APPLICABLE CODES:

TITLE 19 CCR. PUBLIC SAFETY, STATE FIRE MARSHALL REGULATIONS
TITLE 24 CCR. PART 1 – 2016 BUILDING STANDARDS ADMINISTRATIVE CODE
TITLE 24 CCR, PART 2 – 2016 CALIFORNIA BUILDING CODE, VOL. 1 & 2 (CBC) (2015 IBC, AS AMENDED BY CA.)
TITLE 24 CCR, PART 3 – 2016 ELECTRICAL CODE (CEC) (2014 NEC, AS AMENDED BY CA.)
TITLE 24 CCR, PART 4 – 2016 CALIFORNIA MECHANICAL CODE (CMC) (2015 IAPMO UMC, AS AMENDED BY CA.)
TITLE 24 CCR, PART 5 – 2016 CALIFORNIA PLUMBING CODE (CPC) (2015 IAPMO UPC, AS AMENDED BY CA.)
TITLE 24 CCR, PART 6 – 2016 CALIFORNIA ENERGY CODE
TITLE 24 CCR, PART 7 – 2016 CALIFORNIA ELEVATOR SAFETY CONSTRUCTION CODE
TITLE 24 CCR, PART 9 – 2016 CALIFORNIA FIRE CODE (CC) (2015 IFCM AS AMENDED BY CA.)
TITLE 24 CCR, PART 12– 2016 CALIFORNIA REFERENCED STANDARDS (PARTIAL LIST – SEE CBC CH. 35 AND CFC CH. 45)
2016 NFPA 13, INSTALLATION OF SPRINKLER SYSTEM (CA. AMENDED)
2016 NFPA 14, DRY CHEMICAL EXTINGUISHING SYSTEMS
2016 NFPA 17A, WET CHEMICAL EXTINGUISHING SYSTEMS
2016 NFPA 20, INSTALLATION OF STATIONARY PUMPS FOR FIRE PROTECTION
2016 NFPA 25, INSPECTION, TESTING, MAINTENANCE OF WATER-BASE FIRE PROTECTION SYSTEMS (CA. AMENDED)
2016 NFPA 72, NATIONAL FIRE ALARM CODE (CA. AMENDED); SEE UL STD 1971 FOR "VISUAL DEVICES"

U.S.A. – UNDERGROUND SERVICE ALERT CALL BEFORE YOU DIG: 1-800-642-2444

THE LOCATION OF EXISTING UNDERGROUND UTILITIES WERE TAKEN FORM SOURCES BELIEVED TO BE RELIABLE. HOWEVER, THEY HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR THIS ENGINEER. THE CONTRACTORS SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTIFY OWNER 72 HOURS PRIOR TO ANY EXCAVATION

CODE RULES AND REGULATIONS

ALL WORK AND MATERIAL SHALL BE IN FULL ACCORDANCE WITH THE LATEST RULES AND REGULATIONS OF THE STATE FIRE MARSHAL, THE CALIFORNIA ELECTRICAL CODE; THE SAFETY ORDERS OF THE DIVISION OF INDUSTRIAL SAFETY AND OTHER APPLICABLE STATE LAWS OR REGULATIONS. NOTHING IN THESE PLANS OR SPECIFICATIONS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES OR OTHERS APLICABLE TO THIS SUBJECT. CBC 2016, CMC 2016, CPC 2016, CEC 2016, NFPA, STATE OF CALIFORNIA ENERGY CONSERVATION REGULATION, TITLE 24 2016.

ELECTRICAL ABBREVIATIONS

A	AMPERES
AC	ALTERNATING CURRENT
AFF	ABOVE FINISHED FLOOR
AH	AIR HANDLER
AIC	AMPERES INTERRUPTING CAPACITY
AMP	AMPERES
A/C	AIR CONDITIONER
BKBD	BACKBOARD
C	CONDUIT
CB	CIRCUIT BREAKER
CU	COPPER
CCTV	CLOSED CIRCUIT TELEVISION
CEIL	CEILING
CKT	CIRCUIT
COMM	COMMUNICATION
CONT	CONTINUED
DIST	DISTRIBUTION
EDF	ELECTRIC DRINKING FOUNTAIN
EMB	EMBEDMENT
EMT	ELECTRICAL METALLIC TUBING
EXP	EXPANSION
FACP	FIRE ALARM CONTROL PANEL
FCI	FAN COIL UNIT
GFI	GROUND FAULT INTERRUPTED
GND	GROUND
GRC	GALVANIZED RIGID CONDUIT
IC	INTERCOM
IMC	INTERMEDIATE METALLIC CONDUIT
KVA	KILOVOLTAMPERE
LAN	LOCAL AREA NETWORK
LTG	LIGHTING
MLO	MAIN LUGS ONLY
MSBD	MAIN SWITCHBOARD
MT'D	MOUNTED
NFD	NON FUSED DISCONNECT
N/L	NIGHT LIGHT
PA	PUBLIC ADDRESS
PB	PULL BOX
PNL	ELECTRICAL LIGHTING OR POWER PANEL
PVC	POLYVINYL CHLORIDE
P.G.& E.	PACIFIC GAS & ELECTRIC
RC	RELAY CABINET
REC	RECEPTACLE
REQ'D	REQUIREMENT
STD	STANDARD(S)
SW	SWITCH
SWBD	SWITCHBOARD
TC	TERMINAL CABINET
TEL	TELEPHONE
TERM	TERMINAL
TV	TELEVISION
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
TYP	TYPICAL
T/C	TIME CLOCK
UTP	UNTWIST PAIR
U.O.N.	UNLESS OTHERWISE NOTED
V	VOLTS
WH	WATER HEATER
WP	WEATHERPROOF

ELECTRICAL SYMBOLS

A-1
HOME RUN MINIMUM 3/4" CONDUIT SIZE PER CEC TABLE 3B
BRANCH CIRCUIT NO.
NUMBER OF CONDUCTORS SIZE PER PANEL SCHEDULE
LIGHT FIXTURE WITH J-BOX

2 a A
FIXTURE TYPE
SWITCHING
BRANCH CIRCUIT

DISTRIBUTION PANEL
TERMINAL CABINET
JUNCTION BOX
WALL BRACKET OUTLET
FLUORESCENT FIXTURE
CEILING OUTLET
BRANCH CIRCUIT NO.
3 — DUPLEX OUTLET AT +18"AFF TO THE BOTTOM OF OUTLET BOX U.N.O
FLOURPLEX CONVENIENCE OUTLET AT +18"AFF TO THE BOTTOM OF OUTLET BOX U.N.O
W.P. — WEATHERPROOF OUTLET AT +18"AFF TO THE BOTTOM OF OUTLET BOX U.N.O
I.G — ISOLATE GROUND OUTLET AT +18"AFF TO THE BOTTOM OF OUTLET BOX U.N.O
GFI — OUTLET WITH GROUND FAULT INTERRUPTER AT +18"AFF TO THE BOTTOM OF OUTLET BOX U.N.O
220V DEDICATE OUTLET AT +18"AFF TO THE BOTTOM OF OUTLET BOX U.N.O
WALL SWITCH +48" AFF TO TOP OF OUTLET BOX
CONDUIT RUN UNDER FLOOR
CONDUIT RUN IN CEILING AND IN WALL
MOTOR DISCONNECT FUSED SWITCH
C — CONDUIT RACEWAY
(N) — NEW
(E) — EXISTING

ELECTRICAL GENERAL NOTES

1. VERIFY EXACT LOCATIONS WITH GENERAL CONTRACTOR FOR ALL ELECTRICAL EQUIPMENT ON SITE BEFORE STARTING WORK.
2. ELECTRICAL CONTRACTOR SHALL APPRISE HIMSELF OF ALL EXISTING ELECTRICAL CONDITIONS AT SITE PRIOR TO BID.
3. ELECTRICAL CONTRACTOR TO HOOK UP ALL MOTOR CONTROL SYSTEM AS PER MECHANICAL & PLUMBING PLANS.
4. CIRCUIT BREAKERS USED TO SWITCH FLUORESCENT FIXTURES TO BE APPROVED FOR SWITCHING DUTY.
5. PROVIDE MINIMUM 36" WORK CLEARANCE IN FRONT AND 30" WIDE WORK SPACE FOR SERVICE / PANEL / EQUIPMENT.
6. ALL EQUIPMENT TO HAVE TESTING LABORATORY LABEL ATTACHED. (UL, OSA, ...)
7. SWITCHES TO BE MAXIMUM OF +48"AFF AT TOP AND A MINIMUM OF +36"AFF TO BOTTOM OF THE OUTLET BOX (UNO).
8. RECEPTACLE TO BE A MINIMUM OF 18" TO BOTTOM FROM FINISH FLOOR (AFF). UNLESS NOTED OTHERWISE (UNO).
9. PROVIDE WEATHERPROOF (WP) GROUND FAULT INTERRUPTED (GFI) RECEPTACLE WITHIN 25 FEET OF ALL HVAC UNITS ON ROOF.
10. GROUND ALL ELECTRICAL EQUIPMENT AS PER TITLE 24 AND CALIFORNIA ELECTRICAL CODE (CEC), SECTION 250-50.
11. FLUORESCENT BALLASTS SHALL MEET THE CERTIFICATION REQUIREMENTS OF ARTICLE 2-5314 (A) OF CALIFORNIA ENERGY STANDARDS, TITLE 24.
12. SURFACE MOUNTED FIXTURES SHALL BE SECURED TO BLDG. STRUCTURE, NO TOGGLE BOLTS SHALL BE ALLOWED.
13. PENETRATIONS OF FIRE RATED WALLS, CEILINGS OR FLOOR SHALL COMPLY WITH UBC REQUIREMENTS.
14. NO BACK TO BACK RECEPTACLES SHALL BE INSTALLED IN FIREWALLS. MAINTAIN HORIZONTAL SEPARATION OF 24" BETWEEN RECEPTACLES.
15. EXACT LOCATION OF ALL EQUIP, SWITCH, DATA OUTLET, PHONE JACK AND RECEPTACLE ETC. TO BE VERIFY WITH OWNER IN FIELD.
16. ALL WIRING SHALL BE INSTALLED IN CONDUIT RACEWAY. PVC SCH. 40 CONDUIT BELOW GRADE, EMT CONDUIT CONCEAL IN WALL AND ABOVE CEILING, RIGID STEEL CONDUIT ON EXTERIOR WALL OR ROOF.
17. THE LOCATION AND ROUTE OF CONDUITS AND RACEWAYS IN ALL ELECTRICAL DRAWINGS IN THESE SET OF DOCUMENT ARE SCHEMATIC. ALL CONDUIT RACEWAYS SHALL BE INSTALLED PARALLEL OR PERPENDICULAR TO THE BUILDING STRUCTURE WITH THE MINIMUM LENGTH AS POSSIBLE.
18. ELECTRICAL CONTRACTOR SHALL FILED VERIFY ALL EXISTING OVERHEAD AND UNDERGROUND UTILITY SERVICE SUCH AS POWER, TELEPHONE, CATV, GAS, WATER AND SEWER; PROVIDE MINIMUM SEPARATION CLEARANCE PER UTILITY COMPANY REQUIREMENT FOR ALL NEW ELECTRICAL EQUIPMENT AND WIRING INSTALLATION.
19. ELECTRICAL CONTRACTOR SHALL ARRANGE A MEETING WITH LOW VOLTAGE CONTRACTORS (FIRE, SECURITY, TELEPHONE, COMPUTER AND CATV), REVIEW THEIR EQUIPMENT AND DRAWINGS, INCLUDING ALL ELECTRICAL REQUIREMENT IN HIS SCOPE OF WORK BEFORE SUBMITTING THE BID.
20. THE LAYOUT FOR THE POWER AND TELEPHONE UNDERGROUND SERVICE IN THIS DRAWING IS ONLY FOR PLAN CHECK PURPOSE, AND HAS NOT BEEN APPROVAL BY THE UTILITY COMPANIES. IT IS THE RESPONSIBILITY FOR THE ELECTRICAL CONTRACTOR TO CONTACT THE UTILITY COMPANIES AND TO REVIEW THE APPROVAL CONSTRUCTION DRAWINGS PRIOR TO SUBMITTING THE BID.
21. 110V 20A BRANCH CIRCUIT SHALL BE DEDICATED NEUTRAL AND GROUNDING CONDUCTOR, SEE PANEL SCHEDULES.
22. OUTLET BOXES BETWEEN INTERIOR ROOMS CANNOT OCCUPY THE SAME BAY OF WALL STUDS, OTHERWISE PROVIDE SEALING MATERIAL FOR SOUND CONTROL PURPOSE.

SIGNAL AND COMM. LEGEND

SECURITY ALARM SYSTEM
DIGITAL SECURITY ALARM CONTROL PANEL. SEE SPEC.
(K) LCD KEYPAD. +48" MAX. AT TOP OF BOX
[W] DUAL TECHNOLOGY CEILING OR WALL MOUNT DETECTOR. +84"AFF
(B) WP EXTERIOR BELL (SIREN) WITH WEATHERPROOF BACKBOX AND TAMPER SWITCH. +96"AFF
(A) DOOR CONTACT SWITCH. 6" FROM OPEN SIDE DOOR JAMB
— B — SECURITY ALARM CABLE. SEE SPEC.

COMMUNICATION (TELEPHONE/INTERCOM) SYSTEM
HANDSET PHONE AT +48"AFF MAX AT TOP OF OUTLET BOX. TELEPHONE OUTLET AT +18"AFF MIN AT BOTTOM OF OUTLET BOX U.N.O.
[S] CEILING RECESS SPEAKER – RAULAND #US0188 W/ACC1000 BAFFLE. PROVIDE BACKBOX AND CEILING SUPPORT AS REQUIRED
[S] WP OUTDOOR FLUSH SPEAKER – ATLAS #APF15 HORN W/XFMR AND LOWELL #CB84 BOX W/SQLK GRILL
— T — OUTDOOR TELE/IC CABLE. 22AWG SOLID COPPER 12 PAIR SHIELDED AND 12 PAIR UNSHIELDED CABLE.
— P2 — OUTDOOR IC CABLE. 22AWG SOLID COPPER SHIELDED PAIR CABLE.
— P1 — OUTDOOR PA CABLE – WEST PENN #AQC-369

CLOCK SYSTEM
PROGRAM CLOCK. SEE ELEVATION DETAILS
SYSTEM CLOCK AND SPEAKER COMBO (VERTICAL)
SP **SYSTEM CLOCK AND SPEAKER COMBO (HORIZONTAL)**
— CK — 3#12 THWN CU

TELEVISION SYSTEM
[TV] TV OUTLET – BLONDER TONGUE #V-26F-FT WITH 'F' CONNECTOR
— TV — TV CABLE – RG6 FOR INDOOR, RG11 FOR OUTDOOR

DATA COMMUNICATION SYSTEM
[C] TEACHER DATA OUTLET – (1)CAT. 6 4UTP TO PATCH PANEL (SINGLE JACK) AT +18"AFF TO THE BOTTOM OF OUTLET BOX U.N.O
(C) STUDENT DATA OUTLET – (2)CAT. 6 4UTP TO PATCH PANEL (DUAL JACK) AT +18"AFF TO THE BOTTOM OF OUTLET BOX U.N.O
DATA / TELEPHONE OUTLET AT +18"AFF TO THE BOTTOM OF OUTLET BOX U.N.O
IDF **IDF CABINET AND DATA EQUIPMENT**
— FO — FIBER OPTIC CABLE VIA INNER DUCT INSIDE 2"C. SEE RISER DIAGRAM AND SPEC.
— C1 — (ONE) CAT 6 22AWG 4UTP. SEE RISER DIAGRAM AND SPEC.

FIRE ALARM SYSTEM
(S) **CEILING SMOKE DETECTOR**
(H) **CEILING HEAT DETECTOR**
(A) **ATTIC HEAT DETECTOR**
[D] MAGNETIC DOOR HOLDER
WP **OUTDOOR SPEAKER WITH WEATHERPROOF BOX**
VISUAL UNIT (STROBE ONLY)
SPEAKER & STROBE

FIRE ALARM NOTES

1) APPLICABLE STANDARD 2016 NFPA 72
2) INSTALLATION OF THE SYSTEMS SHALL NOT BE STARTED UNTIL DETAILED DESIGN DOCUMENTS AND SPECIFICATION, INCLUDING STATE FIRE MARSHAL LISTING NUMBERS FOR EACH COMPONENT OF THE SYSTEM HAS BEEN APPROVED BY DSA.
3) COMPLETION OF THE INSTALLATION OF THE SYSTEMS, A SATISFACTORY TEST OF THE ENTIRE SYSTEM SHALL BE MADE IN THE PRESENCE OF A DSA PROJECT INSPECTOR.
4) A STAMPED SET OF APPROVED FIRE ALARM DESIGN DOCUMENTS SHALL BE ON THE JOB SITE AND USED FOR INSTALLATION.
5) ANY DISCREPANCIES BETWEEN THE DRAWINGS AND THE CODE OR RECOGNIZED STANDARDS SHALL BE BROUGHT TO THE ATTENTION OF DSA AND THE ARCHITECT/ENGINEER OF THE PROJECT.
6) DSA, ARCHITECT/ENGINEER AND OWNER SHALL BE NOTIFIED A MINIMUM OF 48 HOURS PRIOR TO THE FINAL INSPECTION AND /OR TESTING.
7) PENETRATIONS THROUGH RATED ASSEMBLIES, REQUIRING OPENING PROTECTION SHALL BE PROVIDED WITH A PENETRATION FIRE STOP SYSTEM AS IDENTIFIED IN CBC CHAPTER 7, UL OR OTHER LAB TESTING CRITERIA. APPROVED TYPE OF MATERIALS SHALL BE IDENTIFIED WITHIN THE SPECIFICATION WITHIN THE FIRE ALARM SECTION.
8) WALL MOUNTED VISUAL NOTIFICATION DEVICES SHALL HAVE THEIR BOTTOMS MOUNTED AT 80" MINIMUM AND 96" MAXIMUM FROM FINISHED FLOOR. ENTIRE LENS SHALL BE WITHIN THIS RANGE.
9) WALL MOUNTED AUDIBLE NOTIFICATION DEVICES SHALL HAVE THEIR TOPS MOUNTED AT 90" MINIMUM AND 100" MAXIMUM FROM FINISHED FLOOR AND NO CLOSER THEN 6" TO A HORIZONTAL STRUCTURE.
10) AUDIBLE DEVICES SHALL PROVIDE A SOUND PRESSURE LEVEL OF 15 DECIBELS (Dba) ABOVE THE AVERAGE AMBIENT SOUND LEVEL OR 5 Dba ABOVE THE MAXIMUM SOUND LEVEL HAVING A DURATION OF AT LEASE 60 SECONDS, WHICHEVER IS GREATER, IN EVERY OCCUPANCIES SPACE WITHIN THE BUILDING.
11) AUDIBLE DEVICES SHALL BE SYNCHRONIZED TEMPORAL CODE 3 PATTERN.
12) THE CONTRACTOR SHALL ADJUST/INSTALL ALL DEVICES TO MAXIMIZE PERFORMANCE AND TO MINIMIZE FALSE ALARMS.
13) VISUAL DEVICES SHOULD NOT EXCEED 2 FLASHES PER SECOND AND SHOULD NOT BE SLOWER THAN 1 FLASH EVERY SECOND. THE DEVICE SHALL HAVE A PULSING LIGHT SOURCE NOT LESS THAN 15 CANDELA. VISUAL DEVICES WITHIN 55' FROM EACH OTHER SHALL BE SYNCHRONIZED.
14) UNDERGROUND AND EXTERIOR CONDUITS TO HAVE WATERTIGHT FITTINGS AND WIRE TO BE APPROVAL FOR WET LOCATIONS.
15) ALL FIRE ALARM WIRING SHALL BE FLP OR FPLP (FIRE POWER LIMITED OR FIRE POWER LIMITED PLENUM) AS REQUIRED FOR APPLICATION. WIRING IN CONDUIT ABOVE GROUND MAY BE THHN OR THWN.
16) PER CEC STANDARDS, ALL WIRING IS TO BE PULLED THROUGH EACH JUNCTION BOX AND CONNECTED DIRECTLY TO EACH FIRE DEVICE. DO NOT SPLICE THE WIRE. ALL BOXES TO BE SIZED PER CEC.
17) SMOKE DETECTORS SHALL NOT BE ANY CLOSER THAN 1' FROM FIRE SPRINKLERS OR 3' FROM ANY SUPPLY DIFFUSER. IN AREA OF CONSTRUCTION OR POSSIBLE DAMAGE/CONTAMINATION ON NEWLY INSTALLED FIRE ALARM DEVICES SHALL BE COVERED UNTIL THAT AREA IS READY TO BE TURNED OVER TO THE OWNER.
18) ALL FIRE ALARM CIRCUITS SHALL BE IN CONDUIT, SURFACE RACEWAY OR OPEN RUN ABOVE CEILINGS, UNDER FLOORS AND IN WALLS IN A NEAT AND PROTECTED MANOR AS INDICATED ON DESIGN DOCUMENTS. EXPOSED CIRCUITS ARE ONLY PERMITTED WHEN NOTED AS EXPOSED ON DESIGN DOCUMENTS.
19) FIRE ALARM PANEL, REMOTES, AND COMPONENTS SHALL BE SECURED TO MOUNTING SURFACES PER MANUFACTURERS SPECIFICATIONS. NO SINGLE DEVICE SHALL EXCEED THE WEIGHT OF 20 LBS. WITHOUT SPECIAL MOUNTING DETAILS.
20) A DEDICATED BRANCH CIRCUIT SHALL BE PROVIDED FOR FIRE ALARM EQUIPMENT AND AND SMOKE FIRE DAMPERS. THIS CIRCUIT SHALL BE ENERGIZED FROM THE COMMON USE AREA PANEL AND SHALL HAVE NO OTHER OUTLETS. THE BREAKER SHALL HAVE A RED LOCKING DEVICE TO BLOCK THE HANDLE IN THE "ON" POSITION. THE CIRCUIT BREAKER SHALL BE LABELED "FIRE ALARM CIRCUIT CONTROL". CIRCUIT ID TO BE LABELED AT FIRE PANEL/EXTENDERS.
21) THE INSTALLING CONTRACTOR SHALL PROVIDE A RECORD OF COMPLETION PER NFPA 72, FIGURE 10.18.2.1.1.
22) CONTROL PANELS, REMOTE ANNUNCIATORS SHALL BE INSTALLED WITH THEIR BOTTOMS MOUNTED AT 48"
23) THE INSTALLING CONTRACTOR SHALL PROVIDE SYSTEM PROGRAMMING FOR SUPERVISORY MONITORING PER CBC SECTION 901.6.2.
24) SUPERVISORY MONITORING SHALL BE TESTED AND VERIFIED AS SENDING CORRECT SIGNALS IN CONJUNCTION WITH FINAL ACCEPTANCE TEST.
25) OWNER SHALL BE RESPONSIBLE FOR ESTABLISHING A FIRE SYSTEM MONITORING CONTRACT OR PROVISIONS.

F.A. MONITORING NOTES

1. THE AUTOMATIC FIRE ALARM SYSTEMS SHALL TRANSMIT THE ALARM, SUPERVISORY AND TROUBLE SIGNALS TO AN APPROVED SUPERVISING STATION AS REQUIRED BY NFPA 72 AND AMENDED EITHER UUFX OR UUJS BY UNDERWRITERS OF FACTORY MUTUAL RESEARCH APPROVAL STANDARD 3011. SUPERVISION OF SYSTEM AND LEASED TELEPHONE LINES SHALL BY ARRANGED BY OWNER.

SEISMIC ANCHORAGE

1. TO COMPLY WITH 2016 CBC, TITLE 24, SECTION #1632A.
2. WHERE ANCHORAGE DETAILS ARE NOT SHOWN ON THE DRAWINGS, THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE ELECTRICAL ENGINEER AND THE FIELD ENGINEER OF THE DIVISION OF THE STATE ARCHITECT.

COMPLETE AUTOMATIC FIRE ALARM PLAN SUBMITTAL

1. THE FIRE ALARM SYSTEM SHOWN ON THESE PLANS HAS BEEN SUBMITTED AND APPROVED BY DIVISION OF THE STATE ARCHITECT. ANY SUBSTITUTION OF THE FIRE ALARM SYSTEM SHALL BE RESUBMITTED TO THE ARCHITECT FOR REVIEW AND APPROVAL. THE CONTRACTOR SHALL PAY ANY ADDITIONAL FEES THAT ARE INCURRED DUE TO THIS SUBSTITUTION.
2. THE AUTOMATIC FIRE ALARM SYSTEM SHALL COVER ALL ROOMS AND AREAS AND UPON ACTIVATION OF AN INITIATING DEVICE ALERT ALL OCCUPANTS AND TRANSMIT THE ALARM, SUPERVISORY, AND TROUBLE SIGNALS TO AN APPROVED SUPERVISING STATION.

