SYMBOL/ABBREV./DEFINITION

SYMBOL	ABBREV	DEFINITION
1 / M-1		DETAIL TOP – I.D. NUMBER REFERENCE BOTTOM – SHT NUMBER
	SA	SUPPLY AIR DUCT
	RA	RETURN AIR DUCT
	EA	EXHAUST AIR DUCT
	FC	FLEXIBLE CONNECTION
		INCLINED DUCT RISE
		INCLINED DUCT DROP
		ACOUSTICAL DUCT LINING
		SUPPLY AIR DIFFUSER
		RETURN AIR GRILLE
		45 DEGREE DUCT TAP IN WITH CONICAL FITTING
		DOOR LOUVER
S	S	SENSOR
T	T–STAT	THERMOSTAT
(E)T	T–STAT	EXISTING THERMOSTAT
TR	T–STAT	RELOCATED THERMOSTAT
TC	TC	TIME CLOCK
SD	SD	DUCT SMOKE DETECTOR
		EQUIPMENT SHOWN HATCH IS TO BE REMOVED
T		INDICATES CONTROL WIRING
		SUPPLY DUCT THRU ROOF
		RETURN DUCT THRU ROOF
		EXHAUST AIR DUCT THRU ROOF
		SIDEWALL DISCHARGE GRILLE
UC		DOOR UNDERCUT
SF	SF	SMOKE FIRE DAMPER
M	M	MOTORIZED DAMPER
		FLEX CONNECTION
	POC	POINT OF CONNECTION
	GLV	GLOBE VALVE
	BAL VAL	BALANCING VALVE
	CV	CHECK VALVE
	STR	STRAINER
	BLV	BALL VALVE, BUTTERFLY VALVE
	U	UNION
	GAC	GAGE COCK
		CAPPED OR PLUGGED OUTLET
	PRV	PRESSURE REDUCING VALVE
	AV	ANGLE VALVE
		PIPE DOWN
		PIPE UP
	AN	PIPE ANCHOR
	GU	PIPE GUIDE
	FC	FLEXIBLE CONNECTION
CHS	CHS	CHILLED WATER SUPPLY
CHR	CHR	CHILLED WATER RETURN
CS	CS	CONDENSER WATER SUPPLY
CR	CR	CONDENSER WATER RETURN
HWS	HWS	HEATING HOT WATER SUPPLY
HWR	HWR	HEATING HOT WATER RETURN
CD	CD	CONDENSATE DRAIN
VT	VT	EQUIPMENT AND VALVE VENT
A	A	AUTOMATIC SPRINKLERS
IA	IA	INSTRUMENT AIR

ABBREVIATION/DEFINITION

ABBREV.	DEFINITION
ABV	ABOVE
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AP	ACCESS PANEL
ARCH	ARCHITECT
BEL	BELOW
BLDG	BUILDING
C	COLD AIR
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CI	CAST IRON
CLG	CEILING
CL	CENTER LINE
COMP	COMPRESSOR
CONC	CONCRETE
CONT	CONTINUATION
DET	DETAIL
DIA	DIAMETER
DN	DOWN
DR	DRAIN
DRWG	DRAWING
EL	ELEVATION
ENCL	ENCLOSURE
EMS	ENERGY MANAGEMENT SYSTEM
EXH	EXHAUST
EXIST	EXISTING
FA	FRESH AIR
FD	FIRE DAMPER
FG	FLOOR GRILLE
FIN	FINISH
FLR	FLOOR
FPF	FINS PER FOOT
FS	FLOOR SINK
GALV	GALVANIZED
GPM	GALLONS PER MINUTE
GR	GRADE
H	HOT AIR
MAV	MANUAL AIR VENT
MAX	MAXIMUM
MCC	MOTOR CONTROL CENTER
MD	MOTORIZED DAMPER
MIN	MINIMUM
MECH	MECHANICAL
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
OPNG	OPENING
PLBG	PLUMBING
POC	POINT OF CONNECTION
R	RELOCATE
SCR	SCREEN
SD	SMOKE DETECTOR
SF	SMOKE/FIRE DAMPER
SM	SHEET METAL
TEMP	TEMPERATURE
TYP	TYPICAL
UTR	UP THROUGH ROOF
VTR	VENT THROUGH ROOF
VD	VOLUME DAMPER

GENEARL NOTES

1. CONTRACTOR SHALL EXAMINE ALL OTHER SPECIFICATIONS, DRAWINGS AND ALL FEATURES OF BUILDING CONSTRUCTION WHICH MAY AFFECT HIS WORK AND SHALL BE GOVERNED BY THESE AND OTHER SPECIFICATIONS, INCLUDING THE GENERAL CONDITIONS AND PARTICULAR INSTRUCTIONS TO ALL BIDDERS AND SUPPLIERS.
2. ALL WORK SHALL BE EXECUTED AND INSPECTED IN STRICT ACCORDANCE WITH ALL LOCAL CODES AND/OR STATE CODES, LAWS, ORDINANCES, RULES AND REGULATIONS APPLICABLE TO THIS PARTICULAR CLASS OF WORK, AND EACH CONTRACTOR SHALL INCLUDE IN HIS PRICE ALL APPLICABLE SERVICE CHARGES, FEES, PERMITS, TAXES, AND OTHER SIMILAR COSTS IN CONNECTION THEREWITH.
3. PRIOR TO FABRICATION OF DUCTWORK, CONTRACTOR SHALL EXAMINE AND VERIFY ALL CONDITIONS ABOVE AND BELOW THE CEILING WHICH MAY INTERFERE WITH THE DUCT SYSTEM AND NOTIFY THE ARCHITECT OF ANY CONFLICT ENCOUNTERED. CONTRACTOR SHALL PROVIDE ALL OFFSETS, ETC. WHICH MAY BE REQUIRED, WITHOUT ADDITIONAL COST TO THE OWNER.
4. ALL SHEET METAL DUCT CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH "SMACNA" LOW OR MED PRESSURE DUCT CONSTRUCTION STANDARD.
5. ALL DUCTS SHALL BE SUPPORTED WITH 1"WIDE, 16 GAUGE, GALVANIZED STEEL BANDS.
6. ALL DUCT DIMENSIONS SHOWN ON PLANS ARE INTERNAL
7. CONTRACTOR SHALL COORDINATE THE LOCATION OF SUPPLY AND RETURN AIR REGISTERS, DUCTS, GRILLES AND DIFFUSERS WITH LIGHTING AND CEILING PATTERNS.
8. PROVIDE LATERAL BRACING OF ALL DUCTS AND PIPES AS REQUIRED BY CODE.
9. INSULATE AND SEAL ALL DUCTWORK PER CHAPTER 10 OF THE STATE MECHANICAL CODE (T–24, PART 4).
10. MOUNT ALL THERMOSTATS AT 48" ABOVE FINISHED FLOOR.
11. ALL BRACING OF DUCTS AND PIPING SHALL BE INSTALLED IN ACCORDANCE WITH SMACNA GUIDELINES AS APPROVED BY THE ARCHITECT.
12. WHERE BRACING DETAILS ARE NOT SHOWN ON THE DRAWINGS OR IN THE GUIDELINES, THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT AND THE MECHANICAL ENGINEER.
13. A COPY OF THE GUIDELINES PUBLISHED BY "SMACNA" AND APPROVED BY ARCHITECT SHALL BE PROVIDED BY THE CONTRACTOR AND KEPT ON THE JOB AT ALL TIMES.
14. ALL PLUMBING VENTS, EXHAUST EQUIPMENT SHALL BE A MIN. OF 10 FT. FROM ANY AIR INTAKE VENT.
15. ALL MECHANICAL EQUIPMENT SHALL BE SECURELY FASTENED IN PLACE.
16. ALL DUCT DETECTORS SHALL BE MAGNEHELIC TESTED TO THE MANUFACTURERS SPECIFICATION IN THE PRESENCE OF THE CITY OF SANTA CLARITA BUILDING INSPECTOR PRIOR TO THE FINAL APPROVAL.
17. PROVIDE AIR BALANCE REPORT BY A THIRD PARTY AABC OR NEBB AIR BALANCE CONTRACTOR. INCLUDE THE COST OF MULTIPLE BALANCES IN ORDER TO ACHIEVE THE AIRLFLOWS INDICATED.
18. PROVIDE MANUAL BALANCING DAMPERS IN ALL DUCT BRANCHES.

SCOPE OF WORK

TENANT IMPROVEMENT IN AN EXISTING BUILDING. DEMOLISH ALL EXISTING AIR DISTRIBUTION DOWNSTREAM OF EXISTING VAV BOXES. DEMOLISH ALL (E)PNEUMATIC CONTROLS AND T–STATS. RELOCATE (E)VAV BOXES AND INSTALL NEW VAV BOXES AS SHOWN. COORDINATE WITH ELECTRICAL CONTRACTOR FOR POWER REQUIREMENTS OF ALL VAV BOXES INCLUDING LOW VOLTAGE TRANSFORMERS. CONTROLS DESIGN AND REPLACEMENT ARE NOT PART OF THIS PROJECT. ALTHOUGH DDC CONTROLS ARE NOT A PART OF THIS PROJECT THE MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE CONTROLS CONTRACTOR PERFORMING THE WORK. REQUEST THE PLANS PERTAINING TO THE CONTROLS REPLACEMENT FROM THE OWNER PRIOR TO BEGINNING WORK.

PERFORM AN INITIAL AIR TEST OF ALL AIR DISTRIBUTION SERVING THE THIRD FLOOR WHETHER SHOWN ON THE MECHANICAL PLANS OR NOT. ALL AIR AND WATER TESTING AND BALANCING SHALL BE PERFORMED BY AN NEBB OR AABC AIR BALANCE CONTRACTOR PRIOR TO PERFORMING ANY DEMOLITION AND SUBMIT REPORT TO ARCHITECT FOR RECORD. UPON COMPLETION OF THE NEW WORK, PERFORM A FINAL AIR AND WATER TEST AND BALANCE AND SUBMIT FOR REVIEW. REFERENCE THE AIR BALANCE REQUIREMENT NOTE BOX ON THIS SHEET.

EQUIPMENT NOTE

ALL EXISTING EQUIPMENT IS MARKED "(E)" ON THESE PLANS. ANY EQUIPMENT NOT MARKED WITH "(E)" SHALL BE CONSIDERED NEW.

FAN COIL SCHEDULE

SYMBOL	MATCHING UNIT	FC MODEL	SERVICE	CFM	S.P.	CLG. CAP. BTUH	HTG. CAP BTUH	FAN HP	FAN FLA	UNIT FLA	MCA	MFS	VOLT	PH	FILTERS	WEIGHT	REMARKS
FC 1&2	CU 1&2	FUJITSU ASU24RLX	TEL./COMM.	800	–	24,000	24,000	–	–	0.57	0.3	30	208/230	1	–	35	

CONDENSING UNIT SCHEDULE

SYMBOL	MODEL	COOLING CAPACITY	COMPR. RLA	FAN FLA	SEER	VOLT	PHASE	MCA	MOCP	HSFP	OPER. WEIGHT	REMARKS
CU 1&2	FUJITSU AOU24RLX	24,000	11.5	1.3	18	208/230	1	15.5	30	10.0	135	REFRIGERANT: R–410

AIR TERMINAL UNITS SCHEDULE

MARK NO.	TYPE & MODEL	CFM CAP MAX.	CFM CAP MIN.	MAX. Ps	MAX. NC AT 2" INLET S.P. DISCH.	MAX. NC AT 2" INLET S.P. RADIATED	INLET DUCT SIZE COLD	INLET DUCT SIZE HOT	REMARKS
A–1	SINGLE DUCT VARIABLE VOLUME ENVIRO–TEC SDR	150		0.25	30	30	4"		5'–0" LINED DUCT
A–2		300					5"		
A–3		400					6"		
A–4		800					8"		
A–5		1300					10"		
A–6		1800					12"		10'–0" LINED DUCT
A–7		2300					14"		
A–8		3100					16"		

NOTES: 1.) HIGH PRESSURE DUCT CONNECTION SIZE FROM HIGH PRESSURE MAIN DUCT TO AIR TERMINAL UNIT UNLESS OTHERWISE NOTED ON DWGS. PROVIDE TRANSITION IF REQUIRED TO SUIT UNIT INLET SIZE.

FAN-POWERED - VAV AIR TERMINAL UNITS

SYMBOL:	B 1	B 2	B 3	B 4	B 5	B 6	B 7	B 8
P.A. CFM RANGE:	105–840	105–840	165–1355	165–1355	165–1355	240–1975	240–1975	335–2750
P.A. INLET SIZE:	8"	8"	10"	10"	10"	12"	12"	14"
TERMINAL UNIT SIZE:	0806	0811	1006	1011	1018	1211	1218	1418
DOWNSTREAM S.P.	.25	.25	.25	.25	.35	.35	.4	.4
MOTOR SIZE:	1/6	1/4	1/6	1/4	1/2	1/4	1/2	1/2
FAN CFM RANGE:	250–500	450–800	300–500	500–1100	800–1700	500–1050	800–1700	800–1800
MAX HTG. CAPACTY	33.3	50.6	27.4	66.2	84.5	66.2	84.5	94.3
GPM	2.0	5.0	1.0	5.0	5.0	5.0	5.0	5.0
POWER SUPPLY:	–	–	–	–	–	–	–	–
DOWNSTREAM DUCT	5'–0" LINED					10'–0" LINED		
MANUFACTURE:	ENVIRO–TEC	ENVIRO–TEC	ENVIRO–TEC	ENVIRO–TEC	ENVIRO–TEC	ENVIRO–TEC	ENVIRO–TEC	ENVIRO–TEC
MODEL:	VFR–WC	VFR–WC	VFR–WC	VFR–WC	VFR–WC	VFR–WC	VFR–WC	VFR–WC
INLET FILTERS	YES							

REMARKS: 1.) REHEAT CAPACITY (MBH) BASED ON 2–ROW REHEAT COILS; 180° EWT; 160° LWT; 65° EAT.
2.) DESIGN SELECTIONS BASED ON PRIMARY AIR RADIATED NC LEVEL <= 30 NC.
3.) INSTALL SPRING VIBRATION ISOLATERS FOR FAN–POWERED AIR TERMINAL UNITS WITH 1/2 HORSEPOWER MOTORS AND HANDLING 1000 CFM OR GREATER VOLUME OF AIR DESIGNED BY "VIBREX" OR "MASON". INCLUDE SEISMIC RESTRAINT.

AIR DISTRIBUTION SCHEDULE

(PRICE, MODULAR)

NECK SIZE	CFM	THROW
6 x 6	*100	A = 4 WAY
8 x 8	*180	B = 3 WAY
10 x 10	*300	C = 2 WAY OPP.
12 x 12	*400	D = 2 WAY CORNER
14 x 14	*500	E = 1 WAY
16 x 16	*700	X = EXHAUST
18 x 18	*950	

NECK SIZE (SQUARE)
THROW (X=EXHAUST)
128 / 300 CFM

DIFFUSER FACE TO BE 24x24 FOR T–BAR CEILINGS.

T–BAR CEILINGS, PROVIDE QUAD DAMPRS IN DUCTS GYP CEILINGS, PROVIDE OBD AT GRILLES COORDINATE WITH ARCHITECTURAL REFLECTED CEILING PLAN FOR CEILING TYPE. SELECT DIFFUSER MOUNTING TYPE ACCORDINGLY.

CEILING		T–BAR	T–BAR	GYPBOARD	GYPBOARD	GYPBOARD	
PRICE		PDMC	PDDR	SMCD	520D	80	
FACE TYPE		PR	PR	SQ	SW	EG	
MOUNTING		FL	FL	S	S	S	
PATTERN		ADJ	–	4W	FIX	FIX	
DAMPER		VD	VD	OBD	OBD	OBD	
MATERIAL		ST	ST	ST	ST	ST	
FINISH		W	W	W	W	W	
USE		SUPPLY	RETURN	SUPPLY	SUPPLY	EXHAUST	

FACE TYPE:
RD – ROUND
PR – PERFORATED
SW – SIDEWALL
EG – EGGCRATE
MOUNTING:
FL – FLUSH
S – SURFACE

PATTERN:
ADJ – ADJUSTABLE
4W – FOUR WAY
FIX – FIXED

FINISHES:
W– WHITE

DAMPERS:
OBD – OPPOSED BLADE DAMPER
VD – VOLUME DAMPER

MATERIAL:
ST – STEEL

RETURN AIR PLENUM REQUIREMENTS

WIRING – ONLY WIRING METHODS CONSISTING OF TYPE MI CABLE OR TYPE MC CABLE EMPLOYING A SMOOTH OR CORRUGATED IMPERVIOUS METAL SHEATH WITHOUT AN OVERALL NONMETALLIC COVERING, ELECTRICAL METALLIC TUBING, FLEXIBLE METALLIC TUBING, INTERMEDIATE METAL CONDUIT, OR RIGID METAL CONDUIT IS PERMITTED. FLEXIBLE METAL CONDUIT AND LIQUID TIGHT FLEXIBLE METAL CONDUIT SHALL BE PERMITTED, IN LENGTHS NOT TO EXCEED 4 FEET, TO CONNECT PHYSICALLY ADJUSTABLE EQUIPMENT AND DEVICES THAT ARE PERMITTED IN THE PLENUM (NEC 300–22B, 22C)

GAS VALVES SHALL NOT BE LOCATED IN SUCH SPACES DUE TO THE POTENTIAL TO LEAK.

COMMUNICATION CABLES – CABLES INSTALLED IN DUCTS, PLENUMS, AND OTHER SPACES USED FOR ENVIRONMENT AIR SHALL BE TYPE CMP. TYPES CMP, CMR, CMG, CM AND CMX AND COMMUNICATIONS WIRE SHALL BE INSTALLED IN ELECTRICAL METALLIC TUBING, FLEXIBLE METAL TUBING, INTERMEDIATE METAL CONDUIT, RIGID METAL CONDUIT, FLEXIBLE METAL CONDUIT, OR, WHERE ACCESSIBLE, SURFACE METAL RACEWAY OR WIRE WAY WITH METAL COVERS OR SOLID BOTTOM METAL CABLE TRAY WITH SOLID METAL COVERS. (CEC 800.154SA, 300–22A,B,C)

WOOD FRAMING & PLYWOOD – NOT PERMITTED TO BE EXPOSED IN THE PLENUM UNLESS RATED CLASS I. (CMC 602.2)

SUSPENDED CEILINGS – RATED FOR PLENUM OR A MINIMUM OF 1–HOUR RATED.

INSULATION – CLASS I MATERIAL ONLY. BATTS NOT PERMITTED.

LIGHTING – SHALL HAVE A METAL ENCLOSURE, OR NONMETALLIC ENCLOSURE LISTED FOR THE USE WITH ADEQUATE FIRE–RESISTANT AND LOW SMOKE–PRODUCING (CLASS 1 FLAME SPREAD) AND ASSOCIATED WIRING MATERIAL SUITABLE FOR THE AMBIENT TEMPERATURE.

DUCT MATERIALS – CLASS "0" OR "1" ONLY.

AIR BALANCE REQUIREMENTS

PROVIDE AN INITIAL AIR TEST OF ALL EXISTING HVAC EQUIPMENT, AIR INLETS AND OUTLETS PRIOR TO ANY WORK TAKING PLACE. THIS INCLUDES ALL AREAS SERVED BY THE EXISTING AIR HANDLER AND EXHAUST SYSTEM. SUBMIT TEST TO ARCHITECT FOR REVIEW. PROVIDE FINAL AIR BALANCE AFTER CONSTRUCTION IS COMPLETE BASED ON THE DESIGN AIRFLOWS INDICATED IN THE AIRFLOW TABLE.

TESTING AND BALANCING AIR DISTRIBUTION SYSTEMS:

1. OBTAIN THE SERVICES OF AN INDEPENDENT TEST AND BALANCE AGENCY THAT SPECIALIZES IN AND WHOSE BUSINESS IS LIMITED TO THE TESTING AND BALANCING OF AIR CONDITION SYSTEMS.
2. THE AGENCY SELECTED SHALL BE A FULLY CERTIFIED MEMBER OF THE AABC OR NEBB. AT LEAST ONE MEMBER OF THE AGENCY SHALL BE QUALIFIED AS A CERTIFIED TEST AND BALANCE ENGINEER BY THE NATIONAL EXAMINING BOARD. ALL FINAL REPORTS SHALL BE SIGNED BY THIS CERTIFIED TEST AND BALANCE ENGINEER AND SHALL INCLUDE HIS OFFICIAL STAMP. THE NATIONAL EXAMINING BOARD. ALL FINAL REPORTS SHALL BE SIGNED BY THIS CERTIFIED TEST.
3. TESTING AND BALANCING SHALL BE PERFORMED IN COMPLETE ACCORDANCE WITH AABC STANDARDS FOR FIELD MEASUREMENT AND INSTRUMENTATION. TESTING AND BALANCING SHALL BE PERFORMED ON ALL SYSTEMS.
4. INSTRUMENTS USED FOR TESTING AND BALANCING OF SYSTEMS MUST HAVE BEEN CALIBRATED WITHIN PERIOD OF SIX MONTHS AND BEEN CHECKED FOR ACCURACY PRIOR TO START OF WORK.
5. MEASURE MAXIMUM AIR FLOW QUANTITY OF EACH SUPPLY AIR DIFFUSER. SET BALANCING DAMPER AND LOCK INTO PLACE.

EQUIPMENT AND MATERIALS

- ALL EQUIPMENT SHALL BE LABELED OR LISTED BY A RECOGNIZED APPROVAL AGENCY.
- FOR SUPPLY, RETURN, AND EXHAUST DUCT, MATERIALS SHALL BE GALVANIZED STEEL.
- ALL EXTERIOR REFRIGERANT PIPING INSULATION SHALL BE CLAD WITH ALUMINUM AND SECURED WITH ALUMINUM BANDS.

GOVERNING CODES

2016 CALIFORNIA ADMINISTRATIVE CODE, TITLE 24 PART 1
2016 CALIFORNIA BUILDING CODE, TITLE 24 PART 2
(INCLUDES THE CALIFORNIA HISTORICAL BUILDING CODE,
PART 8 AND CALIFORNIA EXISTING BUILDING CODE, PART 10)
2016 CALIFORNIA ELECTRICAL CODE, TITLE 24 PART 3
2016 CALIFORNIA MECHANICAL CODE, TITLE 24, PART 4
2016 CALIFORNIA PLUMBING CODE, TITLE 24, PART 5
2016 CALIFORNIA FIRE CODE, TITLE 24 PART 9
2016 CALIFORNIA REFERENCED STANDARDS CODE, TITLE 24 PART 12

SHEET INDEX

M–T24 MECHANICAL TITLE 24 FORMS
M–0.1 MECHANICAL LEGENDS, SCHEDULES AND NOTES
M–1.0 MECHANICAL THIRD FLOOR DEMOLITION PLAN – NORTH WING
M–1.1 MECHANICAL THIRD FLOOR DEMOLITION PLAN – SOUTH WING
M–2.0 MECHANICAL THIRD FLOOR PLAN– NORTH WING
M–2.1 MECHANICAL THIRD FLOOR PLAN– SOUTH WING
M–2.2 MECHANICAL ROOF PLAN– NORTH WING
M–2.3 MECHANICAL ROOF PLAN– SOUTH WING
M–3.0 MECHANICAL DETAILS
M–3.1 MECHANICAL DETAILS

GREEN BUILDING CODE

1. ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, OR SHEETMETAL UNTIL THE FINAL STARTUP OF THE HEATING AND COOLING EQUIPMENT. (504.3)
2. ADHESIVES, CAULKS, AND SEALANTS SHALL COMPLY WITH VOLITILE ORGANIC COMPOUND (VOC) LIMITS LISTED IN TABLES 504.4.1–504.4.3 (504.4)
3. IN MECHANICALLY VENTILATED BUILDINGS, PROVIDE REGULARLY OCCUPIED AREAS OF THE BUILDING WITH CLEARLY LABELED AIR FILTRATION MEDIA FOR OUTSIDE AND RETURN AIR PRIOR TO OCCUPANCY THAT PROVIDES AT LEAST A MINIMUM EFFICIENCY REPORTING VALUE (MERV) OF 8. (5.504.5.3)
4. FOR TESTING, BALANCING, AND REPORTING, REFER TO AIR BALANCE REQUIREMENTS NOTE BOX THIS SHEET.
5. ALL INSTALLED HVAC, REFRIGERATION, AND FIRE SUPPRESSION EQUIPMENT SHALL NOT CONTAIN CHLOROFLUOROCARBONS (CFCs).
6. ALL INSTALLED HVAC, REFRIGERATION, AND FIRE SUPPRESSION EQUIPMENT SHALL NOT CONTAIN HALONS.
7. PROVIDE TEMPORARY VENTILATION DURING CONSTRUCTION IN ACCORDANCE WITH SECTION 120.1 OF THE CALIFORNIA ENERGY CODE CCR TITLE 24 PART 6 AND CHAPTER 4 OF CCR TITLE 8, AND AS FOLLOWS:
   A.) VENTILATION DURING CONSTRUCTION SHALL BE ACHIEVED THROUGH OPENINGS IN THE BUILDING SHELL USING FANS TO PRODUCE A MINIMUM OF THREE AIR CHANGES PER HOUR.
   B.) IF THE BUILDING IS OCCUPIED DURING DEMOLITION OR CONSTRUCTION, MEET OR EXCEED THE RECOMMENDED CONTROL MEASURES OF THE SHEET METAL AND AIR CONDITIONING NATIONAL CONTRACTORS ASSOCIATION (SMACNA) IAQ GUIDELINES FOR OCCUPIED BUILDINGS UNDER CONSTRUCTION, 1995, CHAPTER 3.
8. PROVIDE THE BUILDING OWNER WITH DETAILED OPERATING AND MAINTENANCE INSTRUCTIONS AND COPIES OF GUARANTIES/WARRANTIES FOR EACH SYSTEM PRIOR TO FINAL INSPECTION.INCLUDE A COPY OF ALL INSPECTION VERIFICATIONS AND REPORTS REQUIRED BY THE ENFORCING AGENCY.

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EXP: 6/30/19

TENANT IMPROVEMENTS FOR:
1800 N SOLAR DRIVE - 3rd FLOOR
OXNARD, CALIFORNIA

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△	remarks	date
	PLAN CHECK SUBMITT.	04.15.19
	BID SUBMITT.	04.22.19
1	ISSUED FOR BID/ADD–A	04.30.19
2	P.C. CORRECT/ADD–B	05.30.19

sheet title

MECHANICAL LEGENDS. NOTES AND SCHEDULES

drawn by CM
project no 43028
date 06/18/19
scale AS SHOWN

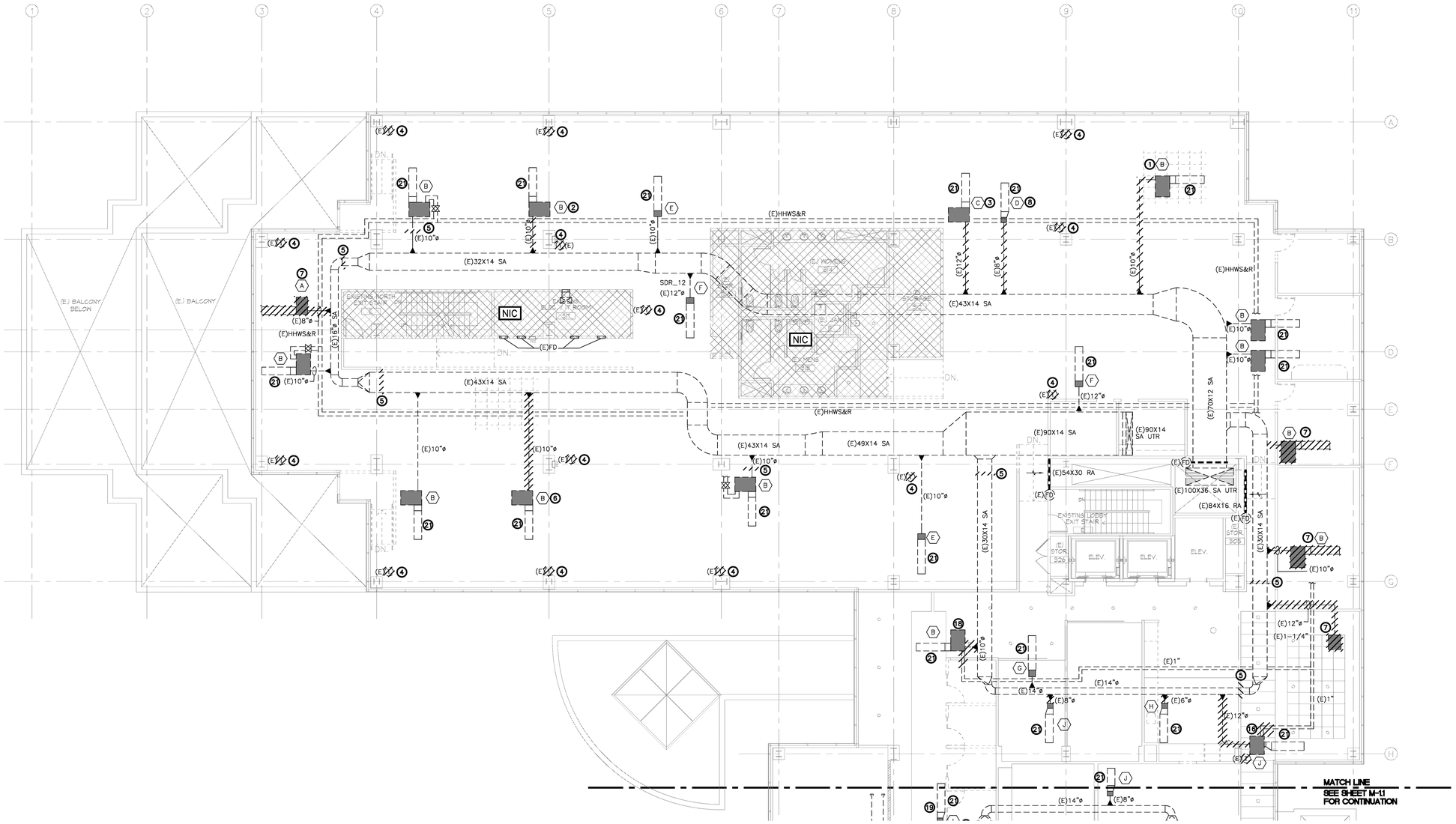
M0.1

EXISTING VAV BOX SCHEDULE

MARK NO.	MAKE	MODEL	INLET DUCT SIZE	REMARKS:
A	ENVIRO-TECH	VFRWC	8"ø	
B	ENVIRO-TECH	VFRWC	10"ø	
C	ENVIRO-TECH	VFRWC	12"ø	
D	ENVIRO-TECH	SDR	8"ø	
E	ENVIRO-TECH	SDR	10"ø	
F	ENVIRO-TECH	SDR	12"ø	
G	ENVIRO-TECH	SDR	14"ø	

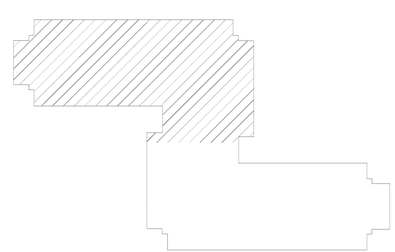
EXISTING VAV BOX SCHEDULE(CONT.)

MARK NO.	MAKE	MODEL	INLET DUCT SIZE	REMARKS:
H	ENVIRO-TECH	SDR	6"ø	
I	PRICE	SPV	6"ø	
J	PRICE	SPV	8"ø	
H	PRICE	FPV	12"ø	



MECHANICAL THIRD FLOOR DEMOLITION PLAN - NORTH WING

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



KEY PLAN

NOTES:

DASHED LINES REPRESENT EXISTING DUCTS, EQUIPMENT, ETC.

"LIGHT TEXT" PERTAINS TO EXISTING DUCTS AND EQUIPMENT

"HEAVY TEXT" PERTAINS TO NEW DUCTS AND EQUIPMENT

CROSSHATCHED AREAS INDICATED "NIC" NO MECHANICAL WORK REQUIRED.

DEMOLITION NOTES

1. DISCONNECT (E)HWS&R AND MEDIUM PRESSURE DUCTWORK. RELOCATE TO SERVE ZONE #3. SEE SHEET M-2.0 FOR NEW LOCATION.
2. DISCONNECT (E)HWS&R AND MEDIUM PRESSURE DUCTWORK. RELOCATE TO SERVE ZONE #2. SEE SHEET M-2.0 FOR NEW LOCATION.
3. DISCONNECT (E)HWS&R AND MEDIUM PRESSURE DUCTWORK. RELOCATE TO SERVE ZONE #4. SEE SHEET M-2.0 FOR NEW LOCATION.
4. DEMOLISH EXISTING THERMOSTATS AND REPLACE WITH NEW. SEE SHEET M-2.0 FOR NEW LOCATION.
5. DEMOLISH EXISTING PARTIAL DUCTWORK TO ALLOW FOR INSTALLATION OF COMBINATION SMOKE-FIRE DAMPER. SEE SHEET M-2.0 FOR LOCATIONS.
6. DISCONNECT (E)HWS&R AND MEDIUM PRESSURE DUCTWORK. RELOCATE TO SERVE ZONE #11. SEE SHEET M-2.0 FOR NEW LOCATION.
7. DEMOLISH EXISTING VAV ZONE AND ALL ASSOCIATED HWS&R PIPING, LOW PRESSURE DUCTWORK, DIFFUSERS, ETC.
8. DISCONNECT (E)HWS&R AND MEDIUM PRESSURE DUCTWORK. RELOCATE TO SERVE ZONE #12. SEE SHEET M-2.0 FOR NEW LOCATION.
9. RELOCATED (E)VAV BOX SLIGHTLY EAST TO CENTER WITH NEW OFFICE LAYOUT. SEE SHEET M-2.0 FOR NEW LOCATION.
10. DISCONNECT (E)HWS&R AND MEDIUM PRESSURE DUCTWORK. RELOCATE TO SERVE ZONE #4. SEE SHEET M-2.0 FOR NEW LOCATION.
11. DISCONNECT (E)HWS&R AND MEDIUM PRESSURE DUCTWORK. RELOCATE TO SERVE ZONE #23. SEE SHEET M-2.0 FOR NEW LOCATION.
12. DISCONNECT (E)HWS&R AND MEDIUM PRESSURE DUCTWORK. RELOCATE TO SERVE ZONE #24. SEE SHEET M-2.0 FOR NEW LOCATION.
13. DISCONNECT (E)HWS&R AND MEDIUM PRESSURE DUCTWORK. RELOCATE TO SERVE ZONE #16. SEE SHEET M-2.0 FOR NEW LOCATION.
14. DISCONNECT (E)HWS&R AND MEDIUM PRESSURE DUCTWORK. RELOCATE TO SERVE ZONE #15. SEE SHEET M-2.0 FOR NEW LOCATION.
15. DISCONNECT (E)HWS&R AND MEDIUM PRESSURE DUCTWORK. RELOCATE TO SERVE ZONE #21. SEE SHEET M-2.0 FOR NEW LOCATION.
16. RELOCATED (E)VAV BOX SLIGHTLY TO THE EAST. SEE SHEET M-2.0 FOR NEW LOCATION.
17. DISCONNECT (E)HWS&R AND MEDIUM PRESSURE DUCTWORK. RELOCATE TO SERVE ZONE #20. SEE SHEET M-2.0 FOR NEW LOCATION.
18. RELOCATED (E)VAV BOX SLIGHTLY TO THE WEST. SEE SHEET M-2.0 FOR NEW LOCATION.
19. RELOCATE (E)VAV BOX TO MAINTAIN ADQEQUATE CLEARANCE IN FRONT OF CONTROLS SECTION OF BOX (2'-0"). SEE SHEET M-2.0 FOR NEW LOCATION.
20. RELOCATE (E)VAV BOX TO DUE TO NEW FULL HEIGHT WALL BEING LOCATED AT CURRENT BOX LOCATION. SEE SHEET M-2.0 FOR NEW LOCATION.
21. DEMOLISH ALL ASSOCIATED EXISTING DUCTWORK DOWNSTREAM FROM (E)SA PLENUM/ATTENUATOR OF (E)VAV BOX AND ALL (E)SA DIFFUSERS. (E)SA PLENUM/ATTENUATOR IS EXISTING TO REMAIN.

