120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	E	SWITCH	ADJ. TO EQUIP.								EF-7
EF-8		EXHAUST FAN		.048			120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	E	SWITCH	ADJ. TO EQUIP.								EF-8
EF-9		EXHAUST FAN		.058			120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	E	SWITCH	ADJ. TO EQUIP.								EF-9
EF-10		EXHAUST FAN	1/6			4.4	120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	E	RELAY	ADJ. TO EQUIP.							NOTE 1	EF-10
EF-11		EXHAUST FAN		.048			120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	E	SWITCH	ADJ. TO EQUIP.								EF-11
EF-12		EXHAUST FAN		.048			120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	E	SWITCH	ADJ. TO EQUIP.								EF-12
EF-13		EXHAUST FAN	1/6			4.4	120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	Q	LINE T-STAT	ADJ. TO EQUIP.							NOTE 2	EF-13
EF-14		EXHAUST FAN		.3			120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	E	RELAY	ADJ. TO EQUIP.							NOTE 1	EF-14
EF-15		EXHAUST FAN	1/6			4.4	120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	E	RELAY	ADJ. TO EQUIP.							NOTE 1	EF-15
EH-1		ELECTRIC UNIT HEATER		3.3		16	208	1	60	2 #10, #10 GR 0.75" CND	E	30A/2P CB	PANEL	E	30A/2P NO FUSE	ADJ. TO EQUIP.	Q										EH-1
EH-2		ELECTRIC UNIT HEATER		3.3		16	208	1	60	2 #10, #10 GR 0.75" CND	E	30A/2P CB	PANEL	E	30A/2P NO FUSE	ADJ. TO EQUIP.	Q										EH-2
EH-3		ELECTRIC UNIT HEATER		3.3		16	208	1	60	2 #10, #10 GR 0.75" CND	E	30A/2P CB	PANEL	E	30A/2P NO FUSE	ADJ. TO EQUIP.	Q										EH-3
EH-4		ELECTRIC UNIT HEATER		3.3		16	208	1	60	2 #10, #10 GR 0.75" CND	E	30A/2P CB	PANEL	E	30A/2P NO FUSE	ADJ. TO EQUIP.	Q										EH-4
EH-5		ELECTRIC UNIT HEATER		3.3		16	208	1	60	2 #10, #10 GR 0.75" CND	E	30A/2P CB	PANEL	E	30A/2P NO FUSE	ADJ. TO EQUIP.	Q										EH-5
EH-6		ELECTRIC UNIT HEATER		3.3		16	208	1	60	2 #10, #10 GR 0.75" CND	E	30A/2P CB	PANEL	E	30A/2P NO FUSE	ADJ. TO EQUIP.	Q										EH-6
EH-7		ELECTRIC UNIT HEATER		3.3		16	208	1	60	2 #10, #10 GR 0.75" CND	E	30A/2P CB	PANEL	E	30A/2P NO FUSE	ADJ. TO EQUIP.	Q										EH-7
EM-1		EVAP MEDIA PUMP AH-1	3/4			13.8	120	1	60	2 #10, #10 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	Q										EM-1
EM-2		EVAP MEDIA PUMP AH-2	3/4			13.8	120	1	60	2 #10, #10 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	Q										EM-2
EM-3		EVAP MEDIA PUMP AH-3	1/4			5.8	120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	Q									EM POWER	EM-3

NOTES: 1. REFER TO DETAIL A4/EP501 FOR FRACTIONAL HORSEPOWER MOTOR RELAY DETAIL.
2. THERMOSTAT SUPPLIED BY DIV 23, INSTALLED BY DIV 26.

EQUIPMENT SCHEDULE KEY

E	DIVISION 16
Q	FURNISHED WITH THE EQUIPMENT
*	COORDINATE WITH THE DIVISION 15 TEMPERATURE CONTROL INSTALLER
**	AUTOMATIC CONTROL WIRING BY DIVISION 15

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

SASAKI

LICENSED PROFESSIONAL ENGINEER
No. 179621
RALPH B. KOEBER
STATE OF UTAH

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HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #06297640
DIXIE COLLEGE, ST. GEORGE, UT
CONFORMED CONSTRUCTION DOCUMENTS BID SET

No.	Description	Date

Job # 09625
CAD File
Drawn BXW Checked RBK
Date 12/03/2010
Owner #
Ins. #

EQUIPMENT SCHEDULES

EP605
Sheet Number

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EQUIPMENT SCHEDULE

MARK	QTY	ITEM DESCRIPTION	LOAD DATA							WIRE AND CONDUIT SIZE	OVERCURRENT PROTECTION			DISCONNECT			STARTER DATA									NOTES	MARK
			HP	kW	MCA	FLA	VOLT	PH	Hz		FURN BY	DEVICE	LOCATION	FURN BY	DEVICE	LOCATION	FURN BY	DEVICE	LOCATION	SIZE	SELECTOR SWITCH	PILOT LAMP	NORMALLY OPEN CONTACTS	NORMALLY CLOSED CONTACTS	PHASE FAILURE RELAY		
EWH-1		ELECTRIC WATER HEATER		7		25	277	1	60	2 #8, #10 GR 1" CND	E	40A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	Q										EWH-1
EWH-2		ELECTRIC WATER HEATER		16.6		80	208	1	60	2 #1, #6 GR 1.5" CND	E	100A/2P CB	PANEL	E	100A/2P NO FUSE	ADJ. TO EQUIP.	Q										EWH-2
EWH-3		ELECTRIC WATER HEATER		7		25	277	1	60	2 #8, #10 GR 1" CND	E	40A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	Q										EWH-3
EWH-4		ELECTRIC WATER HEATER		7		25	277	1	60	2 #8, #10 GR 1" CND	E	40A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	Q										EWH-4
EWH-5		ELECTRIC WATER HEATER		16.6		80	208	1	60	2 #1, #6 GR 1.5" CND	E	100A/2P CB	PANEL	E	100A/2P NO FUSE	ADJ. TO EQUIP.	Q										EWH-5
EWH-6		ELECTRIC WATER HEATER		7		25	277	1	60	2 #8, #10 GR 1" CND	E	40A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	Q										EWH-6
HD		ELECTRIC HAND DRYER		1.4		12	120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	Q										HD
P-1		COOLING TOWER PUMP	20			27	480	3	60	3 #6, #10 GR 1" CND	E	50A/3P CB	PQMCCA	E	60A/3P FRS-35	ADJ. TO EQUIP.	E	SOFT START	PQMCCA							EM POWER	P-1
P-2		COOLING TOWER PUMP	20			27	480	3	60	3 #6, #10 GR 1" CND	E	50A/3P CB	PQMCCA	E	60A/3P FRS-35	ADJ. TO EQUIP.	E	SOFT START	PQMCCA							EM POWER	P-2
P-3		HEATING WATER PUMP	7.5			11	480	3	60	3 #12, #12 GR 0.75" CND	E	20A/3P CB	1MCCA	E	VFC	ADJ. TO EQUIP.	E	VFC	ADJ. TO EQUIP.								P-3
P-4		HEATING WATER PUMP	7.5			11	480	3	60	3 #12, #12 GR 0.75" CND	E	20A/3P CB	1MCCA	E	VFC	ADJ. TO EQUIP.	E	VFC	ADJ. TO EQUIP.								P-4
P-5		CHILLED WATER PUMP	15			21	480	3	60	3 #8, #10 GR 1" CND	E	40A/3P CB	1MCCA	E	VFC	ADJ. TO EQUIP.	E	VFC	ADJ. TO EQUIP.								P-5
P-6		CHILLED WATER PUMP	15			21	480	3	60	3 #8, #10 GR 1" CND	E	40A/3P CB	1MCCA	E	VFC	ADJ. TO EQUIP.	E	VFC	ADJ. TO EQUIP.								P-6
P-7		RADIANT FLOOR PUMP	1/2			9.8	120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	E	RELAY	ADJ. TO EQUIP.							NOTE 1	P-7
P-8		RADIANT FLOOR PUMP	1/2			9.8	120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	E	RELAY	ADJ. TO EQUIP.							NOTE 1	P-8
RC-1		DRINKING FOUNTAIN REMOTE CHILLER				9.2	120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	Q										RC-1
RC-2		DRINKING FOUNTAIN REMOTE CHILLER				9.2	120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	Q										RC-2
RC-3		DRINKING FOUNTAIN REMOTE CHILLER				9.2	120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	Q										RC-3
RC-4		DRINKING FOUNTAIN REMOTE CHILLER				9.2	120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	Q										RC-4
RC-5		DRINKING FOUNTAIN REMOTE CHILLER				9.2	120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	Q										RC-5
RF-1		RELIEF FAN	7.5			11	480	3	60	3 #12, #12 GR 0.75" CND	E	20A/3P CB	PMCCA	E	VFC	ADJ. TO EQUIP.	E	VFC	ADJ. TO EQUIP.								RF-1
RF-2		RELIEF FAN	7.5			11	480	3	60	3 #12, #12 GR 0.75" CND	E	20A/3P CB	PMCCA	E	VFC	ADJ. TO EQUIP.	E	VFC	ADJ. TO EQUIP.								RF-2
RF-3		RELIEF FAN	7.5			11	480	3	60	3 #12, #12 GR 0.75" CND	E	20A/3P CB	PMCCA	E	VFC	ADJ. TO EQUIP.	E	VFC	ADJ. TO EQUIP.								RF-3
SF-1A		SUPPLY FAN AH-1	40			52	480	3	60	3 #2, #8 GR 1.25" CND	E	100A/3P CB	1MCCA	E	VFC	ADJ. TO EQUIP.	E	VFC	ADJ. TO EQUIP.								SF-1A
SF-1B		SUPPLY FAN AH-1	40			52	480	3	60	3 #2, #8 GR 1.25" CND	E	100A/3P CB	1MCCA	E	VFC	ADJ. TO EQUIP.	E	VFC	ADJ. TO EQUIP.								SF-1B
SF-2A		SUPPLY FAN AH-2	60			77	480	3	60	3 #1/0, #6 GR 2" CND	E	150A/3P CB	PMCCA	E	VFC	ADJ. TO EQUIP.	E	VFC	ADJ. TO EQUIP.								SF-2A
SF-2B		SUPPLY FAN AH-2	60			77	480	3	60	3 #1/0, #6 GR 2" CND	E	150A/3P CB	PMCCA	E	VFC	ADJ. TO EQUIP.	E	VFC	ADJ. TO EQUIP.								SF-2B
SF-3A		SUPPLY FAN AH-3	20			27	480	3	60	3 #6, #10 GR 1" CND	E	50A/3P CB	PQMCCA	E	VFC	ADJ. TO EQUIP.	E	VFC	ADJ. TO EQUIP.							EM POWER	SF-3A
SF-3B		SUPPLY FAN AH-3	20			27	480	3	60	3 #6, #10 GR 1" CND	E	50A/3P CB	PQMCCA	E	VFC	ADJ. TO EQUIP.	E	VFC	ADJ. TO EQUIP.							EM POWER	SF-3B
SPAC-1		SPECIAL COLLECTIONS A/C UNIT			24	19.2	480	3	60	3 #10, #10 GR 0.75" CND	E	30A/3P CB	PQMCCA	E	30A/3P FRS-25	ADJ. TO EQUIP.	Q									EM POWER	SPAC-1
TF-1		TOWER FILTRATION	3			4.8	480	3	60	3 #12, #12 GR 0.75" CND	E	20A/3P CB	PMCCA	E	30A/3P FRS-10	ADJ. TO EQUIP.	E	FVNR	PMCCA		HOA	R,G	2	2			TF-1
UH-1		UNIT HEATER					120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	Q										UH-1
UH-2		UNIT HEATER					120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	Q										UH-2
WH-1		GAS FIRED WATER HEATER					120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	Q										WH-1
WS-1		WATER SOFTENER					120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	Q										WS-1

NOTES: 1. REFER TO DETAIL A4/EP501 FOR FRACTIONAL HORSEPOWER MOTOR RELAY DETAIL.
2. THERMOSTAT SUPPLIED BY DIV 23, INSTALLED BY DIV 26.

EQUIPMENT SCHEDULE KEY

E	DIVISION 16
Q	FURNISHED WITH THE EQUIPMENT
*	COORDINATE WITH THE DIVISION 15 TEMPERATURE CONTROL INSTALLER
**	AUTOMATIC CONTROL WIRING BY DIVISION 15

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

SASAKI

LICENSED PROFESSIONAL ENGINEER
No. 179621
RALPH B. KOEBER
STATE OF UTAH

SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS
DIXIE STATE COLLEGE OF UTAH
DFCM #06297640
DIXIE COLLEGE, ST. GEORGE, UT
CONFORMED CONSTRUCTION DOCUMENTS BID SET

No.	Description	Date

Job # 09625
CAD File
Drawn BXW Checked RBK
Date 12/03/2010
Owner #
Ins. #

EQUIPMENT SCHEDULES

EP606
Sheet Number

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PANEL "1HA"

VOLTS/PHASE/WIRE: 277/480 V, 3 PH 4 WIRE | PANEL SIZE & TYPE: 22" W x 6" D, BOLT-ON | MAIN SIZE & TYPE: 125 AMPERE MAIN LUGS | LOCATION: | CABINET: | NOTES:

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT	OCP		LOAD (kVA)			DESCRIPTION	LCL	PHASE LOAD			LCL	DESCRIPTION	LOAD (kVA)			OCP		CKT
NO	AMP	POLE	LTG	CO	PWR		kVA	A	B	C	kVA		LTG	CO	PWR	AMP	POLE	NO
1	20	1	2.1			SOUTH AREA OFFICE LGTS	2.6	3.0			1.1	SOUTH CORRIDOR LIGHTS	0.9			20	1	2
3	20	1	2.0			SOUTH CENTER OFFICE LGTS	2.5		3.3		1.6	SW STOR/RESTRM LGTS	1.3			20	1	4
5	20	1	2.1			NORTH, WEST OFFICE LGTS	2.6			4.1	2.5	CENTER OPEN OFFICE LGTS	2.0			20	1	6
7	20	1	1.5			NORTH CENTER OFFICE LGTS	1.9	3.0			1.9	NORTH CORRIDOR LIGHTS	1.5			20	1	8
9	20	1	1.5			NE STOR/RESTRM LGTS	1.9		1.5		0.0	NORTH EAST CORRIDIOR LGTS				20	1	10
11	20	1				SPARE	0.0			0.0	0.0	EAST LOBBY FLU LIGHTS				20	1	12
13	20	1				SPARE	0.0	0.0			0.0	EAST LOBBY LED LIGHTS				20	1	14
15	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	16
17	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	18
19	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	20
21	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	22
23	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	24
25	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	26
27	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	28
29	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	30
31	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	32
33	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	34
35	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	36
37	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	38
39	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	40
41	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	42

TOTALS: CONNECTED kVA PER PHASE 6 5 4 — CONNECTED TOTAL kVA 15
CONNECTED AMPS PER PHASE 22 17 15 — CONNECTED AVERAGE AMPS PER PHASE 18

NEC DIVERSIFIED LOAD CALCULATIONS
LIGHTING 15kVA @125% = 19 kVA — ALL OTHER LOADS @100% = 0 kVA — DIVERSIFIED TOTAL kVA = 19
RECEPTACLES 0kVA @100% = 0 kVA — 25% OF LARGEST MOTOR = 0 kVA — AVERAGE AMPS PER PHASE = 22
REMAINDER 0kVA @ 50% = 0 kVA

PANEL "2HA"

VOLTS/PHASE/WIRE: 277/480 V, 3 PH 4 WIRE | PANEL SIZE & TYPE: 22" W x 6" D, BOLT-ON | MAIN SIZE & TYPE: 125 AMPERE MAIN LUGS | LOCATION: | CABINET: | NOTES:

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT	OCP		LOAD (kVA)			DESCRIPTION	LCL	PHASE LOAD			LCL	DESCRIPTION	LOAD (kVA)			OCP		CKT
NO	AMP	POLE	LTG	CO	PWR		kVA	A	B	C	kVA		LTG	CO	PWR	AMP	POLE	NO
1	20	1	1.8			WEST OFFICE/RESTRM LTG	2.3	1.8			0.0	SPARE				20	1	2
3	20	1	0.5			LED LIGHTS	0.6		0.5		0.0	SPARE				20	1	4
5	20	1	1.0			NORTH COMMON LIGHTS	1.3			1.0	0.0	SPARE				20	1	6
7	20	1	2.2			EAST OFFICE/CIRC LIGHTS	2.8	2.2			0.0	SPARE				20	1	8
9	20	1	1.8			NORTH RECESSED STRIPS	2.3		1.8		0.0	SPARE				20	1	10
11	20	1	1.5			NORTH ENTRY LED LTG	1.9			1.5	0.0	SPARE				20	1	12
13	20	1	1.5			COPY/CAFÉ LIGHTS	1.9	1.5			0.0	SPARE				20	1	14
15	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	16
17	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	18
19	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	20
21	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	22
23	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	24
25	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	26
27	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	28
29	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	30
31	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	32
33	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	34
35	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	36
37	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	38
39	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	40
41	20	1				SPARE	0.0			7.0	7.0	RM 227 EWH-1			7.0	40	1	42

TOTALS: CONNECTED kVA PER PHASE 6 2 10 — CONNECTED TOTAL kVA 17
CONNECTED AMPS PER PHASE 20 8 34 — CONNECTED AVERAGE AMPS PER PHASE 21

NEC DIVERSIFIED LOAD CALCULATIONS
LIGHTING 10kVA @125% = 13 kVA — ALL OTHER LOADS @100% = 7 kVA — DIVERSIFIED TOTAL kVA = 20
RECEPTACLES 0kVA @100% = 0 kVA — 25% OF LARGEST MOTOR = 0 kVA — AVERAGE AMPS PER PHASE = 24
REMAINDER 0kVA @ 50% = 0 kVA

PANEL "2MHA"

VOLTS/PHASE/WIRE: 277/480 V, 3 PH 4 WIRE | PANEL SIZE & TYPE: 22" W x 6" D, BOLT-ON | MAIN SIZE & TYPE: 125 AMPERE MAIN LUGS | LOCATION: | CABINET: | NOTES:

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT	OCP		LOAD (kVA)			DESCRIPTION	LCL	PHASE LOAD			LCL	DESCRIPTION	LOAD (kVA)			OCP		CKT
NO	AMP	POLE	LTG	CO	PWR		kVA	A	B	C	kVA		LTG	CO	PWR	AMP	POLE	NO
1	20	1				CURICULUM 234 LIGHTS	0.0	0.0			0.0	WEST STUDY RM LGT				20	1	2
3	20	1				SOUTH OPEN AREA DAYLGT	0.0		0.0		0.0	EAST STUDY RM LGT				20	1	4
5	20	1				CENTER AREA LIGHTS	0.0			0.0	0.0	NORTH LOBBY ACCENT LGT				20	1	6
7	20	1				WEST MEZZ LIGHTS	0.0	0.0			0.0	NORTH LOBBY LIGHTS				20	1	8
9	20	1				CENTER AREA LIGHTS	0.0		0.0		0.0	NORTH LOBBY DAYLIGHTS				20	1	10
11	20	1				EAST MEZZ DAYLIGHTS	0.0			0.0	0.0	EAST LOBBY DAYLIGHTS				20	1	12
13	20	1				EAST MEZZ LIGHTS	0.0	0.0			0.0	EAST LOBBY LIGHTS				20	1	14
15	20	1				NORTH MEZZ LIGHTS	0.0		0.0		0.0	EAST EXTERIOR LIGHTS				20	1	16
17	20	1				SPARE	0.0			0.0	0.0	EAST EXTERIOR LIGHTS				20	1	18
19	20	1				SPARE	0.0	0.0			0.0	SOUTH EXTERIOR LIGHTS				20	1	20
21	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	22
23	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	24
25	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	26
27	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	28
29	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	30
31	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	32
33	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	34
35	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	36
37	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	38
39	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	40
41	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	42

TOTALS: CONNECTED kVA PER PHASE 0 0 0 — CONNECTED TOTAL kVA 0
CONNECTED AMPS PER PHASE 0 0 0 — CONNECTED AVERAGE AMPS PER PHASE 0

NEC DIVERSIFIED LOAD CALCULATIONS
LIGHTING 0kVA @125% = 0 kVA — ALL OTHER LOADS @100% = 0 kVA — DIVERSIFIED TOTAL kVA = 0
RECEPTACLES 0kVA @100% = 0 kVA — 25% OF LARGEST MOTOR = 0 kVA — AVERAGE AMPS PER PHASE = 0
REMAINDER 0kVA @ 50% = 0 kVA

PANEL "3HA"

VOLTS/PHASE/WIRE: 277/480 V, 3 PH 4 WIRE | PANEL SIZE & TYPE: 22" W x 6" D, BOLT-ON | MAIN SIZE & TYPE: 125 AMPERE MAIN LUGS | LOCATION: | CABINET: | NOTES:

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT	OCP		LOAD (kVA)			DESCRIPTION	LCL	PHASE LOAD			LCL	DESCRIPTION	LOAD (kVA)			OCP		CKT
NO	AMP	POLE	LTG	CO	PWR		kVA	A	B	C	kVA		LTG	CO	PWR	AMP	POLE	NO
1	20	1	3.0			SOUTH DAYLIGHTS	3.8	6.5			4.4	EAST OFFICES LIGHTS	3.5			20	1	2
3	20	1	3.5			SOUTH OPEN AREA LTG	4.4		6.3		3.5	COMPACT STORAGE LTG	2.8			20	1	4
5	20	1	3.5			SOUTH OPEN AREA LTG	4.4			6.5	3.8	READING 330, WORK 331	3.0			20	1	6
7	20	1	3.5			CENTER OPEN AREA LTG	4.4	6.5			3.8	NORTHWEST OFFICES LTG	3.0			20	1	8
9	20	1	3.5			CENTER OPEN AREA LTG	4.4		7.0		4.4	WEST OFFICES, WORK RM	3.5			20	1	10
11	20	1	3.0			CENTER OPEN AREA LTG	3.8			3.0	0.0	SPARE				20	1	12
13	20	1	3.0			NORTH OPEN AREA LTG	3.8	3.0			0.0	SPARE				20	1	14
15	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	16
17	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	18
19	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	20
21	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	22
23	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	24
25	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	26
27	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	28
29	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	30
31	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	32
33	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	34
35	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	36
37	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	38
39	20	1			7.0	RM 331 EWH-4	7.0		7.0		0.0	SPARE				20	1	40
41	40	1			7.0	RM 351 EWH-3	7.0			14.0	7.0	RM 374 EWH-6			7.0	40	1	42

TOTALS: CONNECTED kVA PER PHASE 16 20 24 — CONNECTED TOTAL kVA 60
CONNECTED AMPS PER PHASE 58 73 85 — CONNECTED AVERAGE AMPS PER PHASE 72

NEC DIVERSIFIED LOAD CALCULATIONS
LIGHTING 39kVA @125% = 49 kVA — ALL OTHER LOADS @100% = 21 kVA — DIVERSIFIED TOTAL kVA = 70
RECEPTACLES 0kVA @100% = 0 kVA — 25% OF LARGEST MOTOR = 0 kVA — AVERAGE AMPS PER PHASE = 84
REMAINDER 0kVA @ 50% = 0 kVA

PANEL "4HA"

VOLTS/PHASE/WIRE: 277/480 V, 3 PH 4 WIRE | PANEL SIZE & TYPE: 22" W x 6" D, BOLT-ON | MAIN SIZE & TYPE: 125 AMPERE MAIN LUGS | LOCATION: | CABINET: | NOTES:

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT	OCP		LOAD (kVA)			DESCRIPTION	LCL	PHASE LOAD			LCL	DESCRIPTION	LOAD (kVA)			OCP		CKT
NO	AMP	POLE	LTG	CO	PWR		kVA	A	B	C	kVA		LTG	CO	PWR	AMP	POLE	NO
1	20	1	2.0			EXTERIOR BALCONY	2.5	5.7			4.6	CLASS 475, 476, 477 LTG	3.7			20	1	2
3	20	1	3.0			SW OPEN AREA LTG	3.8		5.0		2.5	WEST OFFICES/RESTRM	2.0			20	1	4
5	20	1	3.0			SOUTH OPEN AREA LTG	3.8			5.5	3.1	NORTHWEST OFFICES	2.5			20	1	6
7	20	1	3.5			SE OPEN AREA LTG	4.4	7.0			4.4	EAST CENTER OFFICES	3.5			20	1	8
9	20	1	1.5			WEST CORRIDOR LTG	1.9		5.0		4.4	CONF/STUDENT/CLASS LTG	3.5			20	1	10
11	20	1	3.0			NORTH/CENTER CORR LTG	3.8			6.0	3.8	EAST OFFICES LTG	3.0			20	1	12
13	20	1				SPARE	0.0	3.0			3.8	NE TUTORING OFFICES	3.0			20	1	14
15	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	16
17	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	18
19	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	20
21	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	22
23	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	24
25	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	26
27	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	28
29	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	30
31	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	32
33	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	34
35	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	36
37	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	38
39	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	40
41	20	1				SPARE	0.0			0.0	0.0	SPARE				40	1	42

TOTALS: CONNECTED kVA PER PHASE 16 10 12 — CONNECTED TOTAL kVA 37
CONNECTED AMPS PER PHASE 57 36 42 — CONNECTED AVERAGE AMPS PER PHASE 45

NEC DIVERSIFIED LOAD CALCULATIONS
LIGHTING 37kVA @125% = 47 kVA — ALL OTHER LOADS @100% = 0 kVA — DIVERSIFIED TOTAL kVA = 47
RECEPTACLES 0kVA @100% = 0 kVA — 25% OF LARGEST MOTOR = 0 kVA — AVERAGE AMPS PER PHASE = 56
REMAINDER 0kVA @ 50% = 0 kVA

PANEL "5HA"

VOLTS/PHASE/WIRE: 277/480 V, 3 PH 4 WIRE | PANEL SIZE & TYPE: 22" W x 6" D, BOLT-ON | MAIN SIZE & TYPE: 125 AMPERE MAIN LUGS | LOCATION: | CABINET: | NOTES:

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT	OCP		LOAD (kVA)			DESCRIPTION	LCL	PHASE LOAD			LCL	DESCRIPTION	LOAD (kVA)			OCP		CKT
NO	AMP	POLE	LTG	CO	PWR		kVA	A	B	C	kVA		LTG	CO	PWR	AMP	POLE	NO
1	20	1				NORTH CORRIDOR LIGHTS	0.0	0.0			0.0	SOUTH OFFICE LIGHTS				20	1	2
3	20	1				CENTER CORRIDOR LIGHTS	0.0		0.0		0.0	SOUTH OFFICE/CONF LTG				20	1	4
5	20	1				SOUTH CORRIDOR LIGHTS	0.0			0.0	0.0	SE OFFICES/CORRIDORS				20	1	6
7	20	1				SPARE	0.0	0.0			0.0	SE CLOSED OFFICES				20	1	8
9	20	1				SPARE	0.0		0.0		0.0	EAST CONF/OFFICES LTG				20	1	10
11	20	1				SPARE	0.0			0.0	0.0	NW OFFICE/CONF LTG				20	1	12
13	20	1				SPARE	0.0	0.0			0.0	IT OFFICES LTG				20	1	14
15	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	16
17	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	18
19	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	20
21	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	22
23	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	24
25	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	26
27	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	28
29	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	30
31	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	32
33	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	34
35	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	36
37	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	38
39	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	40
41	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	42

TOTALS: CONNECTED kVA PER PHASE 0 0 0 — CONNECTED TOTAL kVA 0
CONNECTED AMPS PER PHASE 0 0 0 — CONNECTED AVERAGE AMPS PER PHASE 0

NEC DIVERSIFIED LOAD CALCULATIONS
LIGHTING 0kVA @125% = 0 kVA — ALL OTHER LOADS @100% = 0 kVA — DIVERSIFIED TOTAL kVA = 0
RECEPTACLES 0kVA @100% = 0 kVA — 25% OF LARGEST MOTOR = 0 kVA — AVERAGE AMPS PER PHASE = 0
REMAINDER 0kVA @ 50% = 0 kVA

PANEL "1EHA"

VOLTS/PHASE/WIRE: 277/480 V, 3 PH 4 WIRE | PANEL SIZE & TYPE: 22" W x 6" D, BOLT-ON | MAIN SIZE & TYPE: 225 AMPERE MAIN LUGS | LOCATION: | CABINET: | NOTES: FUSIBLE

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT	OCP		LOAD (kVA)			DESCRIPTION	LCL	PHASE LOAD			LCL	DESCRIPTION	LOAD (kVA)			OCP		CKT
NO	AMP	POLE	LTG	CO	PWR		kVA	A	B	C	kVA		LTG	CO	PWR	AMP	POLE	NO
1	20	1	1.4			PENTHOUSE LIGHTS	1.8	2.4			1.3	NW STAIR LIGHTS	1.0			20	1	2
3	20	1	1.8			A STACK ELEC/DATA RM LTG	2.3		2.8		1.3	NE STAIR LIGHTS	1.0			20	1	4
5	20	1	1.1			1ST FLR MECH/ELEC LTG	1.4			2.1	1.3	2M SOUTH EM LIGHTS	1.0			20	1	6
7	20	1	2.0			1ST FLR NE EM LIGHTS	2.5	4.0			2.5	2M CENTER EM LIGHTS	2.0			20	1	8
9	20	1	1.0			1ST FLR EXTERIOR EM LTG	1.3		2.5		1.9	2M EAST EM LIGHTS	1.5			20	1	10
11	20	1	1.0			2ND FLOOR EM LTG	1.3			2.5	1.9	2ND FLR NORTH EM LTG	1.5			20	1	12
13	20	1	2.0			5TH FLR SE EM LIGHTS	2.5	3.5			1.9	1ST FLR EAST LOBBY EM LTG	1.5			20	1	14
15	20	1	2.0			5TH FLR NW EM LIGHTS	2.5		3.5		1.9	SOUTH/EAST EXTERIOR EM	1.5			20	1	16
17	20	1	2.0			4TH FLR STAIR LIGHTS	2.5			4.0	2.5	3RD FLR SOUTH DAYLIGHTS	2.0			20	1	18
19	20	1	2.0			4TH FLR EAST EM LIGHTS	2.5	2.3			0.4	3RD FLR SOUTH EXTERIOR	0.3			20	1	20
21	20	1	2.0			4TH FLR CENTER EM LIGHTS	2.5		3.0		1.3	3RD FLR STAIR LIGHTS	1.0			20	1	22
23	20	1				SPARE	0.0			1.5	1.9	3RD FLR EAST EM LIGHTS	1.5			20	1	24
25	20	1				SPARE	0.0	1.5			1.9	3RD FLR NORTH EM LIGHTS	1.5			20	1	26
27	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	28
29	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	30
31	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	32
33	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	34
35	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	36
37	20	1				SPARE	0.0	5.1			5.1	1ELA	0.0	1.6	3.5	20	1	38
39	20	1				SPARE	0.0		4.9		4.9	-	0.0	1.4	3.5	20	1	40
41	20	1				SPARE	0.0			5.3	5.7	-	1.7	0.4	3.2	20	1	42

TOTALS: CONNECTED kVA PER PHASE 19 17 15 — CONNECTED TOTAL kVA 51
CONNECTED AMPS PER PHASE 68 60 56 — CONNECTED AVERAGE AMPS PER PHASE 61

NEC DIVERSIFIED LOAD CALCULATIONS
LIGHTING 37kVA @125% = 47 kVA — ALL OTHER LOADS @100% = 10 kVA — DIVERSIFIED TOTAL kVA = 60
RECEPTACLES 3kVA @100% = 3 kVA — 25% OF LARGEST MOTOR = 0 kVA — AVERAGE AMPS PER PHASE = 72
REMAINDER 0kVA @ 50% = 0 kVA

PANEL "1EHB"

VOLTS/PHASE/WIRE: 277/480 V, 3 PH 4 WIRE | PANEL SIZE & TYPE: 22" W x 6" D, BOLT-ON | MAIN SIZE & TYPE: 225 AMPERE MAIN LUGS | LOCATION: | CABINET: | NOTES: FUSIBLE

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT	OCP		LOAD (kVA)			DESCRIPTION	LCL	PHASE LOAD			LCL	DESCRIPTION	LOAD (kVA)			OCP		CKT
NO	AMP	POLE	LTG	CO	PWR		kVA	A	B	C	kVA		LTG	CO	PWR	AMP	POLE	NO
1	20	1	0.6			SOUTHWEST STAIR LIGHTS	0.8	3.6			3.8	DATA CENTER LIGHTS	3.0			20	1	2
3	20	1	1.8			B STACK ELEC/DATA RM LTG	2.3		1.8		0.0	SPARE				20	1	4
5	20	1	1.0			1ST FLR SW EM LIGHTS	1.3			1.0	0.0	SPARE				20	1	6
7	20	1	0.5			2ND FLR SW EM LIGHTS	0.6	0.5			0.0	SPARE				20	1	8
9	20	1	1.5			2M FLR SW EM LIGHTS	1.9		1.5		0.0	SPARE				20	1	10
11	20	1	2.0			3RD FLR SW EM LIGHTS	2.5			2.0	0.0	SPARE				20	1	12
13	20	1	2.0			4TH FLR SW EM LIGHTS	2.5	2.0			0.0	SPARE				20	1	14
15	20	1	2.0			5TH FLR SW EM LIGHTS	2.5		2.0		0.0	SPARE				20	1	16
17	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	18
19	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	20
21	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	22
23	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	24
25	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	26
27	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	28
29	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	30
31	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	32
33	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	34
35	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	36
37	20	1				SPARE	0.0	6.8			6.8	1ELB	0.0	1.2	5.6	20	1	38
39	20	1				SPARE	0.0		7.7		8.0	-	1.0	0.6	6.1	20	1	40
41	20	1				SPARE	0.0			7.0	7.0	-	0.0	0.4	6.6	20	1	42

TOTALS: CONNECTED kVA PER PHASE 13 13 10 — CONNECTED TOTAL kVA 36
CONNECTED AMPS PER PHASE 47 47 36 — CONNECTED AVERAGE AMPS PER PHASE 43

NEC DIVERSIFIED LOAD CALCULATIONS
LIGHTING 15kVA @125% = 19 kVA — ALL OTHER LOADS @100% = 18 kVA — DIVERSIFIED TOTAL kVA = 40
RECEPTACLES 2kVA @100% = 2 kVA — 25% OF LARGEST MOTOR = 0 kVA — AVERAGE AMPS PER PHASE = 48
REMAINDER 0kVA @ 50% = 0 kVA

PANEL "1LA1"

VOLTS/PHASE/WIRE: 120/208 V, 3 PH 4 WIRE | PANEL SIZE & TYPE: 22" W x 6" D, BOLT-ON | MAIN SIZE & TYPE: 225 AMPERE MAIN LUGS | LOCATION: | CABINET: | NOTES:

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT	OCP		LOAD (kVA)			DESCRIPTION	LCL	PHASE LOAD			LCL	DESCRIPTION	LOAD (kVA)			OCP		CKT
NO	AMP	POLE	LTG	CO	PWR		kVA	A	B	C	kVA		LTG	CO	PWR	AMP	POLE	NO
1	20	1		0.2		SE EXTERIOR CO	0.2	1.1			0.9	OFFICE 154 CO'S		0.9		20	1	2
3	20	1			1.0	SE HC DOOR	1.0		2.5		1.5	ATM MACHINE			1.5	20	1	4
5	20	1		0.6		WAITING 125 CO'S	0.6			0.8	0.2	COMPUTER 151 CO'S		0.2		20	1	6
7	20	1		0.4		WAITING 125 CO'S	0.4	1.3			0.9	OFFICE 153 CO'S		0.9		20	1	8
9	20	1		0.4		WAITING 125 FLOOR BOX	0.4		1.2		0.8	OFFICE 152 CO'S		0.8		20	1	10
11	20	1		0.4		WAITING 125 FLOOR BOX	0.4			1.4	1.0	COUNTER 151 MONITORS			1.0	20	1	12
13	20	1		0.4		LOBBY 125 CO'S	0.4	1.4			1.0	COUNTER 151 MONITORS			1.0	20	1	14
15	20	1		0.4		LOBBY 125 FLOOR BOX	0.4		1.6		1.2	COUNTER 151 CO'S		1.2		20	1	16
17	20	1		0.6		LOBBY 125 CO'S	0.6			1.8	1.2	COUNTER 151 CO'S		1.2		20	1	18
19	20	1		0.8		LOBBY 125 FLOOR BOX	0.8	1.7			0.9	COUNTER 151 MONITORS			0.9	20	1	20
21	20	1		0.4		LOBBY 125 FLOOR BOX	0.4		1.3		0.9	COUNTER 151 MONITORS			0.9	20	1	22
23	20	1		0.6		LOBBY 125 CO'S	0.6			1.2	0.6	COUNTER 151 MONITORS			0.6	20	1	24
25	20	1		0.4		LOBBY 125 CO'S	0.4	1.9			1.5	COUNTER 151 CO'S		1.5		20	1	26
27	20	1			0.9	LOBBY 125 MONITOR	0.9		2.4		1.5	COUNTER 151 CO'S		1.5		20	1	28
29	20	1		0.4		LOBBY 125 FLOOR BOX	0.4			1.9	1.5	COUNTER 151 CO'S		1.5		20	1	30
31	20	1				SPARE	0.0	0.8			0.8	COUNTER 151 CO'S		0.8		20	1	32
33	20	1		0.4		CORRIDOR CO'S	0.4		1.2		0.8	COUNTER 151 CO'S		0.8		20	1	34
35	20	1			1.5	COPY 163 COPIER	1.5			1.7	0.2	COUNTER 151 CO'S		0.2		20	1	36
37	20	1			1.5	COPY 163 COPIER	1.5	1.9			0.4	COUNTER 151 CO'S		0.4		20	1	38
39	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	40
41	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	42
43	20	1		0.6		COPY 163 CO'S	0.6	1.2			0.6	OFFICE 182 CO'S		0.6		20	1	44
45	20	1		0.4		COPY 163 CO'S	0.4		1.0		0.6	OFFICE 190 SYS FURN		0.6		20	1	46
47	20	1		0.6		COPY 163 CO'S	0.6			1.2	0.6	OFFICE 190 SYS FURN		0.6		20	1	48
49	20	1		0.4		COPY 163 CO'S	0.4	0.8			0.4	OFFICE 190 CO'S		0.4		20	1	50
51	20	1			1.4	TOILET 122 HD	1.4		2.2		0.8	WELCOME 181 CO'S		0.8		20	1	52
53	20	1		0.6		TOILET 122 , 124 CO'S	0.6			1.1	0.5	NE DRINKING FOUNT			0.5	20	1	54
55	20	1		0.8		STORAGE 121 CO'S	0.8	2.2			1.4	TOILET 124 HD			1.4	20	1	56
57	20	1			1.5	VENDING MACHINE	1.5		1.5		0.0	LOBBY 125 CO				20	1	58
59	20	1			1.5	VENDING MACHINE	1.5			2.1	0.6	EAST EXTERIOR CO'S		0.6		20	1	60
61	20	1			1.2	RC-4, CP-4	1.2	2.2			1.0	TOILET 122, 124 HC DOOR			1.0	20	1	62
63	20	1		0.4		WORK 163 CO'S	0.4		1.4		1.0	FIRE SMOKE DAMPERS			1.0	20	1	64
65	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	66
67	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	68
69	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	70
71	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	72
73	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	74
75	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	76
77	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	78
79	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	80
81	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	82
83	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	84

TOTALS: CONNECTED kVA PER PHASE 17 16 13 — CONNECTED TOTAL kVA 46
CONNECTED AMPS PER PHASE 138 136 110 — CONNECTED AVERAGE AMPS PER PHASE 128

NEC DIVERSIFIED LOAD CALCULATIONS
LIGHTING 0kVA @125% = 0 kVA — ALL OTHER LOADS @100% = 20 kVA — DIVERSIFIED TOTAL kVA = 38
RECEPTACLES 10kVA @100% = 10 kVA — 25% OF LARGEST MOTOR = 0 kVA — AVERAGE AMPS PER PHASE = 106
REMAINDER 16kVA @ 50% = 8 kVA

PANEL "1LA2"

VOLTS/PHASE/WIRE: 120/208 V, 3 PH 4 WIRE | PANEL SIZE & TYPE: 22" W x 6" D, BOLT-ON | MAIN SIZE & TYPE: 225 AMPERE MAIN LUGS | LOCATION: | CABINET: | NOTES:

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT	OCP		LOAD (kVA)			DESCRIPTION	LCL	PHASE LOAD			LCL	DESCRIPTION	LOAD (kVA)			OCP		CKT
NO	AMP	POLE	LTG	CO	PWR		kVA	A	B	C	kVA		LTG	CO	PWR	AMP	POLE	NO
1	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	2
3	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	4
5	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	6
7	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	8
9	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	10
11	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	12
13	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	14
15	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	16
17	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	18
19	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	20
21	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	22
23	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	24
25	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	26
27	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	28
29	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	30
31	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	32
33	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	34
35	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	36
37	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	38
39	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	40
41	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	42

TOTALS: CONNECTED kVA PER PHASE 0 0 0 — CONNECTED TOTAL kVA 0
CONNECTED AMPS PER PHASE 0 0 0 — CONNECTED AVERAGE AMPS PER PHASE 0

NEC DIVERSIFIED LOAD CALCULATIONS
LIGHTING 0kVA @125% = 0 kVA — ALL OTHER LOADS @100% = 0 kVA — DIVERSIFIED TOTAL kVA = 0
RECEPTACLES 0kVA @100% = 0 kVA — 25% OF LARGEST MOTOR = 0 kVA — AVERAGE AMPS PER PHASE = 0
REMAINDER 0kVA @ 50% = 0 kVA

PANEL "1LA3"

VOLTS/PHASE/WIRE: 120/208 V, 3 PH 4 WIRE | PANEL SIZE & TYPE: 22" W x 6" D, BOLT-ON | MAIN SIZE & TYPE: 225 AMPERE MAIN LUGS | LOCATION: | CABINET: | NOTES:

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT	OCP		LOAD (kVA)			DESCRIPTION	LCL	PHASE LOAD			LCL	DESCRIPTION	LOAD (kVA)			OCP		CKT
NO	AMP	POLE	LTG	CO	PWR		kVA	A	B	C	kVA		LTG	CO	PWR	AMP	POLE	NO
1	20	1	1.0			AHU-1 LIGHTS	1.3	1.0			0.0	SPARE				20	1	2
3	20	1			1.0	MECH 115 WS-1	1.0		1.0		0.0	SPARE				20	1	4
5	20	1		0.8		TUNNEL CO'S	0.8			0.8	0.0	SPARE				20	1	6
7	20	1			0.6	EF-13	0.6	0.6			0.0	SPARE				20	1	8
9	20	1			1.5	EM-1	1.5		1.5		0.0	SPARE				20	1	10
11	20	1			1.0	P-7	1.0			1.0	0.0	SPARE				20	1	12
13	20	1			1.0	P-8	1.0	1.0			0.0	SPARE				20	1	14
15	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	16
17	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	18
19	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	20
21	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	22
23	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	24
25	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	26
27	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	28
29	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	30
31	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	32
33	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	34
35	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	36
37	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	38
39	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	40
41	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	42

TOTALS: CONNECTED kVA PER PHASE 3 3 2 — CONNECTED TOTAL kVA 7
CONNECTED AMPS PER PHASE 22 21 15 — CONNECTED AVERAGE AMPS PER PHASE 19

NEC DIVERSIFIED LOAD CALCULATIONS
LIGHTING 1kVA @125% = 1 kVA — ALL OTHER LOADS @100% = 5 kVA — DIVERSIFIED TOTAL kVA = 7
RECEPTACLES 1kVA @100% = 1 kVA — 25% OF LARGEST MOTOR = 0 kVA — AVERAGE AMPS PER PHASE = 20
REMAINDER 0kVA @ 50% = 0 kVA

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

SASAKI

LICENSED PROFESSIONAL ENGINEER
No. 179621
RALPH B. KOEBER
STATE OF UTAH

SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH

DFCM #06297640

DIXIE COLLEGE, ST. GEORGE, UT

CONFORMED CONSTRUCTION DOCUMENTS BID SET

No.	Description	Date

Job # 09625
CAD File
Drawn BXW Checked RBK
Date 12/03/2010
Owner #
Ins. #

PANEL SCHEDULES

EP607
Sheet Number

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PANEL "1LB1"

VOLTS/PHASE/WIRE: 120/208 V, 3 PH 4 WIRE | PANEL SIZE & TYPE: 22" W x 6" D, BOLT-ON | MAIN SIZE & TYPE: 225 AMPERE MAIN LUGS | LOCATION: | CABINET: | NOTES:

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT NO	OCP AMP	OCP POLE	LOAD (kVA) LTG	CO	PWR	DESCRIPTION	LCL kVA	PHASE LOAD A	B	C	LCL kVA	DESCRIPTION	LOAD (kVA) LTG	CO	PWR	OCP AMP	OCP POLE	CKT NO
1	20	1	0.2			TOILET 149 A & B LIGHTS	0.3	0.6			0.4	S.W. EXTERIOR CO'S		0.4		20	1	2
3	20	1		0.4		TOILET 149 A & B CO'S	0.4		1.6		1.2	STAGING 145 CO'S		1.2		20	1	4
5	20	1			1.0	STAGING 145 WASHER	1.0			2.2	1.2	OFFICE 131, 133 CO'S		1.2		20	1	6
7	20	1		1.5		OFFICE 132,134 CO'S	1.5	2.7			1.2	OFFICE 135,137 CO'S		1.2		20	1	8
9	20	1		1.5		OFFICE 136, 138 CO'S	1.5		2.7		1.2	OFFICE 139.141 CO'S		1.2		20	1	10
11	20	1		1.2		OFFICE 140, 142 CO'S	1.2			1.6	0.4	SOUTH CORRIDOR CO'S		0.4		20	1	12
13	20	1			0.5	CONF 162 PROJECTOR	0.5	0.9			0.4	RECEPTION 130 CO'S		0.4		20	1	14
15	20	1		0.2		CONF 162 CO'S	0.2		0.8		0.6	RECEPTION 130 CO'S		0.6		20	1	16
17	20	1		0.9		CONF 162 CO'S	0.9			1.5	0.6	OFFICE 161 CO'S		0.6		20	1	18
19	20	1		0.8		CONF 162 FLOOR BOXES	0.8	1.8			1.0	CONF 162 A/V RACK			1.0	20	1	20
21	20	1		0.9		CORRIDOR 155 CO'S	0.9		2.4		1.5	OFFICE 166, 172 CO'S		1.5		20	1	22
23	20	1			0.5	CORRIDOR 155 DF	0.5			2.0	1.5	OFFICE 168, 174 CO'S		1.5		20	1	24
25	20	1			1.4	TOILET 112 HD	1.4	2.4			1.0	CONF 156 REFRIG			1.0	20	1	26
27	20	1			0.5	DCP-1	0.5		0.7		0.2	CONF 156 COUNTER CO'S		0.2		20	1	28
29	20	1			0.5	TOILET 110, 112 HC DOORS	0.5			0.7	0.2	CONF 156 COUNTER CO'S		0.2		20	1	30
31	20	1			1.2	CUST 111 RC-1	1.2	1.8			0.6	OPEN OFFICE 161		0.6		20	1	32
33	20	1			1.4	TOILET 110 HD	1.4		2.0		0.6	OPEN OFFICE 161		0.6		20	1	34
35	20	1		0.6		TOILET 110, 112 CO'S	0.6			1.2	0.6	OPEN OFFICE 161		0.6		20	1	36
37	20	1		0.2		FIRE 109 CO	0.2	0.8			0.6	OPEN OFFICE 161		0.6		20	1	38
39	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	40
41	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	42
43	20	1		0.8		RECEPT 173 SYS FURN	0.8	2.3			1.5	OFFICE 186, 188 CO'S		1.5		20	1	44
45	20	1		0.8		RECEPT 173 SYS FURN	0.8		2.3		1.5	OFFICE 184, 165 CO'S		1.5		20	1	46
47	20	1		1.5		OFFICE 196, 198 CO'S	1.5			3.0	1.5	OFFICE 167, 169 CO'S		1.5		20	1	48
49	20	1		1.5		OFFICE 196, 198 CO'S	1.5	2.1			0.6	RECEPT 173 CO'S		0.6		20	1	50
51	20	1		0.9		OPEN OFFICE 161 CO'S	0.9		2.4		1.5	OFFICE 192, 194 CO'S		1.5		20	1	52
53	20	1		1.5		OFFICE 183, 185 CO'S	1.5			2.3	0.8	OFFICE 195 CO'S		0.8		20	1	54
55	20	1		1.5		OFFICE 187. 189 CO'S	1.5	2.3			0.8	OFFICE 195 CO'S		0.8		20	1	56
57	20	1		1.5		OFFICE 191, 193 CO'S	1.5		2.5		1.0	FIRE SMOKE DAMPERS			1.0	20	1	58
59	20	1		0.2		STORAGE 149, 164 CO'S	0.2			1.4	1.2	RC-5, CP-5			1.2	20	1	60
61	20	1			1.0	EXTERIOR DRINK FOUNT	1.0	1.0			0.0	SPARE				20	1	62
63	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	64
65	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	66
67	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	68
69	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	70
71	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	72
73	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	74
75	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	76
77	30	2			1.7	FIRE 109 EH-1	1.7			3.4	1.7	STAGING 145 EH7			1.7	30	2	78
79	-	-			1.7	-	1.7	3.4			1.7	-			1.7	-	-	80
81	30	2			2.5	STAGING 145 DRYER	2.5		4.2		1.7	STOR 148 EH-6			1.7	30	2	82
83	-	-			2.5	-	2.5			4.2	1.7	-			1.7	-	-	84

TOTALS: CONNECTED kVA PER PHASE 22 22 24 — CONNECTED TOTAL kVA 67
CONNECTED AMPS PER PHASE 184 180 196 — CONNECTED AVERAGE AMPS PER PHASE 187

NEC DIVERSIFIED LOAD CALCULATIONS
LIGHTING 0kVA @125% = 0 kVA — ALL OTHER LOADS @100% = 27 kVA — DIVERSIFIED TOTAL kVA = 52
RECEPTACLES 10kVA @100% = 10 kVA — 25% OF LARGEST MOTOR = 0 kVA — AVERAGE AMPS PER PHASE = 146
REMAINDER 30kVA @ 50% = 15 kVA

PANEL "1LB2"

VOLTS/PHASE/WIRE: 120/208 V, 3 PH 4 WIRE | PANEL SIZE & TYPE: 22" W x 6" D, BOLT-ON | MAIN SIZE & TYPE: 225 AMPERE MAIN LUGS | LOCATION: | CABINET: | NOTES:

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT NO	OCP AMP	OCP POLE	LOAD (kVA) LTG	CO	PWR	DESCRIPTION	LCL kVA	PHASE LOAD A	B	C	LCL kVA	DESCRIPTION	LOAD (kVA) LTG	CO	PWR	OCP AMP	OCP POLE	CKT NO
1	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	2
3	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	4
5	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	6
7	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	8
9	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	10
11	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	12
13	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	14
15	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	16
17	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	18
19	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	20
21	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	22
23	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	24
25	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	26
27	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	28
29	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	30
31	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	32
33	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	34
35	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	36
37	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	38
39	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	40
41	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	42

TOTALS: CONNECTED kVA PER PHASE 0 0 0 — CONNECTED TOTAL kVA 0
CONNECTED AMPS PER PHASE 0 0 0 — CONNECTED AVERAGE AMPS PER PHASE 0

NEC DIVERSIFIED LOAD CALCULATIONS
LIGHTING 0kVA @125% = 0 kVA — ALL OTHER LOADS @100% = 0 kVA — DIVERSIFIED TOTAL kVA = 0
RECEPTACLES 0kVA @100% = 0 kVA — 25% OF LARGEST MOTOR = 0 kVA — AVERAGE AMPS PER PHASE = 0
REMAINDER 0kVA @ 50% = 0 kVA

PANEL "1LK1"

VOLTS/PHASE/WIRE: 120/208 V, 3 PH 4 WIRE | PANEL SIZE & TYPE: 22" W x 6" D, BOLT-ON | MAIN SIZE & TYPE: 225 AMPERE MAIN LUGS | LOCATION: | CABINET: FLUSH | NOTES: ONE SECTION