F.A SYSTEM SCOPE OF WORK

1. PROVIDE AUTOMATIC EMERGENCY VOICE AND FIRE ALARM SYSTEM FOR THE ENTIRE NEW SCHOOL CAMPUS PER PLANS.
2. NEW FACP IS 24VDC ADDRESSABLE WITH EMERGENCY VOICE EVACUATION, AND CLASS B WIRING SYSTEM. AND WITH OFF SITE MONITORING SERVICE VIA AUTO DUAL LINE DIALER AND TELEPHONE LINES.
3. DURING THE FINAL TESTING, MEASURE ALL FIRE ALARM CURRENTS, VOLTAGE DROP FOR EACH SIGNAL CIRCUITS. SEND OWNER AND ENGINEER ONE COPY RECORD FOR REVIEW, AND PLASTIC LAMINATED ONE COPY INSIDE FACP CABINET DOOR.
4. COMPLETE FIRE ALARM DRAWING SUBMITTAL IS PROVIDED.

MANUAL PULL STATION NOTES

1. COMPLY WITH CBC 1117B.6.4.
2. PROVIDE KEY LOCK.
3. MEET ADA 5LB. MAX. PULL-FORCE.
4. USE INSTRUCTIONS IN BRAILLE & TACTILE LETTERS ON COVER.
5. WORD "ACTIVATED" APPEARS ON TOP OF HANDLE AFTER THE HANDLE HAS BEEN PULLED DOWN.
6. CAN BE OPERATED WITH A FIST, ELBOW, OR FLAILED HAND.
7. SINGLE ACTION SIMPLY PULL DOWN TO OPERATE.

MEP COMPONENT ANCHORAGE NOTES

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. WHERE NO DETAILS IS INDICATED, THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2016 CBC, SECTIONS 1616A.1.18 THROUGH 1616A. 1.26 AND ASCE 7-10 CHAPTER 13, 26 AND 30.

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY OR MOVABLE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER.
3. MOVABLE EQUIPMENT WHICH IS STATIONED IN ONE PLACE FOR MORE THAN 8 HOURS AND HEAVIER THAN 400 POUNDS ARE REQUIRED TO BE ANCHORED WITH TEMPORARY ATTACHMENTS.

THE ATTACHMENT OF THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT NEED NOT BE DETAILED ON THE PLANS. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT.

A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.
B. COMPONENTS WEIGHTING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

FOR THOSE ELEMENTS THAT DO NOT REQUIRE DETAILS ON THE APPROVED DRAWINGS, THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD AND THE DSA DISTRICT STRUCTURAL ENGINEER. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

PIPING DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-10 SECTION 13.3 AS DEFINED IN ASCE 7-10 SECTION 12.6.8, 13.6.5.6 AND 2016 CBC, SECTION 1616A.1.23, 1616A.1.24, 1616A.1.25 AND 1616A.1.26.

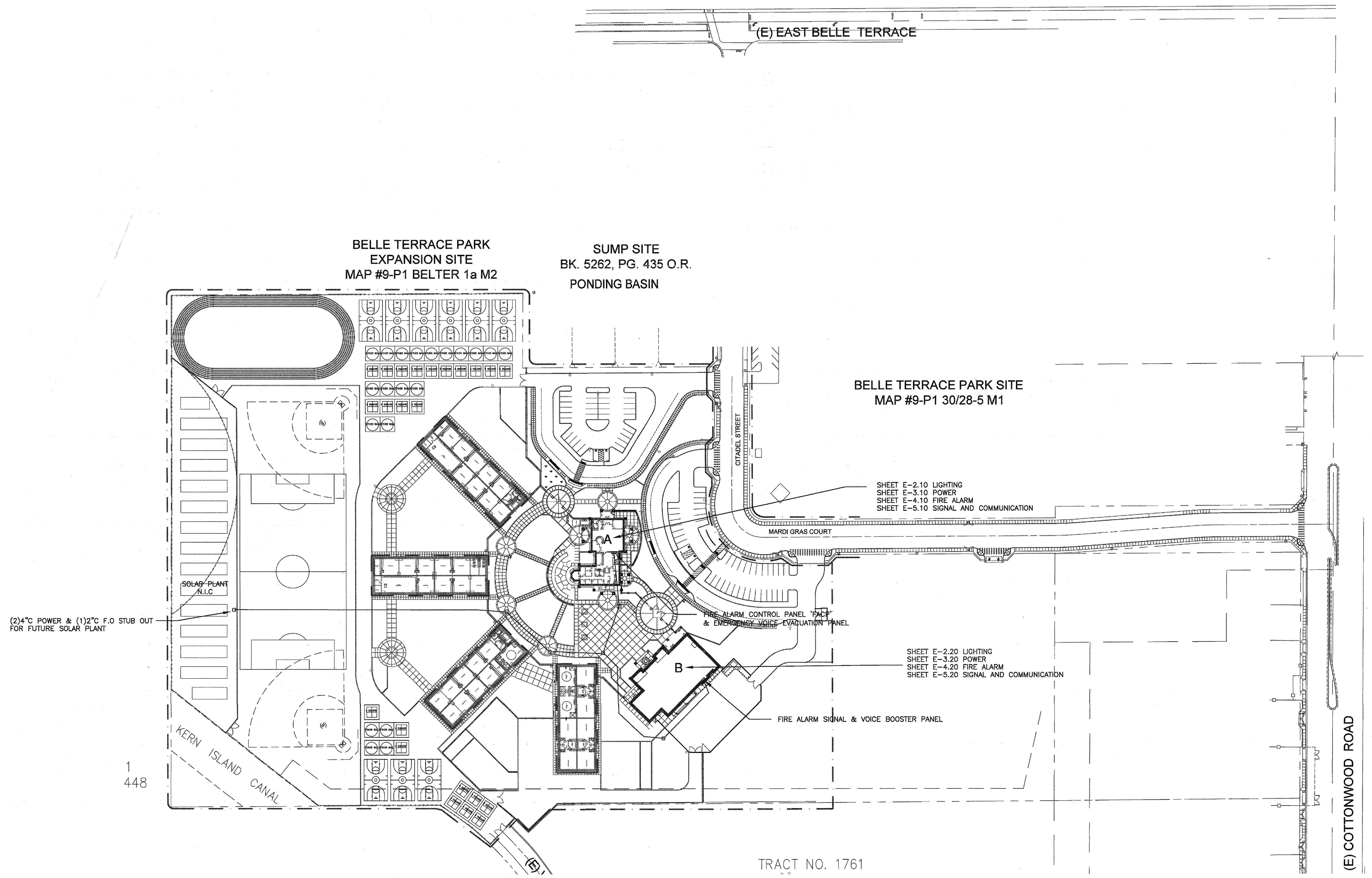
THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENT ARE BASED ON A PREAPPROVED INSTALLATION GUIDE (E.G., SMACNA OR OSHPD OPM), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEM (E):

MP ☐ **MD** ☐ **PP** ☐ **E** ☑ – OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.

MP ☐ **MD** ☐ **PP** ☐ **E** ☐ – OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PRE-APPROVAL (OPM #) #________.

MP ☐ **MD** ☐ **PP** ☐ – OPTION 3: SHALL COMPLY WITH SMACNA SEISMIC RESTRAINT MANUAL, OSHPD EDITION (2009), INCLUDING ANY ADDENDA, FASTENERS AND ATTACHMENTS NOT SPECIFICALLY IDENTIFIED IN THE SMACNA SEISMIC RESTRAINT MANUAL, OSHPD EDITION, ARE DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS. THE DETAILS SHALL ACCOUNT FOR THE APPLICABLE SEISMIC HAZARD LEVEL ____ AND CONNECTION LEVEL ____ FOR THE PROJECT AND CONDITIONS.



OVERALL SITE PLAN

SCALE: 1"=100'

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Rev. | Date | Revision Description

Sheet Title: SYMBOLS AND NOTES

Project Name & Address: NEW ELEMENTARY SCHOOL INCREMENT 2
BAKERSFIELD CITY SCHOOL DISTRICT @ CITADEL ROAD & MARDI GRAS COURT

Issue Date: 01/31/18
Date: 12/06/16
Designer: J CHONG
Drawn: J CHONG
PIC: –

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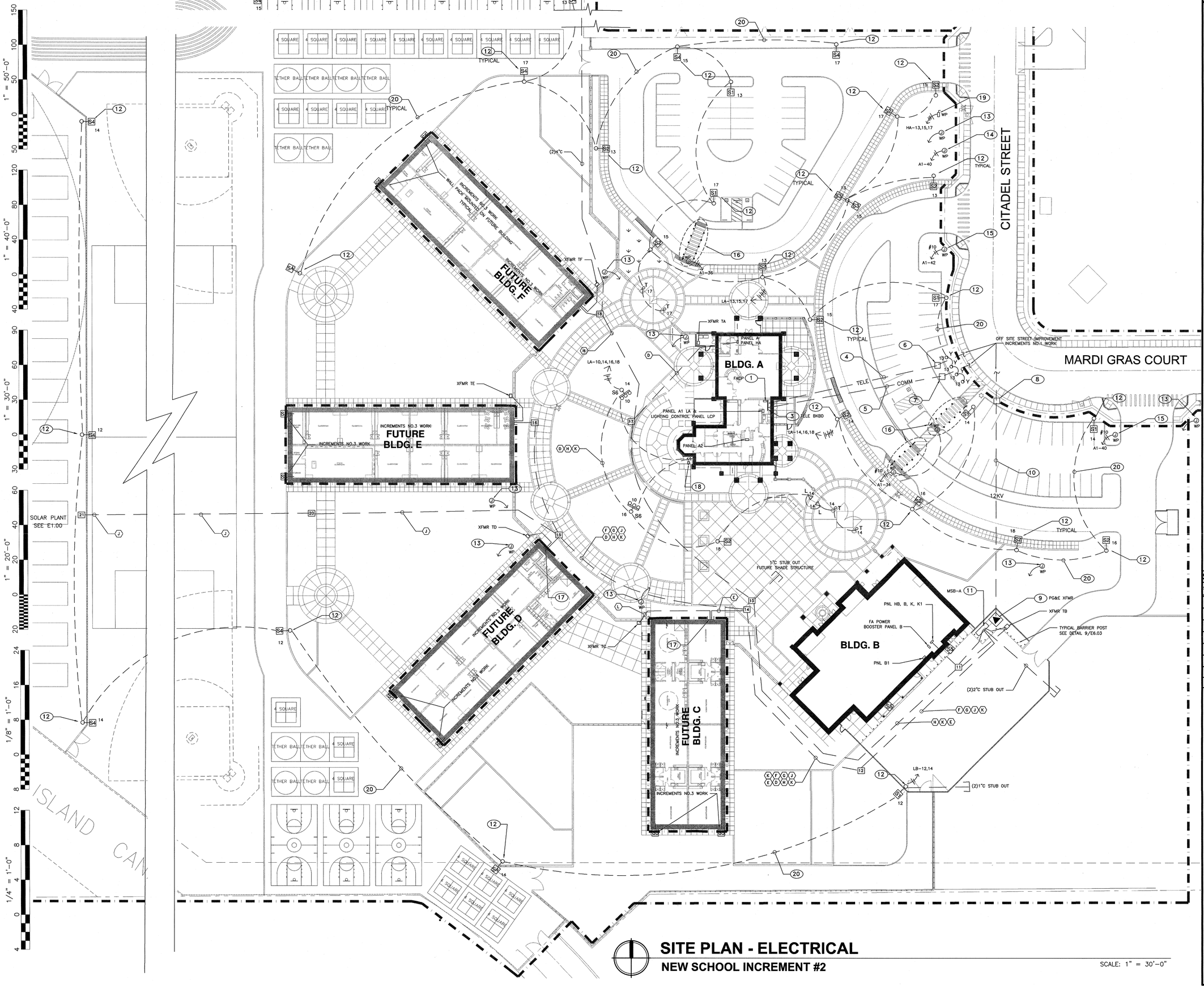
Sheet No.: E1.00

Release:



KEY NOTES

1. FIRE ALARM CONTROL PANEL AND EMERGENCY VOICE EVACUATION PANEL AND SIGNAL TC. PROVIDE 110V DEDICATE CIRCUIT AND TELEPHONE LINES FOR OFF SITE MONITORING SERVICE CONNECTION. SEE FIRE ALARM PLANS FOR RISER DIAGRAM 1/E6.01.
2. FIRE ALARM NAC SIGNAL EXPANDER PANEL. PROVIDE 110V DEDICATE CIRCUIT AND INTERLOCK WIRING WITH FACP. SEE FIRE ALARM PLANS FOR MORE INFORMATION.
3. TELEPHONE BKBD. PROVIDE SURFACE MOUNTED 4'X8'X3/4" PLYWOOD BKBD, PUNCH DOWN BLOCK AND #6 BAR COPPER CONDUCTOR AND BOND TO UFER GROUND PER UTILITY COMPANY REQUIREMENT. SEE DETAIL 1/E3.10.
4. PROPOSE APPROXIMATE LOCATION AND ROUTING FOR (2) 4"C TELEPHONE SERVICE CONDUIT PER UTILITY COMPANY REQUIREMENT. FIELD VERIFY EXACT LOCATION AND ROUTING WITH UTILITY COMPANY ENGINEERS PRIOR TO INSTALLATION.
5. PROPOSE APPROXIMATE LOCATION AND ROUTING FOR (2) 2"C CABLE/DSL SERVICE CONDUIT PER UTILITY COMPANY REQUIREMENT. FIELD VERIFY EXACT LOCATION AND ROUTING WITH UTILITY COMPANY ENGINEERS PRIOR TO INSTALLATION.
6. PROPOSE APPROXIMATE LOCATION FOR 3'x5' TELEPHONE UTILITY PULL BOX PER UTILITY COMPANY REQUIREMENT. FIELD VERIFY EXACT LOCATION AND REQUIREMENT WITH UTILITY COMPANY ENGINEERS PRIOR TO INSTALLATION.
7. PROPOSE APPROXIMATE LOCATION FOR 3'x5' CATV/SDL UTILITY PULL BOX PER UTILITY COMPANY REQUIREMENT. FIELD VERIFY EXACT LOCATION AND REQUIREMENT WITH UTILITY COMPANY ENGINEERS PRIOR TO INSTALLATION.
8. PROPOSE APPROXIMATE LOCATION FOR 12KV UTILITY 3'x5' PULL BOX PER UTILITY COMPANY REQUIREMENT. FIELD VERIFY EXACT LOCATION AND REQUIREMENT WITH UTILITY COMPANY ENGINEERS PRIOR TO INSTALLATION.
9. APPROXIMATE LOCATION FOR UTILITY PAD MOUNT TRANSFORMER. PROVIDE CONCRETE PAD AND BARRIER POST PER UTILITY COMPANY STANDARD, SEE DETAIL 9/E6.3 & 9/E6.04. COORDINATE WITH PG&E RULE 16 FOR FINAL LOCATION AND REQUIREMENT.
10. PROPOSE APPROXIMATE LOCATION AND ROUTING FOR U.G UTILITY 12KV PRIMARY PER UTILITY COMPANY STANDARD, SEE PG&E RULE 16 APPLICATION FOR FINAL LOCATION AND REQUIREMENT.
11. BUILDING MAIN SWITCHBOARD 'MSB'. SEE SINGLE LINE DIAGRAM. PROVIDE 8" CONCRETE PAD, ALL CIRCUIT BREAKERS AND FEEDERS SHALL BE TESTED BY CERTIFY TESTING COMPANY PRIOR TO ENERGIZING. SEE ANCHOR DETAIL 10/E6.03.
12. PROVIDE POLE BASE AND POWER CONNECTION FOR POLE LIGHT. PROVIDE 1"C RACEWAY WITH PULL ROPE FROM LIGHT POLE SHAFT TO SERVER ROOM 'MDF' AND OR NEAREST IDF FOR FUTURE SECURITY CAMERA RACEWAY. SEE DETAIL 6/E6.03.
13. 1" CONDUIT TO FACP FOR PIV, TAMPER AND FLOW SWITCH MONITORING WIRING. SEE FIRE PROTECTION PLANS AND FIRE ALARM DRAWINGS FOR DETAILS. FIELD VERIFY LOCATION.
14. PROVIDE POWER HOOK UP FOR LANDSCAPE IRRIGATION CONTROL PANEL. FIELD VERIFY EXACT LOCATION AND REQUIREMENT WITH GENERAL CONTRACTOR PRIOR TO INSTALLATION.
15. PROVIDE POWER CONNECTION FOR MARQUEE AND 2"C WITH PULL ROPE TO TELE BKBD FOR COMMUNICATION WIRING. FIELD VERIFY LOCATION.
16. FURNISH AND INSTALL A COMPLETE CROSS WALK SAFETY LIGHTING SYSTEM. SEE DETAIL 13/E-6.04
17. HOME RUN POWER CONDUIT TO PANEL LA CIRCUIT NO.12,14 IN ADMIN BUILDING IF INCREMENTS NO. 2 & 3 ARE NOT BUILD AT THE SAME TIME.
18. PROVIDE 1500W DIMMER SWITCH FOR SPOT LIGHTS CONTROL. PROVIDE FLUSH 6"X6" WP LOCK BOX.
19. PROVIDE FUSE DISCONNECT SWITCH AND POWER CONNECTION FOR LANDSCAPE BOOSTER PUMP AND CONTROL PANEL. SEE LANDSCAPE PANEL AND FIELD VERIFY LOCATION.
20. (1)1"C FOR LIGHTING, (1)1"C FOR FUTURE SECURITY CAMERA.

SITE CONDUIT SYSTEM SCHEDULE

SYMBOL	SYSTEM	QUANTITY/SIZE	TYPE	REMARKS
(D)	POWER	(TWO) 4"C	PVC SCH.40	BUILDING A
(E)	POWER	(TWO) 4"C	PVC SCH.40	BUILDING C
(F)	POWER	(TWO) 4"C	PVC SCH.40	BUILDING D
(G)	POWER	(TWO) 4"C	PVC SCH.40	BUILDING E
(H)	POWER	(TWO) 4"C	PVC SCH.40	BUILDING F
(J)	POWER	(TWO) 4"C	PVC SCH.40	SOLAR PLANT
(K)	POWER	(TWO) 4"C	PVC SCH.40	SPARE
(L)	POWER	(TWO) 2-1/2"C	PVC SCH.40	FUTURE 208V PANEL

PULL BOX SCHEDULE

NO.	SIZE	COVER MARKING
11	34"x52" CHRISTY N48	POWER
12	34"x52" CHRISTY N48	POWER
13	34"x52" CHRISTY N48	POWER
14	34"x52" CHRISTY N48	POWER
15	34"x52" CHRISTY N48	POWER
16	24"x36" CHRISTY N30	POWER
17	34"x52" CHRISTY N48	POWER
18	34"x52" CHRISTY N48	POWER
19	24"x36" CHRISTY N30	POWER
20	24"x36" CHRISTY N40	SOLAR POWER
21	24"x36" CHRISTY N40	SOLAR POWER

NOTES:
1. ALL PULL BOX SHALL BE RATED H20 WITH STEEL COVER PLATE AND HOLD DOWN BOLTS.
2. PROVIDE ID LETTER ON COVER PLATE PER SCHEDULE.
3. PROVIDE 4" MOW STRIP FOR AROUND PULL BOX ON LANDSCAPE AREA.

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Revision:	Revision Description:	Rev. Date:

Sheet Title: SITE PLAN - ELECTRICAL

Project Name & Address: NEW ELEMENTARY SCHOOL INCREMENT 2
BAKERSFIELD CITY SCHOOL DISTRICT
@ CITADEL ROAD & MARDI GRAS COURT

Issue Date: 01/31/18
Date: 12/06/16
Designer: J CHONG
DR: J CHONG
PIC: --

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Job No.: 5262

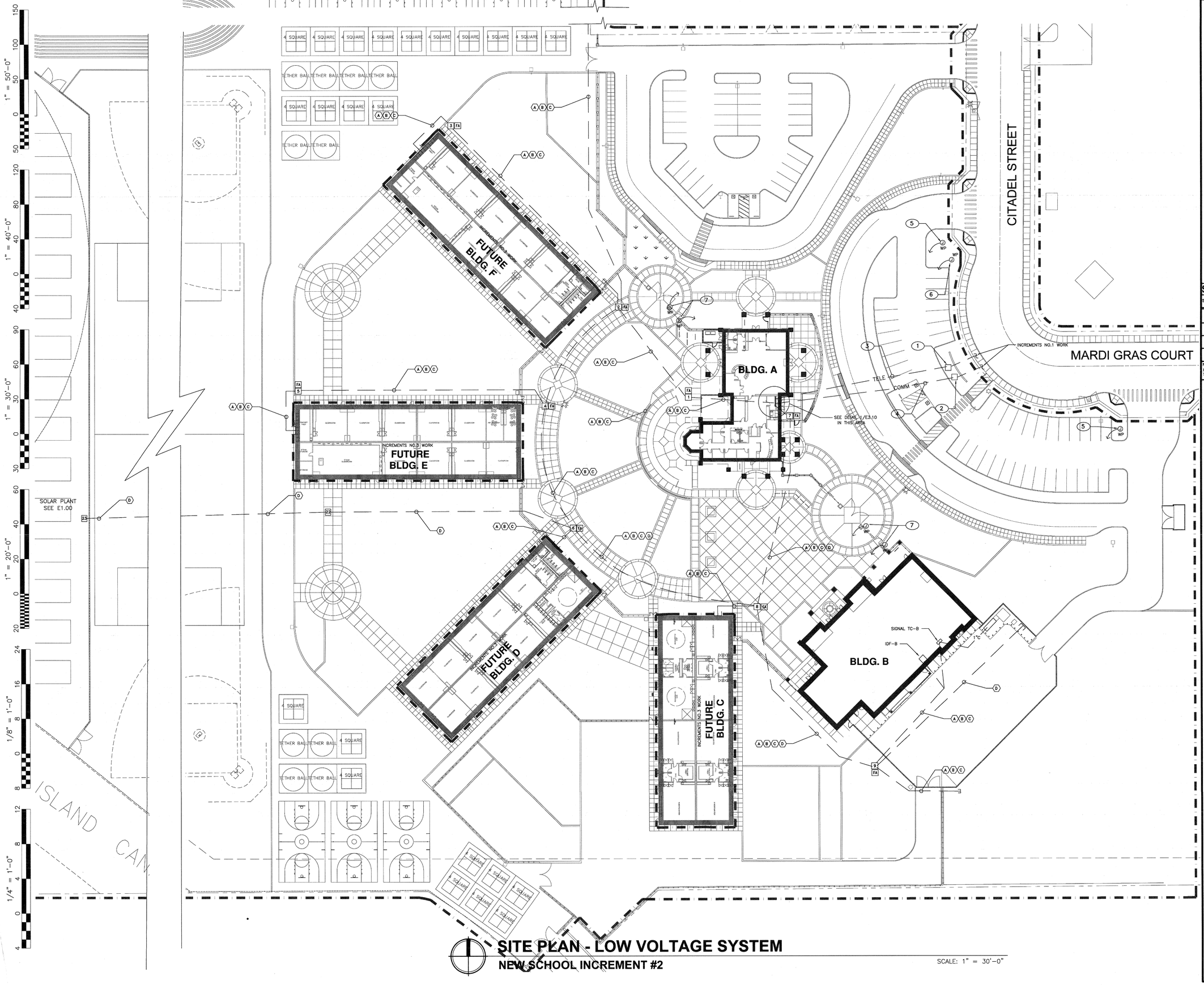
Sheet No.: E1.01

Release:

SITE PLAN - ELECTRICAL

NEW SCHOOL INCREMENT #2

SCALE: 1" = 30'-0"



SITE PLAN - LOW VOLTAGE SYSTEM

NEW SCHOOL INCREMENT #2

SCALE: 1" = 30'-0"

KEY NOTES

1. PROPOSE APPROXIMATE LOCATION FOR 3"x5" TELEPHONE UTILITY PULL BOX PER UTILITY COMPANY REQUIREMENT. FIELD VERIFY EXACT LOCATION AND REQUIREMENT WITH UTILITY COMPANY ENGINEERS PRIOR TO INSTALLATION.
2. PROPOSE APPROXIMATE LOCATION FOR 3"x5" CATV/SDL UTILITY PULL BOX PER UTILITY COMPANY REQUIREMENT. FIELD VERIFY EXACT LOCATION AND REQUIREMENT WITH UTILITY COMPANY ENGINEERS PRIOR TO INSTALLATION.
3. PROPOSE APPROXIMATE LOCATION AND ROUTING FOR (2) 4"C TELEPHONE SERVICE CONDUIT PER UTILITY COMPANY REQUIREMENT. FIELD VERIFY EXACT LOCATION AND ROUTING WITH UTILITY COMPANY ENGINEERS PRIOR TO INSTALLATION.
4. PROPOSE APPROXIMATE LOCATION AND ROUTING FOR (2) 2"C CABLE/DSL SERVICE CONDUIT PER UTILITY COMPANY REQUIREMENT. FIELD VERIFY EXACT LOCATION AND ROUTING WITH UTILITY COMPANY ENGINEERS PRIOR TO INSTALLATION.
5. PROVIDE POWER CONNECTION FOR MARQUEE AND 1"C WITH PULL ROPE TO TELE BKBD FOR COMMUNICATION WIRING. FIELD VERIFY LOCATION.
6. 1" CONDUIT TO FACP FOR PIV MONITORING WIRINGSEE FIRE PROTECTION PLANS AND FIRE ALARM DRAWINGS FOR DETAILS. FIELD VERIFY LOCATION.
7. 1" CONDUIT TO TELEPHONE BKBD FOR GATE IC AND CONTROL. FIELD VERIFY LOCATION.