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REGISTERED PROFESSIONAL ENGINEER KEVIN A. SMOLA NO. M21106 MECHANICAL STATE OF CALIFORNIA
EXP: 6/30/19

RCD SCHOOL DISTRICT

TENANT IMPROVEMENTS FOR:
1800 N SOLAR DRIVE - 3rd FLOOR
OXNARD, CALIFORNIA

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△	remarks	date
	PLAN CHECK SUBMIT.	04.15.19
	BID SUBMIT.	04.22.19
	P.C. CORRECT/RDO-B	05.30.19

sheet title

MECHANICAL THIRD FLOOR DEMOLITION PLAN-NORTH WING

drawn by	CM
project no	43028
date	06/18/19
scale	AS SHOWN

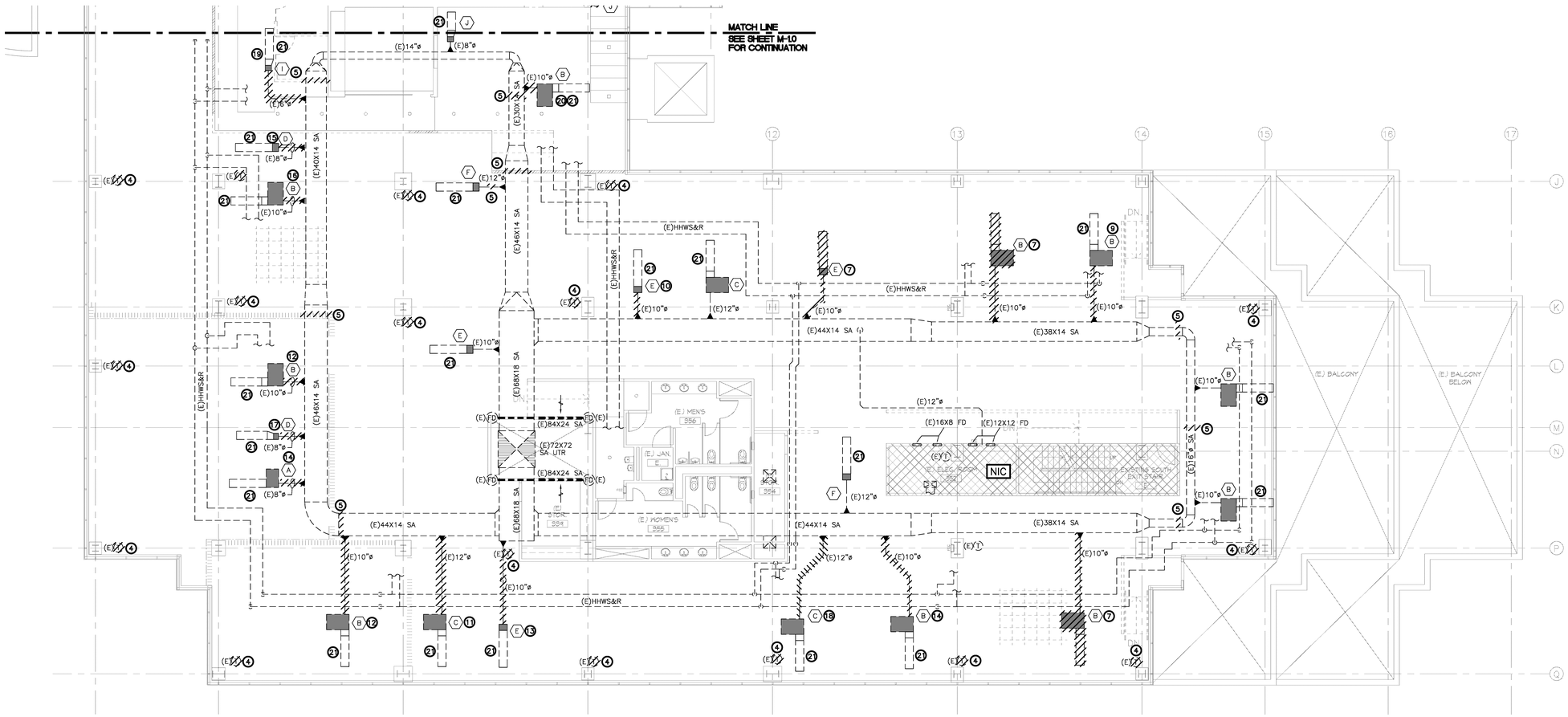
M1.0

EXISTING VAV BOX SCHEDULE

MARK NO.	MAKE	MODEL	INLET DUCT SIZE	REMARKS:
A	ENVIRO-TECH	VFRWC	8"ø	
B	ENVIRO-TECH	VFRWC	10"ø	
C	ENVIRO-TECH	VFRWC	12"ø	
D	ENVIRO-TECH	SDR	8"ø	
E	ENVIRO-TECH	SDR	10"ø	
F	ENVIRO-TECH	SDR	12"ø	
G	ENVIRO-TECH	SDR	14"ø	

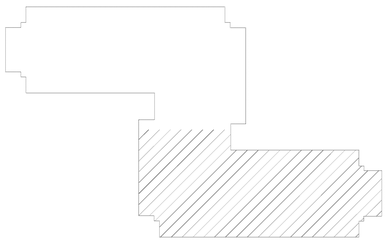
EXISTING VAV BOX SCHEDULE(CONT.)

MARK NO.	MAKE	MODEL	INLET DUCT SIZE	REMARKS:
H	ENVIRO-TECH	SDR	6"ø	
I	PRICE	SPV	6"ø	
J	PRICE	SPV	8"ø	
H	PRICE	FPV	12"ø	



MECHANICAL THIRD FLOOR DEMOLITION PLAN - SOUTH WING

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



KEY PLAN

NOTES:

DASHED LINES REPRESENT EXISTING DUCTS, EQUIPMENT, ETC.

"LIGHT TEXT" PERTAINS TO EXISTING DUCTS AND EQUIPMENT

"HEAVY TEXT" PERTAINS TO NEW DUCTS AND EQUIPMENT

CROSSHATCHED AREAS INDICATED "NIC" NO MECHANICAL WORK REQUIRED.

DEMOLITION NOTES

1. DISCONNECT (E)HWS&R AND MEDIUM PRESSURE DUCTWORK. RELOCATE TO SERVE ZONE #3. SEE SHEET M-2.0 FOR NEW LOCATION.
2. DISCONNECT (E)HWS&R AND MEDIUM PRESSURE DUCTWORK. RELOCATE TO SERVE ZONE #2. SEE SHEET M-2.0 FOR NEW LOCATION.
3. DISCONNECT (E)HWS&R AND MEDIUM PRESSURE DUCTWORK. RELOCATE TO SERVE ZONE #4. SEE SHEET M-2.0 FOR NEW LOCATION.
4. DEMOLISH EXISTING THERMOSTATS AND REPLACE WITH NEW. SEE SHEET M-2.0 FOR NEW LOCATION.
5. DEMOLISH EXISTING PARTIAL DUCTWORK TO ALLOW FOR INSTALLATION OF COMBINATION SMOKE-FIRE DAMPER. SEE SHEET M-2.0 FOR LOCATIONS.
6. DISCONNECT (E)HWS&R AND MEDIUM PRESSURE DUCTWORK. RELOCATE TO SERVE ZONE #11. SEE SHEET M-2.0 FOR NEW LOCATION.
7. DEMOLISH EXISTING VAV ZONE AND ALL ASSOCIATED HWS&R PIPING, LOW PRESSURE DUCTWORK, DIFFUSERS, ETC.
8. DISCONNECT (E)HWS&R AND MEDIUM PRESSURE DUCTWORK. RELOCATE TO SERVE ZONE #12. SEE SHEET M-2.0 FOR NEW LOCATION.
9. RELOCATED (E)VAV BOX SLIGHTLY EAST TO CENTER WITH NEW OFFICE LAYOUT. SEE SHEET M-2.0 FOR NEW LOCATION.
10. DISCONNECT (E)HWS&R AND MEDIUM PRESSURE DUCTWORK. RELOCATE TO SERVE ZONE #4. SEE SHEET M-2.0 FOR NEW LOCATION.
11. DISCONNECT (E)HWS&R AND MEDIUM PRESSURE DUCTWORK. RELOCATE TO SERVE ZONE #23. SEE SHEET M-2.0 FOR NEW LOCATION.
12. DISCONNECT (E)HWS&R AND MEDIUM PRESSURE DUCTWORK. RELOCATE TO SERVE ZONE #24. SEE SHEET M-2.0 FOR NEW LOCATION.
13. DISCONNECT (E)HWS&R AND MEDIUM PRESSURE DUCTWORK. RELOCATE TO SERVE ZONE #16. SEE SHEET M-2.0 FOR NEW LOCATION.
14. DISCONNECT (E)HWS&R AND MEDIUM PRESSURE DUCTWORK. RELOCATE TO SERVE ZONE #15. SEE SHEET M-2.0 FOR NEW LOCATION.
15. DISCONNECT (E)HWS&R AND MEDIUM PRESSURE DUCTWORK. RELOCATE TO SERVE ZONE #21. SEE SHEET M-2.0 FOR NEW LOCATION.
16. RELOCATED (E)VAV BOX SLIGHTLY TO THE EAST. SEE SHEET M-2.0 FOR NEW LOCATION.
17. DISCONNECT (E)HWS&R AND MEDIUM PRESSURE DUCTWORK. RELOCATE TO SERVE ZONE #20. SEE SHEET M-2.0 FOR NEW LOCATION.
18. RELOCATED (E)VAV BOX SLIGHTLY TO THE WEST. SEE SHEET M-2.0 FOR NEW LOCATION.
19. RELOCATE (E)VAV BOX TO MAINTAIN ADQEQUATE CLEARANCE IN FRONT OF CONTROLS SECTION OF BOX (2'-0"). SEE SHEET M-2.0 FOR NEW LOCATION.
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21. DEMOLISH ALL ASSOCIATED EXISTING DUCTWORK DOWNSTREAM FROM (E)SA PLENUM/ATTENUATOR OF (E)VAV BOX AND ALL (E)SA DIFFUSERS. (E)SA PLENUM/ATTENUATOR IS EXISTING TO REMAIN.

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EXP: 6/30/19

TENANT IMPROVEMENTS FOR:
RIO SCHOOL DISTRICT
1800 N SOLAR DRIVE - 3rd FLOOR
OXNARD, CALIFORNIA

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	P.C. CORRECT/ADD.-B	05.30.19

sheet title

MECHANICAL THIRD FLOOR DEMOLITION PLAN - SOUTH WING

drawn by	CM
project no	43028
date	06/18/19
scale	AS SHOWN

M1.1

NOTES:

DASHED LINES REPRESENT EXISTING DUCTS, EQUIPMENT, ETC.

"LIGHT TEXT" PERTAINS TO EXISTING DUCTS AND EQUIPMENT

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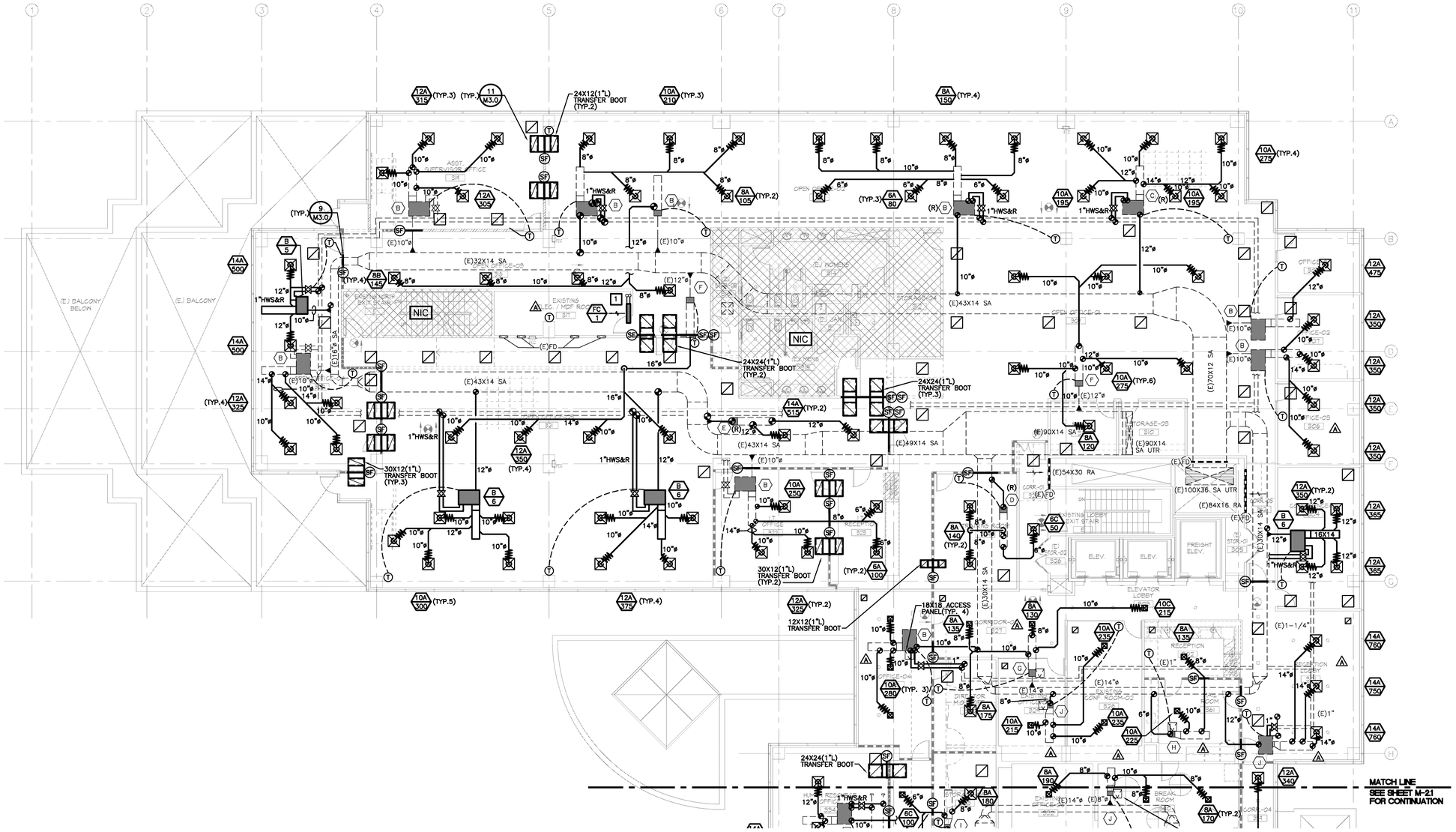
CROSSHATCHED AREAS INDICATED "NIC" NO MECHANICAL WORK REQUIRED.

SEE SHEET M1.0 & M1.1 FOR EXISTING VAV BOX SCHEDULE.

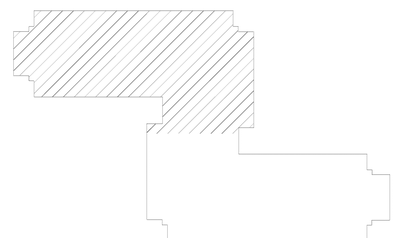
PLAN NOTES

1. 3/8" AND 5/8" INSULATED REFRIGERANT PIPING UP FROM CU-1 ON ROOF.
2. 3/8" AND 5/8" INSULATED REFRIGERANT PIPING UP FROM CU-2 ON ROOF.



MECHANICAL THIRD FLOOR PLAN - NORTH WING

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



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	P.C. CORRECT/RDD-B	05.30.19

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MECHANICAL THIRD FLOOR PLAN- NORTH WING

drawn by	CM
project no	43028
date	06/18/19
scale	AS SHOWN

M2.0

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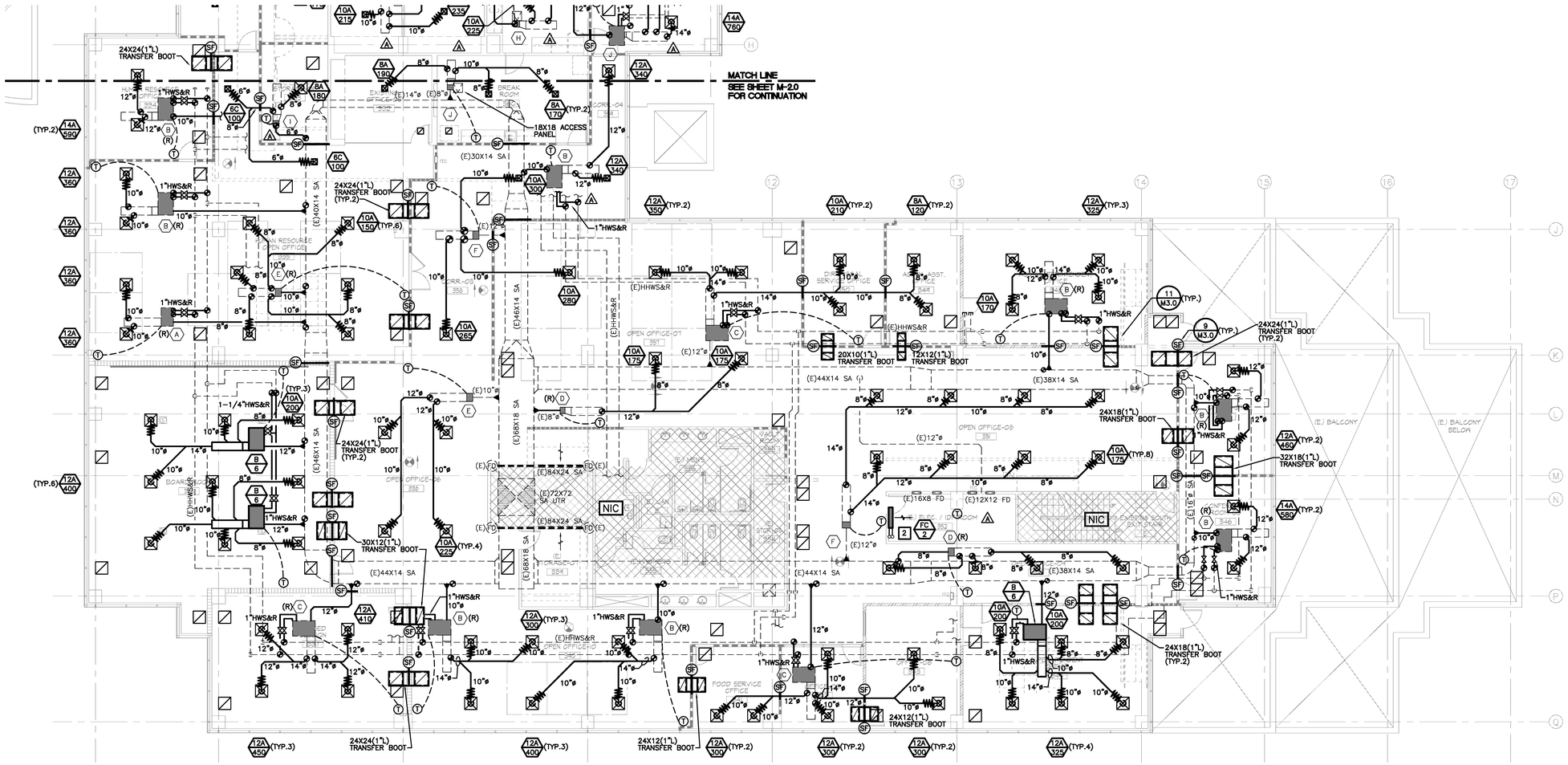
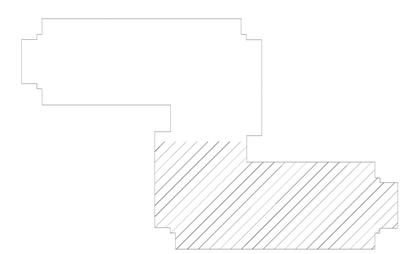


MECHANICAL THIRD FLOOR PLAN - SOUTH WING

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



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sheet title

MECHANICAL
THIRD FLOOR PLAN-
SOUTH WING

drawn by: CM
project no: 43028
date: 06/18/19
scale: AS SHOWN

M2.1

NOTES:

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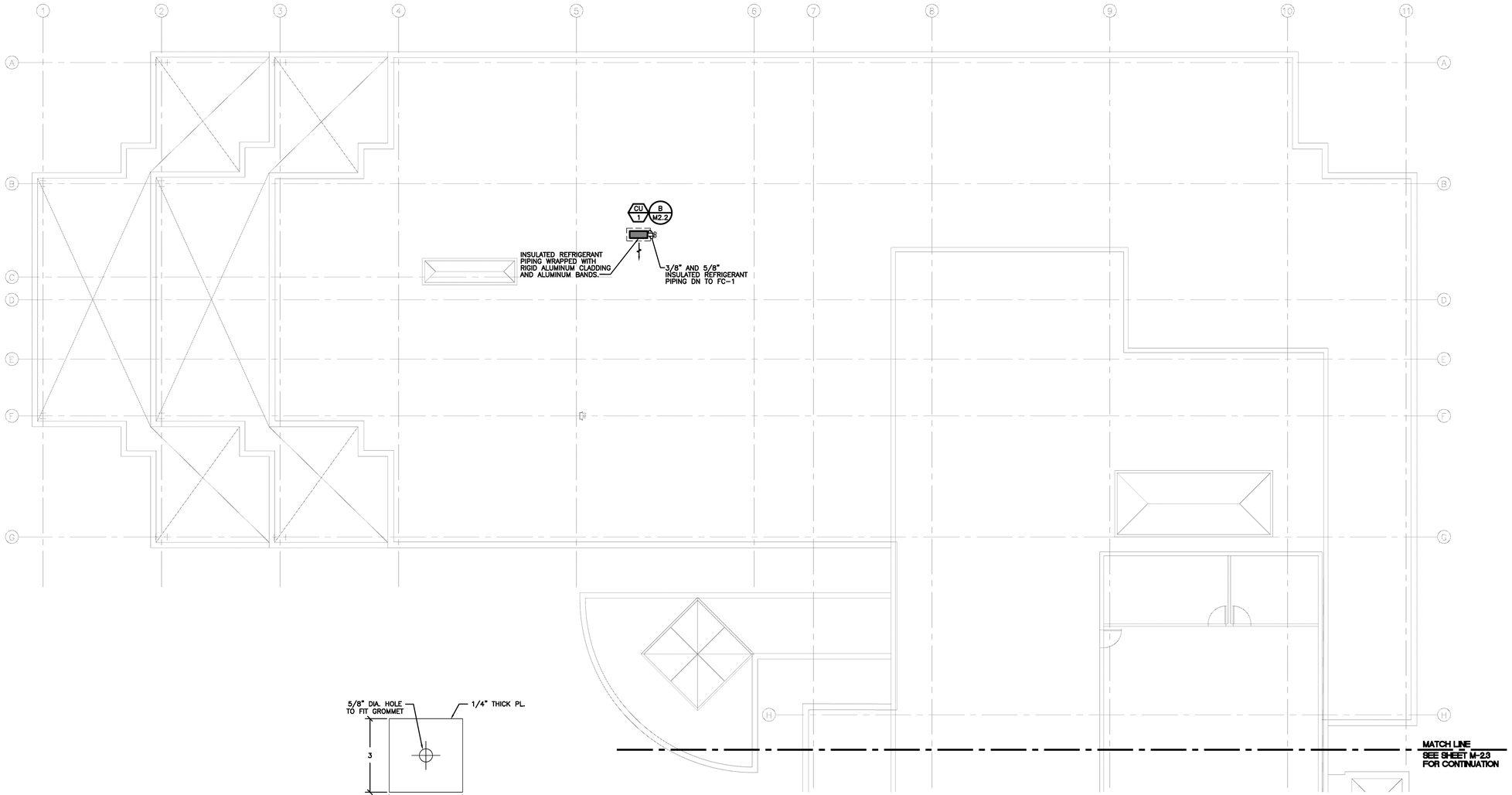
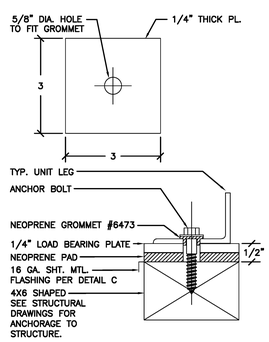
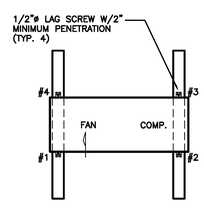


MECHANICAL ROOF PLAN - NORTH WING

A

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



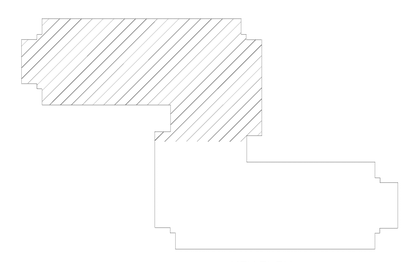


UNIT PLAN AT BASE

CU-1 AND 2 ISOLATION DETAIL

B

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



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MECHANICAL ROOF PLAN- NORTH WING

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scale	AS SHOWN

M2.2 1

NOTES:

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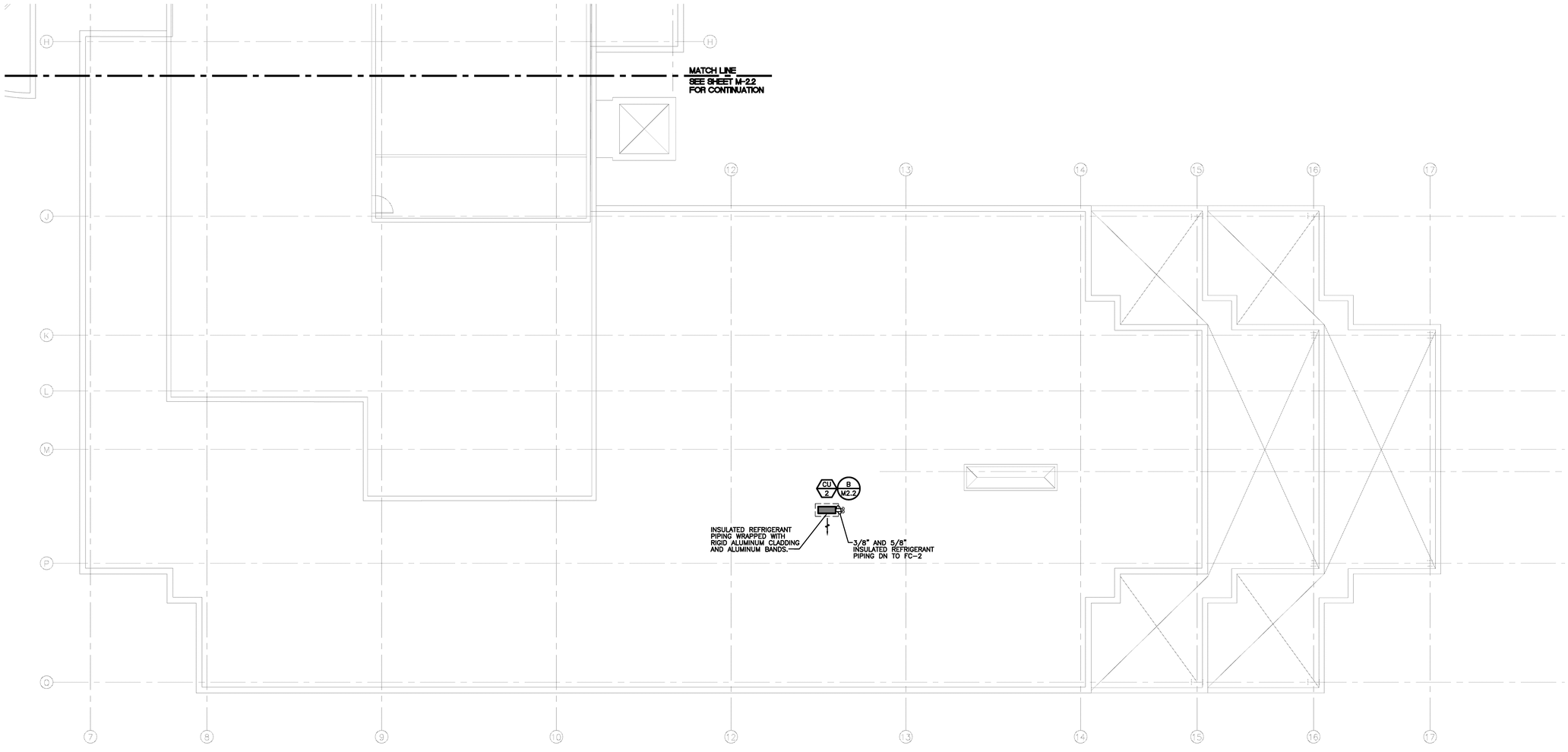
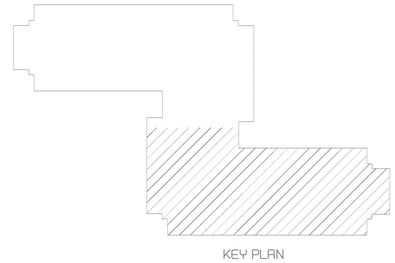


MECHANICAL ROOF PLAN - SOUTH WING

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



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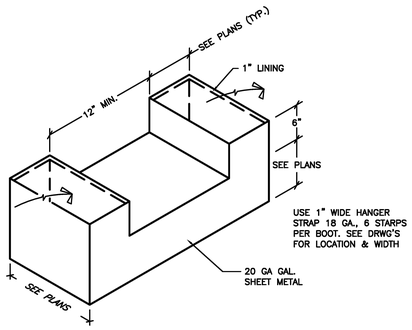
MECHANICAL ROOF PLAN- SOUTH WING

drawn by	CM
project no	43028
date	06/18/19
scale	AS SHOWN

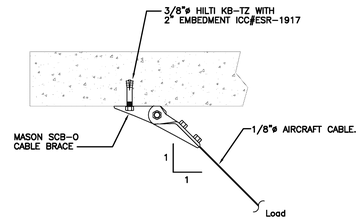
M2.3 △1

NONE — SCALE: NONE — 15

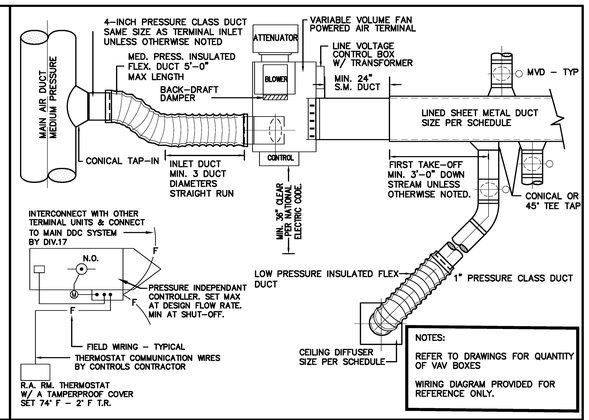
TRANSFER BOOT DETAIL — SCALE: NONE — 11



BRACE CONNECTION DETAIL — SCALE: NONE — 8

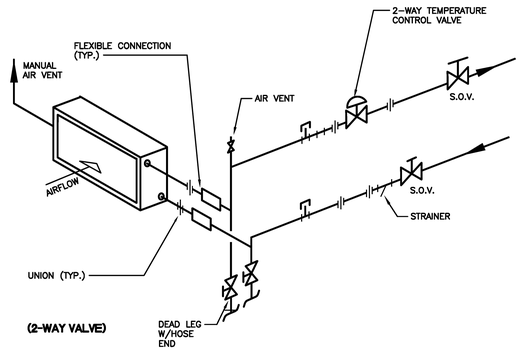


EXTERIOR ZONE VAV BOX DETAIL — SCALE: NONE — 4

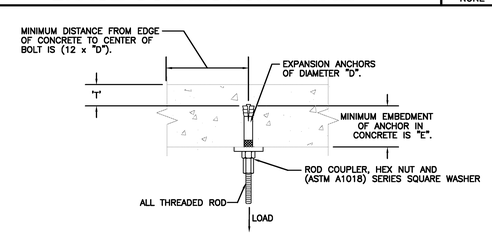


NONE — SCALE: NONE — 14

REHEAT COIL CONNECTION DETAIL — SCALE: NONE — 10



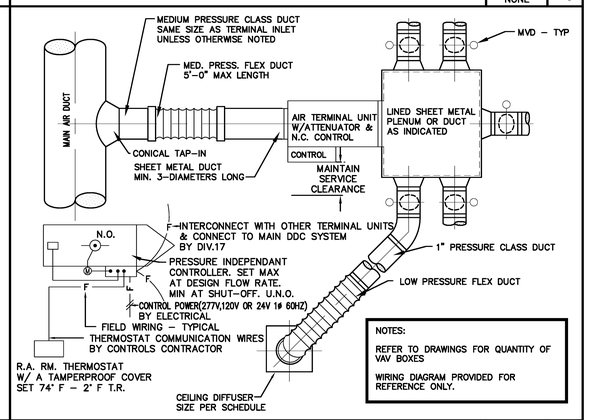
HANGER ANCHORING DETAIL — SCALE: NONE — 7



DIAMETER "D"	ALLOWABLE LOAD (IN TENSION)	MINIMUM EMBEDMENT "E"	MINIMUM CONCRETE COVERAGE "T"
IN.	IN.	IN.	IN.
3/8"	605	2 1/2"	1 1/4"
1/2"	1000	3 1/2"	1 3/4"
5/8"	1335	4"	2"
3/4"	1940	4 3/4"	2 3/8"

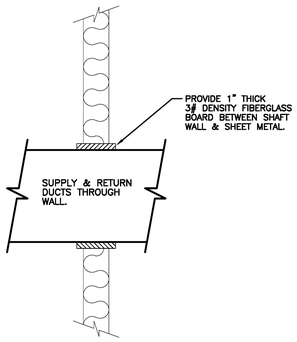
*HILTI KB TZ IN 3000 PSI (20.7 MPA) MINIMUM NORMAL WEIGHT CONCRETE.