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT NO	OCP AMP	OCP POLE	LOAD (kVA) LTG	CO	PWR	DESCRIPTION	LCL kVA	PHASE LOAD A	B	C	LCL kVA	DESCRIPTION	LOAD (kVA) LTG	CO	PWR	OCP AMP	OCP POLE	CKT NO
1	20	1			1.0	FREEZER TABLE	1.0	1.2			0.2	COUNTER OUTLET		0.2		20	1	2
3	20	1			0.8	REFRIGERATOR TABLE	0.8		1.0		0.2	COUNTER OUTLET		0.2		20	1	4
5	20	1			1.7	BEVERAGE DISPENSER	1.7			1.9	0.2	COUNTER OUTLET		0.2		20	1	6
7	20	1			1.7	BEVERAGE DISPENSER	1.7	3.2			1.5	BLENDER			1.5	20	1	8
9	20	1			0.4	NACHO CHEESE DISPENS	0.4		1.9		1.5	BLENDER			1.5	20	1	10
11	20	1			0.1	NACHO CHIP WARMER	0.1			1.6	1.5	BLENDER			1.5	20	1	12
13	20	1			0.2	PRETZEL WARMER	0.2	0.3			0.1	COFFEE WARMER			0.1	20	1	14
15	20	1		0.2		CASH REGISTER/PRINTER	0.2		0.3		0.1	COFFEE WARMER			0.1	20	1	16
17	20	1			0.5	WALK UP WINDOW	0.5			0.6	0.1	COFFEE WARMER			0.1	20	1	18
19	20	1			1.2	SODA RACK	1.2	1.9			0.7	COFFEE GRINDER			0.7	20	1	20
21	20	1			0.8	HOT DOG GRILL	0.8		1.6		0.8	REFRIGERATED BASE			0.8	20	1	22
23	20	1			0.5	BUN WARMER	0.5			2.0	1.5	HOT WATER DISPENSER			1.5	20	1	24
25	20	1			1.3	ICE MAKER	1.3	2.3			1.0	AIR CURTAIN AC-1			1.0	20	1	26
27	20	1			0.1	SODA DISPENSER	0.1		0.4		0.3	REFRIGERATED DISPLAY			0.3	20	1	28
29	20	1			0.8	REFRIGERATOR TABLE	0.8			1.0	0.2	PRINTER		0.2		20	1	30
31	20	1	1.0			LED LIGHTING	1.3	3.0			2.0	ICE MAKER			2.0	30	1	32
33	20	1				SPARE	0.0		2.0		2.0	-			2.0	-	-	34
35	40	1			3.3	ESPRESSO MACHINE	3.3			4.8	1.5	POPCORN POPPER			1.5	20	1	36
37	-	-			3.3	-	3.3	4.8			1.5	-			1.5	-	-	38
39	20	1			1.5	REFRIGERATED DISPLAY	1.5		5.2		3.7	COFFEE MAKER			3.7	50	1	40
41	-	-			1.5	-	1.5			5.2	3.7	-			3.7	-	-	42
43	20	1				SPARE	0.0	0.6			0.6	EF-15			0.6	20	1	44
45	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	46
47	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	48
49	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	50
51	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	52
53	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	54
55	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	56
57	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	58
59	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	60

TOTALS: CONNECTED kVA PER PHASE 17 12 17 — CONNECTED TOTAL kVA 47
CONNECTED AMPS PER PHASE 144 103 143 — CONNECTED AVERAGE AMPS PER PHASE 130

NEC DIVERSIFIED LOAD CALCULATIONS
LIGHTING 1kVA @125% = 1 kVA — ALL OTHER LOADS @100% = 45 kVA — DIVERSIFIED TOTAL kVA = 47
RECEPTACLES 1kVA @100% = 1 kVA — 25% OF LARGEST MOTOR = 0 kVA — AVERAGE AMPS PER PHASE = 131
REMAINDER 0kVA @ 50% = 0 kVA

PANEL "1ELA"

VOLTS/PHASE/WIRE: 120/208 V, 3 PH 4 WIRE | PANEL SIZE & TYPE: 22" W x 6" D, BOLT-ON | MAIN SIZE & TYPE: 100 AMPERE MAIN FUSE | LOCATION: | CABINET: | NOTES: FUSIBLE

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT NO	OCP AMP	OCP POLE	LOAD (kVA) LTG	CO	PWR	DESCRIPTION	LCL kVA	PHASE LOAD A	B	C	LCL kVA	DESCRIPTION	LOAD (kVA) LTG	CO	PWR	OCP AMP	OCP POLE	CKT NO
1	20	1		0.2		NW ELEVATOR PIT	0.2	0.8			0.6	ELEC RM 117 CO'S		0.6		20	1	2
3	20	1		0.2		TRANSFORMER EXT CO	0.2		1.0		0.8	MECHANICAL 115 CO'S		0.8		20	1	4
5	20	1		0.2		ELEC RM 506 CO	0.2			0.4	0.2	ELEC RM 106 CO		0.2		20	1	6
7	20	1		0.2		ELEC RM 306	0.2	0.4			0.2	ELEC RM 206 CO		0.2		20	1	8
9	20	1		0.2		ELEC RM 406	0.2		0.4		0.2	ELEC RM 256M CO		0.2		20	1	10
11	20	1	0.7			TUNNEL LIGHTS	0.9			1.7	1.3	ELEVATOR 1 & 2 LIGHTS	1.0			20	1	12
13	20	1			0.5	PHOUSE ELEV SMK DOOR	0.5	0.7			0.2	TOP OF ELEV SHAFT CO		0.2		20	1	14
15	20	1			0.5	5TH FLR ELEV SMK DOOR	0.5		0.7		0.2	DXCF-16 (ELEV EQUIP RM)			0.2	15	2	16
17	20	1			0.5	4TH FLR ELEV SMK DOOR	0.5			0.7	0.2	-			0.2	-	-	18
19	20	1			0.5	3RD FLR ELEV SMK DOOR	0.5	1.5			1.0	MAIN FIRE ALARM PANEL			1.0	20	1	20
21	20	1			0.5	2M FLR ELEV SMK DOOR	0.5		1.5		1.0	5TH FLOOR FIRE ALARM			1.0	20	1	22
23	20	1			0.5	2ND FLR ELEV SMK DOOR	0.5			1.5	1.0	4TH FLOOR FIRE ALARM			1.0	20	1	24
25	20	1			0.5	1ST FLR ELEV SMK DOOR	0.5	1.5			1.0	3RD FLOOR FIRE ALARM			1.0	20	1	26
27	20	1			0.3	ZION ROOM EM LIGHTS	0.3		1.3		1.0	2M FIRE ALARM			1.0	20	1	28
29	20	1				SPARE	0.0			1.0	1.0	2ND FLOOR FIRE ALARM			1.0	20	1	30
31	20	1				SPARE	0.0	0.2			0.2	ELEVATOR 1 & 2 CO		0.2		20	1	32
33	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	34
35	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	36
37	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	38
39	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	40
41	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	42

TOTALS: CONNECTED kVA PER PHASE 5 5 5 — CONNECTED TOTAL kVA 15
CONNECTED AMPS PER PHASE 43 41 44 — CONNECTED AVERAGE AMPS PER PHASE 43

NEC DIVERSIFIED LOAD CALCULATIONS
LIGHTING 2kVA @125% = 2 kVA — ALL OTHER LOADS @100% = 10 kVA — DIVERSIFIED TOTAL kVA = 16
RECEPTACLES 3kVA @100% = 3 kVA — 25% OF LARGEST MOTOR = 0 kVA — AVERAGE AMPS PER PHASE = 44
REMAINDER 0kVA @ 50% = 0 kVA

PANEL "1ELB"

VOLTS/PHASE/WIRE: 120/208 V, 3 PH 4 WIRE | PANEL SIZE & TYPE: 22" W x 6" D, BOLT-ON | MAIN SIZE & TYPE: 100 AMPERE MAIN FUSE | LOCATION: | CABINET: | NOTES: FUSIBLE

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT NO	OCP AMP	OCP POLE	LOAD (kVA) LTG	CO	PWR	DESCRIPTION	LCL kVA	PHASE LOAD A	B	C	LCL kVA	DESCRIPTION	LOAD (kVA) LTG	CO	PWR	OCP AMP	OCP POLE	CKT NO
1	20	1		0.4		SERVICE ELEVATOR PIT	0.4	0.6			0.2	ELEC ROOM 113 CO		0.2		20	1	2
3	20	1		0.2		GENERATOR EXT CO	0.2		0.4		0.2	ELEC ROOM 213 CO		0.2		20	1	4
5	20	1		0.2		ELEC RM 413 CO	0.2			0.4	0.2	ELEC ROOM 263M CO		0.2		20	1	6
7	20	1		0.2		ELEC RM 513 CO	0.2	0.4			0.2	ELEC ROOM 371 CO		0.2		20	1	8
9	20	1	1.0			SERVICE ELEVATOR LIGHTS	1.3		1.1		0.1	DXCF-15 (ELEV EQUIP RM)			0.1	15	2	10
11	20	1			0.5	5TH FLR ELEV SMK DOOR	0.5			0.6	0.1	-			0.1	-	-	12
13	20	1				SPARE	0.0	0.2			0.2	TOP OF ELEV SHAFT CO		0.2		20	1	14
15	20	1			0.5	4TH FLR ELEV SMK DOOR	0.5		0.7		0.2	ELEVATOR 3 CO		0.2		20	1	16
17	20	1			0.5	3RD FLR ELEV SMK DOOR	0.5			0.5	0.0	SPARE				20	1	18
19	20	1			0.5	2M ELEV SMK DOOR	0.5	0.5			0.0	SPARE				20	1	20
21	20	1			0.5	2ND FLR ELEV SMK DOOR	0.5		0.5		0.0	SPARE				20	1	22
23	20	1			0.5	1ST FLR ELEV SMK DOOR	0.5			0.5	0.0	SPARE				20	1	24
25	20	1			0.1	FIRE RISER BELL	0.1	0.1			0.0	SPARE				20	1	26
27	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	28
29	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	30
31	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	32
33	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	34
35	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	36
37	100	3			5.0	GENERATOR PANEL	5.0	5.0			0.0	SPARE				20	1	38
39	-	-			5.0	-	5.0		5.0		0.0	SPARE				20	1	40
41	-	-			5.0	-	5.0			5.0	0.0	SPARE				20	1	42

TOTALS: CONNECTED kVA PER PHASE 7 8 7 — CONNECTED TOTAL kVA 22
CONNECTED AMPS PER PHASE 57 64 58 — CONNECTED AVERAGE AMPS PER PHASE 60

NEC DIVERSIFIED LOAD CALCULATIONS
LIGHTING 1kVA @125% = 1 kVA — ALL OTHER LOADS @100% = 18 kVA — DIVERSIFIED TOTAL kVA = 22
RECEPTACLES 2kVA @100% = 2 kVA — 25% OF LARGEST MOTOR = 0 kVA — AVERAGE AMPS PER PHASE = 60
REMAINDER 0kVA @ 50% = 0 kVA

PANEL "2LA1"

VOLTS/PHASE/WIRE: 120/208 V, 3 PH 4 WIRE | PANEL SIZE & TYPE: 22" W x 6" D, BOLT-ON | MAIN SIZE & TYPE: 225 AMPERE MAIN LUGS | LOCATION: | CABINET: | NOTES:

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT NO	OCP AMP	OCP POLE	LOAD (kVA) LTG	CO	PWR	DESCRIPTION	LCL kVA	PHASE LOAD A	B	C	LCL kVA	DESCRIPTION	LOAD (kVA) LTG	CO	PWR	OCP AMP	OCP POLE	CKT NO
1	20	1		0.4		RM 231 CO'S	0.4	1.3			0.9	RM 323 CO'S		0.9		20	1	2
3	20	1		0.4		RM 231 CO'S	0.4		0.8		0.4	RM 232 CO'S		0.4		20	1	4
5	20	1		0.4		RM 230 CO'S	0.4			1.4	1.0	RM 232 REFRIG			1.0	20	1	6
7	20	1		0.4		RM 230 CO'S	0.4	1.9			1.5	RM 232 MICROWAVE			1.5	20	1	8
9	20	1		0.4		RM 229 CO'S	0.4		0.6		0.2	RM 232 COUNTER CO		0.2		20	1	10
11	20	1		0.4		RM 229 CO'S	0.4			0.8	0.4	223, 224 SYS FURN		0.4		20	1	12
13	20	1		0.4		RM 228 CO'S	0.4	0.8			0.4	223, 224 SYS FURN		0.4		20	1	14
15	20	1		0.4		RM 228 CO'S	0.4		1.6		1.2	RM 225, 226 CO'S		1.2		20	1	16
17	20	1		0.9		LIBRARY 135 CO'S	0.9			2.4	1.5	RM 222 COPIER			1.5	20	1	18
19	20	1		0.4		LIBRARY 135 POKE THRU	0.4	0.8			0.4	RM 222 SYS FURN		0.4		20	1	20
21	20	1		0.6		LIBRARY 135 CO'S	0.6		1.0		0.4	RM 222 SYS FURN		0.4		20	1	22
23	20	1		0.4		LIBRARY 135 POKE THRU	0.4			1.0	0.6	RM 222 CO'S		0.6		20	1	24
25	20	1		0.4		LIBRARY 135 POKE THRU	0.4	0.8			0.4	RM 222 CO'S		0.4		20	1	26
27	20	1		0.8		ENTRY 220 CO'S	0.8		1.2		0.4	RM 222 DESK CO'S		0.4		20	1	28
29	20	1		0.8		TECH ASST DESK CO'S	0.8			1.4	0.6	RM 222 DESK CO'S		0.6		20	1	30
31	20	1		0.6		TECH ASST DESK CO'S	0.6	1.1			0.5	STAIR 202 MONITOR			0.5	20	1	32
33	20	1			1.5	COPY CENTER 248 COPIER	1.5		1.7		0.2	STORAGE 248A CO		0.2		20	1	34
35	20	1			1.5	COPY CENTER 248 COPIER	1.5			3.0	1.5	COPY CENTER 248 COPIER			1.5	20	1	36
37	20	1			1.5	COPY CENTER 248 COPIER	1.5	3.0			1.5	COPY CENTER 248 COPIER			1.5	20	1	38
39	20	1				SPARE	0.0		1.5		1.5	COPY CENTER 248 COPIER			1.5	20	1	40
41	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	42
43	20	1			1.5	HERITAGE 219 MONITORS	1.5	1.9			0.4	HERITAGE 219 POKE THRU		0.4		20	1	44
45	20	1			1.5	HERITAGE 219 MONITORS	1.5		1.9		0.4	HERITAGE 219 POKE THRU		0.4		20	1	46
47	20	1			1.5	HERITAGE 219 MONITORS	1.5			1.9	0.4	HERITAGE 219 POKE THRU		0.4		20	1	48
49	20	1			0.5	HERITAGE 219 MONITORS	0.5	0.9			0.4	HERITAGE 219 CO'S		0.4		20	1	50
51	20	1		0.4		HERITAGE 219 POKE THRU	0.4		0.8		0.4	HERITAGE 219 CO'S		0.4		20	1	52
53	20	1		0.4		HERITAGE 219 POKE THRU	0.4			1.4	1.0	N ENTRY DOOR MOTOR			1.0	20	1	54
55	20	1		0.8		STAIR CO'S	0.8	0.8			0.0	SPARE				20	1	56
57	20	1		0.8		STAIR CO'S	0.8		1.4		0.6	EXTERIOR CO'S		0.6		20	1	58
59	20	1		0.6		HERITAGE 219 CO'S	0.6			2.1	1.5	VENDING MACHINE			1.5	20	1	60
61	20	1			1.5	HERITAGE 219 MONITORS	1.5	3.0			1.5	VENDING MACHINE			1.5	20	1	62
63	20	1			1.5	HERITAGE 219 MONITORS	1.5		1.9		0.4	HERITAGE 219 CO'S		0.4		20	1	64
65	20	1			1.5	HERITAGE 219 MONITORS	1.5			1.9	0.4	HERITAGE 219 CO'S		0.4		20	1	66
67	20	1			0.5	HERITAGE 219 MONITORS	0.5	0.9			0.4	RM 323 CO'S		0.4		20	1	68
69	20	1				SPARE	0.0		0.4		0.4	RM 232 CO'S		0.4		20	1	70
71	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	72
73	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	74
75	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	76
77	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	78
79	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	80
81	20	1				SPARE	0.0		1.5		1.5	STORAGE 248A			1.5	30	2	82
83	20	1					0.0			1.5	1.5	-			1.5	-	-	84

TOTALS: CONNECTED kVA PER PHASE 17 16 19 — CONNECTED TOTAL kVA 52
CONNECTED AMPS PER PHASE 143 136 157 — CONNECTED AVERAGE AMPS PER PHASE 145

NEC DIVERSIFIED LOAD CALCULATIONS
LIGHTING 0kVA @125% = 0 kVA — ALL OTHER LOADS @100% = 31 kVA — DIVERSIFIED TOTAL kVA = 46
RECEPTACLES 10kVA @100% = 10 kVA — 25% OF LARGEST MOTOR = 0 kVA — AVERAGE AMPS PER PHASE = 129
REMAINDER 12kVA @ 50% = 6 kVA

PANEL "2LA2"

VOLTS/PHASE/WIRE: 120/208 V, 3 PH 4 WIRE | PANEL SIZE & TYPE: 22" W x 6" D, BOLT-ON | MAIN SIZE & TYPE: 225 AMPERE MAIN LUGS | LOCATION: | CABINET: | NOTES:

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT NO	OCP AMP	OCP POLE	LOAD (kVA) LTG	CO	PWR	DESCRIPTION	LCL kVA	PHASE LOAD A	B	C	LCL kVA	DESCRIPTION	LOAD (kVA) LTG	CO	PWR	OCP AMP	OCP POLE	CKT NO
1	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	2
3	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	4
5	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	6
7	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	8
9	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	10
11	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	12
13	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	14
15	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	16
17	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	18
19	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	20
21	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	22
23	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	24
25	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	26
27	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	28
29	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	30
31	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	32
33	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	34
35	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	36
37	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	38
39	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	40
41	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	42

TOTALS: CONNECTED kVA PER PHASE 0 0 0 — CONNECTED TOTAL kVA 0
CONNECTED AMPS PER PHASE 0 0 0 — CONNECTED AVERAGE AMPS PER PHASE 0

NEC DIVERSIFIED LOAD CALCULATIONS
LIGHTING 0kVA @125% = 0 kVA — ALL OTHER LOADS @100% = 0 kVA — DIVERSIFIED TOTAL kVA = 0
RECEPTACLES 0kVA @100% = 0 kVA — 25% OF LARGEST MOTOR = 0 kVA — AVERAGE AMPS PER PHASE = 0
REMAINDER 0kVA @ 50% = 0 kVA

PANEL "2LB1"

VOLTS/PHASE/WIRE: 120/208 V, 3 PH 4 WIRE | PANEL SIZE & TYPE: 22" W x 6" D, BOLT-ON | MAIN SIZE & TYPE: 225 AMPERE MAIN LUGS | LOCATION: | CABINET: | NOTES:

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT NO	OCP AMP	OCP POLE	LOAD (kVA) LTG	CO	PWR	DESCRIPTION	LCL kVA	PHASE LOAD A	B	C	LCL kVA	DESCRIPTION	LOAD (kVA) LTG	CO	PWR	OCP AMP	OCP POLE	CKT NO
1	20	1			0.5	CLASS 234 PROJECTOR	0.5	0.9			0.4	CLASS 234 POKE THRU		0.4		20	1	2
3	20	1		0.6		CLASS 234 CO'S	0.6		0.6		0.0	SPARE				20	1	4
5	20	1		0.8		CLASS 234 CO'S	0.8			0.8	0.0	SPARE				20	1	6
7	20	1			0.5	CLASS 234 MONITOR	0.5	0.9			0.4	LIBRARY 235 CO'S		0.4		20	1	8
9	20	1		0.4		LIBRARY 235 POKE THRU	0.4		1.0		0.6	STORAGE 209 CO'S		0.6		20	1	10
11	20	1		0.4		LIBRARY 235 POKE THRU	0.4			0.8	0.4	LIBRARY 235 CO'S		0.4		20	1	12
13	20	1		0.4		LIBRARY 235 POKE THRU	0.4	0.8			0.4	LIBRARY 235 POKE THRUS		0.4		20	1	14
15	20	1			0.5	LIBRARY 235 MONITOR	0.5		0.9		0.4	LIBRARY 235 POKE THRUS		0.4		20	1	16
17	20	1		0.4		LIBRARY 235 CO'S	0.4			1.8	1.4	TOILET 210 HD			1.4	20	1	18
19	20	1		0.6		LIBRARY 235 CO'S	0.6	2.0			1.4	TOILET 212 HD			1.4	20	1	20
21	20	1				SPARE	0.0		0.6		0.6	TOILET 210, 212 CO		0.6		20	1	22
23	20	1		0.4		LIBRARY 135 CO'S	0.4			0.9	0.5	LIBRARY 135 DF			0.5	20	1	24
25	20	1		0.6		LIBRARY 135 CO'S	0.6	2.1			1.5	OFFICES 244, 245		1.5		20	1	26
27	20	1		0.4		PROCESS 246 CO'S	0.4		1.9		1.5	OFFICES 242, 243		1.5		20	1	28
29	20	1		0.6		PROCESS 246 CO'S	0.6			1.0	0.4	CATALOGS 239 POKE THRU		0.4		20	1	30
31	20	1		0.4		PROCESS 246 CO'S	0.4	0.8			0.4	CATALOGS 239 CO'S		0.4		20	1	32
33	20	1		0.6		LIBRARY 235 CO'S	0.6		1.0		0.4	CATALOGS 239 POKE THRU		0.4		20	1	34
35	20	1		0.4		LIBRARY 235 POKE THRU	0.4			0.8	0.4	CATALOGS 239 CO'S		0.4		20	1	36
37	20	1		0.2		LIBRARY 235 COLUMN CO'S	0.2	0.7			0.5	EF-10			0.5	20	1	38
39	20	1		0.2		LIBRARY 235 COLUMN CO'S	0.2		1.2		1.0	FIRE SMOKE DAMPERS			1.0	20	1	40
41	20	1		0.2		LIBRARY 235 COLUMN CO'S	0.2			1.2	1.0	FIRE SMOKE DAMPERS			1.0	20	1	42
43	20	1		0.2		LIBRARY 235 COLUMN CO'S	0.2	0.4			0.2	LIBRARY 235 COLUMN CO'S		0.2		20	1	44
45	20	1		0.2		LIBRARY 235 COLUMN CO'S	0.2		0.4		0.2	LIBRARY 235 COLUMN CO'S		0.2		20	1	46
47	20	1		0.2		LIBRARY 235 COLUMN CO'S	0.2			0.4	0.2	LIBRARY 235 COLUMN CO'S		0.2		20	1	48
49	20	1		0.4		PROCESS 246 CO'S	0.4	0.4			0.0	SPARE				20	1	50
51	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	52
53	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	54
55	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	56
57	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	58
59	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	60
61	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	62
63	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	64
65	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	66
67	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	68
69	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	70
71	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	72
73	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	74
75	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	76
77	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	78
79	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	80
81	20	1				SPARE	0.0		1.7		1.7	STOR 209 EH-2			1.7	30	2	82
83	20	1				SPARE	0.0			1.7	1.7	-			1.7	-	-	84

TOTALS: CONNECTED kVA PER PHASE 9 9 9 — CONNECTED TOTAL kVA 28
CONNECTED AMPS PER PHASE 75 78 78 — CONNECTED AVERAGE AMPS PER PHASE 77

NEC DIVERSIFIED LOAD CALCULATIONS
LIGHTING 0kVA @125% = 0 kVA — ALL OTHER LOADS @100% = 11 kVA — DIVERSIFIED TOTAL kVA = 24
RECEPTACLES 10kVA @100% = 10 kVA — 25% OF LARGEST MOTOR = 0 kVA — AVERAGE AMPS PER PHASE = 67
REMAINDER 7kVA @ 50% = 4 kVA

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

SASAKI

LICENSED PROFESSIONAL ENGINEER
No. 179621
RALPH B. KOEBER
STATE OF UTAH

SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #06297640
DIXIE COLLEGE, ST. GEORGE, UT
CONFORMED CONSTRUCTION DOCUMENTS BID SET

No.	Description	Date

Job # 09625
CAD File
Drawn BXW Checked RBK
Date 12/03/2010
Owner #
Ins. #

PANEL SCHEDULES

EP608
Sheet Number

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PANEL "2QLA"

VOLTS/PHASE/WIRE:	PANEL SIZE & TYPE:	MAIN SIZE & TYPE:	LOCATION:	CABINET:	NOTES:
120/208 V, 3 PH 4 WIRE	22" W x 6" D, BOLT-ON	225 AMPERE MAIN LUGS			

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT	OCP		LOAD (kVA)			DESCRIPTION	LCL	PHASE LOAD			LCL	DESCRIPTION	LOAD (kVA)			OCP		CKT
NO	AMP	POLE	LTG	CO	PWR		kVA	A	B	C	kVA		LTG	CO	PWR	AMP	POLE	NO
1	20	1		1.2		DATA 104 CO'S	1.2	2.2			1.0	MECH 115 ATC PANEL			1.0	20	1	2
3	20	1		0.8		DATA 104 CO'S	0.8		1.8		1.0	MECH 115 ATC PANEL			1.0	20	1	4
5	20	1		0.2		DATA 104 RACK	0.2			1.2	1.0	1ST FLOOR SECURITY			1.0	20	1	6
7	20	1		0.2		DATA 104 RACK	0.2	1.2			1.0	2ND FLOOR SECURITY			1.0	20	1	8
9	20	1		0.8		DATA 204 CO'S	0.8		1.8		1.0	2M FLOOR SECURITY			1.0	20	1	10
11	20	1		0.8		DATA 204 CO'S	0.8			1.8	1.0	1ST FLOOR CCTV			1.0	20	1	12
13	20	1		0.8		DATA 204 CO'S	0.8	1.8			1.0	2ND FLOOR CCTV			1.0	20	1	14
15	20	1		1.2		DATA 204 CO'S	1.2		2.2		1.0	2M FLOOR CCTV			1.0	20	1	16
17	20	1		1.2		DATA 254M CO'S	1.2			1.4	0.2	DATA 254M RACK		0.2		20	1	18
19	20	1		0.8		DATA 254M CO'S	0.8	1.0			0.2	DATA 254M RACK		0.2		20	1	20
21	20	1		0.2		DATA 254M RACK	0.2		0.4		0.2	DATA 254M RACK		0.2		20	1	22
23	20	1		0.2		DATA 254M RACK	0.2			0.4	0.2	DATA 254M RACK		0.2		20	1	24
25	20	1			1.5	BOOK RFID DETECTOR	1.5	1.7			0.2	DATA 254M RACK		0.2		20	1	26
27	20	1			1.5	BOOK RFID DETECTOR	1.5		1.7		0.2	DATA 254M RACK		0.2		20	1	28
29	20	1		0.2		DATA 204 RACK	0.2			0.4	0.2	DATA 104 RACK		0.2		20	1	30
31	20	1		0.2		DATA 204 RACK	0.2	0.4			0.2	DATA 104 RACK		0.2		20	1	32
33	20	1		0.2		DATA 204 RACK	0.2		0.4		0.2	DATA 104 RACK		0.2		20	1	34
35	20	1		0.2		DATA 204 RACK	0.2			0.4	0.2	DATA 104 RACK		0.2		20	1	36
37	20	1		0.2		DATA 204 RACK	0.2	0.4			0.2	DATA 104 RACK		0.2		20	1	38
39	20	1		0.2		DATA 204 RACK	0.2		0.4		0.2	DATA 104 RACK		0.2		20	1	40
41	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	42
43	20	1				SPARE	0.0	1.0			1.0	1ST FLOOR ATC CONTROLS			1.0	20	1	44
45	20	1				SPARE	0.0		1.0		1.0	1ST FLOOR ATC CONTROLS			1.0	20	1	46
47	20	1				SPARE	0.0			1.0	1.0	2ND FLOOR ATC CONTROLS			1.0	20	1	48
49	20	1				SPARE	0.0	1.0			1.0	2ND FLOOR ATC CONTROLS			1.0	20	1	50
51	20	1				SPARE	0.0		1.0		1.0	2M FLOOR ATC CONTROLS			1.0	20	1	52
53	20	1				SPARE	0.0			1.0	1.0	2M FLOOR ATC CONTROLS			1.0	20	1	54
55	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	56
57	30	2			2.5	DATA 104 RACK	2.5		5.0		2.5	DATA 254M RACK			2.5	30	2	58
59	-	-			2.5	-	2.5			5.0	2.5	-			2.5	-	-	60
61	30	2			2.5	DATA 104 RACK	2.5	5.0			2.5	DATA 254M RACK			2.5	30	2	62
63	-	-			2.5	-	2.5		5.0		2.5	-			2.5	-	-	64
65	30	2			2.5	DATA 104 RACK	2.5			5.0	2.5	DATA 254M RACK			2.5	30	2	66
67	-	-			2.5	-	2.5	5.0			2.5	-			2.5	-	-	68
69	15	2			0.1	DXCF-1 DATA 104	0.1		2.6		2.5	DATA 204 RACK			2.5	30	2	70
71	-	-			0.1	-	0.1			2.6	2.5	-			2.5	-	-	72
73	15	2			0.1	DXCF-5 DATA 204	0.1	2.6			2.5	DATE 204 RACK			2.5	30	2	74
75	-	-			0.1	-	0.1		2.6		2.5	-			2.5	-	-	76
77	15	2			0.1	DXCF-7 DATA 254M	0.1			2.6	2.5	DATA 204 RACK			2.5	30	2	78
79	-	-			0.1	-	0.1	2.6			2.5	-			2.5	-	-	80
81	20	2			0.3	TUNNEL SUMP PUMP	0.3		0.6		0.3	TUNNEL SUMP PUMP			0.3	20	2	82
83	-	-			0.3	-	0.3			0.6	0.3	-			0.3	-	-	84

TOTALS: CONNECTED kVA PER PHASE 26 27 23 — CONNECTED TOTAL kVA 76
CONNECTED AMPS PER PHASE 216 221 195 — CONNECTED AVERAGE AMPS PER PHASE 211

NEC DIVERSIFIED LOAD CALCULATIONS
LIGHTING 0kVA @125% = 0 kVA — ALL OTHER LOADS @100% = 64 kVA — DIVERSIFIED TOTAL kVA = 75
RECEPTACLES 10kVA @100% = 10 kVA — 25% OF LARGEST MOTOR = 0 kVA — AVERAGE AMPS PER PHASE = 208
REMAINDER 2kVA @ 50% = 1 kVA

PANEL "2MLA1"

VOLTS/PHASE/WIRE:	PANEL SIZE & TYPE:	MAIN SIZE & TYPE:	LOCATION:	CABINET:	NOTES:
120/208 V, 3 PH 4 WIRE	22" W x 6" D, BOLT-ON	225 AMPERE MAIN LUGS			

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT	OCP		LOAD (kVA)			DESCRIPTION	LCL	PHASE LOAD			LCL	DESCRIPTION	LOAD (kVA)			OCP		CKT
NO	AMP	POLE	LTG	CO	PWR		kVA	A	B	C	kVA		LTG	CO	PWR	AMP	POLE	NO
1	20	1		0.4		STUDY 271M TABLE CO'S	0.4	1.0			0.6	STUDY 283M CO'S		0.6		20	1	2
3	20	1		0.6		STUDY 271 M CO'S	0.6		1.0		0.4	STUDY 271M POKE THRU		0.4		20	1	4
5	20	1		0.6		STUDY 284M CO'S	0.6			1.2	0.6	STUDY 278M CO'S		0.6		20	1	6
7	20	1		0.4		STUDY 271M POKE THRU	0.4	1.0			0.6	STUDY 277M CO'S		0.6		20	1	8
9	20	1		0.6		STUDY 281M CO'S	0.6		1.4		0.8	STUDY 271M TABLE CO'S		0.8		20	1	10
11	20	1		0.6		STUDY 280 CO'S	0.6			1.2	0.6	STUDY 271M CO'S		0.6		20	1	12
13	20	1		0.8		STUDY 271M TABLE CO'S	0.8	1.2			0.4	STUDY 271M CO'S		0.4		20	1	14
15	20	1		0.6		STUDY 271M TABLE CO'S	0.6		1.2		0.6	STUDY 282M CO'S		0.6		20	1	16
17	20	1		0.6		STUDY 279M CO'S	0.6			1.8	1.2	STUDY 271M TABLE CO'S		1.2		20	1	18
19	20	1		0.6		STUDY 271M CO'S	0.6	1.2			0.6	STUDY 271M CO'S		0.6		20	1	20
21	20	1			0.3	STUDY 271M MONITOR	0.3		0.7		0.4	STUDY 271M POKE THRU		0.4		20	1	22
23	20	1		0.8		STUDY 271M POKE THRU	0.8			1.2	0.4	STUDY 273M CO'S		0.4		20	1	24
25	20	1		0.6		STUDY 271M CO'S	0.6	1.0			0.4	STUDY 271M CO'S		0.4		20	1	26
27	20	1		0.4		STUDY 271 M CO'S	0.4		1.9		1.5	VENDING MACHINE			1.5	20	1	28
29	20	1		0.8		STUDY 271M POKE THRU	0.8			2.3	1.5	VENDING MACHINE			1.5	20	1	30
31	20	1		0.8		STUDY 271M POKE THRU	0.8	0.8			0.0	SPARE				20	1	32
33	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	34
35	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	36
37	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	38
39	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	40
41	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	42
43	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	44
45	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	46
47	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	48
49	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	50
51	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	52
53	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	54
55	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	56
57	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	58
59	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	60
61	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	62
63	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	64
65	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	66
67	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	68
69	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	70
71	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	72
73	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	74
75	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	76
77	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	78
79	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	80
81	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	82
83	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	84

TOTALS: CONNECTED kVA PER PHASE 6 6 8 — CONNECTED TOTAL kVA 20
CONNECTED AMPS PER PHASE 52 52 64 — CONNECTED AVERAGE AMPS PER PHASE 56

NEC DIVERSIFIED LOAD CALCULATIONS
LIGHTING 0kVA @125% = 0 kVA — ALL OTHER LOADS @100% = 3 kVA — DIVERSIFIED TOTAL kVA = 17
RECEPTACLES 10kVA @100% = 10 kVA — 25% OF LARGEST MOTOR = 0 kVA — AVERAGE AMPS PER PHASE = 46
REMAINDER 7kVA @ 50% = 3 kVA

PANEL "3LA1"

VOLTS/PHASE/WIRE:	PANEL SIZE & TYPE:	MAIN SIZE & TYPE:	LOCATION:	CABINET:	NOTES:
120/208 V, 3 PH 4 WIRE	22" W x 6" D, BOLT-ON	225 AMPERE MAIN LUGS			

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT	OCP		LOAD (kVA)			DESCRIPTION	LCL	PHASE LOAD			LCL	DESCRIPTION	LOAD (kVA)			OCP		CKT
NO	AMP	POLE	LTG	CO	PWR		kVA	A	B	C	kVA		LTG	CO	PWR	AMP	POLE	NO
1	20	1	0.2			TOILET 342 LIGHTS	0.3	1.2			1.0	CONF 357 A/V RACK			1.0	20	1	2
3	20	1			0.5	CONF 357 REFRIGERATOR	0.5		0.9		0.4	STUDY 361 CO'S		0.4		20	1	4
5	20	1		0.8		CONF 357 CO'S	0.8			1.6	0.8	STUDY 361 POKE THRU		0.8		20	1	6
7	20	1			0.5	CONF 357 PROJECTOR	0.5	1.3			0.8	CONF 357 POKE THRUS		0.8		20	1	8
9	20	1		0.4		STUDY 361 CO'S	0.4		0.9		0.5	WORK 351 REFRIG			0.5	20	1	10
11	20	1		0.4		STUDY 361 CO'S	0.4			1.0	0.6	WORK 351 CO'S		0.6		20	1	12
13	20	1		0.2		TOILET 342 CO	0.2	0.8			0.6	WORK 351 CO'S		0.6		20	1	14
15	20	1		0.6		LOUNGE 341 CO'S	0.6		1.9		1.3	OFFICE 355, 356 CO'S		1.3		20	1	16
17	20	1			0.5	CLASS 340 PROJECTOR	0.5			1.7	1.2	OFFICE 353, 354 CO'S		1.2		20	1	18
19	20	1		0.6		CLASS 340 CO'S	0.6	1.4			0.8	WAITING 350 CO'S		0.8		20	1	20
21	20	1		0.4		COLLECTIONS 360 CO'S	0.4		1.4		1.0	LOUNGE 341 REFRIG			1.0	20	1	22
23	20	1		0.4		CLASS 340 POKE THRU	0.4			0.6	0.2	LOUNGE 341 CO		0.2		20	1	24
25	20	1			1.0	COLLECT 360 COMP STOR	1.0	2.5			1.5	LOUNGE 341 MICROWAVE			1.5	20	1	26
27	20	1		0.6		COLLECTIONS 360 CO'S	0.6		0.8		0.2	LOUNGE 341 CO		0.2		20	1	28
29	20	1			0.6	CLASS 340 MONITORS	0.6			1.2	0.6	COLLECT 360 MONITOR			0.6	20	1	30
31	20	1		0.8		COLLECT 360 POKE THRU	0.8	1.4			0.6	COLLECTIONS 360 CO'S		0.6		20	1	32
33	20	1		0.9		COLLECTIONS 360 CO'S	0.9		0.9		0.0	SPARE				20	1	34
35	20	1		0.4		COLLECTIONS 360 CO'S	0.4			0.4	0.0	SPARE				20	1	36
37	20	1		0.8		COLLECT 360 POKE THRU	0.8	1.2			0.4	CLASS 325 POKE THRU		0.4		20	1	38
39	20	1		0.8		COLLECT 360 POKE THRU	0.8		0.8		0.0	SPARE				20	1	40
41	20	1		0.4		COLLECTIONS 360 CO'S	0.4			0.4	0.0	SPARE				20	1	42
43	20	1			0.5	CLASS 325 PROJECTOR	0.5	1.1			0.6	CLASS 325 MONITORS			0.6	20	1	44
45	20	1		0.8		READING 330 POKE THRU	0.8		1.4		0.6	CLASS 325 CO'S		0.6		20	1	46
47	20	1		0.4		READING 330 CO'S	0.4			0.8	0.4	CLASS 325 CO'S		0.4		20	1	48
49	20	1		0.8		READING 330 DESK	0.8	1.4			0.6	WORK 331 CO'S		0.6		20	1	50
51	20	1		0.6		PROCESSING 334 CO'S	0.6		1.2		0.6	WORK 331 CO'S		0.6		20	1	52
53	20	1		0.4		PROCESSING 334 CO'S	0.4			1.9	1.5	OFFICE 332, 333 CO'S		1.5		20	1	54
55	20	1			1.0	STOR 335 COMPACT STOR	1.0	1.4			0.4	STORAGE 335 CO'S		0.4		20	1	56
57	20	1			1.0	STOR 335 COMPACT STOR	1.0		1.6		0.6	STORAGE 335 CO'S		0.6		20	1	58
59	20	1			1.5	VENDING MACHINE	1.5			2.5	1.0	STORAGE 335 REFRIG			1.0	20	1	60
61	20	1			1.5	VENDING MACHINE	1.5	2.5			1.0	FIRE SMOKE DAMPERS			1.0	20	1	62
63	20	1		0.8		STUDY 361 POKE THRU	0.8		0.8		0.0	SPARE				20	1	64
65	20	1		0.8		READING 330 POKE THRU	0.8			0.8	0.0	SPARE				20	1	66
67	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	68
69	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	70
71	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	72
73	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	74
75	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	76
77	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	78
79	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	80
81	20	1				SPARE	0.0		8.3		8.3	LOUNGE 341 EWH-2			8.3	100	2	82
83	20	1				SPARE	0.0			8.3	8.3	-			8.3	-	-	84

TOTALS: CONNECTED kVA PER PHASE 16 21 21 — CONNECTED TOTAL kVA 58
CONNECTED AMPS PER PHASE 135 174 177 — CONNECTED AVERAGE AMPS PER PHASE 162

NEC DIVERSIFIED LOAD CALCULATIONS
LIGHTING 0kVA @125% = 0 kVA — ALL OTHER LOADS @100% = 32 kVA — DIVERSIFIED TOTAL kVA = 51
RECEPTACLES 10kVA @100% = 10 kVA — 25% OF LARGEST MOTOR = 0 kVA — AVERAGE AMPS PER PHASE = 140
REMAINDER 16kVA @ 50% = 8 kVA

PANEL "2QLB"

VOLTS/PHASE/WIRE:	PANEL SIZE & TYPE:	MAIN SIZE & TYPE:	LOCATION:	CABINET:	NOTES:
120/208 V, 3 PH 4 WIRE	22" W x 6" D, BOLT-ON	225 AMPERE MAIN LUGS			

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT	OCP		LOAD (kVA)			DESCRIPTION	LCL	PHASE LOAD			LCL	DESCRIPTION	LOAD (kVA)			OCP		CKT
NO	AMP	POLE	LTG	CO	PWR		kVA	A	B	C	kVA		LTG	CO	PWR	AMP	POLE	NO
1	20	1		1.2		DATA 114 CO'S	1.2	2.2			1.0	1ST FLOOR SECURITY			1.0	20	1	2
3	20	1		0.2		DATA 114 RACK	0.2		1.2		1.0	2ND FLOOR SECURITY			1.0	20	1	4
5	20	1		0.2		DATA 114 RACK	0.2			1.2	1.0	2M FLOOR SECURITY			1.0	20	1	6
7	20	1		0.2		DATA 114 RACK	0.2	1.2			1.0	1ST FLOOR CCTV			1.0	20	1	8
9	20	1		0.2		DATA 114 RACK	0.2		1.2		1.0	2ND FLOOR CCTV			1.0	20	1	10
11	20	1		1.2		DATA 214 CO'S	1.2			2.2	1.0	2M FLOOR CCTV			1.0	20	1	12
13	20	1		0.2		DATA 214 RACK	0.2	1.2			1.0	1ST FLOOR ATC CONTROLS			1.0	20	1	14
15	20	1		0.2		DATA 214 RACK	0.2		1.2		1.0	1ST FLOOR ATC CONTROLS			1.0	20	1	16
17	20	1		0.2		DATA 214 RACK	0.2			1.2	1.0	2ND FLOOR ATC CONTROLS			1.0	20	1	18
19	20	1		0.2		DATA 214 RACK	0.2	1.2			1.0	2ND FLOOR ATC CONTROLS			1.0	20	1	20
21	20	1		0.2		DATA 214 RACK	0.2		1.2		1.0	2M FLOOR ATC CONTROLS			1.0	20	1	22
23	20	1		0.2		DATA 214 RACK	0.2			1.2	1.0	2M FLOOR ATC CONTROLS			1.0	20	1	24
25	20	1		0.2		DATA 214 RACK	0.2	0.2			0.0	SPARE				20	1	26
27	20	1		0.2		DATA 214 RACK	0.2		0.2		0.0	SPARE				20	1	28
29	20	1		1.2		DATA 264 CO'S	1.2			1.2	0.0	SPARE				20	1	30
31	20	1		0.2		DATA 264 RACK	0.2	0.2			0.0	SPARE				20	1	32
33	20	1		0.2		DATA 264 RACK	0.2		0.2		0.0	SPARE				20	1	34
35	20	1		0.2		DATA 264 RACK	0.2			0.2	0.0	SPARE				20	1	36
37	20	1		0.2		DATA 264 RACK	0.2	0.2			0.0	SPARE				20	1	38
39	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	40
41	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	42
43	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	44
45	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	46
47	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	48
49	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	50
51	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	52
53	20	1				SPARE	0.0			2.5	2.5	DATA 264M RACK			2.5	30	2	54
55	20	1				SPARE	0.0	2.5			2.5	-			2.5	-	-	56
57	20	1				SPARE	0.0		2.5		2.5	DATA 264M RACK			2.5	30	2	58
59	20	1				SPARE	0.0			2.5	2.5	-			2.5	-	-	60
61	20	1				SPARE	0.0	2.5			2.5	DATA 214 RACK			2.5	30	2	62
63	20	1				SPARE	0.0		2.5		2.5	-			2.5	-	-	64
65	20	1				SPARE	0.0			2.5	2.5	DATA 214 RACK			2.5	30	2	66
67	20	1				SPARE	0.0	2.5			2.5	-			2.5	-	-	68
69	15	2			0.1	DXCF-3 ELEC 113	0.1		2.6		2.5	DATA 214 RACK			2.5	30	2	70
71	-	-			0.1	-	0.1			2.6	2.5	-			2.5	-	-	72
73	15	2			0.1	DXCF-2 DATA 114	0.1	2.6			2.5	DATA 214 RACK			2.5	30	2	74
75	-	-			0.1	-	0.1		2.6		2.5	-			2.5	-	-	76
77	15	2			0.1	DXCF-4 DATA 214	0.1			2.6	2.5	DATA 114 RACK			2.5	30	2	78
79	-	-			0.1	-	0.1	2.6			2.5	-			2.5	-	-	80
81	15	2			0.1	DXCF-6 DATA 264M	0.1		2.6		2.5	DATA 114 RACK			2.5	30	2	82
83	-	-			0.1	-	0.1			2.6	2.5	-			2.5	-	-	84

TOTALS: CONNECTED kVA PER PHASE 19 18 23 — CONNECTED TOTAL kVA 60
CONNECTED AMPS PER PHASE 159 150 188 — CONNECTED AVERAGE AMPS PER PHASE 166

NEC DIVERSIFIED LOAD CALCULATIONS
LIGHTING 0kVA @125% = 0 kVA — ALL OTHER LOADS @100% = 53 kVA — DIVERSIFIED TOTAL kVA = 60
RECEPTACLES 7kVA @100% = 7 kVA — 25% OF LARGEST MOTOR = 0 kVA — AVERAGE AMPS PER PHASE = 165
REMAINDER 0kVA @ 50% = 0 kVA

PANEL "2MLB1"

VOLTS/PHASE/WIRE:	PANEL SIZE & TYPE:	MAIN SIZE & TYPE:	LOCATION:	CABINET:	NOTES:
120/208 V, 3 PH 4 WIRE	22" W x 6" D, BOLT-ON	225 AMPERE MAIN LUGS			

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT	OCP		LOAD (kVA)			DESCRIPTION	LCL	PHASE LOAD			LCL	DESCRIPTION	LOAD (kVA)			OCP		CKT
NO	AMP	POLE	LTG	CO	PWR		kVA	A	B	C	kVA		LTG	CO	PWR	AMP	POLE	NO
1	20	1		0.6		STUDY 271M CO'S	0.6	1.6			1.0	WINDOW SHADES (2ND FL)			1.0	20	1	2
3	20	1		0.6		STUDY 271M CO'S	0.6		2.1		1.5	WINDOW SHADES (2ND FL)			1.5	20	1	4
5	20	1		0.9		STUDY 271M TABLE CO'S	0.9			1.9	1.0	WINDOW SHADES (MEZ)			1.0	20	1	6
7	20	1			0.5	DRINKING FOUNTAIN	0.5	2.0			1.5	WINDOW SHADES (MEZ)			1.5	20	1	8
9	20	1		0.6		REST. 260M & 261M CO'S	0.6		1.2		0.6	STUDY 271M CO'S		0.6		20	1	10
11	20	1		0.6		STUDY 285M	0.6			1.0	0.4	STUDY 271M CO'S		0.4		20	1	12
13	20	1		1.2		STUDY 271M TABLE CO'S	1.2	1.7			0.5	STUDY 291M MONITOR		0.2	0.3	20	1	14
15	20	1		0.2	0.3	STUDY 290M MONITOR	0.5		0.9		0.4	STUDY 291M CO'S		0.4		20	1	16
17	20	1		0.4		STUDY 290M CO'S	0.4			0.9	0.5	STUDY 292M MONITOR		0.2	0.3	20	1	18
19	20	1		0.6		STUDY 271M CO'S	0.6	1.0			0.4	STUDY 292M CO'S		0.4		20	1	20
21	20	1		0.6		STUDY 286M CO'S	0.6		1.1		0.5	STUDY 293M MONITOR		0.2	0.3	20	1	22
23	20	1		0.4		STUDY 271M CO'S	0.4			0.8	0.4	STUDY 293M CO'S		0.4		20	1	24
25	20	1			1.4	TOILET 260M HD	1.4	1.9			0.5	STUDY 294M MONITOR		0.2	0.3	20	1	26
27	20	1			1.4	TOILET 261M HD	1.4		1.8		0.4	STUDY 294M CO'S		0.4		20	1	28
29	20	1				SPARE	0.0			1.0	1.0	FIRE SMOKE DAMPERS			1.0	20	1	30
31	20	1				SPARE	0.0	1.0			1.0	FIRE SMOKE DAMPERS			1.0	20	1	32
33	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	34
35	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	36
37	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	38
39	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	40
41	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	42
43	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	44
45	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	46
47	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	48
49	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	50
51	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	52
53	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	54
55	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	56
57	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	58
59	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	60
61	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	62
63	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	64
65	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	66
67	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	68
69	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	70
71	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	72
73	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	74
75	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	76
77	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	78
79	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	80
81	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	82
83	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	84

TOTALS: CONNECTED kVA PER PHASE 9 7 6 — CONNECTED TOTAL kVA 22
CONNECTED AMPS PER PHASE 77 59 47 — CONNECTED AVERAGE AMPS PER PHASE 61

NEC DIVERSIFIED LOAD CALCULATIONS
LIGHTING 0kVA @125% = 0 kVA — ALL OTHER LOADS @100% = 12 kVA — DIVERSIFIED TOTAL kVA = 22
RECEPTACLES 10kVA @100% = 10 kVA — 25% OF LARGEST MOTOR = 0 kVA — AVERAGE AMPS PER PHASE = 61
REMAINDER 0kVA @ 50% = 0 kVA

PANEL "3LA2"

VOLTS/PHASE/WIRE:	PANEL SIZE & TYPE:	MAIN SIZE & TYPE:	LOCATION:	CABINET:	NOTES:
120/208 V, 3 PH 4 WIRE	22" W x 6" D, BOLT-ON	225 AMPERE MAIN LUGS			

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT	OCP		LOAD (kVA)			DESCRIPTION	LCL	PHASE LOAD			LCL	DESCRIPTION	LOAD (kVA)			OCP		CKT
NO	AMP	POLE	LTG	CO	PWR		kVA	A	B	C	kVA		LTG	CO	PWR	AMP	POLE	NO
1	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	2
3	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	4
5	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	6
7	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	8
9	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	10
11	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	12
13	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	14
15	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	16
17	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	18
19	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	20
21	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	22
23	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	24
25	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	26
27	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	28
29	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	30
31	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	32
33	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	34
35	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	36
37	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	38
39	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	40
41	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	42

TOTALS: CONNECTED kVA PER PHASE 0 0 0 — CONNECTED TOTAL kVA 0
CONNECTED AMPS PER PHASE 0 0 0 — CONNECTED AVERAGE AMPS PER PHASE 0

NEC DIVERSIFIED LOAD CALCULATIONS
LIGHTING 0kVA @125% = 0 kVA — ALL OTHER LOADS @100% = 0 kVA — DIVERSIFIED TOTAL kVA = 0
RECEPTACLES 0kVA @100% = 0 kVA — 25% OF LARGEST MOTOR = 0 kVA — AVERAGE AMPS PER PHASE = 0
REMAINDER 0kVA @ 50% = 0 kVA

PANEL "3LB1"

VOLTS/PHASE/WIRE:	PANEL SIZE & TYPE:	MAIN SIZE & TYPE:	LOCATION:	CABINET:	NOTES:
120/208 V, 3 PH 4 WIRE	22" W x 6" D, BOLT-ON	225 AMPERE MAIN LUGS			