SITE CONDUIT SYSTEM SCHEDULE

SYMBOL	SYSTEM	QUANTITY/SIZE	TYPE
A	PA/IC/TELE/SECURITY	(TWO) 4"C	PVC SCH.40
B	DATA/TV	(TWO) 2"C	PVC SCH.40
C	FIRE ALARM	(ONE) 2"C	PVC SCH.40
D	SOLAR POWER SIGNAL	(ONE) 2"C	PVC SCH.40

NOTES
PROVIDE PULL ROPE FOR EMPTY CONDUIT AND SEAL WITH SILICONE SEALANT

PULL BOX SCHEDULE

NO.	SIZE	COVER MARKING
1	34"x52" CHRISTY N48	SIGNAL
2	34"x52" CHRISTY N48	SIGNAL
3	24"x36" CHRISTY N40	SIGNAL
4	24"x36" CHRISTY N40	SIGNAL
5	24"x36" CHRISTY N40	SIGNAL
6	24"x36" CHRISTY N40	SIGNAL
7	34"x52" CHRISTY N48	SIGNAL
8	34"x52" CHRISTY N48	SIGNAL
9	24"x36" CHRISTY N40	SIGNAL
10	24"x36" CHRISTY N40	SIGNAL
22	13"x24" CHRISTY N30	SIGNAL (SOLAR)
23	13"x24" CHRISTY N30	SIGNAL (SOLAR)
FA	13"x24" CHRISTY N30	FIRE ALARM

NOTES:
1. ALL PULL BOX SHALL BE RATED H20 WITH STEEL COVER PLATE AND HOLD DOWN BOLTS.
2. PROVIDE ID LETTER ON COVER PLATE PER SCHEDULE.
3. PROVIDE 4" MOLD STRIP FOR AROUND PULL BOX ON LANDSCAPE AREA.

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Rev.	Revision Description	Rev. Date

Sheet Title: SITE PLAN - LOW VOLTAGE

Project Name & Address: NEW ELEMENTARY SCHOOL INCREMENT 2
BAKERSFIELD CITY SCHOOL DISTRICT
@ CITADEL ROAD & MARDI GRAS COURT

Issue Date	Designer	DR.	PC
01/31/18	J CHONG	J CHONG	--
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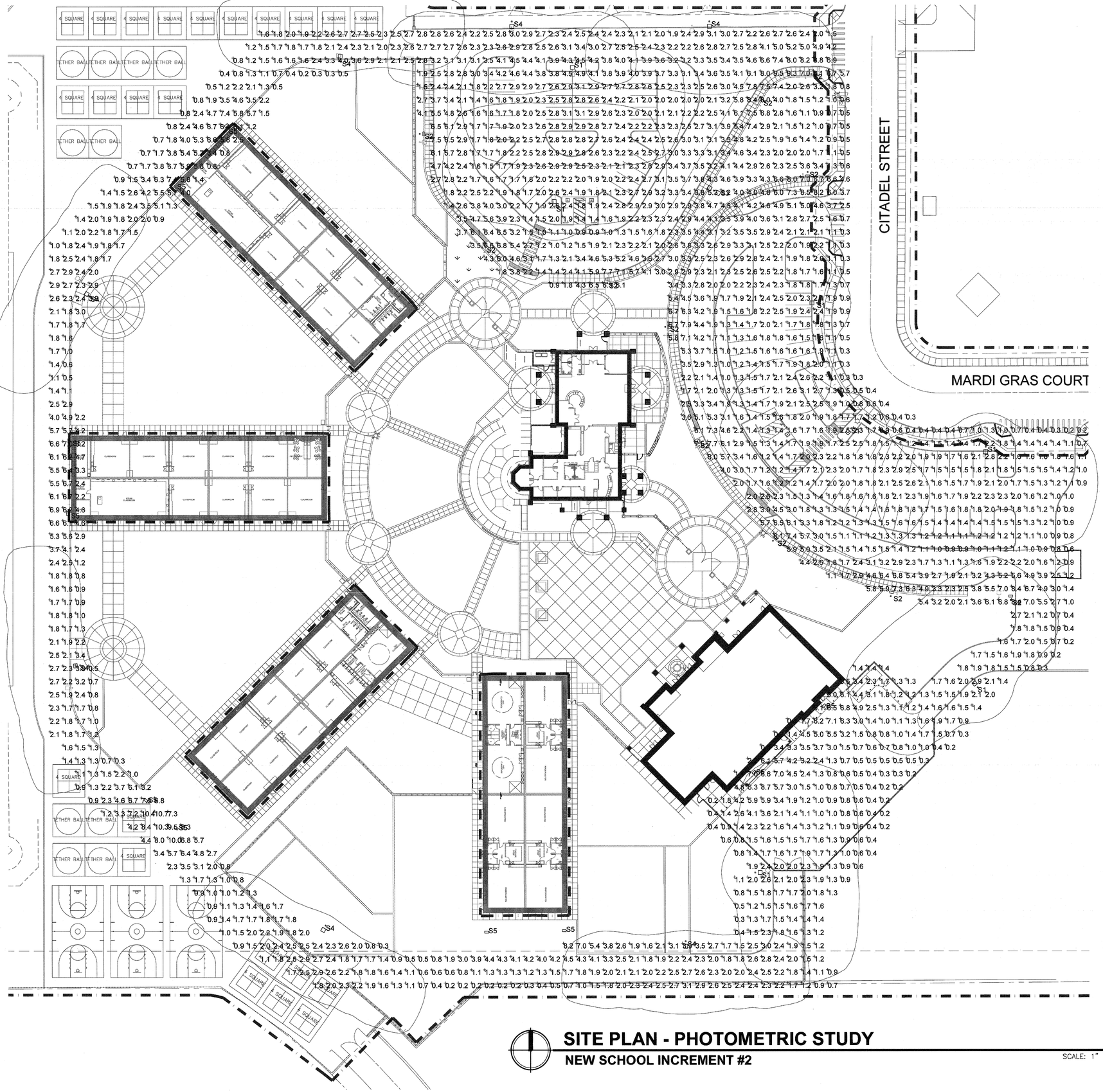

SITE PLAN - PHOTOMETRIC STUDY

NEW SCHOOL INCREMENT #2

SCALE: 1" = 30'-0"

KEY NOTES

(1) NOT USED.

GENERAL NOTES

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Revision:	Revision Description:	Rev. Date:	Revision:	Revision Description:	Rev. Date:

Sheet Title: PHOTOMETRIC STUDY

Project Name & Address: NEW ELEMENTARY SCHOOL INCREMENT 2
BAKERSFIELD CITY SCHOOL DISTRICT
@ CITADEL ROAD & MARDI GRAS COURT

Issue Date:	Date:	Designer:	DR:	PC:
01/31/18	12/06/16	J CHONG	J CHONG	---

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Sheet No.: E1.03

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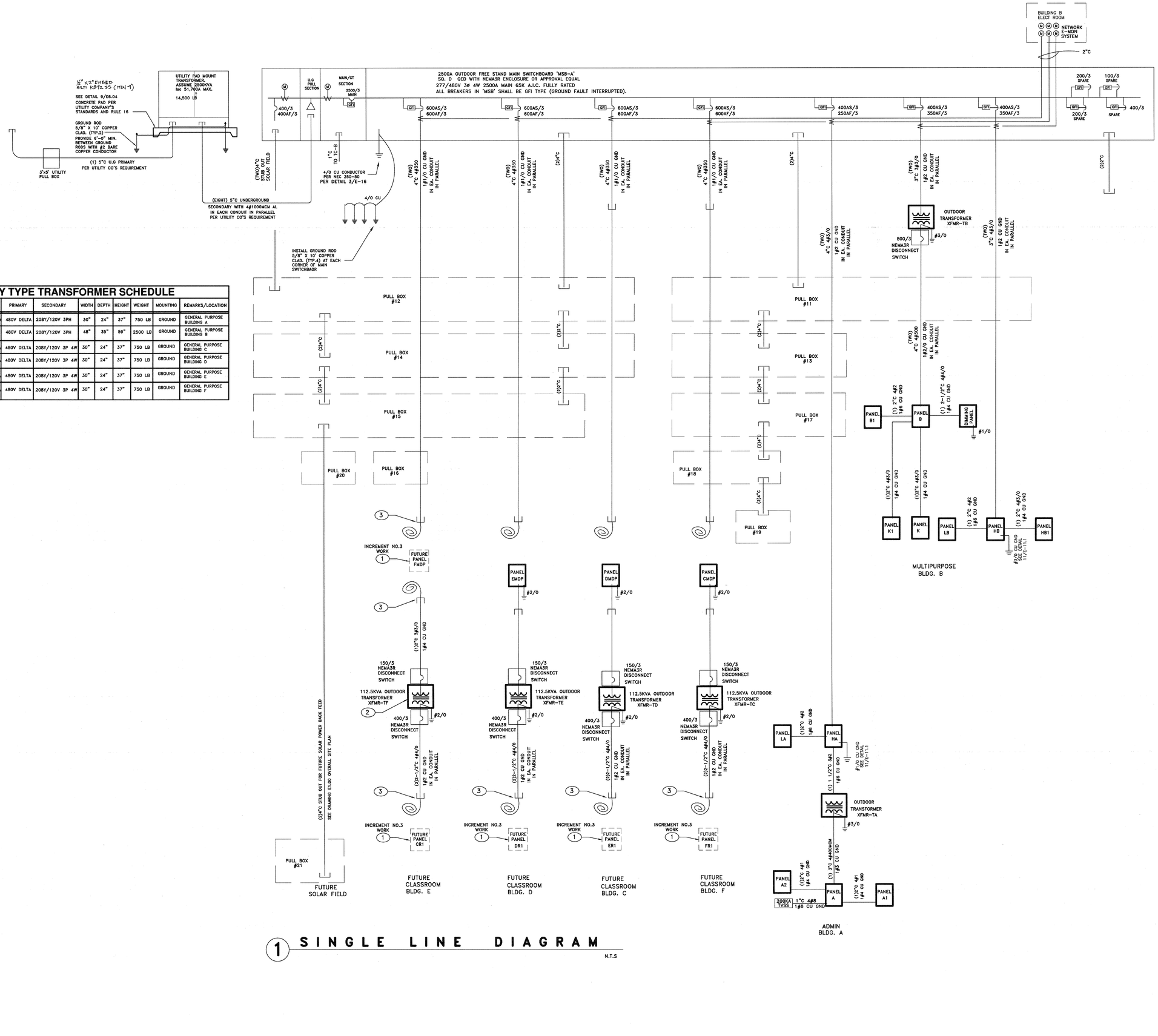
DRY TYPE TRANSFORMER SCHEDULE

ITEM	KVA	PRIMARY	SECONDARY	WIDTH	DEPTH	HEIGHT	WEIGHT	MOUNTING	REMARKS/LOCATION
TA	112.5KVA	480V DELTA	208Y/120V 3PH	30"	24"	37"	750 LB	GROUND	GENERAL PURPOSE BUILDING A
TB	225KVA	480V DELTA	208Y/120V 3PH	48"	35"	59"	2500 LB	GROUND	GENERAL PURPOSE BUILDING B
TC	112.5KVA	480V DELTA	208Y/120V 3P 4W	30"	24"	37"	750 LB	GROUND	GENERAL PURPOSE BUILDING C
TD	112.5KVA	480V DELTA	208Y/120V 3P 4W	30"	24"	37"	750 LB	GROUND	GENERAL PURPOSE BUILDING D
TE	112.5KVA	480V DELTA	208Y/120V 3P 4W	30"	24"	37"	750 LB	GROUND	GENERAL PURPOSE BUILDING E
TF	112.5KVA	480V DELTA	208Y/120V 3P 4W	30"	24"	37"	750 LB	GROUND	GENERAL PURPOSE BUILDING F



1 SINGLE LINE DIAGRAM

N.T.S

KEY NOTES

1. FUTURE CLASSROOM BUILDING POWER PANEL. INCREMENT NO. 3 WORK. SHOWN FOR REFERENCE ONLY.
2. FURNISH AND INSTALL OUTDOOR PAD MOUNTED XFMR. PROVIDE CONCRETE PAD AND DISCONNECT SWITCHES.
3. STUB OUT CONDUIT AND COIL UP 20 FEET CABLE FOR FUTURE BUILDING PANEL POWER CONNECTION. SEE INCREMENT NO. 3 PC DRAWINGS FOR EXACT LOCATION PRIOR TO INSTALLATION.

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Rev.	Rev. Date	Revision Description	Rev. Date

Sheet Title: SINGLE LINE DIAGRAM

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@ CITADEL ROAD & MARDI GRAS COURT

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Date: 12/06/16			

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Job No.: 5262

Sheet No.: E1.04

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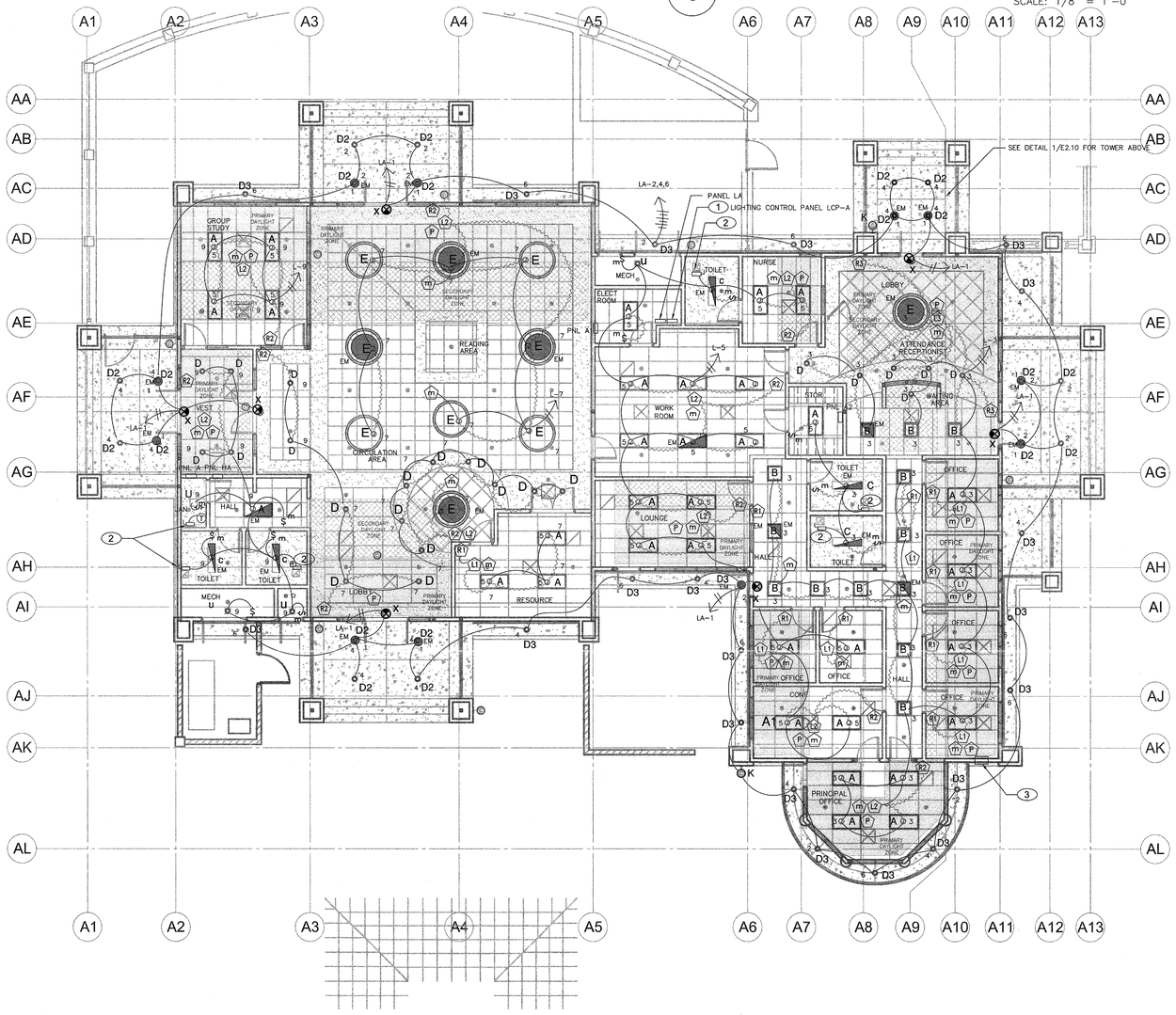

NOTE:
1. IN BUILDING A, ALL EXIT SIGN AND EMERGENCY LIGHT FIXTURES BATTERY ARE CONNECTED TO PANEL LA CKT #1. ALL OUTDOOR NIGHT LIGHT FIXTURES ARE CONNECTED TO PANEL LA CKT #2, AND VIA LIGHTING CONTROL PANEL.
2. LOW VOLTAGE LIGHTING CONTROL WIRING ARE NOT COMPLETELY SHOWN IN THIS PLAN, REFER TO DETAILS AND MANUFACTURER WIRING DIAGRAM FOR MORE INFORMATION.
3. SUBMIT LOW VOLTAGE LIGHTING CONTROL WIRING SHOP DRAWING FOR REVIEW AND APPROVAL PRIOR TO ORDERING MATERIAL.

INDICATE PRIMARY DAYLIGHT AREA

INDICATE SECONDARY DAYLIGHT AREA

LIGHTING PLAN - BLDG. 'A'

NEW SCHOOL INCREMENT #2

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

LIGHTING FIXTURE SCHEDULE

TYPE	SYMBOL	DESCRIPTION	LAMP	MT'D	VOLT	WATTS
A		OFFICE T-BAR RECESS LED TROFFER, 0-10V DIMMING HIGH EFFICIENCY VIA ROOM CONTROLLER. MODEL: METALUX #24CZ LD5 455E UNV L835 CD1 U. PROVIDE EMERGENCY BATTERY PER PLANS.	HIGH EFFICIENT LED	T-BAR RECESS	277	40
B		HALL 2x2 T-BAR RECESS LED TROFFER, 0-10V DIMMING HIGH EFFICIENCY VIA ROOM CONTROLLER. MODEL: METALUX #22CZ LD5 325E UNV L835 CD1 U. PROVIDE EMERGENCY BATTERY PER PLANS.	HIGH EFFICIENT CF	T-BAR RECESS	277	30
C		STORAGE AND TOILET 4' LOW PROFILE VANDAL RESISTANT LED WRAPAROUND. MODEL: FAILSAFE #HVL8 4 LD4 1STD 35 UNV EL14 O EDD1 S. PROVIDE EMERGENCY BATTERY PER PLANS	HIGH EFFICIENT LED	RECESS	277	35
D		LOBBY, HALLWAY 4" ø OPEN REFLECTOR RECESS LED DOWN LIGHT, 0-10V DIMMING HIGH EFFICIENCY, MODEL: PORTFOLIO #LD4B 20 D010 EU4B 1020 8035 4LB M 1 H. PROVIDE EMERGENCY BATTERY PER PLANS.	HIGH EFFICIENT LED	RECESS	277	22
D1		LOBBY, HALLWAY 6" ø OPEN REFLECTOR RECESS LED DOWN LIGHT, 0-10V DIMMING HIGH EFFICIENCY, MODEL: PORTFOLIO #LD6B 20 D010 EU6B 1020 8035 6LB M 1 HB26. PROVIDE EMERGENCY BATTERY PER PLANS.	HIGH EFFICIENT LED	RECESS	277	44
D2		EXTERIOR CANOPY 6"ø RECESS DOWN LIGHT WITH LENS, DAMP LOCATION, INCLUDING TRIM AND ROUGH IN HOUSING. MODEL: PORTFOLIO #LD6A S40 4000 ERBA S40 835 88LW1 H HB26. PROVIDE EMERGENCY BATTERY PER PLANS.	HIGH EFFICIENT LED	RECESS	277	30
D3		EXTERIOR CANOPY 4"ø RECESS DOWN LIGHT WITH LENS, DAMP LOCATION, INCLUDING TRIM AND ROUGH IN HOUSING. MODEL: PORTFOLIO #LD4A S40 4000 ERBA S40 835 88LW1 H HB26. PROVIDE EMERGENCY BATTERY PER PLANS.	HIGH EFFICIENT LED	RECESS	277	30
E		LOBBY, LIBRARY DIRECT/INDIRECT CIRCULAR PENDANT LIGHT, AL HOUSING AINGLE PIECE SEAMLESS FROSTED WHITE ACRYLIC LENS, 0-10V DIMMING HIGH EFFICIENCY, MODEL: BIRCHWOOD #KAT-DR/PA HLO-HLO 35 4 XX UNV E8 D10 CSS. PROVIDE EMERGENCY BATTERY PER PLANS.	HIGH EFFICIENT LED	CABLE HUNG	277	264
F		MULTI USE ROOM HIGH BAY 0-10V DIMMING LED. MODEL: METALUX #SSLED LD1 24HT W UNV L835 CD2 BLK SSLED-DECO-DECO. PROVIDE EMERGENCY BATTERY PER PLANS.	HIGH EFFICIENT LED	SURF	277	224
G		BACK STAGE CONTINUOUS ROW STEM MOUNT 4' LINEAR 0-10V DIMMING WITH LENS. MODEL: METALUX #4SRL LD5 395L UM CR UNV L835 CD1 U. PROVIDE EMERGENCY BATTERY PER PLANS	HIGH EFFICIENT LED	STEM HUNG	277	23.2
H		KITCHEN T-BAR RECESS WASHABLE LEND TROFFER, 0-10V DIMMING HIGH OUTPUT. MODEL: METALUX #24FP4735. PROVIDE EMERGENCY BATTERY PER PLANS	HIGH EFFICIENT LED	T-BAR RECESS	277	40.4
K		EXTERIOR WALL LIGHT LED. MODEL: McGRAW #SC AF 800 LED E1 T4W XX MS/DIM-L20. PROVIDE OCCUPANCY SENSOR FOR CONTROL.	HIGH EFFICIENT LED	SURF	277	44
L		GROUND MOUNTED FLOOD LIGHT AIM AT FLAG POLE WITH IMPACT SHIELDS. MODEL: LUMARK #XTOR3B / XTORFLD-KNC	HIGH EFFICIENT LED	POLE BASE	277	30
M		LIBRARY LOBBY PENDANT CHANDELIER, LED DIMMING BALLASTS. MODEL: CAMMAN INDUSTRIES #P505 24 F MVT WS BA SMC DM. PROVIDE EMERGENCY BATTERY PER PLANS.	75W PAR 38 (4)FT40W 2G11	STEM HUNG	277	230
S1		30 FT PARKING LOT POLE LIGHT. MODEL: McGRAW #GLEON AF 04 LED E1 T4W XX/SSS 5A 30 X N 1 WITH 30FT RSS STEEL POLE	HIGH EFFICIENT LED	POLE BASE	277	225
S2		15 FT WALKWAY POLE LIGHT. MODEL: McGRAW #GPC AF 02 LED E1 T3 XX OM MS/DIM-L20/ SSS 4A 15 X N 1 WITH 15FT RSS STEEL POLE	HIGH EFFICIENT LED	POLE BASE	277	113
S3		30 FT DOUBLE HEAD PARKING LOT POLE LIGHT. MODEL: McGRAW #GLEON AF 04 LED E1 T3 XX OM MS/DIM-L20/ SSS 5A 30 X N 2/180 WITH 30FT RSS STEEL POLE	HIGH EFFICIENT LED	POLE BASE	277	450
S4		30 FT PARKING LOT POLE LIGHT. MODEL: McGRAW #GLEON AF 04 LRD E1 SLDHSS XX/SSS 5A 30 X N 1 WITH 30FT RSS STEEL POLE	HIGH EFFICIENT LED	POLE BASE	277	225
S5		CUT OFF WALL PACK. MODEL: McGRAW #GWC AF 02 LED E1 T3 XX MS/DIM-L20	HIGH EFFICIENT LED	WALL	277	113
S6		20 FT WALKWAY POLE LIGHT CONTROLLED BY LCP. MODEL: McGRAW #GPC AF 02 LED E1 T3 XX OM MS/DIM-L20/ SSS 4A 20 X N 1/3 WITH 20FT RSS STEEL POLE. PROVIDE CROSS ARM AT 16FT WITH (3) SPOT LIGHT. MODE: VISTA #1C59 X NS 40K G MV ND D D41. DIMMING CONTROLLED BY WALL DIMMER SWITCH AT AMPHITHEATER.	HIGH EFFICIENT LED	POLE BASE	277	113 (3)74
T		EXTERIOR WALL SCONE AT FRONT GATE. MODEL: FC LIGHTING #FCW3252 UNV LED 40K 685 XX D	HIGH EFFICIENT LED	WALL	277	15
U		UTILITY ROOM 8"ø SURFACE CYLINDER LIGHT WITH LENS. MODEL: HALO #PRBS 20 D010 MW PRBM12 WO MW	HIGH EFFICIENT LED	SURF	277	30
Y		GROUND MOUNT ADJUSTABLE FLOOD LIGHT AIM AT SIGN. LUMIERE # MONACO 3002A RD 18LED4000	HIGH EFFICIENT LED	IN GROUND	277	20
Z1		STAGE LIGHT SYSTEM, VIA STAGE LIGHTING DIMMING PANEL PER DETAILS	SEE DETAIL	PENDENT	120	
Z2		STAGE LIGHT SYSTEM, VIA STAGE LIGHTING DIMMING PANEL PER DETAILS	SEE DETAIL	PENDENT	120	
Z3		STAGE LIGHT SYSTEM, VIA STAGE LIGHTING DIMMING PANEL PER DETAILS	SEE DETAIL	PENDENT	120	
X		EXIT SIGN WITH EMERGENCY LIGHT COMBO WITH 90 MINUTES EMERGENCY BATTERY. MODEL: EXITRONIX #CLED U WH G2	INCLUDE	SURF	277	5
X1		OUTDOOR EMERGENCY LIGHT WITH 90 MINUTES EMERGENCY BATTERY. MODEL: SURELITE #TRL ACEM	INCLUDE	SURF	277	5

EM — INDICATE LIGHTING FIXTURE HAS FACTORY INSTALLED 90 MINUTES EMERGENCY POWER UNIT (BATTERY PACK) AND CONNECT TO A NON SWITCH (ALWAYS HOT) CHARGER CIRCUIT. FIXTURE WILL BE AUTOMATICALLY TURN ON AND SWITCHED TO EMERGENCY POWER CIRCUIT WHEN NORMAL POWER IS FAILURE AND REGARDLESS THE WALL SWITCH IN WHICH POSITION.