INTERIOR ZONE VAV BOX DETAIL — SCALE: NONE — 3

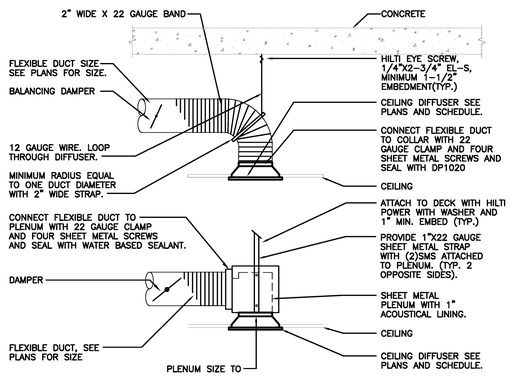


NONE — SCALE: NONE — 13

DUCT THRU NON-RATED WALL — SCALE: NONE — 6

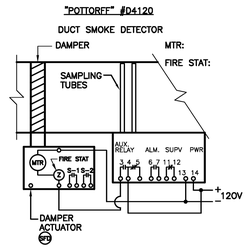


DIFFUSER DUCT CONNECTOR DETAIL — SCALE: NONE — 2

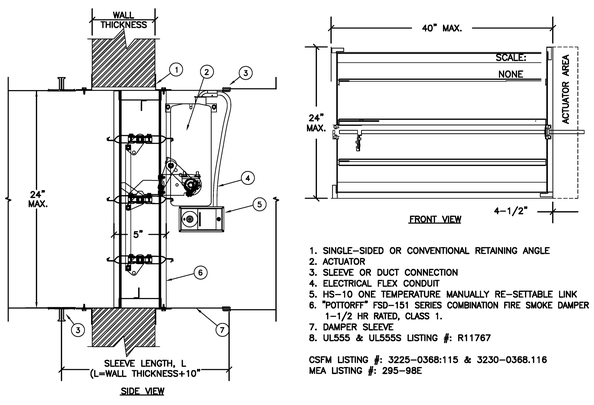


NONE — SCALE: NONE — 12

COMBINATION SMOKE/FIRE DAMPER DETAIL — SCALE: NONE — 9



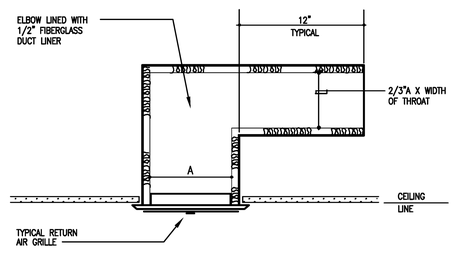
1. SMOKE/FIRE DAMPERS SHALL BE STATE FIRE MARSHAL APPROVED AND INSTALLED STRICTLY PER MANUFACTURERS PRINTED INSTRUCTIONS. MANUFACTURER'S INSTALLATION INSTRUCTIONS SHALL BE MADE AVAILABLE TO THE INSPECTING AUTHORITIES.
2. SMOKE DETECTOR TO BE PROVIDED WITH SMOKE/FIRE DAMPER BY MECH. CNTR. 120V POWER PROVIDED BY ELECTRICAL CNTR. COORDINATE WITH ALL TRADES FOR A COMPLETE OPERATING ASSEMBLY AND INSTALLATION.
3. DAMPER SHALL BE FAIL/SAFE DESIGN, ASSUMES CLOSED POSITION IN CASE OF POWER FAILURE.



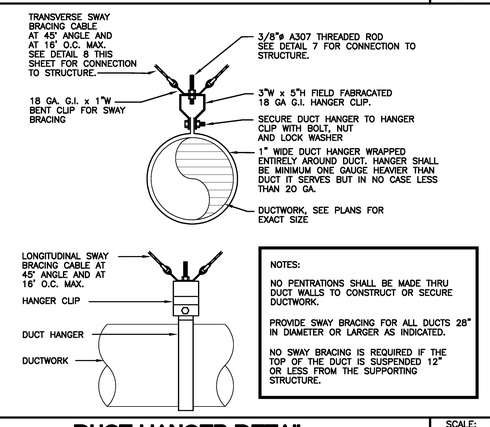
1. SINGLE-SIDED OR CONVENTIONAL RETAINING ANGLE
2. ACTUATOR
3. SLEEVE OR DUCT CONNECTION
4. ELECTRICAL FLEX CONDUIT
5. HS-10 ONE TEMPERATURE MANUALLY RE-SETTABLE LINK
6. "POTTORFF" FSD-151 SERIES COMBINATION FIRE SMOKE DAMPER 1-1/2 HR RATED, CLASS 1.
7. DAMPER SLEEVE
8. UL555 & UL555S LISTING #: R11767

CSFM LISTING #: 3225-0368:115 & 3230-0368.116
MEA LISTING #: 295-98E

RETURN AIR BOOT DETAIL — SCALE: NONE — 5



DUCT HANGER DETAIL — SCALE: NONE — 1



NOTES:

NO PENTRATIONS SHALL BE MADE THRU DUCT WALLS TO CONSTRUCT OR SECURE DUCTWORK.

PROVIDE SWAY BRACING FOR ALL DUCTS 28" IN DIAMETER OR LARGER AS INDICATED.

NO SWAY BRACING IS REQUIRED IF THE TOP OF THE DUCT IS SUSPENDED 12" OR LESS FROM THE SUPPORTING STRUCTURE.

pk:a
pk:architecture
5126 clareton drive · suite 110
agoura hills · california 91301
v. 818.584.0057 f. 818.584.0019
w. pkarchitecture.net

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CONSULTING MECHANICAL ENGINEERS
16025 ARROW HWY. STE. C
IRWINDALE, CALIFORNIA 91706
(626)585-9338 FAX(626)585-0864

REGISTERED PROFESSIONAL ENGINEER — KEVIN A. SMOLA — NO. M21106 — MECHANICAL — STATE OF CALIFORNIA
EXP: 6/30/19

TENANT IMPROVEMENTS FOR:
1800 N SOLAR DRIVE - 3rd FLOOR
OXNARD, CALIFORNIA

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△	remarks	date
	PLAN CHECK SUBMIT.	04.15.19
	BID SUBMIT.	04.22.19
	P.C. CORRECT/ADD-8	05.30.19

sheet title
MECHANICAL DETAILS

drawn by: CM
project no: 43028
date: 06/18/19
scale: AS SHOWN

M3.0

NONE	SCALE: NONE	12
NONE	SCALE: NONE	8
NONE	SCALE: NONE	4
NONE	SCALE: NONE	11
NONE	SCALE: NONE	7
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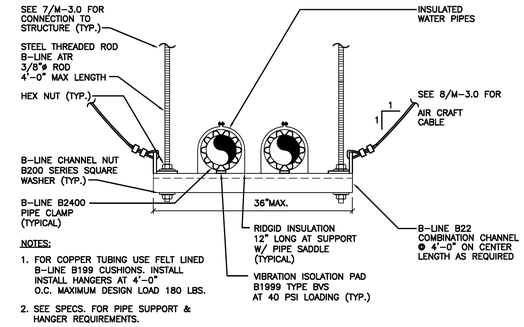
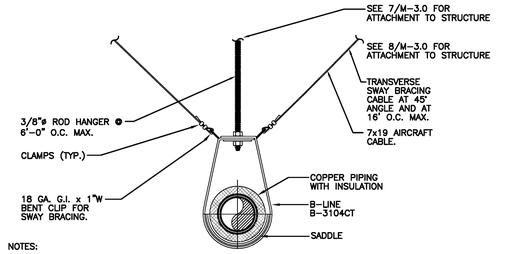


NOTES:

1. FOR COPPER TUBING USE FELT LINED B-LINE B199 CUSHIONS. INSTALL INSTALL HANGERS AT 4'-0" O.C. MAXIMUM DESIGN LOAD 180 LBS.
2. SEE SPECS. FOR PIPE SUPPORT & HANGER REQUIREMENTS.



NOTES:

1. FOR COPPER TUBING USE FELT LINED B3690F OR PLASTIC COATED B3690C HANGERS. INSTALL HANGERS AT 6'-0"O.C. MAXIMUM DESIGN LOAD 180 LBS.
2. MAXIMUM DESIGN LOAD = 3/4" COPPER FILLED WITH WATER: 0.8 LBS./FT.

NOTES:

1. CABLES TO BE INSTALLED 1/4" SLACK.
2. CABLE IS 7 X 19 AIRCRAFT CABLE.

PIPING HANGER DETAIL — SCALE: NONE — 2

NOTES:

3M FIRE BARRIER PRODUCTS:
CALIFORNIA STATE FIRE MARSHALL LISTING NO. 4485-941:100

UNINSULATED PIPE:

U.L. DESIGN NO. WL1001 (STUD WALL)

INSULATED PIPE:

U.L. DESIGN NO. WL5001 (STUD WALL)

SPECIFICATIONS:

PENETRATIONS IN FIRE RESTRICTIVE WALLS, PARTITIONS AND FLOORS WHERE PROTECTED OPENINGS ARE REQUIRED SHALL BE FIRE STOPPED USING APPROVED MATERIALS, SECURELY INSTALLED AND CAPABLE OF MAINTAINING THEIR INTEGRITY AND PREVENTING THE MOVEMENT OF FLAMES AND/OR GASES THROUGH THE VOID SPACES BETWEEN PENETRATING MATERIALS AND WALLS, PARTITIONS AND FLOORS WHEN TESTED IN ACCORDANCE WITH ASTM STANDARD E-814 OR UL STANDARD 1479

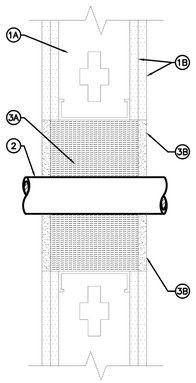
PROVIDE DESIGN DETAILS ON DRAWINGS DEPICTING APPROVED (LISTED) METHODS AND MATERIALS USED TO PROTECT PENETRATIONS WALLS, PARTITIONS AND FLOORS.

DESIGNS ARE LISTED BY UNDERWRITER'S LABORATORIES (FIRE RESISTANCE DIRECTORY) AND THE CALIFORNIA STATE FIRE MARSHALL (BUILDING MATERIAL LISTINGS). SPECIFIC DESIGN INFORMATION IS AVAILABLE FROM U.L CSFM OR THE PRODUCT MANUFACTURER.

FIRESTOP CONFIGURATION

1. WALL ASSEMBLY – THE 1 OR 2 HOUR FIRE-RATED GYPSUM WALLBOARD/ STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U300 OR U400 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:
   - A. STUDS – WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOM 2 BY 4" LUMBER SPACED 16" OC. STEEL STUDS TO BE MIN 3-1/2" WIDE AND SPACED MAX 24" OC FOR 1 HOUR RATED WALLS. STEEL STUDS TO BE MIN. 2-1/2" WIDE AND SPACED MAX 24" OC FOR 2 HOUR RATED WALLS.
   - B. GYPSUM BOARD – ONE OR TWO LAYERS OF NOM 5/8" THICK GYPSUM WALLBOARD, AS SPECIFIED IN THE INDIVIDUAL WALL AND PARTITION DESIGN. MAX AREA OF OPENING IS 585 SQ. IN. WITH MAX DIMENSIONS OF 21" WIDE BY 27-7/8" HIGH.

   THE HOURLY F RATING OF THE FIRESTOP SYSTEM IS EQUAL TO THE HOURLY RATING OF THE WALL.
2. THROUGH-PENETRANTS – METALLIC PIPE, CONDUIT OR TUBING INSTALLED WITHIN THE FIRESTOP SYSTEM. PIPE, CONDUIT OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. THE FOLLOWING TYPES OF PIPE, CONDUIT OR TUBING MAY BE USED.
   - A. STEEL PIPE – NOM 4" IN DIAMETER (OR SMALLER) SCHEDULE 5 (OR HEAVIER) STEEL PIPE.
   - B. COPPER TUBING – NOM 3" IN DIAMETER (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING.
   - C. COPPER PIPE – NOM 3" IN DIAMETER (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.
   - D. CONDUIT – NOM 4" IN DIAMETER (OR SMALLER) ELECTRICAL METALLIC TUBING (EMT) OR STEEL CONDUIT.
3. FIRESTOP SYSTEM – THE FIRESTOP SYSTEM SHALL CONSIST OF THE FOLLOWING.
   - A. PACKING MATERIAL – MIN. 4" THICKNESS OF MIN. 4 PCF MINERAL WOOL BATT INSULATION PACKED AT 50 PERCENT COMPRESSION INTO OPENING AS A PERMANENT FORM. PACKING MATERIAL TO BE RECESSED FROM BOTH SURFACES OF WALL AS REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL MATERIAL.
   - B. FILL, VOID, OR CAVITY MATERIAL – SEALANT – MIN 3/8" THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULAR SPACE BETWEEN THE PIPE COVERING AND THE PERIPHERY OF THE OPENING, FLUSH WITH BOTH SURFACES OF WALL. 3M COMPANY – FB-1000 NS OR FB-3000 WT.



PIPE THRU RATED WALL (UL-W-L-8022) — SCALE: NONE — 1

pk:a
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w. pkarchitecture.net

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EXP: 6/30/19

TENANT IMPROVEMENTS FOR:
1800 N SOLAR DRIVE - 3rd FLOOR
OXNARD, CALIFORNIA

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△	remarks	date
	PLAN CHECK SUBMIT.	04.15.19
	BID SUBMIT.	04.22.19
	P.C. CORRECT/ADD.-B	05.30.19

sheet title

MECHANICAL DETAILS

drawn by: CM
project no: 43028
date: 06/18/19
scale: AS SHOWN

M3.1

STATE OF CALIFORNIA
MECHANICAL VENTILATION AND REHEAT
CEC-NRCC-MCH-03-E (Revised 05/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-MCH-03-E
Mechanical Ventilation & Reheat	(Page 1 of 2)
Project Name: TI for RIO School District	Date Prepared: 4/12/2019

A. Mechanical Ventilation and Reheat

ACTUAL DESIGN INFO (FROM EQUIPMENT SCHEDULES, ETC)						AREA BASIS			OCCUPANCY BASIS			ROOM BASIS	MINIMUM		VAV Reheated Primary Air CFM			VAV Deadband Primary Air CFM		
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21
ZONE/ SYSTEM/ VAV BOX TAG	DESIGN PRIMARY COOLING AIRFLOW (CFM)	DESIGN PRIMARY DEADBAND AIRFLOW (CFM)	DESIGN PRIMARY HEATING AIRFLOW (CFM)	CNTRL TYPE DDC (Y/N)	TRANSFER AIRFLOW (CFM)	CONDITIONED AREA (ft²)	MIN CFM PER AREA	MIN CFM BY AREA	NUM. OF PEOPLE	CFM PER PERSON	MIN CFM BY OCCUPANT	MIN CFM BY ROOM	REQ'D VENT AIRFLOW (CFM)	COMPLIES?	PERCENTAGE BASED DESIGN PRIMARY COOLING AIR (CFM)	MAXIMUM REHEAT (CFM)	COMPLIES?	% BASED DESIGN PRMY COOLNG AIR (CFM)	MAX DEAD-BAND AIRFLOW (CFM)	COMPLIES?
1	1,250	250	250	Y		647	0.15	97	3.2	30.0	97		97	☒ Pass ☐ Fail	625	625	☒ Pass ☐ Fail ☐ N/A	250	250	☒ Pass ☐ Fail ☐ N/A
2	840	168	165	Y		840	0.15	126	4.2	30.0	126		126	☒ Pass ☐ Fail	420	420	☒ Pass ☐ Fail ☐ N/A	168	168	☒ Pass ☐ Fail ☐ N/A
3	840	168	165	Y		840	0.15	126	4.2	30.0	126		126	☒ Pass ☐ Fail	420	420	☒ Pass ☐ Fail ☐ N/A	168	168	☒ Pass ☐ Fail ☐ N/A
4	1,490	298	0	Y		865	0.15	130	4.3	30.0	130		130	☒ Pass ☐ Fail	745	745	☒ Pass ☐ Fail ☐ N/A	298	298	☒ Pass ☐ Fail ☐ N/A
5	580	116	0	Y	114	1,535	0.15	230	7.7	30.0	230		230	☒ Pass ☐ Fail	290	290	☒ Pass ☐ Fail ☐ N/A	116	230	☒ Pass ☐ Fail ☐ N/A
6	1,650	330	0	Y	104	2,890	0.15	434	14.5	30.0	434		434	☒ Pass ☐ Fail	825	825	☒ Pass ☐ Fail ☐ N/A	330	434	☒ Pass ☐ Fail ☐ N/A
7	475	95	0	Y		170	0.15	26	0.9	30.0	26		26	☒ Pass ☐ Fail	238	238	☒ Pass ☐ Fail ☐ N/A	95	95	☒ Pass ☐ Fail ☐ N/A

STATE OF CALIFORNIA
MECHANICAL VENTILATION AND REHEAT
CEC-NRCC-MCH-03-E (Revised 05/16) CALIFORNIA ENERGY COMMISSION

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8	1,400	280	0	Y		452	0.15	68	2.3	30.0	68		68	☒ Pass ☐ Fail	700	700	☒ Pass ☐ Fail ☐ N/A	280	280	☒ Pass ☐ Fail ☐ N/A
9	2,300	460	0	Y		910	0.15	137	4.6	30.0	137		137	☒ Pass ☐ Fail	1,150	1,150	☒ Pass ☐ Fail ☐ N/A	460	460	☒ Pass ☐ Fail ☐ N/A
10	3,000	600	0	Y		1,270	0.15	191	6.4	30.0	191		191	☒ Pass ☐ Fail	1,500	1,500	☒ Pass ☐ Fail ☐ N/A	600	600	☒ Pass ☐ Fail ☐ N/A
11	1,200	240	0	Y		820	0.15	123	4.1	30.0	123		123	☒ Pass ☐ Fail	600	600	☒ Pass ☐ Fail ☐ N/A	240	240	☒ Pass ☐ Fail ☐ N/A
12	330	66	0	Y		435	0.15	65	2.2	30.0	65		65	☒ Pass ☐ Fail	165	165	☒ Pass ☐ Fail ☐ N/A	66	66	☒ Pass ☐ Fail ☐ N/A
13	1,430	286	0	Y		375	0.15	56	1.9	30.0	56		56	☒ Pass ☐ Fail	715	715	☒ Pass ☐ Fail ☐ N/A	286	286	☒ Pass ☐ Fail ☐ N/A
14	1,180	236	0	Y		425	0.15	64	2.1	30.0	64		64	☒ Pass ☐ Fail	590	590	☒ Pass ☐ Fail ☐ N/A	236	236	☒ Pass ☐ Fail ☐ N/A

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15	1,440	288	0	Y		685	0.15	103	3.4	30.0	103		103	☒ Pass ☐ Fail	720	720	☒ Pass ☐ Fail ☐ N/A	288	288	☒ Pass ☐ Fail ☐ N/A
16	900	180	0	Y	10	1,265	0.15	190	6.3	30.0	190		190	☒ Pass ☐ Fail	450	450	☒ Pass ☐ Fail ☐ N/A	180	190	☒ Pass ☐ Fail ☐ N/A
17	1,355	271	0	Y		1,260	0.15	189	6.3	30.0	189		189	☒ Pass ☐ Fail	678	678	☒ Pass ☐ Fail ☐ N/A	271	271	☒ Pass ☐ Fail ☐ N/A
18	1,145	229	0	Y		680	0.15	102	3.4	30.0	102		102	☒ Pass ☐ Fail	573	573	☒ Pass ☐ Fail ☐ N/A	229	229	☒ Pass ☐ Fail ☐ N/A
19	3,000	600	0	Y		1,565	0.15	235	7.8	30.0	235		235	☒ Pass ☐ Fail	1,500	1,500	☒ Pass ☐ Fail ☐ N/A	600	600	☒ Pass ☐ Fail ☐ N/A
20	1,380	276	0	Y		1,780	0.15	267	8.9	30.0	267		267	☒ Pass ☐ Fail	690	690	☒ Pass ☐ Fail ☐ N/A	276	276	☒ Pass ☐ Fail ☐ N/A
21	2,200	440	0	Y		2,420	0.15	363	12.1	30.0	363		363	☒ Pass ☐ Fail	1,100	1,100	☒ Pass ☐ Fail ☐ N/A	440	440	☒ Pass ☐ Fail ☐ N/A

STATE OF CALIFORNIA
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22	915	183	0	Y		335	0.15	50	1.7	30.0	50		50	☒ Pass ☐ Fail	458	458	☒ Pass ☐ Fail ☐ N/A	183	183	☒ Pass ☐ Fail ☐ N/A
23	1,760	352	0	Y		757	0.15	114	3.8	30.0	114		114	☒ Pass ☐ Fail	880	880	☒ Pass ☐ Fail ☐ N/A	352	352	☒ Pass ☐ Fail ☐ N/A
24	2,100	420	0	Y		930	0.15	140	4.7	30.0	140		140	☒ Pass ☐ Fail	1,050	1,050	☒ Pass ☐ Fail ☐ N/A	420	420	☒ Pass ☐ Fail ☐ N/A
25	1,800	360	0	Y		730	0.15	110	3.7	30.0	110		110	☒ Pass ☐ Fail	900	900	☒ Pass ☐ Fail ☐ N/A	360	360	☒ Pass ☐ Fail ☐ N/A
26	1,700	340	0	Y		680	0.15	102	3.4	30.0	102		102	☒ Pass ☐ Fail	850	850	☒ Pass ☐ Fail ☐ N/A	340	340	☒ Pass ☐ Fail ☐ N/A
27	1,160	232	0	Y		335	0.15	50	1.7	30.0	50		50	☒ Pass ☐ Fail	580	580	☒ Pass ☐ Fail ☐ N/A	232	232	☒ Pass ☐ Fail ☐ N/A
21	945	189	0	Y		913	0.15	137	4.6	30.0	137		137	☒ Pass ☐ Fail	473	473	☒ Pass ☐ Fail ☐ N/A	189	189	☒ Pass ☐ Fail ☐ N/A

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Project Name: TI for RIO School District	Date Prepared: 4/12/2019

A. Mechanical Ventilation and Reheat

ACTUAL DESIGN INFO (FROM EQUIPMENT SCHEDULES, ETC)						AREA BASIS			OCCUPANCY BASIS			ROOM BASIS	MINIMUM		VAV Reheated Primary Air CFM			VAV Deadband Primary Air CFM		
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21
ZONE/ SYSTEM/ VAV BOX TAG	DESIGN PRIMARY COOLING AIRFLOW (CFM)	DESIGN PRIMARY DEADBAND AIRFLOW (CFM)	DESIGN PRIMARY HEATING AIRFLOW (CFM)	CNTRL TYPE DDC (Y/N)	TRANSFER AIRFLOW (CFM)	CONDITIONED AREA (ft²)	MIN CFM PER AREA	MIN CFM BY AREA	NUM. OF PEOPLE	CFM PER PERSON	MIN CFM BY OCCUPANT	MIN CFM BY ROOM	REQ'D VENT AIRFLOW (CFM)	COMPLIES?	PERCENTAGE BASED DESIGN PRIMARY COOLING AIR (CFM)	MAXIMUM REHEAT (CFM)	COMPLIES?	% BASED DESIGN PRMY COOLNG AIR (CFM)	MAX DEAD-BAND AIRFLOW (CFM)	COMPLIES?
											Total		4,021	☐ Pass ☐ Fail			☐ Pass ☐ Fail ☐ N/A			☐ Pass ☐ Fail ☐ N/A
														☐ Pass ☐ Fail			☐ Pass ☐ Fail ☐ N/A			☐ Pass ☐ Fail ☐ N/A
														☐ Pass ☐ Fail			☐ Pass ☐ Fail ☐ N/A			☐ Pass ☐ Fail ☐ N/A
														☐ Pass ☐ Fail			☐ Pass ☐ Fail ☐ N/A			☐ Pass ☐ Fail ☐ N/A
														☐ Pass ☐ Fail			☐ Pass ☐ Fail ☐ N/A			☐ Pass ☐ Fail ☐ N/A
														☐ Pass ☐ Fail			☐ Pass ☐ Fail ☐ N/A			☐ Pass ☐ Fail ☐ N/A
														☐ Pass ☐ Fail			☐ Pass ☐ Fail ☐ N/A			☐ Pass ☐ Fail ☐ N/A

STATE OF CALIFORNIA
MECHANICAL VENTILATION AND REHEAT
CEC-NRCC-MCH-03-E (Revised 05/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-MCH-03-E
Mechanical Ventilation & Reheat	(Page 2 of 2)
Project Name: TI for RIO School District	Date Prepared: 4/12/2019

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Richard Amado	Documentation Author Signature: [signature]
Company: Kevin A. Smola and Associates	Signature Date: 4/12/2019
Address: 16025 Arrow Hwy Ste C	CEA/ HERS Certification Identification (if applicable): M21106
City/State/Zip: Irwindale, CA 91706	Phone: 626-585-9338

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Kevin A. Smola	Responsible Designer Signature: [signature]
Company: Kevin A. Smola and Associates	Date Signed: 4/12/19
Address: 16025 Arrow Hwy Ste C	License: M21106
City/State/Zip: Irwindale, CA 91706	Phone: 626-585-9338

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REGISTERED PROFESSIONAL ENGINEER KEVIN A. SMOLA NO. M21106 MECHANICAL STATE OF CALIFORNIA
EXP: 6/30/19

TENANT IMPROVEMENTS FOR:
RIO SCHOOL DISTRICT
1800 N SOLAR DRIVE - 3rd FLOOR
OXNARD, CALIFORNIA

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△	remarks	date
	PLAN CHECK SUBMIT.	04.15.19
	BID SUBMIT.	04.22.19
	P.C. CORRECT./ADD.-B	05.30.19

sheet title

MECHANICAL
TITLE 24 FORMS

drawn by	CM
project no	43028
date	06/18/19
scale	AS SHOWN

MT24

SYMBOLS/ABBREVIATIONS/DEFINITIONS

SYMBOL	ABBREV.	DEFINITION
	DEMO	DEMOLISH
ICW	ICW	INDUSTRIAL COLD WATER
CW	CW	COLD WATER
HW	HW	HOT WATER
HWR	HWR	HOT WATER RETURN
S (OR) W	S (OR) W	SEWER OR WASTE ABOVE GRADE
S (OR) W	S (OR) W	SEWER OR WASTE BELOW GRADE
V	V	VENT
D	D	INDIRECT DRAIN
SD	SD	STORM DRAIN ABOVE GRADE
SD	SD	STORM DRAIN BELOW GRADE
G	G	GAS – LOW PRESSURE
MG	MG	GAS – MEDIUM PRESSURE
N2	N2	NITROGEN
CA	CA	COMPRESSED AIR
DI	DI	DEIONIZATION
O2	O2	OXYGEN
VAC	VAC	VACUUM
F	F	FIRE PROTECTION SUPPLY
CSP	CSP	COMBINATION STANDPIPE
AS	AS	AUTOMATIC FIRE SPRINKLERS
SPD	SPD	SUMP PUMP DISCHARGE
SED	SED	SEWAGE EJECTOR DISCHARGE
FOS	FOS	FUEL OIL SUPPLY
FOR	FOR	FUEL OIL RETURN
FOV	FOV	FUEL OIL VENT
	GV	GATE VALVE
	GLV	GLOBE VALVE
	BLV	BALL VALVE
	ANV	ANGLE VALVE
	CV	SWING CHECK VALVE
	NCV	NON-SLAM CHECK VALVE
	BC	BALANCING COCK
	PRV	PRESSURE REDUCING VALVE
	PTR	PRESSURE-TEMPERATURE RELIEF VALVE
	BFP	BACKFLOW PREVENTER
	GC	GAS COCK, GAS STOP
	FHV	FIRE HOSE VALVE
	FHC	FIRE HOSE CABINET (SURFACE MOUNTED)
	FHC	FIRE HOSE CABINET (RECESSED)
	FS	FLOW SWITCH
	PS	PRESSURE SWITCH
	DN	RISER DOWN
		RISER UP
		RISE OR DROP
		VALVE IN RISER
	WCO	WALL CLEANOUT
	CO	CLEANOUT PLUG
	FCO	FOOR CLEANOUT, CLEANOUT TO GRADE
		CAP OR PLUG ON END OF PIPE
	HB	HOSE BIBB
	WHA	WATER HAMMER ARRESTOR
RO	RO	REVERSE OSMOSIS WATER
	POC	POINT OF CONNECTION
4 / P1.01		DETAIL TOP – I.D. NUMBER REFERENCE BOTTOM – SHEET NUMBER
	IE	INVERT ELEVATION
	HDR	HEADER
	FU	PLUMBING FIXTURE UNIT
	SPO	SOIL PLUGGED OUTLET
	VCO	VENT CAPPED OUTLET
	FPC	FIRE PROTECTION OUTLET
	SCW	SOFT COLD WATER

ABBREV/DEFINITIONS

ABBREV.	DEFINITION
A	AIR
ABV	ABOVE
AD	ACCESS DOOR
AP	ACCESS PANEL
ARCH	ARCHITECT
AW	ACID WASTE
BEL	BELOW
BLDG	BUILDING
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
C	COLD AIR
CA	COMPRESSED AIR
CD	CONDENSATE
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CI	CAST IRON
CLG	CEILING
CL	CENTER LINE
COMP	COMPRESSOR
CONC	CONCRETE
CONT	CONTINUATION
DET	DETAIL
DI	DEIONIZATION
DIA	DIAMETER
DN	DOWN
DR	DRAIN
DRWG	DRAWING
DSP	DRY STANDPIPE
EL	ELEVATION
ENCL	ENCLOSURE
EQUIP	EQUIPMENT
EXH	EXHAUST
EXIST	EXISTING
FD	FIRE DAMPER
FG	FLOOR GRILLE
FHC	FIRE HOSE CABINET
FIN	FINISH
FLR	FLOOR
FPF	FINS PER FOOT
FSP	FIRE SERVICE PIPE
FS	FLOOR SINK
G	GAS
GALV	GALVANIZED
GPM	GALLONS PER MINUTE
GR	GRADE
H	HOT AIR
IE	INVERT ELEVATION
MAV	MANUAL AIR VENT
MAX	MAXIMUM
MCC	MOTOR CONTROL CENTER
MD	MOTORIZED DAMPER
MIN	MINIMUM
MECH	MECHANICAL
N2	NITROGEN
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
OPNG	OPENING
OX	OXYGEN
FA	FRESH AIR
PD	PLANTER DRAIN
PLBG	PLUMBING
POC	POINT OF CONNECTION
RD	ROOF DRAIN
SCR	SCREEN
SCW	SOFT COLD WATER
SD	STORM DRAIN
SM	SHEET METAL
TEMP	TEMPERATURE
TP	TRAP PRIMER
TYP	TYPICAL
TW	TEMPERED WATER
VAC	VACUUM
VD	VOLUME DAMPER
VTR	VENT THROUGH ROOF
WSP	WET STANDPIPE

GENERAL NOTES

1. ALL WORK SHALL BE IN STRICT ACCORDANCE WITH ALL CALIFORNIA STATE, LOCAL CODES AND AUTHORITIES HAVING JURISDICTION.
2. BEFORE STARTING ANY WORK, VERIFY THE ADEQUACY, LOCATION OF UTILITIES AT POINTS OF CONNECTION, SIZE AND AVAILABILITY OF ALL UTILITIES CONCERNED, INCLUDING SEWER INVERT ELEVATIONS AND WATER PRESSURE BEFORE START OF ANY WORK CONTRACTOR IS TO OBTAIN THE SERVICES OF A PIPE LOCATION COMPANY TO VERIFY ANY PIPE LOCATIONS FOR CONNECTIONS TO BE MADE
3. THE WORK FOR THIS PROJECT INVOLVES ADDITIONS TO AND ALTERATIONS OF THE EXISTING BUILDING TO ACHIEVE THE ARRANGEMENT INDICATED ON THE DRAWINGS. THE CONTRACTOR SHALL VISIT THE JOBSITE TO DETERMINE THE EXTENT OF WORK REQUIRED BY THE CONSTRUCTION ACTIVITIES. THE ARCHITECTURAL DRAWINGS FOR THESE AREAS SHOW THE CHANGES TO BE MADE. THE CONTRACTOR SHALL REVISE, REARRANGE, RE-ROUTE OR REMOVE EXISTING PIPING AS INDICATED TO ACCOMMODATE THE CHANGES AND ADDITION SHOWN TO PROVIDE CONTINUING SERVICE FOR THOSE EXISTING PORTIONS OF THE PROJECT WHICH ARE TO REMAIN IN OPERATIONS.
4. ALL WORK THAT INVOLVES A SHUT-DOWN OF EXISTING BUILDING UTILITIES OR PORTIONS THEREOF, SHALL BE DONE AT SUCH TIMES AS WILL CAUSE THE LEAST INCONVENIENCE TO THE BUILDING'S ACTIVITIES, OR AT THE APPROVAL OF THE ARCHITECT. THE EXACT TIME AND LENGTH OF SHUT-DOWN SHALL BE ARRANGED WITH THE ARCHITECT OR THE BUILDING ENGINEER AT LEAST SEVEN (7) DAYS BUT NOT MORE THAN THIRTY FIVE (35) DAYS IN ADVANCE OF THE REQUIRED SHUT-DOWN.
5. DRAWINGS INDICATE SIZE AND TERMINATION OF PIPING AND SUGGEST PROPER ROUTES OF PIPING TO CONFORM TO THE STRUCTURE TO AVOID OBSTRUCTION AND TO PRESERVE CLEARANCE. IT IS NOT THE INTENTION TO INDICATE ALL NECESSARY OFFSETS AND IT SHALL BE THE RESPONSIBILITY UNDER THIS SECTION TO INSTALL PIPING IN SUCH A MANNER AS TO CONFORM TO STRUCTURE, AVOID OBSTRUCTIONS, PRESERVE HEADROOM, KEEP OPENINGS AND PASSAGEWAYS CLEAR AND MAKE ALL EQUIPMENT REQUIRING INSPECTION, MAINTENANCE AND REPAIR ACCESSIBLE WITH OUT FURTHER INSPECTIONS OR EXTRA COST.
6. CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES FOR CLEARANCES AND WORK INCLUDED PRIOR TO START OF WORK.
7. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT PLUMBING FIXTURES AND EQUIPMENT LOCATIONS.
8. CLEANOUTS SHALL BE INSTALLED PER LATEST CPC CODE SECTIONS.
9. PENETRATIONS OF RATED ASSEMBLIES SHALL BE FIRE STOPPED. FIRE STOPPING SHALL BE AN APPROVED MATERIAL AS PRESCRIBED IN STATE FIRE MARSHAL STANDARD 43-1, AND SHALL BE U.L.
10. ALL FIXTURES SHALL BE PROTECTED DURING CONSTRUCTION FROM ANY DAMAGE. REFINISHED FIXTURES WILL NOT BE ACCEPTABLE UNDER ANY CONDITIONS.
11. DRAWINGS AND SPECIFICATIONS GOVERN WHERE THEY EXCEED CODE REQUIREMENTS.
12. ALL PLUMBING FIXTURES AND EQUIPMENT SHALL HAVE ISOLATING VALVES ON WATER SUPPLY LINES.
13. PROVIDE ACCESS DOORS TO ALL CONCEALED VALVES.
14. PROVIDE STOP VALVES FOR ALL FIXTURES.