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT	OCP		LOAD (kVA)			DESCRIPTION	LCL	PHASE LOAD			LCL	DESCRIPTION	LOAD (kVA)			OCP		CKT
NO	AMP	POLE	LTG	CO	PWR		kVA	A	B	C	kVA		LTG	CO	PWR	AMP	POLE	NO
1	20	1		0.6		LITERATURE 362 CO'S	0.6	1.4			0.8	STUDY 361 POKE THRU		0.8		20	1	2
3	20	1		0.4		STUDY 361 CO'S	0.4		1.2		0.8	STUDY 361 POKE THRU		0.8		20	1	4
5	20	1		0.4		STUDY 361 CO'S	0.4			1.2	0.8	STUDY 361 POKE THRU		0.8		20	1	6
7	20	1		0.4		STUDY 361 CO'S	0.4	1.2			0.8	STUDY 361 CO'S		0.8		20	1	8
9	20	1		0.6		LITERATURE 362 CO'S	0.6		1.1		0.5	STUDY 361 DF			0.5	20	1	10
11	20	1		0.6		STUDY 361 CO'S	0.6			1.6	1.0	CUST 311 RC-2			1.0	20	1	12
13	20	1		1.5		STUDY 361 COMPACT STOR	1.5	1.7			0.2	TOILET 312 DCP-1			0.2	20	1	14
15	20	1		0.4		COLLECTION 360 CO'S	0.4		1.0		0.6	TOILET 310, 312 CO'S		0.6		20	1	16
17	20	1			1.5	COLLECT 360 COMP STOR	1.5			2.3	0.8	WORK 373 CO'S		0.8		20	1	18
19	20	1		0.4		COLLECTIONS 360 CO'S	0.4	1.0			0.6	WORK 373 CO'S		0.6		20	1	20
21	20	1		0.6		BINDERY 374 CO'S	0.6		1.2		0.6	WORK 373 CO'S		0.6		20	1	22
23	20	1		0.6		BINDERY 374 CO'S	0.6			1.8	1.2	WORK 373 POKE THRUS		1.2		20	1	24
25	20	1		0.4		WORK 373 SYS FURN	0.4	0.8			0.4	MAIL 373A CO'S		0.4		20	1	26
27	20	1		0.4		WORK 373 SYS FURN	0.4		1.0		0.6	MAIL 373A CO'S		0.6		20	1	28
29	20	1		0.8		OFFICE 375	0.8			2.3	1.5	MAIL 373A COPIER			1.5	20	1	30
31	20	1		0.9		STORAGE 376 CO'S	0.9	1.3			0.4	COLLECTIONS 360 CO'S		0.4		20	1	32
33	20	1		0.6		SUPPORT 321 CO'S	0.6		1.4		0.8	STUDIO 320 POKE THRU		0.8		20	1	34
35	20	1		0.8		STUDIO 320 CO'S	0.8			1.2	0.4	LAB 322 CO'S		0.4		20	1	36
37	20	1		1.3		OFFICE 323, 324 CO'S	1.3	2.7			1.4	TOILET 310 HD			1.4	20	1	38
39	20	1		1.2		WORK 373 POKE THRUS	1.2		2.6		1.4	TOILET 312 HD			1.4	20	1	40
41	20	1		0.4		WORK 373A CO'S	0.4			1.4	1.0	FIRE SMOKE DAMPERS			1.0	20	1	42
43	20	1		0.4		LAB 322 CO'S	0.4	0.4			0.0	SPARE				20	1	44
45	20	1		0.4		LAB 322 CO'S	0.4		0.4		0.0	SPARE				20	1	46
47	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	48
49	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	50
51	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	52
53	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	54
55	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	56
57	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	58
59	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	60
61	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	62
63	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	64
65	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	66
67	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	68
69	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	70
71	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	72
73	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	74
75	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	76
77	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	78
79	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	80
81	20	1				SPARE	0.0		1.7		1.7	STORAGE 309 EH-3			1.7	30	2	82
83	20	1				SPARE	0.0			1.7	1.7	-			1.7	-	-	84

TOTALS: CONNECTED kVA PER PHASE 11 12 14 — CONNECTED TOTAL kVA 36
CONNECTED AMPS PER PHASE 88 97 113 — CONNECTED AVERAGE AMPS PER PHASE 99

NEC DIVERSIFIED LOAD CALCULATIONS
LIGHTING 0kVA @125% = 0 kVA — ALL OTHER LOADS @100% = 12 kVA — DIVERSIFIED TOTAL kVA = 29
RECEPTACLES 10kVA @100% = 10 kVA — 25% OF LARGEST MOTOR = 0 kVA — AVERAGE AMPS PER PHASE = 80
REMAINDER 14kVA @ 50% = 7 kVA

VCBO
ARCHITECTURE
VALENTINER
CRANE
BRUNJES
ONYON

SASAKI

LICENSED PROFESSIONAL ENGINEER
No. 179621
RALPH B. KOEBER
STATE OF UTAH

SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #06297640
DIXIE COLLEGE, ST. GEORGE, UT
CONFORMED CONSTRUCTION DOCUMENTS BID SET

No.	Description	Date

Job # 09625
CAD File
Drawn BXW Checked RBK
Date 12/03/2010
Owner #
Ins. #

PANEL SCHEDULES

EP609
Sheet Number

PANEL "4LA1"

VOLTS/PHASE/WIRE: 120/208 V, 3 PH 4 WIRE | PANEL SIZE & TYPE: 22" W x 6" D, BOLT-ON | MAIN SIZE & TYPE: 225 AMPERE MAIN LUGS | LOCATION: | CABINET: | NOTES:

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT	OCP		LOAD (kVA)			DESCRIPTION	LCL	PHASE LOAD			LCL	DESCRIPTION	LOAD (kVA)			OCP		CKT
NO	AMP	POLE	LTG	CO	PWR		kVA	A	B	C	kVA		LTG	CO	PWR	AMP	POLE	NO
1	20	1	0.2			TIOLET 458,459 LIGHTS	0.3	0.8			0.6	LOUNGE 457 CO'S			0.6	20	1	2
3	20	1		0.8		STUDY 474 POKE THRUS	0.8		2.0		1.2	LOUNGE 457 POKE THRU		1.2		20	1	4
5	20	1			0.5	STUDY 474 PROJECTOR	0.5			1.1	0.6	LOUNGE 457 CO'S		0.6		20	1	6
7	20	1		0.9		STUDY 474 CO'S	0.9	1.5			0.6	CIRCULATION 486 CO'S		0.6		20	1	8
9	20	1		0.8		STUDY 474 POKE THRUS	0.8		1.4		0.6	CLASS 471 MONITORS			0.6	20	1	10
11	20	1		0.8		CLASS 471 POKE THRUS	0.8			1.8	1.0	CLASS 471 PROJECTORS			1.0	20	1	12
13	20	1		0.8		OFFICE 457A SYS FURN	0.8	1.4			0.6	CLASS 471 CO'S		0.6		20	1	14
15	20	1		0.8		OFFICE 457A SYS FURN	0.8		1.6		0.8	CLASS 471 CO'S		0.8		20	1	16
17	20	1		0.8		OFFICE 457A SYS FURN	0.8			1.4	0.6	CIRCULATION 486 CO'S		0.6		20	1	18
19	20	1			0.5	LAB 470 PROJECTOR	0.5	0.9			0.4	LAB 470 POKE THRU		0.4		20	1	20
21	20	1		0.9		LAB 470 CO'S	0.9		1.5		0.6	LAB 470 MONITOR			0.6	20	1	22
23	20	1			1.5	KITCHEN 460A MICROWAVE	1.5			1.9	0.4	TOILET 458 459 CO'S		0.4		20	1	24
25	20	1		0.4		KITCHEN 460A CO'S	0.4	1.0			0.6	LOUNGE 460 CCO'S		0.6		20	1	26
27	20	1		0.4		KITCHEN 460A CO'S	0.4		1.9		1.5	OFFICE 455 466 CO'S		1.5		20	1	28
29	20	1			1.0	KITCHEN 460A REFRIG	1.0			2.5	1.5	OFFICE 453 454 CO'S		1.5		20	1	30
31	20	1		0.6		CIRCULATION 486 CO'S	0.6	2.1			1.5	OFFICE 451 452 CO'S		1.5		20	1	32
33	20	1		0.4		CONF 469 A/V RACK	0.4		1.2		0.8	CONF 469 POKE THRU		0.8		20	1	34
35	20	1			0.5	CONF 469 REFRIG	0.5			1.7	1.2	CIRCULATION 486 POKE THRU		1.2		20	1	36
37	20	1		0.9		CONF 469 CO'S	0.9	0.9			0.0	SPARE				20	1	38
39	20	1			0.5	CONF 469 PROJECTOR	0.5		0.5		0.0	SPARE				20	1	40
41	20	1				MAIL 464 CO'S	0.0			0.0	0.0	SPARE				20	1	42
43	20	1		0.6		SECRETARY 469 CO'S	0.6	1.8			1.2	OFFICE 462 463 CO'S		1.2		20	1	44
45	20	1			1.5	MAIL 464 COPIER	1.5		1.9		0.4	SECRETARY 469 CO'S		0.4		20	1	46
47	20	1		0.6		MAIL 464 CO'S	0.6			1.5	0.9	CORRIDOR CO'S		0.9		20	1	48
49	20	1		1.5		OFFICE 449 450 CO'S	1.5	2.3			0.8	CIRCULATION 486 CO'S		0.8		20	1	50
51	20	1		1.5		OFFICE 446 448 CO'S	1.5		2.4		0.9	CIRCULATION 486 MONITOR			0.9	20	1	52
53	20	1		0.9		OFFICE 447 CO'S	0.9			1.8	0.9	CIRCULATION 486 MONITOR			0.9	20	1	54
55	20	1		1.7		OFFICE 444 445 CO'S	1.7	2.3			0.6	CIRCULATION 486 MONITOR			0.6	20	1	56
57	20	1		0.8		STUDY 480 CO'S	0.8		1.4		0.6	WRITING 421 CO'S		0.6		20	1	58
59	20	1		0.8		STUDY 479 CO'S	0.8			1.7	0.9	WRITING 421 CO'S		0.9		20	1	60
61	20	1		0.8		STUDY 478 CO'S	0.8	1.7			0.9	WRITING 421 CO'S		0.9		20	1	62
63	20	1		0.8		CONF 420 POKE THRU	0.8		1.8		1.0	CONF 420 A/V RACK			1.0	20	1	64
65	20	1			1.0	CONF 430 A/V RACK	1.0			1.5	0.5	CONF 430 PROJECTOR			0.5	20	1	66
67	20	1		0.6		CONF 420 CO'S	0.6	1.1			0.5	CONF 430 REFRIG			0.5	20	1	68
69	20	1			0.5	CONF 420 PROJECTOR	0.5		1.4		0.9	CONF 430 CO'S		0.9		20	1	70
71	20	1		1.2		OFFICE 432 433 CO'S	1.2			2.0	0.8	CONF 420 POKE THRU		0.8		20	1	72
73	20	1		0.6		RECEPTION 431 CO'S	0.6	1.4			0.8	TUTORING 434 POKE THRU		0.8		20	1	74
75	20	1		0.8		TUTORING 434 CO'S	0.8		2.0		1.2	TUTORING 435 436 CO'S		1.2		20	1	76
77	20	1		0.6		TUTORING 434 CO'S	0.6			1.8	1.2	TUTORING 437 438 CO'S		1.2		20	1	78
79	20	1		0.8		TUTORING 434 POKE THRU	0.8	1.3			0.5	CONF 420 REFRIG			0.5	20	1	80
81	20	1		0.8		TUTORING 434 POKE THRU	0.8		1.8		1.0	FIRE SMOKE DAMPERS			1.0	20	1	82
83	20	1		0.8		TUTORING 434 POKE THRU	0.8			0.8	0.0	SPARE				20	1	84

TOTALS: CONNECTED kVA PER PHASE 21 23 22 — CONNECTED TOTAL kVA 65
CONNECTED AMPS PER PHASE 171 190 179 — CONNECTED AVERAGE AMPS PER PHASE 180

NEC DIVERSIFIED LOAD CALCULATIONS
LIGHTING 0kVA @125% = 0 kVA — ALL OTHER LOADS @100% = 16 kVA — DIVERSIFIED TOTAL kVA = 46
RECEPTACLES 10kVA @100% = 10 kVA — 25% OF LARGEST MOTOR = 0 kVA — AVERAGE AMPS PER PHASE = 127
REMAINDER 38kVA @ 50% = 19 kVA

PANEL "4LB1"

VOLTS/PHASE/WIRE: 120/208 V, 3 PH 4 WIRE | PANEL SIZE & TYPE: 22" W x 6" D, BOLT-ON | MAIN SIZE & TYPE: 225 AMPERE MAIN LUGS | LOCATION: | CABINET: | NOTES:

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT	OCP		LOAD (kVA)			DESCRIPTION	LCL	PHASE LOAD			LCL	DESCRIPTION	LOAD (kVA)			OCP		CKT
NO	AMP	POLE	LTG	CO	PWR		kVA	A	B	C	kVA		LTG	CO	PWR	AMP	POLE	NO
1	20	1		0.8		DECK EXTERIOR CO'S	0.8	1.3			0.5	LEVEL 4 DF			0.5	20	1	2
3	20	1		0.8		STUDY 474 POKE THRUS	0.8		2.2		1.4	TOILET 412 HD			1.4	20	1	4
5	20	1		0.8		STUDY 474 POKE THRUS	0.8			1.4	0.6	TOILET 410 & 412 CO'S		0.6		20	1	6
7	20	1			0.3	STUDY 474 MONITORS	0.3	1.7			1.4	TOILET 412 HD			1.4	20	1	8
9	20	1		0.8		STUDY 474 POKE THRUS	0.8		1.6		0.8	STUDY 487 CO'S		0.8		20	1	10
11	20	1		0.4		STUDY 474 CO'S	0.4			1.2	0.8	STUDY 488 CO'S		0.8		20	1	12
13	20	1		0.8		STUDY 474 POKE THRUS	0.8	1.6			0.8	STUDY 489 CO'S		0.8		20	1	14
15	20	1		0.8		STUDY 474 POKE THRUS	0.8		1.6		0.8	STUDY 490 CO'S		0.8		20	1	16
17	20	1		0.6		STUDY 474 CO'S	0.6			1.4	0.8	STUDY 491 CO'S		0.8		20	1	18
19	20	1			1.0	CLASS 475 PROJECTORS	1.0	1.4			0.4	CLASS 475 POKE THRU		0.4		20	1	20
21	20	1		0.6		CLASS 475 CO'S	0.6		1.2		0.6	CLASS 475 MONITORS			0.6	20	1	22
23	20	1		0.6		CLASS 475 CO'S	0.6			1.2	0.6	CLASS 476 MONITORS			0.6	20	1	24
25	20	1			1.0	CLASS 476 PROJECTORS	1.0	1.4			0.4	CLASS 476 POKE THRU		0.4		20	1	26
27	20	1		0.6		CLASS 476 CO'S	0.6		1.2		0.6	CIRCULATION 486 CO'S		0.6		20	1	28
29	20	1		0.6		CLASS 476 CO'S	0.6			1.2	0.6	CIRCULATION 486 CO'S		0.6		20	1	30
31	20	1			1.0	CLASS 477 PROJECTORS	1.0	1.4			0.4	CLASS 477 POKE THRU		0.4		20	1	32
33	20	1		0.6		CLASS 477 CO'S	0.6		1.2		0.6	CLASS 477 MONITORS			0.6	20	1	34
35	20	1		0.6		CLASS 477 CO'S	0.6			1.5	0.9	STUDY 492 CO'S		0.9		20	1	36
37	20	1			0.3	GROUP 493 MONITOR	0.3	1.5			1.2	CORRIDORS CO'S		1.2		20	1	38
39	20	1		0.6		GROUP 493 CO'S	0.6		0.6		0.0	SPARE				20	1	40
41	20	1		0.6		GROUP 493 CO'S	0.6			0.6	0.0	SPARE				20	1	42
43	20	1		0.8		STUDY 481 CO'S	0.8	2.3			1.5	OFFICE 418, 422 CO'S		1.5		20	1	44
45	20	1		0.8		STUDY 482 CO'S	0.8		2.3		1.5	OFFICE 416, 417 CO'S		1.5		20	1	46
47	20	1			1.0	FIRE SMOKE DAMPERS	1.0			2.5	1.5	OFFICE 424, 425 CO'S		1.5		20	1	48
49	20	1				SPARE	0.0	0.8			0.8	OFFICE 423 CO'S		0.8		20	1	50
51	20	1				SPARE	0.0		0.3		0.3	CORRIDOR 426 MONITOR			0.3	20	1	52
53	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	54
55	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	56
57	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	58
59	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	60
61	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	62
63	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	64
65	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	66
67	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	68
69	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	70
71	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	72
73	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	74
75	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	76
77	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	78
79	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	80
81	20	1				SPARE	0.0		1.7		1.7	STORAGE 409 EH-4			1.7	30	2	82
83	20	1				SPARE	0.0			1.7	1.7	-			1.7	-	-	84

TOTALS: CONNECTED kVA PER PHASE 13 14 13 — CONNECTED TOTAL kVA 40
CONNECTED AMPS PER PHASE 112 116 106 — CONNECTED AVERAGE AMPS PER PHASE 111

NEC DIVERSIFIED LOAD CALCULATIONS
LIGHTING 0kVA @125% = 0 kVA — ALL OTHER LOADS @100% = 13 kVA — DIVERSIFIED TOTAL kVA = 32
RECEPTACLES 10kVA @100% = 10 kVA — 25% OF LARGEST MOTOR = 0 kVA — AVERAGE AMPS PER PHASE = 88
REMAINDER 17kVA @ 50% = 8 kVA

PANEL "4QLA"

VOLTS/PHASE/WIRE: 120/208 V, 3 PH 4 WIRE | PANEL SIZE & TYPE: 22" W x 6" D, BOLT-ON | MAIN SIZE & TYPE: 225 AMPERE MAIN LUGS | LOCATION: | CABINET: | NOTES:

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT	OCP		LOAD (kVA)			DESCRIPTION	LCL	PHASE LOAD			LCL	DESCRIPTION	LOAD (kVA)			OCP		CKT
NO	AMP	POLE	LTG	CO	PWR		kVA	A	B	C	kVA		LTG	CO	PWR	AMP	POLE	NO
1	20	1		0.8		SERVER 352 CO'S	0.8	1.0			0.2	DATA 504 RACK		0.2		20	1	2
3	20	1		0.8		SERVER 352 CO'S	0.8		1.0		0.2	DATA 504 RACK		0.2		20	1	4
5	20	1		0.8		SERVER 352 CO'S	0.8			1.0	0.2	DATA 504 RACK		0.2		20	1	6
7	20	1		0.2		DATA 304 RACK	0.2	0.4			0.2	DATA 504 RACK		0.2		20	1	8
9	20	1		0.2		DATA 304 RACK	0.2		1.2		1.0	ATC PANEL (AHU-2)			1.0	20	1	10
11	20	1		0.2		DATA 304 RACK	0.2			1.2	1.0	ATC PANEL (PENTHOUSE)			1.0	20	1	12
13	20	1		0.2		DATA 304 RACK	0.2	1.2			1.0	3RD FLOOR SECURITY			1.0	20	1	14
15	20	1		0.2		DATA 304 RACK	0.2		1.2		1.0	4TH FLOOR SECURITY			1.0	20	1	16
17	20	1		0.2		DATA 304 RACK	0.2			1.2	1.0	5TH FLOOR SECURITY			1.0	20	1	18
19	20	1		1.2		DATA 304 CO'S	1.2	2.2			1.0	3RD FLOOR CCTV			1.0	20	1	20
21	20	1		0.8		DATA 304 CO'S	0.8		1.8		1.0	4TH FLOOR CCTV			1.0	20	1	22
23	20	1		0.2		DATA 404 RACK	0.2			1.2	1.0	5TH FLOOR CCTV			1.0	20	1	24
25	20	1		0.2		DATA 404 RACK	0.2	0.4			0.2	DATA 504 RACK		0.2		20	1	26
27	20	1		0.2		DATA 404 RACK	0.2		0.4		0.2	DATA 504 RACK		0.2		20	1	28
29	20	1		0.2		DATA 404 RACK	0.2			1.4	1.2	DATA 504 CO'S		1.2		20	1	30
31	20	1		0.2		DATA 404 RACK	0.2	1.0			0.8	DATA 504 CO'S		0.8		20	1	32
33	20	1		0.2		DATA 404 RACK	0.2		1.2		1.0	3RD FLOOR ATC CONTROLS			1.0	20	1	34
35	20	1		1.2		DATA 404 CO'S	1.2			2.2	1.0	3RD FLOOR ATC CONTROLS			1.0	20	1	36
37	20	1		0.8		DATA 404 CO'S	0.8	1.8			1.0	4TH FLOOR ATC CONTROLS			1.0	20	1	38
39	20	1				SPARE	0.0		1.0		1.0	4TH FLOOR ATC CONTROLS			1.0	20	1	40
41	20	1				SPARE	0.0			1.0	1.0	5TH FLOOR ATC CONTROLS			1.0	20	1	42
43	20	1				SPARE	0.0	1.0			1.0	5TH FLOOR ATC CONTROLS			1.0	20	1	44
45	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	46
47	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	48
49	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	50
51	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	52
53	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	54
55	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	56
57	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	58
59	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	60
61	30	2			2.5	DATA 404 RACK	2.5	5.0			2.5	DATA 504 RACK			2.5	30	2	62
63	-	-			2.5	-	2.5		5.0		2.5	-			2.5	-	-	64
65	30	2			2.5	DATA 404 RACK	2.5			5.0	2.5	DATE 504 RACK			2.5	30	2	66
67	-	-			2.5	-	2.5	5.0			2.5	-			2.5	-	-	68
69	30	2			2.5	DATA 404 RACK	2.5		5.0		2.5	DATA 504 RACK			2.5	30	2	70
71	-	-			2.5	-	2.5			5.0	2.5	-			2.5	-	-	72
73	15	2			0.1	DXCF-12 DATA 404	0.1	2.6			2.5	DATA 304 RACK			2.5	30	2	74
75	-	-			0.1	-	0.1		2.6		2.5	-			2.5	-	-	76
77	15	2			0.1	DXCF-14 DATA 504	0.1			2.6	2.5	DATE 304 RACK			2.5	30	2	78
79	-	-			0.1	-	0.1	2.6			2.5	-			2.5	-	-	80
81	15	2			0.1	DXCF-9 DATA 304	0.1		2.6		2.5	DATA 304 RACK			2.5	30	2	82
83	-	-			0.1	-	0.1			2.6	2.5	-			2.5	-	-	84

TOTALS: CONNECTED kVA PER PHASE 24 23 24 — CONNECTED TOTAL kVA 72
CONNECTED AMPS PER PHASE 202 192 203 — CONNECTED AVERAGE AMPS PER PHASE 199

NEC DIVERSIFIED LOAD CALCULATIONS
LIGHTING 0kVA @125% = 0 kVA — ALL OTHER LOADS @100% = 60 kVA — DIVERSIFIED TOTAL kVA = 71
RECEPTACLES 10kVA @100% = 10 kVA — 25% OF LARGEST MOTOR = 0 kVA — AVERAGE AMPS PER PHASE = 196
REMAINDER 2kVA @ 50% = 1 kVA

PANEL "4LA2"

VOLTS/PHASE/WIRE: 120/208 V, 3 PH 4 WIRE | PANEL SIZE & TYPE: 22" W x 6" D, BOLT-ON | MAIN SIZE & TYPE: 225 AMPERE MAIN LUGS | LOCATION: | CABINET: | NOTES:

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT	OCP		LOAD (kVA)			DESCRIPTION	LCL	PHASE LOAD			LCL	DESCRIPTION	LOAD (kVA)			OCP		CKT
NO	AMP	POLE	LTG	CO	PWR		kVA	A	B	C	kVA		LTG	CO	PWR	AMP	POLE	NO
1	20	1			1.5	VENDING MACHINE	1.5	1.5			0.0	SPARE				20	1	2
3	20	1			1.5	VENDING MACHINE	1.5		1.5		0.0	SPARE				20	1	4
5	20	1		0.4		WORK 464 CO'S	0.4			0.4	0.0	SPARE				20	1	6
7	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	8
9	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	10
11	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	12
13	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	14
15	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	16
17	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	18
19	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	20
21	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	22
23	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	24
25	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	26
27	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	28
29	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	30
31	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	32
33	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	34
35	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	36
37	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	38
39	20	1				SPARE	0.0		8.3		8.3	RM 460A EWH-5			8.3	100	2	40
41	20	1				SPARE	0.0			8.3	8.3	-			8.3	-	-	42

TOTALS: CONNECTED kVA PER PHASE 2 10 9 — CONNECTED TOTAL kVA 20
CONNECTED AMPS PER PHASE 13 82 73 — CONNECTED AVERAGE AMPS PER PHASE 56

NEC DIVERSIFIED LOAD CALCULATIONS
LIGHTING 0kVA @125% = 0 kVA — ALL OTHER LOADS @100% = 20 kVA — DIVERSIFIED TOTAL kVA = 20
RECEPTACLES 0kVA @100% = 0 kVA — 25% OF LARGEST MOTOR = 0 kVA — AVERAGE AMPS PER PHASE = 56
REMAINDER 0kVA @ 50% = 0 kVA

PANEL "4QLB"

VOLTS/PHASE/WIRE: 120/208 V, 3 PH 4 WIRE | PANEL SIZE & TYPE: 22" W x 6" D, BOLT-ON | MAIN SIZE & TYPE: 225 AMPERE MAIN LUGS | LOCATION: | CABINET: | NOTES:

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT	OCP		LOAD (kVA)			DESCRIPTION	LCL	PHASE LOAD			LCL	DESCRIPTION	LOAD (kVA)			OCP		CKT
NO	AMP	POLE	LTG	CO	PWR		kVA	A	B	C	kVA		LTG	CO	PWR	AMP	POLE	NO
1	20	1		1.2		DATA 414 CO'S	1.2	1.4			0.2	DXFC-8 DATA 372			0.2	15	2	2
3	20	1		0.2		DATA 414 RACK	0.2		0.4		0.2	-			0.2	-	-	4
5	20	1		0.2		DATA 414 RACK	0.2			0.4	0.2	DXFC-11 DATA 414			0.2	15	2	6
7	20	1		0.2		DATA 414 RACK	0.2	0.4			0.2	-			0.2	-	-	8
9	20	1		0.2		DATA 414 RACK	0.2		0.4		0.2	DXFC-13 DATA 514			0.2	15	2	10
11	20	1		1.2		DATA 372 CO'S	1.2			1.4	0.2	-			0.2	-	-	12
13	20	1		0.2		DATA 372 CO'S	0.2	0.9			0.7	EM-3 (IN AHU-3)			0.7	20	1	14
15	20	1		0.2		DATA 372 CO'S	0.2		1.2		1.0	ATC (IN AHU-3)			1.0	20	1	16
17	20	1		0.8		DATA 514 CO'S	0.8			1.8	1.0	3RD FLOOR SECURITY			1.0	20	1	18
19	20	1		0.8		DATA 514 CO'S	0.8	1.8			1.0	4TH FLOOR SECURITY			1.0	20	1	20
21	20	1		0.8		DATA 514 CO'S	0.8		1.8		1.0	5TH FLOOR SECURITY			1.0	20	1	22
23	20	1			1.5	AH-3 ATC PANEL (ROOF)	1.5			2.2	0.7	DATA 514 RACK			0.7	20	1	24
25	20	1			0.8	EM-3 (IN AH-3 ON ROOF)	0.8	1.5			0.7	DATA 514 RACK			0.7	20	1	26
27	20	1			0.3	UPS RM EF-14	0.3		1.0		0.7	DATA 514 RACK			0.7	20	1	28
29	20	1				SPARE	0.0			0.7	0.7	DATA 514 RACK			0.7	20	1	30
31	20	1				SPARE	0.0	1.0			1.0	3RD FLOOR CCTV			1.0	20	1	32
33	20	1				SPARE	0.0		1.0		1.0	4TH FLOOR CCTV			1.0	20	1	34
35	20	1				SPARE	0.0			1.0	1.0	5TH FLOOR CCTV			1.0	20	1	36
37	20	1				SPARE	0.0	1.0			1.0	3RD FLOOR ATC CONTROLS			1.0	20	1	38
39	20	1				SPARE	0.0		1.0		1.0	3RD FLOOR ATC CONTROLS			1.0	20	1	40
41	20	1				SPARE	0.0			1.0	1.0	4TH FLOOR ATC CONTROLS			1.0	20	1	42
43	20	1				SPARE	0.0	1.0			1.0	4TH FLOOR ATC CONTROLS			1.0	20	1	44
45	20	1				SPARE	0.0		1.0		1.0	5TH FLOOR ATC CONTROLS			1.0	20	1	46
47	20	1				SPARE	0.0			1.0	1.0	5TH FLOOR ATC CONTROLS			1.0	20	1	48
49	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	50
51	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	52
53	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	54
55	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	56
57	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	58
59	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	60
61	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	62
63	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	64
65	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	66
67	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	68
69	20	2			0.9	DATA 514 DXCF-17-19	0.9		3.9		3.0	DATA 414 RACK			3.0	30	2	70
71	-	-			0.9	-	0.9			3.9	3.0	-			3.0	-	-	72
73	20	2			0.9	DATA 514 DXCF-20-22	0.9	3.9			3.0	DATA 414 RACK			3.0	30	2	74
75	-	-			0.9	-	0.9		3.9		3.0	-			3.0	-	-	76
77	30	2			3.0	DATA RACK 372	3.0			6.0	3.0	DATA 514 RACK			3.0	30	2	78
79	-	-			3.0	-	3.0	6.0			3.0	-			3.0	-	-	80
81	30	2			3.0	DATA RACK372	3.0		6.0		3.0	DATA 514 RACK			3.0	30	2	82
83	-	-			3.0	-	3.0			6.0	3.0	-			3.0	-	-	84

TOTALS: CONNECTED kVA PER PHASE 19 22 25 — CONNECTED TOTAL kVA 66
CONNECTED AMPS PER PHASE 158 180 212 — CONNECTED AVERAGE AMPS PER PHASE 183

NEC DIVERSIFIED LOAD CALCULATIONS
LIGHTING 0kVA @125% = 0 kVA — ALL OTHER LOADS @100% = 60 kVA — DIVERSIFIED TOTAL kVA = 66
RECEPTACLES 6kVA @100% = 6 kVA — 25% OF LARGEST MOTOR = 0 kVA — AVERAGE AMPS PER PHASE = 183
REMAINDER 0kVA @ 50% = 0 kVA

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

SASAKI

LICENSED PROFESSIONAL ENGINEER No. 179621 RALPH B. KOEBER STATE OF UTAH

SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #06297640
DIXIE COLLEGE, ST. GEORGE, UT
CONFORMED CONSTRUCTION DOCUMENTS BID SET

No.	Description	Date

Job # 09625
CAD File
Drawn BXW Checked RBK
Date 12/03/2010
Owner #
Ins. #

PANEL SCHEDULES

EP610
Sheet Number

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PANEL "5LA1"

VOLTS/PHASE/WIRE: 120/208 V, 3 PH 4 WIRE | PANEL SIZE & TYPE: 22" W x 6" D, BOLT-ON | MAIN SIZE & TYPE: 225 AMPERE MAIN LUGS | LOCATION: | CABINET: | NOTES:

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT	OCP		LOAD (kVA)			DESCRIPTION	LCL	PHASE LOAD			LCL	DESCRIPTION	LOAD (kVA)			OCP		CKT
NO	AMP	POLE	LTG	CO	PWR		kVA	A	B	C	kVA		LTG	CO	PWR	AMP	POLE	NO
1	20	1		1.5		OFFICE 559 560 CO'S	1.5	2.3			0.8	CONF 558 POKE THRUS		0.8		20	1	2
3	20	1		1.7		OFFICE 561 562 CO'S	1.7		2.3		0.6	CONF 558 CO'S		0.6		20	1	4
5	20	1				SPARE	0.0			0.5	0.5	CONF 558 REFRIG			0.5	20	1	6
7	20	1			0.3	CONF 558 MONITOR	0.3	1.2			0.9	CORRIDOR 557A CO'S		0.9		20	1	8
9	20	1				SPARE	0.0		1.0		1.0	CONF 558 A/V RACK			1.0	20	1	10
11	20	1				SPARE	0.0			0.2	0.2	OFFICE 547 CO'S		0.2		20	1	12
13	20	1		0.4		OFFICE 568 CO'S	0.4	1.2			0.8	OFFICE 547 SYS FURN		0.8		20	1	14
15	20	1		1.2		OFFICE 568 SYS FURN	1.2		2.0		0.8	OFFICE 547 SYS FURN		0.8		20	1	16
17	20	1		1.2		OFFICE 568 SYS FURN	1.2			1.8	0.6	RECEPT 551 CO'S		0.6		20	1	18
19	20	1		0.2	0.5	NURSING 569A CO'S	0.7	2.2			1.5	WORK 552 COPIER			1.5	20	1	20
21	20	1		0.8		OFFICE 547 SYS FURN	0.8		2.3		1.5	WORK 552 COPIER			1.5	20	1	22
23	20	1		0.8		OFFICE 547 SYS FURN	0.8			0.9	0.1	WORK 552 EF-12			0.1	20	1	24
25	20	1		1.5		OFFICE 554 555 CO'S	1.5	2.4			0.9	WORK 552 CO'S		0.9		20	1	26
27	20	1		0.8		OFFICE 556 CO'S	0.8		1.6		0.8	STORAGE 553 CO'S		0.8		20	1	28
29	20	1			1.0	CONF 550 A/V RACK	1.0			1.8	0.8	CONF 550 POKE THRUS		0.8		20	1	30
31	20	1		0.9		CONF 550 CO'S	0.9	1.5			0.6	OFFICE 547 CO'S		0.6		20	1	32
33	20	1		0.6		CONF 550 CO'S	0.6		1.4		0.8	OFFICE 544 CO'S		0.8		20	1	34
35	20	1			0.5	CONF 550 PROJECTOR	0.5			1.1	0.6	OFFICE 547 CO'S		0.6		20	1	36
37	20	1			0.6	CIRCULATION MONITORS	0.6	1.4			0.8	OFFICE 545 546 CO'S		0.8		20	1	38
39	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	40
41	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	42
43	20	1			1.0	CONF 543 A/V RACK	1.0	1.8			0.8	CONF 543 POKE THRUS		0.8		20	1	44
45	20	1		0.6		OFFICE 544 SYS FURN	0.6		1.5		0.9	CONF 543 CO'S		0.9		20	1	46
47	20	1		0.6		OFFICE 544 SYS FURN	0.6			1.4	0.8	LAB 542 CO'S		0.8		20	1	48
49	20	1			0.5	CONF 543 PROJECTOR	0.5	1.3			0.8	LAB 541 CO'S		0.8		20	1	50
51	20	1		0.6		CORRIDOR CO'S	0.6		1.2		0.6	ZION 537 CO'S		0.6		20	1	52
53	20	1		0.9		CORRIDOR CO'S	0.9			1.8	0.9	ZION 537 CO'S		0.9		20	1	54
55	20	1			0.5	WORK 543 REFRIG	0.5	1.3			0.8	ZION 537 POKE THRUS		0.8		20	1	56
57	20	1			0.9	CORRIDOR MONITORS	0.9		2.4		1.5	ZION 537 PROJECTORS			1.5	20	1	58
59	20	1			1.0	ZION 537 HC DOORS	1.0			2.0	1.0	ZION 537 WINDOW SHADES			1.0	20	1	60
61	20	1			0.5	ROOM 536 PROJECTOR	0.5	1.5			1.0	ROOM 536 A/V RACK			1.0	20	1	62
63	20	1			0.5	ROOM 536 REFRIG	0.5		1.3		0.8	CONF 535 POKE THRUS		0.8		20	1	64
65	20	1		0.6		ROOM 536 CO'S	0.6			1.1	0.5	CONF 535 REFRIG			0.5	20	1	66
67	20	1			0.3	ROOM 536 MONITOR	0.3	1.2			0.9	CONF 535 CO'S		0.9		20	1	68
69	20	1			0.5	CONF 535 PROJECTOR	0.5		1.5		1.0	CONF 535 A/V RACK			1.0	20	1	70
71	20	1		0.3		CORRIDOR CO'S	0.3			1.8	1.5	VENDING MACHINE			1.5	20	1	72
73	20	1			1.5	LIBRARY 532 COPIER	1.5	3.0			1.5	VENDING MACHINE			1.5	20	1	74
75	20	1		0.8		OFFICE 518 CO'S	0.8		1.8		1.0	FIRE SMOKE DAMPERS			1.0	20	1	76
77	20	1		0.6		LIBRARY 532 CO'S	0.6			2.1	1.5	OFFICE 563 564 CO'S		1.5		20	1	78
79	20	1		0.6		LIBRARY 532 CO'S	0.6	2.1			1.5	OFFICE 565 566 CO'S		1.5		20	1	80
81	20	1				SPARE	0.0		0.8		0.8	OFFICE 567 CO'S		0.8		20	1	82
83	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	84

TOTALS: CONNECTED kVA PER PHASE 24 21 17 — CONNECTED TOTAL kVA 62
CONNECTED AMPS PER PHASE 203 176 138 — CONNECTED AVERAGE AMPS PER PHASE 172

NEC DIVERSIFIED LOAD CALCULATIONS
LIGHTING 0kVA @125% = 0 kVA — ALL OTHER LOADS @100% = 24 kVA — DIVERSIFIED TOTAL kVA = 48
RECEPTACLES 10kVA @100% = 10 kVA — 25% OF LARGEST MOTOR = 0 kVA — AVERAGE AMPS PER PHASE = 133
REMAINDER 28kVA @ 50% = 14 kVA

PANEL "5LA2"

VOLTS/PHASE/WIRE: 120/208 V, 3 PH 4 WIRE | PANEL SIZE & TYPE: 22" W x 6" D, BOLT-ON | MAIN SIZE & TYPE: 225 AMPERE MAIN LUGS | LOCATION: | CABINET: | NOTES:

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT	OCP		LOAD (kVA)			DESCRIPTION	LCL	PHASE LOAD			LCL	DESCRIPTION	LOAD (kVA)			OCP		CKT
NO	AMP	POLE	LTG	CO	PWR		kVA	A	B	C	kVA		LTG	CO	PWR	AMP	POLE	NO
1	20	1			1.6	RM 539 WARMING CAB	1.6	1.9			0.3	LAB 541 MONITOR			0.3	20	1	2
3	20	1		0.2		RM 539 COUNTER CO	0.2		0.8		0.6	RECEPT 551 CO'S		0.6		20	1	4
5	20	1			1.7	RM 539 BEVERAGE DISP	1.7			2.3	0.6	RECEPT 551 CO'S		0.6		20	1	6
7	20	1			1.7	RM 539 BEVERAGE DISP	1.7	2.9			1.5	ZION LTG DMA-1	1.2			20	1	8
9	20	1			1.0	RM 539 EF-9	1.0		2.0		1.3	ZION LTG DMA-2	1.0			20	1	10
11	20	1			1.2	RM 539 REFRIGERATOR	1.2			2.3	1.4	ZION LTG DMA-3	1.1			20	1	12
13	20	1				RM 539 FREEZER	0.0	0.4			0.5	ZION LTG DMA-4	0.4			20	1	14
15	20	1		0.2		RM 539 CO	0.2		0.8		0.8	ZION LTG DMA-5, DMA-6	0.6			20	1	16
17	20	1				SPARE	0.0			1.7	2.1	ZION LTG DMA-7	1.7			20	1	18
19	20	1				SPARE	0.0	1.9			2.4	ZION LTG DMA-8	1.9			20	1	20
21	20	1				SPARE	0.0		1.1		1.4	ZION LTG DMA-9, DMA-10	1.1			20	1	22
23	20	1				SPARE	0.0			0.2	0.3	ZION LTG DMA-11	0.2			20	1	24
25	20	1				SPARE	0.0	0.0			0.0	ZION LTG DMB-1				20	1	26
27	20	1				SPARE	0.0		0.0		0.0	ZION LTG DMB-2				20	1	28
29	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	30
31	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	32
33	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	34
35	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	36
37	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	38
39	30	2			2.1	RM 539 COFFE MACHINE	2.1		4.1		2.0	RM 539 ICE MAKER			2.0	30	2	40
41	-	-			2.1	-	2.1			4.1	2.0	-			2.0	-	-	42

TOTALS: CONNECTED kVA PER PHASE 7 9 11 — CONNECTED TOTAL kVA 27
CONNECTED AMPS PER PHASE 59 73 88 — CONNECTED AVERAGE AMPS PER PHASE 74

NEC DIVERSIFIED LOAD CALCULATIONS
LIGHTING 9kVA @125% = 12 kVA — ALL OTHER LOADS @100% = 16 kVA — DIVERSIFIED TOTAL kVA = 29
RECEPTACLES 2kVA @100% = 2 kVA — 25% OF LARGEST MOTOR = 0 kVA — AVERAGE AMPS PER PHASE = 80
REMAINDER 0kVA @ 50% = 0 kVA

PANEL "5LB1"

VOLTS/PHASE/WIRE: 120/208 V, 3 PH 4 WIRE | PANEL SIZE & TYPE: 22" W x 6" D, BOLT-ON | MAIN SIZE & TYPE: 225 AMPERE MAIN LUGS | LOCATION: | CABINET: | NOTES:

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT	OCP		LOAD (kVA)			DESCRIPTION	LCL	PHASE LOAD			LCL	DESCRIPTION	LOAD (kVA)			OCP		CKT
NO	AMP	POLE	LTG	CO	PWR		kVA	A	B	C	kVA		LTG	CO	PWR	AMP	POLE	NO
1	20	1		0.9		OFFICE 574 CO'S	0.9	2.4			1.5	OFFICE 582 583 CO'S		1.5		20	1	2
3	20	1		0.9		OFFIC 575 CO'S	0.9		2.4		1.5	OFFICE 584 585 CO'S		1.5		20	1	4
5	20	1		0.9		OFFICE 576 CO'S	0.9			1.1	0.2	TOILET 588A CO'S		0.2		20	1	6
7	20	1		0.9		OFFICE 577 CO'S	0.9	1.8			0.9	BREAK 588 CO'S		0.9		20	1	8
9	20	1		0.9		OFFICE 578 CO'S	0.9		1.4		0.5	BREAK 588 EF-4			0.5	20	1	10
11	20	1		0.9		OFFICE 579 CO'S	0.9			1.3	0.4	BREAK 588 CO'S		0.4		20	1	12
13	20	1		0.9		OFFICE 580 CO'S	0.9	1.9			1.0	BREAK 588 REFRIG			1.0	20	1	14
15	20	1		0.9		OFFICE 581 CO'S	0.9		2.4		1.5	CORRIDOR 586 COPIER			1.5	20	1	16
17	20	1		0.9		RECEPTION 571 CO'S	0.9			1.5	0.6	CORRIDOR 586 CO'S		0.6		20	1	18
19	20	1			0.5	CONF 570 REFRIG	0.5	2.0			1.5	OFFICE 572 573 CO'S		1.5		20	1	20
21	20	1			1.0	CONF 570 A/V RACK	1.0		1.8		0.8	CONF 570 POKE THRUS		0.8		20	1	22
23	20	1			1.5	TOILET 510 HD	1.5			2.1	0.6	CONF 570 CO'S		0.6		20	1	24
25	20	1			1.0	CUSTODIAN 511 RC-3	1.0	1.4			0.4	CONF 570 CO'S		0.4		20	1	26
27	20	1			0.2	DRINKING FOUNTAIN	0.2		0.7		0.5	CONF 570 PROJECTOR			0.5	20	1	28
29	20	1			1.5	TOILET 512 HD	1.5			1.9	0.4	PREP 590 CO'S		0.4		20	1	30
31	20	1		0.6		TOILET 510 512 CO'S	0.6	2.1			1.5	OFFICE 593 594 CO'S		1.5		20	1	32
33	20	1		0.8		CORRIDOR CO'S	0.8		2.5		1.7	OFFICE 591 592 CO'S		1.7		20	1	34
35	20	1			0.2	TOILET 512 CP-3	0.2			0.4	0.2	OFFICE 597 CO'S		0.2		20	1	36
37	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	38
39	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	40
41	20	1			1.5	BREAK 588 MICROWAVE	1.5			1.5	0.0	SPARE				20	1	42
43	20	1		0.4		OFFICE 597 SYS FURN	0.4	0.8			0.4	OFFICE 597 DESK		0.4		20	1	44
45	20	1		0.4		OFFICE 597 SYS FURN	0.4		0.8		0.4	LAB 529 CO'S		0.4		20	1	46
47	20	1		0.4		OFFICE 597 SYS FURN	0.4			1.9	1.5	OFFICE 529 530 CO'S		1.5		20	1	48
49	20	1		0.4		OFFICE 597 SYS FURN	0.4	1.6			1.2	INTERVIEW ROOM CO'S		1.2		20	1	50
51	20	1		0.4		OFFICE 597 SYS FURN	0.4		1.4		1.0	FIRE SMOKE DAMPERS			1.0	20	1	52
53	20	1		0.4		OFFICE 597 SYS FURN	0.4			1.0	0.6	ROOM 598A CO'S		0.6		20	1	54
55	20	1		1.5		OFFICE 520 521 CO'S	1.5	1.7			0.3	TOILET 588A LIGHTS	0.2			20	1	56
57	20	1		1.5		OFFICE 517 519 CO'S	1.5		2.5		1.0	BREAK 528 FRIDGE			1.0	20	1	58
59	20	1		1.5		OFFICE 516 531 CO'S	1.5			1.9	0.4	BREAK 528 CO'S		0.4		20	1	60
61	20	1				SPARE	0.0	1.5			1.5	BREAK 528 MICROWAVE			1.5	20	1	62
63	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	64
65	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	66
67	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	68
69	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	70
71	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	72
73	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	74
75	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	76
77	30	2			2.0	PREP 590	2.0			2.0	0.0	PREP 590				30	2	78
79	-	-			2.0	-	2.0	2.0			0.0	-				-	-	80
81	30	2			1.7	CLOSET 507A EH-5	1.7		1.7		0.0	BREAK 588 EWH-2				100	2	82
83	-	-			1.7	-	1.7			1.7	0.0	-				-	-	84

TOTALS: CONNECTED kVA PER PHASE 19 18 18 — CONNECTED TOTAL kVA 55
CONNECTED AMPS PER PHASE 160 147 153 — CONNECTED AVERAGE AMPS PER PHASE 153

NEC DIVERSIFIED LOAD CALCULATIONS
LIGHTING 0kVA @125% = 0 kVA — ALL OTHER LOADS @100% = 22 kVA — DIVERSIFIED TOTAL kVA = 44
RECEPTACLES 10kVA @100% = 10 kVA — 25% OF LARGEST MOTOR = 0 kVA — AVERAGE AMPS PER PHASE = 121
REMAINDER 23kVA @ 50% = 12 kVA

PANEL "5LB2"

VOLTS/PHASE/WIRE: 120/208 V, 3 PH 4 WIRE | PANEL SIZE & TYPE: 22" W x 6" D, BOLT-ON | MAIN SIZE & TYPE: 225 AMPERE MAIN LUGS | LOCATION: | CABINET: | NOTES:

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT	OCP		LOAD (kVA)			DESCRIPTION	LCL	PHASE LOAD			LCL	DESCRIPTION	LOAD (kVA)			OCP		CKT
NO	AMP	POLE	LTG	CO	PWR		kVA	A	B	C	kVA		LTG	CO	PWR	AMP	POLE	NO
1	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	2
3	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	4
5	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	6
7	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	8
9	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	10
11	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	12
13	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	14
15	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	16
17	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	18
19	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	20
21	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	22
23	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	24
25	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	26
27	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	28
29	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	30
31	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	32
33	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	34
35	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	36
37	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	38
39	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	40
41	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	42

TOTALS: CONNECTED kVA PER PHASE 0 0 0 — CONNECTED TOTAL kVA 0
CONNECTED AMPS PER PHASE 0 0 0 — CONNECTED AVERAGE AMPS PER PHASE 0

NEC DIVERSIFIED LOAD CALCULATIONS
LIGHTING 0kVA @125% = 0 kVA — ALL OTHER LOADS @100% = 0 kVA — DIVERSIFIED TOTAL kVA = 0
RECEPTACLES 0kVA @100% = 0 kVA — 25% OF LARGEST MOTOR = 0 kVA — AVERAGE AMPS PER PHASE = 0
REMAINDER 0kVA @ 50% = 0 kVA

PANEL "6LA1"

VOLTS/PHASE/WIRE: 120/208 V, 3 PH 4 WIRE | PANEL SIZE & TYPE: 22" W x 6" D, BOLT-ON | MAIN SIZE & TYPE: 225 AMPERE MAIN LUGS | LOCATION: | CABINET: | NOTES:

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT	OCP		LOAD (kVA)			DESCRIPTION	LCL	PHASE LOAD			LCL	DESCRIPTION	LOAD (kVA)			OCP		CKT
NO	AMP	POLE	LTG	CO	PWR		kVA	A	B	C	kVA		LTG	CO	PWR	AMP	POLE	NO
1	20	1		1.2		PENTHOUSE CO'S	1.2	1.2			0.0	SPARE				20	1	2
3	20	1		1.2		PENTHOUSE CO'S	1.2		1.2		0.0	SPARE				20	1	4
5	20	1		1.2		PENTHOUSE CO'S	1.2			1.2	0.0	SPARE				20	1	6
7	20	1			0.6	EF-5	0.6	0.6			0.0	SPARE				20	1	8
9	20	1			0.5	UH-1	0.5		0.5		0.0	SPARE				20	1	10
11	20	1			1.0	WH-1	1.0			1.0	0.0	SPARE				20	1	12
13	20	1			1.9	EM-2 (IN AHU-2)	1.9	1.9			0.0	SPARE				20	1	14
15	20	1			0.5	UH-2	0.5		0.5		0.0	SPARE				20	1	16
17	20	1		0.4		ROOFTOP CO'S	0.4			0.4	0.0	SPARE				20	1	18
19	20	1	1.0			AHU-2 LIGHTS	1.3	1.0			0.0	SPARE				20	1	20
21	20	1	1.0			AHU-3 LIGHTS	1.3		1.0		0.0	SPARE				20	1	22
23	20	1			1.0	FIRE/SMOKE DAMPERS	1.0			1.0	0.0	SPARE				20	1	24
25	20	1		0.2		CHEM WATER TREAT CO	0.2	0.2			0.0	SPARE				20	1	26
27	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	28
29	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	30
31	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	32
33	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	34
35	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	36
37	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	38
39	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	40
41	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	42

TOTALS: CONNECTED kVA PER PHASE 5 3 4 — CONNECTED TOTAL kVA 12
CONNECTED AMPS PER PHASE 41 27 30 — CONNECTED AVERAGE AMPS PER PHASE 33

NEC DIVERSIFIED LOAD CALCULATIONS
LIGHTING 2kVA @125% = 3 kVA — ALL OTHER LOADS @100% = 6 kVA — DIVERSIFIED TOTAL kVA = 12
RECEPTACLES 4kVA @100% = 4 kVA — 25% OF LARGEST MOTOR = 0 kVA — AVERAGE AMPS PER PHASE = 34
REMAINDER 0kVA @ 50% = 0 kVA

PANEL "1A1" (PDU 1A)

VOLTS/PHASE/WIRE: 120/208 V, 3 PH 4 WIRE | PANEL SIZE & TYPE: 22" W x 6" D, BOLT-ON | MAIN SIZE & TYPE: 225 AMPERE MAIN CB | LOCATION: | CABINET: | NOTES: 22 KAIC