LIGHTING DESIGN NOTES:
1. ANY ROOM ENCLOSED AREAS OVER 100 SQ. FEET SHALL BE PROVIDED MANUAL DIMMING SWITCHES OR FOUR STEP CONTROLS PER 2016 CALIFORNIA ENERGY CODE 130.1 & 141.0.
2. CONTRACTOR SHALL SUBMIT LIGHTING CONTROL ACCEPTANCE AND INSTALLATION CERTIFICATION DURING BUILDING FINAL INSPECTION PER 2016 CALIFORNIA ENERGY CODE 130.4.
3. IN CASE OF CONFLICT BETWEEN LIGHTING FIXTURE AND CONTROL COMPONENT DESCRIPTION AND CATALOG NUMBERS, DESCRIPTION SHALL PREVAIL.
4. ALL LED LIGHTING FIXTURE SHALL BE 3500K MIN. CRI 80 MIN. ALL FLUORESCENT LIGHTING SHALL HAVE HIGH EFFICIENCY ENERGY SAVING BALLASTS PER TITLE 24 REQUIREMENTS. FLUORESCENT LAMP SHALL BE 3500K MIN. CRI 28.
5. SUBMIT LIGHTING FIXTURE SUBMITTAL TO ARCHITECT AND ENGINEERS FOR REVIEW AND APPROVAL PRIOR TO ORDERING MATERIAL.
6. ALL LIGHTING CONTROL SHALL BE LOW VOLTAGE CONTROL UNLESS NOTES OTHERWISE, BESIDE LINE VOLTAGE CABLE AS SHOWN ON PLANS, PROVIDE ALL NECESSARY LOW VOLTAGE CABLE BETWEEN COMPONENTS OF LIGHTING CONTROL SYSTEM AND ALL ADDITIONAL WIRE AND CONDUIT FROM COMPONENTS TO LIGHT FIXTURES AS REQUIRED BY MANUFACTURER RECOMMENDATIONS FOR A COMPLETE AND FUNCTION LIGHTING CONTROL SYSTEM.
7. PROVIDE DEMAND RESPONSIVE LIGHTING CONTROLS FOR BUILDING OVER 10,000 SQ. FEET, INSTALLING CONTROLS THAT ARE CAPABLE OF RECEIVING AND AUTOMATICALLY RESPONDING TO A DEMAND RESPONSE SIGNAL PER CEC 130.1(e).
8. INSTALL INDOOR CEILING PHOTO CELL FOR AUTOMATIC DAY LIGHTING CONTROLS. SEPARATELY CONTROLLING SOME OR ALL OF THE LIGHTS IN THE PRIMARY OR SECONDARY DAYLIGHT ZONE FROM THE LIGHTS THAT ARE NOT IN THE DAYLIGHT AREA PER CEC 130.1(d).
9. INSTALL OCCUPANCY SENSING CONTROLS FOR OFFICES 250 SF OR SMALLER, MULTIPURPOSE ROOMS OF LESS THAN 1,000 SF, CLASSROOMS AND CONFERENCE ROOMS OF ANY SIZE.

KEY NOTES

1. FURNISH AND INSTALL 16 ZONE LIGHTING CONTROL PANEL WITH INDOOR & OUTDOOR PHOTO CELLS, INTERNET INTERFACE, REMOTE CONTROL STATION AND DEMAND RESPOND CONTROL.
2. PROVIDE RELAY AND POWER CONNECTION FOR CEILING EXHAUST FAN AND INTERLOCK WITH LIGHTING CIRCUIT. SEE DRAWING E3.10 AND MECHANICAL PLANS FOR DETAIL.
3. DIMMING CONTROL SWITCH WITH FLUSH MOUNTED OUTDOOR LOCK BOX FOR AMPHITHEATER SPOT LIGHTS CONTROL.

LEGEND

- (P) INDICATED LOW VOLTAGE INDOOR PHOTO CELL FOR PRIMARY DAYLIGHT AREA LIGHTING CONTROL. HOME RUN DATA CABLE TO LOCAL INTEGRATED ROOM CONTROLLER.
- (m) INDICATED LOW VOLTAGE CEILING MOUNT OCCUPANCY SENSOR WITH SWITCH PACK. DUAL TECHNOLOGY. HOME RUN DATA CABLE TO LOCAL INTEGRATED ROOM CONTROLLER.
- $D INDICATED LOW VOLTAGE WALL MOUNT DIMMER SWITCH, FOR 0-10V LED/FLUORESCENT.
- $m INDICATED LOW VOLTAGE WALL MOUNT OCCUPANCY SENSOR SWITCH. MULTI TECHNOLOGY, DUAL RELAY, BI-LEVEL SWITCHING.
- $T INDICATED WALL MOUNT TIMER SWITCH, 30 MINUTE WITH 4 PRESET BUTTONS AND OFF, LEVITON #6230M OR EQUAL.
- $O INDICATED WALL MOUNT OCCUPANCY SENSOR SWITCH WITH MANUAL ON/AUTO OFF CONTROL.
- $k INDICATED WALL MOUNT KEY SWITCH WITH MANUAL ON/OFF CONTROL.
- $3 INDICATED 3-WAY WALL SWITCH
- PP INDICATED SWITCH PACK FOR 120V RECEPTACLES CIRCUIT CONTROL VIA OCCUPANCY SENSOR.
- N/L INDICATED FIXTURE WIRE AS NIGH LIGHT FUNCTION.
- (L1) INDICATED 1 ZONE 1 RELAYS LIGHTING ROOM CONTROLLER. PROVIDE LOW VOLTAGE DAISY CHAIN CABLE TO ALL ROOM CONTROLLER FOR FUTURE DEMAND RESPONSE SIGNAL. FIELD VERIFY LOCATION.
- (R1) INDICATED 1-ZONE CONTROL WALL SWITCH WITH LOW VOLTAGE CONTROL CABLE TO LOCAL INTEGRATED ROOM CONTROLLER. ROUGH IN SINGLE GANG WALL SWITCH.
- (L2) INDICATED 2 ZONE 2 RELAYS LIGHTING ROOM CONTROLLER. PROVIDE LOW VOLTAGE DAISY CHAIN CABLE TO ALL ROOM CONTROLLER FOR FUTURE DEMAND RESPONSE SIGNAL. FIELD VERIFY LOCATION.
- (R2) INDICATED 2-ZONE CONTROL WALL SWITCH WITH LOW VOLTAGE CONTROL CABLE TO LOCAL INTEGRATED ROOM CONTROLLER.
- (L3) INDICATED (ONE) 1 ZONE AND (ONE) 2 ZONE LIGHTING ROOM CONTROLLER. PROVIDE LOW VOLTAGE DAISY CHAIN CABLE TO ALL ROOM CONTROLLER FOR FUTURE DEMAND RESPONSE SIGNAL. FIELD VERIFY LOCATION.
- (R3) INDICATED 3-ZONE CONTROL WALL SWITCH WITH LOW VOLTAGE CONTROL CABLE TO LOCAL INTEGRATED ROOM CONTROLLER.
- INDICATED LOW VOLTAGE CONTROL WIRING. REFER TO MANUFACTURER WIRING DIAGRAM.

WALL LEGEND

- 2x6 STUD & GYP. BD. PARTITION FULL HEIGHT TO UNDERSIDE OF DECK
- 2x6 STUD & GYP. BD. PARTITION, 8" ABOVE FINISH CEILING
- 2x8 WOOD STUDS, FULL HEIGHT EXTERIOR WALL
- 2x6 WOOD STUDS, 1HR FIRE RATED PARTITION, FULL HEIGHT TO UNDERSIDE OF DECK ABOVE PER CBC TABLE 721.1(2) 14-1.1
- 2x8" PLUMBING WALL

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Revision: | Revision Description: | Rev. Date:

Sheet Title: LIGHTING PLAN BLDG 'A'

Project Name & Address: NEW ELEMENTARY SCHOOL INCREMENT 2 — BAKERSFIELD CITY SCHOOL DISTRICT @ CITADEL ROAD & MARDI GRAS COURT

Issue Date: 01/31/18
Date: 12/06/16
Designer: J CHONG
Dr: J CHONG
PIC: ---

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Exp.6/30/2020
ELECTRICAL
STATE OF CALIFORNIA

Job No.: 5262

Sheet No.: E2.10

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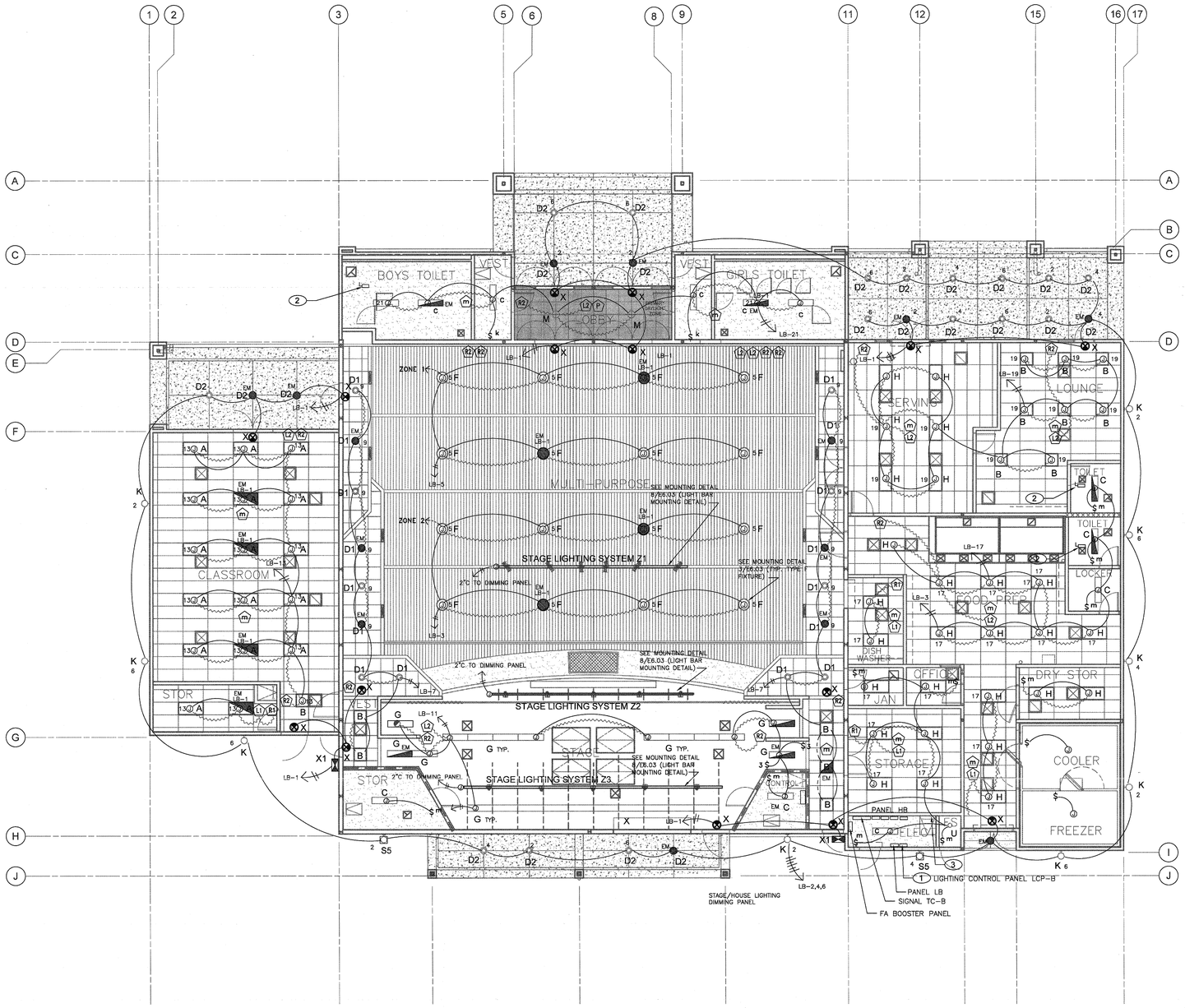

NOTE:
1. IN BUILDING B, ALL EXIT SIGN AND EMERGENCY LIGHT FIXTURES ARE CONNECTED TO PANEL LB CKT #1. ALL OUTDOOR NIGHT LIGHT FIXTURES ARE CONNECTED TO PANEL LB CKT #2 AND VIA LIGHTING CONTROL PANEL.
2. LOW VOLTAGE LIGHTING CONTROL WIRING ARE NOT COMPLETELY SHOWN IN THIS PLAN, REFER TO DETAILS AND MANUFACTURER WIRING DIAGRAM FOR MORE INFORMATION.
3. SUBMIT LOW VOLTAGE LIGHTING CONTROL WIRING SHOP DRAWING FOR REVIEW AND APPROVAL PRIOR TO ORDERING MATERIAL.

INDICATE PRIMARY DAYLIGHT AREA

INDICATE SECONDARY DAYLIGHT AREA

LIGHTING PLAN - BLDG. ' B '

NEW SCHOOL INCREMENT #2

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

KEY NOTES

1. FURNISH AND INSTALL 16 ZONE LIGHTING CONTROL PANEL WITH INDOOR & OUTDOOR PHOTO CELLS, OCCUPANCY SENSORS, REMOTE CONTROL STATION AND DEMAND RESPOND INPUT.
2. PROVIDE RELAY AND POWER CONNECTION FOR CEILING EXHAUST FAN AND INTERLOCK WITH LIGHTING CIRCUIT. SEE DRAWING E3.10 AND MECHANICAL PLANS FOR DETAIL.
3. PROVIDE FIRE CAULKING AND SEAL ALL CONDUIT PENETRATION IN FIRE RATED WALL. FIELD IDENTIFIED ALL PENETRATION LOCATION WITH GENERAL CONTRACTOR PRIOR TO INSTALLATION. SEE ARCHITECTURAL PLANS FOR EXACT LOCATION.

LEGEND

- (P) INDICATED LOW VOLTAGE INDOOR PHOTO CELL FOR PRIMARY DAYLIGHT AREA LIGHTING CONTROL. HOME RUN DATA CABLE TO LOCAL INTEGRATED ROOM CONTROLLER.
- (m) INDICATED LOW VOLTAGE CEILING MOUNT OCCUPANCY SENSOR WITH SWITCH PACK. DUAL TECHNOLOGY. HOME RUN DATA CABLE TO LOCAL INTEGRATED ROOM CONTROLLER.
- D INDICATED LOW VOLTAGE WALL MOUNT DIMMER SWITCH, FOR 0-10V LED/FLUORESCENT.
- $m INDICATED LOW VOLTAGE WALL MOUNT OCCUPANCY SENSOR SWITCH. MULTI TECHNOLOGY, DUAL RELAY, BI-LEVEL SWITCHING.
- $T INDICATED WALL MOUNT TIMER SWITCH, 30 MINUTE WITH 4 PRESET BUTTONS AND OFF, LEVITON #6230M OR EQUAL.
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- PP INDICATED SWITCH PACK FOR 120V RECEPTACLES CIRCUIT CONTROL VIA OCCUPANCY SENSOR.
- N/L INDICATED FIXTURE WIRE AS NIGH LIGHT FUNCTION.
- (L1) INDICATED 1 ZONE 1 RELAYS LIGHTING ROOM CONTROLLER. PROVIDE LOW VOLTAGE DAISY CHAIN CABLE TO ALL ROOM CONTROLLER FOR FUTURE DEMAND RESPONSE SIGNAL. FIELD VERIFY LOCATION.
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- (L2) INDICATED 2 ZONE 2 RELAYS LIGHTING ROOM CONTROLLER. PROVIDE LOW VOLTAGE DAISY CHAIN CABLE TO ALL ROOM CONTROLLER FOR FUTURE DEMAND RESPONSE SIGNAL. FIELD VERIFY LOCATION.
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- (L3) INDICATED (ONE) 1 ZONE AND (ONE) 2 ZONE LIGHTING ROOM CONTROLLER. PROVIDE LOW VOLTAGE DAISY CHAIN CABLE TO ALL ROOM CONTROLLER FOR FUTURE DEMAND RESPONSE SIGNAL. FIELD VERIFY LOCATION.
- (R3) INDICATED 3-ZONE CONTROL WALL SWITCH WITH LOW VOLTAGE CONTROL CABLE TO LOCAL INTEGRATED ROOM CONTROLLER.
- INDICATED LOW VOLTAGE CONTROL WIRING. REFER TO MANUFACTURER WIRING DIAGRAM.

ASSISTIVE LISTENING SYSTEM

OCCUPANT LOAD
5,794 sf / 7 = 828 occupants
828 x 4% = 33.12

A MIN. OF 33 RECEIVERS SHALL BE PROVIDED, SEE SPECIFICATIONS & EQUIPMENT LIST ON ELECTRICAL SHEETS

WALL LEGEND

- 2x6 STUD & GYP. BD. PARTITION FULL HEIGHT TO UNDERSIDE OF DECK
- 2x6 STUD & GYP. BD. PARTITION, 6" ABOVE FINISH CEILING
- 2x8 WOOD STUDS, FULL HEIGHT EXTERIOR WALL
- 2x6 WOOD STUDS, 1HR FIRE RATED PARTITION, FULL HEIGHT TO UNDERSIDE OF DECK ABOVE PER CBC TABLE 721.1(2) 14-1.1
- 2x8" PLUMBING WALL

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Rev.	Date	Revision Description

Sheet Title: LIGHTING PLAN BLDG 'B'

Project Name & Address: NEW ELEMENTARY SCHOOL INCREMENT 2, BAKERSFIELD CITY SCHOOL DISTRICT @ CITADEL ROAD & MARDI GRAS COURT

Issue Date: 01/31/18
Date: 12/06/16
Designer: J CHONG
Dft. J CHONG
EC: ---

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REGISTERED PROFESSIONAL ENGINEER
JOHN S. CHONG
E 14419
Exp. 6/30/2020
ELECTRICAL
STATE OF CALIFORNIA

Job No.: 5262

Sheet No.: E2.20

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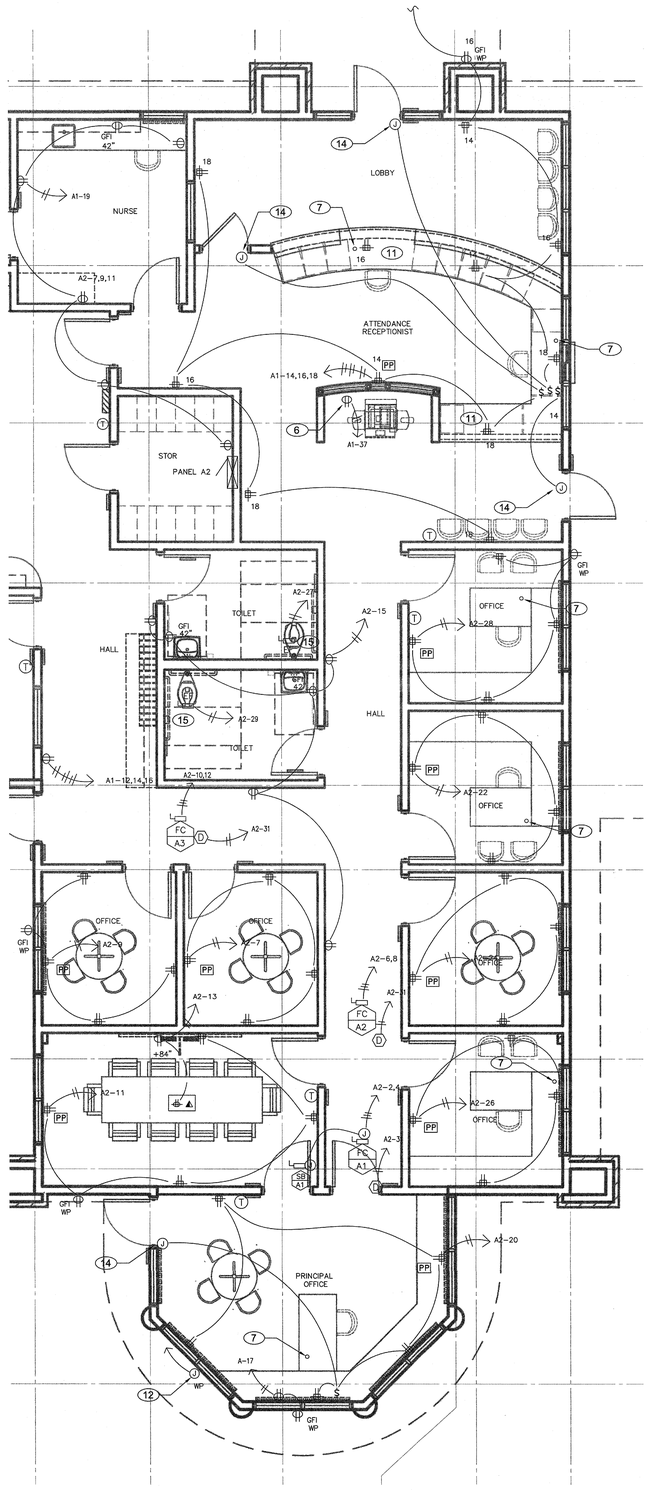
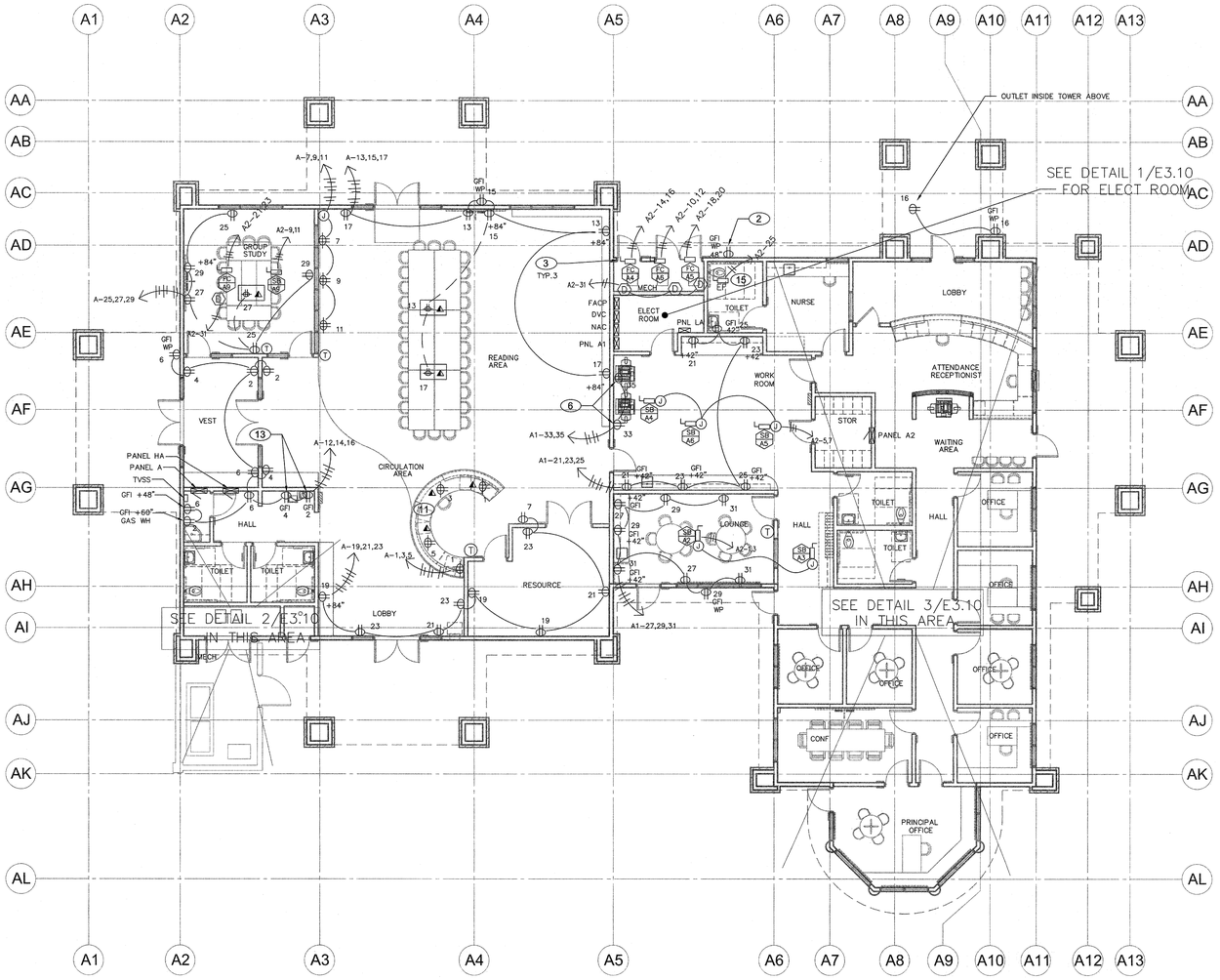