PIPE MATERIALS

1. DOMESTIC WATER PIPE SHALL BE COPPER TYPE L (ABV.GROUND) TYPE K.(BELOW GROUND)
2. WASTE AND VENT PIPING SHALL BE CAST IRON NO-HUB WITH STAINLESS STEEL COUPLINGS.
3. REFER TO SPECIFICATIONS FOR ASSOCIATED FITTINGS METHODS, AND JOINING METHODS.

LEAD FREE ORDINANCE

ALL FIXTURES, MATERIALS ETC IN DOMESTIC WATER SYSTEM SHALL COMPLY WITH LEAD FREE ORDINANCE. MANUFACTURER SHALL INCLUDE CLEAR STATEMENT WITH EACH SUBMITTAL.

GREEN BUILDING CODE

1. PLUMBING FIXTURES AND FITTINGS SHALL MEET THE STANDARDS REFERENCED IN TABLE 5.303.6
2. KITCHEN FAUCETS SHALL HAVE A MAXIMUM FLOW RATE OF NOT MORE THAN 1.8 GALLONS PER MINUTE AT 60 PSI. KITCHEN FAUCETS MAY TEMPORARILY INCREASE THE FLOW ABOVE THE RATE, BUT NOT TO EXCEED 2.2 GALLONS PER MINUTE AT 60 PSI, AND MUST DEFAULT TO A MAXIMUM FLOW RATE OF 1.8 GALLONS PER MINUTE AT 60 PSI.

GOVERNING CODES

2016 CALIFORNIA ADMINISTRATIVE CODE, TITLE 24 PART 1
2016 CALIFORNIA BUILDING CODE, TITLE 24 PART 2
(INCLUDES THE CALIFORNIA HISTORICAL BUILDING CODE, PART 8 AND CALIFORNIA EXISTING BUILDING CODE, PART 10)
2016 CALIFORNIA ELECTRICAL CODE, TITLE 24 PART 3
2016 CALIFORNIA MECHANICAL CODE, TITLE 24, PART 4
2016 CALIFORNIA PLUMBING CODE, TITLE 24, PART 5
2016 CALIFORNIA FIRE CODE, TITLE 24 PART 9
2016 CALIFORNIA REFERENCED STANDARDS CODE, TITLE 24 PART 12

PLUMBING FIXTURE SCHEDULE

SYMBOL	FIXTURE	WASTE	TRAP	VENT	COLD WATER	HOT WATER	REMARKS
S 1	TOP-MOUNT SINGLE COMP. SINK (ADA)	2	1-1/2	1-1/2	3/4	3/4	"JUST" MODEL# US-ADA-1824-A, 5-1/2" DEEP, AND RIGHT REAR DRAIN WITH "AMERICAN STANDARD" COLONY MODEL #4275.550, 1.5 GPM, LOW LEAD (<.25%) WITH "IN SINK ERATOR" GARBAGE DISPOSAL AND 110V CONNECTION, 8.1 AMPS.

ELECTRIC WATER HEATER SCHEDULE

SYMBOL	LOCATION	MODEL	OPER. TEMP.	KW	VOLT	PHASE	AMPS	WRKNG. PRESS	OPER. WEIGHT	REMARKS
WH 1	SEE PLANS	EEMAX SP60	105°	6.0	277	1	22	150	4	UL APPROVED, 0.7 GPM ACTIVATION, WALL MOUNTED, UL APPROVED, NSF 61 SECTION 9 COMPLIANT, AND ADA COMPLIANT.

PUMP SCHEDULE

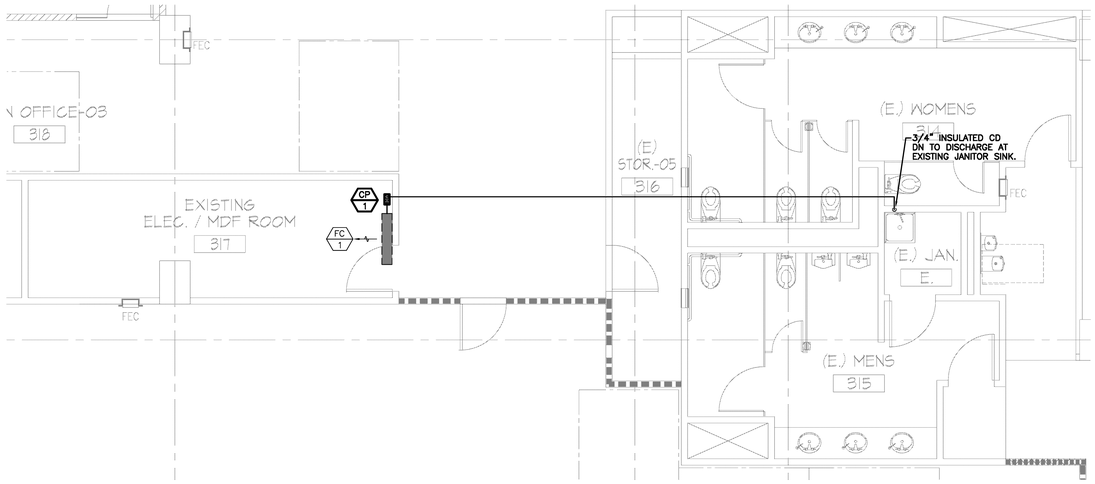
SYMBOL	TYPE	LOCATION	MAKE	SERVICE	MODEL	TYPE	GPM	HEAD (FT)	WRKNG. PRESS	WATTS / AMPS	VOLT	PHASE	RPM	OPER. WEIGHT	REMARKS
CP 1	CONDENSATE PUMP	FC-1	LITTLE GIANT	CONDENSATE	VCC-20-P	SUMP	1.1	5	–	1.5A	115	1	–	4.5	1 LITTER RESERVOIR, BUILT IN CHECK VALVE, HARD WIRE INSTALLATION, PLENUM RATED.
CP 2	CONDENSATE PUMP	FC-2	LITTLE GIANT	CONDENSATE	VCC-20-P	SUMP	1.1	5	–	1.5A	115	1	–	4.5	1 LITTER RESERVOIR, BUILT IN CHECK VALVE, HARD WIRE INSTALLATION, PLENUM RATED.

SCOPE OF WORK

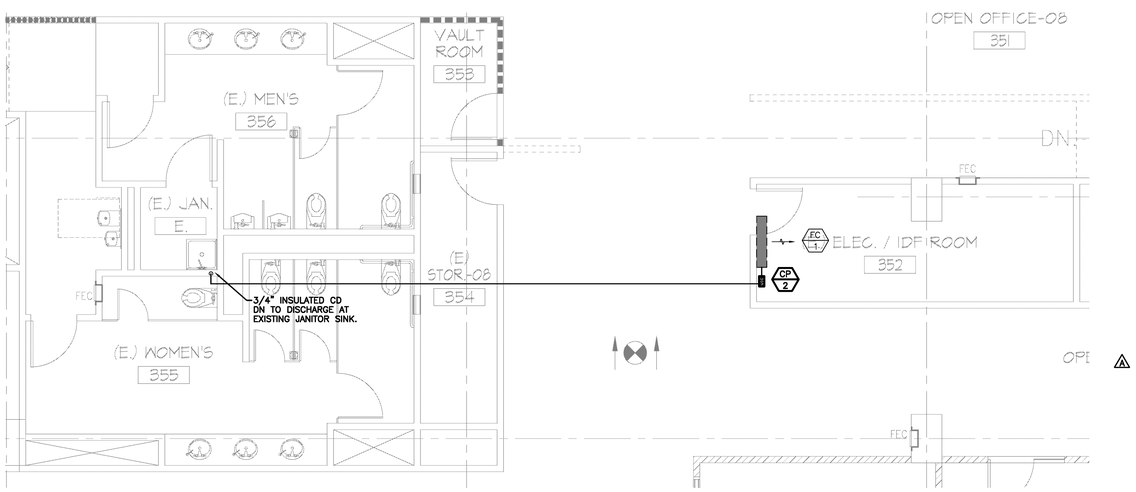
TENANT IMPROVEMENT IN AN EXISTING OFFICE BUILDING. INSTALL ONE NEW SINK IN A NEW BREAK ROOM AND ELECTRIC INSTANTANEOUS WATER HEATER. CONNECT TO EXISTING PLUMBING UTILITIES AT EXISTING RESTROOMS AS INDICATED. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING WORK. INCLUDE SLOPE TO WASTE AND VENT POINTS OF CONNECTION. NOTIFY THE ARCHITECT OF ANY ISSUES PRIOR TO BEGINNING WORK. COORDINATE WITH ALL TRADES FOR PIPE ROUTING.

SHEET INDEX

P-0.1 PLUMBING LEGENDS, SCHEDULES AND NOTES
P-2.0 PLUMBING OVERALL THIRD FLOOR PLAN
P-3.0 PLUMBING DETAILS



PLUMBING ENLARGED PLAN B – SCALE 1/4" = 1'-0"



PLUMBING ENLARGED PLAN C – SCALE 1/4" = 1'-0"

NOTE:

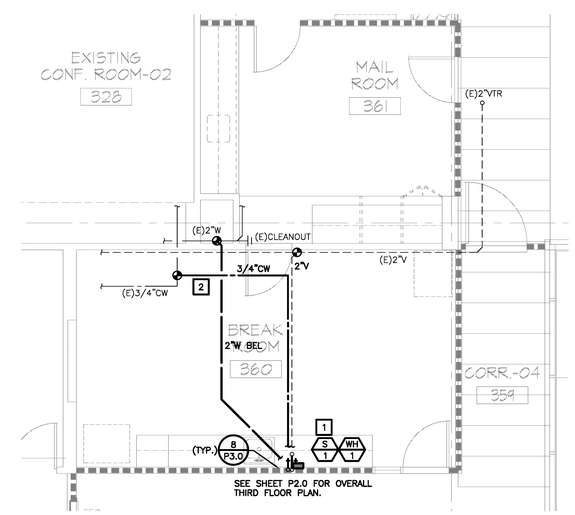
EXISTING SIZES AND LOCATIONS OF PIPES ARE SHOWN FOR INFORMATION AND GENERAL USE BY CONTRACTOR. HOWEVER, PLUMBING CONTRACTOR SHALL VERIFY EXACT LOCATIONS SIZES OF PIPES PRIOR TO START OF CONSTRUCTION. PLUMBING CONTRACTOR TO COORDINATE PIPING LOCATIONS WITH ALL TRADES.

"LIGHT TEXT" PERTAINS TO EXISTING PIPING AND EQUIPMENT

CROSSHATCHED AREA MARKED "NIC" REQUIRE NO PLUMBING WORK.

NEW PLAN NOTES

1. NEW SINK TO BE INSTALLED PER ADA REQUIREMENTS. (PROVIDE 2"W, 1 1/2"V AND 3/4"C&HW).
2. RECONNECT TO EXISTING 2"W, 2"V AND 3/4"CW PIPING.



PLUMBING ENLARGED PLAN A – SCALE 1/4" = 1'-0"

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EXP: 6/30/19

TENANT IMPROVEMENTS FOR:
RO SCHOOL DISTRICT
1800 N SOLAR DRIVE - 3rd FLOOR
OXNARD, CALIFORNIA

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△	remarks	date
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	BID SUBMIT.	04.22.19
1	ISSUED FOR BID/RDO.-A	04.30.19
2	P.C. CORRECT/RDO.-B	05.30.19

sheet title

PLUMBING LEGENDS, NOTES, AND SCHEDULES

drawn by	CM
project no	43028
date	06/18/19
scale	AS SHOWN

P0.1

PLUMBING OVERALL THIRD FLOOR PLAN

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

A
-

N

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TENANT IMPROVEMENTS FOR:

RIO SCHOOL DISTRICT

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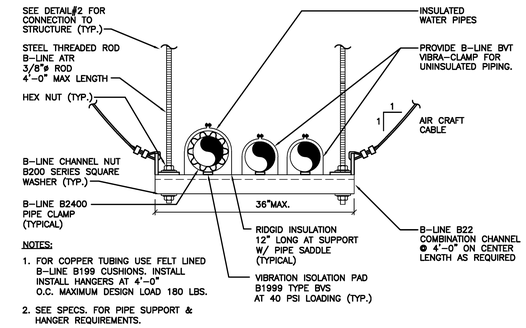
1	ISSUED FOR BID/ADD.-A	04.30.19
	P.C. CORRECT/ADD.-B	05.30.19

sheet title

PLUMBING OVERALL THIRD FLOOR PLAN

drawn by	CM
project no	43028
date	05/18/19
scale	AS SHOWN

P2.0

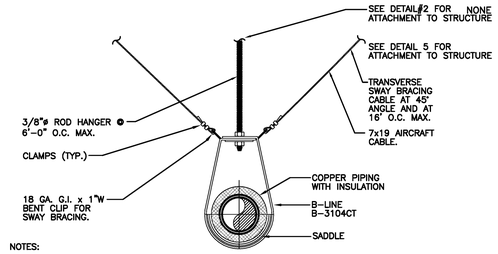


NOTES:

1. FOR COPPER TUBING USE FELT LINED B-LINE B199 CUSHIONS. INSTALL INSTALL HANGERS AT 4'-0" O.C. MAXIMUM DESIGN LOAD 180 LBS.
2. SEE SPECS. FOR PIPE SUPPORT & HANGER REQUIREMENTS.

PIPING HANGER DETAIL

SCALE: NONE | 3



NOTES:

1. FOR COPPER TUBING USE FELT LINED B3690F OR PLASTIC COATED B3690C HANGERS. INSTALL HANGERS AT 6'-0"O.C. MAXIMUM DESIGN LOAD 180 LBS.
2. MAXIMUM DESIGN LOAD = 3/4" COPPER FILLED WITH WATER: 0.8 LBS./FT.

NOTES:

1. CABLES TO BE INSTALLED 1/4" SLACK.
2. CABLE IS 7 X 19 AIRCRAFT CABLE.

NONE

SCALE: NONE | 12

NONE

SCALE: NONE | 10

NONE

SCALE: NONE | 7

NONE

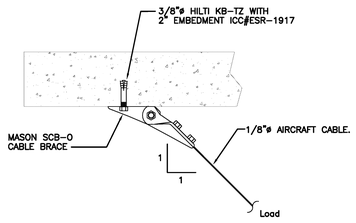
SCALE: NONE | 11

NONE

SCALE: NONE | 9

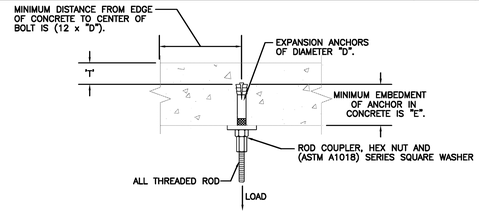
NONE

SCALE: NONE | 6



BRACE CONNECTION DETAIL

SCALE: NONE | 5



ROD

DIAMETER "D"	ALLOWABLE LOAD (IN TENSION)	MINIMUM EMBEDMENT "E"	MINIMUM CONCRETE COVERAGE "T"
IN.	IN.	IN.	IN.
3/8"	605	2 1/2"	1 1/4"
1/2"	1000	3 1/2"	1 3/4"
5/8"	1335	4"	2"
3/4"	1940	4 3/4"	2 3/8"

*HILTI KB TZ IN 3000 PSI (20.7 MPA)
MINIMUM NORMAL WEIGHT CONCRETE.

ROD ANCHORING DETAIL

SCALE: NONE | 2

SPECIFICATIONS:

PENETRATIONS IN FIRE RESTRICTIVE WALLS, PARTITIONS AND FLOORS WHERE PROTECTED OPENINGS ARE REQUIRED SHALL BE FIRE STOPPED USING APPROVED MATERIALS, SECURELY INSTALLED AND CAPABLE OF MAINTAINING THEIR INTEGRITY AND PREVENTING THE MOVEMENT OF FLAMES AND/OR GASES THROUGH THE VOID SPACES BETWEEN PENETRATING MATERIALS AND WALLS, PARTITIONS AND FLOORS WHEN TESTED IN ACCORDANCE WITH ASTM STANDARD E-814 OR UL STANDARD 1479

PROVIDE DESIGN DETAILS ON DRAWINGS DEPICTING APPROVED (LISTED) METHODS AND MATERIALS USED TO PROTECT PENETRATIONS WALLS, PARTITIONS AND FLOORS.

DESIGNS ARE LISTED BY UNDERWRITER'S LABORATORIES (FIRE RESISTANCE DIRECTORY) AND THE CALIFORNIA STATE FIRE MARSHALL (BUILDING MATERIAL LISTINGS). SPECIFIC DESIGN INFORMATION IS AVAILABLE FROM U.L CSFM OR THE PRODUCT MANUFACTURER.

FIRESTOP CONFIGURATION

1. WALL ASSEMBLY – THE 1 OR 2 HOUR FIRE-RATED GYPSUM WALLBOARD/ STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U300 OR U400 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:
   - A. STUDS – WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOM 2 BY 4" LUMBER SPACED 16" OC. STEEL STUDS TO BE MIN 3-1/2" WIDE AND SPACED MAX 24" OC FOR 1 HOUR RATED WALLS. STEEL STUDS TO BE MIN. 2-1/2" WIDE AND SPACED MAX 24" OC FOR 2 HOUR RATED WALLS.
   - B. GYPSUM BOARD – ONE OR TWO LAYERS OF NOM 5/8" THICK GYPSUM WALLBOARD, AS SPECIFIED IN THE INDIVIDUAL WALL AND PARTITION DESIGN. MAX AREA OF OPENING IS 585 SQ. IN. WITH MAX DIMENSIONS OF 21" WIDE BY 27-7/8" HIGH.

   THE HOURLY F RATING OF THE FIRESTOP SYSTEM IS EQUAL TO THE HOURLY RATING OF THE WALL.
2. THROUGH-PENETRANTS – METALLIC PIPE, CONDUIT OR TUBING INSTALLED WITHIN THE FIRESTOP SYSTEM. PIPE, CONDUIT OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. THE FOLLOWING TYPES OF PIPE, CONDUIT OR TUBING MAY BE USED.
   - A. STEEL PIPE – NOM 4" IN DIAMETER (OR SMALLER) SCHEDULE 5 (OR HEAVIER) STEEL PIPE.
   - B. COPPER TUBING – NOM 3" IN DIAMETER (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING.
   - C. COPPER PIPE – NOM 3" IN DIAMETER (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.
   - D. CONDUIT – NOM 4" IN DIAMETER (OR SMALLER) ELECTRICAL METALLIC TUBING (EMT) OR STEEL CONDUIT.
3. FIRESTOP SYSTEM – THE FIRESTOP SYSTEM SHALL CONSIST OF THE FOLLOWING.
   - A. PACKING MATERIAL – MIN. 4" THICKNESS OF MIN. 4 PCF MINERAL WOOL BATT INSULATION PACKED AT 50 PERCENT COMPRESSION INTO OPENING AS A PERMANENT FORM. PACKING MATERIAL TO BE RECESSED FROM BOTH SURFACES OF WALL AS REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL MATERIAL.
   - B. FILL, VOID, OR CAVITY MATERIAL – SEALANT – MIN 3/8" THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULAR SPACE BETWEEN THE PIPE COVERING AND THE PERIPHERY OF THE OPENING, FLUSH WITH BOTH SURFACES OF WALL. 3M COMPANY – FB-1000 NS OR FB-3000 WT.

NOTES:

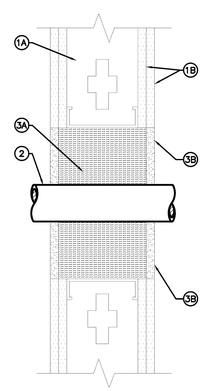
3M FIRE BARRIER PRODUCTS:
CALIFORNIA STATE FIRE MARSHALL LISTING NO. 4485-941:100

UNINSULATED PIPE:

U.L. DESIGN NO. WL1001 (STUD WALL)

INSULATED PIPE:

U.L. DESIGN NO. WL5001 (STUD WALL)

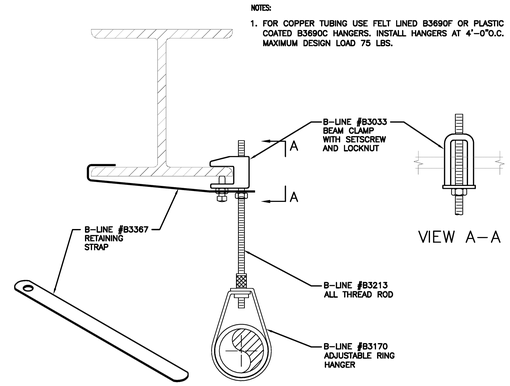


PIPE THRU RATED WALL (UL-W-L-8022)

SCALE: NONE | 8

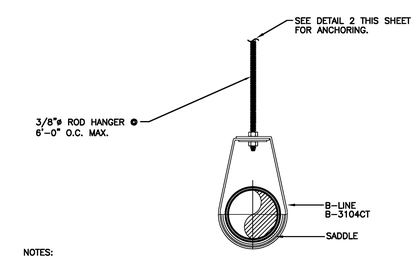
NOTES:

1. FOR COPPER TUBING USE FELT LINED B3690F OR PLASTIC COATED B3690C HANGERS. INSTALL HANGERS AT 4'-0"O.C. MAXIMUM DESIGN LOAD 75 LBS.



BEAM CLAMP PIPE SUPPORT

SCALE: NONE | 4



NOTES:

1. FOR COPPER TUBING USE FELT LINED B3690F OR PLASTIC COATED B3690C HANGERS. INSTALL HANGERS AT 6'-0" O.C. MAXIMUM DESIGN LOAD 180 LBS.

SINGLE PIPE HANGER DETAIL

SCALE: NONE | 1

pk:a
pk:architecture
5126 clareton drive . suite 110
agoura hills . california 91301
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STATE OF CALIFORNIA
EXP: 6/30/19

TENANT IMPROVEMENTS FOR:
RCOSD SCHOOL DISTRICT
1800 N SOLAR DRIVE - 3rd FLOOR
OXNARD, CALIFORNIA

all drawings and written material appearing herein constitute the original and unpublished work of the architect and the same may not be duplicated used or disclosed without the written consent of the architect.

△	remarks	date
	PLAN CHECK SUBMITT.	04.15.19
	BID SUBMITT.	04.22.19
	P.C. CORRECT/ADD-8	05.30.19

sheet title

PLUMBING DETAILS

drawn by: CM
project no: 43028
date: 06/18/19
scale: AS SHOWN

P3.0

LIGHTING

- FIXTURE TYPE (A)
- NORMAL CIRCUIT NUMBER & SWITCH LEG OR RELAY (1a)
- EMERGENCY DESIGNATION AND CIRCUIT NUMBER (WHERE APPLICABLE) (3EM)
- RECESSED LIGHT FIXTURE
- WALL MOUNTED LIGHT FIXTURE
- LED OR FLUORESCENT FIXTURE
- EMERGENCY LED OR FLUORESCENT FIXTURE
- LED SURFACE OR PENDANT MOUNTED LIGHT FIXTURE
- STRIP LIGHT FIXTURE
- NEW EXIT LIGHT, SURFACE OR PENDANT - ARROWS INDICATE DIRECTION OF EGRESS AND SHADING INDICATES ILLUMINATED FACE
- (E) EXISTING EXIT LIGHT TO BE RECONDITIONED - ARROWS INDICATE DIRECTION OF EGRESS AND SHADING INDICATES ILLUMINATED FACE
- EMERGENCY LIGHTING UNIT WITH BATTERY AND CHARGER

SWITCHES

3 a — WALL MOUNTED SWITCH. SUBSCRIPT INDICATES CONTROLLING SWITCH LEG: "ab" = SEPARATE BUTTON/ TOGGLE PER LEG; "c+d" = ONE BUTTON/ TOGGLE CONTROLS BOTH LEGS. +48" AFF

SUPERSCRIPT INDICATES THE FOLLOWING:

LV	LOW VOLTAGE SWITCH. SEE LIGHTING CONTROL DRAWINGS FOR ADDITIONAL INFORMATION.
2	TWO POLE
3	THREE-WAY SWITCH
4	FOUR-WAY SWITCH
WP	WEATHERPROOF COVER
M	MANUAL MOTOR STARTER: 30A-2P, UON
K	LOW VOLTAGE KEY OPERATED. ACUITY #KS-CK
KD	LOW VOLTAGE KEY OPERATED WITH DIMMING. ACUITY #KS
P	PILOT

- MUSHROOM PUSH BUTTON SWITCH FOR EMERGENCY SHUT-OFF (PER DRAWINGS)
- DOOR INTERLOCK SWITCH

OUTLETS

- WALL MOUNTED DUPLEX RECEPTACLE 15A, 125V, 2P, 3W GROUNDED, +18" AFF
- WALL MOUNTED DUPLEX RECEPTACLE AS ABOVE, EXCEPT WITH GROUND FAULT CIRCUIT INTERRUPTER PROTECTION
- WALL MOUNTED DOUBLE DUPLEX RECEPTACLE 15A, 125V, 2P, 3W GROUNDED, +18" AFF
- 20A — WALL MOUNTED DUPLEX RECEPTACLE 20A, 125V, 2P, 3W GROUNDED, +18" AFF
- WP — WALL MOUNTED WEATHER RESISTANT GFI TYPE DUPLEX RECEPTACLE WITH WEATHERPROOF COVER, 20A, 125V, 2P, 3W GROUNDED, +18" AFF
- CT — WALL MOUNTED DUPLEX RECEPTACLE INSTALLED 5" ABOVE COUNTER TOP HEIGHT. REFER TO ARCHITECTURAL.
- WALL MOUNTED SIMPLEX RECEPTACLE 20A, 125V, 2P, 3W GROUNDED, +18" AFF
- CEILING MOUNTED DUPLEX RECEPTACLE 15A, 125V, 2P, 3W GROUNDED
- SPECIAL RECEPTACLE, VERIFY CONFIGURATION ON JOB, +24" AFF
- WALL MOUNTED JUNCTION BOX OR EQUIPMENT CONNECTION
- JUNCTION BOX OR EQUIPMENT CONNECTION
- CEILING MOUNTED CORD REEL WITH SINGLE 20A DUPLEX RECEPTACLE.
- FLUSH MOUNTED FIRE-RATED POKE-THRU TYPE FLOOR BOX WITH DOUBLE DUPLEX RECEPTACLE 20A, 125V, 2P, 3W GROUNDED
- WALL MOUNTED DUPLEX RECEPTACLE WITH TOP HALF CONTROLLED, +18" AFF
- WALL MOUNTED DUPLEX RECEPTACLE WITH BOTH OUTLETS CONTROLLED, +18" AFF
- WALL MOUNTED DOUBLE DUPLEX RECEPTACLE WITH ONE DUPLEX RECEPTACLE CONTROLLED, +16" AFF
- FP — WALL MOUNTED FURNITURE FEED POWER JUNCTION BOX, +18" AFF
- F — FLUSH MOUNTED FIRE-RATED POKE-THRU TYPE FLOOR BOX WITH DUAL POWER/ DATA FURNITURE FEED CONNECTION

MOTORS

- MOTOR OUTLET; NUMBER DENOTES MOTOR HP RATING, "F" MEANS FRACTIONAL (REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATIONS)
- 2 — MOTOR STARTER; NUMBER DENOTES NEMA SIZE
- COMBINATION STARTER DISCONNECT SWITCH
- VFD — VARIABLE FREQUENCY DRIVE
- T — THERMOSTAT (BY OTHERS). ELECTRICAL CONTRACTOR TO PROVIDE 1/2"C.O. FROM DEVICE TO REQUIRED MECHANICAL EQUIPMENT PER HVAC DRAWINGS. VERIFY FINAL LOCATION PRIOR TO ROUGH-IN.
- 3R — LOCKABLE DISCONNECT SWITCH - NEMA ENCLOSURE NOTED, +48" AFF
- 4X — LOCKABLE DISCONNECT SWITCH, FUSED - NEMA ENCLOSURE NOTED, +48" AFF

OTHERS

- ELECTRICAL PANEL
- TRANSFORMER
- TRANSFORMER (GROUND PER NEC)
- CIRCUIT BREAKER

B

* NOTES *

MOUNTING HEIGHTS SHOWN ON THIS SHEET ARE TO THE CENTER OF THE OUTLET BOX.

PER CBC 2016, CONTROLS AND SWITCHES INTENDED FOR USE BY OCCUPANTS OF THE ROOM OR AREA SHALL BE LOCATED NO MORE THAN 48" TO THE TOP OF THE OUTLET BOX, AND NO LESS THAN 15" TO THE BOTTOM OF THE OUTLET BOX.

PER CBC 2016, ELECTRICAL RECEPTACLES ON BRANCH CIRCUITS OF 30 AMPS OR LESS AND COMMUNICATIONS SYSTEM OUTLETS SHALL BE LOCATED NO MORE THAN 48" TO THE TOP OF THE OUTLET BOX, AND NO LESS THAN 15" TO THE BOTTOM OF THE OUTLET BOX.

ALL OF THE SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE USED IN THIS SET OF DRAWINGS.

SIGNALS

- WALL MOUNTED QUAD DATA OUTLET. PROVIDE 4S DEEP BOX WITH 1-GANG MUDRING AND MINIMUM 3/4" C.O. WITH PULL CORD TO ABOVE ACCESSIBLE CEILING, +18" AFF
- WALL MOUNTED TELEPHONE OUTLET. PROVIDE 4S DEEP BOX WITH 1-GANG MUDRING AND MINIMUM 3/4" C.O. WITH PULL CORD TO ABOVE ACCESSIBLE CEILING, +18" AFF
- M — MAINTENANCE TELEPHONE OUTLET AS ABOVE, +48" AFF
- WALL MOUNTED COMBINATION PHONE/ DATA OUTLET. PROVIDE 4S DEEP BOX WITH 1-GANG MUDRING AND MINIMUM 3/4" C.O. WITH PULL CORD TO ABOVE ACCESSIBLE CEILING, +18" AFF
- FLUSH MOUNTED FIRE-RATED POKE-THRU TYPE TELECOMMUNICATIONS FLOOR BOX
- TV — COAXIAL TV OUTLET, +72" AFF
- SD — WALL MOUNTED OUTLET FOR SECURITY DEVICE. PROVIDE 4S DEEP BOX WITH 1-GANG MUDRING AND MINIMUM 3/4" C.O. WITH PULL CORD TO ABOVE ACCESSIBLE CEILING, +48" AFF. FIELD VERIFY BOX AND CONDUIT REQUIREMENTS WITH OWNER'S REPRESENTATIVE PRIOR TO ROUGH-IN.
- FT — WALL MOUNTED FURNITURE FEED TELECOMMINICATIONS JUNCTION BOX. PROVIDE 4S DEEP BOX WITH 2-GANG CENTER OUT COVER AND MINIMUM 1 1/4" C.O. WITH PULL CORD TO ABOVE ACCESSIBLE CEILING, +18" AFF
- B — SPRINKLER SYSTEM ALARM BELL
- FS — FLOW SWITCH
- TS — TAMPER SWITCH
- C — CLOCK, +78" AFF
- CCTV CAMERA, CEILING MOUNTED

REFERENCE INDICATION

- 1 — SEE NOTE INDICATED REFERENCE NUMBER
- EQ #1 — SEE EQUIPMENT SCHEDULE FOR MORE INFORMATION

CONDUIT

- HA-1,3 — HOMERUN WITH PANEL DESIGNATION & CIRCUIT NUMBERS, MINIMUM 3/4" CONDUIT
- CONDUIT CONCEALED IN CEILING, WALL, OR EMBEDDED IN CONCRETE
- CONDUIT IN FLOOR OR UNDERGROUND
- CONDUIT FOR EMERGENCY/ LIFE SAFETY CIRCUITS

NOTE: PROVIDE MINIMUM 1/2" CONDUIT WITH QUANTITY OF #12 CONDUCTORS REQUIRED TO OBTAIN SWITCHING AND POWER FEED CIRCUITING AS SHOWN. PROVIDE GROUND WIRE IN ALL RACEWAYS. BY DEFAULT, THE MINIMUM NUMBER OF BRANCH CIRCUIT CONDUCTORS IS THREE (1H-1N-1G) UNLESS INDICATED OR REQUIRED TO BE OTHERWISE.