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, 200% NEUTRAL

CKT	OCP		LOAD (kVA)			DESCRIPTION	LCL	PHASE LOAD			LCL	DESCRIPTION	LOAD (kVA)			OCP		CKT
NO	AMP	POLE	LTG	CO	PWR		kVA	A	B	C	kVA		LTG	CO	PWR	AMP	POLE	NO
1	30	2			2.5	RACK #______	2.5	5.0			2.5	RACK #______			2.5	30	2	2
3	-	-			2.5	-	2.5		5.0		2.5	-			2.5	-	-	4
5	30	2			2.5	RACK #______	2.5			5.0	2.5	RACK #______			2.5	30	2	6
7	-	-			2.5	-	2.5	5.0			2.5	-			2.5	-	-	8
9	30	2			2.5	RACK #______	2.5		5.0		2.5	RACK #______			2.5	30	2	10
11	-	-			2.5	-	2.5			5.0	2.5	-			2.5	-	-	12
13	30	2			2.5	RACK #______	2.5	5.0			2.5	RACK #______			2.5	30	2	14
15	-	-			2.5	-	2.5		5.0		2.5	-			2.5	-	-	16
17	30	2			2.5	RACK #______	2.5			5.0	2.5	RACK #______			2.5	30	2	18
19	-	-			2.5	-	2.5	5.0			2.5	-			2.5	-	-	20
21	30	2			2.5	RACK #______	2.5		5.0		2.5	RACK #______			2.5	30	2	22
23	-	-			2.5	-	2.5			5.0	2.5	-			2.5	-	-	24
25	30	2			2.5	RACK #______	2.5	5.0			2.5	RACK #______			2.5	30	2	26
27	-	-			2.5	-	2.5		5.0		2.5	-			2.5	-	-	28
29	30	2			2.5	RACK #______	2.5			2.5	0.0	SPARE				30	2	30
31	-	-				-	0.0	0.0			0.0	-				-	-	32
33	30	2				SPARE	0.0		0.0		0.0	SPARE				30	2	34
35	-	-				-	0.0			0.0	0.0	-				-	-	36
37	30	2				SPARE	0.0	0.0			0.0	SPARE				30	2	38
39	-	-				-	0.0		0.0		0.0	-				-	-	40
41	20	1		0.6		DATA CENTER CO'S	0.6			0.7	0.1	EPO SYSTEM			0.1	20	1	42

TOTALS: CONNECTED kVA PER PHASE 25 25 23 — CONNECTED TOTAL kVA 73
CONNECTED AMPS PER PHASE 208 208 193 — CONNECTED AVERAGE AMPS PER PHASE 203

NEC DIVERSIFIED LOAD CALCULATIONS
LIGHTING 0kVA @125% = 0 kVA — ALL OTHER LOADS @100% = 73 kVA — DIVERSIFIED TOTAL kVA = 73
RECEPTACLES 1kVA @100% = 1 kVA — 25% OF LARGEST MOTOR = 0 kVA — AVERAGE AMPS PER PHASE = 203
REMAINDER 0kVA @ 50% = 0 kVA

PANEL "1A2" (PDU 1A)

VOLTS/PHASE/WIRE: 120/208 V, 3 PH 4 WIRE | PANEL SIZE & TYPE: 22" W x 6" D, BOLT-ON | MAIN SIZE & TYPE: 225 AMPERE MAIN CB | LOCATION: | CABINET: | NOTES: 22 KAIC

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, 200% NEUTRAL

CKT	OCP		LOAD (kVA)			DESCRIPTION	LCL	PHASE LOAD			LCL	DESCRIPTION	LOAD (kVA)			OCP		CKT
NO	AMP	POLE	LTG	CO	PWR		kVA	A	B	C	kVA		LTG	CO	PWR	AMP	POLE	NO
1	30	2			2.5	RACK #______	2.5	5.0			2.5	RACK #______			2.5	30	2	2
3	-	-			2.5	-	2.5		5.0		2.5	-			2.5	-	-	4
5	30	2			2.5	RACK #______	2.5			5.0	2.5	RACK #______			2.5	30	2	6
7	-	-			2.5	-	2.5	5.0			2.5	-			2.5	-	-	8
9	30	2			2.5	RACK #______	2.5		5.0		2.5	RACK #______			2.5	30	2	10
11	-	-			2.5	-	2.5			5.0	2.5	-			2.5	-	-	12
13	30	2			2.5	RACK #______	2.5	5.0			2.5	RACK #______			2.5	30	2	14
15	-	-			2.5	-	2.5		5.0		2.5	-			2.5	-	-	16
17	30	2			2.5	RACK #______	2.5			5.0	2.5	RACK #______			2.5	30	2	18
19	-	-			2.5	-	2.5	5.0			2.5	-			2.5	-	-	20
21	30	2			2.5	RACK #______	2.5		5.0		2.5	RACK #______			2.5	30	2	22
23	-	-			2.5	-	2.5			5.0	2.5	-			2.5	-	-	24
25	30	2			2.5	RACK #______	2.5	5.0			2.5	RACK #______			2.5	30	2	26
27	-	-			2.5	-	2.5		5.0		2.5	-			2.5	-	-	28
29	30	2			2.5	RACK #______	2.5			2.5	0.0	SPARE				30	2	30
31	-	-				-	0.0	0.0			0.0	-				-	-	32
33	30	2				SPARE	0.0		0.0		0.0	SPARE				30	2	34
35	-	-				-	0.0			0.0	0.0	-				-	-	36
37	30	2				SPARE	0.0	0.0			0.0	SPARE				30	2	38
39	-	-				-	0.0		0.0		0.0	-				-	-	40
41	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	42

TOTALS: CONNECTED kVA PER PHASE 25 25 23 — CONNECTED TOTAL kVA 73
CONNECTED AMPS PER PHASE 208 208 188 — CONNECTED AVERAGE AMPS PER PHASE 201

NEC DIVERSIFIED LOAD CALCULATIONS
LIGHTING 0kVA @125% = 0 kVA — ALL OTHER LOADS @100% = 73 kVA — DIVERSIFIED TOTAL kVA = 73
RECEPTACLES 0kVA @100% = 0 kVA — 25% OF LARGEST MOTOR = 0 kVA — AVERAGE AMPS PER PHASE = 201
REMAINDER 0kVA @ 50% = 0 kVA

PANEL "1B1" (PDU 1B)

VOLTS/PHASE/WIRE: 120/208 V, 3 PH 4 WIRE | PANEL SIZE & TYPE: 22" W x 6" D, BOLT-ON | MAIN SIZE & TYPE: 225 AMPERE MAIN CB | LOCATION: | CABINET: | NOTES: 22 KAIC

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, 200% NEUTRAL

CKT	OCP		LOAD (kVA)			DESCRIPTION	LCL	PHASE LOAD			LCL	DESCRIPTION	LOAD (kVA)			OCP		CKT
NO	AMP	POLE	LTG	CO	PWR		kVA	A	B	C	kVA		LTG	CO	PWR	AMP	POLE	NO
1	30	2			2.5	RACK #______	2.5	5.0			2.5	RACK #______			2.5	30	2	2
3	-	-			2.5	-	2.5		5.0		2.5	-			2.5	-	-	4
5	30	2			2.5	RACK #______	2.5			5.0	2.5	RACK #______			2.5	30	2	6
7	-	-			2.5	-	2.5	5.0			2.5	-			2.5	-	-	8
9	30	2			2.5	RACK #______	2.5		5.0		2.5	RACK #______			2.5	30	2	10
11	-	-			2.5	-	2.5			5.0	2.5	-			2.5	-	-	12
13	30	2			2.5	RACK #______	2.5	5.0			2.5	RACK #______			2.5	30	2	14
15	-	-			2.5	-	2.5		5.0		2.5	-			2.5	-	-	16
17	30	2			2.5	RACK #______	2.5			5.0	2.5	RACK #______			2.5	30	2	18
19	-	-			2.5	-	2.5	5.0			2.5	-			2.5	-	-	20
21	30	2			2.5	RACK #______	2.5		5.0		2.5	RACK #______			2.5	30	2	22
23	-	-			2.5	-	2.5			5.0	2.5	-			2.5	-	-	24
25	30	2			2.5	RACK #______	2.5	5.0			2.5	RACK #______			2.5	30	2	26
27	-	-			2.5	-	2.5		5.0		2.5	-			2.5	-	-	28
29	30	2			2.5	RACK #______	2.5			2.5	0.0	SPARE				30	2	30
31	-	-				-	0.0	0.0			0.0	-				-	-	32
33	30	2				SPARE	0.0		0.0		0.0	SPARE				30	2	34
35	-	-				-	0.0			0.0	0.0	-				-	-	36
37	30	2				SPARE	0.0	0.0			0.0	SPARE				30	2	38
39	-	-				-	0.0		0.0		0.0	-				-	-	40
41	20	1		0.6		DATA CENTER CO'S	0.6			0.6	0.0	SPARE				20	1	42

TOTALS: CONNECTED kVA PER PHASE 25 25 23 — CONNECTED TOTAL kVA 73
CONNECTED AMPS PER PHASE 208 208 193 — CONNECTED AVERAGE AMPS PER PHASE 203

NEC DIVERSIFIED LOAD CALCULATIONS
LIGHTING 0kVA @125% = 0 kVA — ALL OTHER LOADS @100% = 73 kVA — DIVERSIFIED TOTAL kVA = 73
RECEPTACLES 1kVA @100% = 1 kVA — 25% OF LARGEST MOTOR = 0 kVA — AVERAGE AMPS PER PHASE = 203
REMAINDER 0kVA @ 50% = 0 kVA

PANEL "1B2" (PDU 1B)

VOLTS/PHASE/WIRE: 120/208 V, 3 PH 4 WIRE | PANEL SIZE & TYPE: 22" W x 6" D, BOLT-ON | MAIN SIZE & TYPE: 225 AMPERE MAIN CB | LOCATION: | CABINET: | NOTES: 22 KAIC

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, 200% NEUTRAL

CKT	OCP		LOAD (kVA)			DESCRIPTION	LCL	PHASE LOAD			LCL	DESCRIPTION	LOAD (kVA)			OCP		CKT
NO	AMP	POLE	LTG	CO	PWR		kVA	A	B	C	kVA		LTG	CO	PWR	AMP	POLE	NO
1	30	2			2.5	RACK #______	2.5	5.0			2.5	RACK #______			2.5	30	2	2
3	-	-			2.5	-	2.5		5.0		2.5	-			2.5	-	-	4
5	30	2			2.5	RACK #______	2.5			5.0	2.5	RACK #______			2.5	30	2	6
7	-	-			2.5	-	2.5	5.0			2.5	-			2.5	-	-	8
9	30	2			2.5	RACK #______	2.5		5.0		2.5	RACK #______			2.5	30	2	10
11	-	-			2.5	-	2.5			5.0	2.5	-			2.5	-	-	12
13	30	2			2.5	RACK #______	2.5	5.0			2.5	RACK #______			2.5	30	2	14
15	-	-			2.5	-	2.5		5.0		2.5	-			2.5	-	-	16
17	30	2			2.5	RACK #______	2.5			5.0	2.5	RACK #______			2.5	30	2	18
19	-	-			2.5	-	2.5	5.0			2.5	-			2.5	-	-	20
21	30	2			2.5	RACK #______	2.5		5.0		2.5	RACK #______			2.5	30	2	22
23	-	-			2.5	-	2.5			5.0	2.5	-			2.5	-	-	24
25	30	2			2.5	RACK #______	2.5	5.0			2.5	RACK #______			2.5	30	2	26
27	-	-			2.5	-	2.5		5.0		2.5	-			2.5	-	-	28
29	30	2			2.5	RACK #______	2.5			2.5	0.0	SPARE				30	2	30
31	-	-				-	0.0	0.0			0.0	-				-	-	32
33	30	2				SPARE	0.0		0.0		0.0	SPARE				30	2	34
35	-	-				-	0.0			0.0	0.0	-				-	-	36
37	30	2				SPARE	0.0	0.0			0.0	SPARE				30	2	38
39	-	-				-	0.0		0.0		0.0	-				-	-	40
41	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	42

TOTALS: CONNECTED kVA PER PHASE 25 25 23 — CONNECTED TOTAL kVA 73
CONNECTED AMPS PER PHASE 208 208 188 — CONNECTED AVERAGE AMPS PER PHASE 201

NEC DIVERSIFIED LOAD CALCULATIONS
LIGHTING 0kVA @125% = 0 kVA — ALL OTHER LOADS @100% = 73 kVA — DIVERSIFIED TOTAL kVA = 73
RECEPTACLES 0kVA @100% = 0 kVA — 25% OF LARGEST MOTOR = 0 kVA — AVERAGE AMPS PER PHASE = 201
REMAINDER 0kVA @ 50% = 0 kVA

ARCHITECTURE
VALENTINER
CRANE
BRUNJES
ONYON

SASAKI

LICENSED PROFESSIONAL ENGINEER
No. 179621
RALPH B.
KOEBER
STATE OF UTAH

SPECTRUM
ENGINEERS

HOLLAND CENTENNIAL COMMONS
DIXIE STATE COLLEGE OF UTAH
DFCM #06297640
DIXIE COLLEGE, ST. GEORGE, UT
CONFORMED CONSTRUCTION DOCUMENTS BID SET

No. | Description | Date

Job # 09625
CAD File
Drawn BXW Checked RBK
Date 12/03/2010
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PANEL SCHEDULES

EP611
Sheet Number

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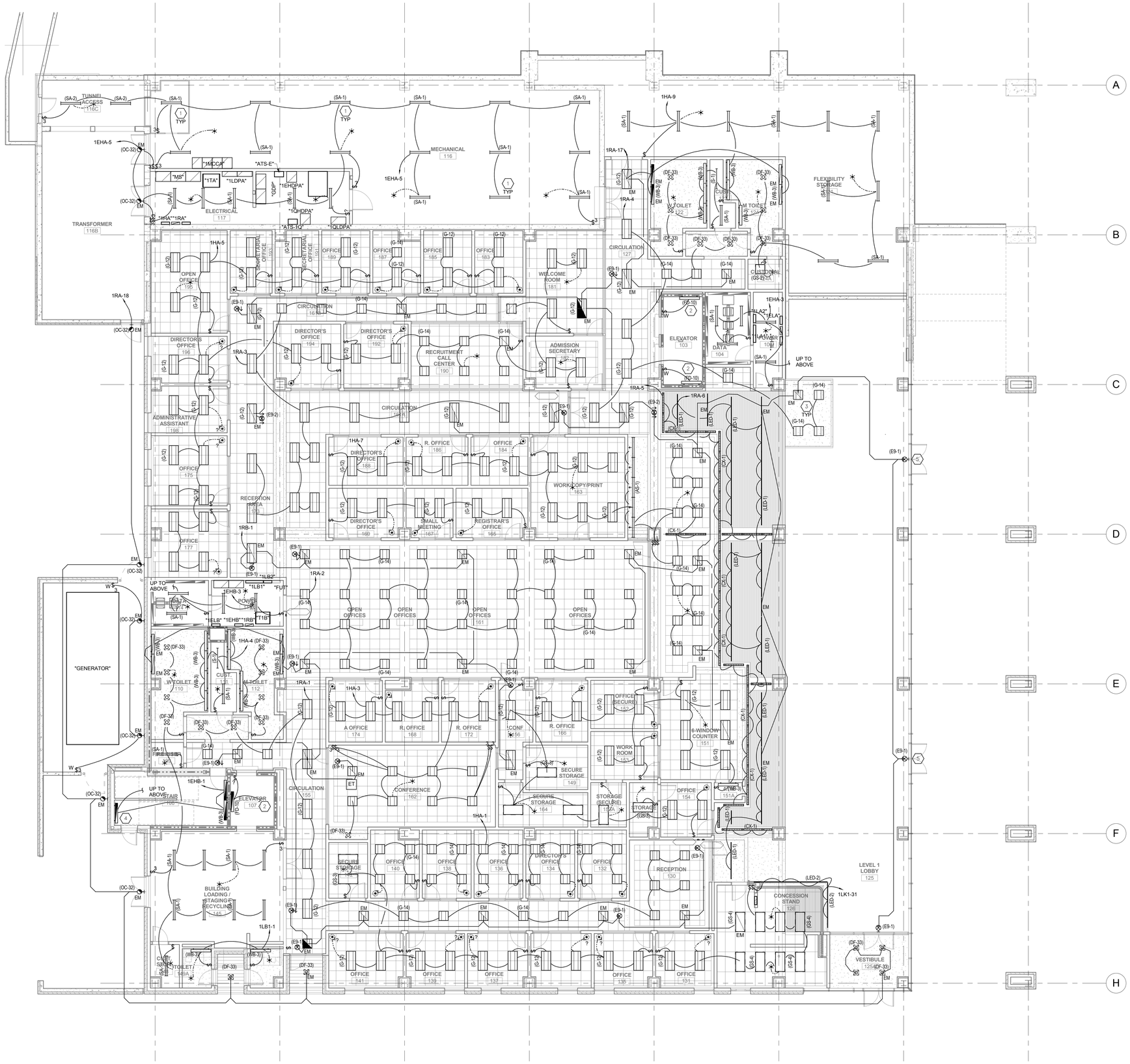

A1 LEVEL 1 LIGHTING PLAN

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1. FOR CLARITY, DRIVERS ARE NOT SHOWN FOR LED FIXTURE TYPES. PROVIDE QUANTITY REQUIRED FOR LENGTH OF FIXTURE SHOWN PER MANUFACTURER'S RECOMMENDATIONS. LOCATE DRIVERS ABOVE ACCESSIBLE CEILING WITHIN MANUFACTURER'S DISTANCE LIMITATIONS.
2. CONNECT EXIT SIGNS TO UNSWITCHED CONDUCTOR OF CIRCUIT SHOWN.
3. INSTALL FIRE RATED PUTTY PADS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS ON ALL BOXES LOCATED IN RATED WALLS.
4. WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REVER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

1. COORDINATE FINAL LOCATION OF FIXTURES WITH DUCTS, PIPING AND OTHER EQUIPMENT. SUSPEND FIXTURES BELOW DUCTS, PIPING AND OTHER OBSTACLES.
2. CIRCUIT ELEVATOR PIT LIGHT WITH PIT RECEPTACLE.
3. PROVIDE FLANGE KITS FOR GRID FIXTURES IN GYP BOARD CEILINGS. TYPICAL.
4. PROVIDE ONE 4' FIXTURE AT BOTTOM OF STAIR NEAR EXTERIOR DOOR. PROVIDE TWO 4' FIXTURES AT LANDING BETWEEN 1ST AND 2ND FLOORS.
5. MOUNT EXIT SIGN TO WINDGIRT AT APROXIMATELY 13' AFF.

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

SASAKI

LICENSED PROFESSIONAL ENGINEER
No. 179621
RALPH B. KOEBER
STATE OF UTAH

SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #06297640
DIXIE COLLEGE, ST. GEORGE, UT
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LEVEL 1 LIGHTING PLAN

EL101
Sheet Number

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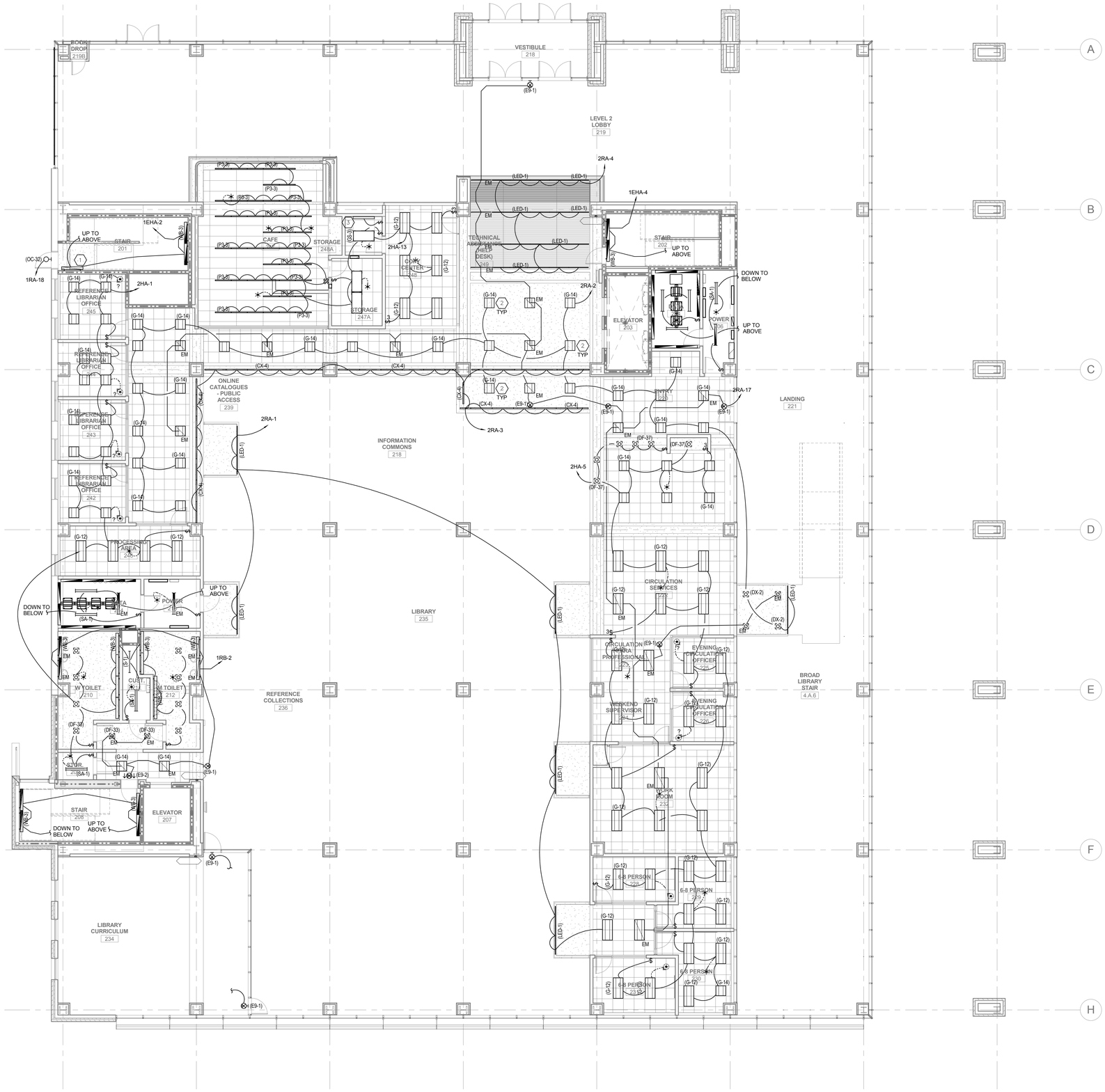

A1 LEVEL 02 LIGHTING PLAN

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1. FOR CLARITY, DRIVERS ARE NOT SHOWN FOR LED FIXTURE TYPES. PROVIDE QUANTITY REQUIRED FOR LENGTH OF FIXTURE SHOWN PER MANUFACTURER'S RECOMMENDATIONS. LOCATE DRIVERS ABOVE ACCESSIBLE CEILING WITHIN MANUFACTURER'S DISTANCE LIMITATIONS.
2. CONNECT EXIT SIGNS TO UNSWITCHED CONDUCTOR OF CIRCUIT SHOWN.
3. INSTALL FIRE RATED PUTTY PADS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS ON ALL BOXES LOCATED IN RATED WALLS.
4. WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REVER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

1. PROVIDE ONE 4' FIXTURE AT BOTTOM OF STAIR NEAR EXTERIOR DOOR. PROVIDE TWO 4' FIXTURES AT LANDING BETWEEN 2ND AND 2M FLOORS.
2. PROVIDE FLANGE KITS FOR GRID FIXTURES IN GYP BOARD CEILINGS. TYPICAL.
3. CIRCUIT UNDER CABINET LIGHTS WITH COUNTER TOP OUTLETS.

VCBO ARCHITECTURE
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SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #62297640
DIXIE COLLEGE, ST. GEORGE, UT
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LEVEL 2 LIGHTING PLAN

EL102
Sheet Number

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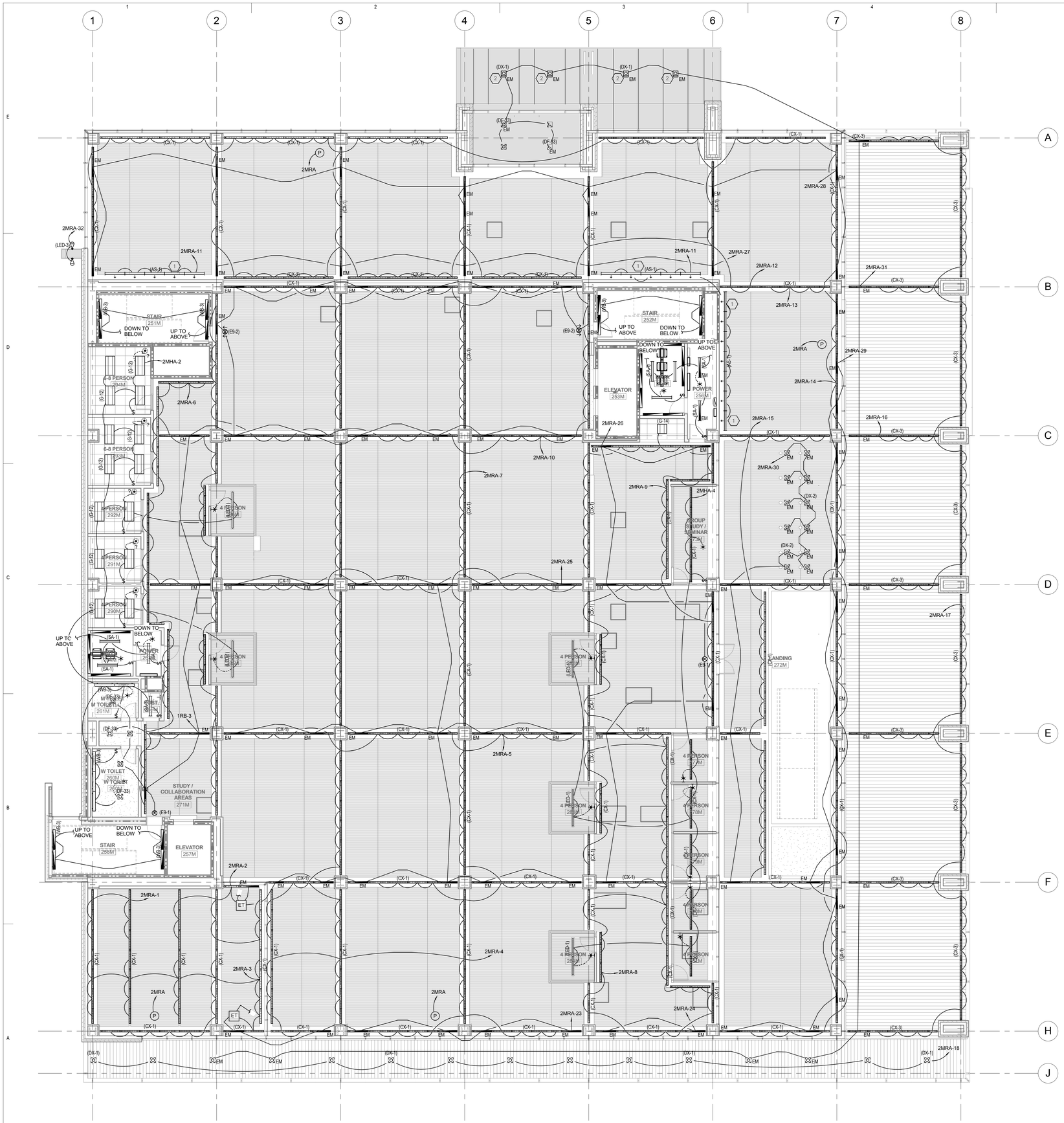

A1 LEVEL 02M LIGHTING PLAN

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1 FOR CLARITY, DRIVERS ARE NOT SHOWN FOR LED FIXTURE TYPES. PROVIDE QUANTITY REQUIRED FOR LENGTH OF FIXTURE SHOWN PER MANUFACTURER'S RECOMMENDATIONS. LOCATE DRIVERS ABOVE ACCESSIBLE CEILING WITHIN MANUFACTURER'S DISTANCE LIMITATIONS.

2 CONNECT EXIT SIGNS TO UNSWITCHED CONDUCTOR OF CIRCUIT SHOWN.

3 INSTALL FIRE RATED PUTTY PADS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS ON ALL BOXES LOCATED IN RATED WALLS.

4 WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REVER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

1 LOCATED ABOVE CEILING. DIRECT LIGHT TO WALL BELOW.

2 PROVIDE SLOPED CEILING ADAPTERS FOR CANOPY FIXTURES.

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

SASAKI

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SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #06297640
DIXIE COLLEGE, ST. GEORGE, UT
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Date 12/03/2010
Owner #
Ins. #

LEVEL 2 MEZZANINE LIGHTING PLAN

EL102M

Sheet Number

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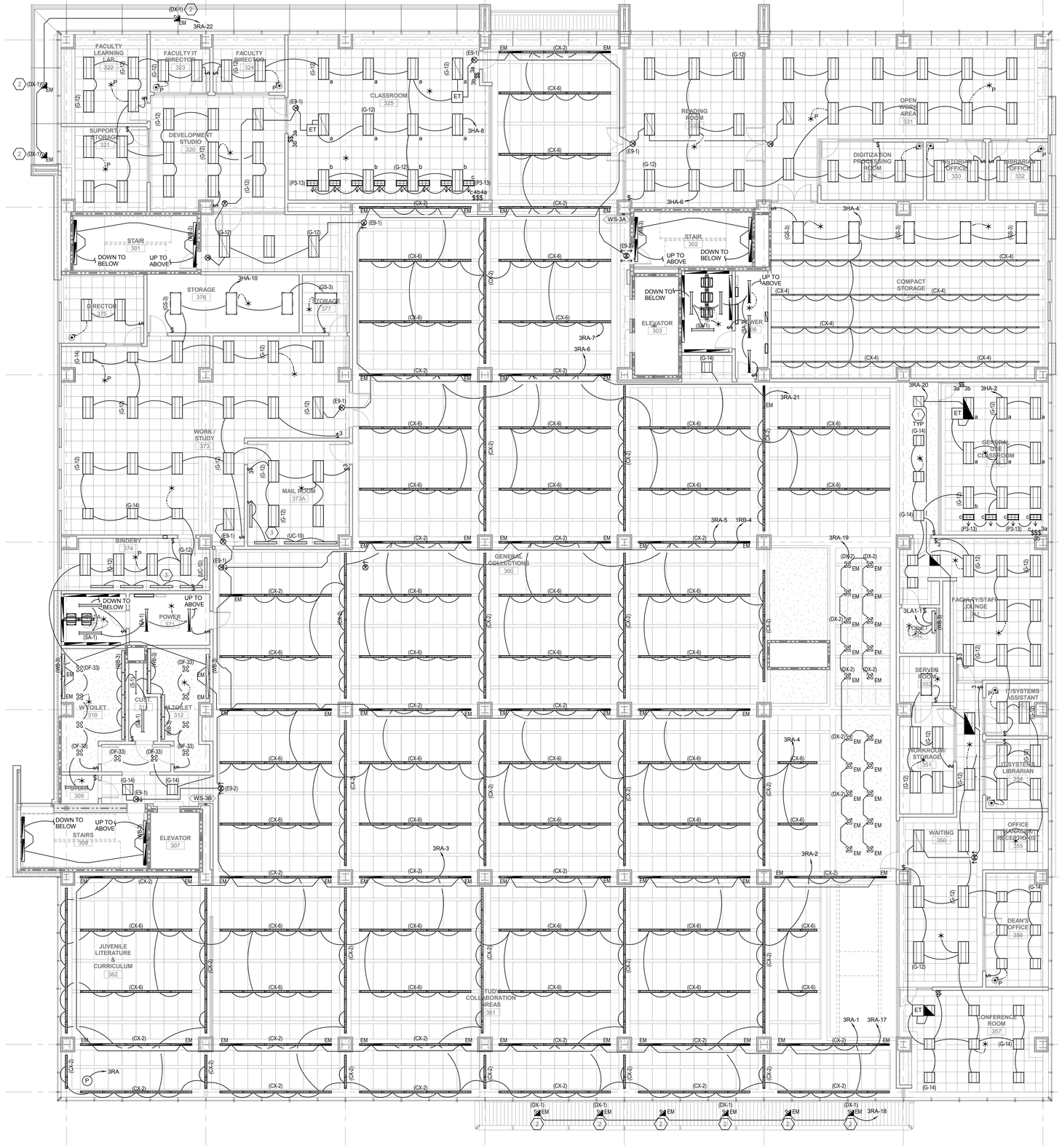

A1 LEVEL 03 LIGHTING PLAN

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1. FOR CLARITY, DRIVERS ARE NOT SHOWN FOR LED FIXTURE TYPES. PROVIDE QUANTITY REQUIRED FOR LENGTH OF FIXTURE SHOWN PER MANUFACTURER'S RECOMMENDATIONS. LOCATE DRIVERS ABOVE ACCESSIBLE CEILING WITHIN MANUFACTURER'S DISTANCE LIMITATIONS.
2. CONNECT EXIT SIGNS TO UNSWITCHED CONDUCTOR OF CIRCUIT SHOWN.
3. INSTALL FIRE RATED PUTTY PADS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS ON ALL BOXES LOCATED IN RATED WALLS.
4. WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REVER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

1. PROVIDE FLANGE KITS FOR GRID FIXTURES IN GYP BOARD CEILINGS. TYPICAL.
2. EMERGENCY POWER ONLY.
3. CIRCUIT UNDER CABINET LIGHTS WITH COUNTER TOP OUTLETS.

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

SASAKI

LICENSED PROFESSIONAL ENGINEER
No. 179621
RALPH B. KOEBER
STATE OF UTAH

SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #06297640
DIXIE COLLEGE, ST. GEORGE, UT
CONFORMED CONSTRUCTION DOCUMENTS BID SET

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LEVEL 3 LIGHTING PLAN

EL103
Sheet Number

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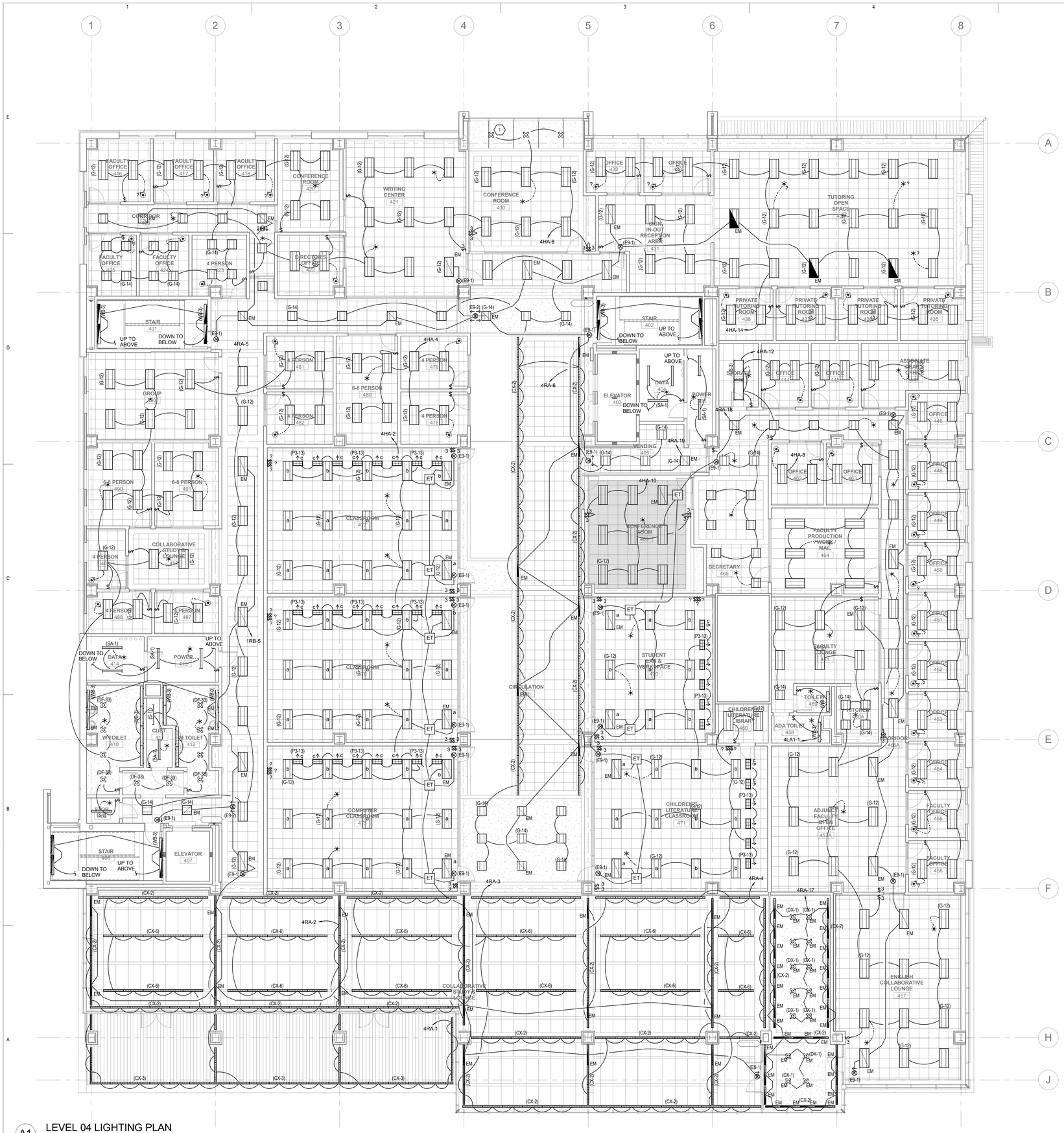

A1 LEVEL 04 LIGHTING PLAN

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1. FOR CLARITY, DRIVERS ARE NOT SHOWN FOR LED FIXTURE TYPES. PROVIDE QUANTITY REQUIRED FOR LENGTH OF FIXTURE SHOWN PER MANUFACTURER'S RECOMMENDATIONS. LOCATE DRIVERS ABOVE ACCESSIBLE CEILING WITHIN MANUFACTURER'S DISTANCE LIMITATIONS.
2. CONNECT EXIT SIGNS TO UNSWITCHED CONDUCTOR OF CIRCUIT SHOWN.
3. INSTALL FIRE RATED PUTTY PADS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS ON ALL BOXES LOCATED IN RATED WALLS.
4. WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REVER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

1. COORDINATE FINAL LOCATION OF FIXTURES WITH DUCTS, PIPING AND OTHER EQUIPMENT. SUSPEND FIXTURES BELOW DUCTS, PIPING AND OTHER OBSTACLES.

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

SASAKI

LICENSED PROFESSIONAL ENGINEER
No. 179621
RALPH B. KOEBER
STATE OF UTAH

SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #06297640
DIXIE COLLEGE, ST. GEORGE, UT
CONFORMED CONSTRUCTION DOCUMENTS BID SET

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Date 12/03/2010
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LEVEL 4 LIGHTING PLAN

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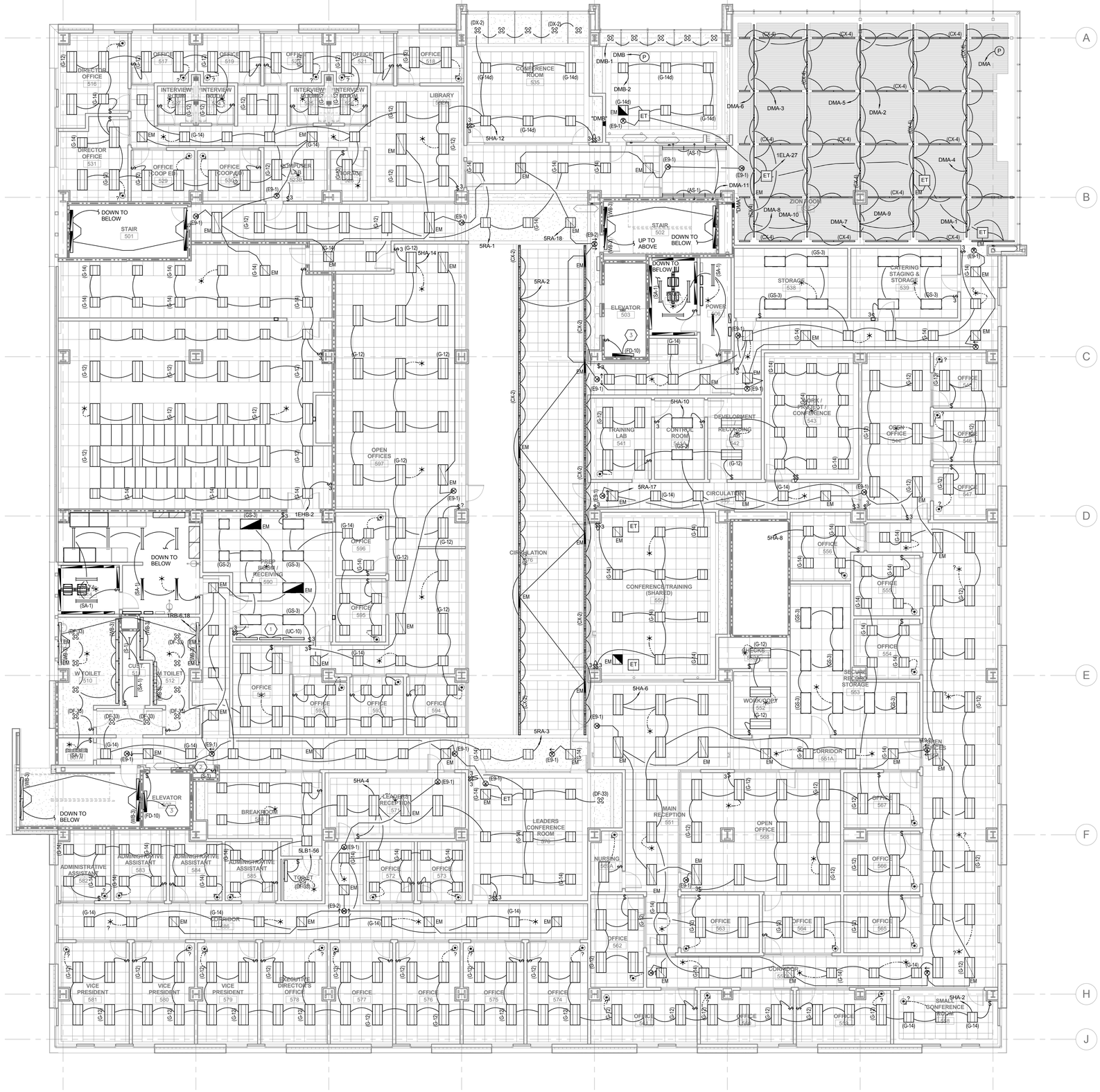

A1 LEVEL 05 LIGHTING PLAN

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1. FOR CLARITY, DRIVERS ARE NOT SHOWN FOR LED FIXTURE TYPES. PROVIDE QUANTITY REQUIRED FOR LENGTH OF FIXTURE SHOWN PER MANUFACTURER'S RECOMMENDATIONS. LOCATE DRIVERS ABOVE ACCESSIBLE CEILING WITHIN MANUFACTURER'S DISTANCE LIMITATIONS.
2. CONNECT EXIT SIGNS TO UNSWITCHED CONDUCTOR OF CIRCUIT SHOWN.
3. INSTALL FIRE RATED PUTTY PADS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS ON ALL BOXES LOCATED IN RATED WALLS.
4. WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REVER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

1. CIRCUIT UNDER CABINET LIGHTS WITH COUNTER TOP OUTLETS.
2. CIRCUIT ELEVATOR LIGHT FIXTURE IN ELEVATOR CONTROL CLOSET WITH RECEPTACLE IN SAME SPACE.
3. CIRCUIT TOP OF SHAFT LIGHT WITH TOP OF SHAFT RECEPTACLE.

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON
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DIXIE STATE COLLEGE OF UTAH
DFCM #06297640
DIXIE COLLEGE, ST. GEORGE, UT
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LEVEL 5 LIGHTING PLAN

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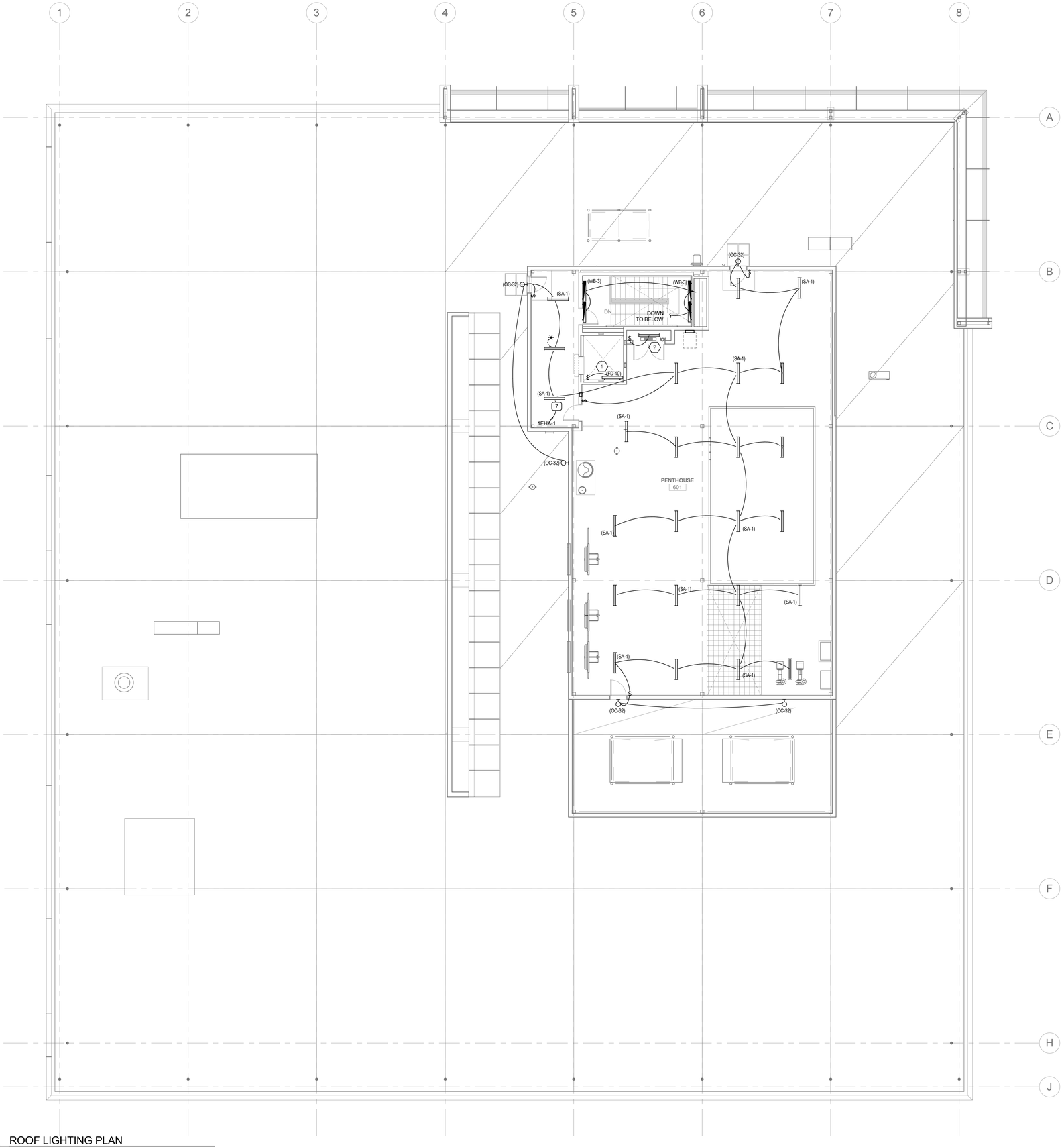

A1 ROOF LIGHTING PLAN

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1 FOR CLARITY, DRIVERS ARE NOT SHOWN FOR LED FIXTURE TYPES. PROVIDE QUANTITY REQUIRED FOR LENGTH OF FIXTURE SHOWN PER MANUFACTURER'S RECOMMENDATIONS. LOCATE DRIVERS ABOVE ACCESSIBLE CEILING WITHIN MANUFACTURER'S DISTANCE LIMITATIONS.

2 CONNECT EXIT SIGNS TO UNSWITCHED CONDUCTOR OF CIRCUIT SHOWN.

3 INSTALL FIRE RATED PUTTY PADS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS ON ALL BOXES LOCATED IN RATED WALLS.

4 WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REVER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

1 CIRCUIT TOP OF SHAFT LIGHT WITH TOP OF SHAFT RECEPTACLE.

2 CIRCUIT ELEVATOR LIGHT FIXTURE IN ELEVATOR CONTROL CLOSET WITH RECEPTACLE IN SAME SPACE.

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

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SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #06297640
DIXIE COLLEGE, ST. GEORGE, UT
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ROOF LIGHTING PLAN

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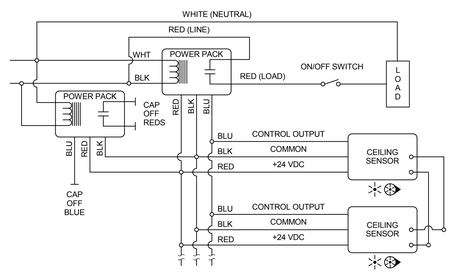
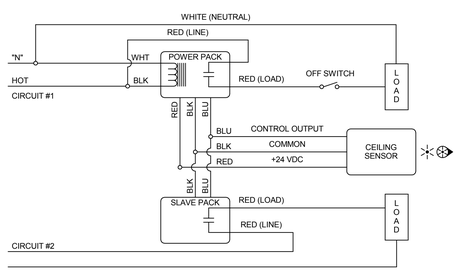


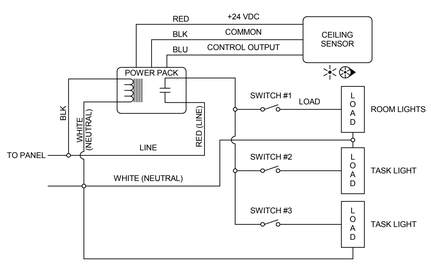
1 TYPICAL ROOM WITH MULTIPLE CEILING SENSORS

SCALE: NOT TO SCALE



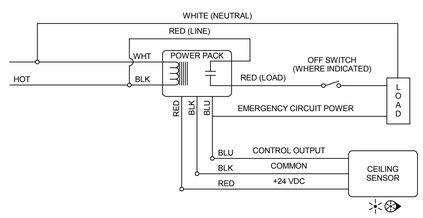
2 TYPICAL ROOM WITH ONE CEILING SENSOR, CONTROLLING TWO CIRCUITS

SCALE: NOT TO SCALE



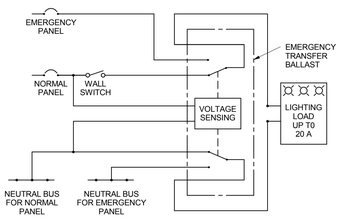
3 TYPICAL ROOM WITH ONE CEILING SENSOR, ONE CIRCUIT AND MULTIPLE SWITCHED LOADS

SCALE: NOT TO SCALE



4 TYPICAL ROOM WITH ONE CEILING SENSOR, WITH OR WITHOUT WALL SWITCH

SCALE: NOT TO SCALE

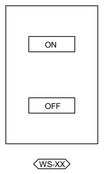


NORMAL OPERATION
LIGHTING LOAD CONTROLLED BY LOCAL SWITCHING MEANS.

EMERGENCY OPERATION
LIGHTING LOAD IS INDEPENDENT OF LOCAL SWITCHING MEANS.

5 EMERGENCY LIGHTING TRANSFER DEVICE DETAIL

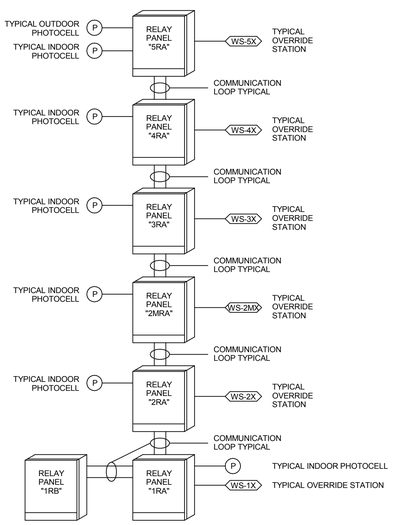
SCALE: NOT TO SCALE



TYPICAL WALL STATION ON/OFF OVERRIDE.