3 DETAIL

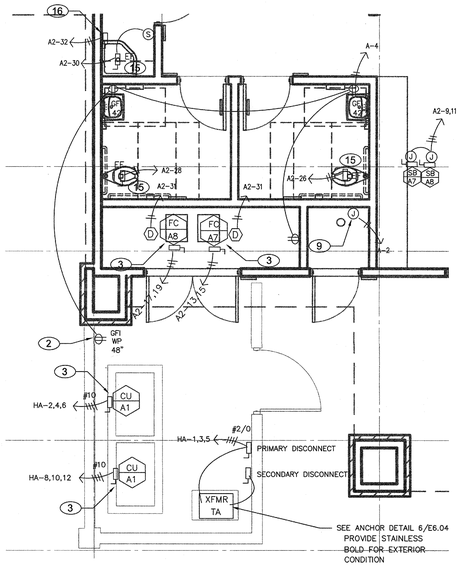
SCALE: 1/4" = 1'-0"



POWER PLAN - BLDG. 'A'

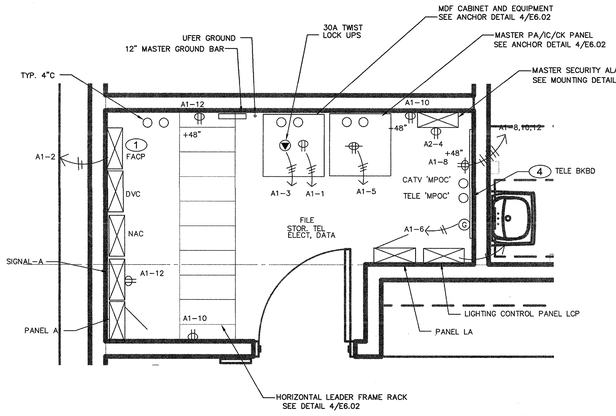
NEW SCHOOL INCREMENT #2

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



2 DETAIL

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



1 DETAIL

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

KEY NOTES

1. PROVIDE DEDICATED CIRCUIT FOR MASTER FIRE ALARM CONTROL PANEL POWER CONNECTION. PROVIDE LOCKING DEVICE ON THE CIRCUIT BREAKER. SEE FA RISER DIAGRAM ADDITIONAL INFORMATION.
2. PROVIDE WEATHERPROOF GFI RECEPTACLE AND WITHIN 25 FEET FROM HVAC EQUIPMENT PER CODES. PROVIDE A STEEL WEATHERPROOF ENCLOSURE COVER THAT IS NOT THE ATTACHMENT PLUG CAP IS INSERTED PER CEC 406.8(B).
3. PROVIDE WP FUSED DISCONNECT SWITCH AND POWER HOOK UP FOR HVAC UNIT. FIELD VERIFY NAME PLATE FUSE SIZE REQUIREMENT PRIOR TO INSTALLATION. PROVIDE NAME PLATE FOR DISCONNECT SWITCH WITH CIRCUIT ID.
4. 4'x8'x3/4" PLYWOOD BKBD SURFACE MOUNT AND COVER FULL WALL, PAINT AND MATCH WALL COLOR. PROVIDE FOURPLEX OUTLET AND #6 BARE COPPER GROUNDING CONDUCTOR AND BOND TO UFER. PROVIDE PUNCH DOWN BLOCK, GROUND BUS AND TERMINAL STRIP AS REQUIRED FOR SIGNAL CABLE TERMINATION.
5. PROVIDE POWER CONNECTION FOR ELECTRIC WATER HEATER AND CIRC. PUMP. SEE PLUMBING PLANS FOR ALL REQUIREMENT AND FIELD VERIFY EXACT LOCATION WITH GENERAL CONTRACTOR PRIOR TO INSTALLATION.
6. PROVIDE DEDICATED CIRCUIT AND POWER CONNECTION FOR COPY MACHINE OR PRINTER. FIELD VERIFY FOR ALL REQUIREMENT WITH OWNER PRIOR TO INSTALLATION.
7. PROVIDE DESKTOP METAL GROMMET ON WORK COUNTER. CORE DRILL COUNTERTOPS AS REQUIRED.
8. PROVIDE POWER CONNECTION FOR CEILING EXHAUST FAN, PROVIDE DRY CONTACT RELAYS AND INTERLOCK WITH 277V LOCAL LIGHTING CONTROL. SEE MECHANICAL PLANS FOR MORE INFORMATION AND FIELD VERIFY EXACT LOCATION WITH GENERAL CONTRACTOR PRIOR TO INSTALLATION.
9. PROVIDE DEDICATED CIRCUIT AND POWER CONNECTION FOR FIRE SPRINKLER BELL. SEE FIRE ALARM PLANS FOR MONITORING AND INTERLOCK REQUIREMENT.
10. FURNISH AND INSTALL LIGHT SOCKET WITH SWITCH AND OUTLET IN ATTIC. FIELD VERIFY LOCATION.
11. PROVIDE STEEL WIREMOLD SYSTEM UNDER COUNTER FOR EXPOSED WIRING INSTALLATION.
12. FURNISH AND INSTALL 12"X12" NEMA4R PULL CAN WITH 2" HOMERUN CONDUIT TO TELE BKBD WITH PULL ROPE FOR OUTDOOR SPEAKER AND MICROPHONE. FIELD VERIFY LOCATION.
13. PROVIDE CORD AND PLUG FOR POWER CONNECTION FOR DRINKING FOUNTAIN, SEE SUBMITTAL. FIELD VERIFY LOCATION.
14. ROUGH IN 120V POWER FOR FUTURE ELECTRIC DOOR STRIKE. FIELD VERIFY LOCATION WITH OWNER.
15. PROVIDE DISCONNECT SWITCH AND COMPLETE POWER CONNECTION FOR CEILING EXHAUST FAN, PROVIDE RELAY, TIME DELAY SWITCH AND INTERLOCK WIRING AS REQUIRED. SEE MECHANICAL PLANS FOR OTHER REQUIREMENT.
16. PROVIDE DISCONNECT SWITCH AND POWER CONNECTION FOR WATER HEATER. PROVIDE CONTROL WIRING AND COMPLETE INSTALLATION. SEE SUBMITTAL FOR REQUIREMENT.

LEGEND

- (D) INDICATES DUCT SMOKE DETECTOR FOR HVAC SHUT DOWN INTERLOCK. PROVIDE 110V POWER CONNECTION AS REQUIREMENT.
- (T) INDICATES HVAC T'STAT. SEE MECHANICAL PLANS FOR EXACT LOCATION AND REQUIREMENT.
- PP INDICATES POWER PACK FOR 120V RECEPTACLES CIRCUIT CONTROL VIA OCCUPANCY SENSOR.
- INDICATES FOURPLEX OUTLET WITH (1) DUPLEX OUTLET IS ALWAYS HOT AND (1) DUPLEX OUTLET IS ON SWITCHING CIRCUIT WHICH IS CONTROLLED BY OCCUPANCY SENSOR VIA SWITCH PACK PER PLANS. SWITCHING RECEPTACLE SHALL BE DIFFERENT COLOR FROM OTHER RECEPTACLE AND HAS A PERMANENT MARKING TO DIFFERENTIATE IT FROM UNCONTROLLED RECEPTACLES. FIELD VERIFY EXACT LOCATION AND REQUIREMENT WITH GENERAL CONTRACTOR PRIOR TO ROUGH-IN.
- INDICATES STEEL CITY FLUSH FLOOR BOX WITH BRASS COVER PLATE. PROVIDE DATA AND POWER OUTLET INSIDE FLOOR BOX AS REQUIRED. FIELD VERIFY LOCATION.
- STEEL CITY FLUSH FLOOR BOX WITH BRASS COVER PLATE. PROVIDE FOURPLEX RECEPTACLE AND UNDERGROUND CONDUIT AND WIRING PER PLANS.
- STEEL CITY FLUSH FLOOR BOX WITH BRASS COVER PLATE. PROVIDE FOURPLEX RECEPTACLE AND DATA OUTLETS, AND UNDERGROUND CONDUIT AND WIRING PER PLANS.

WALL LEGEND

- 2x6 STUD & GYP. BD. PARTITION FULL HEIGHT TO UNDERSIDE OF DECK
- 2x6 STUD & GYP. BD. PARTITION, 6" ABOVE FINISH CEILING
- 2x8 WOOD STUDS, FULL HEIGHT EXTERIOR WALL
- 2x6 WOOD STUDS, 1HR FIRE RATED PARTITION, FULL HEIGHT TO UNDERSIDE OF DECK ABOVE PER CBC TABLE 721.1(2)-14-1.1
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Revision:	Revision Description:	Rev. Date:

Sheet Title: POWER PLAN BLDG. 'A'

Project Name & Address: NEW ELEMENTARY SCHOOL INCREMENT 2
BAKERSFIELD CITY SCHOOL DISTRICT
@ CITADEL ROAD & MARDI GRAS COURT

Issue Date:	Drawn:	Chk'd:	P.C.
01/31/18	J CHONG	J CHONG	--
Date: 12/06/16			

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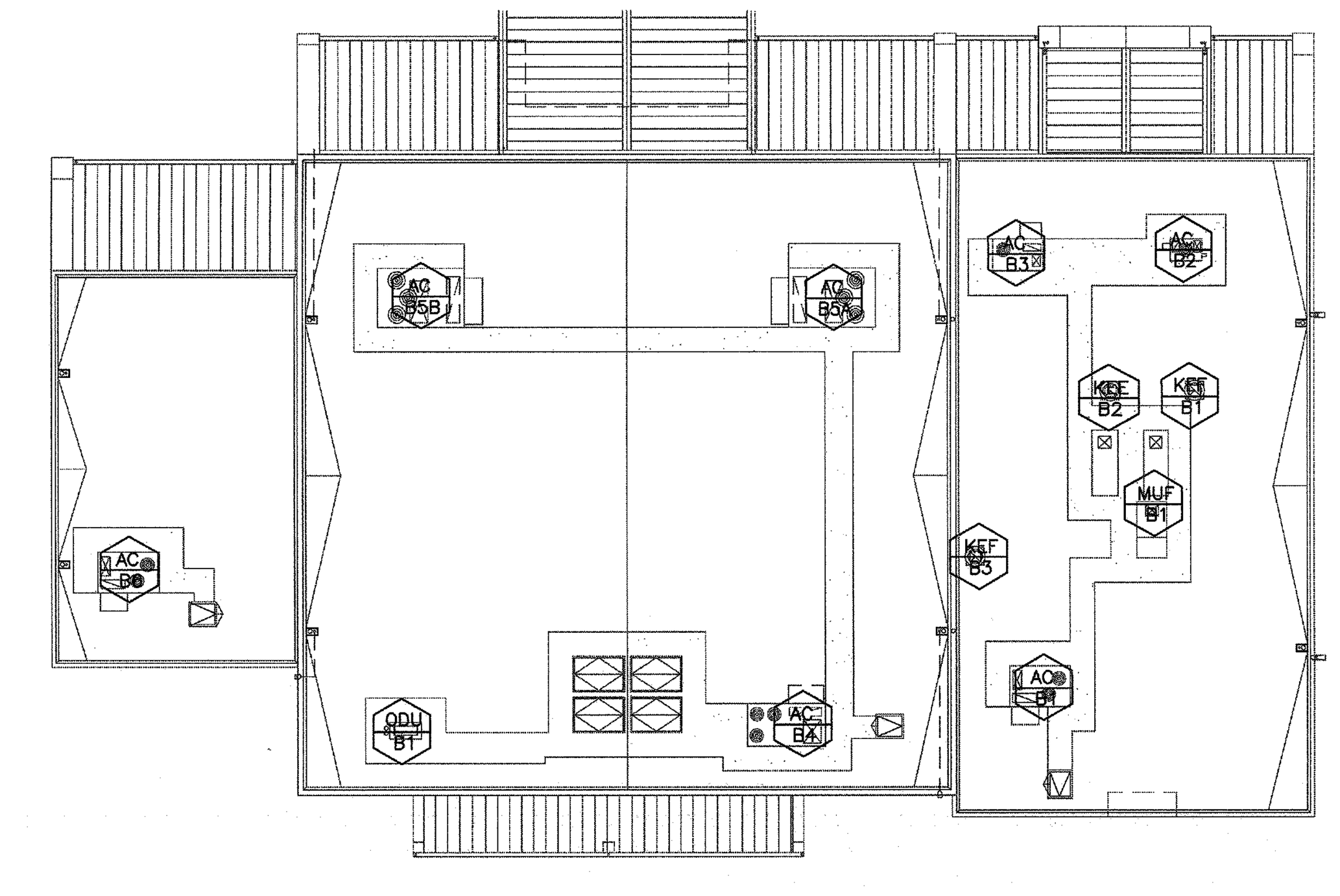
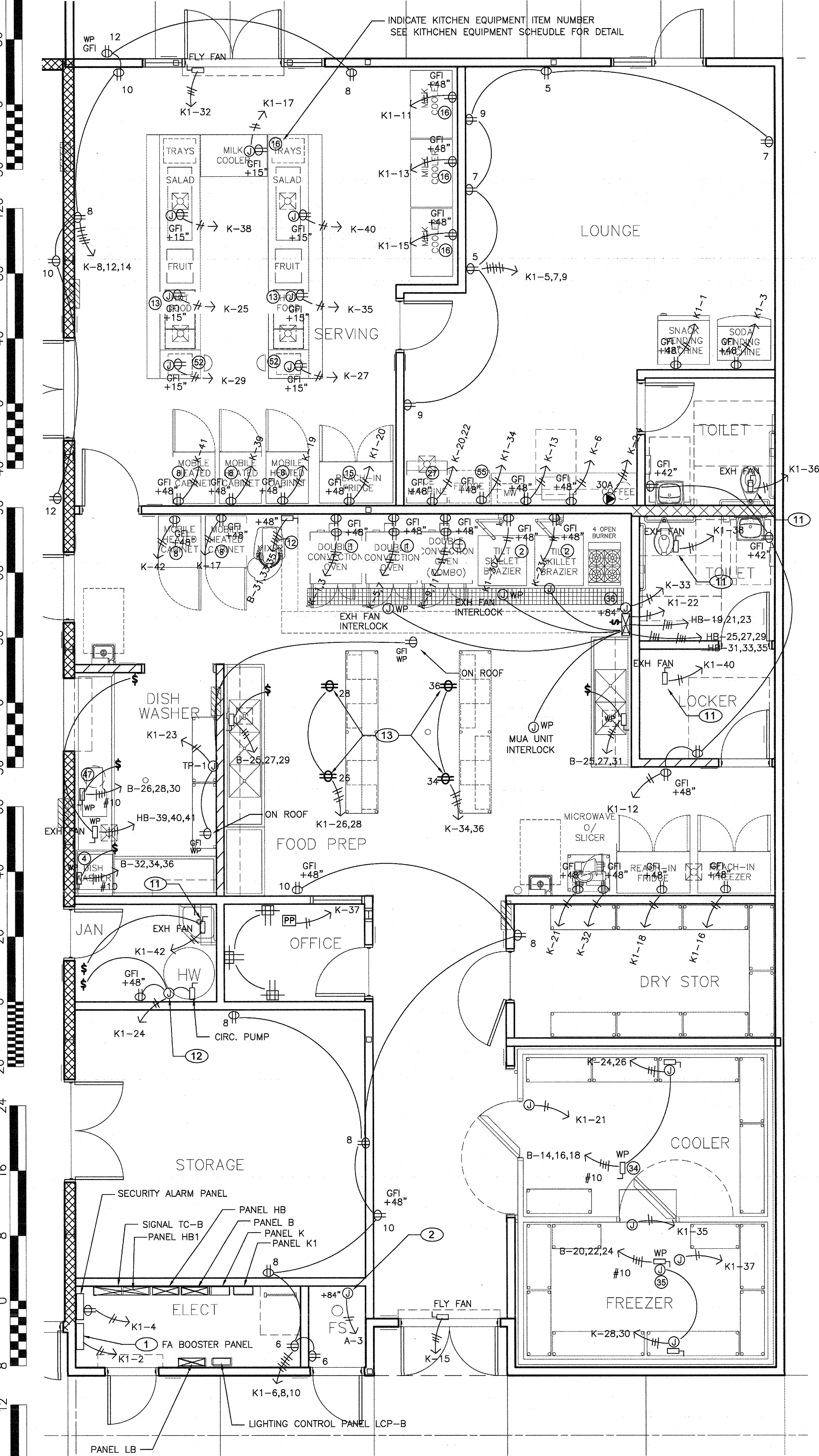
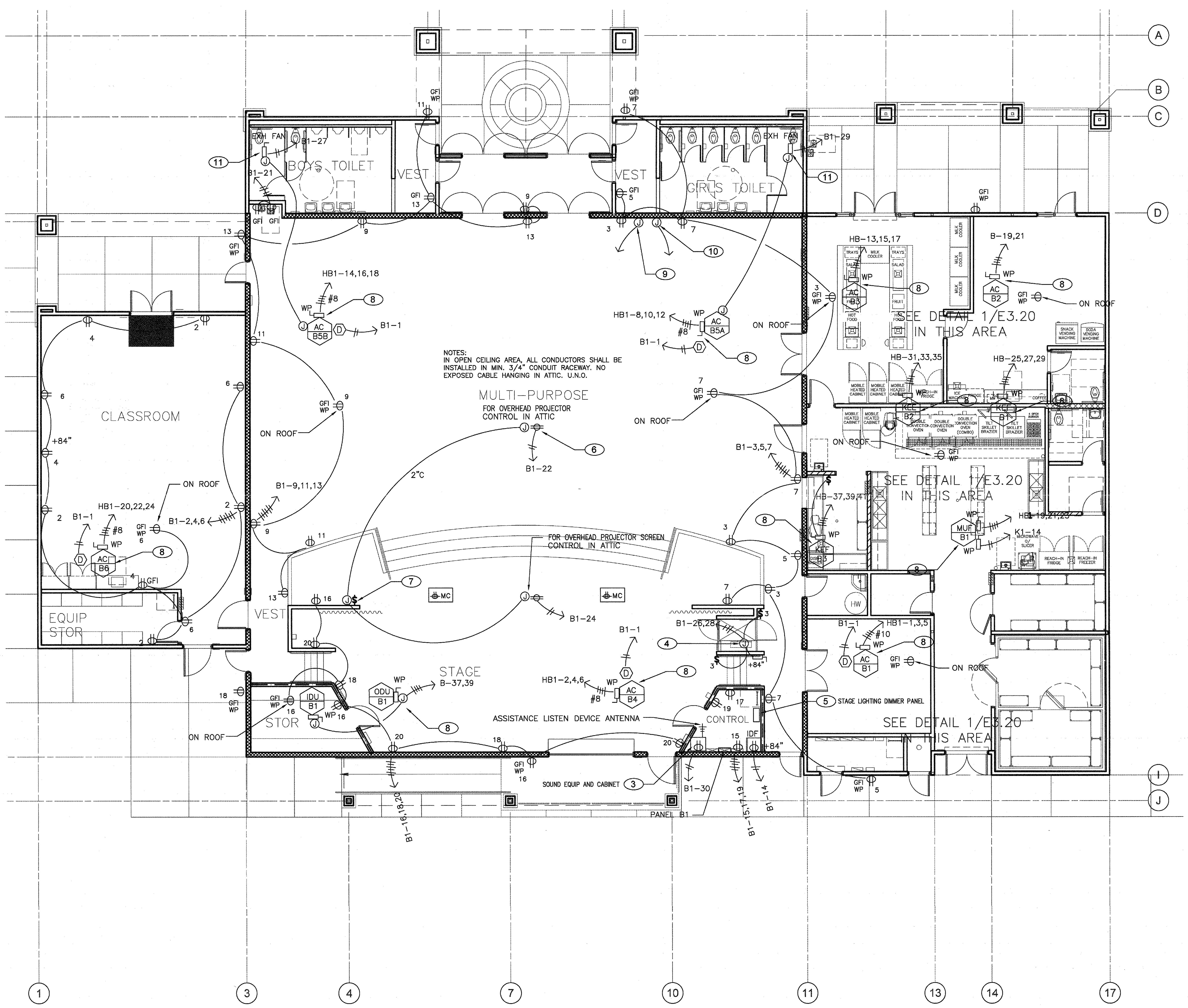


ROOF EQUIP KEY PLAN
N.T.S



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



POWER PLAN - BLDG. 'B'
NEW SCHOOL INCREMENT #2
SCALE: 1/8" = 1'-0"

KEY NOTES

(1) FA SIGNAL AND VOICE COMBO BOOSTER PANEL. PROVIDE DEDICATED 110V 20A CIRCUIT FROM PANEL B CKT.#1. SEE PANEL B SCHEDULE.

(2) PROVIDE POWER CONNECTION FOR FIRE RISER ELECTRIC BELL. PROVIDE DEDICATED 110V 20A CIRCUIT FROM PANEL B CKT.#3. SEE PANEL B SCHEDULE AND FIRE SPRINKLER PLANS.

(3) FURNISH AND INSTALL A COMPLETE LOCAL SOUND SYSTEM WITH AMPLIFIER AND REMOTE CONSOL CONTROL. PROVIDE ASSISTANCE LISTEN DEVICES AND ANTENNA PER PLANS. SEE SPECIFICATION AND SUBMITTAL FOR ADDITIONAL INFORMATION.

(4) PROVIDE DISCONNECT SWITCH AND POWER CONNECTION FOR WHEEL CHAIR LIFT. PROVIDE CONTROL WIRING AND COMPLETE INSTALLATION. SEE SUBMITTAL FOR REQUIREMENT.

(5) FURNISH AND INSTALL A COMPLETE THEATRICAL LIGHTING CONTROL SYSTEM WITH DIMMING PANEL AND REMOTE CONSOL CONTROL. SEE SPECIFICATION AND SUBMITTAL FOR ADDITIONAL INFORMATION.

(6) FURNISH AND INSTALL A COMPLETE A/V PROJECTOR SYSTEM WITH REMOTE INPUT STATION. NETWORK WITH DATA SWITCHING EQUIPMENT AND INTERFACE WITH LOCAL SOUND EQUIPMENT. FIELD VERIFY FINAL LOCATION WITH GENERAL CONTRACTOR PRIOR TO ROUGH IN ELECTRICAL WIRING.
MODEL: EPSON #POWERLITE 5530U-3LCD PROJECTOR OR EQUAL.

(7) PROVIDE LOCK BOX WITH 3 POSITION SWITCH FOR OVERHEAD PROJECTOR SCREEN CONTROL AND OVERHEAD PROJECTOR REMOTE CONTROL.

(8) PROVIDE WP FUSE DISCONNECT SWITCH AND POWER CONNECTION FOR HVAC UNIT ON ROOF. PROVIDE 48" FRONT WORKING CLEARANCE FOR ELECTRICAL DEVICES. SEE MECHANICAL PLANS FOR MORE INFORMATION.

(9) 2"C TO STAGE LIGHTING DIMMING PANEL FOR REMOTE CONTROL. VERIFY REMOTE CONTROL CABLE REQUIREMENT WITH MANUFACTURER.

(10) 2"C TO LOCAL SOUND EQUIPMENT RACK FOR REMOTE CONTROL. VERIFY REMOTE CONTROL CABLE REQUIREMENT WITH MANUFACTURER.

(11) PROVIDE DISCONNECT SWITCH AND COMPLETE POWER CONNECTION FOR CEILING EXHAUST FAN, PROVIDE RELAY, TIME DELAY SWITCH AND INTERLOCK WIRING AS REQUIRED. SEE MECHANICAL PLANS FOR OTHER REQUIREMENT.

(12) PROVIDE DISCONNECT SWITCH AND POWER CONNECTION FOR WATER HEATER. PROVIDE CONTROL WIRING AND COMPLETE INSTALLATION. SEE SUBMITTAL FOR REQUIREMENT.

(13) TWIST LOCK CEILING OUTLET WITH DROP CORD AT +6'-0"AFF. FIELD VERIFY LOCATION.

(8) INDICATED KITCHEN EQUIPMENT NO. 8. SEE KITCHEN EQUIPMENT SCHEDULE.