- 1/2" CONDUIT - 3#12 (2H-0N-1G)
- 1/2" CONDUIT - 4#12 (2H-1N-1G)
- 1/2" CONDUIT - 5#12 (2H-2N-1G)
- 4#4 - 1"C — OTHER WIRE SIZES & CONDUIT AS NOTED.
- 1" C.O. — CONDUIT ONLY, SIZE AS NOTED, WITH NYLON PULL CORD.
- E — PROVIDE CONDUIT STUB (FOR FUTURE USE)

GENERAL NOTES

1. THE CONTRACTOR SHALL VISIT THE SITE OF THE WORK AND THOROUGHLY FAMILIARIZE HIMSELF WITH THE WORKING CONDITIONS AND THE EXACT NATURE AND EXTENT OF WORK TO BE DONE. COORDINATE WITH THE GENERAL CONTRACTOR AND/OR OTHER SUB-CONTRACTORS TO DETERMINE POSSIBLE ADDITIONAL WORK WHICH MAY BE REQUIRED UNDER THE ELECTRICAL CONTRACT. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING THE COMPLETE BID DOCUMENT PACKAGE SO TO UNDERSTAND THE TOTAL SCOPE OF WORK PRIOR TO SUBMITTING BID.
2. BEFORE STARTING ANY WORK, EXAMINE THE COMPLETE SET OF DRAWINGS FOR ALL TRADES, INCLUDING BUT NOT LIMITED TO ARCHITECTURAL, MECHANICAL, & PLUMBING. VERIFY DIMENSIONS, SPACE REQUIREMENTS, MOUNTING HEIGHTS, AND POINTS OF CONNECTION FOR ALL EQUIPMENT AND CONTROL DEVICES. MAKE ANY MINOR ADJUSTMENTS NECESSARY TO AVOID CONFLICTS OF OTHER TRADES. MAJOR (REQUIRING COST ADJUSTMENTS) DISCREPANCIES SHALL BE RESOLVED IN WRITING PRIOR TO PERFORMING ANY WORK.
3. IT IS THE INTENT OF THESE PLANS AND SPECIFICATIONS THAT A COMPLETE AND WORKABLE ELECTRICAL INSTALLATION BE PROVIDED FOR ALL THE EQUIPMENT DESCRIBED OR SHOWN AS BEING IN THIS CONTRACT. DRAWINGS ARE DIAGRAMMATIC IN NATURE, AND CONDUIT ROUTING IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR. NO SURFACE MOUNTED CONDUIT IS PERMITTED EXCEPT AS INDICATED ON DRAWINGS OR IN OPEN CEILING AREAS. EXPOSED CONDUIT SHALL BE ROUTED PARALLEL AND PERPENDICULAR TO THE BUILDING STRUCTURE.
4. FURNISH ALL NECESSARY LABOR. FURNISH AND INSTALL ALL APPARATUS, MATERIALS, EQUIPMENT, AND COMPONENTS NECESSARY FOR A COMPLETE AND WORKING SYSTEM, INCLUDING ITEMS REQUIRED BUT NOT NORMALLY SHOWN, SUCH AS COUPLINGS, HANGERS, BRACKETS, CLAMPS, JUNCTION BOXES, PULLBOXES, SMALL GUTTERS, CONNECTORS, AND HARDWARE. ITEMS SHALL BE INSTALLED IN A MANNER COMPLYING WITH ALL APPLICABLE CODES. ANY DISCREPANCIES BETWEEN THE DRAWINGS AND THE CODE, OR RECOGNIZED STANDARDS, SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S AUTHORIZED REPRESENTATIVE AND INSPECTOR OF RECORD PRIOR TO COMMENCING WORK.
5. ALL CONDUITS THAT DO NOT TERMINATE AT EQUIPMENT SHALL BE PROVIDED WITH PROTECTIVE BUSHINGS. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH A 3/32-INCH, 200-LB TEST POLYETHYLENE PULL STRING AND TAGGED TO SHOW TERMINAL POINTS AND PURPOSE OF CONDUIT RUN. USE 3/16-INCH, 700-LB TEST PULL ROPE FOR ALL RACEWAYS 1-1/2" TRADE SIZE AND LARGER. NON TERMINATED WIRES TO BE SAFED-OFF AND LABELED WITH CIRCUIT NUMBER AND PURPOSE.
6. ALL CONDUCTORS OPERATING AT 50 VOLTS OR GREATER SHALL BE IN RACEWAY. ALL RACEWAY WITHIN THE STRUCTURE ABOVE THE FLOOR SLAB SHALL BE METAL. RACEWAY BELOW THE FLOOR SLAB AND UNDERGROUND RACEWAY OUTSIDE THE STRUCTURE SHALL BE PVC.
7. ALL LOW VOLTAGE CABLES OR CONDUCTORS OPERATING AT LESS THAN 50 VOLTS SHALL BE IN METAL RACEWAY WHERE INSTALLED WITHIN WALLS OR INACCESSIBLE SPACES. LOW VOLTAGE CABLES MAY BE RUN IN CABLE TRAY ABOVE ACCESSIBLE CEILINGS. LOW VOLTAGE CABLES MAY BE RUN IN CABLE SUPPORT HOOKS ABOVE ACCESSIBLE CEILINGS WITH THE OWNER'S REPRESENTATIVE'S PERMISSION.
8. GREEN INSULATED COPPER GROUNDING CONDUCTOR, SIZED PER CODE, SHALL BE INSTALLED AND CONNECTED TO EACH POWER OUTLET, ENCLOSURE, POWER DEVICE, FIXTURE, ETC. THROUGHOUT THE SITE. THE RACEWAYS SHALL NOT BE RELIED UPON FOR EQUIPMENT GROUNDING.
9. SHARED NEUTRALS WILL NOT BE ALLOWED, UNLESS SPECIFICALLY INDICATED ON THE DRAWINGS.
10. ALL ELECTRIC EQUIPMENT EXPOSED TO WEATHER OR INSTALLED OUTDOORS SHALL BE WEATHERPROOF TYPE, INCLUDING BUT NOT LIMITED TO: SWITCHES, CONDUITS, BOXES, ETC.
11. USE OF FLEXIBLE CONDUIT IS NOT ALLOWED EXCEPT FOR LENGTHS UP TO 6 FEET FOR FINAL CONNECTION TO LIGHTING FIXTURES, MOTORS, OR VIBRATING EQUIPMENT. CONCEALED CONDUIT SHOULD BE INSTALLED WHEREVER POSSIBLE. IF EXPOSED CONDUITS AND BOXES ARE INSTALLED, THEY SHALL BE PAINTED TO MATCH THE SURFACES WHERE INSTALLED WHEN VISIBLE TO THE PUBLIC.
12. ALL PANELBOARDS SHALL BE MARKED TO INDICATE UPSTREAM EQUIPMENT WHERE THE POWER ORIGINATES. LABEL ALL JUNCTION BOXES, PULLBOXES, AND DISCONNECT SWITCHES WITH THEIR SERVING PANEL AND CIRCUIT NUMBER(S). LABEL THE INSIDE COVER OF ALL RECEPTACLES WITH THE SERVING PANEL AND CIRCUIT NUMBER.
13. ALL 20 AMP, 120 VOLT HOMERUNS GREATER THAN 100' SHALL BE INSTALLED WITH #10 CONDUCTORS.
14. CONTRACTOR IS RESPONSIBLE FOR DISPOSAL OF ALL SPOILS CREATED BY THE SCOPE OF WORK.
15. PROVIDE FIRE STOPPING AT ALL CONDUIT PENETRATIONS OF CEILINGS AND WALLS AND BACK OF ELECTRICAL BOXES COMPATIBLE WITH AND TO MAINTAIN THE FIRE RATING OF THE STRUCTURE. LOCATE WALL PENETRATIONS ABOVE CEILING AREAS WHERE PRESENT. PENETRATIONS INTO FIRE RATED ASSEMBLY SHALL NOT BE LARGER THAN 4" NOMINAL ROUND OR 16 SQUARE INCHES IN OVERALL CROSS SECTION AREA WITH AN AGGREGATE AREA NOT MORE THAN 100 SQUARE FEET. (UBC SECTION 709.7).
16. TEST FOR SHORTS AND GROUNDS BEFORE ENERGIZING ANY NEW CIRCUITS.
17. FINISHES OF ALL RECEPTACLES, SWITCHES, TELEPHONE OUTLETS, ETC. TO BE SELECTED BY ARCHITECT. ALL DEVICES GANGED TOGETHER SHALL BE MOUNTED UNDER A SINGLE COVER PLATE.
18. ALL ELECTRIC EQUIPMENT EXPOSED TO WEATHER OR INSTALLED OUTDOORS SHALL BE WEATHERPROOF TYPE, INCLUDING BUT NOT LIMITED TO: SWITCHES, CONDUITS, BOXES, ETC.
19. NO PIPING, DUCTS, OR EQUIPMENT FOREIGN TO ELECTRICAL EQUIPMENT SHALL BE PERMITTED TO BE LOCATED WITHIN THE DEDICATED SPACE ABOVE THE ELECTRICAL EQUIPMENT.
20. THE ELECTRICAL WORK HEREIN SHALL BE INSTALLED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF ALL LOCAL AND GOVERNMENTAL ENFORCING AUTHORITIES. WHERE CONFLICT OCCURS, THE MORE STRINGENT REQUIREMENTS SHALL APPLY. ALL WORK SHALL CONFORM TO THE CURRENT CALIFORNIA BUILDING CODE, CALFORNIA ELECTRICAL CODE, AND TITLE 24 CODE OF REGULATIONS.
21. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC. SIZES AND LOCATIONS OF EQUIPMENT AND WIRING ARE SHOWN TO SCALE WHERE POSSIBLE, BUT MAY BE DISTORTED FOR CLARITY ON THE DRAWINGS. FINAL LOCATION OF OUTLETS AND EQUIPMENT SHALL BE AS APPROVED BY THE ARCHITECT. IT IS NOT WITHIN THE SCOPE OF THE DRAWINGS TO SHOW ALL NECESSARY BENDS, OFFSETS, PULL BOXES, AND OBSTRUCTIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSTALL HIS WORK TO CONFORM TO THE STRUCTURE, PRESERVE HEADROOM, AND KEEP OPENINGS AND PASSAGEWAYS CLEAN.
22. CONDUCTORS SMALLER THAN #4 AWG FOR LIGHTING AND POWER SYSTEM WIRING SHALL HAVE 600 VOLT TYPE THWN/THHN INSULATION. CONDUCTORS #2 AND LARGER SHALL HAVE 600 VOLT XHHW TYPE INSULATION. CONDUCTORS #12 AWG AND SMALLER SHALL BE SOLID COPPER. CONDUCTORS #10 AWG AND LARGER SHALL BE STRANDED COPPER. MINIMUM SIZE CONDUCTOR SHALL BE #12 AWG UNLESS OTHERWISE SPECIFIED. NO ALUMINUM CONDUCTORS SHALL BE PERMITTED. SPLICES IN #8 AWG AND SMALLER CONDUCTORS SHALL BE MADE WITH CONICALLY SHAPED SPRING STEEL CONNECTORS, PLATED FOR CORROSION PROTECTION. CONNECTORS MAY HAVE AN INSULATING, SEMI-RIGID OUTER SHELL. SPLICES IN #6 AWG AND LARGER CONDUCTORS SHALL BE MADE WITH SPLIT BOLT CONNECTORS. SPLICES SHALL BE TAPED WITH RUBBER AND FRICTION TAPE OR PLASTIC ELECTRICIAN'S TAPE TO PROVIDE INSULATION EQUAL TO THE INSULATION OF THE CONDUCTOR. TWIST-ON CONNECTORS OR PHENOLIC COMPOUND OR CRIMP OR CRIMP-TYPE CONNECTORS SHALL NOT BE USED.
23. MC CABLE SHALL NOT BE INSTALLED EXPOSED ON WALLS, OR IN ELECTRIC ROOMS, MECHANICAL ROOMS, TELEPHONE CLOSETS, ETC. EMT CONDUIT SHALL BE USED FROM ELECTRIC CLOSET TO FIRST RECEPTACLE OR LIGHT FIXTURE.
24. ALL CONTROL WIRING ASSOCIATED WITH MECHANICAL EQUIPMENT IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR.
25. EXISTING FIRE ALARM SYSTEM DEVICES SHALL REMAIN OPERATIONAL DURING CONSTRUCTION OR AS REQUIRED BY LANDLORD. EXISTING FIRE ALARM SYSTEM DEVICES AND WIRING SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION. CONTRACTOR WILL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE TO EXISTING SYSTEM, AND FOR PROVIDING A FIRE WATCH UNTIL OPERATION OF THE FIRE ALARM SYSTEM IS FULLY RESTORED.
26. ALL CUTTING, CORING, CHOPPING, AND PATCHING REQUIRED UNDER THIS CONTRACT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE PERFORMED WITH BUILDING MANAGEMENT'S APPROVAL. ALL PENETRATIONS CAUSED BY THIS WORK SHALL BE TREATED FOR A TIGHT SEAL BY THIS CONTRACTOR USING A MATERIAL OF THE SAME INTEGRITY AS THE EXISTING PENETRATION.
27. ALL ABANDONED OR UNUSED CABLING, RACEWAYS, ETC., MUST BE REMOVED BACK TO THE POINT OF ORIGIN.
28. EXISTING BASE BUILDING CORE DEVICES (LIGHTING, RECEPTACLES, AV/DATA OUTLETS ETC.) SHALL REMAIN ACTIVE. IF DEVICES HAVE BEEN DISCONNECTED BY DEMOLITION, DEVICES SHALL BE RECONNECTED AND RE-ENERGIZED UTILIZING SPARE CIRCUIT BREAKERS. ALL CORE DEVICES VISUAL TO TENANT SHALL BE REMOVED AND REPLACED WITH NEW DEVICES MATCHING PROJECT STANDARDS.
29. NO POWDER DRIVEN FASTENERS TO THE UNDERSIDE OF CONCRETE FLOOR OR ROOF SLABS SHALL BE PERMITTED. THOSE ATTACHMENTS SHALL BE DRILLED HOLES AND INSERTS ONLY. DO NOT DRILL INTO CONCRETE FLOOR/ROOF STRUCTURE TEES, DRILL INTO HORIZONTAL FLOOR/ROOF SLABS ONLY.
30. UPON COMPLETION OF ALL ELECTRICAL WORK, THE ELECTRICAL CONTRACTOR SHALL ADJUST AND TEST ALL CIRCUITS, RECEPTACLES, SWITCHES, LIGHTS, MOTORS AND ANY OTHER ELECTRICAL ITEMS INSTALLED. ANY DEFECTIVE ITEMS SHALL BE IMMEDIATELY REPAIRED OR REPLACED WITH NEW AND THAT PORTION OF THE SYSTEM RETESTED. ALL SUCH REMEDIAL WORK SHALL BE PERFORMED AT NO ADDITIONAL COST TO THE OWNER.
31. THE ELECTRICAL CONTRACTOR SHALL OBTAIN THE SERVICES OF A CERTIFIED ACCEPTANCE TESTER TO VERIFY TITLE 24 COMPLIANCE OF THE INSTALLED SYSTEMS AND COMPLETE THE ACCEPTANCE FORMS REQUIRED BY THE 2016 CALIFORNIA ENERGY CODE FOR THE INSTALLATION OF NEW ELECTRICAL SYSTEMS. ALL ASSOCIATED COSTS SHALL BE INCLUDED IN THE BID.
32. RECEPTACLES EQUIPPED WITH GFI DEVICES MUST BE READILY ACCESSIBLE. (B)

ELECTRICAL ABBREVIATIONS

&	AND
@	AT
Ø	PHASE OR ROUND
A.A.P.	ALARM ANNUNCIATOR PANEL
A.C.	ALTERNATING CURRENT
A.C.U.	AIR CONDITIONING UNIT
A.F.F.	ABOVE FINISH FLOOR
ALT.	ALTERNATE
ALUM.	ALUMINUM
AMP.	AMPERE
AP.	ACCESS PANEL
APPROX.	APPROXIMATE
ARCH.	ARCHITECT/ARCHITECTURAL
A.T.S.	AUTOMATIC TRANSFER SWITCH
AUTO.	AUTOMATIC
BLDG.	BUILDING
BLR.	BOILER
BOT.	BOTTOM
BSMT.	BASEMENT
°C	DEGREES CELSIUS
C.	CONDUIT
C.O.	CONDUIT ONLY
CAB.	CABINET
CAP.	CAPACITY
CB.	CIRCUIT BREAKER
CIRC.	CIRCUIT
C.C.TV.	CLOSED CIRCUIT TELEVISION
CLG.	CEILING
COMB.	COMBINATION/-ED
CONC.	CONCRETE
CONN.	CONNECT/-ED, /-ION
CONST.	CONSTRUCT/ION
CONT.	CONTINUE/-OUS/-ATION
CONTR.	CONTRACT/-OR
CONV.	CONVERTER
COORD.	COORDINATE
C.T.	COOLING TOWER
C/T	CURRENT TRANSFORMER
CTR.	CENTER
CU.FT.	CUBIC FEET
C.U.H.	CABINET UNIT HEATER
D.C.	DIRECT CURRENT
DET.	DETAIL
DIA.	DIAMETER
DIAG.	DIAGONAL
DIM.	DIMENSION
DIST.	DISTRIBUTION
DIV.	DIVISION
DMPR.	DAMPER
DN.	DOWN
DRWG.	DRAWING
EA.	EACH
E.C.	ELECTRICAL CONTRACTOR
EL.	ELEVATION
ELEC.	ELECTRICAL
ELEV.	ELEVATOR
EM.	EMERGENCY
E.P.	EXPLOSION PROOF
EQ.	EQUAL
EQUIP.	EQUIPMENT
E.V.	ELECTRIC VEHICLE
E.W.C.	ELECTRIC WATER COOLER
EXSTG	EXISTING
EXT.	EXTERIOR
°F	DEGREES FAHRENHEIT
F.A.C.P.	FIRE ALARM CONTROL PANEL
FDR.	FEEDER
FIN.	FINISH
FIXT.	FIXTURE
FLUOR.	FLUORESCENT
FSMP	FIRE SPRINKLER MONITOR PANEL
FUT.	FUTURE
G.C.	GENERAL CONTRACTOR
G.F.I.	GROUND FAULT INTERRUPTER
G.F.C.I.	GROUND FAULT CIRCUIT INTERRUPTER
GND.	GROUND
H.	HEIGHT
HORZ.	HORIZON
H.P.	HORSE POWER
HTR.	HEATER
HZ.	HERTZ
IN.	INCH (ES)
INT.	INTERIOR
J-BOX	JUNCTION BOX
(E)	EXISTING
(N)	NEW

KV.A.	KILOVOLT AMPS
K.W.	KILOWATTS
LB. OR #	POUND (WEIGHT)
L.F.	LINEAL FOOT
LG.	LENGTH, LONG
LT.	LIGHT
LTS.	LIGHTS
LTG.	LIGHTING
L.V.	LOW VOLATGE
MAX.	MAXIMUM
M.C.C.	MOTOR CONTROL CENTER
M.C.	MECHANICAL CONTRACTOR
MECH.	MECHANICAL
M.H.	MANHOLE
MIN.	MINIMUM
MISC.	MISCELLANEOUS
M.S.	MOTOR STARTER
MTD.	MOUNTED
MTR.	MOTOR
M.T.S.	MANUAL TRANSFER SWITCH
M.V.	MOTORIZED VALVE
N.A.	NOT APPLICABLE
N/C	NURSES CALL
N.F.	NON FUSED
N.L.	NIGHT LIGHT
N.I.C.	NOT IN CONTRACT
NO.	NUMBER
NT.	NOTE
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
P	PHASE
P.C	PLUMBING CONTRACTOR
P.I.V.	POST INDICATOR VALVE
P.L.	PILOT LIGHT
PNL.	PANEL
P.O.S.	POINT OF SALES
P.B.	PULL BOX
PVC	POLYVINYL CHLORIDE
PWR.	POWER
REC.	RECESSED
RECEPT.	RECEPTACLE
REF.	REFERENCE
REQD.	REQUIRED
RM.	ROOM
SCHED.	SCHEDULE
SECT.	SECTION
S/D	SMOKE DAMPER
S.F.	SQUARE FOOT
SHT.	SHEET
S.M.	SURFACE MOUNTED
S.P.	SUMP PUMP
SPEC.	SPECIFICATIONS
SPR.	SPARE
SQ.	SQUARE
S.SW.	SAFETY SWITCH
STD.	STANDARD
STR.	STARTER
STRUCT.	STRUCTURAL
SUSP.	SUSPENDED
SW.	SWITCH
SW. BD.	SWITCH BOARD
SW.GR.	SWITCH GEAR
T.	THERMOSTAT
TEL.	TELEPHONE
TEMP.	TEMPERATURE
TERM.	TERMINAL
TR.	TRANSFORMER
TV.	TELEVISION
TYP.	TYPICAL
U.G.	UNDERGROUND
U.H.	UNIT HEATER
U.V.	UNIT VENTILATOR
V.	VOLTS
V.A.	VOLT AMPERE
VENT.	VENTILATION
VERT.	VERTICAL
V.L.	VERIFY LOCATION
VOL.	VOLUME
W.	WATT (S)
W/	WITH
W.H.	WATER HEATER
W/O	WITHOUT
W.G.	WIRE GUARD
WP	WEATHERPROOF

INDEX OF ELECTRICAL DRAWINGS

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E-1.2 LIGHTING FLOOR PLAN (SOUTH)
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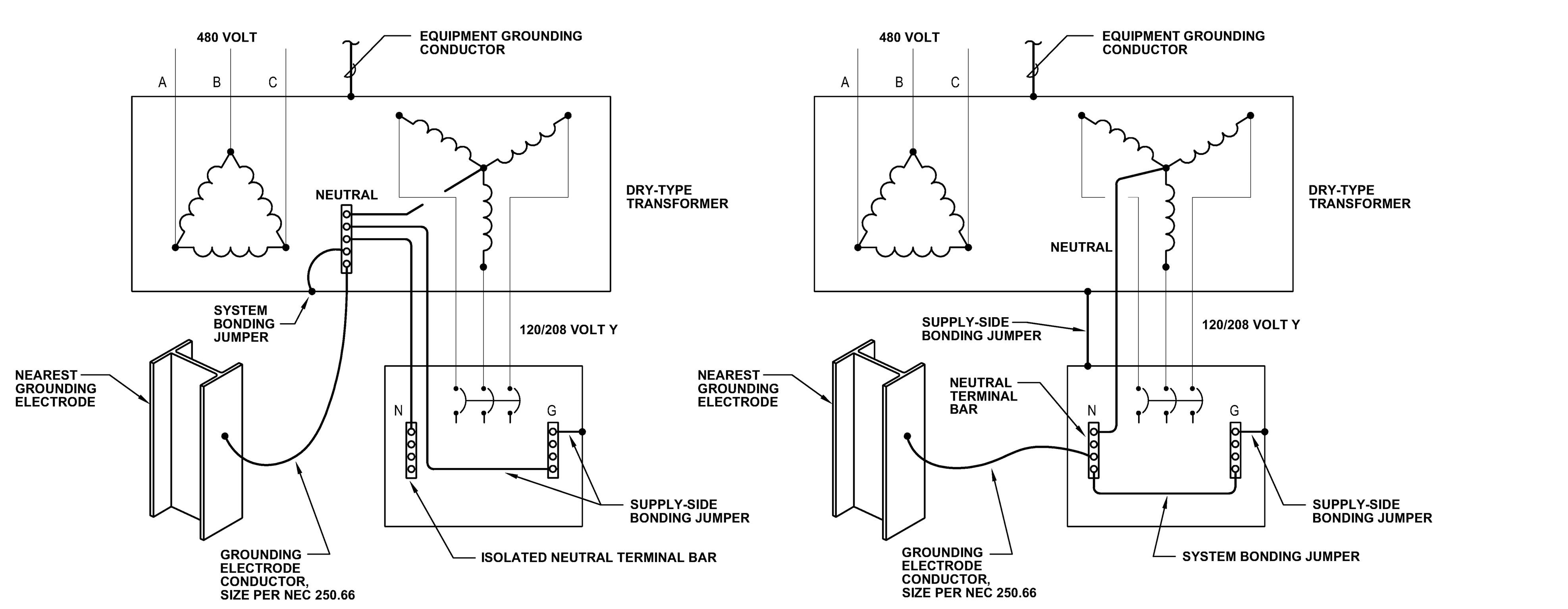
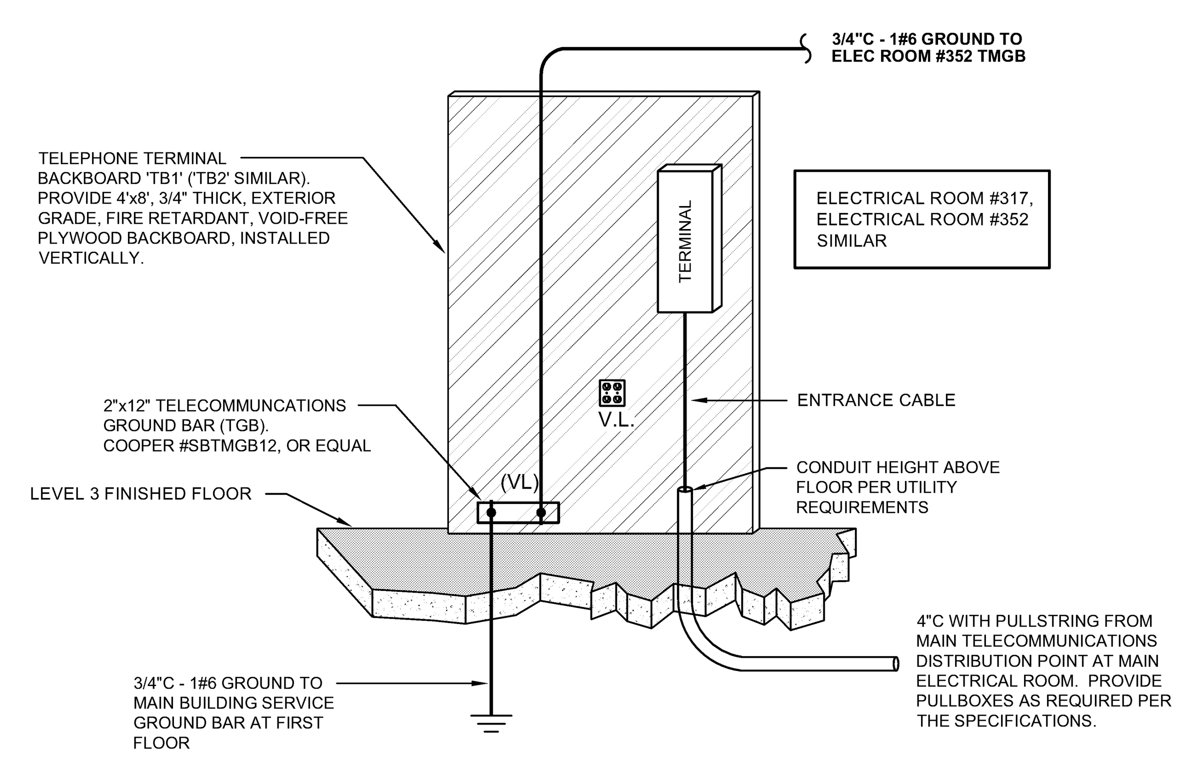


1 E-0.1 SEPARATELY DERIVED SYSTEM GROUNDING DETAILS
NOT TO SCALE



2 E-0.1 TELEPHONE TERMINAL BOARD DETAIL
NO SCALE

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1800 N SOLAR DRIVE - 3rd FLOOR
OXNARD, CALIFORNIA

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ELECTRICAL TITLE SHEET

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project no 18-87.60

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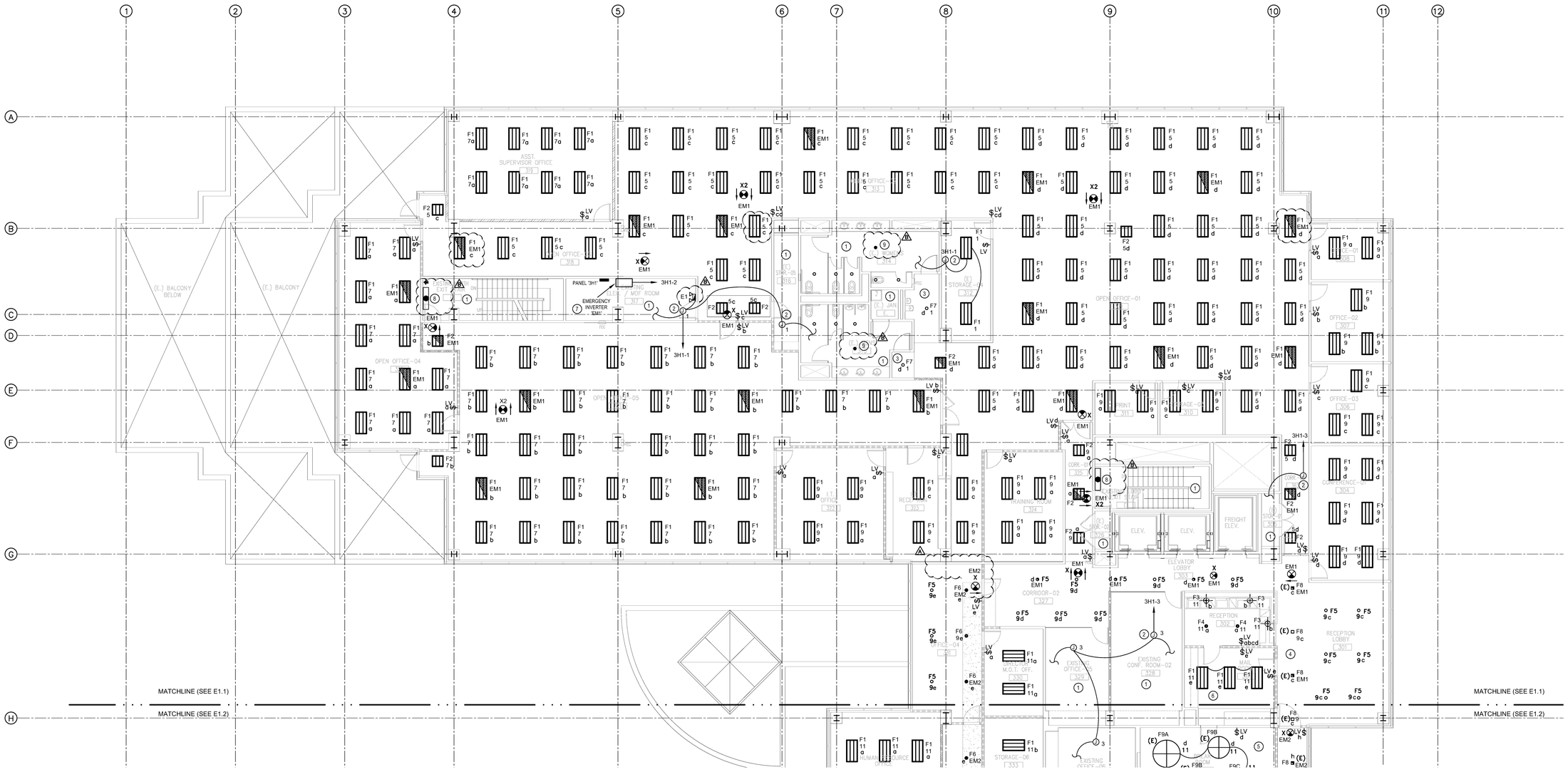
scale

E-0.1



LIGHT FIXTURE SCHEDULE

TYPE	MANUFACTURER	MODEL	VOLT	LAMP TYPE / WATTS / LUMENS / COLOR TEMP	BALLAST/ DRIVER	FIXTURE DESCRIPTION	INPUT WATTS
F1	LITHONIA OR COLUMBIA EQUAL	2BLT4 60L ADSM EZ1 LP835 N100 LCAT 24 35 HL G ED1 NXE	120/277	LED 48 W 6000 L 3500° K	0-10V DIMMING	2X4 LAY-IN DIMMABLE LED WITH CURVED CENTER AND INTEGRAL RELAY FOR PLUG AND PLAY LIGHTING CONTROLS.	48
F2	LITHONIA OR COLUMBIA EQUAL	2BLT2 40L ADSM EZ1 LP835 N100 LCAT 22 35 HL G ED1 NXE	120/277	LED 31 W 4000 L 3500° K	0-10V DIMMING	2X2 LAY-IN DIMMABLE LED WITH CURVED CENTER AND INTEGRAL RELAY FOR PLUG AND PLAY LIGHTING CONTROLS.	31
F3	N/A		120/277	60 W	NON DIMMING	EXISTING PENDANT FIXTURE TO BE REMOVED, CLEANED, RE-LAMPED AS NEEDED, AND REINSTALLED IN RECEPTION AREA.	60
F4	LIGHTOLIER OR EQUAL	C4L-15-9-35-W-Z10-U TRIM: C4-R-DL-CC	120/277	LED 16 W 1500 3500° K	0-10V DIMMING	4" ROUND RECESSED DIMMABLE LED DOWNLIGHT IN RECEPTION AREA	16
F5	LIGHTOLIER OR EQUAL	C4L-15-9-35-W-Z10-U TRIM: C4-R-DL-CC	120/277	LED 16 W 1500 3500° K	0-10V DIMMING	4" ROUND RECESSED DIMMABLE LED DOWNLIGHT IN RECEPTION AREA	16
F6	LIGHTOLIER OR EQUAL	C4L-15-9-35-W-Z10-U TRIM: C4-R-DL-CC	120/277	LED 16 W 1500 3500° K	0-10V DIMMING	4" ROUND RECESSED DIMMABLE LED DOWNLIGHT IN CORRIDOR HARD CEILING	16
F7	LIGHTOLIER OR EQUAL	6R-R-C6L-15-8-35-W-SOL TRIM: C6-R-DL-CC	120/277	LED 16 W 1500 3500° K	0-10V DIMMING	6" DIMMABLE LED DOWNLIGHT NEAR TOILET	16
F8	N/A		120/277	LED 11 W 1000 L 3500° K	0-10V DIMMING	EXISTING LITHOTOLIER 4-1/2" SQUARE LED DOWNLIGHT WITH EXISTING 0-10v DIMMING DRIVER TO REMAIN	11
F9	N/A		120/277	FLUORESCENT 225W, 170W, 85W VARIES 3500° K	NON DIMMING	EXISTING RECESSED DECORATIVE FLUORESCENT TO REMAIN. PROVIDE NEW BALLASTS AND LAMPS AS NEEDED. A=8 F28T5 LAMPS, B=8 F28T5 LAMPS, AND C=4 F17T5 LAMPS.	A-225 B-170 C-85
E1	LITHONIA	EU2L M12 OR EQUAL	120/277	LED		LED EMERGENCY LIGHTING UNIT WITH INTEGRAL BATTERY AND TWO HEADS.	
X	BEGHELLI OR EQUAL	OL2-HT-LR-1-C	120/277	LED		NEW SINGLE-FACED CLEAR EDGE-LIT LED EXIT SIGN WITH RED LETTERING AND DIRECTIONAL CHEVRONS.	
X2	BEGHELLI OR EQUAL	OL2-HT-LR-2-M	120/277	LED		NEW DOUBLE-FACED MIRRORED EDGE-LIT LED EXIT SIGN WITH RED LETTERING AND DIRECTIONAL CHEVRONS.	

NOTE: LIGHTING CONTROLS TO BE PLUG AND PLAY NLIGHT CONTROLS AS SPECIFIED, OR HUBBELL NX EQUIVALENT

LIGHT FIXTURE SCHEDULE NOTES:

1. PROVIDE LIGHTING FIXTURE SUBMITTALS INDICATING FIXTURE TYPE WITH CATALOG NUMBERS AND FINISHES. SUBMITTALS WITH NO INFORMATION INDICATED WILL BE REJECTED.
2. PROVIDE ALL LIGHTING FIXTURES COMPLETE WITH LAMPS, CONNECTORS, MOUNTING BRACKETS, JUNCTION BOXES AND COMPLETELY WIRED, CONTROLLED AND SECURELY ATTACHED TO SUPPORTS. PROVIDE ADEQUATE SUPPORTS FOR EACH LIGHTING FIXTURE. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING WEIGHTS AND MOUNTING METHODS OF ALL FIXTURES AND FOR PROVIDING SUITABLE SUPPORTS. FIXTURE MOUNTING ASSEMBLIES SHALL COMPLY WITH ALL LOCAL SEISMIC CODES AND REGULATIONS.
3. THE LIGHTING FIXTURES AND WORKMANSHIP MUST BE IN ACCORDANCE WITH THE STANDARDS AND REGULATIONS OF THE FOLLOWING:
   - UNDERWRITERS LABORATORIES
   - NATIONAL ELECTRICAL CODE (WITH STATE AMENDMENTS)
   - LOCAL BUILDING AND LIFE SAFETY CODE AGENCIES
4. CONTRACTOR IS RESPONSIBLE TO PROVIDE FINAL QUANTITIES OF THE REQUIRED LIGHTING FIXTURES PRIOR TO BID AND ORDERING. QUANTITY OF FIXTURES SHALL BE BASED ON FLOOR PLANS.
5. AT THE COMPLETION OF CONSTRUCTION, CLEAN LENSES AND REFLECTORS OF ALL LIGHT FIXTURES SO AS TO RENDER THEM FREE OF ANY MATERIAL, SUBSTANCE OR FILM FOREIGN TO THE FIXTURE. BLEMISHED OR DAMAGED FIXTURES SHALL BE REPLACED IN A SATISFACTORY MANNER.