6 TYPICAL WALL STATION

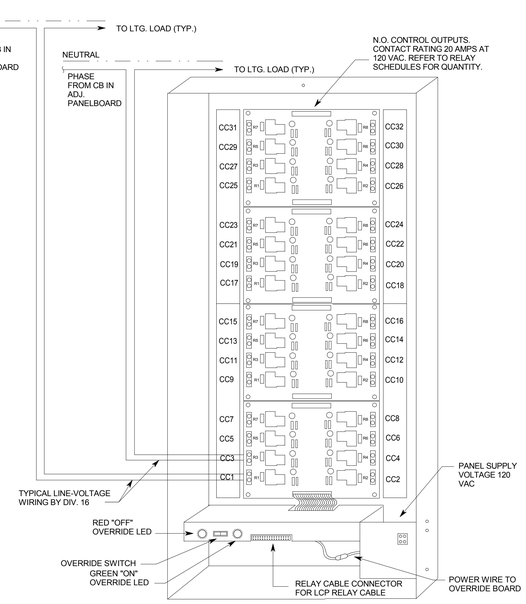
SCALE: NOT TO SCALE



DETAIL NOTES:
1. PROVIDE COMMUNICATION CONDUCTORS BETWEEN RELAY PANELS PER MANUFACTURERS WRITTEN INSTRUCTIONS.
2. VERIFY QUANTITY OF WALL STATION OVERRIDE SWITCHES WITH LIGHTING PLANS.

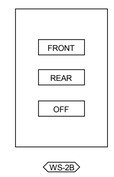
7 LIGHTING RELAY CONTROL SCHEMATIC

SCALE: NOT TO SCALE



8 TYPICAL PANEL WIRING DETAIL

SCALE: NOT TO SCALE



CURRICULUM 234 WALL STATION ON/OFF OVERRIDE.

9 WALL STATION - WS-2B

SCALE: 1/8" = 1'-0"

VCBO ARCHITECTURE
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LIGHTING FIXTURE SCHEDULE

NOTE TO BIDDERS: COMPLY WITH THE REQUIREMENTS OF THE SPECIFICATIONS.
REFER TO SPECIFICATIONS FOR IMPORTANT TECHNICAL REQUIREMENTS FOR LIGHTING FIXTURES, BALLASTS, AND LAMPS. THE CATALOG NUMBERS LISTED BELOW HAVE BEEN CAREFULLY PREPARED TO ASSIST BIDDERS IN SELECTING PRODUCTS TO ACHIEVE THE DESIGN CONCEPT, HOWEVER, PRIOR TO BIDDING, EACH MANUFACTURER SHALL COMPARE THE CATALOG NUMBERS SHOWN WITH THE DESCRIPTION AND REQUIREMENTS ON THE DRAWINGS, AND SHALL NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES. SPECIFICALLY INCLUDED IN THIS EVALUATION SHALL BE THE VERIFYING OF PROPER MOUNTING KITS OR ACCESSORIES TO FACILITATE INSTALLATION AS SHOWN AT EACH LOCATION ON THE DRAWINGS. NO ALLOWANCE OR REDRESS WILL BE ALLOWED FOR DISCREPANCIES THAT WERE NOT REPORTED TO THE ARCHITECT/ENGINEER IN TIME FOR CORRECTION OR CLARIFICATION BEFORE THE BID. THE REPORTING OF ANY AMBIGUITY IS THE RESPONSIBILITY OF THE BIDDER. PROVIDE UNIT PRICES AND FIXTURE BRAND SELECTED FOR ADD/DELETE CHANGES FOR EACH FIXTURE TYPES SHOWN WITHIN 48 BUSINESS HOURS OF THE BID DATE. FAILURE TO COMPLY WITH THIS REQUIREMENT MAY DISQUALIFY THE PRODUCTS AND EMPOWER THE ENGINEER TO DETERMINE FAIR VALUE FOR FIXTURE AND INSTALLATION CHANGES, WITHOUT FURTHER INPUT FROM THE CONTRACTOR OR INSTALLER. SUBMITTAL PACKAGE SHALL INCLUDE LAMP MANUFACTURER AND CATALOG NUMBER ON EACH FIXTURE SHEET. ON ALL PENDANT MOUNTED FIXTURES, PROVIDE A SECOND SET OF PENDANTS, OF A DIFFERENT LENGTH, AS DIRECTED BY THE ARCHITECT/ENGINEER, PROVIDED AND INSTALLED AT NO ADDITIONAL CHARGE. ALL FIXTURES SHALL BE APPROVED BY UL OR ANOTHER ACCEPTABLE TESTING LAB FOR THE PURPOSE INTENDED AND WITH THE LAMP AND BALLAST PROPOSED. CONTRACTOR ALLOWANCE PRICES ARE ACCURATE WHEN THIS JOB WAS SPECIFIED, CONTRACTOR AND ELECTRICAL DISTRIBUTOR SHALL VERIFY THIS ALLOWANCE AND REPORT ANY PROBLEMS TO THE ENGINEER BEFORE THE BID. ALLOWANCE PRICE MAY OR MAY NOT INCLUDE LAMP(S) OR FREIGHT AS NOTED, AND DO NOT INCLUDE ANY TAXES. UNIVERSAL VOLTAGE (120/277) BALLASTS REQUIRED UNLESS NOTED OTHERWISE. DIMENSION SEQUENCE = (LENGTH X WIDTH X DEPTH) IN INCHES.

SYMBOL	MARK	FIXTURE CHARACTERISTICS BODY / AIR / MOUNTING / DOOR LENS/LOUVER/REFLECTOR/OTHER	LAMP	WATTS	VOLTS	MANUFACTURER	CATALOG NUMBER	NOTES
	AS	INDIRECT LIGHT, LINEAR REFLECTOR,						
	AS-1	4' LINEAR FLUORESCENT, ASSYMETRIC WALL WASH ADJUSTABLE CANTELIEVER MOUNTED ABOVE CEILING PANELS FOCUS ON WALL BELOW WITH LOUVER .71 BF	1-F32T8 RE835 3100 Lumen	25w	277/120V	INSIGHT ELLIPTIPAR RAMBUSCH WINONA LAM	F32T8-SMS-120/277EP.S.-SF F115-A-S-02-X-0B-0 PAL-422-32T8FL-RC-IY-IB-120/277V (IB) P1-SS-1F32T8-120/277V-SS1-SGW-PB-STD ZAA48-WL-I-132T8-SGW-V-DT	
	CX	FLUORESCENT LINEAR LIGHTING SYSTEM, MOUNTING, COLOR AND LENGTH AS SHOWN. EMERGENCY SECTION WHERE SHOWN. LAMPING FINISH AND ACCESSORIES AS NOTED, PROGRAM START OR DIMMING BALLAST, SCEISMIC SUPPORT TO STRUCTURE, 4" X 4" UNLESS INDICATED OTHERWISE. 2', 3' OR 4' LENGTH INDICATED TO FILL SPACE SHOWN, WITH FLANGE, PENDANT OR LAY-IN MOUNT AS INDICATED						
	CX-1	SUSPENDED HOUSING BETWEEN AND FLUSH WITH ADJECENT CEILING PANELS, BLACK PAINTED HOUSING, WHITE LENS	1 F54T5HO RE841	62W	UNV	LITECONTROL	MOD44PD-1F54T5HO-UNV-SGL-BK	
	CX-2	SUSPENDED HOUSING BETWEEN CEILING PANELS BLACK PAINTED HOUSING, WHITE LENS	1 F28T5 RE841	34W	UNV	LITECONTROL	MOD44PD-1F28T5-UNV-SGL-BK	
	CX-3	SUSPENDED HOUSING ADJECENT TO CEILING PANELS, FLANGE 1 SIDE BLACK PAINTED HOUSING, WHITE LENS- DAMP LABEL	1 F54T5HO RE841	62W	UNV	LITECONTROL	MOD44PD/F-1F54T5HO-UNV-SGL-BK	
	CX-4	SUSPENDED HOUSING BETWEEN CEILING PANELS, ADJUSTABLE MR16 ACCENT BLACK PAINTED HOUSING, WHITE LENS DIMMABLE, 2 CIRCUITS	2 F28T5 RE841 1 MR16	68W 55W 120W	120V	LITECONTROL	MOD44PD/A-1F28T5-UNV-MR16- SGL-BK	
	CX-5	SUSPENDED HOUSING BETWEEN CEILING PANELS WHITE PAINTED HOUSING, WHITE LENS	1 F54T5HO RE841	62W	UNV	LITECONTROL	MOD44PD-1F54T5HO-UNV-SGL-WH	
	CX-6	GRID MOUNTED 6" WIDE LINEAR WHITE HOUSING TRIM, WHITE LENS	1 F28T5 RE841	34W	UNV	LITECONTROL	LGD66N-1F28T5-UNV-SGL-CWM	
	DF	FLUORESCENT DOWNLIGHT; THERMALLY PROTECTED HOUSING: TO ACCOMMODATE MULTIPLE TRIMS AND REFLECTOR ASSEMBLIES FOR LAMPS AS LISTED BELOW; ELECTRONIC BALLASTS; LOW IRIDESCENT REFLECTOR FINISH (EVEN IF NOT SHOWN IN CATALOG #); SELF FLANGING TRIM UNLESS NOTED.						
	DF-33	RECESSED DOWNLIGHT;7-8" APERTURE, HORIZONTAL, 32W CF-AMALGAM LAMP, CLEAR.	1-CF-A32 RE835	36W	277/120V	PORTFOLIO INFINITY OMEGA LIGHTOLIER LITHONIA PRESCOLITE	C7132E-7151LI PH75 132T-EB (GX24Q-3) 277 BH S81H32-U-T81H-CS 8037CLW/7132BU AF 1/32TRT 8AR MVOLT CFT832HEB-STF802H	
	DF-37	RECESSED DOWNLIGHT; 8- 10" APERTURE, HORIZONTAL, 2-32W CF-AMALGAM LAMPS, CLEAR.	2-CF-A32 RE835	68W	277/120V	PORTFOLIO INFINITY LIGHTOLIER LITHONIA OMEGA PRESCOLITE	C9232E-9251LI PH10 232T-EB (GX24Q-3) 277 BH 8039CLW/8232HU AF 2/32TRT 10AR MVOLT S82H32-U-T82HPLT-CS CFT932HEB-STF902H	
	DX	LED LOW VOLTAGE DOWNLIGHTS, RECESSED, THERMALLY PROTECTED HOUSING, TO ACCOMMODATE MULTIPLE TRIMS AND REFLECTOR ASSEMBLIES FOR LED LAMPS AS LISTED BELOW, 4" APERTURE						
	DX-1	RECESSED DOWNLIGHT, OUTDOOR PRISMATIC LENS 1" SQUARE COORDINATE TRIM WITH SOFFIT FINISH	LED 2600 LUMEN	39 WATTS 5000K	277V	GALLIUM	GS10H-MV350-21-50/GS10TPP1	
	DX-2	RECESSED DOWNLIGHT, INDOOR CLEAR REFLECTOR 6" DIAMETER	LED 2000 LUMEN	39 WATTS 4100K	277V	LIGHTOLIER	C7L1520DL40MCCLW/C7L20N	
	E	E PREFIX INDICATES THAT FIXTURE IS PROVIDED WITH AN EMERGENCY BATTERY PACK TO PROVIDE POWER TO ANY 2, 3, 4 OR 8 FOOT FLOURESCENT LAMP COMPATIBLE WITH ALL STANDARD AND ELECTRONIC BALLASTS; COMPLETELY SELF-CONTAINED TO PROVIDE 90 MINUTES OF EMERGENCY POWER TO FIXTURE BALLAST; MINIMUM LIGHT OUTPUT FOR TYPICAL 4' LAMP SHALL BE 1100 LUMENS OR HIGHER;UNIVERSAL TRANSFORMER FOR 120 OR 277 VOLTS; LOW VOLTAGE PROTECTION, COMBINATION TEST SWITCH AND AC "ON" INDICATOR; 10 YEAR PRO-RATA WARRANTY; INSTALL TEST SWITCH IN A MANNER THAT REQUIRES NO DISASSEMBLY FOR TESTING.						
	E	EMERGENCY BATTERY PACK.		120/277V	3W	IOTA BODINE LITHONIA PRESCOLITE HUBBELL CHLORIDE LIGHTOLIER SIDELITE	I-80 B50 PS-1400 EFPS-5 E96 CFP841 FBP50 S60F	
	E9	EXIT SIGN: METAL HOUSING; CEILING MOUNT, SEE DRAWINGS; ARROWS PER PLANS; LED LAMPS;EMERGENCY BATTERY PACK WITH 10 YEAR PRO-RATA WARRANTY; SELF-TESTING; EDGE LIGHTED CLEAR LENS; GREEN LETTERS ON CLEAR BACKGROUND. MUST MEET NFPA ILLUMINATION STANDARDS. UNITS SHOWN ARE CEILING MOUNT MODELS. CONTRACTOR TO PROVIDE MATCHING WALL MOUNTED UNITS WHERE REQUIRED.						
	E9-1	SINGLE FACE: UNIVERSAL MOUNT SELF TESTING	LED	2W	120/277V	LITHONIA	LRP W 1 GC XX 120/277 ELN	
	E9-2	DUAL FACE: UNIVERSAL MOUNT SELF TESTING	LED	2W	120/ 277V	LITHONIA	LRP W 2 GC XX 120/277 ELN	
	ET	EMERGENCY TRANSFER DEVICE. 3A RATED, PROVIDE 1 TRANSFER DEVICE PER LUMINAIRE. CONTRACTOR INSTALLED IN FIXTURE.		2W	277/120V	IOTA LIGHTOLIER LIGHTGUARD BODINE	ETS LPTC FLTC GTD	
	FD	WET LOCATION FLUORESCENT; PLASTIC HOUSING; IMPACT RESISTANT ACRYLIC LENS.						
	FD-10	4' 2 T8 FLUORESCENT LAMPS; INSTANT START BALLASTS; 0 DEGREE STARTING TEMPERATURE. .6 BF	2-F32T8 RE835	44W	277/120V	LITHONIA METALUX HUBBELL COLUMBIA DAYBRITE LIGHTOLIER	DMW 232T8 AR 120/277 PROGRAM START VT2-232T8/DR-PROG-WL EWLO42-SPDR-U LUN4-232T8-EB120/277 PROG V2WAB232T8-1/2EB-LT STW-232-U-SO	
	G	INDIRECT TROFFERS: RECESSED FOR LAY-IN GRID; HINGED FLUSH STEEL DOOR WITH LATCH; EARTHQUAKE CLIPS, PROGRAM START ELECTRONIC BALLASTS; ONE BALLAST PER FIXTURE, 100-10% DIMMING BALLAST OR DUAL LEVELSWITCHING BALLASTS WHERE SHOWN, INSTALLER TO COORDINATE CONTROLS AND MOUNTING.						
	G-12	2X4, 2-LAMP. HIGH EFFICIENCY OPTICS .6BF	2-F32T8 RE835	44W	277/120V	LEDALITE	9824DXSTT232-1-2-SPEC.61	
	G-13	2X4, 3-LAMP. HIGH EFFICIENCY OPTICS .6BF	3-F32T8 RE835	66W	277/120V	LEDALITE	9824DXSTT332-1-2-SPEC.61	
	G-14	2X2, 2-LAMP. HIGH EFFICIENCY OPTICS	2-F40BX RE835	78W	277/120V	LEDALITE	9822DXST2TT5S12 SPEC	
	G-14D	2X2, 2-LAMP. HIGH EFFICIENCY OPTICS DUAL LEVEL BALLAST	2-F40BX RE835	78W	277/120V	LEDALITE	9822DXST2TT5S72 STEP DIM	
	G-15	2X2, 2-LAMP. HIGH EFFICIENCY OPTICS CONTINIOUS DIMMING BALLAST 0-10VDC.	2-F40BX RE835	78W	277/120V	LEDALITE	9822DXST2TT5S72 DIM	
	GS	TROFFERS: RECESSED FOR LAY-IN GRID; STATIC; HINGED AND LATCHED STEEL DOOR;. 125 ACRYLIC PRISMATIC LENS, MINIMUN 1/8"; EARTHQUAKE CLIPS; MAX 5" DEEP; SPECIFICATION GRADE; PROGRAM START ELECTRONIC BALLASTS, T8 LAMPS; ONE BALLAST PER FIXTURE WHERE POSSIBLE, UNLESS TWO LEVEL SWITCHING IS SHOWN ON THE PLANS.						
	GS-2	2X2, 2 LAMP. .71BF	2-F31T8U RE835	47W	277/120V	LITHONIA METALUX DAYBRITE COLUMBIA LSI LIGHTOLIER	2 SP8G 2U31 A12125 MVOLT TUBRHP 2GP-2U6T8A125-UNV-EB81-PROGRAM START 2DPG231U6-FS21-UNV-1/2EB-SPEC ST822-232U6G-FSA12.125-EB8LHPRUNV LA125 2U32 SD SSO10PS UE XT2GVI2-2U-UNV-SOP	
	GS-3	2X4, 2 LAMP. .6BF	2-F32T8 RE835	44W	277/120V	LITHONIA METALUX COLUMBIA DAYBRITE LSI LIGHTOLIER	2 SP8G 232 A12125 MVOLT TUBRHP 2GP-232A125-UNV-EB81-PROGRAM START ST824-232G-FSA12.125-EB8LHPRUNV 2DPG232-FS21-UNV-1/2EB-SPEC LA125 232 SD SSO10PS UE XT2GVI232-UNV-SOP	
	GS-4	2X4, 3 LAMP. .6BF	3-F32T8 RE835	66W	277/120V	LITHONIA METALUX DAYBRITE COLUMBIA LIGHTOLIER LSI	2 SP8G 332 A12125 1/3 MVOLT TUBRHP 2GP-332A125-UNV-EB81-PROGRAM START 2DPG332-FS21-UNV-1/3EB-SPEC ST824-332G-FSA12.125-3EB8LHPRUNV XT2GVI332-UNV-03P LA125 332 SD SSO10PS UE	
	LED	LW VOLTAGE LED STRIPLIGHTS, MUST FIT MILLWORK, CEILINGS OR SIGNS, SEE ARCHITECTURAL DETAINS REFLECTOR ASSEMBLIES FOR LED LAMPS AS LISTED BELOW						
	LED-1	LED STRIP, WHITE SQ TO FIT CEILING CHANNEL DOWNLT	LED 3000K	8.8W/FT	120V	ELECTRIX	L100-08-XX-W3-45-H	
	LED-2	LED STRIP, WHITE,SQ TO FIT SIGN CHANNEL	LED 4000K	8.8W/FT	120V	ELECTRIX	L100-08-XX-W4-45-H	
	LED-3	LED FLOOD LIGHT 18"W X 24.1"L EMERGENCY ONLY COLOR BY ARCHITECT	LED 4000K		277/120V	BETA LED	FLD-EDG-10-AA-10-C-UL-XX	
	OC	WALL PACK: ADJUSTABLE CUT OFF; FULL PERIMETER GASKETING: WET LOCATION; STAINLESS STEEL HINGES AND LATCHES; PROJECTING LENS; HPF BALLAST; SEE ELEVATION FOR MOUNTING HEIGHT, COLOR AS SPECIFIED BY ARCHITECT.						
	OC-32	CF42, RECESSED J BOX. MEDIUM THROW, SQUARE, DECORATIVE COLOR BY ARCHITECT REMOTE EMERGENCY DEVICE BY INSTALLER	CF42 RE835	46W	277/120V	MCPHILBEN LSI LITHONIA LUMARK LSI	101MT-42TRF-CBA-DT GBWS-FTM-42CFL-F-120/277-XX-NO WST 42TRT MD MVOLT PLIP-T-42-MT-XX GBWS FTM 42CFL F UE XXX W/LAMP	
	OJ	RECESSED STEPLIGHT 3"X4' OR AS SHOWN ON DRAWING						
	OJ-1	FLUORESCENT, LOUVER WITH OPAL GLASS BACK PANEL, CAST METAL COLOR BY ARCHITECT REMOTE EMERGENCY DEVICE BY INSTALLER	2-F6T5	19W	120V	PRESCOLITE DM. LTG DELTA MCPHILBEN LIGHTECH COLE	37CF-13-1 (1CF13) 8705 WK PL13 120/277 XXX 941-U-13TF-LV-120-X SL-8150-PL13-W F2159-13	
	P3	PARABOLIC LOUVER FIXTURES WITH 3" LOUVERS IN PLASTIC PROTECTORS AND FULL DEPTH REFLECTOR; SIZE AS NOTED; PROGRAM START ELECTRONIC BALLASTS PER SPECS; T8 LAMPS; ONE BALLAST PER FIXTURE UNLESS NOTED FOR SWITCHING; STATIC OR AIR RETURN AND HEAT REMOVAL; EARTHQUAKE CLIPS INSTALLED ON ON GRID FIXTURES; HINGED AND LATCHED DOOR; LOW IRIDESCENT LOUVER FINISH, VERTICAL GRAIN DIE STAMPED LOUVERS; TWO FORMED BALLAST COVERS; MAX 1300 CD/M2 ABOVE 45 DEGREES.						
	P3-3	2X4, 18 CELL LAY-IN; SEMI- SPECULAR SILVER, 3-LAMP. STATIC. .6BF	3-F32T8 RE835	66W	277/120V	LITHONIA DAYBRITE METALUX COLUMBIA LSI LIGHTOLIER HEWILLIAMS	2PM3NGB-332-18LD-MVOLT-1/3TUBRHP-2R 2P3GS332-36SL-UNV-1/3-EB-SPEC 2EP3GX-332S36I-UNV-PROGRAM START-2BC P4D24-332G-LD36-S-3EB8LHPRUNV N2PG18 332 FD SSO10PS 2BC UE DPS2G18LP332-U-03P HE3G-D24-332-36S-EB8PXLH3*OS-UNV	
	P3-13	1X2, LINEAR WALLWASHER; SEMI-SPECULAR SILVER LOUVERS. STATIC.	1-CF40 RE835	44W	277/120V	COLUMBIA LIGHTOLIER METALUX LITHONIA OMEGA LSI	PW82-140TTG-LD-B-EBTTLHPRUNV WMRL125-U-SB RWW-1BX40-UNV-EB51 WWG1-CF40-IRLD-MVOLT-TUBRHP OM24-1H-40BX-WW-CSS-120/277 NWW 140BX SSO10PS UE	
	S	FLUORESCENT STRIP LIGHT: STEEL CONSTRUCTION; WHITE PAINTED FINISH; SUITABLE FOR MOUNTING ON LOW DENSITY CEILINGS; PROGRAM START ELECTRONIC BALLASTS; T8 LAMPS; ONE BALLAST PER FIXTURE WHERE POSSIBLE, UNLESS TWO LEVEL SWITCHING IS SHOWN ON THE PLANS.						
	S-1	4', 1-LAMP. .71BF	1-F32T8 RE835	25W	277/120V	LITHONIA LIGHTOLIER METALUX DAYBRITE HUBBELL COLUMBIA	C132-MVOLT-TUBRHP SW132-U-SOP SS-132-UNV-PROGRAM START T132-UNV-EB-SPEC S132UPS CS4-132-EB8120/277 PROG	
	S-3	4', 2-LAMP. .6BF	2-F32T8 RE835	44W	277/120V	LITHONIA LIGHTOLIER METALUX DAYBRITE HUBBELL COLUMBIA	C232-MVOLT-TUBRHP SW232-U-SOP SS-232-UNV-PROGRAM START T232-UNV-1/2-EB-SPEC C232UPS CS4-232-EB8120/277 PROG	
	SA	GENERAL PURPOSE INDUSTRIAL: WHITE ENAMEL, APERTURED REFLECTOR; PROGRAM START ELECTRONIC BALLASTS; T8 LAMPS; ONE BALLAST PER FIXTURE WHERE POSSIBLE; UNLESS TWO LEVEL SWITCHING IS SHOWN ON THE PLANS; STEM MOUNTED WITH TONG HANGERS.						
	SA-1	4', 2-LAMP. .6BF	2-F32T8 RE835	44W	277/120V	LITHONIA LIGHTOLIER METALUX HUBBELL COLUMBIA DAYBRITE	EJA232-MVOLT-TUBRHP-THUN KWA232-U-SOP IA-232-UNV-PROGRAM START IG142R-PP10-UPS CSR4-232U-EB8120/277 PROG-CSTH IA232-UNV-1/2-EB-SPEC	
	SA-2	8', 4-LAMP. .6BF	4-F32T8 RE835	88W	277/120V	LITHONIA LIGHTOLIER METALUX HUBBELL COLUMBIA DAYBRITE	TEJA232-MVOLT-1/4TUBRHP-THUN KWA232-8-U-SOP 8TIA-232-UNV-PROGRAM START IG184R-PP10-UPS CSR8-232U-4EB8120/277 PROG-CSTH TIA232-UNV-1/4-EB-SPEC	
	UC	UNDERCABINET LIGHT: LOW PROFILE X 5 1/4"DEEP X LENGTH AS NOTED; ACRYLIC DIFFUSER.						
	UC-10	48 1/8" LONG, WHITE.	F32T8	25W	120V	NULITE FSC LIGHTOLIER CREATIVE DURAY LSI	112 32 ELB10 3148-T8-EL TCU32WSO120 UC-132-T8 HUC 132 PSEB120 SL1 32 SSO 120	
	V	VANDAL RESISTANT SURFACE MOUNTED LIGHTING: .125" INJECTION MOLDED POLYCARBONATE LENS; IMPACT RESISTANT; UV STABILIZED; ALL METAL PARTS ARE ENCLOSED; GASKETED; VANDAL RESISTANT STAINLESS STEEL SCREWS; SECURED MOUNTING; PROGRAM START ELECTRONIC BALLASTS; T8 LAMPS.						
	V-1	4', 2-LAMP WITH PRISMATIC LENS; 51" X 9 1/2" X 3 1/2", 16 GAUGE STEEL. HIGH EFFICIENCY BALLAST. 0.6BF PROGRAM START BALLST WITH 3100 LUMEN LAMPS	2-F32T8 RE841 3100 LU	44W	277/120V	KENALL FAIL-SAFE LUMINAIRE NEW STAR LA LIGHTING CD LIGHTING HOLCOR	N1048-C-232SB1-120/277 FPS-232-UNV-PROGRAM START LVP-751-232-EBPS-120 51C-124-U-T8PROGRAM WSE500-2-4R-DL-T8EB-UNV VSL-24-232-UNV-EB HSP2-2/32T8-120-TX-UNIVOLT-PROGRAM START	
	WB	WALL MOUNTED FLUORESCENT LOCATED ABOVE WALL ELEMENT (MIRROR/WHITEBOARD, ETC.): AS INDICATED ON DRAWINGS; WITH ACRYLIC INJECTION MOLDED; PROGRAM START ELECTRONIC BALLASTS; T8 LAMPS; ONE BALLAST PER FIXTURE WHERE POSSIBLE, UNLESS TWO LEVEL SWITCHING IS SHOWN ON THE PLANS.						
	WB-3	2-LAMP, WALL MOUNT 48", STEEL ENCLOSURE, ACRYLIC LENS WHITE, .6BF INTEGRAL OCC SENSOR	2-F32T8 RE835 .6BF	44W	277/120V	LIGHTIOLIER	SF4C232.6BF UNV-OCC-EM	
	ZA	LIGHT POLES: TOTALLY ENCLOSED RAINTIGHT, DUST-TIGHT AND CORROSION RESISTANT; POLE AS SHOWN IN DETAIL WITH HANDHOLE, COVER, BOLT COVER, AND BASE; PAINTED (COLOR TO BE SELECTED BY ARCHITECT / ENGINEER WHICH MAY DIFFER FROM CATALOG NUMBER SHOWN). MTB= 120,208,240,277 VOLT MULTI-TAP BALLAST. ALL BALLASTS HPF. ARM MOUNT. HORIZONTAL LAMP.						
	ZA-3	CUTOFF LUMINAIRE SINGLE HEAD, MULTI-TAP BALLAST; TYPE III DISTRIBUTION. 100PSMH	100PSMH	120W	MTB	AAL	SLVT-H5-100MH-CBA/TRA5U-12RSA CBA	

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON
SASAKI

LICENSED PROFESSIONAL ENGINEER
No. 179621
RALPH B. KOEBER
STATE OF UTAH

SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS
DIXIE STATE COLLEGE OF UTAH
DFCM #06297640
DIXIE COLLEGE, ST. GEORGE, UT
CONFORMED CONSTRUCTION DOCUMENTS BID SET

No.	Description	Date

Job # 09625
CAD File
Drawn BXW Checked RBK
Date 12/03/2010
Owner #
Ins. #

FIXTURE SCHEDULE

EL601
Sheet Number

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LIGHTING RELAY PANEL "1RA" SCHEDULE — PROJECT NAME: DIXIE COLLEGE CENTENNIAL COMMONS

RELAY NUMBER	DESCRIPTION	CIRCUIT NUMBER	LOAD (WATTS)	CONTROL GROUP WS	TC	IPC	OPC
RL 1	SOUTH AREA CORRIDOR LIGHTS	1HA-2	850	WS-1A	X		
RL 2	CENTER OPEN OFFICE LIGHTS	1HA-6		WS-1B	X		
RL 3	NORTH AREA CORRIDOR LIGHTS	1HA-8		WS-1C	X		
RL 4	NORTH EAST CORRIDOR LIGHTS	1HA-10		WS-1D	X		
RL 5	EAST LOBBY FLUORESCENT LIGHTS	1HA-12		WS-1D	X		
RL 6	EAST LOBBY LED LIGHTS	1HA-14		WS-1D	X		
RL 7	SPARE RELAY						
RL 8	SPARE RELAY						
RL 9	SPARE RELAY						
RL 10	SPARE RELAY						
RL 11	SPARE RELAY						
RL 12	SPARE RELAY						
RL 13	SPARE RELAY						
RL 14	SPARE RELAY						
RL 15	SPARE RELAY						
RL 16	SPARE RELAY						
	EMERGENCY - NORMAL POWER BARRIER						
RL 17	NORTH, EAST EM LIGHTS	1EHA-7		NOTE 3	X		
RL 18	EXTERIOR EM LIGHTS	1EHA-9			X		X
RL 19	SPARE RELAY						
RL 20	SPARE RELAY						
RL 21	SPARE RELAY						
RL 22	SPARE RELAY						
RL 23	SPARE RELAY						
RL 24	SPARE RELAY						

NOTES:
1. TIME CLOCK SCHEDULES ARE INDEPENDENT FOR EACH RELAY.
2. EMERGENCY RELAYS TURN LIGHTS ON WHEN POWER IS LOST
3. TURNS ON WITH ANY WS-1X ORVERRIDE SWITCH.

LEGEND:
WS - WALL SWITCH OVERRIDE
TC - TIME CLOCK
IPC - INDOOR PHOTOCELL
OPC - OUTDOOR PHOTOCELL

LIGHTING RELAY PANEL "2MRA" SCHEDULE — PROJECT NAME: DIXIE COLLEGE CENTENNIAL COMMONS

RELAY NUMBER	DESCRIPTION	CIRCUIT NUMBER	LOAD (WATTS)	CONTROL GROUP WS	TC	IPC	OPC
RL 1	CURICULUM 234 DAYLIGHTS	2MHA-1			X	X	
RL 2	CURICULUM 234 DAYLIGHTS	2MHA-1			X	X	
RL 3	CURICULUM 234 LIGHTS	2MHA-1			X		
RL 4	SOUTH DAYLIGHTS	2MHA-3			X	X	
RL 5	CENTER AREA LIGHTING	2MHA-5			X		
RL 6	WEST MEZZ LIGHTS	2MHA-7			X		
RL 7	CENTER AREA LIGHTING	2MHA-9			X		
RL 8	EAST MEZZ DAYLIGHTS	2MHA-11			X	X	
RL 9	EAST MEZZ LIGHTS	2MHA-13			X		
RL 10	NORTH MEZZ LIGHTS	2MHA-15			X		
RL 11	NORTH LOBBY ACCENT LIGHTS	2MHA-6			X		
RL 12	NORTH LOBBY LIGHTS	2MHA-8			X		
RL 13	NORTH LOBBY DAYLIGHTS	2MHA-10			X	X	
RL 14	EAST LOBBY DAYLIGHTS	2MHA-12			X	X	
RL 15	EAST LOBBY LIGHTS	2MHA-14			X		
RL 16	EAST EXTERIOR LIGHTS	2MHA-16			X		X
RL 17	EAST EXTERIOR LIGHTS	2MHA-18			X		X
RL 18	SOUTH EXTERIOR LIGHTS	2MHA-20			X		X
RL 19	SPARE RELAY						
RL 20	SPARE RELAY						
RL 21	SPARE RELAY						
RL 22	SPARE RELAY						
	EMERGENCY - NORMAL POWER BARRIER						
RL 23	SOUTH DAYLIGHTS EM	1EHA-6		NOTE 4	X	X	
RL 24	SOUTH DAYLIGHTS EM	1EHA-6		NOTE 4	X	X	
RL 25	CENTER AREA EM LIGHTS	1EHA-8		NOTE 4	X		
RL 26	EAST AREA EM LIGHTS	1EHA-10		NOTE 3	X		
RL 27	NORTH LOBBY EM LIGHTS	1EHA-12		NOTE 4	X		
RL 28	NORTH LOBBY EM DAYLIGHTS	1EHA-12		NOTE 3	X	X	
RL 29	EAST LOBBY EM DAYLIGHTS	1EHA-14			X	X	
RL 30	EAST LOBBY EM LIGHTS	1EHA-14			X		
RL 31	SOUTH/EAST EM EXTERIOR LIGHTS	1EHA-16			X		
RL 32	NORTH WEST EXTERIOR EM ONLY LIGHTS	1EHA-16		NOTE 6			
RL 33	SPARE RELAY						
RL 34	SPARE RELAY						
RL 35	SPARE RELAY						
RL 36	SPARE RELAY						

NOTES:
1. TIME CLOCK SCHEDULES ARE INDEPENDENT FOR EACH RELAY.
2. EMERGENCY RELAYS TURN LIGHTS ON WHEN POWER IS LOST
3. TURNS ON WITH ANY WS-2MX ORVERRIDE SWITCH.
4. TURNS ON WITH ANY WS-2X OVERRIDE SWITCH.
5. TURNS ON WITH ANY WS-1X OVERRIDE SWITCH.
6. RELAY TURNS ON ONLY WHEN NORMAL POWER IS LOST.

LEGEND:
WS - WALL SWITCH OVERRIDE
TC - TIME CLOCK
IPC - INDOOR PHOTOCELL
OPC - OUTDOOR PHOTOCELL

LIGHTING RELAY PANEL "5RA" SCHEDULE — PROJECT NAME: DIXIE COLLEGE CENTENNIAL COMMONS

RELAY NUMBER	DESCRIPTION	CIRCUIT NUMBER	LOAD (WATTS)	CONTROL GROUP WS	TC	IPC	OPC
RL 1	NORTH CORRIDOR LIGHTS	5HA-1		WS-5A			
RL 2	CENTER CORRIDOR LIGHTS	5HA-3		WS-5A			
RL 3	COUTH CORRIDOR LIGHTS	5HA-5		WS-5B			
RL 4	SPARE RELAY						
RL 5	SPARE RELAY						
RL 6	SPARE RELAY						
RL 7	SPARE RELAY						
RL 8	SPARE RELAY						
RL 9	SPARE RELAY						
RL 10	SPARE RELAY						
RL 11	SPARE RELAY						
RL 12	SPARE RELAY						
RL 13	SPARE RELAY						
RL 14	SPARE RELAY						
RL 15	SPARE RELAY						
RL 16	SPARE RELAY						
	EMERGENCY - NORMAL POWER BARRIER						
RL 17	SOUTHEAST EM LIGHTS	1EHA-13		NOTE 3			
RL 18	NORTHWEST EM LIGHTS	1EHA-15		NOTE 3			
RL 19	SPARE RELAY						
RL 20	SPARE RELAY						
RL 21	SPARE RELAY						
RL 22	SPARE RELAY						
RL 23	SPARE RELAY						
RL 24	SPARE RELAY						

NOTES:
1. TIME CLOCK SCHEDULES ARE INDEPENDENT FOR EACH RELAY.
2. EMERGENCY RELAYS TURN LIGHTS ON WHEN POWER IS LOST
3. TURNS ON WITH ANY WS-5X ORVERRIDE SWITCH.

LEGEND:
WS - WALL SWITCH OVERRIDE
TC - TIME CLOCK
IPC - INDOOR PHOTOCELL
OPC - OUTDOOR PHOTOCELL

LIGHTING RELAY PANEL "1RB" SCHEDULE — PROJECT NAME: DIXIE COLLEGE CENTENNIAL COMMONS

RELAY NUMBER	DESCRIPTION	CIRCUIT NUMBER	LOAD (WATTS)	CONTROL GROUP WS	TC	IPC	OPC
RL 1	1st FLOOR SOUTHWEST EM LIGHTS	1EHB-5		NOTE 3	X		
RL 2	2nd FLOOR SOUTHWEST EM LIGHTS	1EHB-7		NOTE 4	X		
RL 3	2M FLOOR SOUTHWEST EM LIGHTS	1EHB-9		NOTE 5	X		
RL 4	3rd FLOOR SOUTHWEST EM LIGHTS	1EHB-11		NOTE 6	X		
RL 5	4th FLOOR SOUTHWEST EM LIGHTS	1EHB-13		NOTE 7	X		
RL 6	5th FLOOR SOUTHWEST EM LIGHTS	1EHB-15		NOTE 8	X		
RL 7	SPARE RELAY						
RL 8	SPARE RELAY						
RL 9	SPARE RELAY						
RL 10	SPARE RELAY						
RL 11	SPARE RELAY						
RL 12	SPARE RELAY						

NOTES:
1. TIME CLOCK SCHEDULES ARE INDEPENDENT FOR EACH RELAY.
2. EMERGENCY RELAYS TURN LIGHTS ON WHEN POWER IS LOST.
3. TURNS ON WITH ANY WS-1X ORVERRIDE SWITCH.
4. TURNS ON WITH ANY WS-2X OVERRIDE SWITCH.
5. TURNS ON WITH ANY WS-2MX ORVERRIDE SWITCH.
6. TURNS ON WITH ANY WS-3X OVERRIDE SWITCH.
7. TURNS ON WITH ANY WS-4X OVERRIDE SWITCH.
8. TURNS ON WITH ANY WS-5X OVERRIDE SWITCH.

LEGEND:
WS - WALL SWITCH OVERRIDE
TC - TIME CLOCK
IPC - INDOOR PHOTOCELL
OPC - OUTDOOR PHOTOCELL

LIGHTING RELAY PANEL "3RA" SCHEDULE — PROJECT NAME: DIXIE COLLEGE CENTENNIAL COMMONS

RELAY NUMBER	DESCRIPTION	CIRCUIT NUMBER	LOAD (WATTS)	CONTROL GROUP WS	TC	IPC	OPC
RL 1	SOUTH DAYLIGHTS	3HA-1		WS-3B	X	X	
RL 2	SOUTH OPEN AREA LIGHTS	3HA-3		WS-3B	X		
RL 3	SOUTH OPEN AREA LIGHTS	3HA-5		WS-3B	X		
RL 4	CENTER OPEN AREA LIGHTS	3HA-7		WS-3A	X		
RL 5	CENTER OPEN AREA LIGHTS	3HA-9		WS-3A	X		
RL 6	CENTER OPEN AREA LIGHTS	3HA-11		WS-3A	X		
RL 7	NORTH OPEN AREA LIGHTS	3HA-13		WS-3A	X		
RL 8	SPARE RELAY						
RL 9	SPARE RELAY						
RL 10	SPARE RELAY						
RL 11	SPARE RELAY						
RL 12	SPARE RELAY						
RL 13	SPARE RELAY						
RL 14	SPARE RELAY						
RL 15	SPARE RELAY						
RL 16	SPARE RELAY						
	EMERGENCY - NORMAL POWER BARRIER						
RL 17	SOUTH EM DAYLIGHTS	1EHA-18		NOTE 3	X	X	
RL 18	SOUTH EXTERIOR LIGHTS	1EHA-20		NOTE 4	X		X
RL 19	SE STAIR LIGHTS	1EHA-22		NOTE 3	X		
RL 20	EAST EM LIGHTS	1EHA-24		NOTE 3	X		
RL 21	NORTH EM LIGHTS	1EHA-26		NOTE 3	X		
RL 22	NORTHWEST EXTERIOR EM LIGHTS	1EHA-20		NOTE 4	X		X
RL 23	SPARE RELAY						
RL 24	SPARE RELAY						

NOTES:
1. TIME CLOCK SCHEDULES ARE INDEPENDENT FOR EACH RELAY.
2. EMERGENCY RELAYS TURN LIGHTS ON WHEN POWER IS LOST
3. TURNS ON WITH ANY WS-3X ORVERRIDE SWITCH.
4. RELAY TURNS ON ONLY WHEN NORMAL POWER IS LOST.

LEGEND:
WS - WALL SWITCH OVERRIDE
TC - TIME CLOCK
IPC - INDOOR PHOTOCELL
OPC - OUTDOOR PHOTOCELL

LIGHTING RELAY PANEL "2RA" SCHEDULE — PROJECT NAME: DIXIE COLLEGE CENTENNIAL COMMONS

RELAY NUMBER	DESCRIPTION	CIRCUIT NUMBER	LOAD (WATTS)	CONTROL GROUP WS	TC	IPC	OPC
RL 1	LED LIGHTS	2HA-3		WS-2A	X		
RL 2	NORTH COMMON AREA LIGHTS	2HA-5		WS-2A	X		
RL 3	NORTH RECESSED STRIP LIGHTS	2HA-9		WS-2A	X		
RL 4	NORTH LOBBY LED LIGHTS	2HA-11		WS-2A	X		
RL 5	SPARE RELAY						
RL 6	SPARE RELAY						
RL 7	SPARE RELAY						
RL 8	SPARE RELAY						
RL 9	SPARE RELAY						
RL 10	SPARE RELAY						
RL 11	SPARE RELAY						
RL 12	SPARE RELAY						
RL 13	SPARE RELAY						
RL 14	SPARE RELAY						
RL 15	SPARE RELAY						
RL 16	SPARE RELAY						
	EMERGENCY - NORMAL POWER BARRIER						
RL 17	2ND FLOOR EM LIGHTS	1EHA-11		NOTE 3	X		
RL 18	SPARE RELAY						
RL 19	SPARE RELAY						
RL 20	SPARE RELAY						
RL 21	SPARE RELAY						
RL 22	SPARE RELAY						
RL 23	SPARE RELAY						
RL 24	SPARE RELAY						

NOTES:
1. TIME CLOCK SCHEDULES ARE INDEPENDENT FOR EACH RELAY.
2. EMERGENCY RELAYS TURN LIGHTS ON WHEN POWER IS LOST
3. TURNS ON WITH ANY WS-2X ORVERRIDE SWITCH.

LEGEND:
WS - WALL SWITCH OVERRIDE
TC - TIME CLOCK
IPC - INDOOR PHOTOCELL
OPC - OUTDOOR PHOTOCELL

LIGHTING RELAY PANEL "4RA" SCHEDULE — PROJECT NAME: DIXIE COLLEGE CENTENNIAL COMMONS

RELAY NUMBER	DESCRIPTION	CIRCUIT NUMBER	LOAD (WATTS)	CONTROL GROUP WS	TC	IPC	OPC
RL 1	EXTERIOR LIGHTING	4HA-1			X		X
RL 2	SOUTHWEST OPEN AREA LIGHTS	4HA-3		WS-4C	X		
RL 3	SOUTH OPEN AREA LIGHTS	4HA-5		WS-4B	X		
RL 4	SOUTHEAST OPEN AREA LIGHTS	4HA-7		WS-4B	X		
RL 5	WEST CORRIDOR LIGHTS	4HA-9		WS-4C	X		
RL 6	NORTH/CENTER CORRIDOR LIGHTS	4HA-11		WS-4A	X		
RL 7	SPARE RELAY						
RL 8	SPARE RELAY						
RL 9	SPARE RELAY						
RL 10	SPARE RELAY						
RL 11	SPARE RELAY						
RL 12	SPARE RELAY						
RL 13	SPARE RELAY						
RL 14	SPARE RELAY						
RL 15	SPARE RELAY						
RL 16	SPARE RELAY						
	EMERGENCY - NORMAL POWER BARRIER						
RL 17	STAIR EM LIGHTS	1EHA-17		NOTE 3	X		
RL 18	EAST EM LIGHTS	1EHA-19		NOTE 3	X		
RL 19	CENTER EM LIGHTS	1EHA-21		NOTE 3	X		
RL 20	SPARE RELAY						
RL 21	SPARE RELAY						
RL 22	SPARE RELAY						
RL 23	SPARE RELAY						
RL 24	SPARE RELAY						

NOTES:
1. TIME CLOCK SCHEDULES ARE INDEPENDENT FOR EACH RELAY.
2. EMERGENCY RELAYS TURN LIGHTS ON WHEN POWER IS LOST
3. TURNS ON WITH ANY WS-4X ORVERRIDE SWITCH.

LEGEND:
WS - WALL SWITCH OVERRIDE
TC - TIME CLOCK
IPC - INDOOR PHOTOCELL
OPC - OUTDOOR PHOTOCELL

LIGHTING RELAY PANEL RP CONTROL SCHEDULE — PROJECT NAME: DABC WAREHOUSE

CONTROL GROUP	CONTROL GROUP NAME	CONTROL DESCRIPTION
WS-XX	WALL SWITCH OVERRIDE	TURNS INDICATED RELAYS ON FOR MANUAL 2 HOUR OVERRIDE OF UNOCCUPIED MODE
TC	INDOOR TIME CLOCK	TIME CLOCK TURNS INDICATED RELAYS ON DURING OCCUPIED HOURS OF 6 AM TO 11 PM MONDAY THRU FRIDAY
TC	OUTDOOR TIME CLOCK	TIME CLOCK TURNS INDICATED RELAYS ON 30 MINUTES BEFORE SUNSET TO MIDNIGHT AND FROM 6 AM TO SUNRISE
IPC	INDOOR PHOTOCELL	PHOTOCELL TURNS INDICATED RELAYS OFF WHEN SPECIFIED FOOTCANDLE LEVEL IS MEASURED
OPC	EXTERIOR PHOTOCELL	PHOTOCELL TURNS INDICATED RELAYS ON FROM DUSK TO DAWN

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON
SASAKI
LICENSED PROFESSIONAL ENGINEER No. 179621 RALPH B. KOEBER STATE OF UTAH
SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #06297640
DIXIE COLLEGE, ST. GEORGE, UT
CONFORMED CONSTRUCTION DOCUMENTS BID SET

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LIGHTING RELAY SCHEDULES

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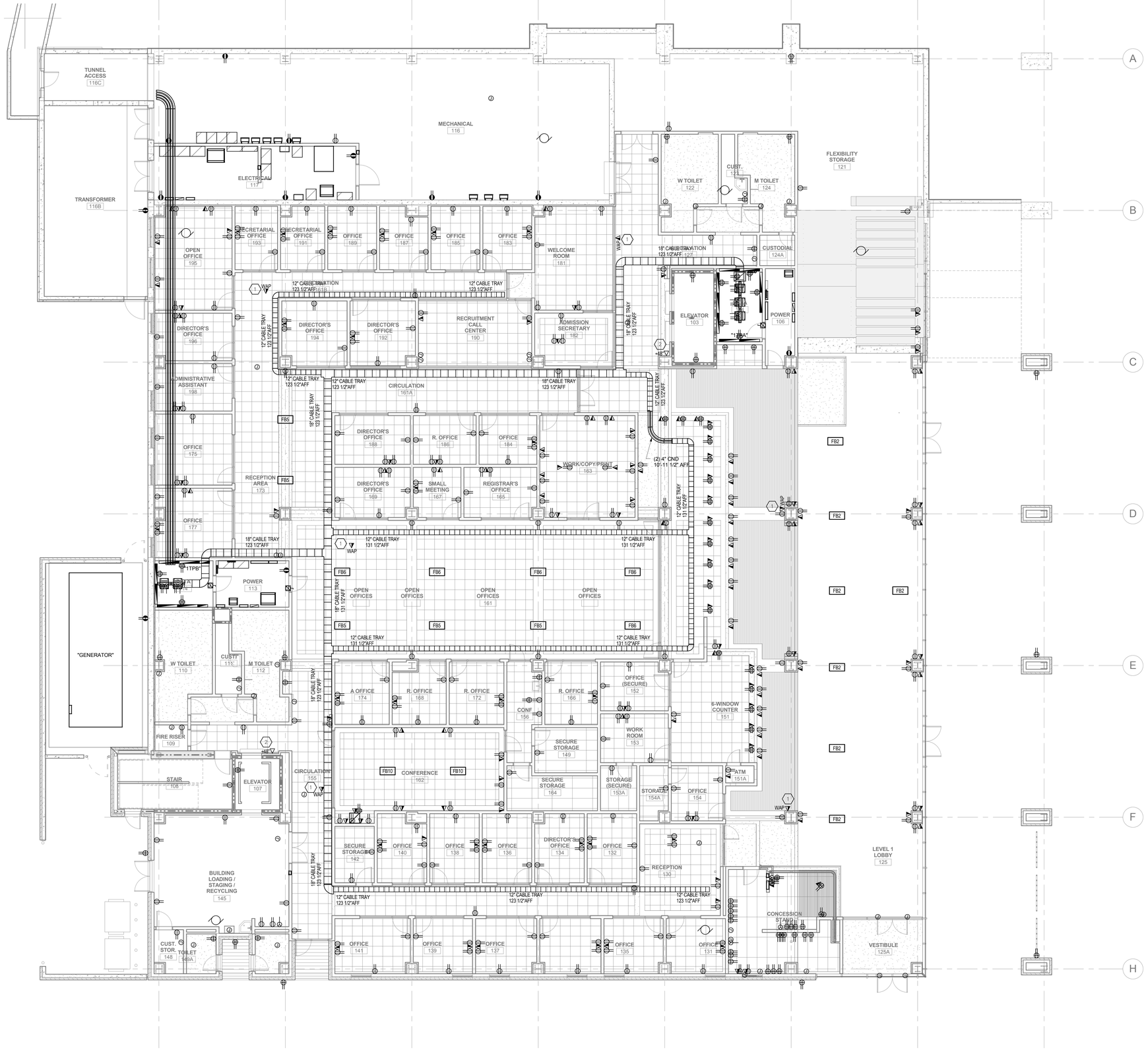

A1 LEVEL 1 TELECOM PLAN

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1 ALL CABLE TRAY SHALL BE 4" DEEP BY WIDTH SHOWN ON PLANS.

2 ALL CABLE TRAY MOUNTING HEIGHT DIMENSIONS ARE TO BOTTOM OF CABLE TRAY.

3 EXCEPT IN COMMUNICATIONS ROOMS, INSTALL SOLID BOTTOM INSERTS IN CABLE TRAYS WHERE THEY ARE VISIBLE FROM THE FLOOR. EXTEND INSERTS MINIMUM 2'-0" BEYOND POINT THAT CABLE TRAY IS ABOVE CEILING.

4 INSTALL FIRE RATED PUTTY PADS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS ON ALL BOXES LOCATED IN RATED WALLS.

5 WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REFER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

1 JUNCTION BOX ABOVE CEILING WITH 1" CONDUIT TO CABLE TRAY FOR WIRELESS ACCESS POINT. COORDINATE EXACT LOCATION WITH OWNER.

2 PROVIDE VIKING ELECTRONICS MODEL E-1600-30A EMERGENCY PHONE. CONNECT TO ANALOG PHONE LINE PROVIDED BY STATE TECHNOLOGY SERVICES.