LEGEND

(D) INDICATES DUCT SMOKE DETECTOR FOR HVAC SHUT DOWN INTERLOCK. PROVIDE 110V POWER CONNECTION AS REQUIREMENT.

(T) INDICATES HVAC T'STAT. SEE MECHANICAL PLANS FOR EXACT LOCATION AND REQUIREMENT.

PP INDICATES POWER PACK FOR 120V RECEPTACLES CIRCUIT CONTROL VIA OCCUPANCY SENSOR.

INDICATES FOURPLEX OUTLET WITH (1) DUPLEX OUTLET IS ALWAYS HOT AND (1) DUPLEX OUTLET IS ON SWITCHING CIRCUIT WHICH IS CONTROLLED BY OCCUPANCY SENSOR VIA SWITCH PACK PER PLANS. SWITCHING RECEPTACLE SHALL BE DIFFERENT COLOR FROM OTHER RECEPTACLE AND HAS A PERMANENT MARKING TO DIFFERENTIATE IT FROM UNCONTROLLED RECEPTACLES. FIELD VERIFY EXACT LOCATION AND REQUIREMENT WITH GENERAL CONTRACTOR PRIOR TO ROUGH-IN.

INDICATES STEEL CITY FLUSH FLOOR BOX WITH BRASS COVER PLATE. PROVIDE DATA AND POWER OUTLET INSIDE FLOOR BOX AS REQUIRED. FIELD VERIFY LOCATION.

STEEL CITY FLUSH FLOOR BOX WITH BRASS COVER PLATE. PROVIDE FOURPLEX RECEPTACLE AND UNDERGROUND CONDUIT AND WIRING PER PLANS.

STEEL CITY FLUSH FLOOR BOX WITH BRASS COVER PLATE. PROVIDE FOURPLEX RECEPTACLE AND DATA OUTLETS, AND UNDERGROUND CONDUIT AND WIRING PER PLANS.

ASSISTIVE LISTENING SYSTEM

OCCUPANT LOAD
5,794 sf / 7 = 828 occupants
828 x 4% = 33.12

A MIN, OF 33 RECEIVERS SHALL BE PROVIDED, SEE SPECIFICATIONS & EQUIPMENT LIST ON ELECTRICAL SHEETS

WALL LEGEND

2x6 STUD & GYP. BD. PARTITION FULL HEIGHT TO UNDERSIDE OF DECK

2x6 STUD & GYP. BD. PARTITION, 6" ABOVE FINISH CEILING

2x8 WOOD STUDS, FULL HEIGHT EXTERIOR WALL

2x6 WOOD STUDS, 1HR FIRE RATED PARTITION, FULL HEIGHT TO UNDERSIDE OF DECK ABOVE PER CBC TABLE 721.1(2) 14-1.1

2x8" PLUMBING WALL

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Revision:	Revision Description:	Rev. Date:

Sheet Title: POWER PLAN BLDG. 'B'

Project Name & Address: NEW ELEMENTARY SCHOOL INCREMENT 2
BAKERSFIELD CITY SCHOOL DISTRICT
@ CITADEL ROAD & MARDI GRAS COURT

Issue Date:	Date:	Designer:	DR:	PC:
01/31/18	12/06/16	J CHONG	J CHONG	--

Agency Approval Stamp:
FILE #: 15-6
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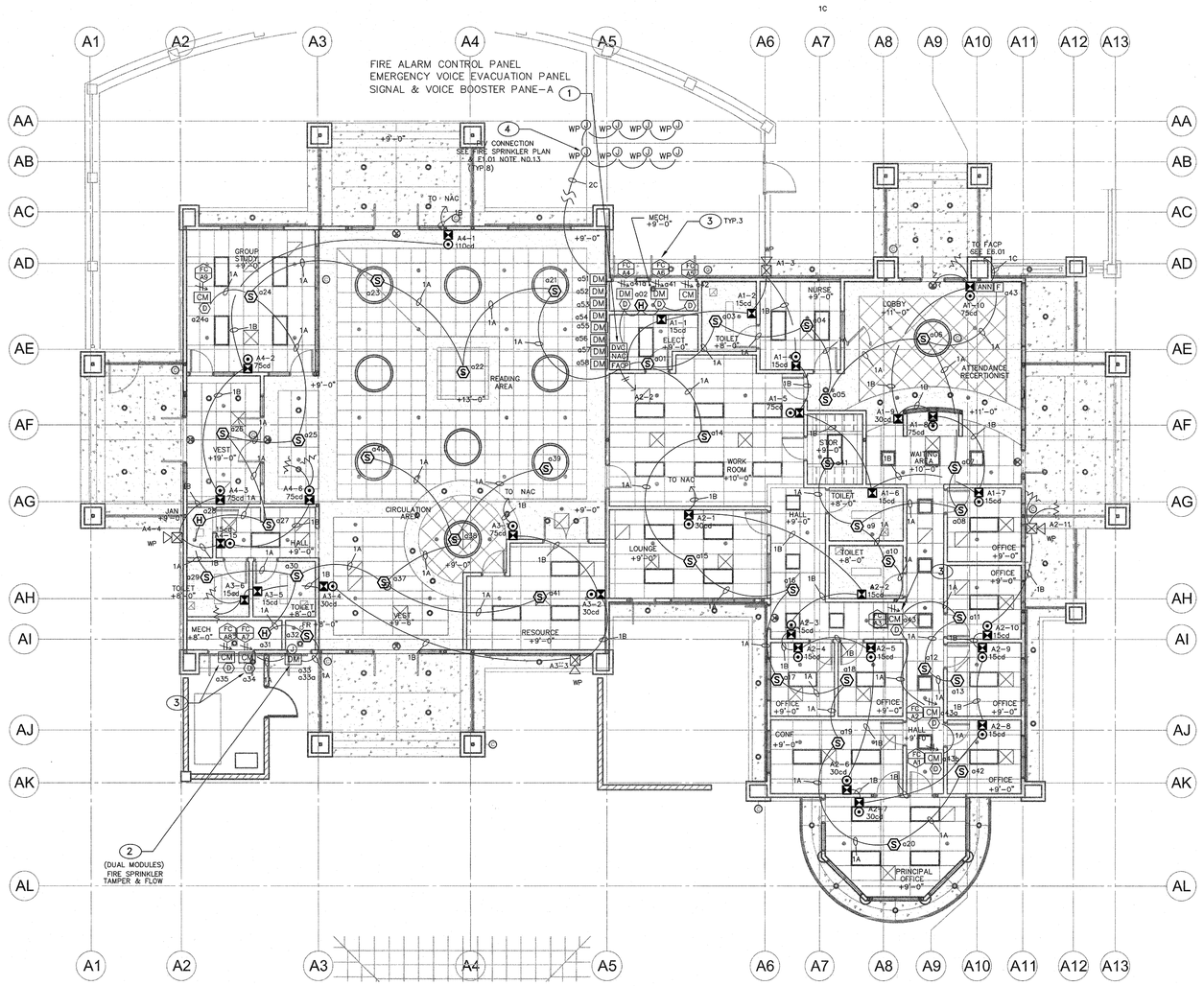
REGISTERED PROFESSIONAL ENGINEER
JOHN S. CHONG
E 14419
Exp.6/30/2020
ELECTRICAL
STATE OF CALIFORNIA

Job No.: 5262

Sheet No.: E3.20

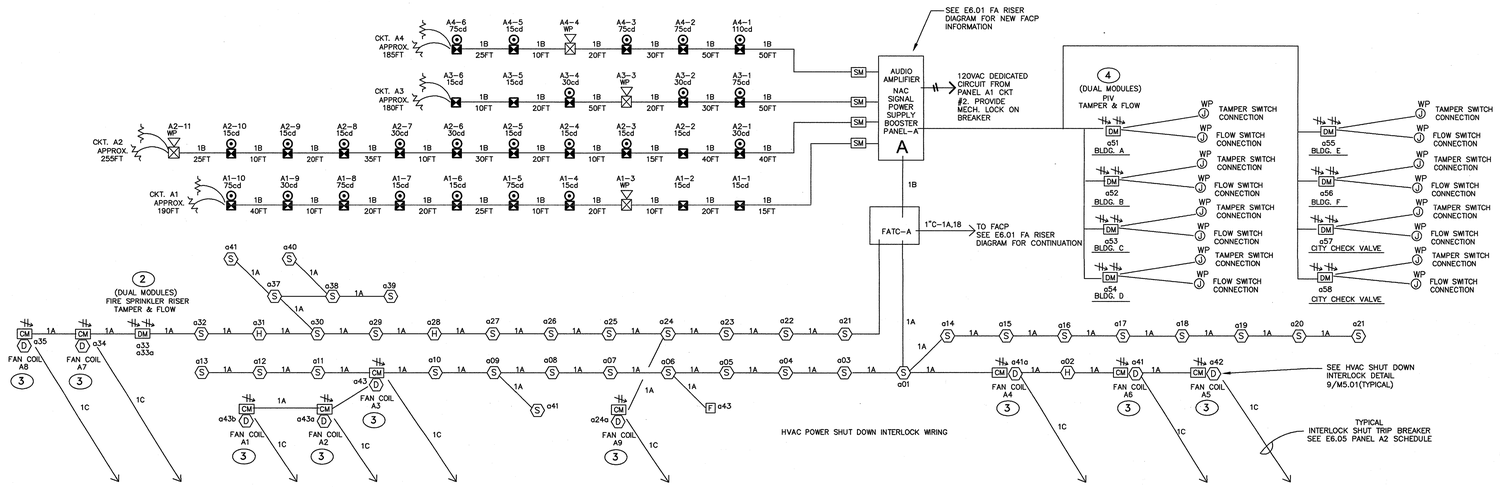
Release:



FIRE ALARM PLAN - BLDG. 'A'

NEW SCHOOL INCREMENT #2

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



(1) FA RISER DIAGRAM - BUILDING A

N.T.S

FA CABLE SCHEDULE

TYPE	DESCRIPTION
A	INITIALING CIRCUIT CABLE 2#16 AWG SOLID COPPER PVC JACKET POWER LIMITED FPLR CABLE, MIN. 3/4" CONDUIT INSTALLATION
B	NAC SIGNAL CIRCUIT CABLE 2#12 AWG SOLID COPPER PVC JACKET POWER LIMITED FPLR CABLE, AND 2#16 TWIST SHEILD SPEAKER CABLE. MIN. 3/4" CONDUIT INSTALLATION
C	INITIALING CIRCUIT CABLE 4#14 AWG SOLID COPPER PVC JACKET POWER LIMITED FPLR OUTDOOR CABLE, MIN. 3/4" CONDUIT INSTALLATION

KEY NOTES

1. FIRE ALARM CONTROL PANEL AND EMERGENCY VOICE EVACUATION PANEL. PROVIDE 110V DEDICATE CIRCUIT AND CONNECT TO PANEL A1 CIRCUIT #2 WITH MECHANICAL LOCK ON BREAKER. PROVIDE CONNECTION FOR NEW FA DEVICES INTERFACE WITH MASTER FACP IN ADMIN BUILDING. SEE FA RISER DIAGRAM FOR DETAIL.
2. FURNISH AND INSTALL MONITOR MODULES AND FA MONITORING CABLE FOR FIRE SPRINKLER FLOW SWITCH AND TAMPER SWITCH. SEE FIRE SPRINKLER PLANS FOR EXACT LOCATION AND DETAILS.
3. FURNISH AND INSTALL CONTROL MODULES AND INTERLOCK WITH DUCT SMOKE DETECTOR FOR HVAC UNIT POWER SHUT DOWN WHEN SMOKE IS DETECTED. PROVIDE 110V POWER CONNECTION, RELAYS AND INTERLOCK WIRING. SEE MECHANICAL PLANS FOR ADDITIONAL INFORMATION.
4. FURNISH AND INSTALL MONITOR MODULES AND FA MONITORING CABLE FOR P/V FLOW SWITCH AND TAMPER SWITCH. SEE FIRE SPRINKLER PLANS AND E1.01 NOTE NO.13 FOR EXACT LOCATION AND DETAILS.

LEGEND

- FACP — FIRE ALARM CONTORL PANEL
- NAC — NAC SIGNAL POWER SUPPLY
- DVC — DIGITAL VOICE COMMAND CENTER
- ANN — REMOTE ANNUNCIATOR
- A1-4 / 15cd — INDICATE NUMBER 4 DEVICES IN CIRCUIT A1
- SPEAKER STROBE WITH EVACUATION SPEAKER 15cd 30cd 75cd 110cd TEMPORAL CODE 3
- WP — OUTDOOR EVACUATION SPEAKER WITH WEATHERPROOF BOX TEMPORAL CODE 3
- a02 — INDICATE INITIATING DEVICES ADDRESS
- S — ADDRESSABLE CEILING SMOKE DETECTOR WITH BASE
- H — CEILING HEAT DETECTOR 190°F TEMP WITH BASE
- D — DUCT SMOKE DETECTOR WITH SMOKE/CO COMBO DETECTOR IN HVAC SUPPLY DUCT PROVIDE 110V AC POWER CONNECTION AND INTERLOCK WIRING FOR HVAC POWER SHUT DOWN. SEE MECH PLANS FOR DETEAIL
- F — MANUAL PULL STATION
- CM — CONTROL MODULE
- DM — DUAL MONITORING MODULE
- SM — SYNC MODULE
- 1A — INDICATE (1)FA CABLE TYPE A
- END OF LINE RESISTOR
- DRY CONTACT RELAYS

WALL LEGEND

- 2x6 STUD & GYP. BD. PARTITION FULL HEIGHT TO UNDERSIDE OF DECK
- 2x6 STUD & GYP. BD. PARTITION, 6" ABOVE FINISH CEILING
- 2x8 WOOD STUDS, FULL HEIGHT EXTERIOR WALL
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Revision:	Revision Description:	Rev. Date:

Sheet Title: FIRE ALARM PLAN BLDG 'A'

Project Name & Address: NEW ELEMENTARY SCHOOL INCREMENT 2 BAKERSFIELD CITY SCHOOL DISTRICT @ CITADEL ROAD & MARDI GRAS COURT

Issue Date:	Designer:	DR:	FC:
01/31/18	J CHONG	J CHONG	---
Date: 12/06/16			

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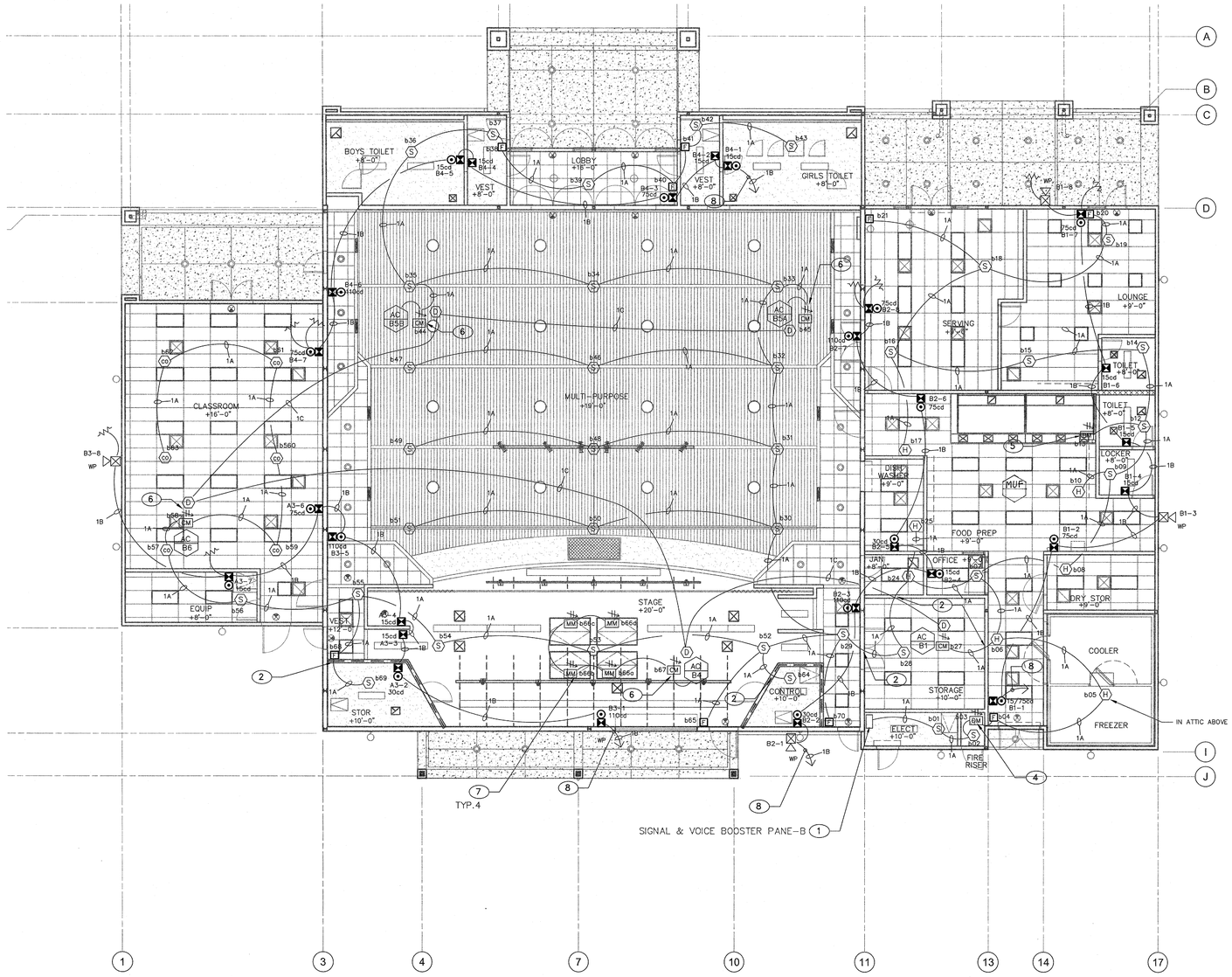
REGISTERED PROFESSIONAL ENGINEER
JOHN S. CHONG
E 14419
Exp.6/30/2020
ELECTRICAL
STATE OF CALIFORNIA

Job No.: 5262

Sheet No.: E4.10

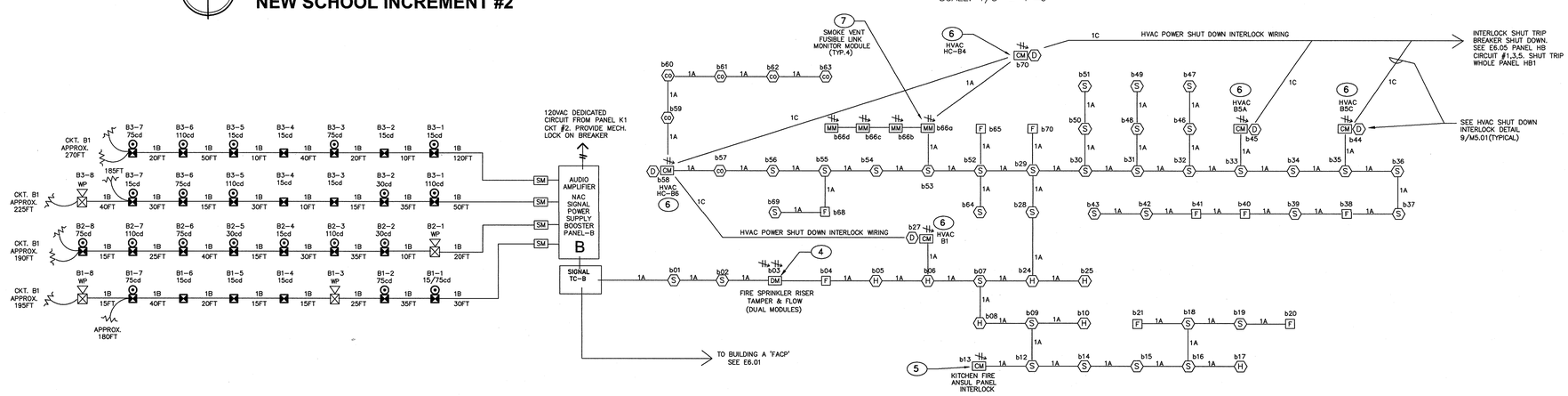
Release:



FIRE ALARM PLAN - BLDG. 'B'

NEW SCHOOL INCREMENT #2

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



FIRE ALARM RISER DIAGARM - BLDG. 'B'

NOT TO SCALE

KEY NOTES

1. FIRE ALARM EMERGENCY VOICE AND SIGNAL POWER BOOSTER PANEL-K1. PROVIDE 110V DEDICATE CIRCUIT AND CONNECT TO PANEL K1 CIRCUIT 2 WITH MECHANICAL LOCK ON BREAKER. PROVIDE CONNECTION FOR NEW FA DEVICES INTERFACE WITH MASTER FACP IN ADMIN BUILDING. SEE FA RISER DIAGRAM FOR DETAIL.
2. PROVIDE FIRE CAULKING AND SEAL ALL CONDUIT PENETRATION IN FIRE RATED WALL FIELD ID IDENTIFIED ALL PENETRATION LOCATION WITH GENERAL CONTRACTOR PRIOR TO INSTALLATION. SEE ARCHITECTURAL PLANS FOR EXACT LOCATION.
3. NOT USE.
4. FURNISH AND INSTALL DUAL MONITOR MODULES AND FA MONITORING CABLE FOR FIRE SPRINKLER RISER FLOW SWITCH AND TAMPER SWITCH. PROVIDE 110V POWER CONNECTION FOR ELECTRIC FIRE BELL. SEE FIRE SPRINKLER PLANS FOR EXACT LOCATION AND DETAILS.
5. FURNISH AND INSTALL MONITOR MODULES AND FA MONITORING CABLE FOR KITCHEN FIRE ANSUL PANEL. PROVIDE RELAYS AND INTERLOCK WIRING TO MICRO CONTACT SWITCH, SEE DRAWING K1.01 KITCHEN EQUIPMENT SCHEDULE ITEM 36 FOR MORE INFORMATION.
6. FURNISH AND INSTALL CONTROL MODULES AND INTERLOCK WITH DUCT SMOKE DETECTOR FOR HVAC UNIT POWER SHUT DOWN WHEN SMOKE IS DETECTED. PROVIDE 110V POWER CONNECTION, RELAYS AND INTERLOCK WIRING, SEE MECHANICAL DETAIL 9/M5.01.
7. FURNISH AND INSTALL MONITOR MODULE AND FA MONITORING CABLE FOR SMOKE VENT. PROVIDE FUSIBLE LINK AND INTERLOCK WIRING, FA SIGNAL WILL BE SEND TO FACP WITH PARTING OF SINGLE FUSIBLE LINK. SEE ROOF PLAN A4.20 FOR MORE INFORMATION.
8. 3/4"C 1B CABLE TO VOICE/SIGNAL BOOSTER PANEL B.