1 E-1.1 LIGHTING FLOOR PLAN (NORTH)
1/8" = 1'-0"

GENERAL NOTES:

A. LIGHTING CIRCUITS #1,2,3,5,7, AND 9 TO BE HOMERUN TO PANEL 3H1.

B. LIGHTING CIRCUITS #2,11,13, AND 15 TO BE HOMERUN TO PANEL 3H2.

C. EMERGENCY LIGHTING TO BE HOMERUN TO EMERGENCY LIGHTING INVERTER EM1 OR EM2 AS INDICATED.

D. EXISTING CONDUIT IN GOOD CONDITION MAY BE REUSED.

E. EXISTING THIRD FLOOR LIGHTING FIXTURES TO REMAIN ARE TO BE CLEANED AND RE-LAMPED AS REQUIRED.

F. PROVIDE NEW WALL DEVICES, INCLUDING RECEPTACLES, SWITCHES, ETC. FOR EXISTING THIRD FLOOR WALL-MOUNTED DEVICES TO REMAIN. PROVIDE NEW DEVICE PLATES THROUGHOUT. COLOR TO BE SELECTED BY ARCHITECT.

G. CLEAN AND ADJUST EXISTING LIGHTING CONTROL SYSTEM TO REMAIN. PROVIDE NEW LIGHTING CONTROL DEVICES AS NEEDED FOR PROPER OPERATION. PROVIDE NEW WALL-MOUNTED LIGHTING CONTROL DEVICES. COLOR TO BE SELECTED BY ARCHITECT.

H. EMERGENCY LIGHTING CONDUCTORS SHALL NOT SHARE A CONDUIT WITH NORMAL LIGHTING CONDUCTORS.

I. PROVIDE UNSWITCHED HOT CONDUCTOR AHEAD OF CONTACTOR FOR EXIT SIGNS AND FIXTURES WITH EMERGENCY BALLASTS.

J. PROVIDE NEW LAMPS FOR ALL EXISTING TO REMAIN FIXTURES.

KEY NOTES:

1. EXISTING LIGHTING AND LIGHTING CONTROLS IN THIS AREA TO REMAIN. REVISE EXISTING CIRCUITRY AS REQUIRED TO MAINTAIN CONTINUITY OF CIRCUITS SERVING EXISTING LIGHTING FIXTURES AND LIGHTING CONTROLS TO REMAIN. SEE GENERAL NOTES.
2. CONNECT TO EXISTING CIRCUIT SERVING EXISTING LIGHTING TO REMAIN. ROUTE NEW HOMERUN TO PANEL AS REQUIRED.
3. REPLACE EXISTING COMPACT FLUORESCENT FIXTURE WITH NEW DIMMABLE LED FIXTURE TYPE F7. PROVIDE NEW TITLE 24-COMPLIANT LIGHTING CONTROLS.
4. EXISTING LED RECESSED CAN TO REMAIN WHERE INDICATED WITH (E). RE-CIRCUIT AND PROVIDE NEW TITLE 24-COMPLIANT LIGHTING CONTROLS.
5. EXISTING RECESSED DECORATIVE FLUORESCENT FIXTURE TO REMAIN. RE-CIRUIT AND PROVIDE NEW TITLE 24-COMPLIANT CONTROLS.
6. EXISTING DECORATIVE PENDANT FIXTURES IN THIS AREA TO BE REMOVED, CLEANED, AND REINSTALLED IN RECEPTION AREA. SEE FIXTURE TYPE F3.
7. PROVIDE 1.5 KVA LIGHTING INVERTER 'EM1' WITH 277V INPUT, 277 V OUTPUT, 3-20/1 OUTPUT CIRCUIT BREAKERS, INTERNAL MAINTENANCE BYPASS, REMOTE SUMMARY ALARM PANEL, AND FACTORY STARTUP / TRAINING. PROVIDE 2#12, 1#12G FEEDER FROM PANEL '3H1'. MYERS POWER PRODUCTS # 6 IE 1 S--B D 203 A C M T 21W. (SEE SPECIFICATIONS SHEETS ON E-1.2.
8. EXISTING EMERGENCY LIGHTING FIXTURE WITH INTEGRAL BATTERY. TEST FIXTURE FOR PROPER OPERATION. REPLACE BATTERY OR OTHER COMPONENTS AS NEEDED TO RESTORE PROPER OPERATION. TYPICAL FOR ONE FIXTURE ON EACH FLOOR (FLOORS 1, 2, AND 3).
9. EXISTING EMERGENCY LIGHTING FIXTURE WITH INTEGRAL BATTERY. TEST FIXTURE FOR PROPER OPERATION. REPLACE BATTERY OR OTHER COMPONENTS AS NEEDED TO RESTORE PROPER OPERATION.

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1800 N SOLAR DRIVE - 3rd FLOOR
OXNARD, CALIFORNIA

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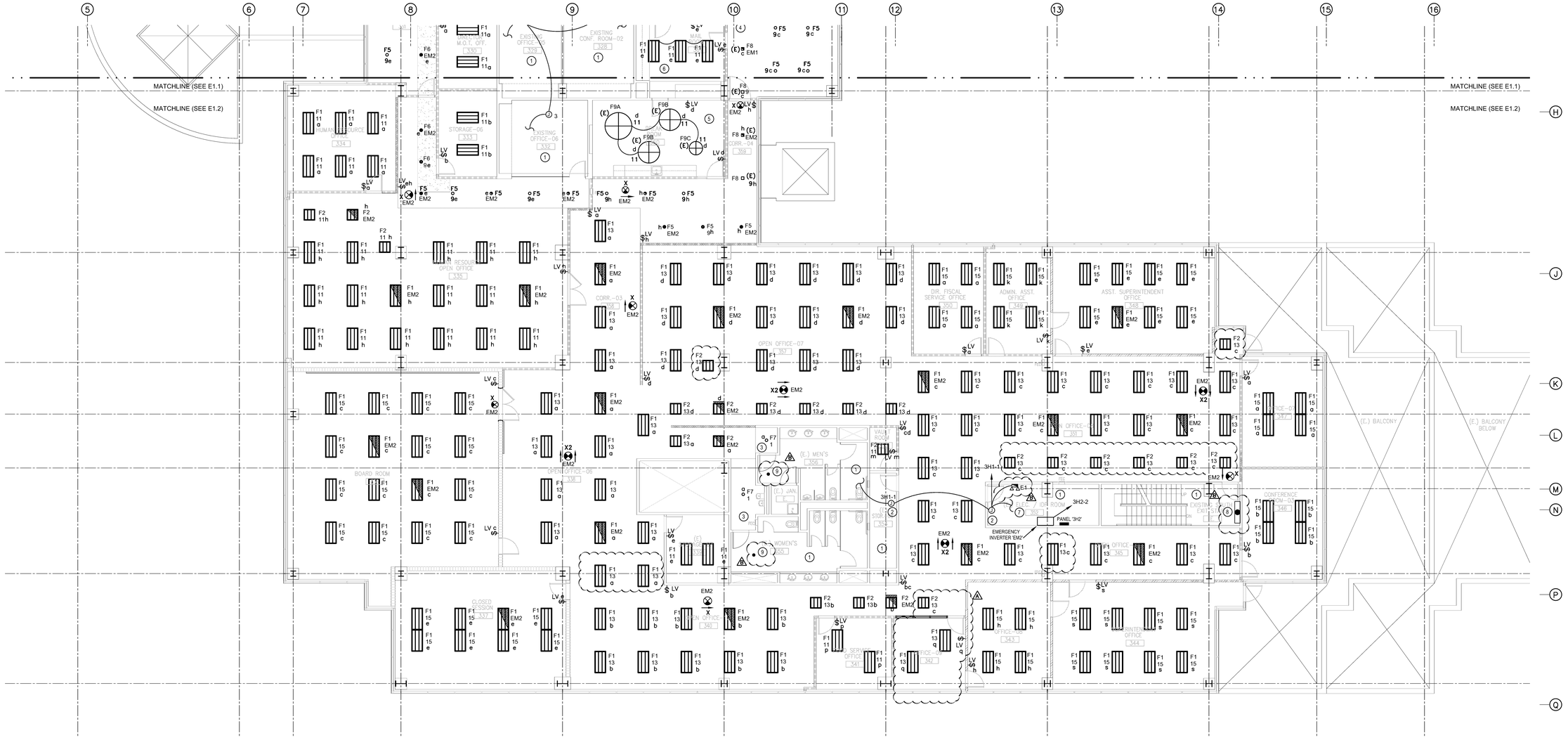
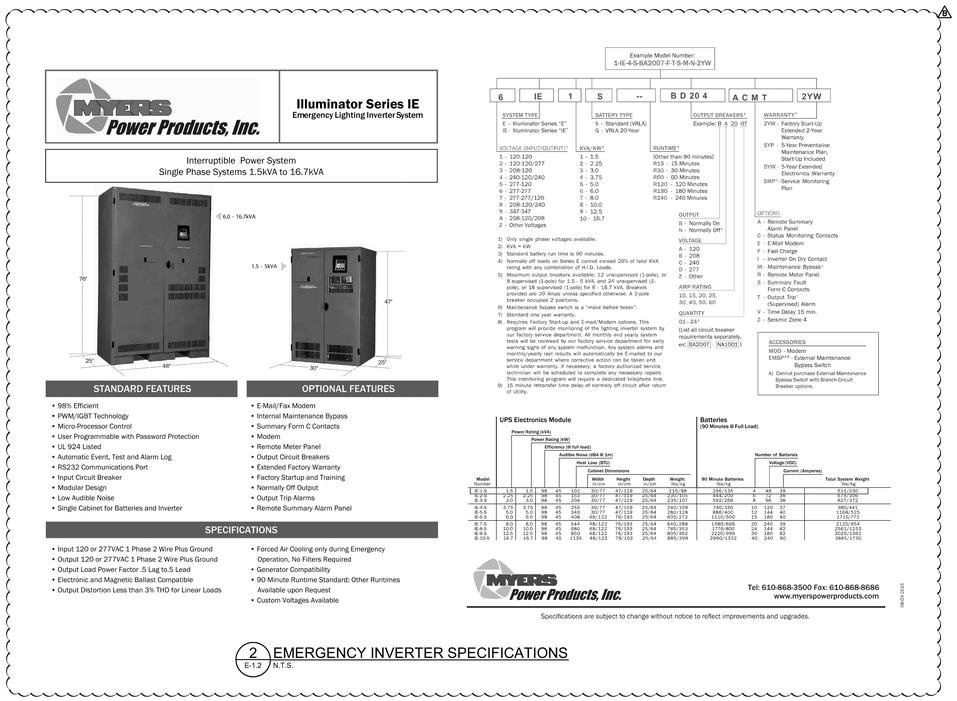
LIGHTING FLOOR PLAN (NORTH)

drawn by
project no 18-8760
date
scale

E-1.1



1 LIGHTING FLOOR PLAN (SOUTH)
E-1.2 1/8" = 1'-0"



2 EMERGENCY INVERTER SPECIFICATIONS
E-1.2 N.T.S.

GENERAL NOTES:

A. LIGHTING CIRCUITS #1,2,3,5,7, AND 9 TO BE HOMERUN TO PANEL 3H1.

B. LIGHTING CIRCUITS #2,11,13, AND 15 TO BE HOMERUN TO PANEL 3H2.

C. EMERGENCY LIGHTING TO BE HOMERUN TO EMERGENCY LIGHTING INVERTER EM1 OR EM2 AS INDICATED.

D. EXISTING CONDUIT IN GOOD CONDITION MAY BE REUSED.

E. EXISTING THIRD FLOOR LIGHTING FIXTURES TO REMAIN ARE TO BE CLEANED AND RE-LAMPED AS REQUIRED.

F. PROVIDE NEW WALL DEVICES, INCLUDING RECEPTACLES, SWITCHES, ETC. FOR EXISTING THIRD FLOOR WALL-MOUNTED DEVICES TO REMAIN. PROVIDE NEW DEVICE PLATES THROUGHOUT. COLOR TO BE SELECTED BY ARCHITECT.

G. CLEAN AND ADJUST EXISTING LIGHTING CONTROL SYSTEM TO REMAIN. PROVIDE NEW LIGHTING CONTROL DEVICES AS NEEDED FOR PROPER OPERATION. PROVIDE NEW WALL-MOUNTED LIGHTING CONTROL DEVICES. COLOR TO BE SELECTED BY ARCHITECT.

H. EMERGENCY LIGHTING CONDUCTORS SHALL NOT SHARE A CONDUIT WITH NORMAL LIGHTING CONDUCTORS.

I. PROVIDE UNSWITCHED HOT CONDUCTOR AHEAD OF CONTACTOR FOR EXIT SIGNS AND FIXTURES WITH EMERGENCY BALLASTS.

J. PROVIDE NEW LAMPS FOR ALL EXISTING TO REMAIN FIXTURES.

KEY NOTES:

1. EXISTING LIGHTING AND LIGHTING CONTROLS IN THIS AREA TO REMAIN. REVISE EXISTING CIRCUITRY AS REQUIRED TO MAINTAIN CONTINUITY OF CIRCUITS SERVING EXISTING LIGHTING FIXTURES AND LIGHTING CONTROLS TO REMAIN. SEE GENERAL NOTES.
2. CONNECT TO EXISTING CIRCUIT SERVING EXISTING LIGHTING TO REMAIN. ROUTE NEW HOMERUN TO PANEL AS REQUIRED.
3. REPLACE EXISTING COMPACT FLUORESCENT FIXTURE WITH NEW DIMMABLE LED FIXTURE TYPE F7. PROVIDE NEW TITLE 24-COMPLIANT LIGHTING CONTROLS.
4. EXISTING LED RECESSED CAN TO REMAIN WHERE INDICATED WITH (E). RE-CIRCUIT AND PROVIDE NEW TITLE 24-COMPLIANT LIGHTING CONTROLS.
5. EXISTING RECESSED DECORATIVE FLUORESCENT FIXTURE TO REMAIN. RE-CIRUIT AND PROVIDE NEW TITLE 24-COMPLIANT CONTROLS.
6. EXISTING DECORATIVE PENDANT FIXTURES IN THIS AREA TO BE REMOVED, CLEANED, AND REINSTALLED IN RECEPTION AREA. SEE FIXTURE TYPE F3.
7. PROVIDE 1.5 KVA LIGHTING INVERTER 'EM2' WITH 277V INPUT, 277 V OUTPUT, 3-20/1 OUTPUT CIRCUIT BREAKERS, INTERNAL MAINTENANCE BYPASS, REMOTE SUMMARY ALARM PANEL, AND FACTORY STARTUP / TRAINING. PROVIDE 2#12, 1#12G FEEDER FROM PANEL '3H2'. MYERS POWER PRODUCTS # 6 IE 1 S--B D 203 A C M T 2YW. SEE SPECIFICATION SHEETS, THIS DRAWING.
8. EXISTING EMERGENCY LIGHTING FIXTURE WITH INTEGRAL BATTERY. TEST FIXTURE FOR PROPER OPERATION. REPLACE BATTERY OR OTHER COMPONENTS AS NEEDED TO RESTORE PROPER OPERATION. TYPICAL FOR ONE FIXTURE ON EACH FLOOR (FLOORS 1, 2, AND 3).
9. EXISTING EMERGENCY LIGHTING FIXTURE WITH INTEGRAL BATTERY. TEST FIXTURE FOR PROPER OPERATION. REPLACE BATTERY OR OTHER COMPONENTS AS NEEDED TO RESTORE PROPER OPERATION.

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1800 N SOLAR DRIVE - 3rd FLOOR
OXNARD, CALIFORNIA

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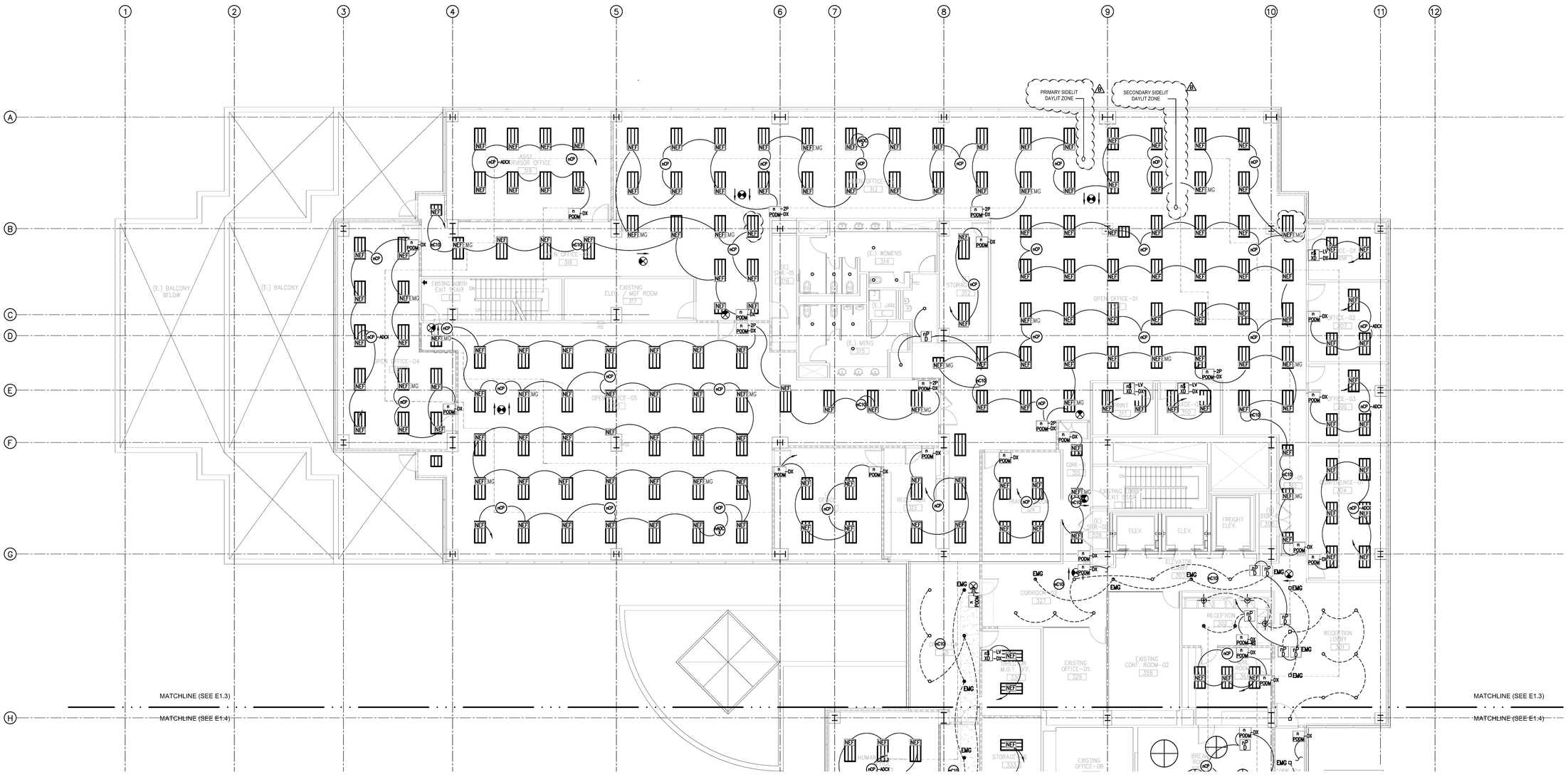
LIGHTING FLOOR PLAN (SOUTH)

drawn by
project no 18-8760
date
scale

E-1.2



1 E-1.3 LIGHTING CONTROLS FLOOR PLAN (NORTH)
1/8" = 1'-0"

LEGEND

	BRIDGE PORT CONNECTION POINTS
nBB PS 150	nBRG 8 KIT BRIDGE-8 PORT WITH 150 MA POWER SUPPLY
n ADR	nADR OPENADR DEMAND RESPONSE CLIENT INTERFACE: SUPPORTS UP TO FIVE (5) nLIGHT GATEWAYS (nGWY2 OR nGWY2 L400)
nC10	nCM 10 EXTENDED RANGE 360° SENSOR-CEILING MOUNT, LOW VOLTAGE, PASSIVE INFRARED (PIR)
nADCX	nCM ADCX AUTOMATIC DIMMING CONTROL PHOTOCELL-CEILING MOUNT, LOW VOLTAGE (NO WIRES)
nCP-ADCX	nCM PDT 9 ADCX STANDARD RANGE 360° SENSOR-CEILING MOUNT, LOW VOLTAGE, DUAL TECHNOLOGY (PDT): PHOTOCELL W/ DIMMING (NO WIRES)
nCP	nCM PDT 9 STANDARD RANGE 360° SENSOR, CEILING MOUNT, LOW VOLTAGE, DUAL TECHNOLOGY (PDT)
nECY 120	nECY 120VAC nLIGHT ECLYPSE TIME-BASED CONTROL OF nLIGHT AND/OR XPA WIRELESS NETWORK. ACTING IP & BMI FOR nLIGHT NETWORKS. REQUIRES: *THIRD PARTY 120VAC POWER SUPPLY*
NEF	nLIGHT ENABLED FIXTURE SUPPLIED BY OTHERS (USED FOR DEVICE COUNTING ONLY)
NEF EMG	nLIGHT ENABLED FIXTURE EMERGENCY INVERTER (USED FOR DEVICE COUNTING ONLY)
nIO BT	nIO BT BLUETOOTH LOW ENERGY COMMUNICATION MODULE
n PODM-2P-DX	nPODM 2P DX [COLOR] 2 CHANNEL ON/OFF TOGGLE WITH DIMMING
n PODM-4P-DX	nPODM 4P DX [COLOR] 4 CHANNEL ON/OFF TOGGLE WITH DIMMING
n PODM-4S-DX	nPODM 4S DX [COLOR] 4 BUTTON ON/OFF TOGGLE OR QUAD SCENE CONTROLLER WITH DIMMING
n PODM-DX	nPODM DX [COLOR] 1 CHANNEL ON/OFF TOGGLE WITH DIMMING
nP D	nPP16 D POWER/RELAY PACK: 16A 120/277 VAC W/ 0-10VDC DIMMING
nS XD-LV	nWSX PDT LV [COLOR] WALL SWITCH DECORATOR SENSOR, DUAL TECHNOLOGY (PDT), LOW VOLTAGE
nS XD-LV-DX	nWSX PDT LV DX [COLOR] WALL SWITCH DECORATOR SENSOR-DUAL TECHNOLOGY (PDT), LOW VOLTAGE; RAISE/LOWER DIM CONTROL

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	remarks	date
	PLAN CHECK SUBMITT.	04.15.19
1	ISSUED FOR BID/ADD-A	04.30.19
2	P.C. CORRECT/ADD-B	05.30.19

sheet title

LIGHTING CONTROLS FLOOR PLAN (NORTH)

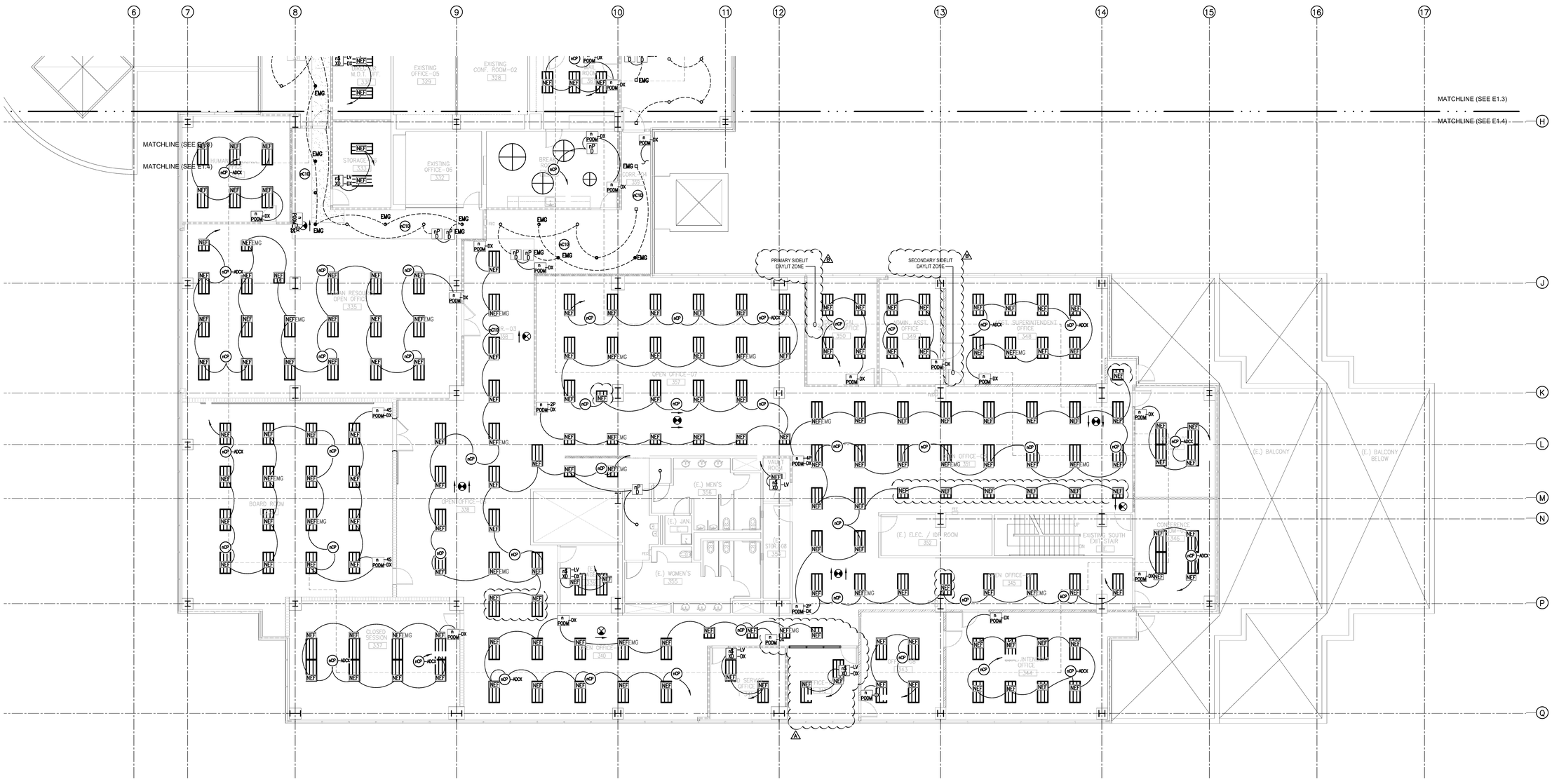
drawn by

project no 18-8760

date

scale

E-1.3



1 LIGHTING CONTROLS FLOOR PLAN (SOUTH)
E-1.4 1/8" = 1'-0"

LEGEND

	BRIDGE PORT CONNECTION POINTS
nBB PS 150	nBRG 8 KIT BRIDGE-8 PORT WITH 150 MA POWER SUPPLY
n ADR	nADR OPENADR DEMAND RESPONSE CLIENT INTERFACE: SUPPORTS UP TO FIVE (5) nLIGHT GATEWAYS (nGWY2 OR nGWY2 L400)
nC10	nCM 10 EXTENDED RANGE 360° SENSOR-CEILING MOUNT, LOW VOLTAGE, PASSIVE INFRARED (PIR)
nADCX	nCM ADCX AUTOMATIC DIMMING CONTROL PHOTOCELL-CEILING MOUNT, LOW VOLTAGE (NO WIRES)
nCP —ADCX	nCM PDT 9 ADCX STANDARD RANGE 360° SENSOR-CEILING MOUNT, LOW VOLTAGE, DUAL TECHNOLOGY (PDT): PHOTOCELL W/ DIMMING (NO WIRES)
nCP	nCM PDT 9 STANDARD RANGE 360° SENSOR, CEILING MOUNT, LOW VOLTAGE, DUAL TECHNOLOGY (PDT)
nECY 120	nECY 120VAC nLIGHT ECLYPSE TIME-BASED CONTROL OF nLIGHT AND/OR XPA WIRELESS NETWORK. ACTING IP & BMI FOR nLIGHT NETWORKS. REQUIRES: *THIRD PARTY 120VAC POWER SUPPLY*
NEF	nLIGHT ENABLED FIXTURE SUPPLIED BY OTHERS (USED FOR DEVICE COUNTING ONLY)
NEF EMG	nLIGHT ENABLED FIXTURE EMERGENCY INVERTER (USED FOR DEVICE COUNTING ONLY)
nIO BT	nIO BT BLUETOOTH LOW ENERGY COMMUNICATION MODULE
n PODM —2P —DX	nPODM 2P DX [COLOR] 2 CHANNEL ON/OFF TOGGLE WITH DIMMING
n PODM —4P —DX	nPODM 4P DX [COLOR] 4 CHANNEL ON/OFF TOGGLE WITH DIMMING
n PODM —4S —DX	nPODM 4S DX [COLOR] 4 BUTTON ON/OFF TOGGLE OR QUAD SCENE CONTROLLER WITH DIMMING
n PODM —DX	nPODM DX [COLOR] 1 CHANNEL ON/OFF TOGGLE WITH DIMMING
nP D	nPP16 D POWER/RELAY PACK: 16A 120/277 VAC W/ 0-10VDC DIMMING
nS XD —LV	nWSX PDT LV [COLOR] WALL SWITCH DECORATOR SENSOR, DUAL TECHNOLOGY (PDT), LOW VOLTAGE
nS XD —LV —DX	nWSX PDT LV DX [COLOR] WALL SWITCH DECORATOR SENSOR-DUAL TECHNOLOGY (PDT), LOW VOLTAGE; RAISE/LOWER DIM CONTROL

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TENANT IMPROVEMENTS FOR:
RIO SCHOOL DISTRICT
1800 N SOLAR DRIVE - 3rd FLOOR
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sheet title

LIGHTING CONTROLS FLOOR PLAN (SOUTH)

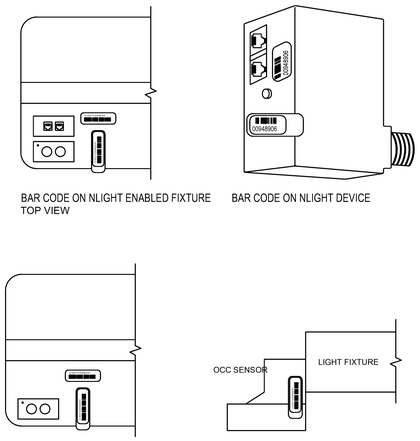
drawn by

project no 18-8760

date

scale

E-1.4



IMPORTANT: WIRELESS LUMINAIRE AND DEVICE BARCODES

THE SMALL BARCODE LABELS INCLUDED WITH ALL XPOINT WIRELESS LUMINAIRES MUST BE PLACED ON A PRINTED PLAN BY THE INSTALLER PRIOR TO ONSITE SYSTEM STARTUP.

THE BARCODE INDICATES THE UNIQUE ID OF EACH XPOINT WIRELESS DEVICE. THIS ID IS USED DURING SYSTEM STARTUP TO PROGRAM DEVICES WITH THE CORRECT GROUPINGS AND SETTINGS. WITHOUT THIS, SYSTEM STARTUP WILL REQUIRE ADDITIONAL DAYS ON THE JOB TO LOCATE DEVICE IDS.

BARCODE INSTRUCTIONS:

1. PRINT A PLAN OF THE INSTALLATION AREA TO A MINIMUM D SIZE (24" X 36"). THE PLAN MAY BE A REFLECTED CEILING PLAN, LIGHTING PLAN, OR ELECTRICAL PLAN, SO LONG AS ALL DEVICES CAN BE LOCATED BY THE FIELD SUPPORT ENGINEER.

2. PLACE THE SMALL BARCODE LABEL (0.875" LONG) FROM EACH LUMINAIRE AND DEVICE ON THE FLOOR PLAN. A LARGE BARCODE LABEL (1.25" LONG) CAN BE USED ON THE OUTSIDE OF ANY HOUSING OR JUNCTION BOX THAT OBSCURES THE ID NUMBER SHOWN ON THE DEVICE ITSELF.

3. SAVE THE PLAN AT THE JOB SITE, AND HAND OVER TO ACUITY FIELD SUPPORT ENGINEER OR OTHER PERSONNEL RESPONSIBLE FOR ONSITE SYSTEM STARTUP. THIS ALSO ACCEPTABLE TO PROVIDE THE BARCODE PLAN IN THE FOLLOWING WAYS:
   A. SCAN PLAN(S) WITH LABELS TO PDF AND EMAIL TO CONTROLS.STARTUPS@ACUITYBRANDS.COM, WITH PROJECT NAME AND PROJECT ADDRESS IN SUBJECT LINE AND A COPY OF THE ONSITE STARTUP REQUEST FORM.
   B. SEND PLAN(S), WITH A HARD COPY OF THE ONSITE STARTUP REQUEST FORM, VIA COURIER WITH TRACKING SERVICES (E.G. FEDEX) TO:
   ACUITY BRANDS - CONTROLS STARTUPS, 9144 DEERING AVE, LOS ANGELES, CA 91311

ADDITIONAL NOTES:
1. DRAW ON PLAN ANY LOCATION CHANGES FOR A FIXTURE OR DEVICES, IF DIFFERENT THAN SHOWN ON PLAN.
2. HIGHLIGHT OR CIRCLE ON THE PLAN ANY LUMINAIRE FED BY EMERGENCY OR EGRESS CIRCUIT.

NLIGHT BARCODE INSTRUCTIONS

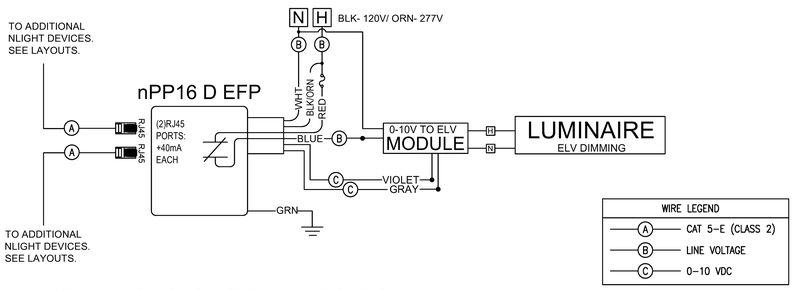
N.T.S.