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

SASAKI

LICENSED PROFESSIONAL ENGINEER
No. 179621
RALPH B. KOEBER
STATE OF UTAH

SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #62297640
DIXIE COLLEGE, ST. GEORGE, UT
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LEVEL 1
TELECOMMUNICATIONS
ROUGH-IN PLAN

ET101

Sheet Number

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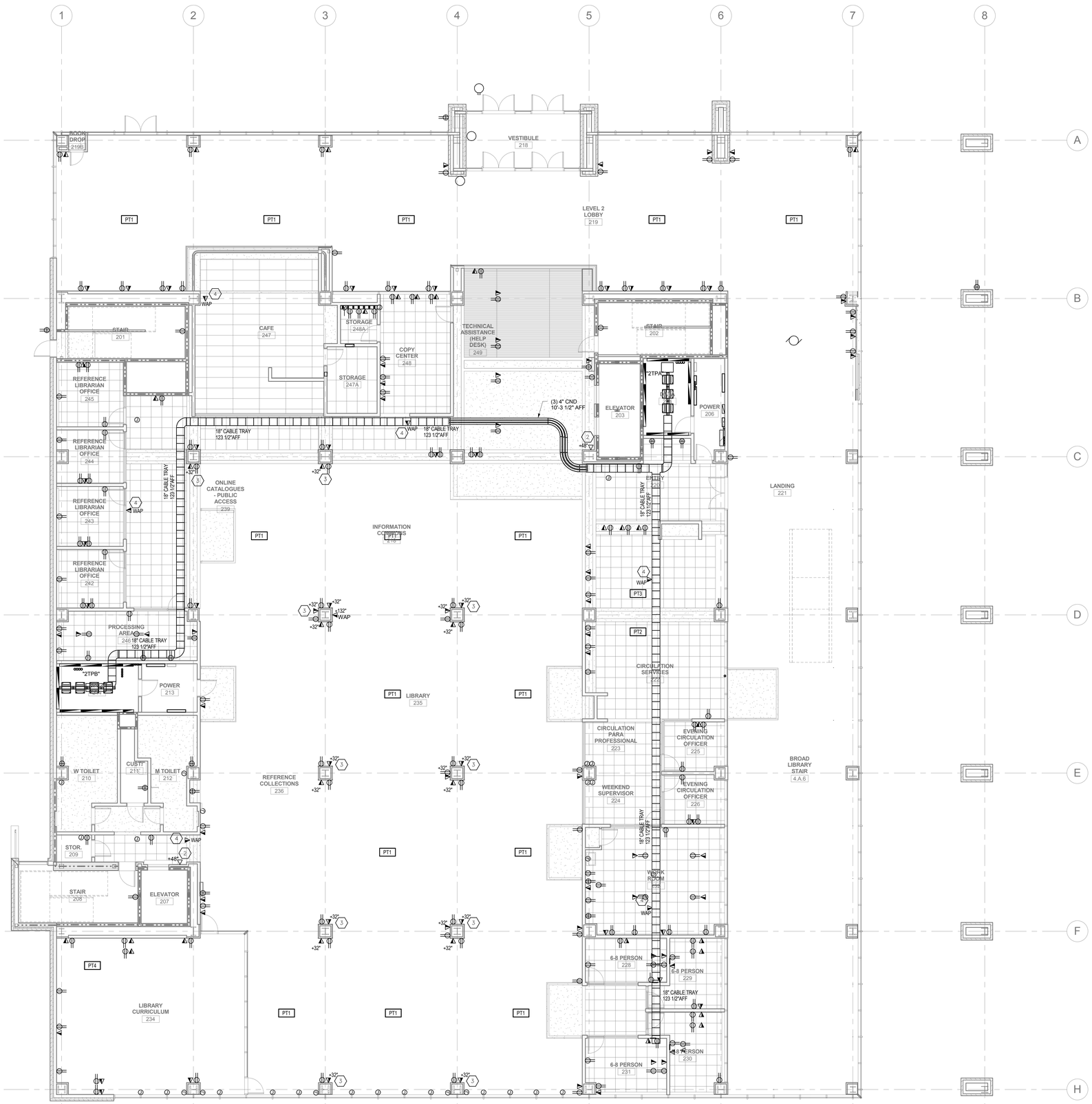

A1 LEVEL 02 TELECOM PLAN

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1 ALL CABLE TRAY SHALL BE 4" DEEP BY WIDTH SHOWN ON PLANS.

2 ALL CABLE TRAY MOUNTING HEIGHT DIMENSIONS ARE TO BOTTOM OF CABLE TRAY.

3 EXCEPT IN COMMUNICATIONS ROOMS, INSTALL SOLID BOTTOM INSERTS IN CABLE TRAYS WHERE THEY ARE VISIBLE FROM THE FLOOR. EXTEND INSERTS MINIMUM 2'-0" BEYOND POINT THAT CABLE TRAY IS ABOVE CEILING.

4 INSTALL FIRE RATED PUTTY PADS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS ON ALL BOXES LOCATED IN RATED WALLS.

5 WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REVER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

1 PROVIDE ADDITIONAL DOOR CONTACT INDICATOR ON EACH DOOR LEAF (DOUBLE) OR SINGLE SWING DOOR FOR INTRUSITON DETECTION MONITORING.

2 PROVIDE VIKING ELECTRONICS MODEL E-1600-30A EMERGENCY PHONE. CONNECT TO ANALOG PHONE LINE PROVIDED BY STATE TECHNOLOGY SERVICES.

3 MOUNT ALL TELECOM OUTLETS ON THIS COLUMN HORIZONTALLY, CENTERED AT ELEVATION SHOWN. PROVIDE 4-11/16" BOX WITH SINGLE GANG PLASTER RING AND (2) 1.25" CONDUITS DOWN TO CABLE TRAY ON LEVEL 1.

4 JUNCTION BOX ABOVE CEILING WITH 1" CONDUIT TO CABLE TRAY FOR WIRELESS ACCESS POINT. COORDINATE EXACT LOCATION WITH OWNER.

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

SASAKI

LICENSED PROFESSIONAL ENGINEER
No. 179621
RALPH B. KOEBER
STATE OF UTAH

SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH

DFCM #06297640

DIXIE COLLEGE, ST. GEORGE, UT

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LEVEL 2
TELECOMMUNICATIONS
ROUGH-IN PLAN

ET102

Sheet Number

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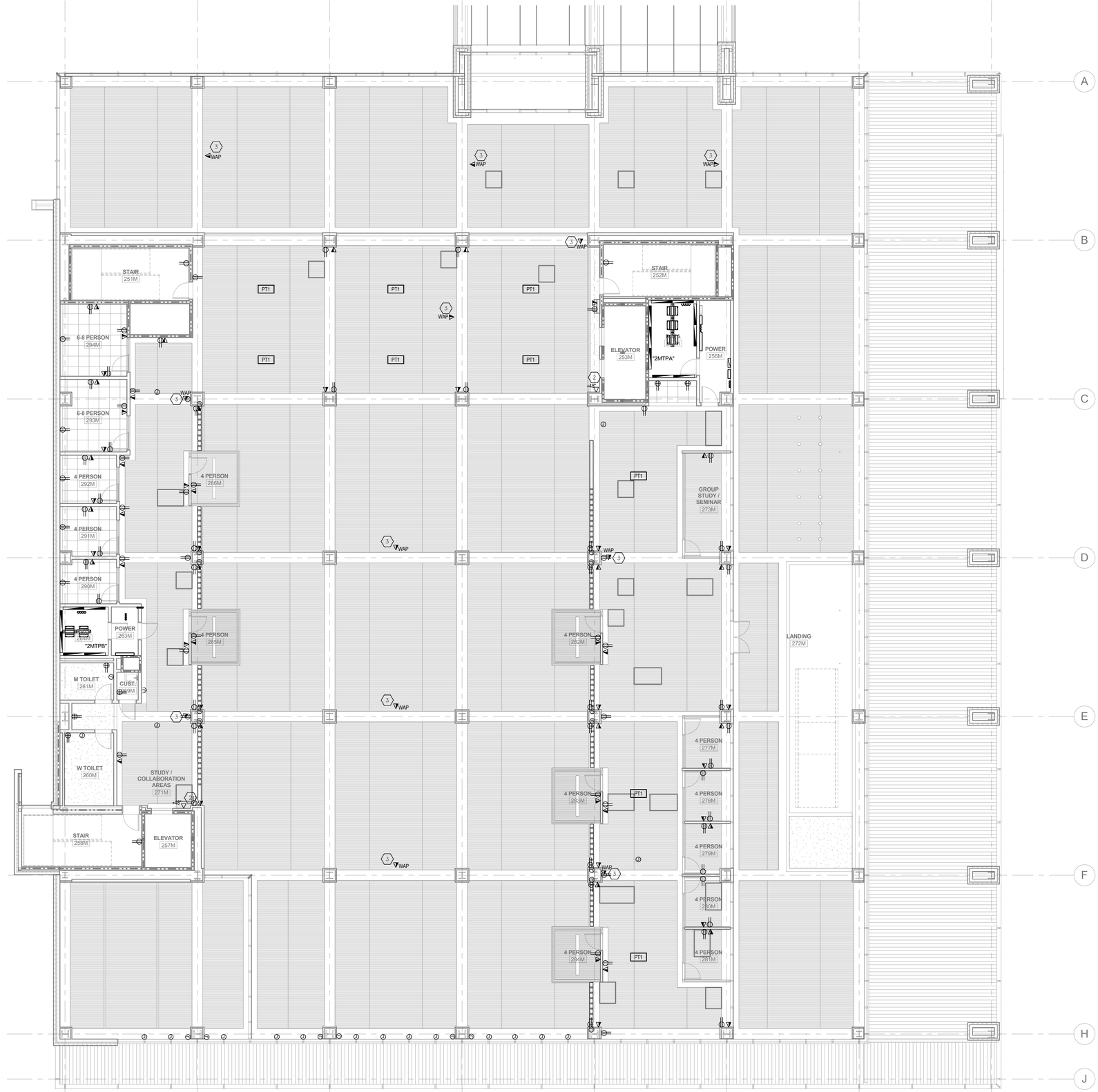

A1 LEVEL 02M TELECOM PLAN

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1. ALL CABLE TRAY SHALL BE 4" DEEP BY WIDTH SHOWN ON PLANS.
2. ALL CABLE TRAY MOUNTING HEIGHT DIMENSIONS ARE TO BOTTOM OF CABLE TRAY.
3. EXCEPT IN COMMUNICATIONS ROOMS, INSTALL SOLID BOTTOM INSERTS IN CABLE TRAYS WHERE THEY ARE VISIBLE FROM THE FLOOR. EXTEND INSERTS MINIMUM 2'-0" BEYOND POINT THAT CABLE TRAY IS ABOVE CEILING.
4. INSTALL FIRE RATED PUTTY PADS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS ON ALL BOXES LOCATED IN RATED WALLS.
5. WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REFER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

1. DELAYED EGRESS DOOR WITH LOCAL ALARM.
2. PROVIDE VIKING ELECTRONICS MODEL E-1600-30A EMERGENCY PHONE. CONNECT TO ANALOG PHONE LINE PROVIDED BY STATE TECHNOLOGY SERVICES.
3. JUNCTION BOX ABOVE CEILING WITH 1" CONDUIT TO CABLE TRAY FOR WIRELESS ACCESS POINT. COORDINATE EXACT LOCATION WITH OWNER.

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

SASAKI

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No. 179621
RALPH B. KOEBER
STATE OF UTAH

SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH

DFCM #06297640

DIXIE COLLEGE, ST. GEORGE, UT

CONFORMED CONSTRUCTION DOCUMENTS BID SET

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Ins. #

LEVEL 2 MEZZANINE TELECOMMUNICATIONS ROUGH-IN PLAN

ET102M

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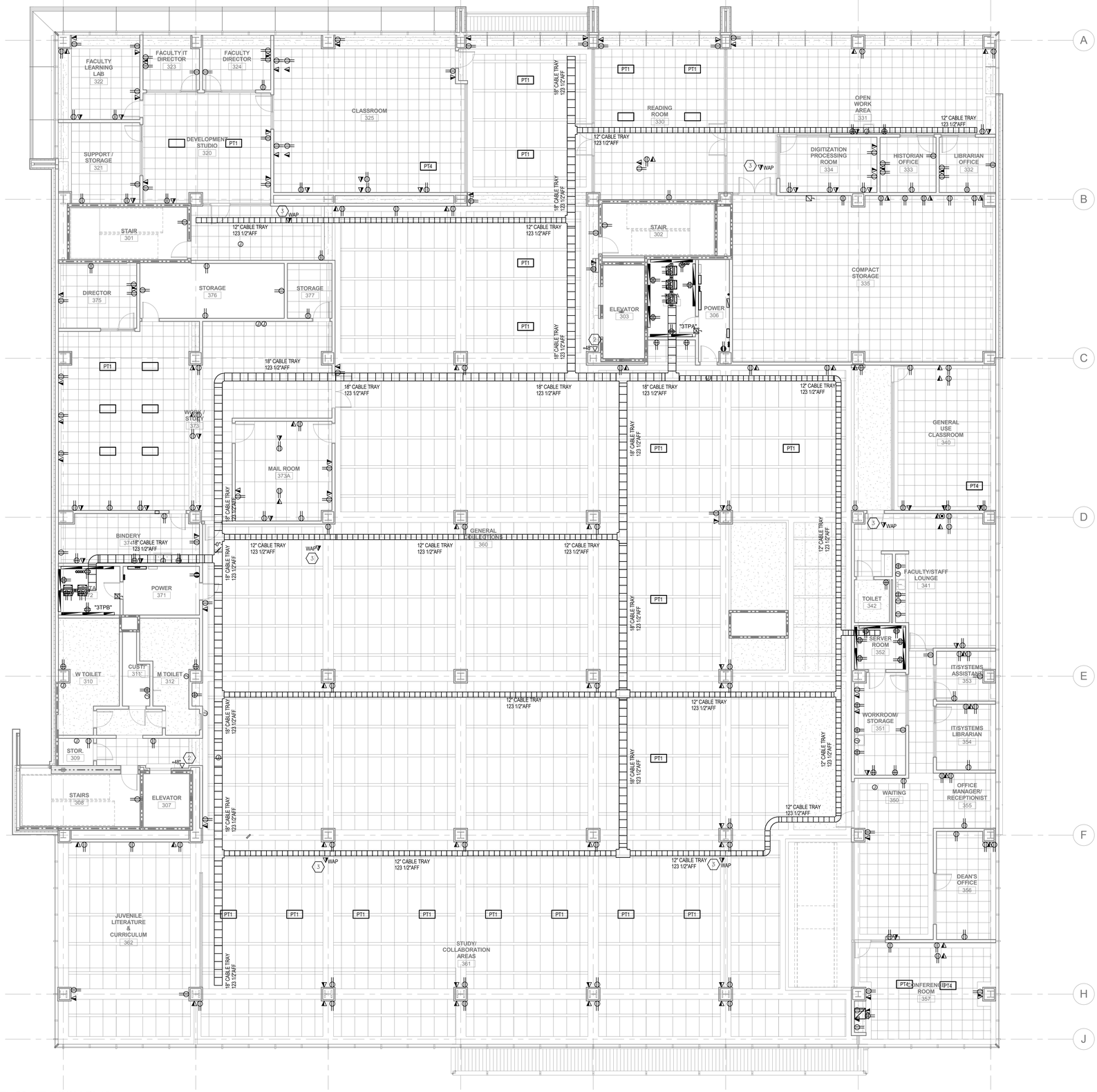

A1 LEVEL 03 TELECOM PLAN

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1 ALL CABLE TRAY SHALL BE 4" DEEP BY WIDTH SHOWN ON PLANS.

2 ALL CABLE TRAY MOUNTING HEIGHT DIMENSIONS ARE TO BOTTOM OF CABLE TRAY.

3 EXCEPT IN COMMUNICATIONS ROOMS, INSTALL SOLID BOTTOM INSERTS IN CABLE TRAYS WHERE THEY ARE VISIBLE FROM THE FLOOR. EXTEND INSERTS MINIMUM 2'-0" BEYOND POINT THAT CABLE TRAY IS ABOVE CEILING.

4 INSTALL FIRE RATED PUTTY PADS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS ON ALL BOXES LOCATED IN RATED WALLS.

5 WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REVER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

1 DELAYED EGRESS DOOR WITH LOCAL ALARM.

2 PROVIDE VIKING ELECTRONICS MODEL E-1600-30A EMERGENCY PHONE. CONNECT TO ANALOG PHONE LINE PROVIDED BY STATE TECHNOLOGY SERVICES.

3 JUNCTION BOX ABOVE CEILING WITH 1" CONDUIT TO CABLE TRAY FOR WIRELESS ACCESS POINT. COORDINATE EXACT LOCATION WITH OWNER.

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

SASAKI

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STATE OF UTAH

SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #062976 40
DIXIE COLLEGE, ST. GEORGE, UT
CONFORMED CONSTRUCTION DOCUMENTS BID SET

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LEVEL 3
TELECOMMUNICATIONS
ROUGH-IN PLAN

ET103

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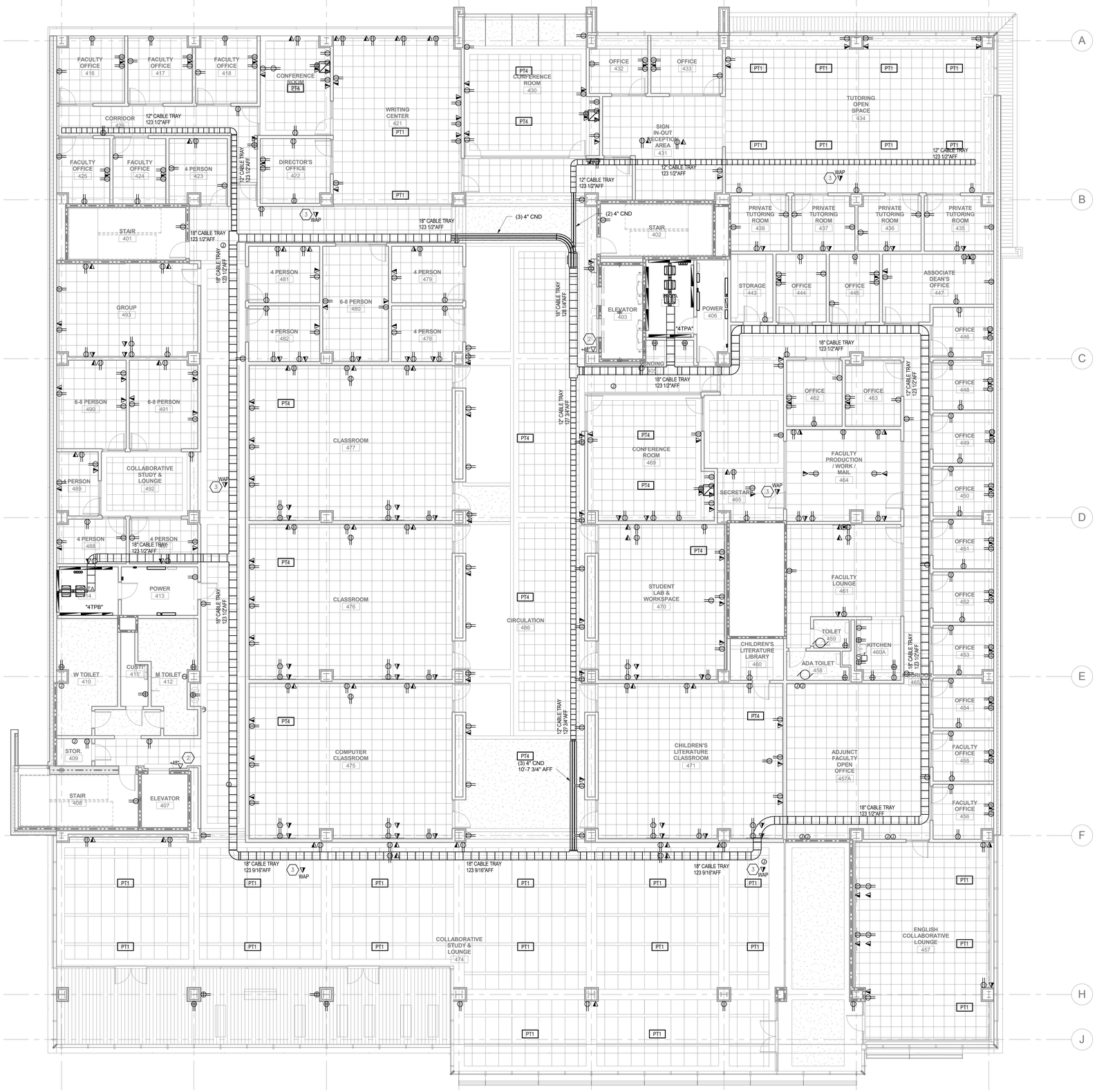

A1 LEVEL 04 TELECOM PLAN

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1. ALL CABLE TRAY SHALL BE 4" DEEP BY WIDTH SHOWN ON PLANS.
2. ALL CABLE TRAY MOUNTING HEIGHT DIMENSIONS ARE TO BOTTOM OF CABLE TRAY.
3. EXCEPT IN COMMUNICATIONS ROOMS, INSTALL SOLID BOTTOM INSERTS IN CABLE TRAYS WHERE THEY ARE VISIBLE FROM THE FLOOR. EXTEND INSERTS MINIMUM 2'-0" BEYOND POINT THAT CABLE TRAY IS ABOVE CEILING.
4. INSTALL FIRE RATED PUTTY PADS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS ON ALL BOXES LOCATED IN RATED WALLS.
5. WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REVER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

1. DELAYED EGRESS DOOR WITH LOCAL ALARM.
2. PROVIDE VIKING ELECTRONICS MODEL E-1600-30A EMERGENCY PHONE. CONNECT TO ANALOG PHONE LINE PROVIDED BY STATE TECHNOLOGY SERVICES.
3. JUNCTION BOX ABOVE CEILING WITH 1" CONDUIT TO CABLE TRAY FOR WIRELESS ACCESS POINT. COORDINATE EXACT LOCATION WITH OWNER.

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

SASAKI

LICENSED PROFESSIONAL ENGINEER No. 179621 RALPH B. KOEBER STATE OF UTAH

SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH

DFCM #06297640

DIXIE COLLEGE, ST. GEORGE, UT

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LEVEL 4 TELECOMMUNICATIONS ROUGH-IN PLAN

ET104

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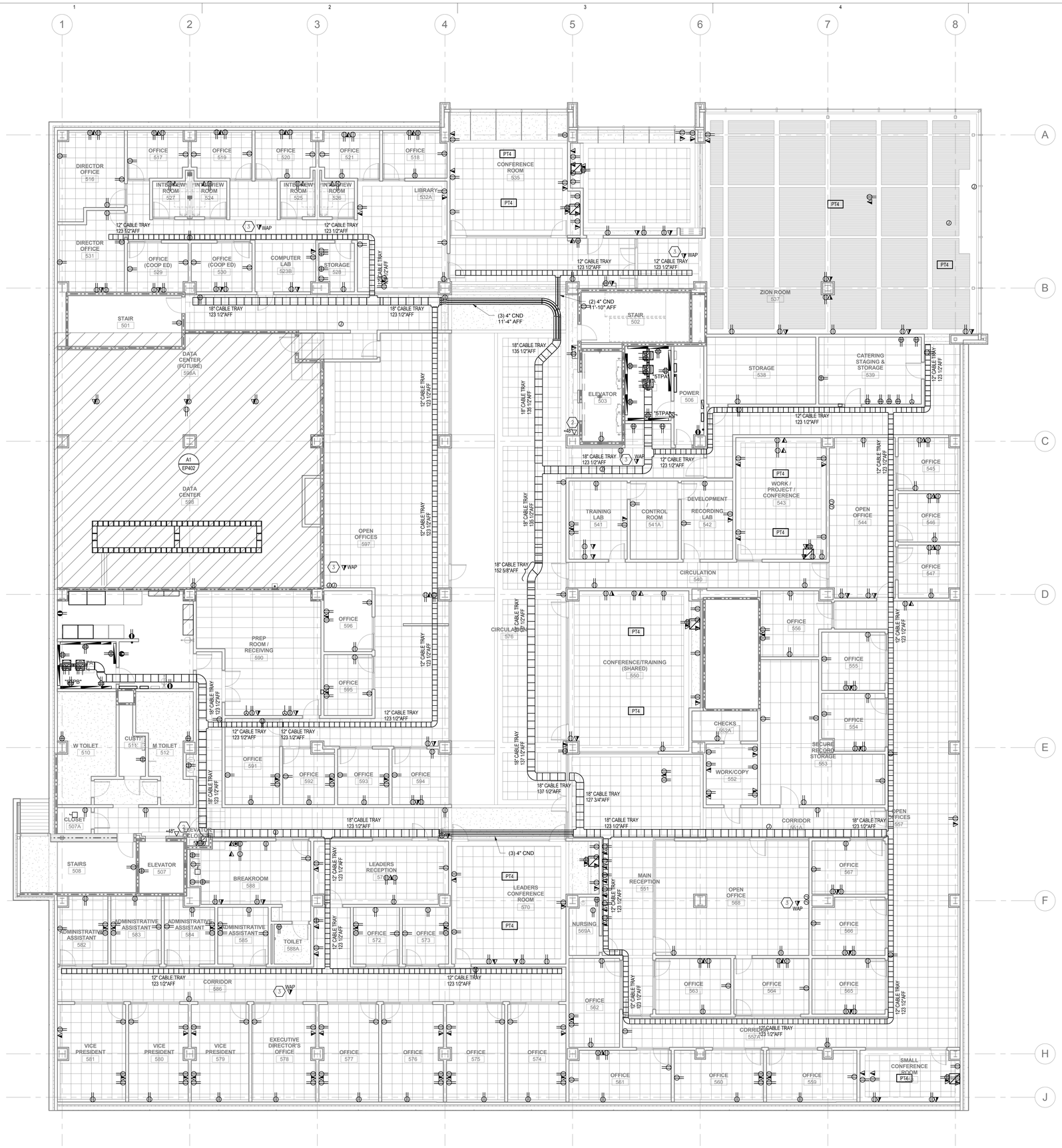

A1 LEVEL 05 TELECOM PLAN

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1. ALL CABLE TRAY SHALL BE 4" DEEP BY WIDTH SHOWN ON PLANS.
2. ALL CABLE TRAY MOUNTING HEIGHT DIMENSIONS ARE TO BOTTOM OF CABLE TRAY.
3. EXCEPT IN COMMUNICATIONS ROOMS, INSTALL SOLID BOTTOM INSERTS IN CABLE TRAYS WHERE THEY ARE VISIBLE FROM THE FLOOR. EXTEND INSERTS MINIMUM 2'-0" BEYOND POINT THAT CABLE TRAY IS ABOVE CEILING.
4. INSTALL FIRE RATED PUTTY PADS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS ON ALL BOXES LOCATED IN RATED WALLS.
5. WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REVER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

1. DELAYED EGRESS DOOR WITH LOCAL ALARM.
2. PROVIDE VIKING ELECTRONICS MODEL E-1600-30A EMERGENCY PHONE. CONNECT TO ANALOG PHONE LINE PROVIDED BY STATE TECHNOLOGY SERVICES.
3. JUNCTION BOX ABOVE CEILING WITH 1" CONDUIT TO CABLE TRAY FOR WIRELESS ACCESS POINT. COORDINATE EXACT LOCATION WITH OWNER.

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

SASAKI

LICENSED PROFESSIONAL ENGINEER
No. 179621
RALPH B. KOEBER
STATE OF UTAH

SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #06297640
DIXIE COLLEGE, ST. GEORGE, UT
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LEVEL 5
TELECOMMUNICATIONS
ROUGH-IN PLAN

ET105

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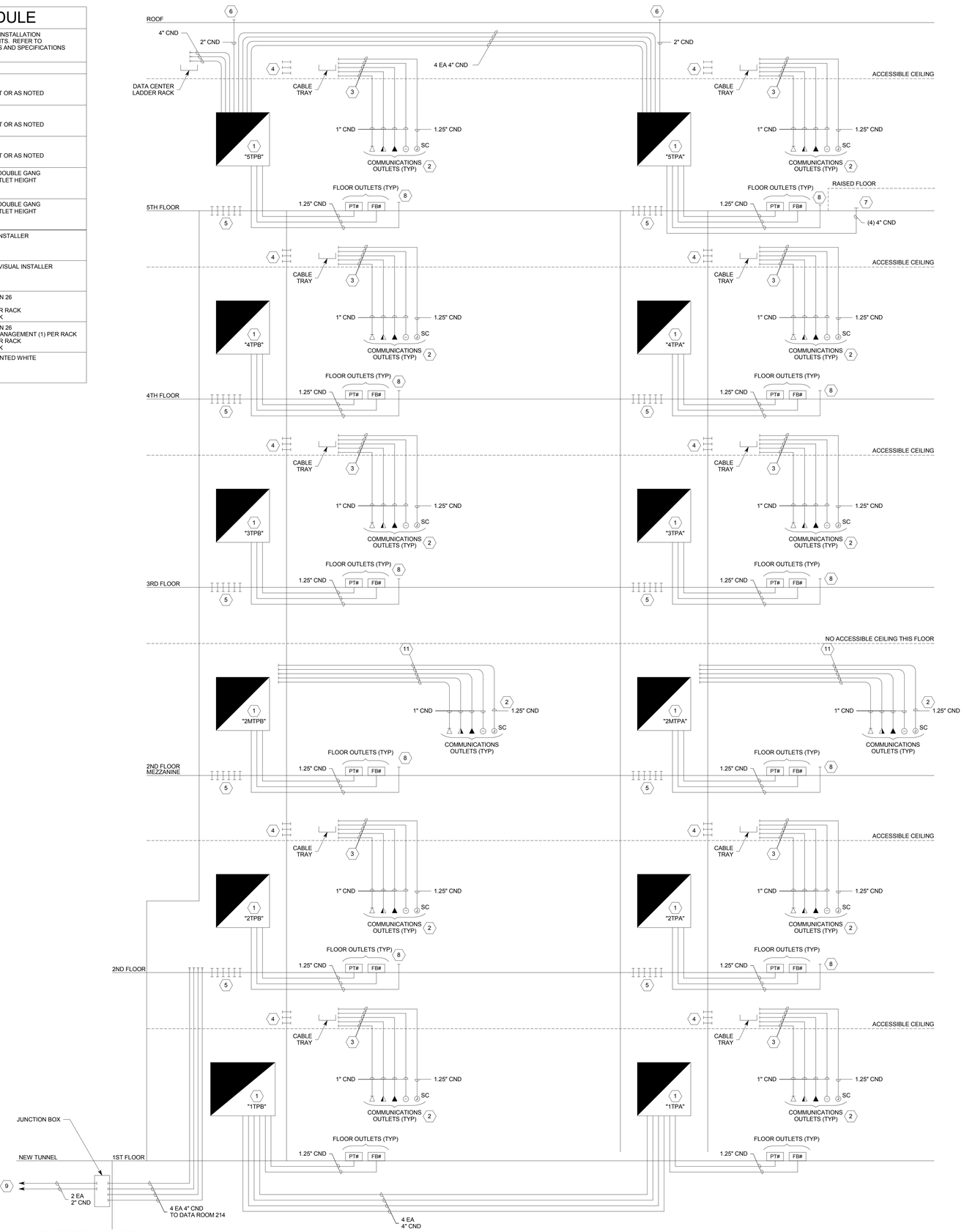
VOICE/DATA ROUGH-IN SCHEDULE

ELECTRONIC SYSTEMS: REFER TO SPECIFICATIONS AND WIRING DEVICE SCHEDULES FOR INSTALLATION REQUIREMENTS. MOUNTING HEIGHTS SHOWN ARE TYPICAL HEIGHTS. REFER TO ELECTRICAL DRAWINGS, ARCHITECTURAL ELEVATIONS, DRAWINGS AND SPECIFICATIONS FOR ACTUAL MOUNTING HEIGHTS.

SYMBOL	MOUNTING	DESCRIPTION	ROUGH-IN MATERIALS
	WALL	PHONE OUTLET	4 SQUARE, DEEP JUNCTION BOX WITH DOUBLE GANG MUD RING MOUNT AT ELECTRICAL OUTLET HEIGHT OR AS NOTED
W	WALL	WALL PHONE OUTLET	4 SQUARE, DEEP JUNCTION BOX WITH SINGLE GANG MUD RING MOUNT AT ELECTRICAL SWITCH HEIGHT OR AS NOTED
(A)	WALL	VOICE/DATA OUTLET	4 SQUARE, DEEP JUNCTION BOX WITH DOUBLE GANG MUD RING MOUNT AT ELECTRICAL OUTLET HEIGHT OR AS NOTED
A	WALL	DATA OUTLET	4 SQUARE, DEEP JUNCTION BOX WITH DOUBLE GANG MUD RING. MOUNT AT ELECTRICAL OUTLET HEIGHT OR AS NOTED.
C	ABOVE ACCESSIBLE ABOVE	DATA OUTLET, WIRELESS	4 SQUARE, DEEP JUNCTION BOX WITH DOUBLE GANG MUD RING. MOUNT AT ELECTRICAL OUTLET HEIGHT OR AS NOTED.
	FLOOR	OPEN RAIL DATA EQUIPMENT RACK	FURNISHED AND INSTALLED BY DATA INSTALLER
1	FLOOR	AUDIO-VISUAL EQUIPMENT RACK	FURNISHED AND INSTALLED BY AUDIO-VISUAL INSTALLER IN FUTURE BID PACKAGE
N	RAISED FLOOR	DATA ROOM NETWORK RACK	FURNISHED AND INSTALLED BY DIVISION 26 APC AR3357 RACK APC AR7580 WIRE MANAGEMENT (2) PER RACK APC AP7541 POWER STRIP (2) PER RACK
S	RAISED FLOOR	DATA ROOM SERVER RACK	FURNISHED AND INSTALLED BY DIVISION 26 APC AR3307 RACK, APC AR7572 WIRE MANAGEMENT (1) PER RACK APC AR7717 WIRE MANAGEMENT (1) PER RACK APC AP7541 POWER STRIP (2) PER RACK
	WALL	TELEPHONE BOARD	.75"x4'x8' PLYWOOD, FIREPROOFED, PAINTED WHITE

"A" INDICATES ABOVE COUNTER MOUNTING



A1 TELECOMMUNICATIONS RACEWAY RISER DIAGRAM

NO SCALE

GENERAL SHEET NOTES

1. WELL IN ADVANCE OF INSTALLATION, COORDINATE WORK WITH ALL OTHER TRADES SO THAT ELECTRICAL EQUIPMENT, OR ITS INTENDED USE, IS NOT OBSTRUCTED BY EQUIPMENT BEING PROVIDED BY OTHER DIVISIONS.
2. ALL VOICE/DATA SYSTEMS CABLE IS TO BE INSTALLED INSIDE MINIMUM 1" CONDUIT. STUB CONDUIT FROM JUNCTION BOX LOCATION TO CABLE MANAGEMENT SYSTEM SPECIFIED FOR ACCESSIBLE CEILING.
3. WHERE DEVICES ARE LOCATED IN SPLIT-FACE BLOCK, COORDINATE WITH MASON INSTALLER SO THAT DEVICE IS LOCATED ON A SMOOTH, FLAT PORTION OF THE BLOCK ALLOWING THE COVER PLATE TO BE TIGHT AND FLUSH AGAINST SURFACE.
4. CONDUIT FROM VOICE/DATA OUTLETS TO CABLE TRAY SHALL HAVE NO MORE THAN TWO 90° BENDS.

SHEET KEYNOTES

1. PROVIDE 0.75" THICK X 8" HIGH FIRE-TREATED, PAINTED PLYWOOD ON ALL WALLS OF COMMUNICATIONS ROOMS.
2. PROVIDE DEEP 4" SQUARE BOX WITH DOUBLE GANG MUD RING AND COVER PLATE.
3. STUB CONDUITS ALL THE WAY TO CABLE TRAY. PROVIDE INSULATED THROATS. WHERE CABLE TRAYS ARE NOT PROVIDED, OR WHERE CEILINGS ARE INACCESSIBLE, THEN STUB CONDUITS ALL THE WAY TO TELECOMM ROOM.
4. STUB 4 EACH, 4" CND SLEEVES THROUGH WALL ABOVE CEILING INTO COMMUNICATIONS ROOM.
5. PROVIDE 6 EACH, 4" CND SLEEVES BETWEEN FLOORS. FIRE STOP AFTER CABLING INSTALLATION IS COMPLETE.
6. STUB CONDUITS TO ROOF. PROVIDE FLASHING AND CAP.
7. STUB CONDUIT FROM TELECOMM CLOSETS INTO RAISED FLOOR AREA (WHERE PROVIDED) AS INDICATED.
8. PROVIDE STUB TO FURNITURE WITH DATA DROPS. PROVIDE 1 EACH MINIMUM FOR EACH 4 DROPS IN FURNITURE.
9. RUN CONDUITS THROUGH NEW AND EXISTING TUNNELS TO DATA CENTER IN BROWNING LIBRARY.
10. SIZE JUNCTION BOX PER NEC 314.28.
11. STUB CONDUITS INTO TELCOMM CLOSET.

VCBO ARCHITECTURE
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SASAKI
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HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #06297640
DIXIE COLLEGE, ST. GEORGE, UT
CONFORMED CONSTRUCTION DOCUMENTS BID SET

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TELECOMMUNICATIONS RISER DIAGRAM

ET601

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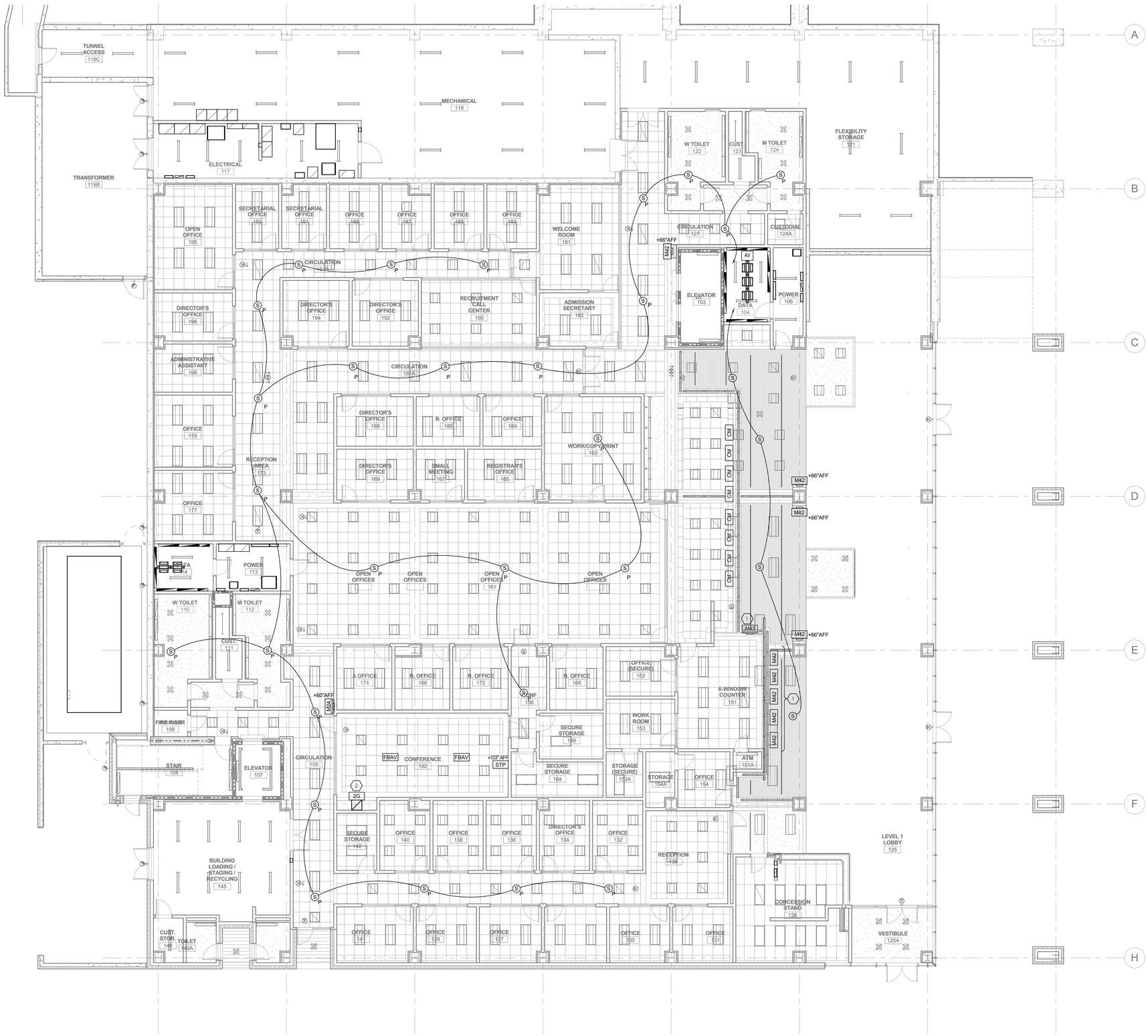

A1 LEVEL 1 AV ROUGH IN PLAN

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1 INSTALL FIRE RATED PUTTY PADS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS ON ALL BOXES LOCATED IN RATED WALLS.

2 WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REVER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

1 MOUNT IN SOFFIT ABOVE EACH CASHIER WINDOW.

2 INSTALL JUNCTION BOX IN WALL ABOVE COUNTER TOP.

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

SASAKI

LICENSED PROFESSIONAL ENGINEER
No. 179621
RALPH B. KOEBER
STATE OF UTAH

SPECTRUM ENGINEERS

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DIXIE STATE COLLEGE OF UTAH
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LEVEL 1 AV ROUGH IN PLAN

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A1 LEVEL 02 AV ROUGH IN PLAN

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1 INSTALL FIRE RATED PUTTY PADS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS ON ALL BOXES LOCATED IN RATED WALLS.

2 WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REVER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

1 INSTALL A DOUBLE GANG JUNCTION BOX IN TV MONITOR BACKBOX. INSTALL A DOUBLE GANG JUNCTION BOX BELOW MONITOR NEXT TO POWER OUTLET AT ELECTRICAL OUTLET HEIGHT.

2 INSTALL JUNCTION BOX BEHIND WALL MOUNTED LAPTOP STATION.

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

SASAKI

LICENSED PROFESSIONAL ENGINEER
No. 179621
RALPH B. KOEBER
STATE OF UTAH

SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #0629764O
DIXIE COLLEGE, ST. GEORGE, UT
CONFORMED CONSTRUCTION DOCUMENTS BID SET

No.	Description	Date

Job # 09625
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Date 12/03/2010
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LEVEL 2 AV ROUGH IN PLAN

EJ102
Sheet Number

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12/6/2010 7:13:34 AM

A1 LEVEL 02M AV ROUGH IN PLAN

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1 INSTALL FIRE RATED PUTTY PADS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS ON ALL BOXES LOCATED IN RATED WALLS.

2 WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REVER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

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LICENSED PROFESSIONAL ENGINEER
No. 179621
RALPH B. KOEBER
STATE OF UTAH

SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #00297640
DIXIE COLLEGE, ST. GEORGE, UT
CONFORMED CONSTRUCTION DOCUMENTS BID SET

No.	Description	Date

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LEVEL 2 MEZZANINE AV ROUGH IN PLAN

EJ102M
Sheet Number

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A1 LEVEL 03 AV ROUGH IN PLAN

SCALE: 1/8" = 1'-0"

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GENERAL SHEET NOTES

1 INSTALL FIRE RATED PUTTY PADS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS ON ALL BOXES LOCATED IN RATED WALLS.

2 WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REVER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

1 INSTALL A DOUBLE GANG JUNCTION BOX IN TV MONITOR BACKBOX. INSTALL A DOUBLE GANG JUNCTION BOX BELOW MONITOR NEXT TO POWER OUTLET AT ELECTRICAL OUTLET HEIGHT.

2 INSTALL JUNCTION BOX IN WALL ABOVE COUNTER TOP.

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

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SPECTRUM ENGINEERS

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DIXIE STATE COLLEGE OF UTAH

DFCM #06297640

DIXIE COLLEGE, ST. GEORGE, UT

CONFORMED CONSTRUCTION DOCUMENTS BID SET

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LEVEL 3 AV ROUGH IN PLAN

EJ103

Sheet Number

A1 LEVEL 04 AV ROUGH IN PLAN

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1 INSTALL FIRE RATED PUTTY PADS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS ON ALL BOXES LOCATED IN RATED WALLS.

2 WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REFER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

1 INSTALL JUNCTION BOX IN WALL ABOVE COUNTER TOP.

2 INSTALL A DOUBLE GANG JUNCTION BOX IN TV MONITOR BACKBOX. INSTALL A DOUBLE GANG JUNCTION BOX BELOW MONITOR NEXT TO POWER OUTLET AT ELECTRICAL OUTLET HEIGHT.

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

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RALPH B. KOEBER
STATE OF UTAH

SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #06297640
DIXIE COLLEGE, ST. GEORGE, UT
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LEVEL 4 AV ROUGH IN PLAN

EJ104
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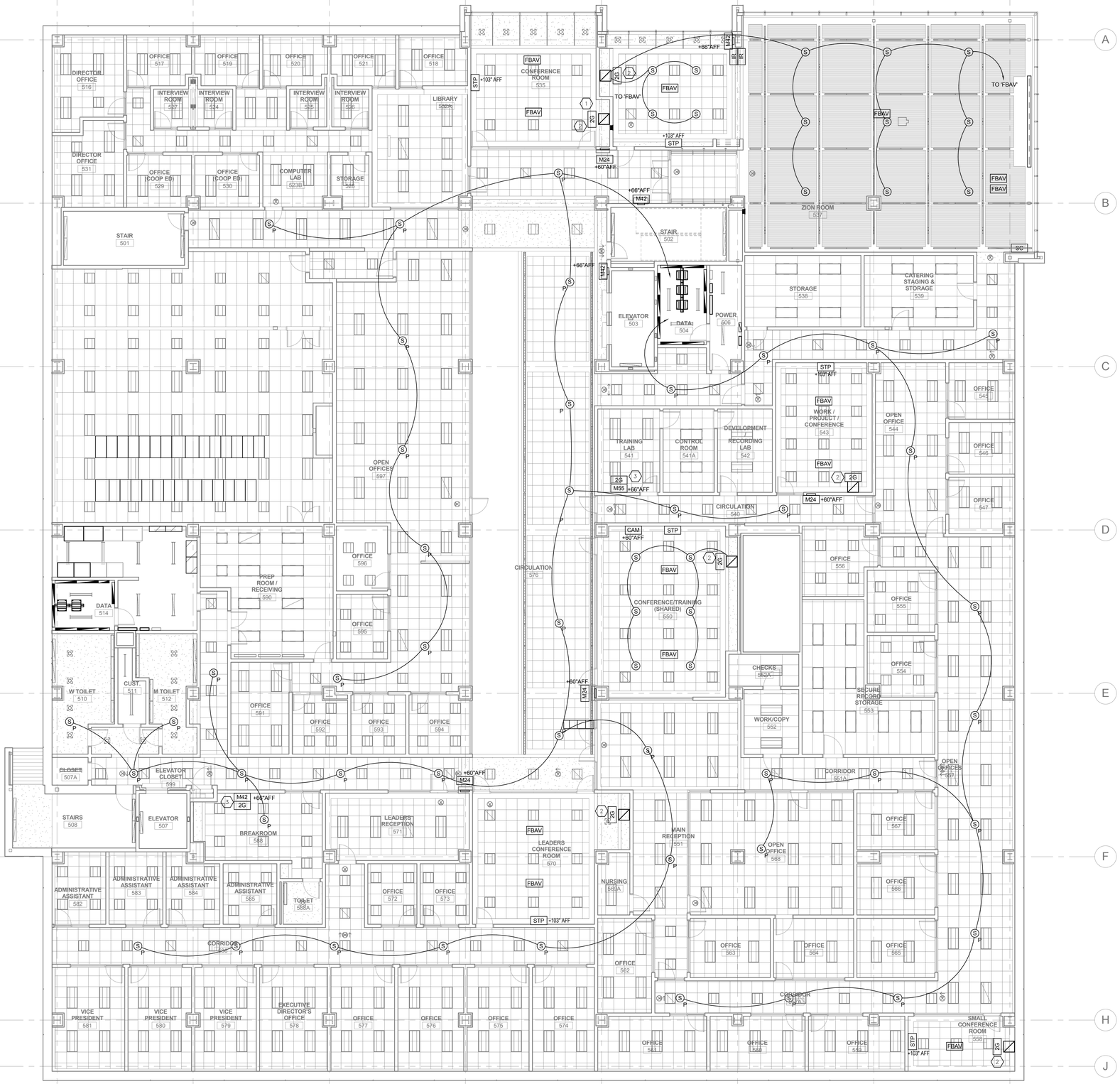

A1 LEVEL 05 AV ROUGH IN PLAN

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1 INSTALL FIRE RATED PUTTY PADS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS ON ALL BOXES LOCATED IN RATED WALLS.

2 WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REVER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

1

2 INSTALL JUNCTION BOX IN WALL ABOVE COUNTER TOP.

3 INSTALL A DOUBLE GANG JUNCTION BOX IN TV MONITOR BACKBOX. INSTALL A DOUBLE GANG JUNCTION BOX BELOW MONITOR NEXT TO POWER OUTLET AT ELECTRICAL OUTLET HEIGHT.