LEGEND

- FACP — FIRE ALARM CONTORL PANEL
- NAC — NAC SIGNAL POWER SUPPLY
- DVC — DIGITAL VOICE COMMAND CENTER
- ALD — ASSISTED LISTEN DEVICES ANTENNA
- B1-4 / 15cd — INDICATE NUMBER 4 DEVICES IN CIRCUIT B1
- SPEAKER STROBE WITH EVACUATION SPEAKER 15cd 30cd 75cd 110cd TEMPORAL CODE 3
- WP — OUTDOOR EVACUATION SPEAKER WITH WEATHERPROOF BOX TEMPORAL CODE 3
- 02 — INDICATE INITIATING DEVICES ADDRESS
- S — ADDRESSABLE CEILING SMOKE DETECTOR WITH BASE
- H — CEILING HEAT DETECTOR 190°F TEMP WITH BASE
- D — DUCT SMOKE DETECTOR WITH SMOKE/CO COMBO DETECTOR IN HVAC SUPPLY DUCT PROVIDE 110V AC POWER CONNECTION AND INTERLOCK WIRING FOR HVAC POWER SHUT DOWN. SEE MECHANICAL FOR DETAIL
- F — MANUAL PULL STATION
- CM — CONTROL MODULE
- DM — DUAL MONITORING MODULE
- SM — SYNC MODULE
- 1A — INDICATE (1)FA CABLE TYPE A
- END OF LINE RESISTOR
- DRY CONTACT RELAYS

FA CABLE SCHEDULE

TYPE	DESCRIPTION
A	INITIALING CIRCUIT CABLE 2#16 AWG SOLID COPPER PVC JACKET POWER LIMITED FPLR CABLE, MIN. 3/4" CONDUIT INSTALLATION
B	NAC SIGNAL CIRCUIT CABLE 2#12 AWG SOLID COPPER PVC JACKET POWER LIMITED FPLR CABLE, AND 2#16 TWIST SHEILD SPEAKER CABLE. MIN. 3/4" CONDUIT INSTALLATION
C	INITIALING CIRCUIT CABLE 2#14 AWG SOLID COPPER PVC JACKET POWER LIMITED FPLR OUTDOOR CABLE, MIN. 3/4" CONDUIT INSTALLATION

ASSISTIVE LISTENING SYSTEM

OCCUPANT LOAD
5,794 sf / 7 = 828 occupants
828 x 4% = 33.12

A MIN. OF 33 RECEIVERS SHALL BE PROVIDED, SEE SPECIFICATIONS & EQUIPMENT LIST ON ELECTRICAL SHEETS

WALL LEGEND

- 2x6 STUD & GYP. BD. PARTITION FULL HEIGHT TO UNDERSIDE OF DECK
- 2x6 STUD & GYP. BD. PARTITION, 6" ABOVE FINISH CEILING
- 2x8 WOOD STUDS, FULL HEIGHT EXTERIOR WALL
- 2x6 WOOD STUDS, 1HR FIRE RATED PARTITION, FULL HEIGHT TO UNDERSIDE OF DECK ABOVE PER CBC TABLE 721.1(2) 14-1.1
- 2x8" PLUMBING WALL

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Revision: / Revision Description: / Rev. Date:

Sheet Title: FIRE ALARM PLAN BLDG 'B'

Project Name & Address: NEW ELEMENTARY SCHOOL INCREMENT 2
BAKERSFIELD CITY SCHOOL DISTRICT
@ CITADEL ROAD & MARDI GRAS COURT

Issue Date: 01/31/18
Date: 12/06/16
Designed: J CHONG
DR: J CHONG
PIC: ---

Agency Approval Stamp:

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E 14419
Exp.6/30/2020
ELECTRICAL
STATE OF CALIFORNIA

Job No.: 5262

Sheet No.: E4.20

Release:

KEY NOTES

1. MDF. CORE SWITCHING EQUIPMENT FURNISH BY OWNER AND INSTALLED BY CONTRACTOR, PROVIDE PATCH CABLE AND DATA CABLING SYSTEM PER PLANS. PROVIDE 120V DEDICATED CIRCUIT. SEE SPECIFICATION FOR MORE INFORMATION.
2. MASTER PA/IC/CLOCK EQUIPMENT. PROVIDE COMPLETE SYSTEM AND DEVICES PER PLANS. PROVIDE 120V DEDICATED CIRCUIT. SEE SPECIFICATION FOR MORE INFORMATION.
3. MASTER INTRUSION ALARM PANEL. SECURITY ALARM SYSTEM AND DEVICES ARE INSTALLED BY OWNER VENDER. PROVIDE 120V DEDICATED CIRCUIT, (2) PAIR AT&T TELEPHONE LINE AND CABLE FOR OFF SITE MONITORING, PROVIDE RACEWAY PER PLANS. SEE SPECIFICATION FOR MORE INFORMATION.
4. 4'x8'x3/4" PLYWOOD BKBD SURFACE MOUNT AND COVER FULL WALL, PAINT AND MATCH WALL COLOR. PROVIDE FOURPLEX OUTLET AND #6 BARE COPPER GROUNDING CONDUCTOR AND BOND TO UFER. PROVIDE PUNCH DOWN BLOCK FOR AT&T, MASTER GROUND BUS AND TERMINAL STRIP AS REQUIRED FOR SIGNAL CABLE TERMINATION.
5. PROVIDE DESKTOP METAL GROMMET ON WORK COUNTER. CORE DRILL COUNTERTOPS AS REQUIRED.

LEGEND

SECURITY ALARM SYSTEM

SECURITY ALARM EQUIPMENT ARE FURNISHED AND INSTALLED BY OWNER'S VENDER. COORDINATE AND PROVIDE RACEWAY PER PLANS. FIELD VERIFY EXACT LOCATION AND REQUIREMENT WITH SECURITY ALARM CONTRACTOR PRIOR TO ROUGH IN.

- ALM — NETWORK INTRUSION PANEL FURNISHED AND INSTALLED BY SECURITY ALARM CONTRACTOR, PROVIDE 110V DEDICATED CIRCUIT AND OUTLET. FIELD VERIFY LOCATION AND ADDITIONAL REQUIREMENT WITH SECURITY ALARM CONTRACTOR.
- (K) — LCD KEYPAD, PROVIDE 4"SQ. BACK BOX, SINGLE GANG AND DEVICE MOUNTING PLATE. PROVIDE 3/4"C STUB INTO ACCESSIBLE ATTIC SPACE. FIELD VERIFY LOCATION AND ADDITIONAL REQUIREMENT WITH OWNER AND SECURITY ALARM CONTRACTOR.
- (M) — WALL MOUNTED INTRUSION DETECTOR AT +84"AFF. PROVIDE 4"SQ BACK BOX WITH SINGLE GANG RING AND 3/4"C STUB INTO ACCESSIBLE ATTIC SPACE. FIELD VERIFY LOCATION AND REQUIREMENT WITH SECURITY ALARM CONTRACTOR.
- (W) — DOOR CONTACT SWITCH. RECESS ABOVE DOOR JAMB AT OPEN SIDE. PROVIDE BUSHING AND ROUGH-IN 1/2"C TO ACCESSIBLE ATTIC SPACE. FIELD VERIFY LOCATION AND REQUIREMENT WITH SECURITY ALARM CONTRACTOR.
- (AC) — DOOR ACCESS CONTROL. PROVIDE 4"SQ. BACK BOX AT +46"AFF WITH SINGLE GANG RING AND STAINLESS COVER PLATE. STUB OUT 3/4"C INTO ACCESSIBLE ATTIC SPACE. FIELD VERIFY LOCATION AND REQUIREMENT WITH OWNER AND SECURITY ALARM CONTRACTOR.

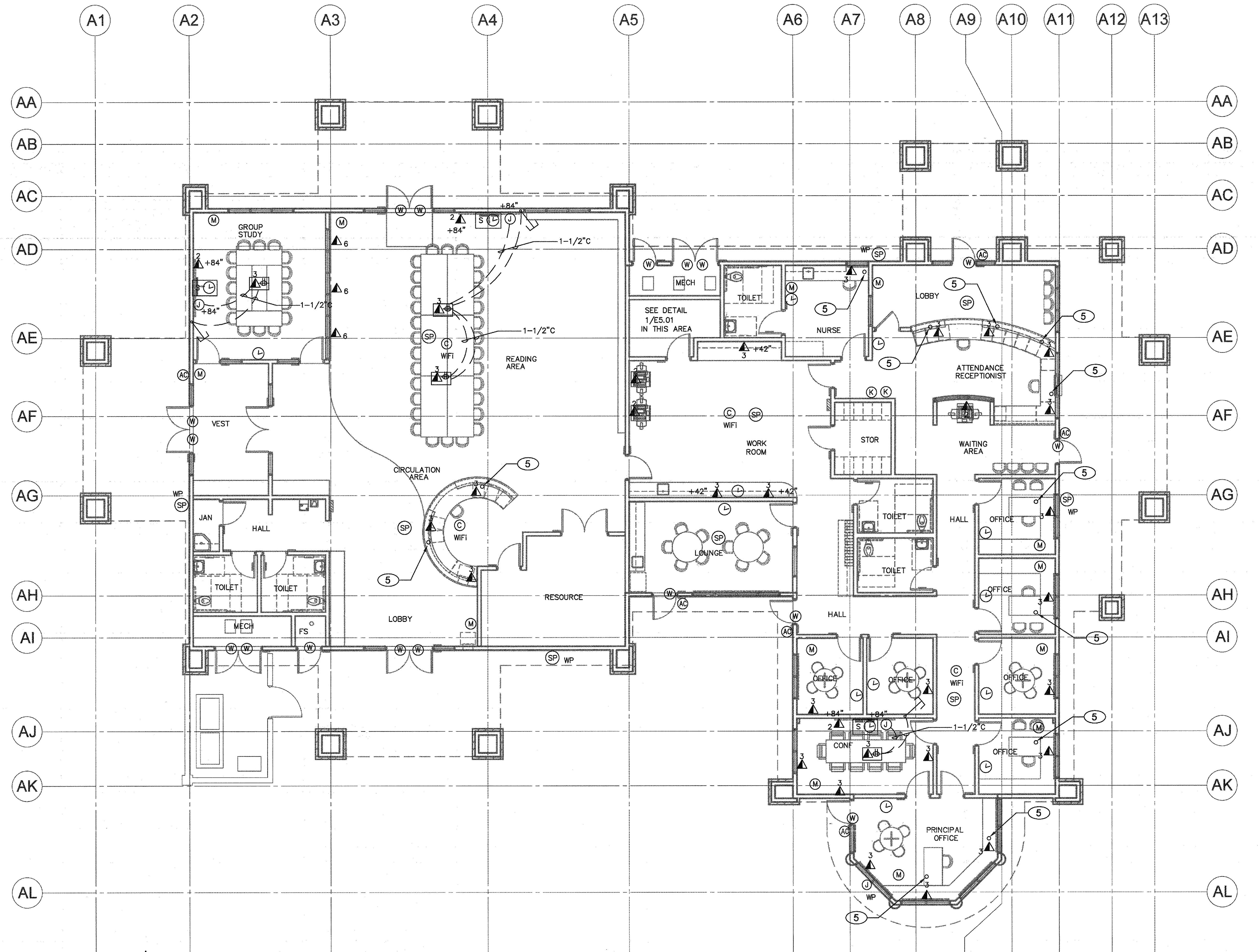
PA/TELEPHONE/INTERCOM SYSTEM

- ▽ — HANDSET/IP PHONE OUTLET AT 46"AFF – PROVIDE 4"SQ BACK BOX WITH SINGLE GANG RING AND 3/4"C STUB INTO ACCESSIBLE ATTIC SPACE. PROVIDE BLUE COLOR CAT.6e 4UTP CABLE TO PATCH PANEL FOR TERMINATION. HUBBELL WHITE COLOR JACK AND FACEPLATE.
- S — WALL MOUNTED CLOCK/SPEAKER COMBO AT +84"AFF. PROVIDE BACK BOX, 3/4"C STUB INTO ACCESSIBLE ATTIC SPACE. SEE SPECIFICATION FOR MORE INFORMATION.
- WIRELESS WALL CLOCK AT +84"AFF. PROVIDE BACKING SUPPORT. FIELD VERIFY EXACT LOCATION WITH OWNER.
- (SP) — CEILING SPEAKER – RAULAND #US0221 W/ACC1401 BAFFLE. PROVIDE CEILING MOUNTING AND SUPPORT HARDWARE AS REQUIRED. PROVIDE CAT.5e YELLOW CABLE TO IDF 66 BLOCK FOR TERMINATION.
- WP (SP) — OUTDOOR SPEAKER – ATLAS #APF15 HORN W/XFMR AND LOWELL (#CB84 FOR SURFACE, #P875X FOR RECESS) BACK BOX W/SQLK GRILL AND 3/4"C STUB INTO ACCESSIBLE ATTIC SPACE. PROVIDE CAT.5e YELLOW CABLE TO SERVER ROOM 66 BLOCK FOR TERMINATION.

DATA COMMUNICATION SYSTEM

DATA CORE SWITCHES ARE FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR. CONTRACTOR TO PROVIDE A COMPLETE DATA COMMUNICATION SYSTEM PER PLANS WITH ALL OTHER MATERIAL AS REQUIRED. VERIFY MATERIAL AND SYSTEM REQUIREMENT WITH OWNER I.T MANAGER PRIOR TO SUBMITTING THE BID PROPOSAL.

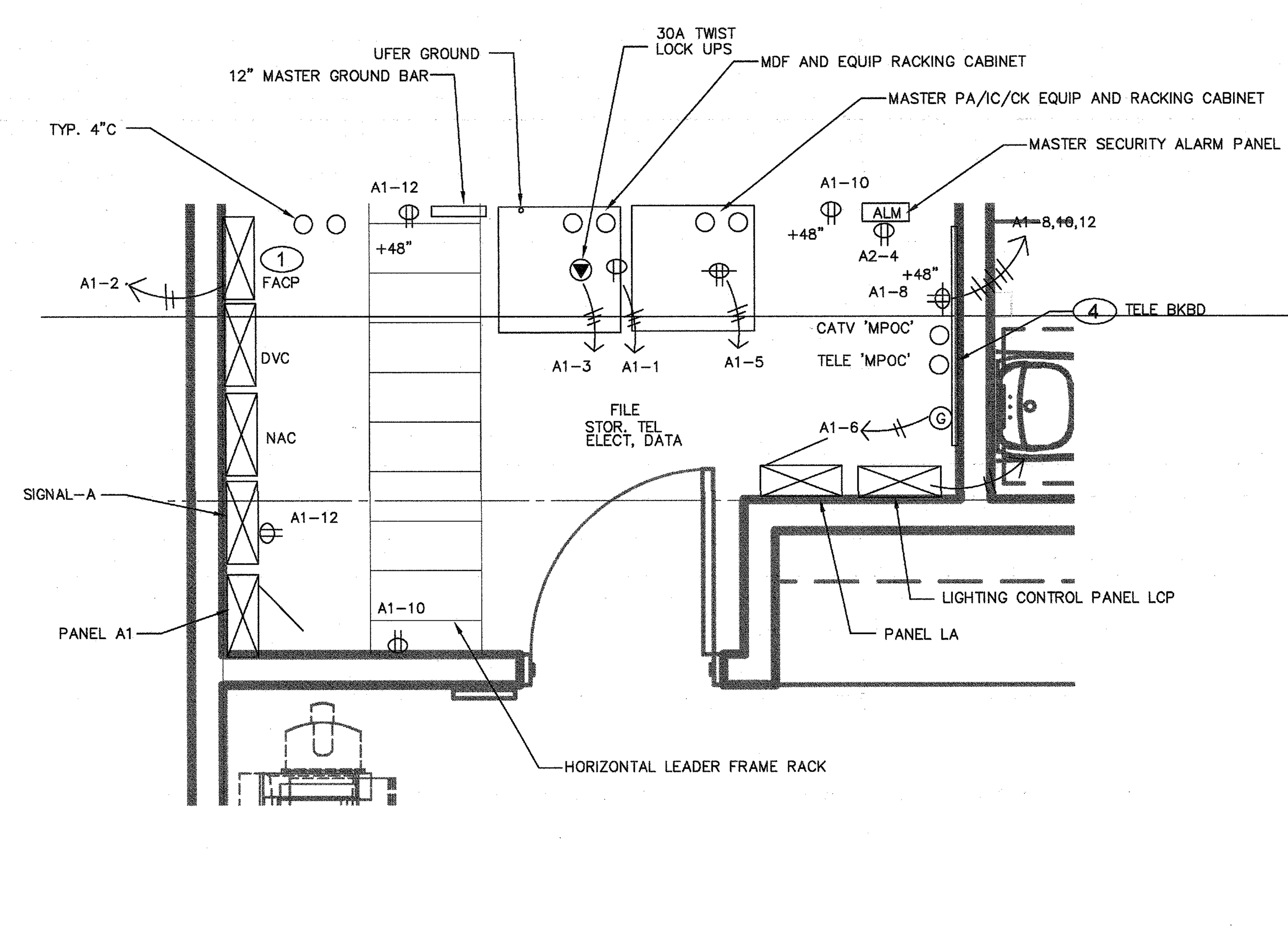
- LETTER INDICATED NUMBER OF CABLE DROP AND DATA JACK REQUIREMENT.
- 3 — WALL DATA OUTLET AT +18"AFF – NUMBER 3 INDICATED (THREE DATA DROP) HUBBELL WHITE COLOR JACKS AND FACEPLATE WITH CAT 6e 4UTP CABLE TO IDF PATCH PANEL.
- WiFi (C) — CEILING DATA OUTLET FOR WIRELESS ACCESS POINT WITH (TWO) RJ45 JACK. HUBBELL WHITE COLOR JACKS AND FACEPLATE WITH CAT 6A 4UTP CABLE TO MDF PATCH PANEL. ACCESS POINT EQUIPMENT FURNISHED AND INSTALLED BY OWNER. FIELD VERIFY EXACT LOCATION AND REQUIREMENT WITH OWNER I.T MANAGER.
- IDF — WALL MOUNT DATA CABINET, MODEL: HUBBELL 36"H WITH SWING OUT DOOR AND RACK, PROVIDE EXHAUST FAN INSIDE. PROVIDE (2) 48 PORT PATCH PANEL, MODEL: HUBBELL #UDX48E1U SERIES. DATA EDGE SWITCH FURNISH BY OWNER, INSTALL BY CONTRACTOR. PROVIDE ALL HARDWARE AND PATCH CABLE AS REQUIRED FOR A COMPLETE FUNCTION SYSTEM. PROVIDE 66 BLOCK INSIDE CABINET FOR PA/IC SPEAKER WIRING TERMINATION.
- WIREMOLD RFB4E ON GRADE FLOOR BOX WITH 2HUB CONDUIT HUB FITTING. COORDINATE FINISH WITH ARCHITECT. PROVIDE FOURPLEX RECEPTACLE AND DATA OUTLETS, AND UNDERGROUND CONDUIT AND WIRING PER PLANS.



SIGNAL AND COMMUNICATION PLAN - BLDG. 'A'

NEW SCHOOL INCREMENT #2

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



1 DETAIL

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

WALL LEGEND

- 2x6 STUD & GYP. BD. PARTITION FULL HEIGHT TO UNDERSIDE OF DECK
- 2x6 STUD & GYP. BD. PARTITION, 6" ABOVE FINISH CEILING
- 2x8 WOOD STUDS, FULL HEIGHT EXTERIOR WALL
- 2x6 WOOD STUDS, 1HR FIRE RATED PARTITION, FULL HEIGHT TO UNDERSIDE OF DECK ABOVE PER CBC TABLE 721.1(2) 14-1.1
- 2x8" PLUMBING WALL

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Revision	Revision Description	Rev. Date

Sheet Title: SIGNAL & COMMUNICATION PLAN - BLDG. 'A'

Project Name & Address: NEW ELEMENTARY SCHOOL INCREMENT 2 BAKERSFIELD CITY SCHOOL DISTRICT @ CITADEL ROAD & MARDI GRAS COURT

Issue Date: 01/31/18

Date: 12/06/16

Designer: J CHONG

DR: J CHONG

PIC: —

Agency Approval Stamp:

FILE #: 15-6

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DIV. OF THE STATE ARCHITECT
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AC ✓ FLS ✓ SS KW

DATE 06-22-18

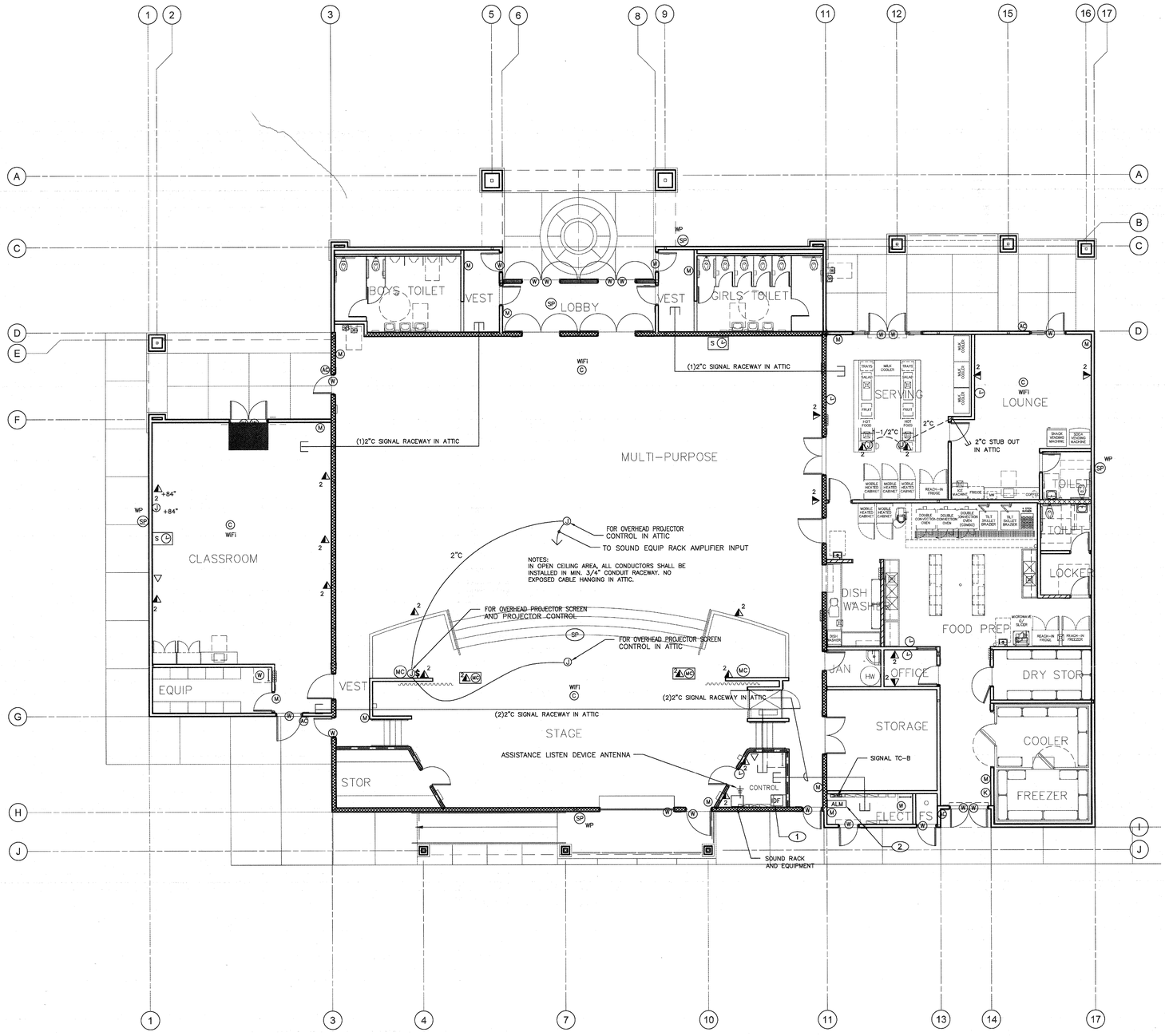
TRACKING #: 63321-300

Stamp(s): REGISTERED PROFESSIONAL ENGINEER — JOHN S. CHONG — E 14419 — Exp.6/30/2020 — ELECTRICAL — STATE OF CALIFORNIA

Job No.: 5262

Sheet No.: E5.10

Release:



SIGNAL AND COMMUNICATION PLAN - BLDG. 'B'

NEW SCHOOL INCREMENT #2

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

KEY NOTES

(1) IDF. CORE SWITCHING EQUIPMENT FURNISH BY OWNER AND INSTALLED BY CONTRACTOR, PROVIDE PATCH CABLE AND DATA CABLING SYSTEM PER PLANS. PROVDE 120V DEDICATED CRCUIT. PROVIDE (2)2"C STUB ABOVE ACCESSIBLE ATTIC SPACE.

(2) MASTER INTRUSION ALARM PANEL. SECURITY ALARM SYSTEM AND DEVICES ARE INSTALLED BY OWNER VENDER. PROVIDE 120V DEDICATED CRCUIT, (2) PAIR AT&T TELEPHONE LINE AND CABLE FOR OFF SITE MONITORING. PROVIDE RACEWAY PER PLANS. SEE SPECIFICATION FOR MORE INFORMATION.

LEGEND

SEE DRAWING E5.10 FOR ADDITIONAL INFORMATION

LOCAL SOUND SYSTEM

- ☐ FLOOR MOUNTED SOUND RACK AND EQUIPMENT. SEE SPECIFICATION.
- (SP) LOUD SPEAKER. CENTER, LEFT AND RIGHT. SEE SPECIFICATION.
- (MC) MICRO PHONE. SEE SPECIFICATION.