CRITICAL NOTES (PLEASE READ)

- THIS BILL OF MATERIAL IS FOR BUDGETARY PURPOSES ONLY AND IS SUBJECT TO CHANGE DEPENDING ON LIGHTING AND POWER CIRCUITING. PLEASE PROVIDE FULL INFORMATION AND ASK FOR A REVISED B.O.M.
- EM SYSTEM IS TO BE INVERTER.
- ALL FIXTURES ARE TO BE NEF UNLESS SPECIFICALLY INDICATED OTHERWISE.
- DAYLIGHT HARVESTING IS USED IN AREAS WITH > 120 WATTS CONNECTED LOAD AND MORE THAN 24 SQ. FT. OF TOTAL GLAZED AREA.
- AUTOMATIC DEMAND RESPONSE CAPABILITY IS USED IN AREAS LARGER THAN 10,000 SQ.FT PER THE 2013 T24 REQUIREMENT. SYSTEMS WITH AUTOMATIC DEMAND RESPONSE ARE FULLY NETWORKED AND OFFER CENTRALIZED PROGRAMMING AND CONTROL CAPABILITIES.
- THE SYSTEM IS FULLY NETWORKED BY ECLYPSE AND BRIDGES, AND OFFERS CENTRALIZED TIME CLOCK PROGRAMMING AND CONTROL CAPABILITIES.
- LOCATION OF ECLYPSE AND BRIDGES TO BE DETERMINED BY THE CONTRACTOR BASED ON FIELD CONDITIONS. CAT5 BETWEEN EACH BRIDGE CONNECTION CANNOT EXCEED 1500 FT.
- ALL CAT5 CABLE SHOWN IN THIS DESIGN IS TO BE SUPPLIED BY OTHERS. CONTRACTOR TO VERIFY LENGTH AND QUANTITY PRIOR TO PLACING ORDER.
- LIGHTING CONTROL SYSTEM SHALL HAVE ON SITE START-UP PERFORMED BY THE MANUFACTURER'S TRAINED TECHNICIAN. CONTRACTOR SHALL COORDINATE WITH MANUFACTURER FOR START-UP REQUIREMENTS.
- NIO BT (BLUETOOTH) MODULES HAVE BEEN PROVIDED FOR ON-SITE COMMISSIONING.
- A SINGLE GANG WALLPOD WITH INTEGRATED OCCUPANCY SENSOR HAS BEEN UTILIZED IN LIEU OF A CEILING MOUNTED OCCUPANCY SENSOR WHERE APPLICABLE TO REDUCE TOTAL DEVICE COUNT.

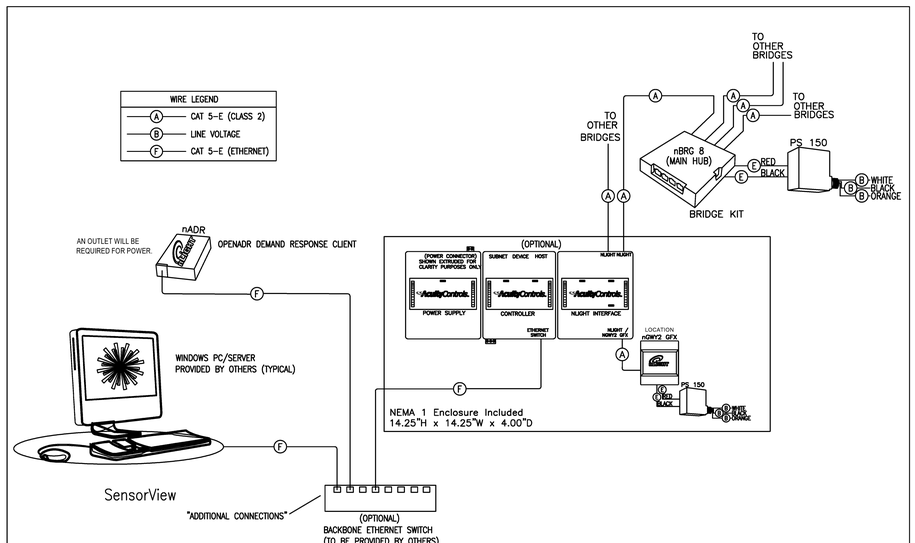
DEVICE LEGEND

	BRIDGE PORT CONNECTION POINTS
nB8 PS 150	nBRG 8 KIT BRIDGE-8 PORT WITH 150 MA POWER SUPPLY
n ADR	nADR OPENADR DEMAND RESPONSE CLIENT INTERFACE: SUPPORTS UP TO FIVE (5) nLIGHT GATEWAYS (nGWY2 OR nGWY2 L400)
nC10	nCM 10 EXTENDED RANGE 360° SENSOR-CEILING MOUNT, LOW VOLTAGE, PASSIVE INFRARED (PIR)
nADCX	nCM ADCX AUTOMATIC DIMMING CONTROL PHOTOCELL-CEILING MOUNT, LOW VOLTAGE (NO WIRES)
nCP—ADCX	nCM PDT 9 ADCX STANDARD RANGE 360° SENSOR-CEILING MOUNT, LOW VOLTAGE, DUAL TECHNOLOGY (PDT): PHOTOCELL W/ DIMMING (NO WIRES)
nCP	nCM PDT 9 STANDARD RANGE 360° SENSOR, CEILING MOUNT, LOW VOLTAGE, DUAL TECHNOLOGY (PDT)
nECY 120	nECY 120VAC nLIGHT ECLYPSE TIME-BASED CONTROL OF nLIGHT AND/OR XPA WIRELESS NETWORK. ACTING IP & BMI FOR nLIGHT NETWORKS. REQUIRES: *THIRD PARTY 120VAC POWER SUPPLY*
NEF	nLIGHT ENABLED FIXTURE SUPPLIED BY OTHERS (USED FOR DEVICE COUNTING ONLY)
NEF EMG	nLIGHT ENABLED FIXTURE EMERGENCY INVERTER (USED FOR DEVICE COUNTING ONLY)
nIO BT	nIO BT BLUETOOTH LOW ENERGY COMMUNICATION MODULE
n PODM —2P —DX	nPODM 2P DX [COLOR] 2 CHANNEL ON/OFF TOGGLE WITH DIMMING
n PODM —4P —DX	nPODM 4P DX [COLOR] 4 CHANNEL ON/OFF TOGGLE WITH DIMMING
n PODM —4S —DX	nPODM 4S DX [COLOR] 4 BUTTON ON/OFF TOGGLE OR QUAD SCENE CONTROLLER WITH DIMMING
n PODM —DX	nPODM DX [COLOR] 1 CHANNEL ON/OFF TOGGLE WITH DIMMING
nP D	nPP16 D POWER/RELAY PACK: 16A 120/277 VAC W/ 0-10VDC DIMMING
nS XD —LV	nWSX PDT LV [COLOR] WALL SWITCH DECORATOR SENSOR, DUAL TECHNOLOGY (PDT), LOW VOLTAGE
nS XD —LV —DX	nWSX PDT LV DX [COLOR] WALL SWITCH DECORATOR SENSOR-DUAL TECHNOLOGY (PDT), LOW VOLTAGE; RAISE/LOWER DIM CONTROL



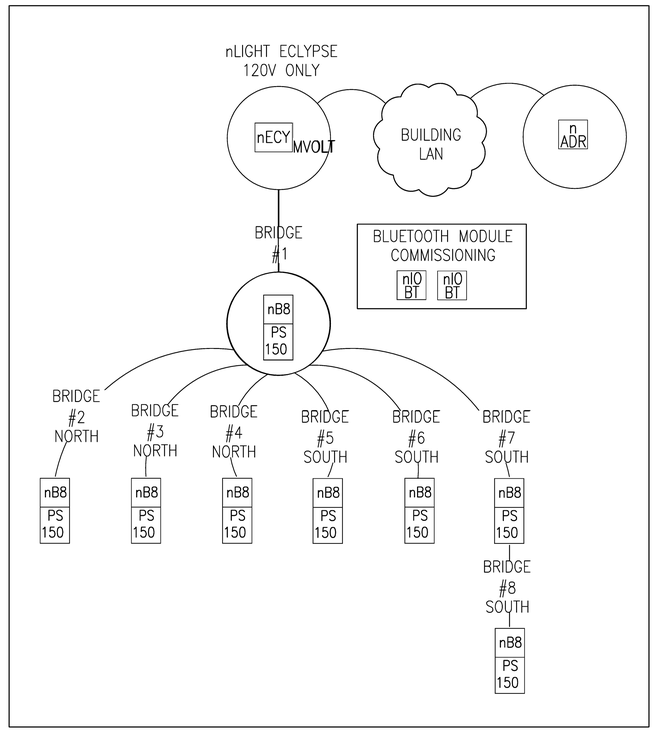
TYPICAL WIRING DIAGRAM: NPP16 D EFP

N.T.S.



TYPICAL WIRING DIAGRAM:BACKBONE

N.T.S.



1 LIGHTING CONTROL DETAILS
E-1.5 1/8" = 1'-0"

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LIGHTING CONTROL DETAILS

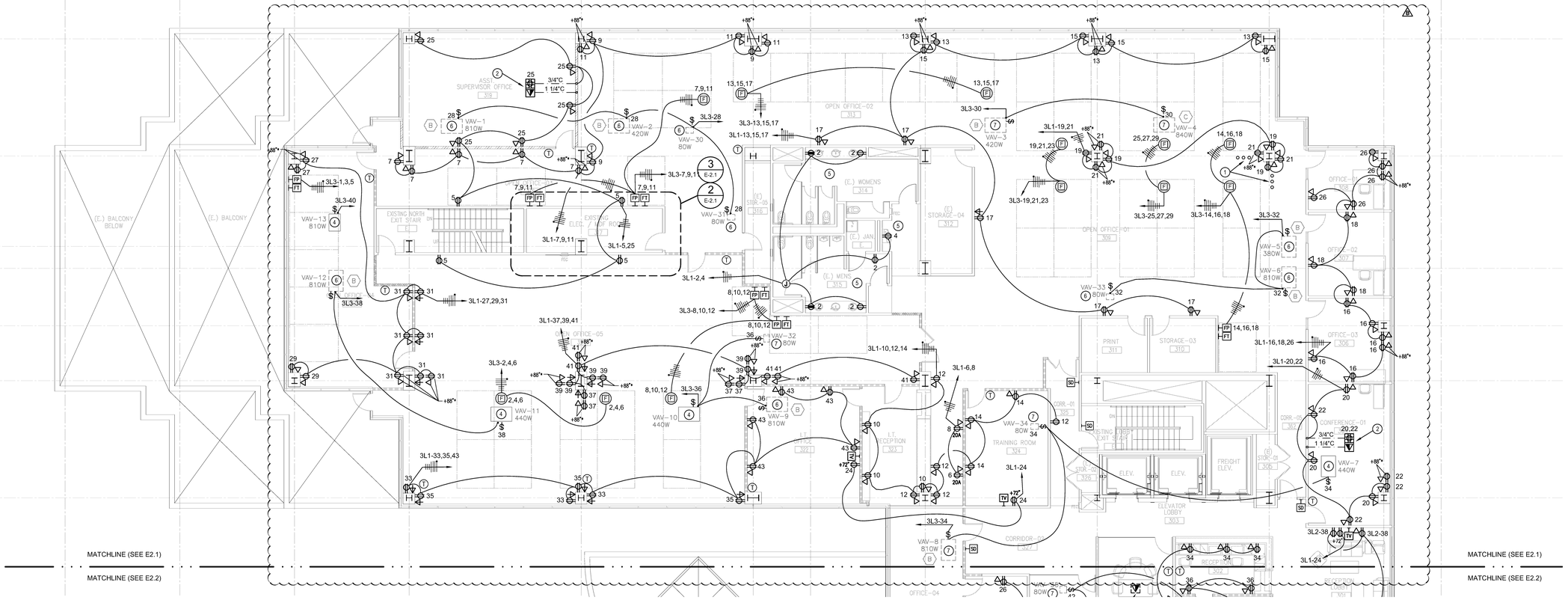
drawn by

project no 18-8760

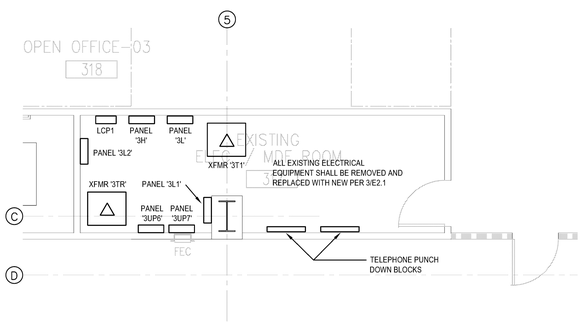
date

scale

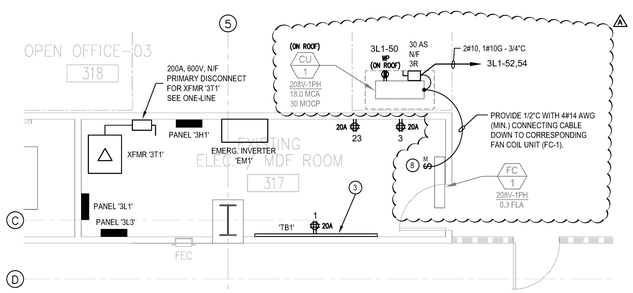
E-1.5



1 E-2.1 POWER FLOOR PLAN (NORTH)
1/8" = 1'-0"



2 E-2.1 ENLARGED ELECTRICAL ROOM #317 DEMOLITION PLAN
1/4" = 1'-0"



3 E-2.1 ENLARGED ELECTRICAL ROOM #317 NEW CONSTRUCTION PLAN
1/4" = 1'-0"

KEY NOTES:

1. REMOVE EXISTING 3" CONDUIT STUBS AND PATCH FLOOR TO MATCH EXISTING.
2. FIELD VERIFY FINAL LOCATION OF FLOOR BOXES WITH TENANT/ FURNITURE VENDOR PRIOR TO CORING.
3. PROVIDE TELECOMMUNICATIONS BACKBOARD PER 2/E-0.1.
4. NEW VAV BOX. SEE MECHANICAL..
5. RESTROOM AND DRINKING FOUNTAIN RECEPTACLES ARE EXISTING. REPLACE WITH NEW AS INDICATED AND RE-CIRCUIT AS REQUIRED PER THE CONSTRUCTION DOCUMENTS.
6. EXISTING VAV BOX TO REMAIN. RECONNECT AS INDICATED. SEE MECHANICAL.
7. EXISTING VAV BOX TO BE RELOCATED. EXTEND OR PROVIDE NEW CONDUCTORS AND RE-CIRCUIT AS INDICATED. SEE MECHANICAL.
8. FAN COIL UNIT (FC) POWERED FROM CORRESPONDING CONDENSING UNIT ON ROOF. PROVIDE 3-POLE MOTOR-RATED TOGGLE SWITCH ABOVE CEILING AND CONNECT FC.

GENERAL SHEET NOTES:

A. ALL DEVICES ON THIS SHEET SHALL BE CIRCUITED TO PANEL "3L1", UNLESS INDICATED OTHERWISE.

B. PROVIDE CONDUIT, J-BOXES, AND BACKBOXES AS REQUIRED TO ACCOMMODATE INSTALLATION OF THE HVAC LOW VOLTAGE CONTROLS AS INDICATED ON THE MECHANICAL PLANS.

C. ALL ROOFTOP EQUIPMENT AND COMPONENTS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND LOCAL CODE REQUIREMENTS.

D. FIELD VERIFY FINAL LOCATIONS OF ROOFTOP EQUIPMENT WITH ARCHITECTURAL AND MECHANICAL PLANS PRIOR TO ROUGH-IN.

E. ROOFTOP EQUIPMENT/ DEVICES SHALL BE WEATHERPROOF TYPE.

F. CONDUITS FEEDING ROOFTOP EQUIPMENT/ DEVICES SHALL BE LESS THAN 5' SOLAR EXPOSED.

G. PROVIDE FINAL CONNECTIONS PER EQUIPMENT LABEL.

H. ALL ROOF PENETRATION SHALL BE SEALED BY A LICENSED ROOFER.

I. ALL CONDUIT INSTALLED ON ROOF SHALL BE IMC OR RGC.

J. FOR THE CONNECTION BETWEEN THE INDOOR AND OUTDOOR FAN COIL UNIT, PROVIDE OUTDOOR AND WATERPROOF CONNECTION CABLE RATED MINIMUM 300V AND CONFORMING TO 60245 IEC 57.

MOUNTING NOTES:

* MOUNTING HEIGHT INDICATED ASSUMES A STANDARD 9' CEILING. OUTLET SHALL BE INSTALLED 20" BELOW THE FINISHED CEILING.

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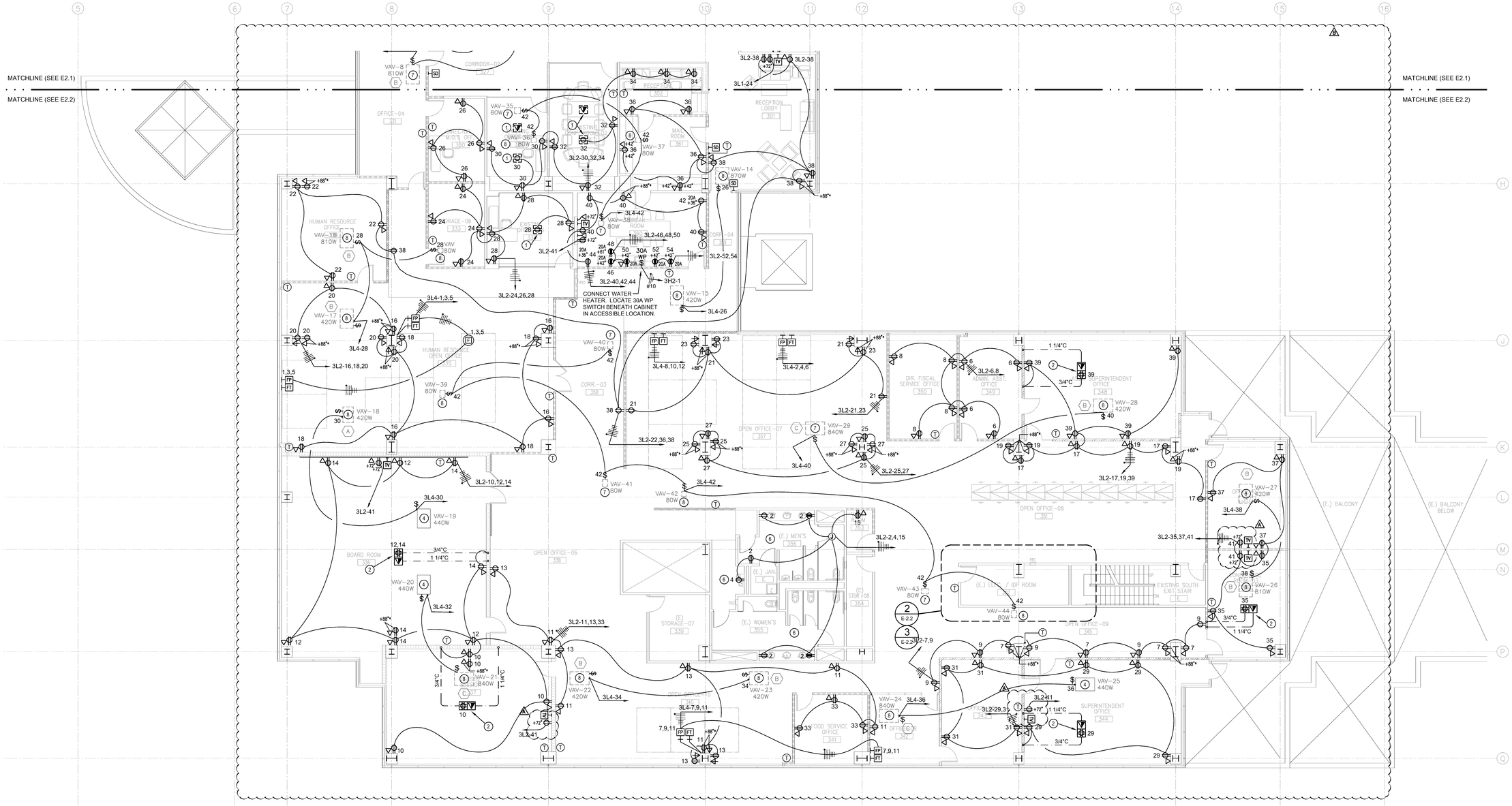
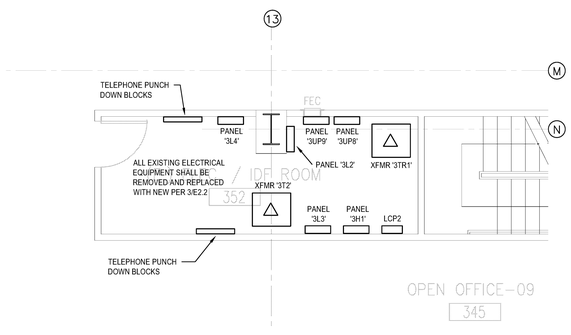
sheet title
POWER FLOOR PLAN (NORTH)

drawn by
project no 18-8760
date
scale

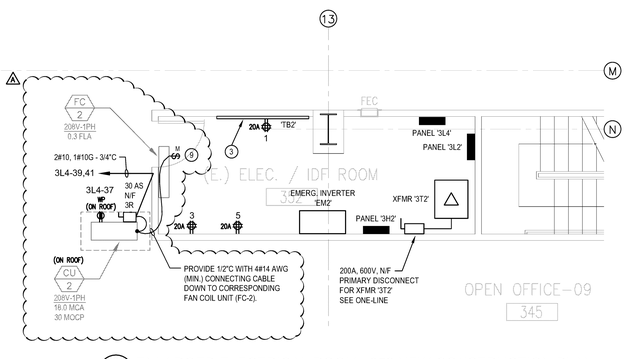
E-2.1



1 E-2.2 POWER FLOOR PLAN (SOUTH)
1/8" = 1'-0"



2 E-2.2 ENLARGED ELECTRICAL ROOM #352 DEMOLITION PLAN
1/4" = 1'-0"



3 E-2.2 ENLARGED ELECTRICAL ROOM #352 NEW CONSTRUCTION PLAN
1/4" = 1'-0"

KEY NOTES:

1. EXISTING POKE-THRU FLOOR BOXES TO REMAIN. RE-CIRCUIT AS INDICATED.
2. FIELD VERIFY FINAL LOCATION OF FLOOR BOXES WITH TENANT/ FURNITURE VENDOR PRIOR TO CORING.
3. PROVIDE TELECOMMUNICATIONS BACKBOARD PER 2/E-0.1.
4. NEW VAV BOX. SEE MECHANICAL.
5. NOT USED.
6. RESTROOM AND DRINKING FOUNTAIN RECEPTACLES ARE EXISTING. REPLACE WITH NEW AS INDICATED AND RE-CIRCUIT AS REQUIRED PER THE CONSTRUCTION DOCUMENTS.
7. EXISTING VAV BOX TO REMAIN. RECONNECT AS INDICATED. SEE MECHANICAL.
8. EXISTING VAV BOX TO BE RELOCATED. EXTEND OR PROVIDE NEW CONDUCTORS AND RE-CIRCUIT AS INDICATED. SEE MECHANICAL.
9. FAN COIL UNIT (FC) POWERED FROM CORRESPONDING CONDENSING UNIT ON ROOF. PROVIDE 3-POLE MOTOR-RATED TOGGLE SWITCH ABOVE CEILING AND CONNECT FC.

GENERAL SHEET NOTES:

A. ALL DEVICES ON THIS SHEET SHALL BE CIRCUITED TO PANEL "3L2", UNLESS INDICATED OTHERWISE.

B. PROVIDE CONDUIT, J-BOXES, AND BACKBOXES AS REQUIRED TO ACCOMMODATE INSTALLATION OF THE HVAC LOW VOLTAGE CONTROLS AS INDICATED ON THE MECHANICAL PLANS.

C. ALL ROOFTOP EQUIPMENT AND COMPONENTS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND LOCAL CODE REQUIREMENTS.

D. FIELD VERIFY FINAL LOCATIONS OF ROOFTOP EQUIPMENT WITH ARCHITECTURAL AND MECHANICAL PLANS PRIOR TO ROUGH-IN.

E. ROOFTOP EQUIPMENT/ DEVICES SHALL BE WEATHERPROOF TYPE.

F. CONDUITS FEEDING ROOFTOP EQUIPMENT/ DEVICES SHALL BE LESS THAN 5' SOLAR EXPOSED.

G. PROVIDE FINAL CONNECTIONS PER EQUIPMENT LABEL.

H. ALL ROOF PENETRATION SHALL BE SEALED BY A LICENSED ROOFER.

I. ALL CONDUIT INSTALLED ON ROOF SHALL BE IMC OR RGC.

J. FOR THE CONNECTION BETWEEN THE INDOOR AND OUTDOOR FAN COIL UNIT, PROVIDE OUTDOOR AND WATERPROOF CONNECTION CABLE RATED MINIMUM 300V AND CONFORMING TO 60245 IEC 57.

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POWER FLOOR PLAN (SOUTH)

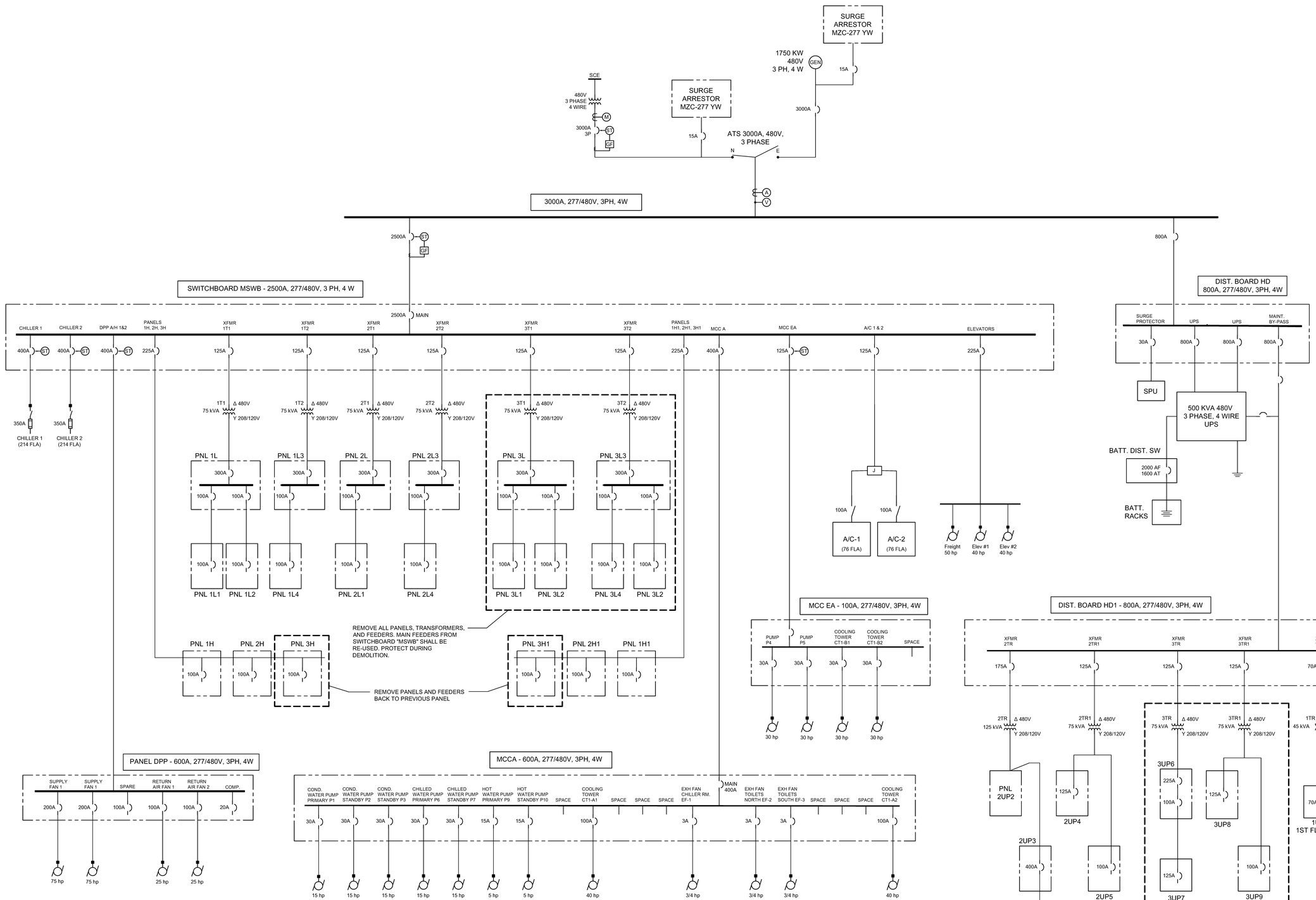
drawn by

project no 18-8760

date

scale

E-2.2



1 E-3.1 DEMOLITION SINGLE LINE DIAGRAM
NOT TO SCALE

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2	P.C. CORRECT/ADD.-B	053019

sheet title

DEMOLITION SINGLE LINE DIAGRAM

drawn by

project no 18-8760

date

scale

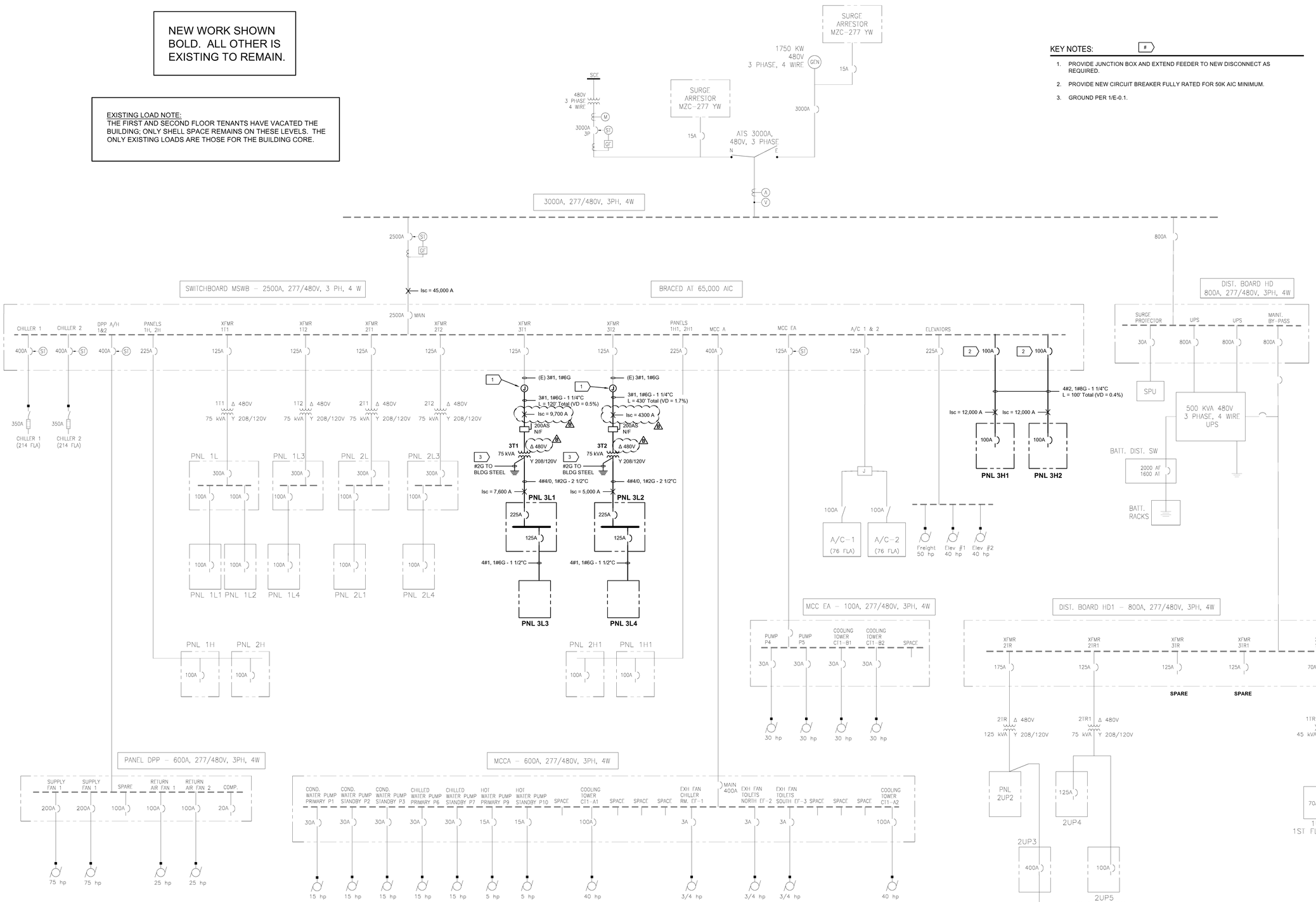
E-3.1

NEW WORK SHOWN BOLD. ALL OTHER IS EXISTING TO REMAIN.

EXISTING LOAD NOTE:
THE FIRST AND SECOND FLOOR TENANTS HAVE VACATED THE BUILDING; ONLY SHELL SPACE REMAINS ON THESE LEVELS. THE ONLY EXISTING LOADS ARE THOSE FOR THE BUILDING CORE.

KEY NOTES:

1. PROVIDE JUNCTION BOX AND EXTEND FEEDER TO NEW DISCONNECT AS REQUIRED.
2. PROVIDE NEW CIRCUIT BREAKER FULLY RATED FOR 50K AIC MINIMUM.
3. GROUND PER 1/E-0.1.