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

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HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
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DIXIE COLLEGE, ST. GEORGE, UT
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LEVEL 5 AV ROUGH IN PLAN

EJ105
Sheet Number

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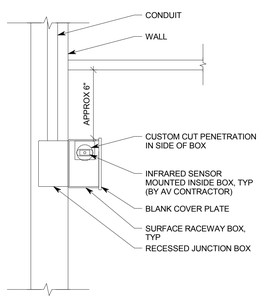

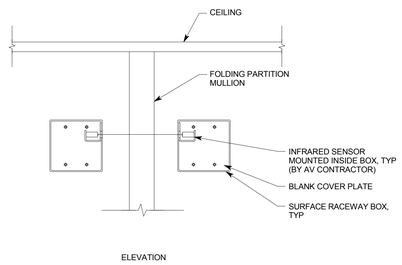

B1 INFRARED SENSOR MOUNTING DETAIL

NO SCALE

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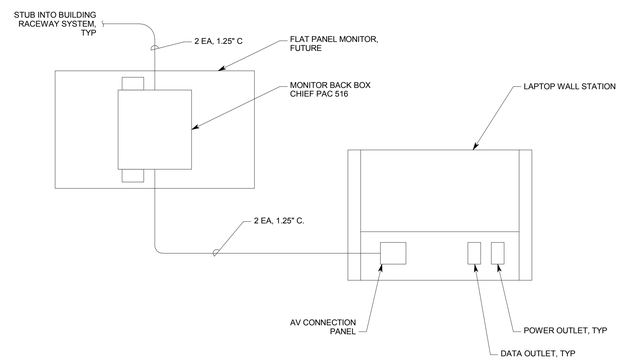
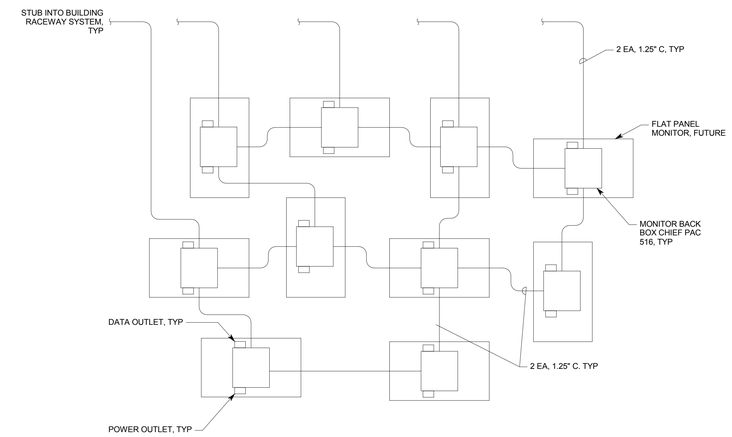


C3 MONITOR AND LAPTOP WALL STATION DETAIL

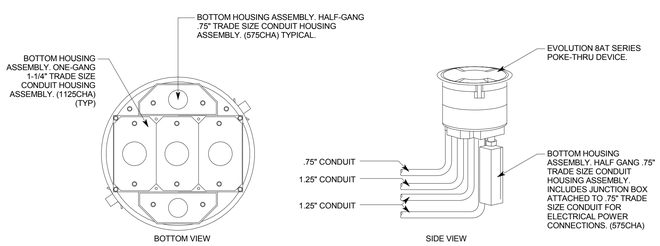
NO SCALE



C5 CONCEPTUAL FLAT PANEL MONITOR ARRAY CONDUIT DETAIL

NO SCALE

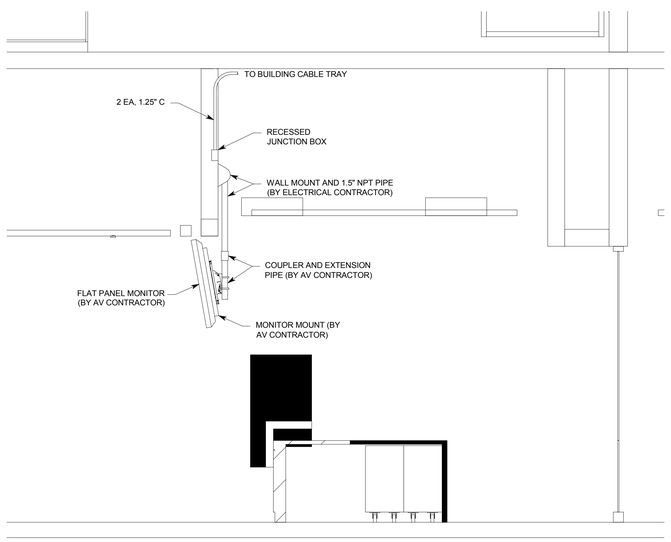
F10



A1 8" POKE-THRU DETAIL

NO SCALE

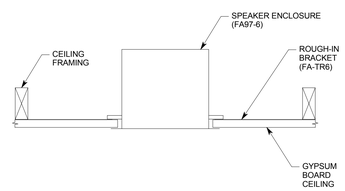
PTAV



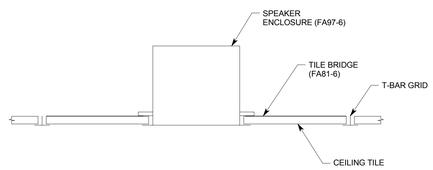
A3 MONITOR MOUNTING DETAIL

NO SCALE

CM



GYPSUM BOARD CEILING



LAY-IN CEILING TILE

A5 SPEAKER MOUNTING DETAILS

NO SCALE

S

VCBO
ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

SASAKI

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STATE OF UTAH

SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #06297640
DIXIE COLLEGE, ST. GEORGE, UT
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AV ROUGH IN DETAILS

EJ501

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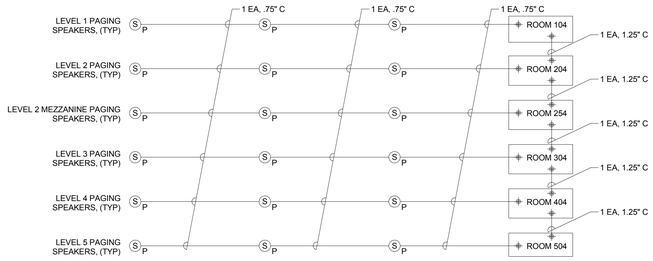
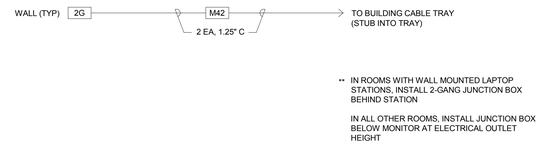


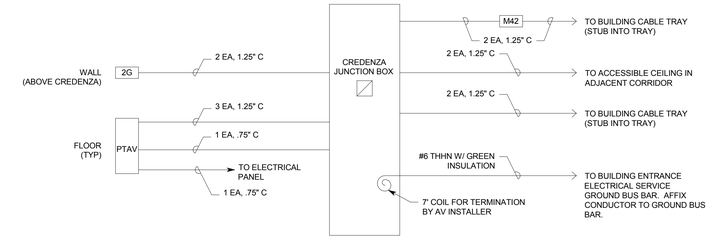
D3 PAGING SYSTEM RACEWAY RISER DIAGRAM

NO SCALE



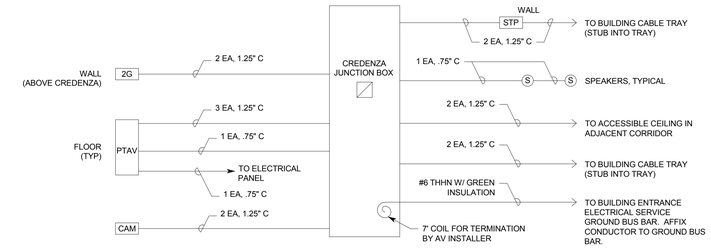
D3 AV SYSTEMS RACEWAY RISER DIAGRAM

NO SCALE - TYPICAL 6-8 PERSON ROOMS, FACULTY STAFF/LOUNGE 341, ENGLISH COLLABORATIVE LOUNGE 457, DEVELOPMENT/RECORDING LAB 541



E5 AV SYSTEMS RACEWAY RISER DIAGRAM

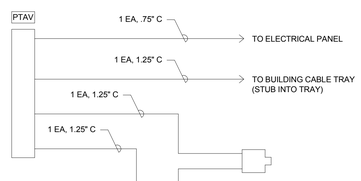
NO SCALE - CONFERENCE ROOM 420



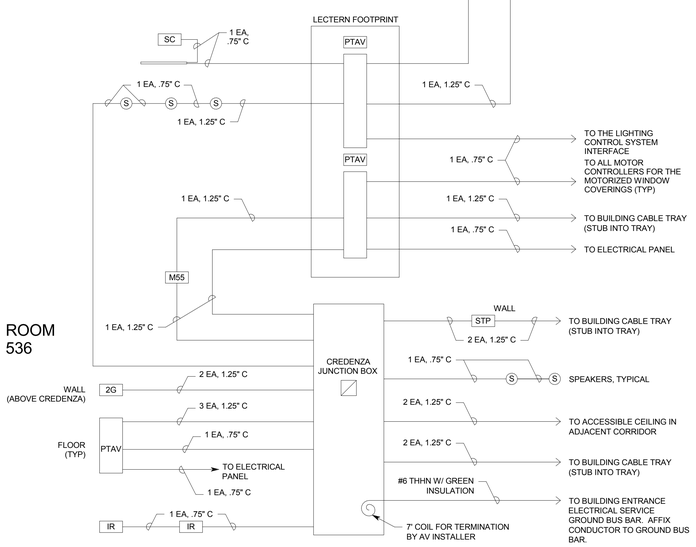
D5 AV SYSTEMS RACEWAY RISER DIAGRAM

NO SCALE - CONFERENCE/TRAINING (SHARED) ROOM 550

ZION ROOM 537

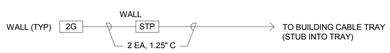


ROOM 536



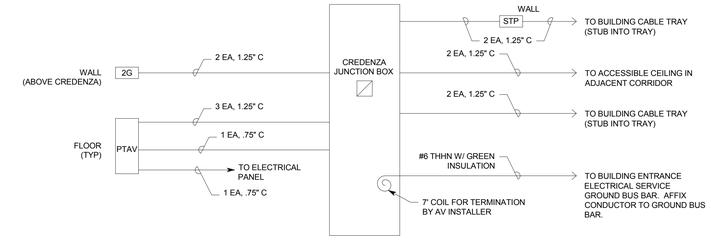
A3 AV SYSTEMS RACEWAY RISER DIAGRAM

NO SCALE - ZION ROOM 537 & ROOM 536



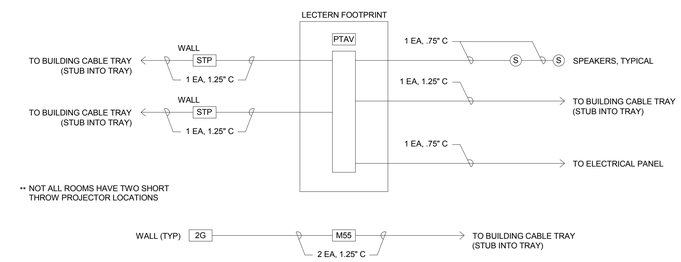
C3 AV SYSTEMS RACEWAY RISER DIAGRAM

NO SCALE - COLLABORATIVE STUDY & LOUNGE 474, GROUP 493



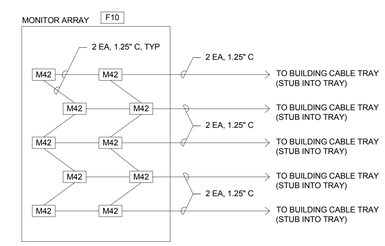
C5 AV SYSTEMS RACEWAY RISER DIAGRAM

NO SCALE - TYPICAL OF CONFERENCE ROOMS



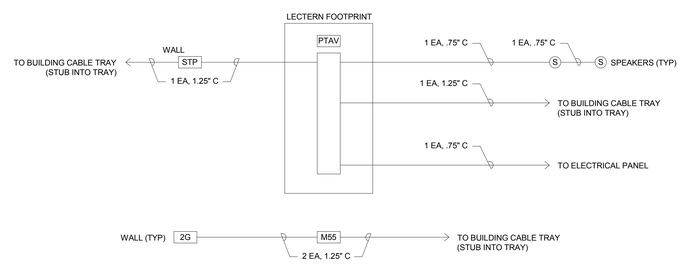
B3 AV SYSTEMS RACEWAY RISER DIAGRAM

NO SCALE - TYPICAL OF CLASSROOMS



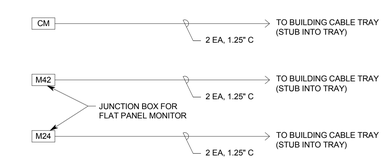
B5 AV SYSTEMS RACEWAY RISER DIAGRAM

NO SCALE - DIXIE HEREITAGE AND DIXIE DIGITAL GRAPHICS DISPLAYS



A3 AV SYSTEMS RACEWAY RISER DIAGRAM

NO SCALE - LIBRARY CURRICULUM 234



A5 AV SYSTEMS RACEWAY RISER DIAGRAM

NO SCALE - BUILDING DISPLAYS

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

SASAKI

LICENSED PROFESSIONAL ENGINEER No. 179621 RALPH B. KOEBER STATE OF UTAH

SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #06297640
DIXIE COLLEGE, ST. GEORGE, UT
CONFORMED CONSTRUCTION DOCUMENTS BID SET

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AV ROUGH IN RISER DIAGRAMS

EJ601

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DIXIE HOLLAND CENTENNIAL COMMONS DISPLAY DEVICE SCHEDULE

ROOM NAME	ROOM NUMBER	LEVEL	CEILING HEIGHT	DISPLAY TYPE	PROJECTED IMAGE HEIGHT	PROJECTED IMAGE WIDTH	APPROX PROJECTOR THROW DISTANCE	FLAT PANEL SIZE (DIAGONAL)	ASPECT RATIO	NOTES
WAITING	125	1		FP				42"	16:9	4 DIGITAL SIGNAGE DISPLAYS
6 WINDOW COUNTER	151	1		FP				42"	16:9	6 DIGITAL SIGNAGE DISPLAYS
COUNTER SPACE	160	1		FP				42"	16:9	8 DIGITAL SIGNAGE DISPLAYS
ADJACENT TO ELEVATOR 103		1		FP				42"	16:9	
CONFERENCE ROOM	162	1		PROJ	50.9"	81.4"	14.5"		16:10	WALL MOUNTED PROJECTOR - NO SCREEN
ADJACENT TO STAIR 202		2		FP				42"	16:9	2 DIGITAL SIGNAGE DISPLAYS
ADJACENT TO TECHNICAL ASSISTANCE 249		2		FP				42"	16:9	3 DIGITAL SIGNAGE DISPLAYS
DIXIE DIGITAL GRAPHICS	219	2		FP				VARIOUS	16:9	10 MONITOR ARRAY
DIXIE HERITAGE	219	2		FP				VARIOUS	16:9	10 MONITOR ARRAY
6-8 PERSON	228	2		FP				42"	16:9	
6-8 PERSON	229	2		FP				42"	16:9	
6-8 PERSON	230	2		FP				42"	16:9	
6-8 PERSON	231	2		FP				42"	16:9	
LIBRARY CURRICULUM	234	2		PROJ	50.9"	81.4"	14.5"		16:10	WALL MOUNTED PROJECTOR - NO SCREEN
LIBRARY CURRICULUM	234	2		FP				55"	16:9	FUTURE WALL MOUNTED MONITOR
ADJACENT TO LIBRARY CURRICULUM 234		2		FP				24"	16:10	
ADJACENT TO STAIR 252M		2M		FP				42"	16:9	
ADJACENT TO STAIR 302		3		FP				42"	16:9	
CLASSROOM	325	3		PROJ	50.9"	81.4"	14.5"		16:10	WALL MOUNTED PROJECTOR - NO SCREEN
CLASSROOM	325	3		FP				55"	16:9	2 FUTURE WALL MOUNTED MONITORS
ADJACENT TO CLASSROOM 325		3		FP				24"	16:10	
GENERAL USE CLASSROOM	340	3		PROJ	50.9"	81.4"	14.5"		16:10	WALL MOUNTED PROJECTOR - NO SCREEN
GENERAL USE CLASSROOM	340	3		FP				55"	16:9	FUTURE WALL MOUNTED MONITOR
ADJACENT TO GENERAL USE CLASSROOM 340		3		FP				24"	16:10	
FACULTY/STAFF LOUNGE	341	3		FP				55"	16:9	
CONFERENCE ROOM	357	3		PROJ	50.9"	81.4"	14.5"		16:10	WALL MOUNTED PROJECTOR - NO SCREEN
ADJACENT TO STAIR 402		4		FP				42"	16:9	
CONFERENCE ROOM	420	4		FP				55"	16:9	
ADJACENT TO CONFERENCE ROOM 420		4		FP				24"	16:10	
CONFERENCE ROOM	430	4		PROJ	50.9"	81.4"	14.5"		16:10	WALL MOUNTED PROJECTOR - NO SCREEN
ADJACENT TO CONFERENCE ROOM 430		4		FP				24"	16:10	
ENGLISH COLLABORATIVE LOUNGE	457	4		FP				42"	16:9	2 MONITORS IN ROOM
FACULTY LOUNGE	461	4		FP				42"	16:9	
CONFERENCE ROOM	469	4		PROJ	50.9"	81.4"	14.5"		16:9	WALL MOUNTED PROJECTOR - NO SCREEN
ADACENT TO CONFERENCE 469		4		FP				24"	16:10	
STUDENT LAB & WORKSPACE	470	4		PROJ	50.9"	81.4"	14.5"		16:10	WALL MOUNTED PROJECTOR - NO SCREEN
STUDENT LAB & WORKSPACE	470	4		FP				55"	16:9	2 FUTURE WALL MOUNTED MONITORS
ADJACENT TO STUDENT LAB & WORKSPACE 470		4		FP				24"	16:10	
CHILDREN'S LITERATURE CLASSROOM	471	4		PROJ	50.9"	81.4"	14.5"		16:10	2 WALL MOUNTED PROJECTOR LOCATIONS - NO SCREEN
CHILDREN'S LITERATURE CLASSROOM	471	4		FP				55"	16:9	2 FUTURE WALL MOUNTED MONITORS
ADJACENT TO CHILDREN'S LITERATURE CLASSROOM 471		4		FP				24"	16:10	
COLLABORATIVE STUDY & LOUNGE	474	4		PROJ	50.9"	81.4"	14.5"		16:10	2 WALL MOUNTED PROJECTORS - NO SCREEN
COMPUTER CLASSROOM	475	4		PROJ	50.9"	81.4"	14.5"		16:10	2 WALL MOUNTED PROJECTOR LOCATIONS - NO SCREEN
COMPUTER CLASSROOM	475	4		FP				55"	16:9	2 FUTURE WALL MOUNTED MONITORS
ADJACENT TO COMPUTER CLASSROOM 475		4		FP				24"	16:10	
CLASSROOM	476	4		PROJ	50.9"	81.4"	14.5"		16:10	2 WALL MOUNTED PROJECTOR LOCATIONS - NO SCREEN
CLASSROOM	476	4		FP				55"	16:9	2 FUTURE WALL MOUNTED MONITORS
ADJACENT TO CLASSROOM 476		4		FP				24"	16:10	
CLASSROOM	477	4		PROJ	50.9"	81.4"	14.5"		16:10	2 WALL MOUNTED PROJECTOR LOCATIONS - NO SCREEN
CLASSROOM	477	4		FP				55"	16:9	2 FUTURE WALL MOUNTED MONITORS
ADJACENT TO CLASSROOM 477		4		FP				24"	16:10	
GROUP	493	4		PROJ	50.9"	81.4"	14.5"		16:10	WALL MOUNTED PROJECTOR - NO SCREEN
ADJACENT TO STAIR 502		5		FP				42"	16:9	
CONFERENCE ROOM	535	5		PROJ	50.9"	81.4"	14.5"		16:10	WALL MOUNTED PROJECTOR - NO SCREEN
ADJACENT TO CONFERENCE ROOM 535		5		FP				24"	16:10	
CONFERENCE ROOM	536	5		PROJ	50.9"	81.4"	14.5"		16:10	WALL MOUNTED PROJECTOR - NO SCREEN
CONFERENCE ROOM	536	5		FP				55"	16:9	
ADJACENT TO CONFERENCE ROOM 536		5		FP				24"	16:10	
ZION ROOM	537	5	12'	PROJ	96"	171"	23'		16:9	
DEVELOPMENT/RECORDING LAB	541	5		FP				55"	16:9	WALL MOUNTED PROJECTOR - NO SCREEN
WORKPROJECT CONFERENC ROOM	543	5		PROJ	50.9"	81.4"	14.5"		16:10	WALL MOUNTED PROJECTOR - NO SCREEN
CONFERENCE/TRAINING ROOM	550	5		PROJ	50.9"	81.4"	14.5"		16:10	WALL MOUNTED PROJECTOR - NO SCREEN
ADJACENT TO CONFERENCE/TRAINING ROOM 550		5		FP				24"	16:10	
SMALL CONFERENCE ROOM	558	5		PROJ	50.9"	81.4"	14.5"		16:10	WALL MOUNTED PROJECTOR - NO SCREEN
LEADERS CONFERENCE ROOM	570	5		PROJ	50.9"	81.4"	14.5"		16:10	WALL MOUNTED PROJECTOR - NO SCREEN
ADJACENT TO LEADERS CONFERENCE ROOM 570		5		FP				24"	16:10	
BREAKROOM	588	5		FP				42"	16:9	

AV RACEWAY SYSTEMS SCHEDULE

SYMBOL	DESCRIPTION	MOUNTING	SPECIAL INSTRUCTIONS
FBAV	FLOOR BOX	VERIFY WITH POWER SHEET	
SC	SINGLE GANG JUNCTION BOX	FLUSH IN THE WALL AT ELECTRICAL SWITCH HEIGHT, EXCEPT WHERE NOTED ON THE DRAWINGS	COORDINATE INSTALLATION LOCATIONS WITH LIGHT SWITCHES AND WRITING SURFACES.
2G	JUNCTION BOX, 4 - 11/16" BOX WITH A 2-GANG MUD RING, MAXIMUM DEPTH FOR STUD SPACE	FLUSH IN THE WALL AT ELECTRICAL OUTLET HEIGHT, EXCEPT WHERE NOTED ON THE DRAWINGS	
CM	JUNCTION BOX AND POLE FOR SOFFIT MOUNTED MONITOR, 4-11/16" BOX WITH A 2-GANG MUD RING AND MONITOR MOUNT PIPE: CHIEF CMA-395 (WALL PLATE)/1.5" NPT PIPE EXTENDING 2" BELOW FINISHED CEILING	JUNCTION BOX FLUSH IN WALL ABOVE ACCESSIBLE CEILING. MONITOR MOUNT ABOVE AND THROUGH FINISHED CEILING. SEE DETAIL	COORDINATE EXACT LOCATION WITH ARCHITECTURAL DETAILS
M24	JUNCTION BOX FOR FLAT PANEL MONITOR CHIEF FAC-501	FLUSH IN THE WALL AT 60" AFF	COORDINATE EXACT LOCATION WITH ARCHITECTURAL DETAILS
M42	JUNCTION BOX FOR FLAT PANEL MONITOR CHIEF PAC-516	FLUSH IN THE WALL AT 66" AFF TO THE CENTER OF THE BOX	INSTALL SPECIFIED POWER OUTLET INSIDE JUNCTION BOX IN COMPLIANCE W/ MANUFACTURER'S WRITTEN INSTRUCTIONS.
M55	JUNCTION BOX FOR FLAT PANEL MONITOR 4-11/16" BOX WITH 2-GANG MUD RING	FLUSH IN THE WALL AT 66" AFF TO CENTER OF THE BOX	EXACT MOUNTING LOCATION IS TO BE VERIFIED WITH AV INSTALLER
F10	ARRAY OF 10 JUNCTION BOXES FOR FLAT PANEL MONITORS CHIEF PAC-516	FLUSH IN THE WALL, SEE CONCEPTUAL DETAIL FOR CONDUIT CONNECTIONS ONLY	COORDINATE EXACT BOX LOCATIONS ON WALL WITH ARCHITECTURAL DETAILS
IR	JUNCTION BOX FOR INFRARED DETECTOR, 4-11/16" BOX WITH A 2-GANG MUD RING	FLUSH IN THE WALL AT 6" BELOW PARTITION HEADER	
CAM	JUNCTION BOX FOR CAMERA, 4 - 11/16" BOX WITH A 2-GANG MUD RING, MAXIMUM DEPTH FOR STUD SPACE	FLUSH IN THE WALL AT 60" AFF TO CENTER OF THE BOX	
STP	JUNCTION BOX FOR WALL MOUNTED PROJECTOR, 4-11/16" BOX WITH A 2-GANG MUD RING	FLUSH IN THE WALL AT PROJECTOR MOUNT LOCATION	VERIFY EXACT MOUNTING LOCATION WITH AV INSTALLER
	PROJECTOR LIFT AND JUNCTION BOX, 4-11/16" BOX WITH A 2-GANG MUD RING LIFT: DISPLAY DEVICES DL3B-7.5 WITH EBR, OPT-1L, AND OPT-9	INSTALL JUNCTION BOX ABOVE THE FINISHED CEILING ADJACENT TO PROJECTOR LIFT LOCATION	COORDINATE EXACT MOUNTING LOCATION AND PROJECTOR MODEL WITH AV INSTALLER. PROJECTOR AND MOUNT FURNISHED AND INSTALLED BY AV INSTALLER
	RECESSED PROJECTION SCREEN, ELECTRIC ROLL UP, STEVART VISIONARY GRAND, 96"x171" VIEWING AREA WITH 3" BLACK DROP & LOW VOLTAGE CONTROL	FLUSH IN FINISHED CEILING	FURNISHED BY AV CONTRACTOR, HOUSING INSTALLED BY ELECTRICAL. TERMINATE CONTROL CABLE CONDUIT TO PROJECTION SCREEN ENCLOSURE. COORDINATE W/ PROJECTION SCREEN SUBMITTALS.
S	SPEAKER ENCLOSURE: ATLAS SOUND FA97-6 W/ FA81-6 OR FA-TR-6	FLUSH IN THE FINISHED CEILING	PROVIDE THE FA97-6 & FA81-6 IN LAY-IN CEILING TILE AREAS. PROVIDE THE FA97-6 & FA-TR6 IN VENTWOOD OR GYPSUM BOARD CEILING AREAS.
SP	SPEAKER ENCLOSURE: 8", ATLAS SOUND 95-8 W/81-8R TILE BRIDGE (IN LAY-IN TILE CEILING) OR 75-8 MOUNTING RING (IN VENTWOOD OR GYP BOARD CEILING)	FLUSH IN THE FINISHED CEILING	SUPPORT SPEAKER ENCLOSURE FROM STRUCTURE ABOVE IN ADDITION TO TILE BRIDGE/MOUNTING RING
	AV EQUIPMENT RACK LOCATION 14.5" SQUARE, MINIMUM 3" DEEP JUNCTION BOX, MODIFY AS NECESSARY TO ACCEPT REQUIRED CONDUITS	FLUSH IN WALL BEHIND CREDENZA	COORDINATE EXACT LOCATION WITH ARCHITECTURAL MILLWORK DETAILS
	CONDUIT, 3/4" MINIMUM	CONCEALED BEHIND FINISHED SURFACES, UNLESS NOTED OTHERWISE	REFER TO RISER DIAGRAMS FOR EXACT SIZES & QUANTITIES.
AV	AV EQUIPMENT RACK LOCATION	FLOOR STANDING	FURNISHED AND INSTALLED BY AV CONTRACTOR

GENERAL NOTES

1. IF THE ENCLOSURES, BOXES, & CABINETS SPECIFIED ARE NOT PROVIDED FROM THE MANUFACTURER, WITH THE REQUIRED KNOCK OUTS FOR THE SPECIFIED CONDUIT, FIELD CUT ALL REQUIRED KNOCK OUTS TO TERMINATE THE QUANTITY AND SIZES OF THE SPECIFIED CONDUITS.
2. MAINTAIN MAXIMUM SEPARATION BETWEEN AV SYSTEM CONDUIT AND ALL POWER CONDUIT.
3. INSTALL NYLON PULL STRINGS IN ALL AV SYSTEM CONDUIT.
4. INSTALL ALL CONDUIT IN A CONCEALED FASHION. SURFACE MOUNTED CONDUIT WILL NOT BE ACCEPTED UNLESS SPECIFICALLY IDENTIFIED IN DRAWINGS.
5. ABBREVIATIONS:
   AFF - ABOVE FINISHED FLOOR
   C - CONDUIT
   EA - EACH
6. COVER ALL INSTALLED JUNCTION BOXES WITH BLANK COVER PLATES.
7. FURNISH AND INSTALL ALL MOUNTS FOR PROJECTORS AND MONITORS. AFFIX ALL MOUNTS TO THE BUILDING STRUCTURE IN COMPLIANCE WITH GENERAL NOTE 8. FURNISH AND INSTALL ALL REQUIRED ACCESSORIES INCLUDING, BUT NOT LIMITED TO, MOUNTING PLATES, FASTENERS, BRACKETS, UNISTRUT, PIPE EXTENSIONS, PIPE COUPLERS, CAPS, THREADED ROD, CABLES, CLAMPS, TURNBUCKLES, EPOXIES, ETC. . TO INSTALL AND POSITION THE DISPLAY DEVICES FOR ITS INTENDED USE IN FULL COMPLIANCE WITH THE WRITTEN INSTRUCTIONS OF THE DISPLAY DEVICE MANUFACTURER, AS WELL AS, THE MOUNT MANUFACTURER.
8. INSTALL ALL EQUIPMENT IN COMPLIANCE WITH THE MANUFACTURERS WRITTEN INSTRUCTIONS, SEISMIC CODES, AND INDUSTRY WIDE ACCEPTED RIGGING PRACTICES. SUPPORT EQUIPMENT WEIGHT FROM STRUCTURE ABOVE CEILINGS. DURING THE SUBMITTAL PROCESS, PROVIDE SHOP DRAWINGS WHICH DETAIL PROPOSED MOUNTING FOR ALL SUCH EQUIPMENT.

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON
SASAKI
LICENSED PROFESSIONAL ENGINEER No. 179621 RALPH B. KOEBER STATE OF UTAH
SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #06297640
DIXIE COLLEGE, ST. GEORGE, UT
CONFORMED CONSTRUCTION DOCUMENTS BID SET

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AV ROUGH IN SCHEDULES

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A1 LEVEL 1 SECURITY PLAN

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1 INSTALL FIRE RATED PUTTY PADS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS ON ALL BOXES LOCATED IN RATED WALLS.

2 WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REVER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

1 PROVIDE CARD READER INSIDE ELEVATOR CAB FOR RESTRICTED FLOOR SELECTION.COORDINATE WITH ELEVATOR CONTRACTOR. PROVIDE FOR CABLE REQUIREMENTS IN THE ELEVATOR TRAVELER READER LOCATION INSIDE THE CAB.

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LEVEL 1 SECURITY PLAN

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A1 LEVEL 02 SECURITY PLAN

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1 INSTALL FIRE RATED PUTTY PADS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS ON ALL BOXES LOCATED IN RATED WALLS.

2 WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REVER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

1 PROVIDE ADDITIONAL DOOR CONTACT INDICATOR ON EACH DOOR LEAF (DOUBLE) OR SINGLE SWING DOOR FOR INTRUSITON DETECTION MONITORING.

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LEVEL 2 SECURITY PLAN

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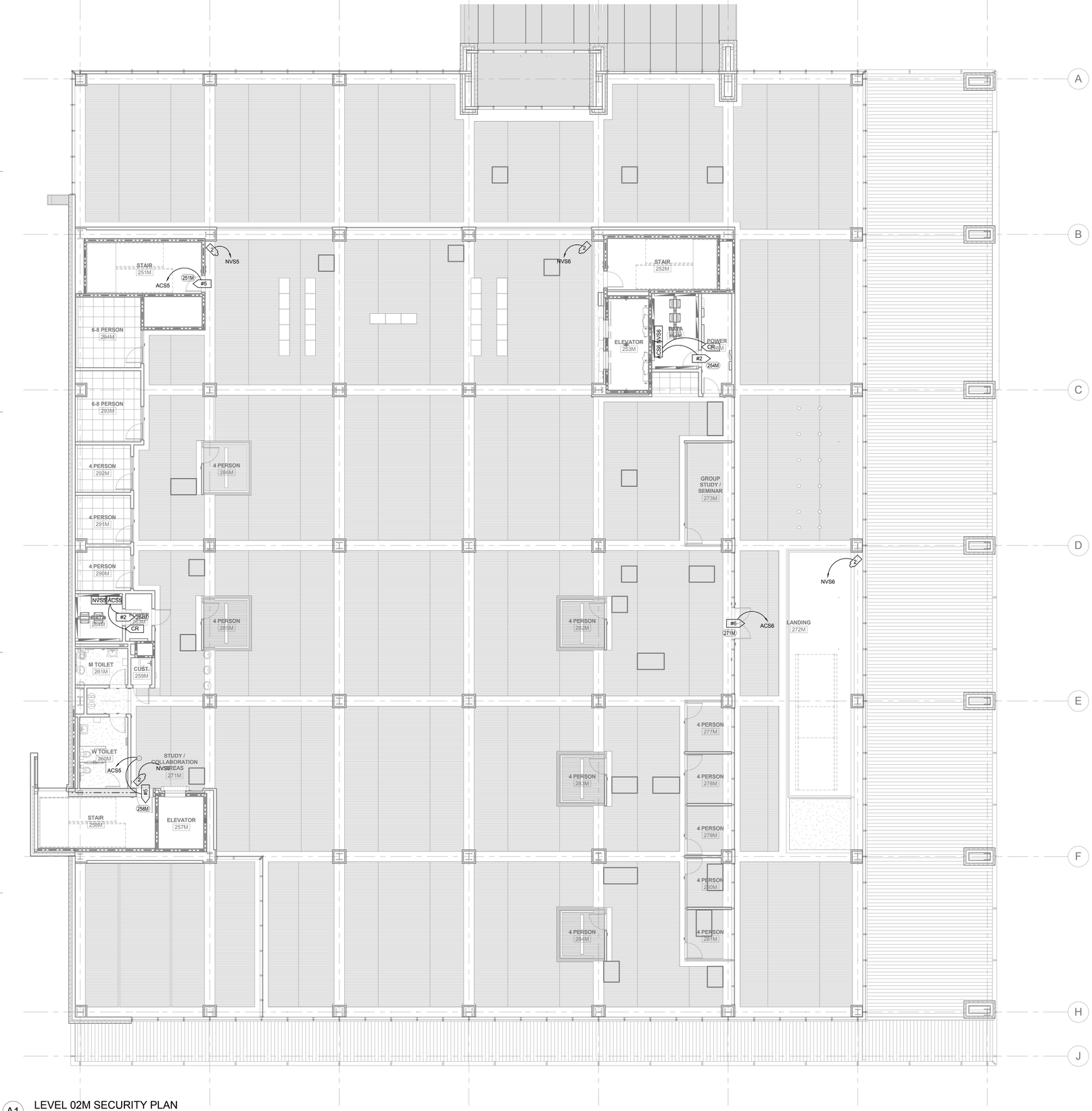

A1 LEVEL 02M SECURITY PLAN

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1 INSTALL FIRE RATED PUTTY PADS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS ON ALL BOXES LOCATED IN RATED WALLS.

2 WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REVER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

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LEVEL 2 MEZZANINE SECURITY PLAN

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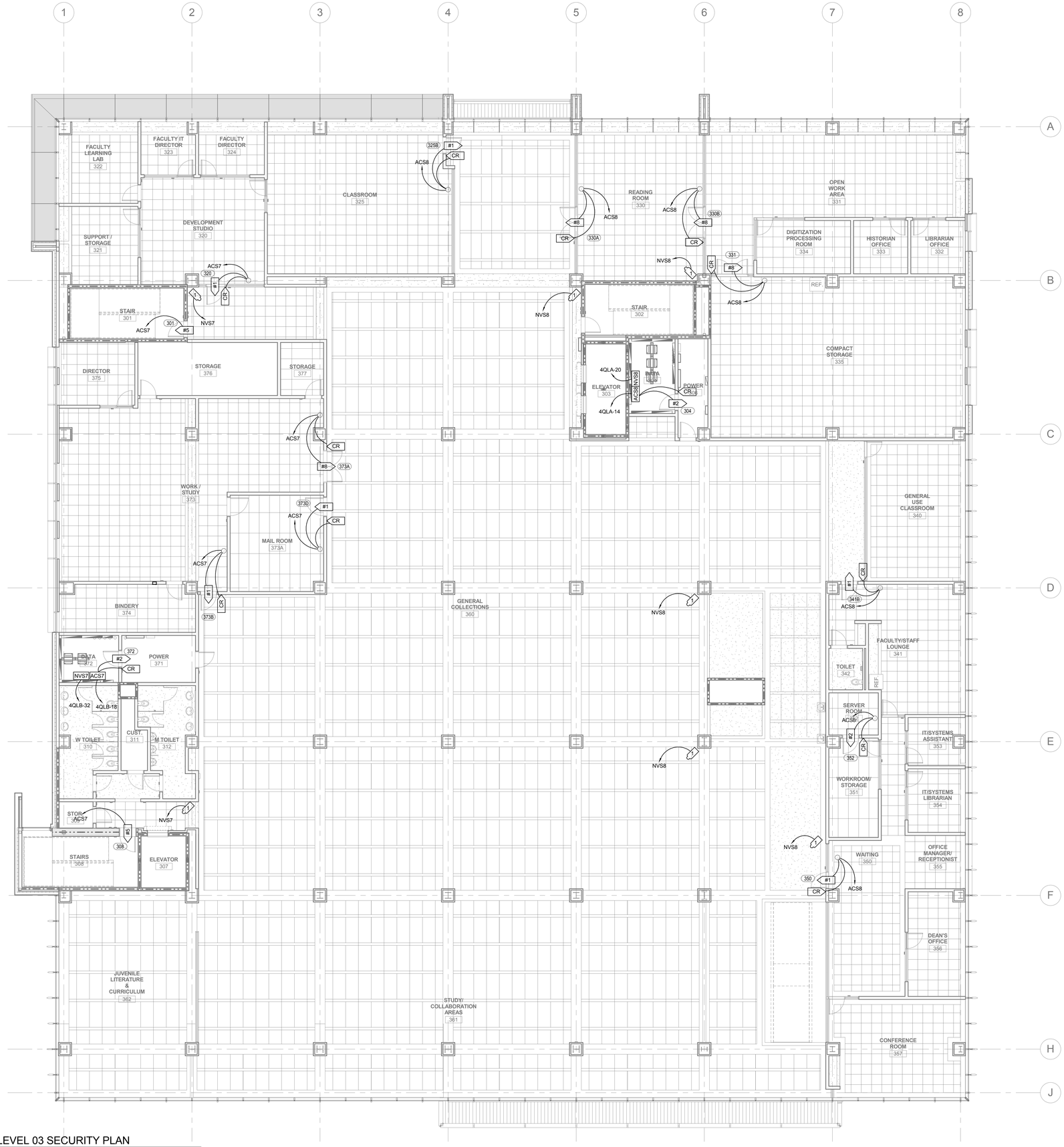

A1 LEVEL 03 SECURITY PLAN

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GENERAL SHEET NOTES

1 INSTALL FIRE RATED PUTTY PADS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS ON ALL BOXES LOCATED IN RATED WALLS.

2 WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REVER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

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LEVEL 3 SECURITY PLAN

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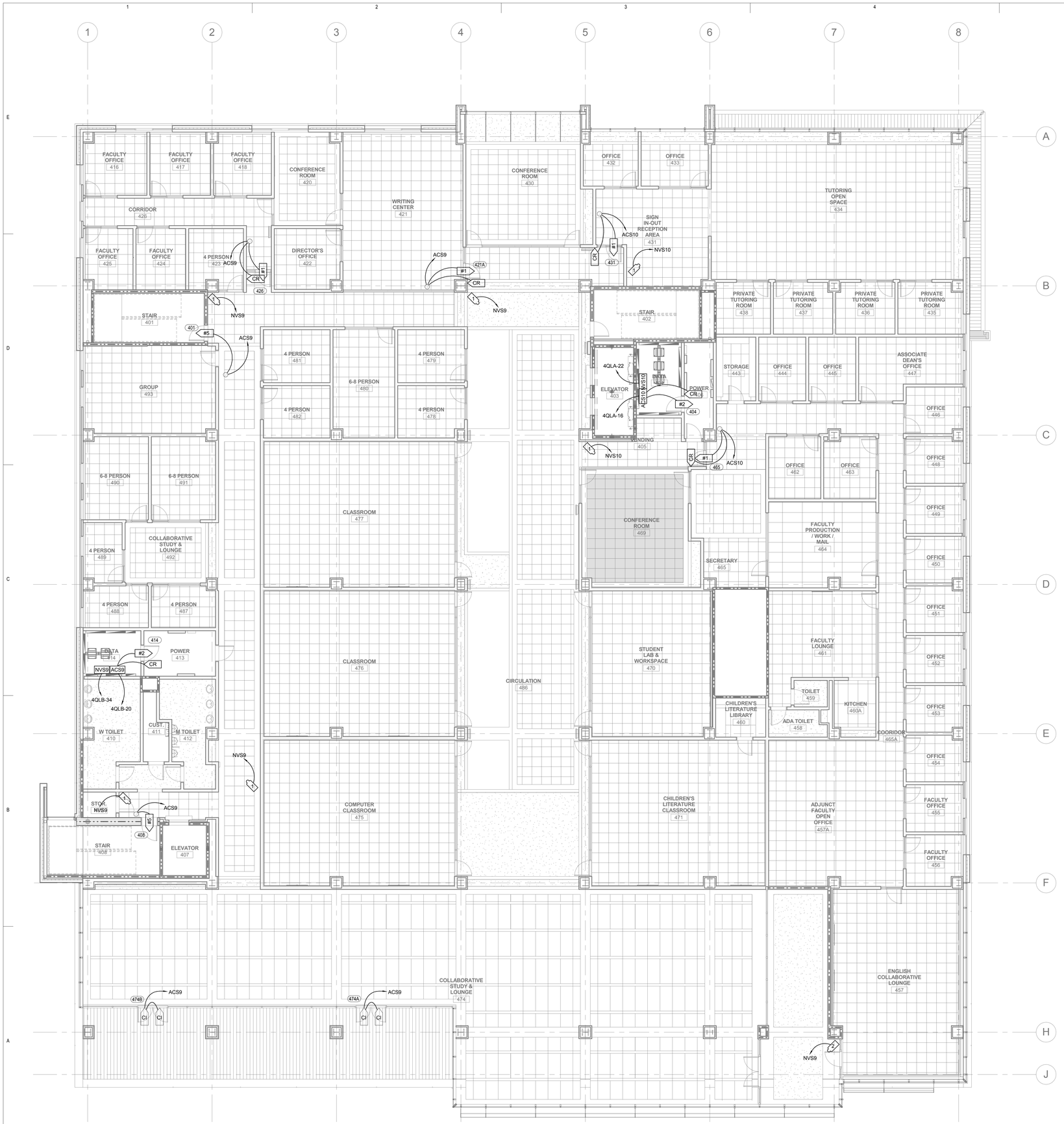

A1 LEVEL 04 SECURITY PLAN

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1 INSTALL FIRE RATED PUTTY PADS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS ON ALL BOXES LOCATED IN RATED WALLS.

2 WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REFER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

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LEVEL 4 SECURITY PLAN

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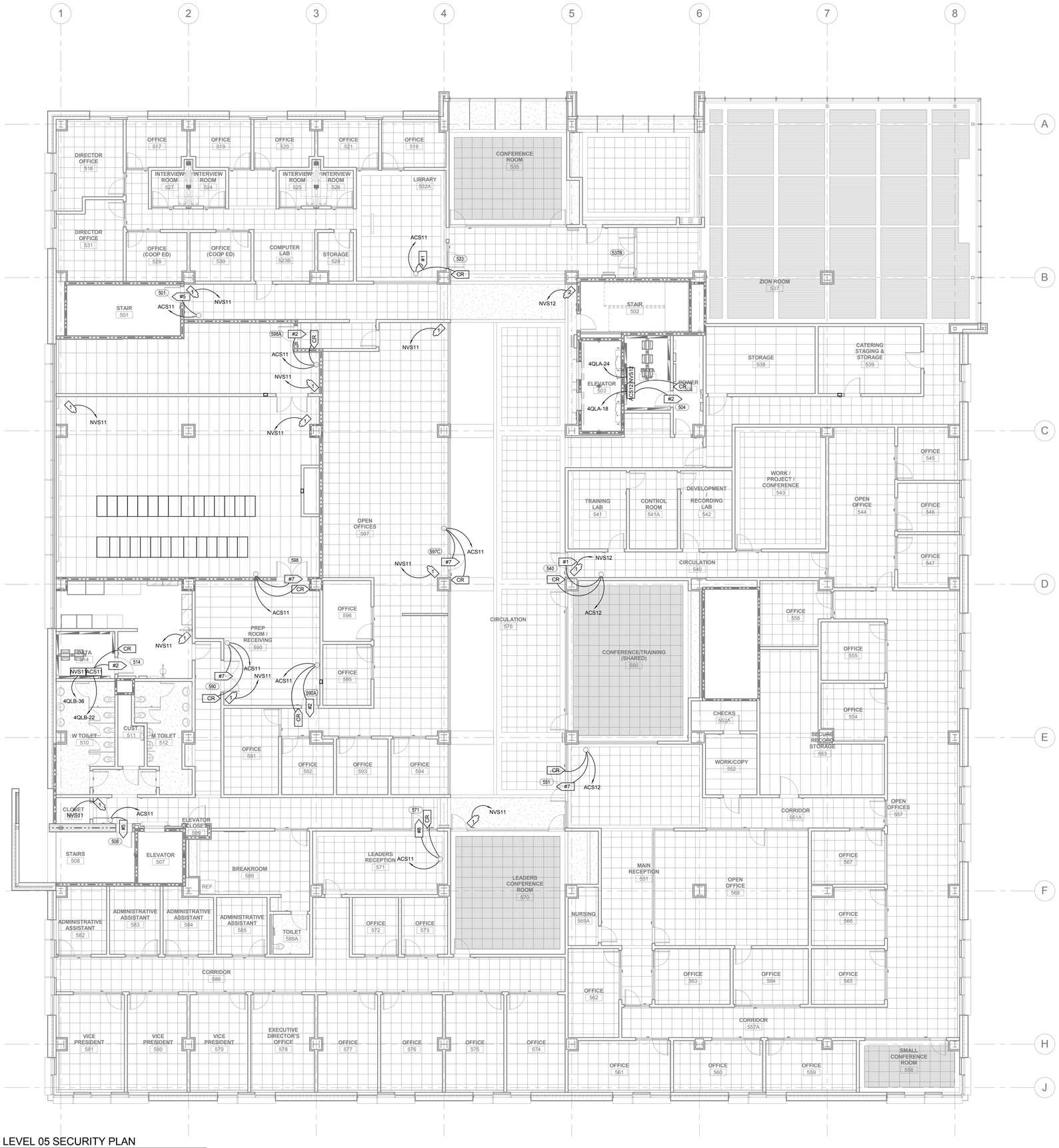

A1 LEVEL 05 SECURITY PLAN

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1 INSTALL FIRE RATED PUTTY PADS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS ON ALL BOXES LOCATED IN RATED WALLS.

2 WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REVER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

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LEVEL 5 SECURITY PLAN

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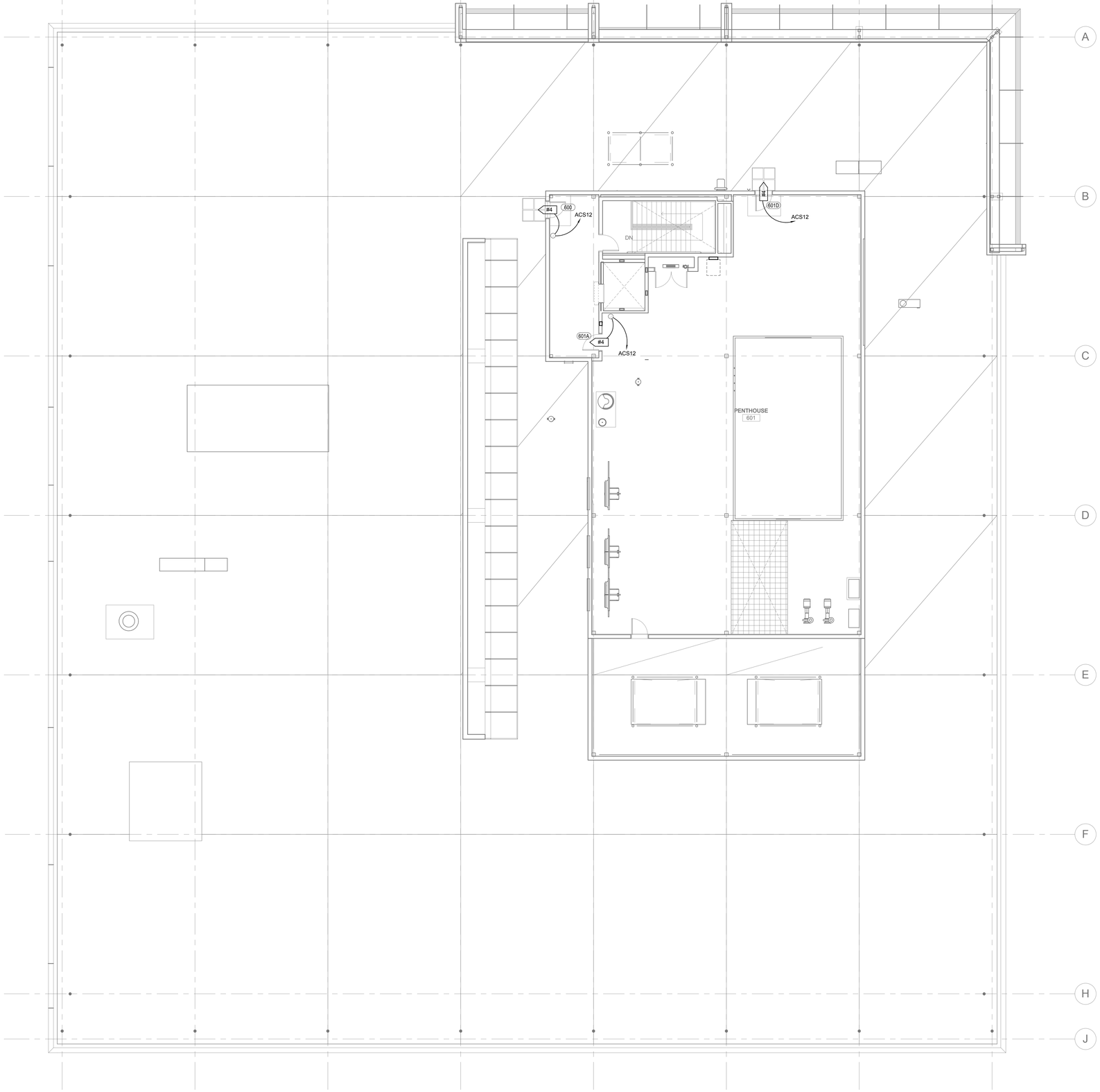

1 ROOF SECURITY PLAN

SCALE: N.T.S.