1 E-3.2 NEW CONSTRUCTION SINGLE LINE DIAGRAM
NOT TO SCALE

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ELECTRICAL
STATE OF CALIFORNIA

TENANT IMPROVEMENTS FOR:
RIO SCHOOL DISTRICT
1800 N SOLAR DRIVE - 3rd FLOOR
OXNARD, CALIFORNIA

all drawings and written material appearing herein constitute the original and unpublished work of the architect and the same may not be duplicated used or disclosed without the written consent of the architect.

	remarks	date
	PLAN CHECK SUBMITT.	04.15.19
1	ISSUED FOR BID/ADD-A	04.30.19
2	P.C. CORRECT/ADD-B	05.30.19

sheet title

NEW CONSTRUCTION SINGLE LINE DIAGRAM

drawn by

project no 18-8760

date

scale

E-3.2

PANEL NAME:	3H1	VOLT:	480Y/277								BUS SIZE:	125 AMPS	AFC:	12,000 A	
LOCATION:	ELEC 317	PH:	3								MAIN BRKR:	100 AMPS	AIC:	14,000 A	
MOUNTING:	SURFACE	WIRE:	4	V.A.	V.A.	V.A.	V.A.	V.A.	V.A.		GND BUS:	YES	GFI:	NO	
NOTES	LOAD DESCRIPTION	TYPE	BRKR	CCT							CCT	BRKR	TYPE	LOAD DESCRIPTION	NOTES
	TOILET LTG	L	20/1	1	1290			1066			2	20/1	L	LIGHTING INVERTER EM1	
	LOBBY LTG	L	20/1	3		420			0		4	20/1		SPARE	
	OPEN OFFICE 309 LIGHTING	L	20/1	5			2987			0	6	20/1		SPARE	
	OPEN OFFICE 321 LIGHTING	L	20/1	7	2510			0			8	20/1		SPARE	
	OFFICE & LOBBY LIGHTING	L	20/1	9		1902			0		10	20/1		SPARE	
	SPACE ONLY			11			0			0	12	20/1		SPARE	
	SPACE ONLY			13	0			0			14			SPACE ONLY	
	SPACE ONLY			15		0			0		16			SPACE ONLY	
	SPACE ONLY			17			0			0	18			SPACE ONLY	
	SPACE ONLY			19	0			0			20			SPACE ONLY	
	SPACE ONLY			21		0			0		22			SPACE ONLY	
	SPACE ONLY			23			0			0	24			SPACE ONLY	
	SPACE ONLY			25	0			0			26			SPACE ONLY	
	SPACE ONLY			27		0			0		28			SPACE ONLY	
	SPACE ONLY			29			0			0	30			SPACE ONLY	
	SPACE ONLY			31	0			0			32			SPACE ONLY	
	SPACE ONLY			33		0			0		34			SPACE ONLY	
	SPACE ONLY			35			0			0	36			SPACE ONLY	
	SPACE ONLY			37	0			0			38			SPACE ONLY	
	SPACE ONLY			39		0			0		40			SPACE ONLY	
	SPACE ONLY			41			0			0	42			SPACE ONLY	

PER PHASE TOTAL VA	4866	2322	2987
TOTAL CONNECTED VA		10175	V.A.
TOTAL CONNECTED AMPS		12	AMPS
3 x HIGHEST PHASE		14598	V.A.
HIGHEST AMPS		18	AMPS

LOAD TYPE		CONNECTED	MULTIPLIER	TOTAL
L =	LIGHTING	10175	X 1.25 =	12719
C =	CONTINUOUS	0	X 1.25 =	0
LM =	LARGEST MOTOR	0	X 1.25 =	0
M =	REMAINING MOTORS	0	X 1 =	0
N =	NON-CONTINUOUS	0	X 1 =	0
R =	RECEPTACLE	0	* =	0
TOTAL CALCULATED LOAD (VA)			=	12719
TOTAL CALCULATED AMPS			=	15

* 1ST 10KVA + (>10KVA)/2

PANEL NAME:	3H2	VOLT:	480Y/277								BUS SIZE:	125 AMPS	AFC:	12,000 A	
LOCATION:	ELEC 352	PH:	3								MAIN BRKR:	100 AMPS	AIC:	14,000 A	
MOUNTING:	SURFACE	WIRE:	4	V.A.	V.A.	V.A.	V.A.	V.A.	V.A.		GND BUS:	YES	GFI:	NO	
NOTES	LOAD DESCRIPTION	TYPE	BRKR	CCT							CCT	BRKR	TYPE	LOAD DESCRIPTION	NOTES
	BREAK RM WTR HTR	N	30/1	1	6000			1093			2	20/1	L	LIGHTING INVERTER EM2	
	SPARE		20/1	3		0			0		4			SPACE ONLY	
	SPARE		20/1	5			0			0	6			SPACE ONLY	
	SPARE		20/1	7	0			0			8			SPACE ONLY	
	SPARE		20/1	9		0			0		10			SPACE ONLY	
	HUMAN RES. LIGHTING	L	20/1	11			2311			0	12			SPACE ONLY	
	OPEN OFFICE 357 LIGHTING	L	20/1	13	3159			0			14			SPACE ONLY	
	ADMIN OFFICE LIGHTING	L	20/1	15		2688			0		16			SPACE ONLY	
	SPACE ONLY			17			0			0	18			SPACE ONLY	
	SPACE ONLY			19	0			0			20			SPACE ONLY	
	SPACE ONLY			21		0			0		22			SPACE ONLY	
	SPACE ONLY			23			0			0	24			SPACE ONLY	
	SPACE ONLY			25	0			0			26			SPACE ONLY	
	SPACE ONLY			27		0			0		28			SPACE ONLY	
	SPACE ONLY			29			0			0	30			SPACE ONLY	
	SPACE ONLY			31	0			0			32			SPACE ONLY	
	SPACE ONLY			33		0			0		34			SPACE ONLY	
	SPACE ONLY			35			0			0	36			SPACE ONLY	
	SPACE ONLY			37	0			0			38			SPACE ONLY	
	SPACE ONLY			39		0			0		40			SPACE ONLY	
	SPACE ONLY			41			0			0	42			SPACE ONLY	

PER PHASE TOTAL VA	10252	2688	2311
TOTAL CONNECTED VA		15251	V.A.
TOTAL CONNECTED AMPS		18	AMPS
3 x HIGHEST PHASE		30756	V.A.
HIGHEST AMPS		37	AMPS

LOAD TYPE		CONNECTED	MULTIPLIER	TOTAL
L =	LIGHTING	9251	X 1.25 =	11564
C =	CONTINUOUS	0	X 1.25 =	0
LM =	LARGEST MOTOR	0	X 1.25 =	0
M =	REMAINING MOTORS	0	X 1 =	0
N =	NON-CONTINUOUS	6000	X 1 =	6000
R =	RECEPTACLE	0	* =	0
TOTAL CALCULATED LOAD (VA)			=	17564
TOTAL CALCULATED AMPS			=	21

* 1ST 10KVA + (>10KVA)/2

PANEL NAME:	3L1	VOLT:	208Y/120								BUS SIZE:	225 AMPS	AFC:	4,500 A	
LOCATION:	ELEC 317	PH:	3								MAIN BRKR:	225 AMPS	AIC:	10,000 A	
MOUNTING:	SURFACE	WIRE:	4	V.A.	V.A.	V.A.	V.A.	V.A.	V.A.		GND BUS:	YES	GFI:	NO	
NOTES	LOAD DESCRIPTION	TYPE	BRKR	CCT							CCT	BRKR	TYPE	LOAD DESCRIPTION	NOTES
	TELEPHONE BACKBRD	R	20/1	1	360			900			2	20/1	R	RESTROOM RECEPS	
	DATA RACK	N	20/1	3		1000			400		4	20/1	N	DRINKING FOUNTAIN	GFI
	OPEN OFFICE 318 RECEPS	R	20/1	5			720			800	6	20/1	N	COPY MACHINE	
	OPEN OFFICE 318 RECEPS	R	20/1	7	900			800			8	20/1	N	COPY MACHINE	
	OPEN OFFICE 313 RECEPS	R	20/1	9		540			540		10	20/1	R	MAIL RM RECEPS	
	OPEN OFFICE 313 RECEPS	R	20/1	11			540			900	12	20/1	R	MAIL/ CORR. RECEPS	
	OPEN OFFICE 313 RECEPS	R	20/1	13	720			540			14	20/1	R	OFFICE 324 RECEPS	
	OPEN OFFICE 313 RECEPS	R	20/1	15		720			1080		16	20/1	R	OFFICE 306 RECEPS	
	OFFICE COMMON RECEPS	R	20/1	17			900			540	18	20/1	R	OFFICE 307 RECEPS	
	OPEN OFFICE 309 RECEPS	R	20/1	19	720			720			20	20/1	R	CONFERENCE 304 RECEPS	
	OPEN OFFICE 309 RECEPS	R	20/1	21		720			900		22	20/1	R	CONFERENCE 304 RECEPS	
	DATA RACK	N	20/1	23			1000			600	24	20/1	N	TV RECEPS	
	ASST. SUPERVISOR RECEPS	R	20/1	25	1260			900			26	20/1	R	OFFICE 308 RECEPS	
	OPEN OFFICE 320 RECEPS	R	20/1	27		360			0		28	20/1		SPARE	
	OPEN OFFICE 320 RECEPS	R	20/1	29			360			0	30	20/1		SPARE	
	OPEN OFFICE 320 RECEPS	R	20/1	31	1260			0			32	20/1		SPARE	
	OPEN OFFICE 321 RECEPS	R	20/1	33		540			0		34	20/1		SPARE	
	OPEN OFFICE 321 RECEPS	R	20/1	35			540			0	36	20/1		SPARE	
	OPEN OFFICE 321 RECEPS	R	20/1	37	720			0			38			SPACE ONLY	
	OPEN OFFICE 321 RECEPS	R	20/1	39		1080			0		40			SPACE ONLY	
	OPEN OFFICE 321 RECEPS	R	20/1	41			900			0	42			SPACE ONLY	
	OFFICE 322 RECEPS	R	20/1	43	900			0			44			SPACE ONLY	
	SPACE ONLY			45		0			0		46			SPACE ONLY	
	SPACE ONLY			47			0			0	48			SPACE ONLY	
		N	125	49	11430			180			50	20/1	R	ROOF RECEP	
	SUB-FEED TO	N	/	51		12280			1650		52	30	M	FC-1/ CU-1	
	PANEL '3L3'	N	3	53			11900			1650	54	/2	M		

NOTES:

GFI: PROVIDE GFI TYPE BREAKER

PER PHASE TOTAL VA	22310	21810	21350
TOTAL CONNECTED VA		65470	V.A.
TOTAL CONNECTED AMPS		182	AMPS
3 x HIGHEST PHASE		66930	V.A.
HIGHEST AMPS		186	AMPS

LOAD TYPE		CONNECTED	MULTIPLIER	TOTAL
L =	LIGHTING	0	X 1.25 =	0
C =	CONTINUOUS	0	X 1.25 =	0
LM =	LARGEST MOTOR	0	X 1.25 =	0
M =	REMAINING MOTORS	3300	X 1 =	3300
N =	NON-CONTINUOUS	40210	X 1 =	40210
R =	RECEPTACLE	21960	* =	15980
TOTAL CALCULATED LOAD (VA)			=	59490
TOTAL CALCULATED AMPS			=	165

* 1ST 10KVA + (>10KVA)/2

PANEL NAME:	3L2	VOLT:	208Y/120								BUS SIZE:	225 AMPS	AFC:	4,500 A	
LOCATION:	ELEC 352	PH:	3								MAIN BRKR:	225 AMPS	AIC:	10,000 A	
MOUNTING:	SURFACE	WIRE:	4	V.A.	V.A.	V.A.	V.A.	V.A.	V.A.		GND BUS:	YES	GFI:	NO	
NOTES	LOAD DESCRIPTION	TYPE	BRKR	CCT							CCT	BRKR	TYPE	LOAD DESCRIPTION	NOTES
	TELEPHONE BACKBRD	R	20/1	1	360			900			2	20/1	R	RESTROOM RECEPS	
	DATA RACK	N	20/1	3		1000			400		4	20/1	N	DRINKING FOUNTAIN	GFI
	DATA RACK	N	20/1	5			1000			720	6	20/1	R	ADMIN. ASST. 349 RECEPS	
	OPEN OFFICE 345 RECEPS	R	20/1	7	720			720			8	20/1	R	DIR. FISCAL SERVICE RECEPS	
	OPEN OFFICE 345 RECEPS	R	20/1	9		900			1080		10	20/1	R	CLOSED SESSION 337 RECEPS	
	OPEN OFFICE 340 RECEPS	R	20/1	11			900			720	12	20/1	R	BOARD RM 336 RECEPS	
	OPEN OFFICE 340 RECEPS	R	20/1	13	900			1080			14	20/1	R	BOARD RM 336 RECEPS	
	VAULT RM RECEP	R	20/1	15		180			720		16	20/1	R	HR OPEN OFFICE 335 RECEPS	
	OPEN OFFICE 351 RECEPS	R	20/1	17			720			720	18	20/1	R	HR OPEN OFFICE 335 RECEPS	
	OPEN OFFICE 351 RECEPS	R	20/1	19	720			900			20	20/1	N	HR OPEN OFFICE 335 RECEPS	
	OPEN OFFICE 357 RECEPS	R	20/1	21		720			720		22	20/1	R	HR OFFICE 334 RECEPS	
	OPEN OFFICE 357 RECEPS	R	20/1	23			540			720	24	20/1	R	OFFICE 333 RECEPS	
	OPEN OFFICE 357 RECEPS	R	20/1	25	720			720			26	20/1	R	OFFICE 330 RECEPS	
	OPEN OFFICE 357 RECEPS	R	20/1	27		720			900		28	20/1	R	OFFICE 332 RECEPS	
	SUPERVISOR 344 RECEPS	R	20/1	29			1080			720	30	20/1	R	OFFICE 329 RECEPS	
	OFFICE 343 RECEPS	R	20/1	31	720			720			32	20/1	R	CONFERENCE 328 RECEPS	
	FOOD SERV CE 341 RECEPS	R	20/1	33		540			540		34	20/1	R	RECEPTION 302 RECEPS	
	CONFERENCE 346 RECEPS	R	20/1	35			540			900	36	20/1	R	MAIL/ RECEPTION RECEPS	
	OFFICE 347 RECEPS	R	20/1	37	540			1260			38	20/1	R	LOBBY 301 RECEPS	
	ASST. SUPERVISOR RECEPS	R	20/1	39		1080			720		40	20/1	R	BREAK RM 360 RECEPS	
	TV RECEPS	N	20/1	41			1000			600	42	20/1	N	REFRIGERATOR	
	SPACE ONLY			43	0			600			44	20/1	N	REFRIGERATOR	
	SPACE ONLY			45		0			1500		46	20/1	N	MICROWAVE	
	SPACE ONLY			47			0			1500	48	20/1	N	MICROWAVE	
		N	125	49	7490			1000			50	20/1	N	BREAK COUNTER RECEP	
	SUB-FEED TO	N	/	51		8510			1000		52	20/1	N	BREAK COUNTER RECEP	
	PANEL '3L4'	N	3	53			8020			1000	54	20/1	N	BREAK COUNTER RECEP	

PER PHASE TOTAL VA	20070	21230	21400
TOTAL CONNECTED VA		62700	V.A.
TOTAL CONNECTED AMPS		174	AMPS
3 x HIGHEST PHASE		64200	V.A.
HIGHEST AMPS		178	AMPS

LOAD TYPE		CONNECTED	MULTIPLIER	TOTAL
L =	LIGHTING	0	X 1.25 =	0
C =	CONTINUOUS	0	X 1.25 =	0
LM =	LARGEST MOTOR	0	X 1.25 =	0
M =	REMAINING MOTORS	0	X 1 =	0
N =	NON-CONTINUOUS	35520	X 1 =	35520
R =	RECEPTACLE	27180	* =	18590
TOTAL CALCULATED LOAD (VA)			=	54110
TOTAL CALCULATED AMPS			=	150

* 1ST 10KVA + (>10KVA)/2

PANEL NAME:	3L3	VOLT:	208Y/120								BUS SIZE:	225 AMPS	AFC:	4,400 A	
LOCATION:	ELEC 317	PH:	3								MAIN BRKR:	MLO	AIC:	10,000 A	
MOUNTING:	SURFACE	WIRE:	4	V.A.	V.A.	V.A.	V.A.	V.A.	V.A.		GND BUS:	YES	GFI:	NO	
NOTES	LOAD DESCRIPTION	TYPE	BRKR	CCT							CCT	BRKR	TYPE	LOAD DESCRIPTION	NOTES
	OFFICE 320 FURNITURE	R	20/1	1	1000			1330			2	20/1	R	OFFICE 321 FURNITURE	
	OFFICE 320 FURNITURE	R	20/1	3		1000			1330		4	20/1	R	OFFICE 321 FURNITURE	
	OFFICE 320 FURNITURE	R	20/1	5			1000			1330	6	20/1	R	OFFICE 321 FURNITURE	
	OFFICE 318 FURNITURE	R	20/1	7	1170			830			8	20/1	R	OFFICE 321 FURNITURE	
	OFFICE 318 FURNITURE	R	20/1	9		1170			830		10	20/1	R	OFFICE 321 FURNITURE	
	OFFICE 318 FURNITURE	R	20/1	11			1170			830	12	20/1	R	OFFICE 321 FURNITURE	
	OFFICE 313 FURNITURE	R	20/1	13	1170			830			14	20/1	R	OFFICE 309 FURNITURE	
	OFFICE 313 FURNITURE	R	20/1	15		1170			830		16	20/1	R	OFFICE 309 FURNITURE	
	OFFICE 313 FURNITURE	R	20/1	17			1170			830	18	20/1	R	OFFICE 309 FURNITURE	
	OFFICE 309 FURNITURE	R	20/1	19	1330			0			20	20/1		SPARE	
	OFFICE 309 FURNITURE	R	20/1	21		1330			0		22	20/1		SPARE	
	OFFICE 309 FURNITURE	R	20/1	23			1330			0	24	20/1		SPARE	
	OFFICE 309 FURNITURE	R	20/1	25	1330			0			26	20/1		SPARE	
	OFFICE 309 FURNITURE	R	20/1	27		1330			1230		28	20/1	M	VAV#1 & 2	
	OFFICE 309 FURNITURE	R	20/1	29			1330			1260	30	20/1	M	VAV#3 & 4	
	SPACE ONLY			31	0			1190			32	20/1	M	VAV#5 & 6	
	SPACE ONLY			33		0			1250		34	20/1	M	VAV#7 & 8	
	SPACE ONLY			35			0			1250	36	20/1	M	VAV#9 & 10	
	SPACE ONLY			37	0			1250			38	20/1	M	VAV#11 & 12	
	SPACE ONLY			39		0			810		40	20/1	M	VAV#13	
	SPACE ONLY			41			0			400	42	20/1	M	VAV#30 - 34	

PER PHASE TOTAL VA	11430	12280	11900
TOTAL CONNECTED VA		35610	V.A.
TOTAL CONNECTED AMPS		99	AMPS
3 x HIGHEST PHASE		36840	V.A.
HIGHEST AMPS		102	AMPS

LOAD TYPE		CONNECTED	MULTIPLIER	TOTAL
L =	LIGHTING	0	X 1.25 =	0
C =	CONTINUOUS	0	X 1.25 =	0
LM =	LARGEST MOTOR	0	X 1.25 =	0
M =	REMAINING MOTORS	8640	X 1 =	8640
N =	NON-CONTINUOUS	0	X 1 =	0
R =	RECEPTACLE	26970	* =	18485
TOTAL CALCULATED LOAD (VA)			=	27125
TOTAL CALCULATED AMPS			=	75

* 1ST 10KVA + (>10KVA)/2

PANEL NAME:	3L4	VOLT:	208Y/120								BUS SIZE:	225 AMPS	AFC:	4,400 A	
LOCATION:	ELEC 352	PH:	3								MAIN BRKR:	MLO	AIC:	10,000 A	
MOUNTING:	SURFACE	WIRE:	4	V.A.	V.A.	V.A.	V.A.	V.A.	V.A.		GND BUS:	YES	GFI:	NO	
NOTES	LOAD DESCRIPTION	TYPE	BRKR	CCT							CCT	BRKR	TYPE	LOAD DESCRIPTION	NOTES
	HR 335 FURNITURE	R	20/1	1	1170			1000			2	20/1	R	OFFICE 357 FURNITURE	
	HR 335 FURNITURE	R	20/1	3		1170			1000		4	20/1	R	OFFICE 357 FURNITURE	
	HR 335 FURNITURE	R	20/1	5			1170			1000	6	20/1	R	OFFICE 357 FURNITURE	
	OFFICE 340, 42 FURNITURE	R	20/1	7	670			670			8	20/1	R	OFFICE 357 FURNITURE	
	OFFICE 340, 42 FURNITURE	R	20/1	9		670			670		10	20/1	R	OFFICE 357 FURNITURE	
	OFFICE 340, 42 FURNITURE	R	20/1	11			670			670	12	20/1	R	OFFICE 357 FURNITURE	
	SPARE		20/1	13	0			0			14			SPACE ONLY	
	SPARE		20/1	15		0			0		16			SPACE ONLY	
	SPARE		20/1	17			0			0	18			SPACE ONLY	
	SPARE		20/1	19	0			0			20			SPACE ONLY	
	SPARE		20/1	21		0			0		22			SPACE ONLY	
	SPARE		20/1	23			0			0	24			SPACE ONLY	
	SPACE ONLY			25	0			1290			26	20/1	M	VAV#14 & 15	
	SPACE ONLY			27		0			1250		28	20/1	M	VAV#16 & 17	
	SPACE ONLY			29			0			860	30	20/1	M	VAV#18 & 19	
	SPACE ONLY			31	0			1280			32	20/1	M	VAV#20 & 21	
	SPACE ONLY			33		0			840		34	20/1	M	VAV#22 & 23	
	SPACE ONLY			35			0			1280	36	20/1	M	VAV#24 & 25	
	ROOF RECEP	R	20/1	37	180			1230			38	20/1	M	VAV#26 & 27	
	FC-2/ CU-2	M	30	39		1650			1260		40	20/1	M	VAV#28 & 29	
		M	/2	41			1650			720	42	20/1	M	VAV#35 - 44	

PER PHASE TOTAL VA	7490	8510	8020
TOTAL CONNECTED VA		24020	V.A.
TOTAL CONNECTED AMPS		67	AMPS
3 x HIGHEST PHASE		25530	V.A.
HIGHEST AMPS		71	AMPS

LOAD TYPE		CONNECTED	MULTIPLIER	TOTAL
L =	LIGHTING	0	X 1.25 =	0
C =	CONTINUOUS	0	X 1.25 =	0
LM =	LARGEST MOTOR	0	X 1.25 =	0
M =	REMAINING MOTORS	13310	X 1 =	13310
N =	NON-CONTINUOUS	0	X 1 =	0
R =	RECEPTACLE	10710	* =	10355
TOTAL CALCULATED LOAD (VA)			=	23665
TOTAL CALCULATED AMPS			=	66

* 1ST 10KVA + (>10KVA)/2

pk:a

pk:architecture

5126 clareton drive . suite 110
agoura hills . california 91301
v. 818.584.0057 f. 818.584.0019
w. pkarchitecture.net

REGISTERED PROFESSIONAL ENGINEER
RAY NER
E18504
Exp. 06-30-20
ELECTRICAL
STATE OF CALIFORNIA

TENANT IMPROVEMENTS FOR:

RIO SCHOOL DISTRICT

1800 N SOLAR DRIVE - 3rd FLOOR
OXNARD, CALIFORNIA

all drawings and written material appearing herein constitute the original and unpublished work of the architect and the same may not be duplicated used or disclosed without the written consent of the architect.

	remarks	date
	PLAN CHECK SUBMIT.	04.15.19
3	ISSUED FOR BID/ADD-A	04.30.19
4	P.C. CORRECT/ADD-B	05.30.19

sheet title

PANEL SCHEDULES

drawn by

project no 18-8760

date

scale

E-3.3

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E (Created 7/18) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
This document is used to demonstrate compliance with requirements in §110.9, §130.0, §130.1, §140.6, and §141.0(b)2 for indoor lighting scopes using the prescriptive path.			
Project Name: Tenant Improvement for Rio School District		Report Page:	Page 1 of 7
Project Address: 1800 N Solar Drive		Date Prepared:	4/11/2019

A. GENERAL INFORMATION

01	Project Location (city)	Oxnard	04	Total Conditioned Floor Area (ft²)	30,795
02	Climate Zone	9	05	Total Unconditioned Floor Area (ft²)	0
03	Occupancy Types Within Project (select all that apply):		06	# of Stories (Habitable Above Grade)	1

☑ Office ☐ Retail ☐ Warehouse ☐ Hotel/Motel ☐ School ☐ Support Areas
☐ Parking Garage ☐ High-Rise Residential ☐ Relocatable ☐ Other (write in):

B. PROJECT SCOPE

Table Instructions: Include any lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.6 or §141.0(b)2 for alterations. WARNING: Changing the Calculation Method in this table will result in the deletion of data previously input. If you need to change the calculation method, please open a new form or use "Save As".

Scope of Work	Conditioned Spaces		Unconditioned Spaces	
	01	02	03	04
My Project Consists of (check all that apply):	Calculation Method	Area (ft²)	Calculation Method	Area (ft²)
☑ New Lighting System	Area Category	30,795	Area Category	0
☐ Altered Lighting System				
Total Area of Work (ft²):	30,795		0	

C. COMPLIANCE RESULTS

Table Instructions: If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance.

Lighting in conditioned and unconditioned spaces must not be combined for compliance per §140.6(b)1.	Allowed Lighting Power per §140.6(b) (Watts)						Actual Lighting Power per §140.6(a) (Watts)					Compliance Results
	01	02	03	04		05		06	07	08		09	10
	Complete Building §140.6(c)1	Area Category §140.6(c)2	Area Category Footnotes §140.6(c)2G (+)	Tailored §140.6(c)3 (+)	=	Total Allowed (Watts)	≥	Total Designed (Watts)	Adjustments: Portable Lighting §140.6(a) (-)	Adjustments: PAF Control Credits §140.6(a)2 (-)	=	Total Actual (Watts) *Includes Adjustments	05 Must be ≥ 09 §140.6
	(See Table I)	(See Table I)	(See Table K)	(See Table L)				(See Table F)	(See Table J)	(See Table R)			
Conditioned:		24,940.25			=	24,940.25	≥	17,823			=	17,823	COMPLIES
Unconditioned:					=		≥				=		
Controls Compliance (See Table H for Details)													COMPLIES with Exceptional Conditions
Rated Power Reduction Compliance (See Table S for Details)													Not Applicable

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D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

Table H. Indoor Lighting Controls Permit Applicant Notes:
Private Offices: Less than 120W per zone.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

F. INDOOR LIGHTING FIXTURE SCHEDULE

Table Instructions: Include all permanent designed lighting and all portable lighting in offices.

01	02	03		04	05	06	07	08	09	
Name or Item Tag	Complete Luminaire Description	Specialized Luminaire Types: Track	Portable	Watts per luminaire[1]	How Wattage is determined	Total number luminaires	Exempt per §140.6(a)3	Design Watts	Field Inspector: Pass	Fail
F1	2X4 LED TROFFER	☐	☐	48	Mfr. Spec[1]	318	☐	15,264	☐	☐
F2	2X2 LED TROFFER	☐	☐	31	Mfr. Spec[1]	33	☐	1,023	☐	☐
F3	DECORATIVE PENDANT	☐	☐	60	Mfr. Spec[1]	3	☐	180	☐	☐
F4	LED CAN LIGHT	☐	☐	16	Mfr. Spec[1]	2	☐	32	☐	☐
F5	LED CAN LIGHT	☐	☐	16	Mfr. Spec[1]	29	☐	464	☐	☐
F6	LED CAN LIGHT	☐	☐	16	Mfr. Spec[1]	5	☐	80	☐	☐
F7	LED CAN LIGHT	☐	☐	16	Mfr. Spec[1]	4	☐	64	☐	☐
F8	4" SQUARE LED	☐	☐	11	Mfr. Spec[1]	6	☐	66	☐	☐
F9A	LARGE ROUND FLUORESCENT	☐	☐	225	Mfr. Spec[1]	1	☐	225	☐	☐
F9B	MEDIUM ROUND FLUORESCENT	☐	☐	170	Mfr. Spec[1]	2	☐	340	☐	☐
F9C	SMALL ROUND FLUORESCENT	☐	☐	85	Mfr. Spec[1]	1	☐	85	☐	☐
							Total Designed Watts CONDITIONED SPACES:	17,823		

[1]NOTES: Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per §130.0(c) Wattage used must be the maximum rated for the luminaire, not the lamp.

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G. TRACK LIGHTING

This Section Does Not Apply

H. INDOOR LIGHTING CONTROLS (Not Including PAFs)

*Table Instructions: Please include lighting controls for conditioned and unconditioned spaces in this table. When an option having a * is selected, the notes section of this table must be completed. The lighting controls section of the Compliance Summary Table on the first page will show "DOES NOT COMPLY" if the notes are left blank.*

Building Level Controls

01	02	03	
Mandatory Demand Response §130.1(e)	Shut-off Controls §130.1(c)	Field Inspector: Pass	Fail
Required > 10,000 SF	Whole Building: Automatic Time Switch	☐	☐

Area Level Controls

04	05	06	07	08	09	10	11	12	
Area Description	Complete Building or Area Category Primary Function Area	Area Controls §130.1(a)	Multi-Level Controls §130.1(b)	Shut-Off Controls §130.1(c)	Primary/Skylit Daylighting §130.1(d)	Secondary Daylighting §140.6(d)	Interlocked Systems §140.6(a)1	Field Inspector: Pass	Fail
Open Offices	Office > 250 sqft	Manual ON/OFF	Dimmer	Occ Sensor	Included	Included	☐	☐	☐
Private Offices	Office <= 250 sqft	Manual ON/OFF	Dimmer	Occ Sensor	Exempt *	Exempt *	☐	☐	☐
Corridors	Corridor/Restroom/Support	Manual ON/OFF	Dimmer	Occ Sensor	N/A	N/A	☐	☐	☐
Conference	Convention/Conference/Meeting	Manual ON/OFF	Dimmer	Occ Sensor	Included	Included	☐	☐	☐
Kitchenette	Kitchenette	Manual ON/OFF	Dimmer	Occ Sensor	N/A	N/A	☐	☐	☐
Lobby	Lobby, Main Entry	Manual ON/OFF	Dimmer	Auto Timeswitch	Included	Included	☐	☐	☐

*NOTES: Controls with a * require a note in the space below explaining how compliance is achieved.

EX: Conference 1: Primary/Skylight Daylighting: Exempt because less than 120 watts of general lighting; EXCEPTION 1 to §130.1(d)2

Private Offices Less than 120W per zone.

13
Plan Sheet Showing Daylit Zones:

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

Table Instructions: Complete the table for each area complying using the Complete Building or Area Category Methods per §140.6(b). Indicate if additional lighting power allowances per §140.6(c) or adjustments per §140.6(a) are being used.

Conditioned Spaces

01	02	03	04	05	06		
Area Description	Complete Building or Area Category Primary Function Area	Allowed Density (W/ft²)	Area (ft²)	Allowed Wattage (Watts)	Additional Allowances / Adjustments: Footnotes	PAF	Portable Ltg

Table Continued

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01	02	03	04	05	06		
Area Description	Complete Building or Area Category Primary Function Area	Allowed Density (W/ft²)	Area (ft²)	Allowed Wattage (Watts)	Additional Allowances / Adjustments: Footnotes	PAF	Portable Ltg
Office over 250 SF	Office (> 250 square feet)	0.75	20,986	15,739.5	☐	☐	☐
Office under 250 SF	Office (<= 250 square feet)	1	2,905	2,905	☐	☐	☐
Corridor/Restroom/Support	Corridor, Restrm, Stair, Support	0.6	3,093	1,855.8	☐	☐	☐
Conference/Meeting	Convention, Conf., Meeting	1.2	2,918	3,501.6	☐	☐	☐
Break Room	Kitchen, Food Preparation	1.2	360	432	☐	☐	☐
Lobby	Main Entry Lobby	0.95	533	506.35	☐	☐	☐
		TOTAL=	30,795	24,940.25	See Tables J, K, R for detail		

J. POWER ADJUSTMENT: PORTABLE LIGHTING IN OFFICES

This Section Does Not Apply

K. ADDITIONAL LIGHTING ALLOWANCE: AREA CATEGORY METHOD FOOTNOTES

This Section Does Not Apply

L. TAILORED METHOD GENERAL LIGHTING POWER ALLOWANCE

This Section Does Not Apply

M. ADDITIONAL LIGHTING ALLOWANCE: TAILORED SPECIAL FUNCTION AREAS

This Section Does Not Apply

N. ADDITIONAL LIGHTING ALLOWANCE: TAILORED WALL DISPLAY

This Section Does Not Apply

O. ADDITIONAL LIGHTING ALLOWANCE: TAILORED FLOOR AND TASK LIGHTING

This Section Does Not Apply

P. ADDITIONAL LIGHTING ALLOWANCE: TAILORED ORNAMENTAL/SPECIAL EFFECTS

This Section Does Not Apply

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Q. ADDITIONAL LIGHTING ALLOWANCE: TAILORED VERY VALUABLE MERCHANDISE

This Section Does Not Apply

R. POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (PAF)

This Section Does Not Apply

S. RATED POWER REDUCTION COMPLIANCE BY SPACE

This Section Does Not Apply

T. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Table Instructions: Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at http://www.energy.ca.gov/2015publications/CEC-400-2015-033/appendices/forms/NRCI

YES	NO	Form/Title	Field Inspector: Pass	Fail
◉	○	NRCI-LTI-01-E - Must be submitted for all buildings	☐	☐
◉	○	NRCI-LTI-02-E - Must be submitted for a lighting control system, or for an Energy Management Control System (EMCS), to be recognized for compliance.	☐	☐
○	◉	NRCI-LTI-03-E - Must be submitted for a line-voltage track lighting integral current limiter, or for a supplementary overcurrent protection panel used to energize only line-voltage track lighting, to be recognized for compliance.	☐	☐
○	◉	NRCI-LTI-04-E - Must be submitted for two interlocked systems serving an auditorium, a convention center, a conference room, a multipurpose room, or a theater to be recognized for compliance.	☐	☐
○	◉	NRCI-LTI-05-E - Must be submitted for a Power Adjustment Factor (PAF) to be recognized for compliance.	☐	☐
○	◉	NRCI-LTI-06-E - Must be submitted for additional wattage installed in a video conferencing studio to be recognized for compliance.	☐	☐

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U. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Table Instructions: Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html

YES	NO	Form/Title	Field Inspector: Pass	Fail
◉	○	NRCA-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.	☐	☐
◉	○	NRCA-LTI-03-A - Must be submitted for automatic daylight controls.	☐	☐
◉	○	NRCA-LTI-04-A - Must be submitted for demand responsive lighting controls.	☐	☐
○	◉	NRCA-LTI-05-A - Must be submitted for institutional tuning power adjustment factor (PAF).	☐	☐

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DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

Documentation Author Name:	Jo Rayner	Documentation Author Signature:	Jo Rayner
Company:	Vector Engineering Group	Signature Date:	4/11/2019
Address:	19012 Saddleback Ridge Rd.	CEA/ HERS Certification Identification (if applicable):	
City/State/Zip:	Santa Clarita, Ca 91351	Phone:	(818)731-9120

RESPONSIBLE PERSON'S DECLARATION STATEMENT
I certify the following under penalty of perjury, under the laws of the State of California:
1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Jo A. Rayner	Responsible Designer Signature:	Jo Rayner
Company :	Vector Engineering Group	Date Signed:	4/11/2019
Address:	19012 Saddleback Ridge Rd.	License:	E18504
City/State/Zip:	Canyon Country, CA 91351	Phone:	818-731-9120

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REGISTERED PROFESSIONAL ENGINEER
JO A. RAYNER
E18504
Exp. 06-30-20
ELECTRICAL
STATE OF CALIFORNIA

TENANT IMPROVEMENTS FOR:
RIO SCHOOL DISTRICT
1800 N SOLAR DRIVE - 3rd FLOOR
OXNARD, CALIFORNIA

all drawings and written material appearing herein constitute the original and unpublished work of the architect and the same may not be duplicated used or disclosed without the written consent of the architect.

remarks	date
PLAN CHECK SUBMIT.	04.15.19
1 ISSUED FOR BID/ADD.-A	04.30.19
2 P.C. CORRECT/ADD.-B	05.30.19

sheet title
TITLE 24
INDOOR LIGHTING
COMPLIANCE
CERTIFICATES

drawn by
project no 18-8760
date
scale

E-4.1