VCBO
ARCHITECTURE
VALENTINER
CRANE
BRUNJES
ONYON

SASAKI

LICENSED PROFESSIONAL ENGINEER
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ROOF SECURITY PLAN

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CARD ACCESS DOOR TYPE SCHEDULE (REFER TO HARDWARE SPECIFICATION DIV. 8 FOR FULL DOOR OPERATIONS FOR EACH HARDWARE GROUP)

DOOR TYPE #	SYMBOL	DESCRIPTION	PROTECTED SIDE ELEVATION	UNPROTECTED SIDE ELEVATION	LOCK TYPE(S)	INCLUDES:
TYPE 1:	CR #1 TO ACS	SINGLE DOOR, 1 CARD READER, (FREE EGRESS) HARDWARE GROUPS 7,12, 36	4SQ J-BOX ABOVE ACC CEILING .75" C (TYP) CONTACT INDICATOR, 1G BOX IN FRAME	4SQ J-BOX ABOVE ACC CEILING .75" C (TYP) CARD READER 4SQ BOX W/1G RING ELECTRIC STRIKE 1G BOX IN FRAME 40"	ELECTRIC STRIKE W/ REX SWITCH	SC: L/PS HC: ES, REX, CI, CR LC: CR
TYPE 2:	CR #2 TO ACS	SINGLE DOOR, 1 CARD READER, (FREE EGRESS) HARDWARE GROUP 7A	4SQ J-BOX ABOVE ACC CEILING .75" C (TYP) SWITCHED LOCKSET TRANSFER HINGE 1G BOX IN FRAME LOCK & CONTACT INDICATOR 1G BOX IN FRAME	4SQ J-BOX ABOVE ACC CEILING .75" C (TYP) CARD READER 4SQ BOX W/1G RING 40"	MAG LOCK AND LOCKSET W/ REX SWITCH	SC: L/PS HC: CR, ML, EL, CI, REX, EPT LC: CR
TYPE 3:	#3 TO ACS	SINGLE DOOR, NO CARD READER, (FREE EGRESS) HARDWARE GROUPS 23, 30	4SQ J-BOX ABOVE ACC CEILING .75" C (TYP) SWITCHED EXIT HARDWARE TRANSFER HINGE 1G BOX IN FRAME CONTACT INDICATOR 1G BOX IN FRAME		FIRE EXIT DEVICE W/ REX SWITCH	SC: HC: PH, CI, REX, EPT LC: ALWAYS LOCKED NOTE: SC SHALL PROVIDE ALARM INPUT ON ACS
TYPE 4:	#4 TO ACS	SINGLE DOOR, NO CARD READER, (FREE EGRESS) HARDWARE GROUP 9	4SQ J-BOX ABOVE ACC CEILING .75" C (TYP) LOCKSET POWER TRANSFER 1G BOX IN FRAME CONTACT INDICATOR 1G BOX IN FRAME		LOCKSET W/ REX SWITCH	SC: HC: EL, CI, REX, EPT LC: ALWAYS LOCKED NOTE: SC SHALL PROVIDE ALARM INPUT ON ACS
TYPE 5:	#5 TO ACS	SINGLE DOOR, NO CARD READER, (DELAYED EGRESS) HARDWARE GROUP 21	4SQ J-BOX ABOVE ACC CEILING .75" C (TYP) DELAYED EXIT HARDWARE TRANSFER HINGE 1G BOX IN FRAME CONTACT INDICATOR 1G BOX IN FRAME		DELAYED FIRE EXIT HARDWARE	SC: L/PS, CI HC: PH, EPT LC: ALWAYS LOCKED NOTE: SC SHALL PROVIDE ALARM INPUT ON ACS
TYPE 6:	#6 TO ACS	DOUBLE DOOR, NO CARD READER (FREE EGRESS) HARDWARE GROUPS 11, 20, 22, 32	4SQ J-BOX ABOVE ACC CEILING CONTACT INDICATORS 1G BOXES IN FRAME .75" C (TYP) EXIT HARDWARE W/ REX SWITCH TRANSFER HINGES 1G BOXES IN FRAME		EXIT DEVICE W/ REX SWITCH	SC: HC: PH, CI, REX, EPT LC: ALWAYS LOCKED NOTE: SC SHALL PROVIDE ALARM INPUT ON ACS
TYPE 7:	#7 CR TO ACS	DOUBLE DOOR, 1 CARD READER (FREE EGRESS) HARDWARE GROUP 39	EXIT MOTION 1G BOX 4SQ J-BOX ABOVE ACC CEILING LOCKS AND CONTACT INDICATORS 1G BOXES IN FRAME .75" C (TYP) LOCKSET	4SQ J-BOX ABOVE ACC CEILING .75" C (TYP) CARD READER 4SQ BOX W/1G RING 40"	MAG LOCKS	SC: L/PS HC: ML, EL, CI, REX, EPT LC: CR NOTE: SC SHALL PROVIDE ALARM INPUT ON ACS
TYPE 8:	#8 CR TO ACS	DOUBLE DOOR, 1 CARD READER (FREE EGRESS) HARDWARE GROUP 28	4SQ J-BOX ABOVE ACC CEILING CONTACT INDICATORS 1G BOXES IN FRAME .75" C (TYP) SWITCHED EXIT HARDWARE TRANSFER HINGES 1G BOXES IN FRAME	4SQ J-BOX ABOVE ACC CEILING .75" C (TYP) CARD READER 4SQ BOX W/1G RING 40"	ELECTRIFIED EXIT DEVICE W/ REX SWITCH (LATCH RETRACTION)	SC: L/PS, CONTROLLER HC: PH, CI, REX, EPT LC: CR NOTE: SC SHALL PROVIDE ALARM INPUT ON ACS
TYPE 9:	#9 CR TO ACS	DOUBLE DOOR, 1 CARD READER, FIXED MULLION, FREE EGRESS WITH ADA INTERFACE HARDWARE GROUP 35	AUTO OPENER .75" C (TYP) 4SQ J-BOX ABOVE ACC CEILING CONTACT INDICATORS 1G BOXES IN FRAME .75" C (TYP) TRANSFER HINGES 1G BOXES IN FRAME ELECTRIC STRIKES IN MULLION	4SQ J-BOX ABOVE ACC CEILING ARRANGE CONCEALED CABLE ACCESS INTO MULLION	ELECTRIC STRIKES IN MULLION AND EXIT PANIC HARDWARE W/ REX SWITCH	SC: L/PS HC: ES, PH, ADA, CI, REX, EPT LC: CR, TLC NOTE: SC SHALL PROVIDE ALARM INPUT ON ACS
TYPE 10:	#10 TO ACS	DOUBLE DOOR, NO CARD READER, FIXED MULLION, FREE EGRESS HARDWARE GROUP 38	.75" C (TYP) 4SQ J-BOX ABOVE ACC CEILING CONTACT INDICATORS 1G BOXES IN FRAME .75" C (TYP) TRANSFER HINGES 1G BOXES IN FRAME ELECTRIC STRIKES IN MULLION	4SQ J-BOX ABOVE ACC CEILING .75" C (TYP) CARD READER 4SQ BOX W/1G RING 40" ARRANGE CONCEALED CABLE ACCESS INTO MULLION	ELECTRIC STRIKES IN MULLION W/ REX SWITCHES AND EXIT PANIC HARDWARE	SC: L/PS HC: ES, PH, CI, REX, EPT LC: TLC NOTE: SC SHALL PROVIDE ALARM INPUT ON ACS

SECURITY EQUIPMENT SCHEDULE

SYMBOL	DESCRIPTION	MOUNTING *	ROUGH-IN	QTY	ACCEPTABLE TYPES
CR	CARD READER	40"	4SQ W/ 1G RING	OFP	SEE SECTION 281300
#1	CARD ACCESS DOOR TYPE, TYPICAL. REFER TO CARD ACCESS DOOR TYPE SCHEDULE.	SEE SCHEDULE	SEE SCHEDULE	OFP	REFER TO CARD ACCESS DOOR TYPE SCHEDULE & SECTION 281300
CI	DOOR MONITOR - CONTACT INDICATOR	SEE SCHEDULE	SEE SCHEDULE	OFP	SEE SECTION 281300
	CCTV CAMERA/ENCLOSURE TYPE, TYPICAL. REFER TO CCTV CAMERA/ENCLOSURE TYPE SCHEDULE.	SEE SCHEDULE	SEE SCHEDULE	OFP	SEE CCTV CAMERA/ENCLOSURE TYPE SCHEDULE AND SECTION 282300
ACS	CARD ACCESS CONTROLLERS & PWR SUPPLIES	72"	4"x4" GUTTER & STUBS A/R	A/R	SEE SECTION 281300
24V	CAMERA POWER SUPPLY	72"	4"x4" GUTTER & STUBS A/R	A/R	SEE SECTION 282300
DVR	DIGITAL VIDEO RECORDER	RACK/ SHELF MOUNT	A/R	OFP	SEE SECTION 282300

A/R=AS REQUIRED, OFP=OBTAIN FROM PLANS

VSS CAMERA/ENCLOSURE TYPE SCHEDULE

CAMERA TYPE NUMBER	SYMBOL	DESCRIPTION	INCLUDES
TYPE 1	1 VSS	INTERIOR CAMERA - FIXED DOME (HIGH RESOLUTION COLOR) (CEILING MOUNTED UNLESS J-BOX SHOWN)	* CAMERA/ENCLOSURE-FLUSH MOUNTED * SIGNAL CABLE AS INDICATED TO HEADEND (VSS) * 24 VAC PWR TO COMM ROOM POWER SUPPLY

ABBREVIATIONS

DBL = DOUBLE
DIR = DIRECTION
HDWR = HARDWARE
C = CONDUIT
4SQ = FOUR SQUARE
W/ = WITH
1G = 1 GANG
PWR = POWER
ACC = ACCESSIBLE
OCC = OCCUPANCY
TYP = TYPICAL
L/PS = LOCK POWER SUPPLY
CR = CARD READER
CI = DOOR CONTACT INDICATOR
EPT = ELECTRIC POWER TRANSFER
ES = ELECTRIC STRIKE
PH = PANIC HARDWARE
EML = ELECTROMAGNETIC LOCK
KS = KEY SWITCH
ACS = ACCESS CONTROL SYSTEM
EL = ELECTRIC LOCKSET
MD = MOTION DETECTOR
TLC = TIME/SYSTEM LOCK CONTROL
ELC = EMERGENCY LOCK CONTROL
IDS = INTRUSION DETECTION SYSTEM
SC = SECURITY CONTRACTOR
HC = HARDWARE CONTRACTOR
LC = LOCK CONTROL
REX = REQUEST TO EXIT SWITCH
ADA = ADA OPENER

NOTES

1. PROVIDE RACEWAY AND EQUIPMENT AS INDICATED FOR CARD ACCESS DOOR TYPE INDICATED. REFER TO SECTION 281300 AND CARD ACCESS AUTO-DOOR AND LOCK CONTROL DETAILS FOR ADDITIONAL REQUIREMENTS.
2. PROVIDE CONCEALED .75" C TYPICAL FOR LINES SHOWN TO DEVICE BOXES ON PROTECTED SIDE AND UNPROTECTED SIDE ELEVATIONS.
3. CONFIRM CORRECT CARD ACCESS DOOR RACEWAY, LOCK VOLTAGE, AND EXIT SWITCH CURRENT RATING (2 AMPS MIN.) WITH DIV. 8 FURNISHED CARD ACCESS DOOR HARDWARE PER DIV. 8 DOOR HARDWARE SUBMITTALS.
4. VERIFY INTERCONNECTION WIRING OF DOOR DEVICES AS DEFINED BY THE DOOR OPERATION DESCRIPTIONS LISTED WITH EACH HARDWARE GROUP HEADING IN SECTION 087100.
5. LOCATE CARD READER BOX AS INDICATED ON FLOOR PLANS. RACEWAY AND BOXES BY DIV. 26. REFER TO 281300 FOR CARD ACCESS SYSTEM REQUIREMENTS.
6. DOUBLE 4SQ J-BOX ON PROTECTED SIDE OF DOORWAY (SIDE OPPOSITE OF CARD READER) ABOVE ACCESSIBLE CEILING OR IN OTHER ACCESSIBLE LOCATION. PROVIDE COVER FOR J-BOX.
7. ELECTRIC LOCKING HARDWARE (MAG LOCKS, ELECTRIC STRIKES, POWER TRANSFER HINGES, ETC.) BY DIV 8., OR AS DEFINED IN THE THE "CARD ACCESS DOOR TYPE SCHEDULE." REVIEW DOOR HARDWARE FURNISHED AND VERIFY LOCK VOLTAGES AND OPERATIONAL FUNCTIONALITY OF LOCKS. CONTACT ENGINEER WITH QUESTIONS OR CONCERNS.

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

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HOLLAND CENTENNIAL COMMONS
DIXIE STATE COLLEGE OF UTAH
DFCM #00297640
DIXIE COLLEGE, ST. GEORGE, UT
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SECURITY SCHEDULES

EY601
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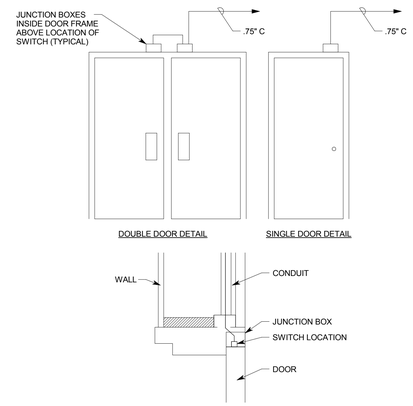
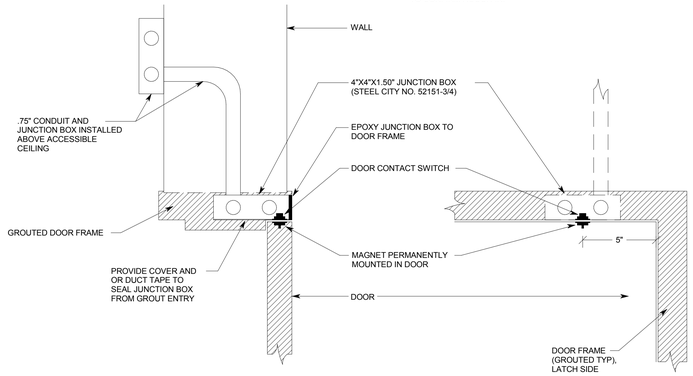


C5 DOOR CONTACT SWITCH DETAIL

NTS

NOTES:

1. DRILL .125" HOLE TO INDICATE SWITCH LOCATION AND IDENTIFY WHERE JUNCTION BOX IS.
2. THE INTENT OF THIS DETAIL IS TO PROVIDE A GROUT-FREE ENVIRONMENT FOR, AND EASIER CABLE ACCESS TO, THE CONTACT SWITCH LOCATION. SUBMIT METHOD OF PROVIDING GROUT FREE ENVIRONMENT DURING SUBMITTAL PROCESS. ADDRESS ANY QUESTIONS TO THE ENGINEER.
3. PRIOR TO ANY ROUGH-IN MEET WITH SCHOOL DISTRICT PERSONEL TO CONFIRM ROUGH-IN.



A4 DOOR CONTACT SWITCH DETAIL

NTS

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SECURITY DETAILS

EY602

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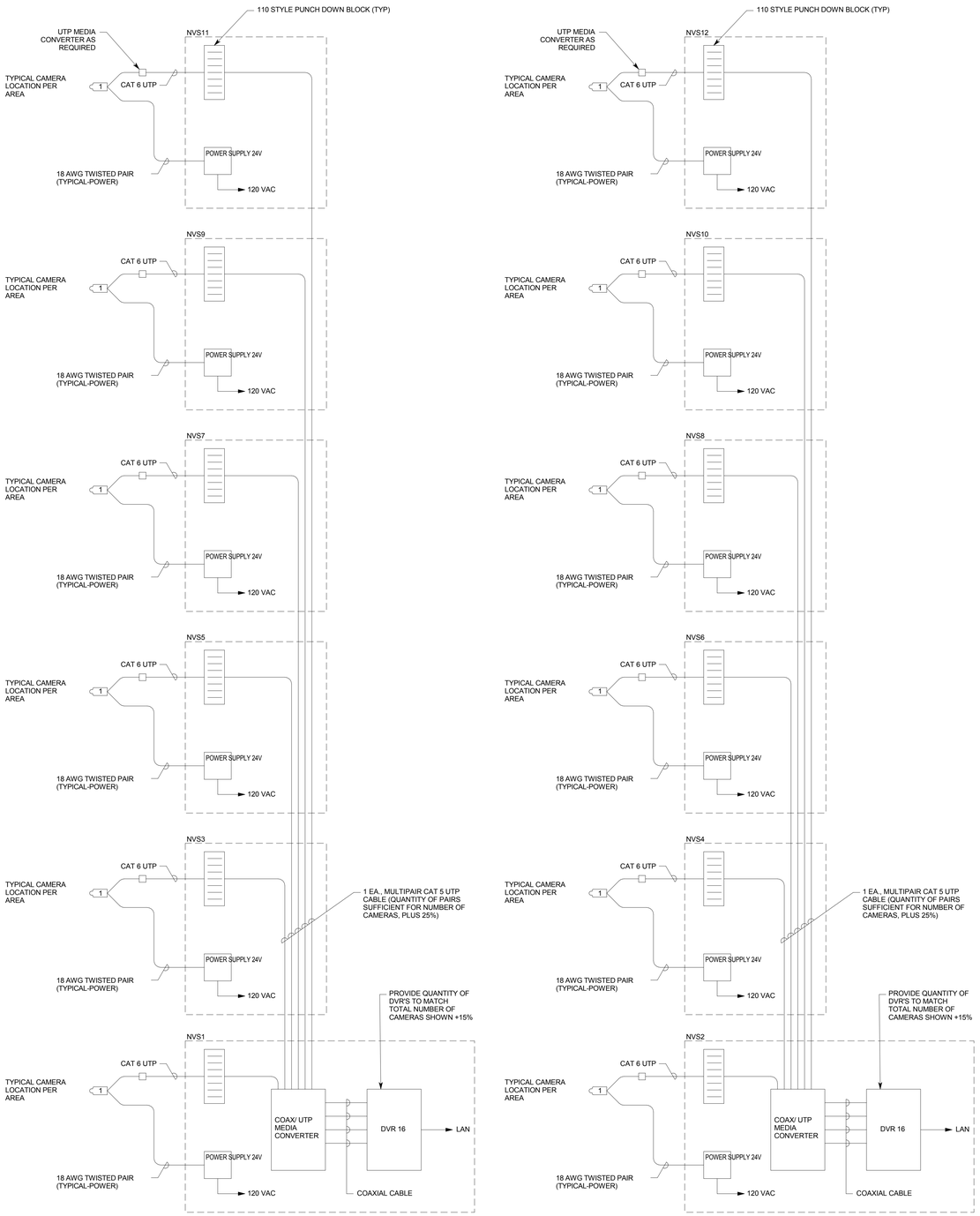
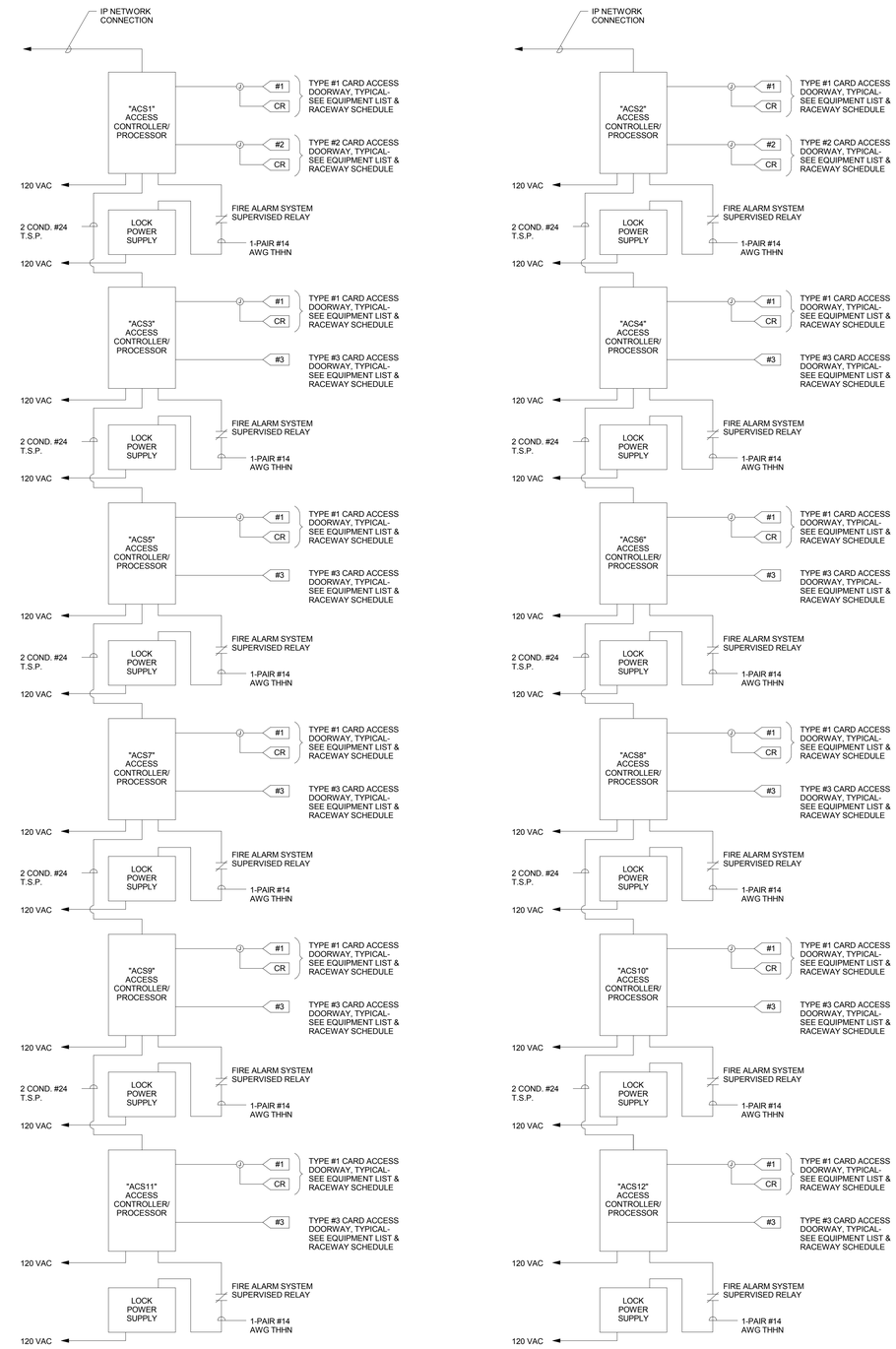


A1 VIDEO SURVEILLANCE SYSTEM (NVS) RISER DIAGRAM

NTS



NOTES:

1. ACCESS CONTROL SYSTEM BASED UPON TWO CARD READERS PER ACCESS CONTROLLER/PROCESSOR. ALTERNATE CONFIGURATIONS ACCEPTABLE PROVIDED CONTRACTOR ALLOWS FOR ANY INCREASED WIRING OR EQUIPMENT AND PROVIDES SUBMITTAL DRAWINGS SHOWING NEW CONFIGURATION. EACH "ACS" BLOCK (ACS1, ACS2,...) SHALL BE PROVIDED WITH SUFFICIENT CONTROLLER BOARDS TO SERVICE THE NUMBER OF ACCESS DOORS SHOWN IN THE DRAWINGS FOR THAT PARTICULAR "ACS" BLOCK.

2. ACCESS CONTROLLER "ACS" INDICATED SHALL INCLUDE ANY ISOLATION MODULES, BUFFER MODULES, EXTERNAL POWER SUPPLIES, INPUT/OUTPUT MODULES, OR FORMAT CONVERTER MODULES (NOT SHOWN) REQUIRED TO SUPPORT CARD READER OR KEYPAD TYPES INDICATED, FOR COMPLETE AND FUNCTIONING CARD READER AND DOOR CONTROL.

3. PROVIDE SEPARATE WIRE PAIRS FOR REQUEST TO EXIT AND DOOR CONTACT INDICATOR, FROM ACCESS DOOR TO ACCESS CONTROLLER "ACS" PANEL. SINGLE PAIR, FROM ACCESS DOOR TO CONTROLLER PANEL, FOR REQUEST TO EXIT AND DOOR CONTACT INDICATOR, NOT ACCEPTABLE.

4. REQUEST TO EXIT AND DOOR CONTACT INDICATOR CIRCUITS SHALL BE SUPERVISED FOR OPEN CIRCUIT OR SHORT CIRCUIT FAULTS BETWEEN THE DEVICE CONTACTS AND ACCESS CONTROLLER.

A3 CARD ACCES SYSTEM (ACS) RISER DIAGRAM

NTS

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SECURITY DIAGRAMS

EY603

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A1 LEVEL 1 FIRE ALARM PLAN

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1 INSTALL FIRE RATED PUTTY PADS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS ON ALL BOXES LOCATED IN RATED WALLS.

2 WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REVER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

1 LOCATE BELL ABOVE FIRE DEPARTMENT CONNECTION.

2 PROVIDE CONNECTION TO ELEVATOR SMOKE DOORS WITH ALL POWER AND CONTROL WIRING PER MANUFACTURERS WRITTEN INSTRUCTIONS.

3 VERIFY QUANTITY OF TAMPER AND FLOW DEVICES WITH APPROVED FIRE SPRINKLER SHOP DRAWINGS AND PROVIDE MONITOR MODULES AND CONNECTIONS TO EACH.

VCBO ARCHITECTURE
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LEVEL 1 FIRE ALARM PLAN

FA101

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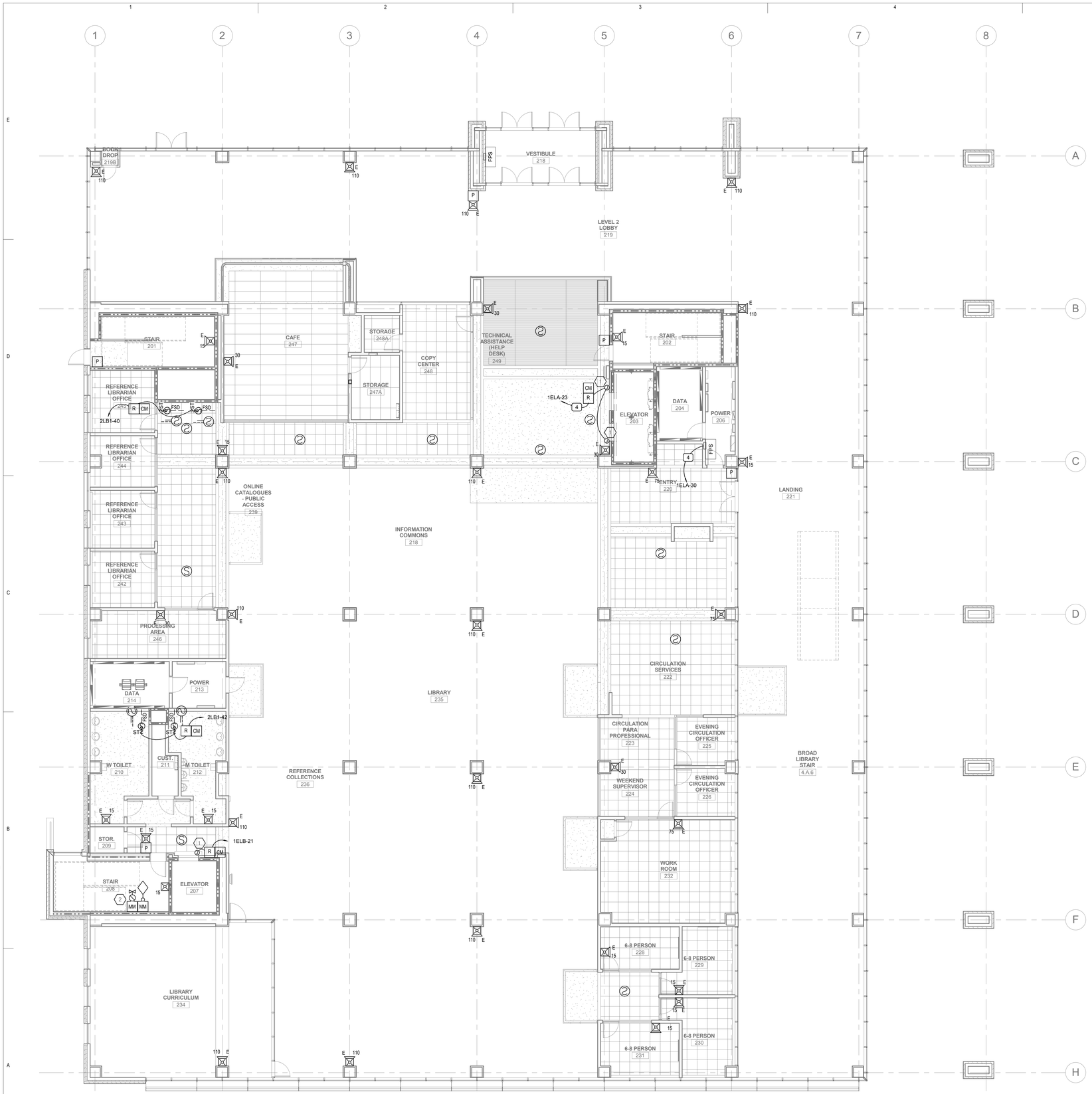

A1 LEVEL 02 FIRE ALARM PLAN

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1 INSTALL FIRE RATED PUTTY PADS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS ON ALL BOXES LOCATED IN RATED WALLS.

2 WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REVER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

1 PROVIDE CONNECTION TO ELEVATOR SMOKE DOORS WITH ALL POWER AND CONTROL WIRING PER MANUFACTURERS WRITTEN INSTRUCTIONS.

2 VERIFY QUANTITY OF TAMPER AND FLOW DEVICES WITH APPROVED FIRE SPRINKLER SHOP DRAWINGS AND PROVIDE MONITOR MODULES AND CONNECTIONS TO EACH.

VCBO ARCHITECTURE
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LEVEL 2 FIRE ALARM PLAN

FA102

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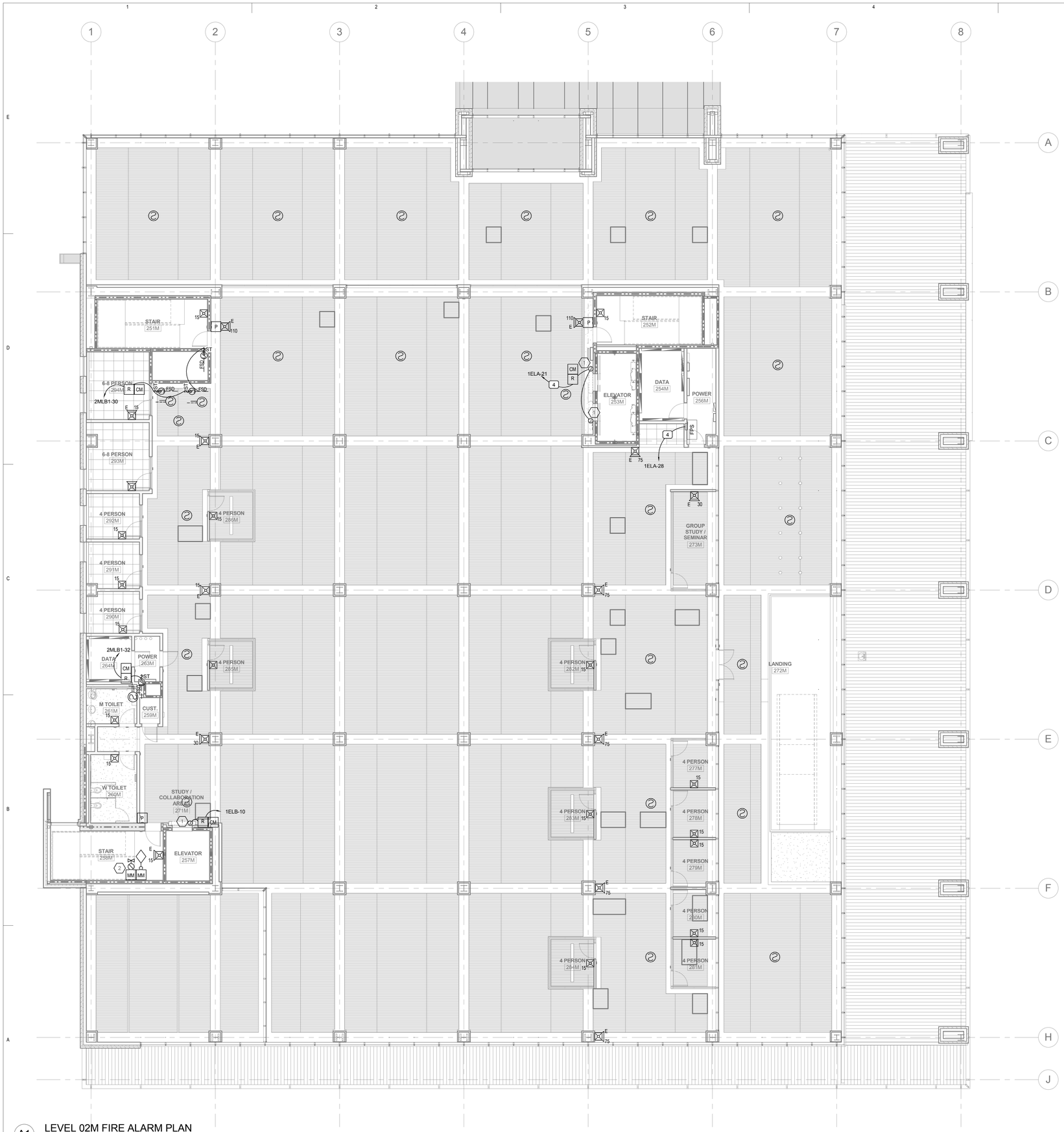

A1 LEVEL 02M FIRE ALARM PLAN

SCALE: 1/8" = 1'-0"

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GENERAL SHEET NOTES

1 INSTALL FIRE RATED PUTTY PADS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS ON ALL BOXES LOCATED IN RATED WALLS.

2 WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REVER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

1 PROVIDE CONNECTION TO ELEVATOR SMOKE DOORS WITH ALL POWER AND CONTROL WIRING PER MANUFACTURERS WRITTEN INSTRUCTIONS.

2 VERIFY QUANTITY OF TAMPER AND FLOW DEVICES WITH APPROVED FIRE SPRINKLER SHOP DRAWINGS AND PROVIDE MONITOR MODULES AND CONNECTIONS TO EACH.

VCBO ARCHITECTURE
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LEVEL 2 MEZZANINE FIRE ALARM PLAN

FA102M

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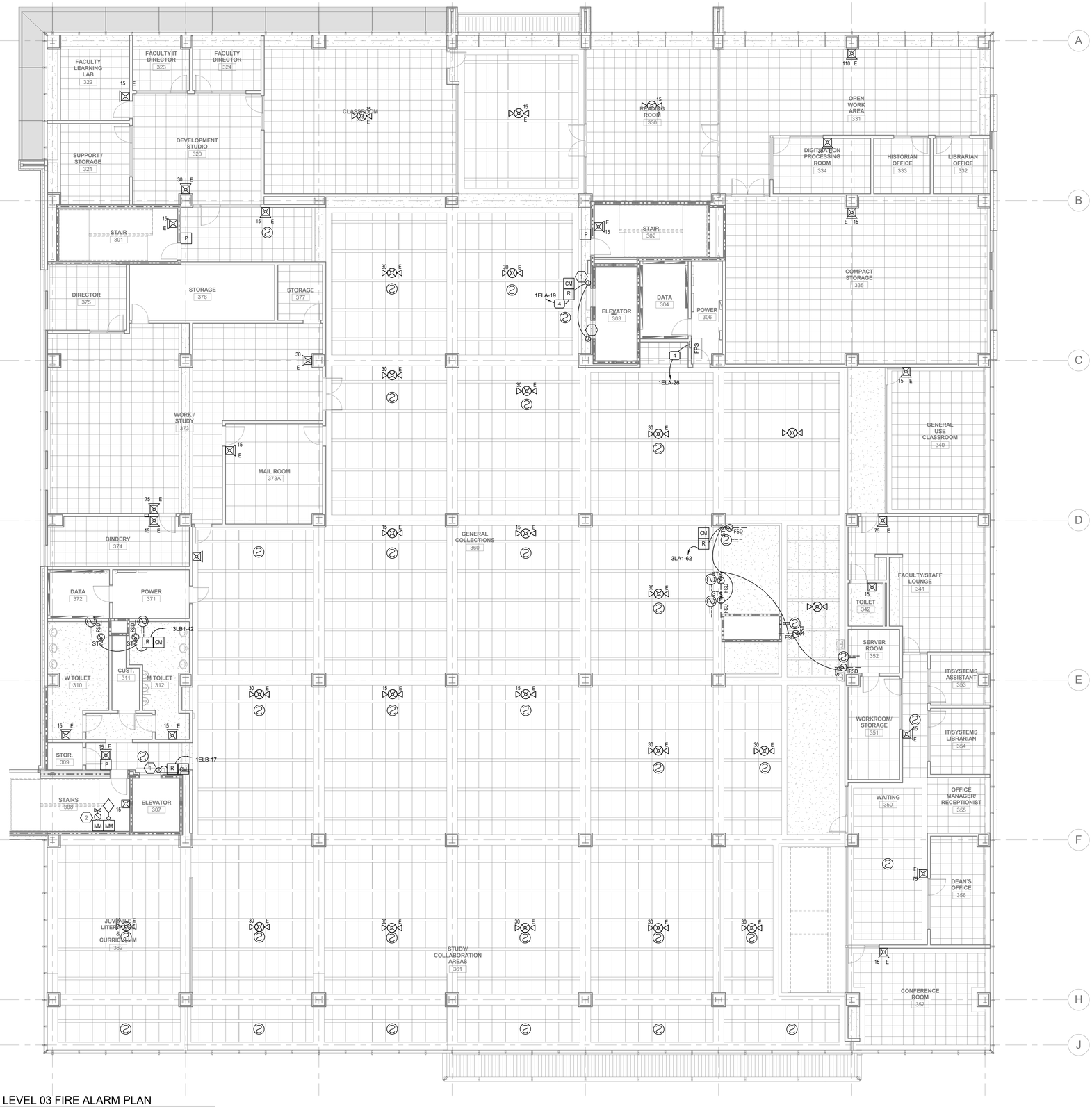

A1 LEVEL 03 FIRE ALARM PLAN

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1 INSTALL FIRE RATED PUTTY PADS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS ON ALL BOXES LOCATED IN RATED WALLS.

2 WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REFER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

1 PROVIDE CONNECTION TO ELEVATOR SMOKE DOORS WITH ALL POWER AND CONTROL WIRING PER MANUFACTURERS WRITTEN INSTRUCTIONS.

2 VERIFY QUANTITY OF TAMPER AND FLOW DEVICES WITH APPROVED FIRE SPRINKLER SHOP DRAWINGS AND PROVIDE MONITOR MODULES AND CONNECTIONS TO EACH.

VCBO ARCHITECTURE
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LEVEL 3 FIRE ALARM PLAN

FA103

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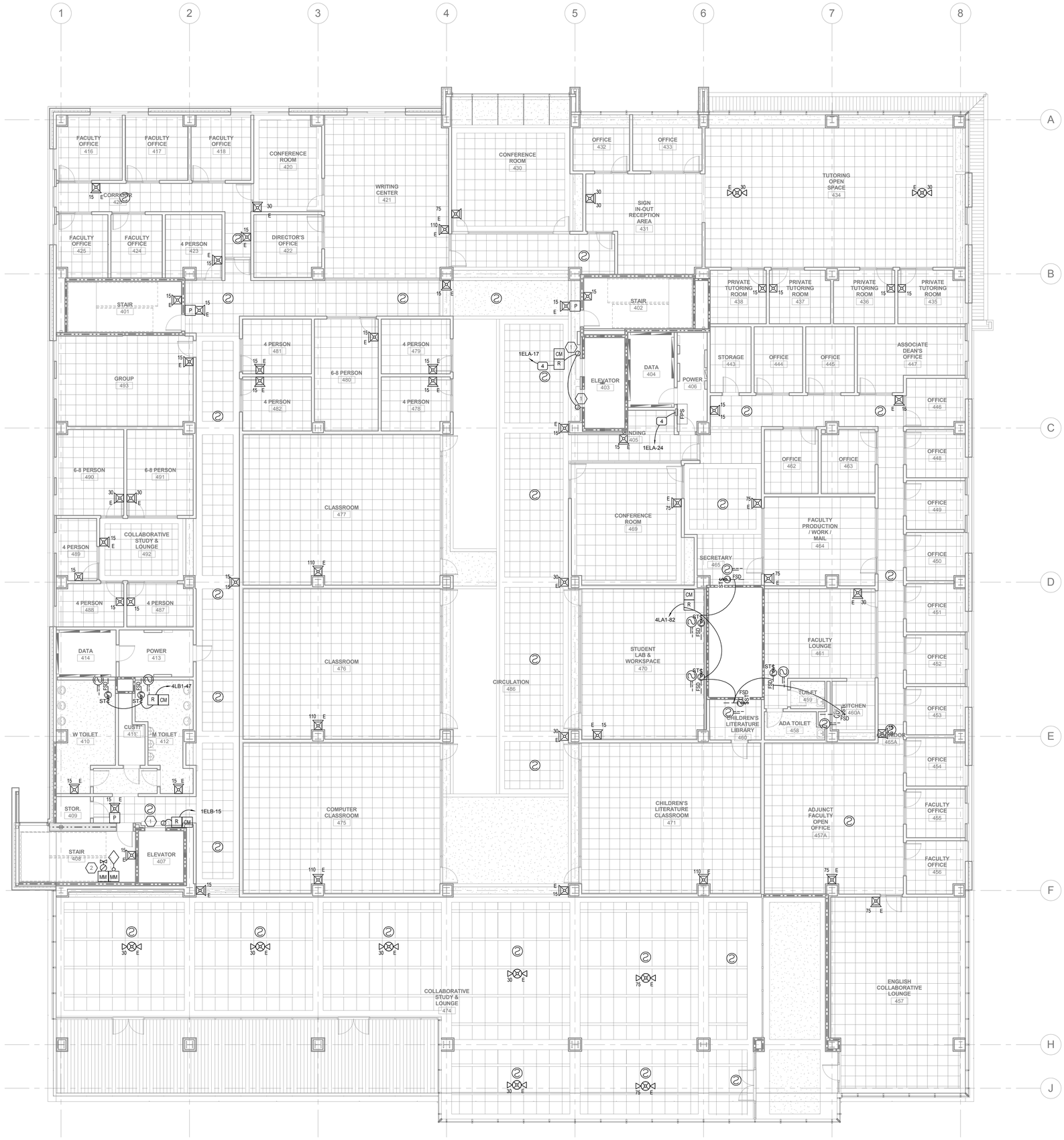

A1 LEVEL 04 FIRE ALARM PLAN

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1 INSTALL FIRE RATED PUTTY PADS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS ON ALL BOXES LOCATED IN RATED WALLS.

2 WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REFER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

1 PROVIDE CONNECTION TO ELEVATOR SMOKE DOORS WITH ALL POWER AND CONTROL WIRING PER MANUFACTURERS WRITTEN INSTRUCTIONS.

2 VERIFY QUANTITY OF TAMPER AND FLOW DEVICES WITH APPROVED FIRE SPRINKLER SHOP DRAWINGS AND PROVIDE MONITOR MODULES AND CONNECTIONS TO EACH.

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

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LEVEL 4 FIRE ALARM PLAN

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A1 LEVEL 05 FIRE ALARM PLAN

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1 INSTALL FIRE RATED PUTTY PADS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS ON ALL BOXES LOCATED IN RATED WALLS.

2 WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REFER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

1 PROVIDE CONNECTION TO ELEVATOR SMOKE DOORS WITH ALL POWER AND CONTROL WIRING PER MANUFACTURERS WRITTEN INSTRUCTIONS.

2 VERIFY QUANTITY OF TAMPER AND FLOW DEVICES WITH APPROVED FIRE SPRINKLER SHOP DRAWINGS AND PROVIDE MONITOR MODULES AND CONNECTIONS TO EACH.

VCBO ARCHITECTURE
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LEVEL 5 FIRE ALARM PLAN

FA105
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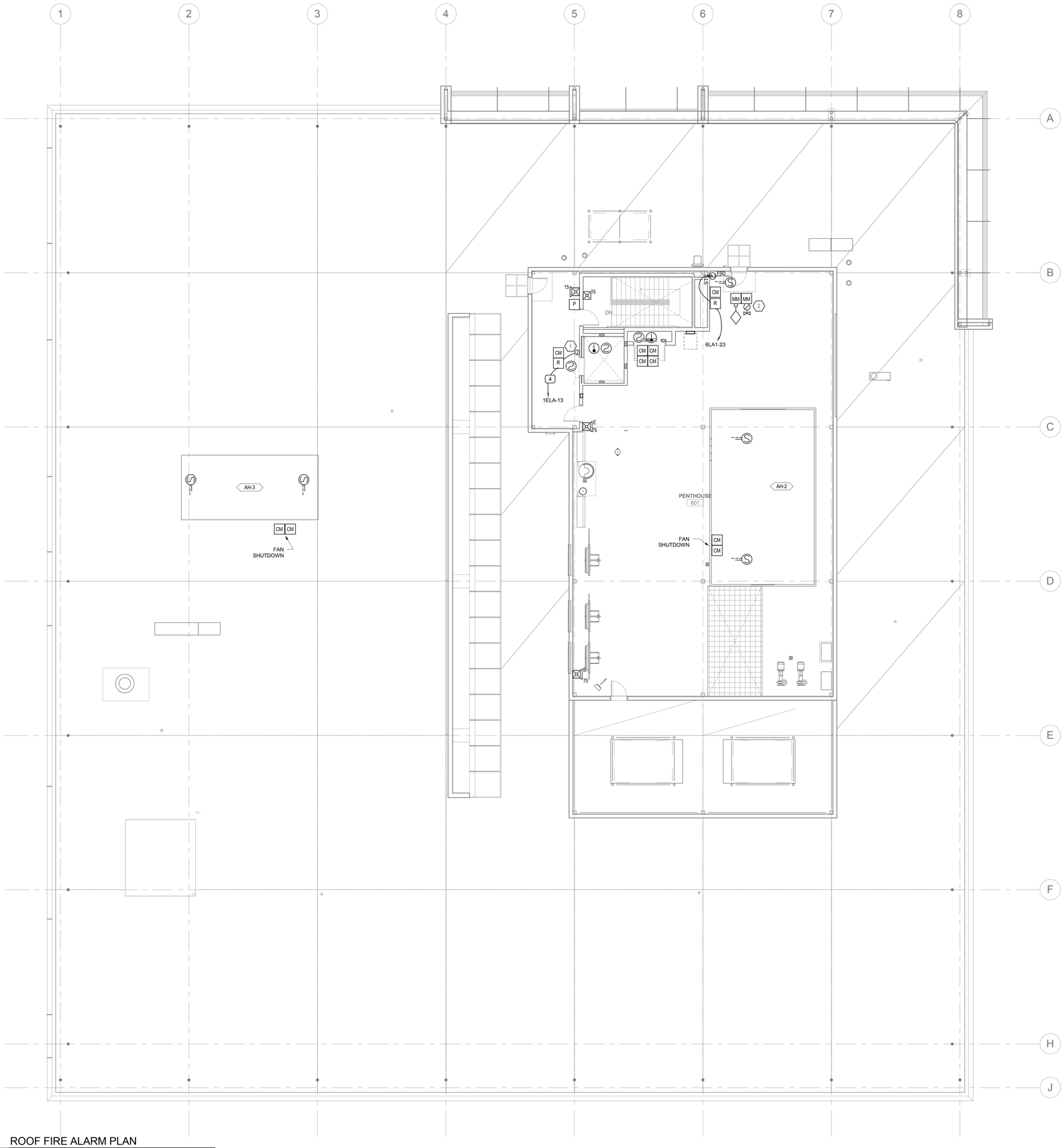

A1 ROOF FIRE ALARM PLAN

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1 INSTALL FIRE RATED PUTTY PADS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS ON ALL BOXES LOCATED IN RATED WALLS.

2 WALL MOUNTED ELECTRICAL DEVICES, SUCH AS, BUT NOT LIMITED TO: POWER, DATA, AV OUTLETS, HORNSTROBES, AND SWITCHES, ARE TO BE INSTALLED AS LOCATED ON THE ARCHITECTURAL ELEVATIONS. ELECTRICAL CONTRACTORS ARE TO COORDINATE WITH STUD FRAMING PRIOR TO ROUGH-IN TO ENSURE PRECISE LOCATIONS. FOR LOCATIONS NOT SHOWN ON ELEVATIONS REVER TO TYPICAL MOUNTING DETAILS ON BOTH ELECTRICAL AND ARCHITECTURAL DRAWINGS.

SHEET KEYNOTES

1 PROVIDE CONNECTION TO ELEVATOR SMOKE DOORS WITH ALL POWER AND CONTROL WIRING PER MANUFACTURERS WRITTEN INSTRUCTIONS.

2 VERIFY QUANTITY OF TAMPER AND FLOW DEVICES WITH APPROVED FIRE SPRINKLER SHOP DRAWINGS AND PROVIDE MONITOR MODULES AND CONNECTIONS TO EACH.

VCBO ARCHITECTURE
VALENTINER CRANE BRUNJES ONYON

SASAKI

LICENSED PROFESSIONAL ENGINEER
No. 179621
RALPH B. KOEBER
STATE OF UTAH

SPECTRUM ENGINEERS

HOLLAND CENTENNIAL COMMONS

DIXIE STATE COLLEGE OF UTAH
DFCM #00297640
DIXIE COLLEGE, ST. GEORGE, UT
CONFORMED CONSTRUCTION DOCUMENTS BID SET

No.	Description	Date

Job # 09625
CAD File
Drawn BXW Checked RBK
Date 12/03/2010
Owner #
Ins. #

ROOF FIRE ALARM PLAN

FA106

Sheet Number

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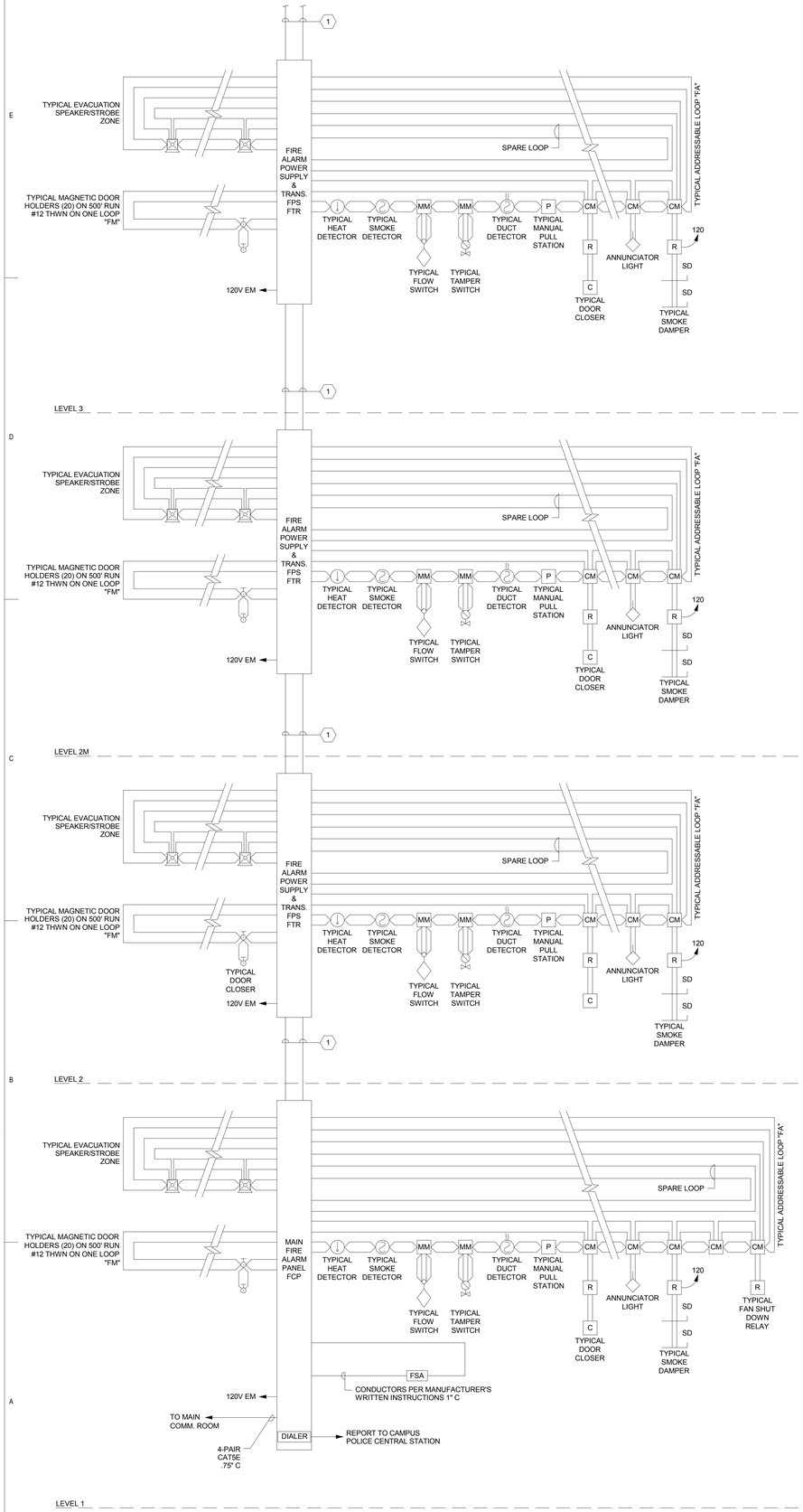

1 IMPORT FIRE RISER FA601

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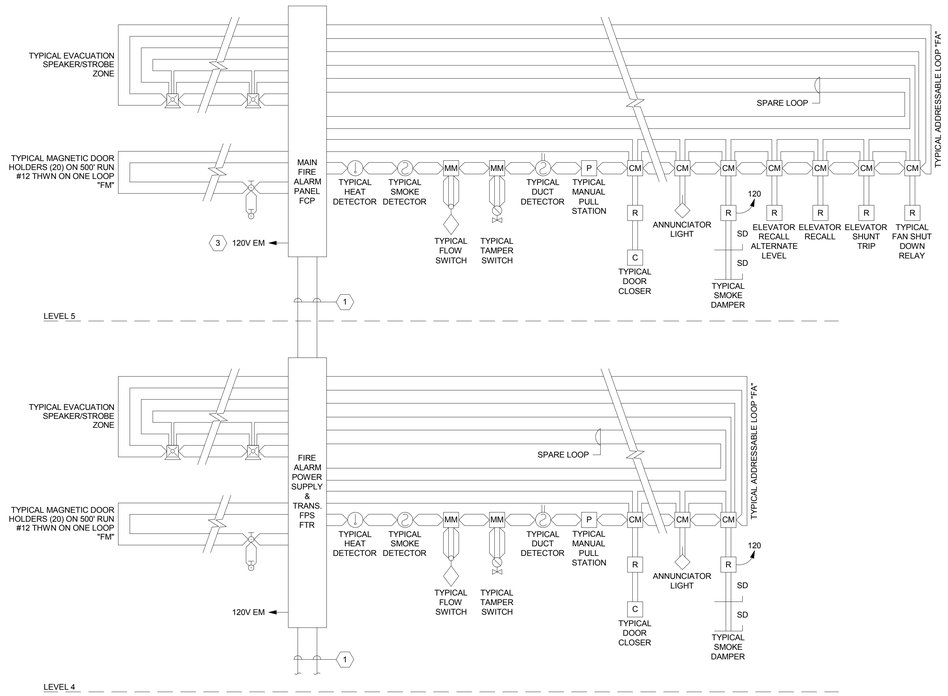

SHEET KEYNOTES

1. 1.5" CND WITH WIRING PER MANUFACTURERS WRITTEN INSTRUCTIONS.

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DIXIE COLLEGE, ST. GEORGE, UT
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FIRE ALARM RISER

FA601

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