ASSISTIVE LISTENING SYSTEM

OCCUPANT LOAD
5,794 sf / 7 = 828 occupants
828 x 4% = 33.12

A MIN, OF 33 RECEIVERS SHALL BE PROVIDED, SEE SPECIFICATIONS & EQUIPMENT LIST ON ELECTRICAL SHEETS

WALL LEGEND

- 2x6 STUD & GYP. BD. PARTITION FULL HEIGHT TO UNDERSIDE OF DECK
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- 2x8 WOOD STUDS, FULL HEIGHT EXTERIOR WALL
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Rev. Date	Revision	Revision Description

Sheet Title: SIGNAL & COMMUNICATION PLAN - BLDG. 'B'

Project Name & Address: NEW ELEMENTARY SCHOOL INCREMENT 2
BAKERSFIELD CITY SCHOOL DISTRICT
@ CITADEL ROAD & MARDI GRAS COURT

Issue Date:	Designer:	Dft:	PC:
01/31/18	J CHONG	J CHONG	---
Date: 12/06/16			

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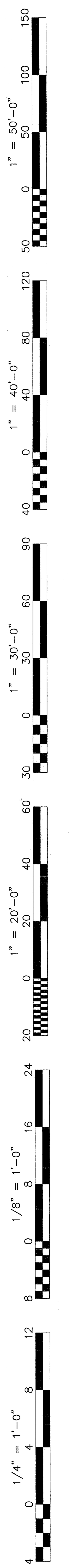


BATTERY POWER CALCULATIONS
NEW NAC SIGNAL & AUDIO BOOSTER PANEL A

DEVICE	NO. OF DEVICE	CURRENT PER DEVICE STANDBY	CURRENT PER DEVICE ALARM	STANDBY CURRENT	ALARM CURRENT
UNIT	1	0.075A	0.175A	0.075A	0.175A
OUTDOOR SPEAKER	4	--	0.050A	--	0.200A
VISUAL 15cd	5	--	0.025A	--	0.125A
VISUAL 30cd	0	--	0.041A	--	0.000A
AUDIO/VISUAL 15cd	12	--	0.093A	--	1.116A
AUDIO/VISUAL 30cd	3	--	0.114A	--	0.342A
AUDIO/VISUAL 75cd	7	--	0.157A	--	1.099A
AUDIO/VISUAL 110cd	1	--	0.197A	--	0.197A
SYNC MODULES	4	--	0.035A	--	0.140A
1/4 W SPEAKER	32	--	0.010A	--	0.320A
SUB-TOTAL				0.075A	3.539A

24 HOUR STANDBY CURRENT	1.800AH
15 MINUTE ALARM CURRENT (0.25 HR)	0.885AH
SUBTOTAL ----------	2.685AH
20% SAFETY FACTOR ------------------------	0.537AH
TOTAL AMPS-HRS REQUIRED	3.222AH
PROVIDE BATTERY WITH (2) 6AH BATTERY	

BATTERY POWER CALCULATIONS
MODULE NEW NAC SIGNAL & AUDIO BOOSTER PANEL B

DEVICE	NO. OF DEVICE	CURRENT PER DEVICE STANDBY	CURRENT PER DEVICE ALARM	STANDBY CURRENT	ALARM CURRENT
UNIT	1	0.075A	0.175A	0.075A	0.175A
OUTDOOR SPEAKER	4	--	0.050A	--	0.200A
VISUAL 15cd	7	--	0.025A	--	0.175A
VISUAL 30cd	0	--	0.041A	--	0.000A
AUDIO/VISUAL 15cd	5	--	0.093A	--	0.465A
AUDIO/VISUAL 30cd	3	--	0.114A	--	0.342A
AUDIO/VISUAL 75cd	7	--	0.157A	--	1.099A
AUDIO/VISUAL 110cd	5	--	0.197A	--	0.985A
SYNC MODULES	4	--	0.035A	--	0.140A
1/4 W SPEAKER	31	--	0.010A	--	0.310A
SUB-TOTAL				0.075A	3.891A

24 HOUR STANDBY CURRENT	1.800AH
15 MINUTE ALARM CURRENT (0.25 HR)	0.973AH
SUBTOTAL ----------	2.773AH
20% SAFETY FACTOR ------------------------	0.555AH
TOTAL AMPS-HRS REQUIRED	3.328AH
PROVIDE BATTERY WITH (2) 6AH BATTERY	

BATTERY POWER CALCULATIONS
AUDIO AMPLIFIER DVC NOTIFIER#DVC
IN ADMIN BUILDING

DEVICE	NO. OF DEVICE	CURRENT PER DEVICE STANDBY	CURRENT PER DEVICE ALARM	STANDBY CURRENT	ALARM CURRENT
UNIT	1	0.130A	1.000A	0.130A	1.000A
SUB-TOTAL				0.130A	1.000A

24 HOUR STANDBY CURRENT	3.120AH
15 MINUTE ALARM CURRENT (0.25 HR)	0.250AH
SUBTOTAL ----------	3.370AH
20% SAFETY FACTOR ------------------------	0.674AH
TOTAL NEW AMPS-HRS REQUIRED	4.044AH
PROVIDE BATTERY WITH (2) 12AH BATTERIES	

BATTERY POWER CALCULATIONS
MASTER FIRE ALARM CONTROL PANEL FACP
IN BUILDING A – DATA ROOM A18

DEVICE	NO. OF DEVICE	CURRENT PER DEVICE STANDBY	CURRENT PER DEVICE ALARM	STANDBY CURRENT	ALARM CURRENT
UNIT	1	0.120A	9A	0.120A	9A
INCREMENT NO.2					
BUILDING A & B SMOKE DETECTOR	78	0.0003A	0.0065A	0.0235A	0.507A
BUILDING A & B SMOKE/CO DETECTOR	20	0.0003A	0.0065A	0.0060A	0.130A
BUILDING A & B HEAT DETECTOR	9	0.0003A	0.0065A	0.0021A	0.0455A
BUILDING A & B MODULE	18	0.0003A	0.0065A	0.0045A	0.0975A
INCREMENT NO.3					
NEW SLAVE NETWORK FACP ALL INITIATING DEVICES IN BUILDING C D E F ARE CONNECTED IN THIS PANEL					
SUB-TOTAL				0.1561A	9.78A

24 HOUR STANDBY CURRENT	3.746AH
15 MINUTE ALARM CURRENT (0.25 HR)	2.445AH
SUBTOTAL ----------	6.191AH
20% SAFETY FACTOR ------------------------	1.238AH
TOTAL NEW AMPS-HRS REQUIRED	7.429AH
PROVIDE BATTERY WITH (2) 12AH BATTERIES	

VOLTAGE DROP CALCULATION
WORST CASE VOLTAGE DROP AT THE LAST DEVICE

VD = VOLTAGE DROP
I = TOTAL LOAD
K = 21.6
L = DISTANCE TO THE LOAD
CM = CIRCULAR MILLS (CROOS SECTION OF 12 AWG = 6530)
V = VOLTAGE (24vdc)

$$VD = \frac{K * I * 2L}{CM}$$

CIRCUIT NUMBER	AMPERES	APPROX LENGTH	RESISTIVITY OHM	WIRE AWG	AREA CM	VOLTS DROPPED	% VOLTS DROP
CKT. A1 STROBE	1.769A	190'	21.6	12	6530	0.7708V	3.2%
CKT. A1 SPEAKER	0.500A	190'	21.6	16	2583	0.7944V	0.3%
CKT. A2 STROBE	0.877A	255'	21.6	12	6530	0.7397V	3.1%
CKT. A2 SPEAKER	0.500A	255'	21.6	16	2583	1.066V	4.4%
CKT. A3 STROBE	0.475A	180'	21.6	12	6530	0.2828V	1.2%
CKT. A3 SPEAKER	0.52A	180'	21.6	16	2583	0.7827V	3.3%
CKT. A4 STROBE	0.811A	185'	21.6	12	6530	0.4641V	1.9%
CKT. A4 SPEAKER	0.300A	185'	21.6	16	2583	2.1170V	8.8%
CKT. B1 STROBE	0.665A	180'	21.6	12	6530	0.3960V	1.6%
CKT. B1 SPEAKER	0.350A	195'	21.6	16	2583	05707V	2.4%
CKT. B2 STROBE	1.114A	180'	21.6	12	6530	0.6633V	2.8%
CKT. B2 SPEAKER	0.400A	180'	21.6	16	2583	0.6020V	2.5%
CKT. B3 STROBE	0.925A	185'	21.6	12	6530	0.5660V	2.4%
CKT. B3 SPEAKER	0.400A	225'	21.6	16	2583	0.7526V	3.1%
CKT. B4 STROBE	0.814A	270'	21.6	12	6530	0.7270V	3.0%
CKT. B4 SPEAKER	0.400A	270'	21.6	16	2583	0.9031V	3.8%

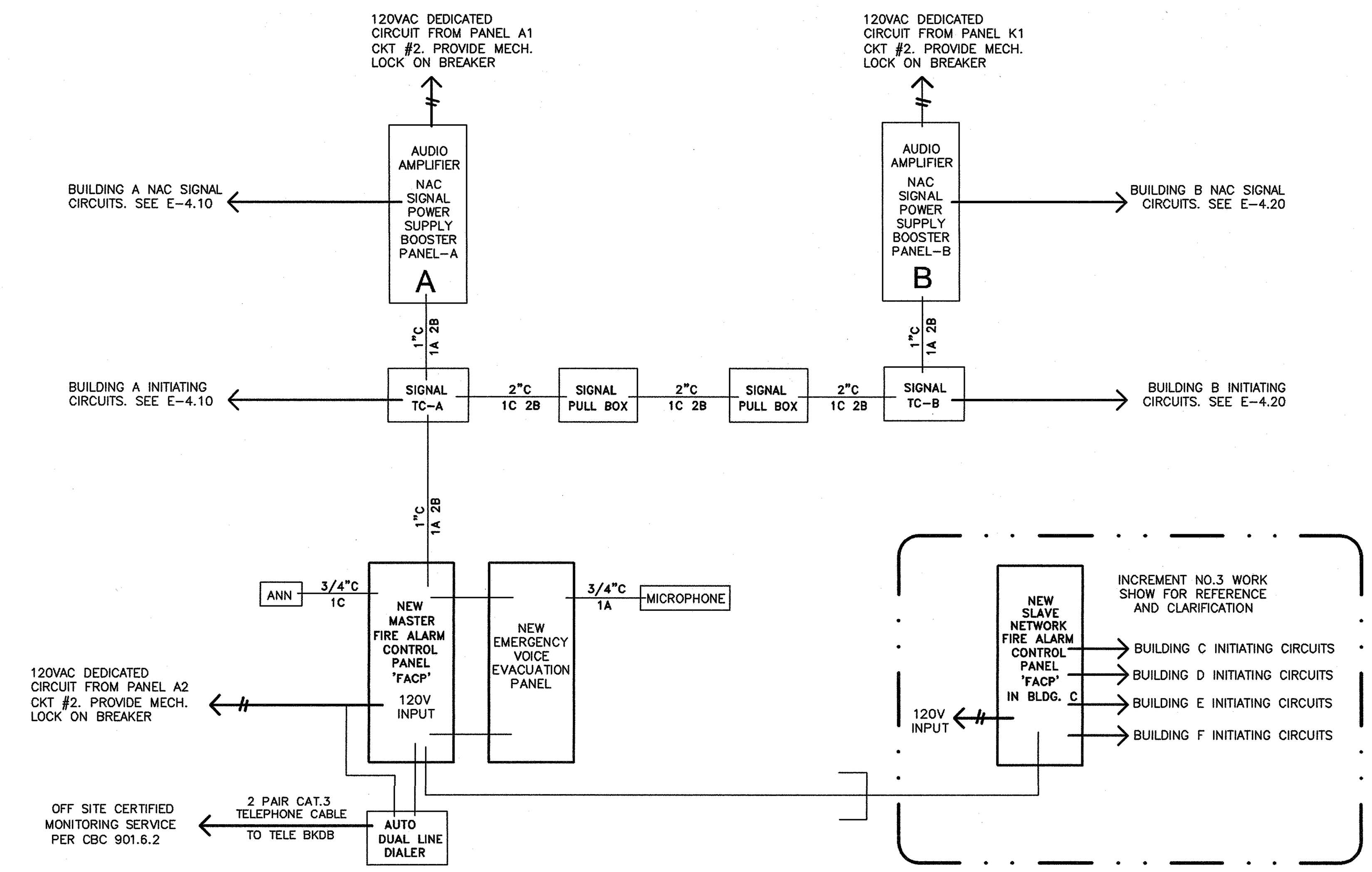
FIRE ALARM SEQUENCE OF OPERATIONS

	ACTIVATE ALARM FACP	ACTIVATE ALARM AT REMOTE ANNUNCIATOR	ACTIVATE TROUBLE SIGNAL AT FACP	ACTIVATE TROUBLE SIGNAL AT REMOTE ANNUNCIATOR	ACTIVATE SUPERVISORY SIGNAL AT FACP	ACTIVATE SUPERVISORY SIGNAL AT REMOTE ANNUNCIATOR	SEND ALARM OFF-SITE VIA COMMUNICATOR	SEND SUPERISORY SIGNAL OFF-SITE VIA COMMUNICATOR	SEND SUPERISORY SIGNAL OFF-SITE VIA COMMUNICATOR	ACTIVATE AUDIBLE/VISIBLE SIGNALS	ACTIVATE WATER FLOW BELL	PRIMARY FLOOR RECALL	SECONDARY FLOOR RECALL	ELECATOR SHUNT TRIP	SHUTDOWN HVAC UNITS	SHUT FIRE/SMOKE DAMPERS	CLOSE FIRE DOORS	RESET 120VAC INITIATING DEVICES	ACTIVATE BATTER BACK-UP	DEACTIVATE AUDIBLE SIGNALS	DEACTIVATE VISIBLE SIGNALS	RESET 24V 4-WIRE DEVICES	SYSTEM NORMAL
MANUAL PULL STATION	X	X					X			X							X						
SMOKE DETECTORS:																							
ALL (EXCEPT LISTED BELOW)	X	X					X			X							X						
PRIMARY FLOOR LOBBY	X	X					X			X			X				X						
ALL OTHER LOBBIES	X	X					X			X		X					X						
ELEVATOR MACHINE ROOM	X	X					X			X			X				X						
ELEVATOR SHAFT	X						X			X		X					X						
HEAT DETECTORS:																							
ALL (EXCEPT LISTED BELOW)	X	X					X			X							X						
ELEVATOR MACHINE ROOM	X	X					X			X				X			X						
ELEVATOR SHAFT	X	X					X			X				X			X						
DUCT DETECTOR					X	X			X						X	X							
FIRE SPRINKLER WATERFLOW SWITCH	X	X					X			X	X						X						
FIRE SPRINKLER TAMPER SWITCH					X	X			X														
POST INDICATOR VALVE					X	X			X														
WIRING CONDITIONS:																							
SIGNALING LINE CIRCUIT (SLC)-																							
WIRE-TO-WIRE SHORT			X	X				X															
SINGLE OPEN			X	X				X															
SINGLE GROUND			X	X				X															
INITIATING DEVICE CIRCUIT (IDC)-																							
WIRE-TO-WIRE SHORT	X	X					X			X							X						
SINGLE OPEN			X	X				X															
SINGLE GROUND			X	X				X															
NOTIFICATION APPLIANCE CIRCUIT (NAC)-																							
WIRE-TO-WIRE SHORT			X	X																			
SINGLE OPEN			X	X																			
SINGLE GROUND			X	X																			
LOSS OF 120VAC POWER			X	X				X											X				
SIGNAL SILENCE																				X	X		
RESET FACP																		X		X	X	X	X

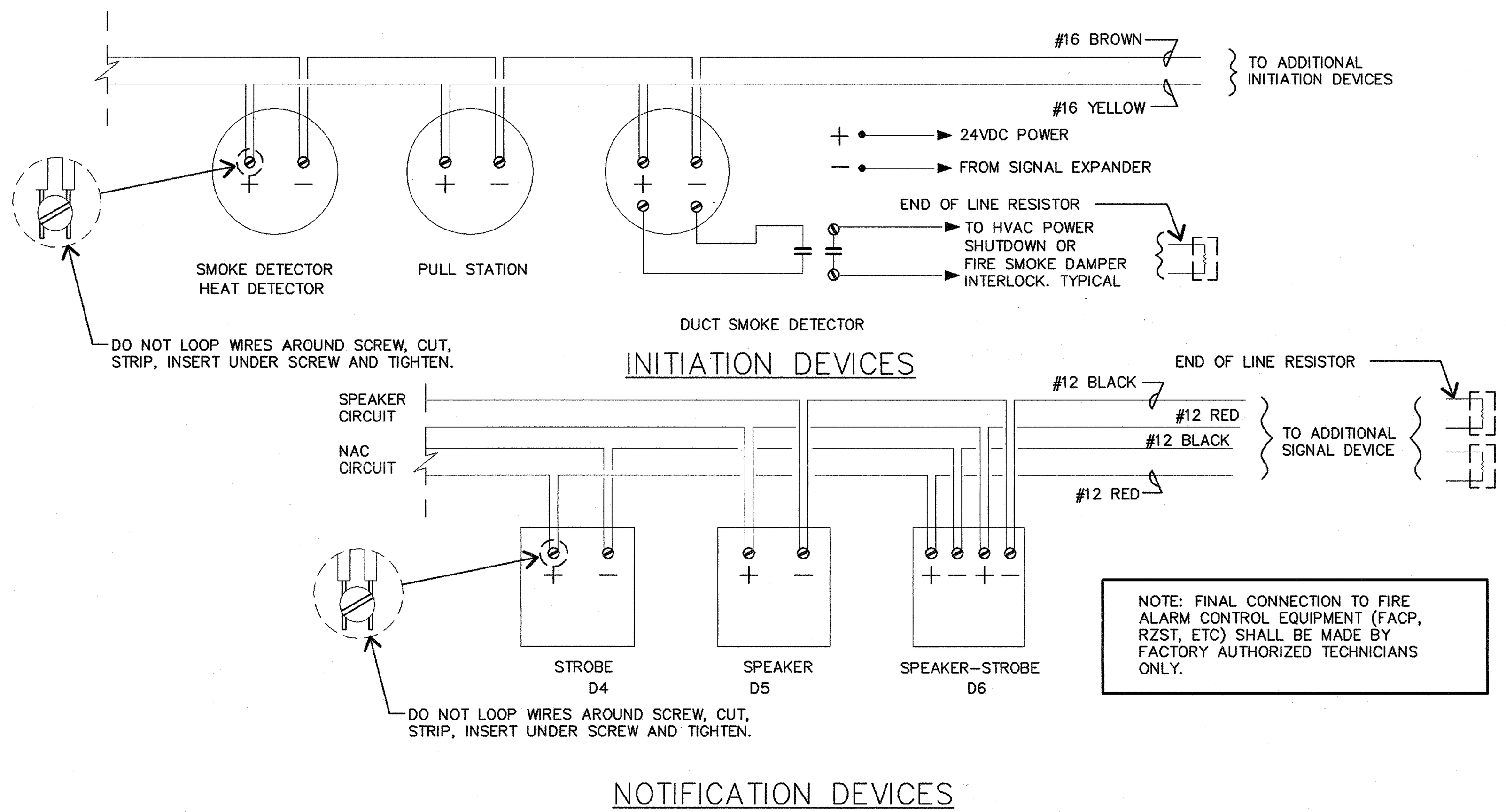
NOTE: SOME SEQUENCE OF OPERATIONS SHOWN MAY NOT APPLY

FIRE ALARM SYMBOLS AND SCHEDULE

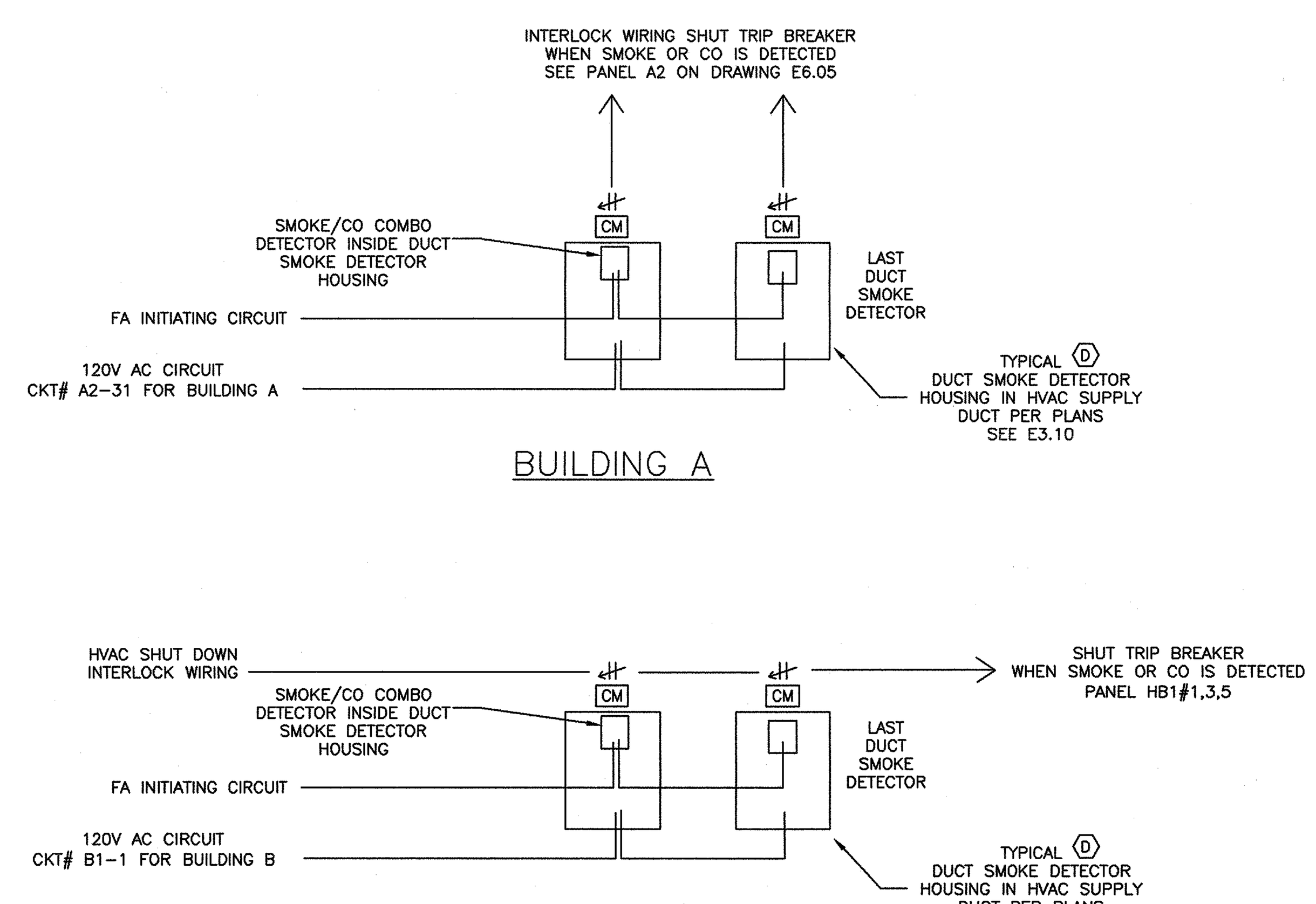
ITEM	DESCRIPTION	MODEL NUMBER	CSFM NUMBER	MOUNT	BACK BOX
FACP	NEW FIRE ALARM CONTORL PANEL ADDRESSABLE SYSTEM	NOTIFIER #NFS-640	7165-0028:0243	+60"	EQUIPMENT CABINET
DVC	DIGITAL VOICE COMMAND CENTER INTERCONNECT WITH NEW FACP AND HAVE MICROPHONE IN ADMIN OFFICE	NOTIFIER #DVC SBB-C4 ADDR-C4 (NFS2-640)	7165-0028:0243	+60"	EQUIPMENT CABINET
ANN	REMOTE ANNUNCIATOR IN ADMIN OFFICE	NOTIFIER #FDU-80	7120-0028:0209	+60"	EQUIPMENT CABINET
NAC	NAC POWER SUPPLIES & AMPLIFIER BOOSTER PAENL	WHEELOCK #SPB-80/4	6911-0785:0157	+60"	EQUIPMENT CABINET
CM	ADDRESSABLE CONTROL MODULE	NOTIFIER #FCM	7300-0028:0219	+60"	4"SQ X 2 1/2"D
MM	ADDRESSABLE MONITOR MODULE	NOTIFIER #FMM	7300-0028:0219	+60"	4"SQ X 2 1/2"D
DM	ADDRESSABLE DUAL MONITOR MODULE FOR TAMPER/FLOW SWITCH	NOTIFIER #FMM-2	7300-0028:0219	+60"	4"SQ X 2 1/2"D
F	ADDRESSABLE MANUAL PULL STATION	NOTIFIER #NBG-12LX	7150-0028:0199	+60"	4"SQ X 2 1/2"D
S	ADDRESSABLE CEILING SMOKE DETECTOR WITH BASE	NOTIFIER #FSP-851/B710P	7272-0028:0206	CEILING	4"SQ X 2 1/2"D
H	ADDRESSABLE CEILING HEAT DETECTOR WITH BASE	NOTIFIER #FST-851H/B710P	7270-0028:0196	CEILING	4"SQ X 2 1/2"D
D	DUCT SMOKE DETECTOR WITH CARBON MONOXIDE DETECTOR COMBO FOR HVAC SHUT DOWN SEE MECHANICAL PLANS DETAIL 9/M5.01	NOTIFIER #FCO-851 SYSTEM SENSOR #D4120 FOR INDOOR #D4120W FOR OUTDOOR	7275-0028:0264 3242-1653:0207	ATTIC	HOUSING IN HVAC SUPPLY AIR DUCT
	STROBE WITH 15cd 30cd 75cd 110cd	NOTIFIER #SR	7125-1653:0186	+80"	4"SQ X 2 1/2"D
	SPEAKER STROBE WITH EVACUATION SPEAKER 15cd 30cd 75cd 110cd 15/75cd TEMPORAL CODE 3	NOTIFIER #SPSV WR	7320-1653:0201	+80"	4"SQ X 2 1/2"D
WP	OUTDOOR EVACUATION SPEAKER WITH WEATHERPROOF BOX TEMPORAL CODE 3	NOTIFIER #SPRK WMBB	7320-1653:0201	+90"	4"SQ X 2 1/2"D
SM	SYNC MODULE	WHEELOCK #DSM	7300-0785:0132	+60"	4"SQ X 2 1/2"D
	POWER LIMITED CABLE	WEST PENN AQ SERIES	7161-0859:0101		IN CONDUITS
	END OF LINE RESISTOR	N/A	N/A	LAST DEVICE	4"SQ X 2 1/2"D
CO	CEILING SMOKE & CARBON MONOXIDE COMBO DETECTOR WITH BASE	NOTIFIER #FCO-851	7275-0028:0264	CEILING	4"SQ X 2 1/2"D



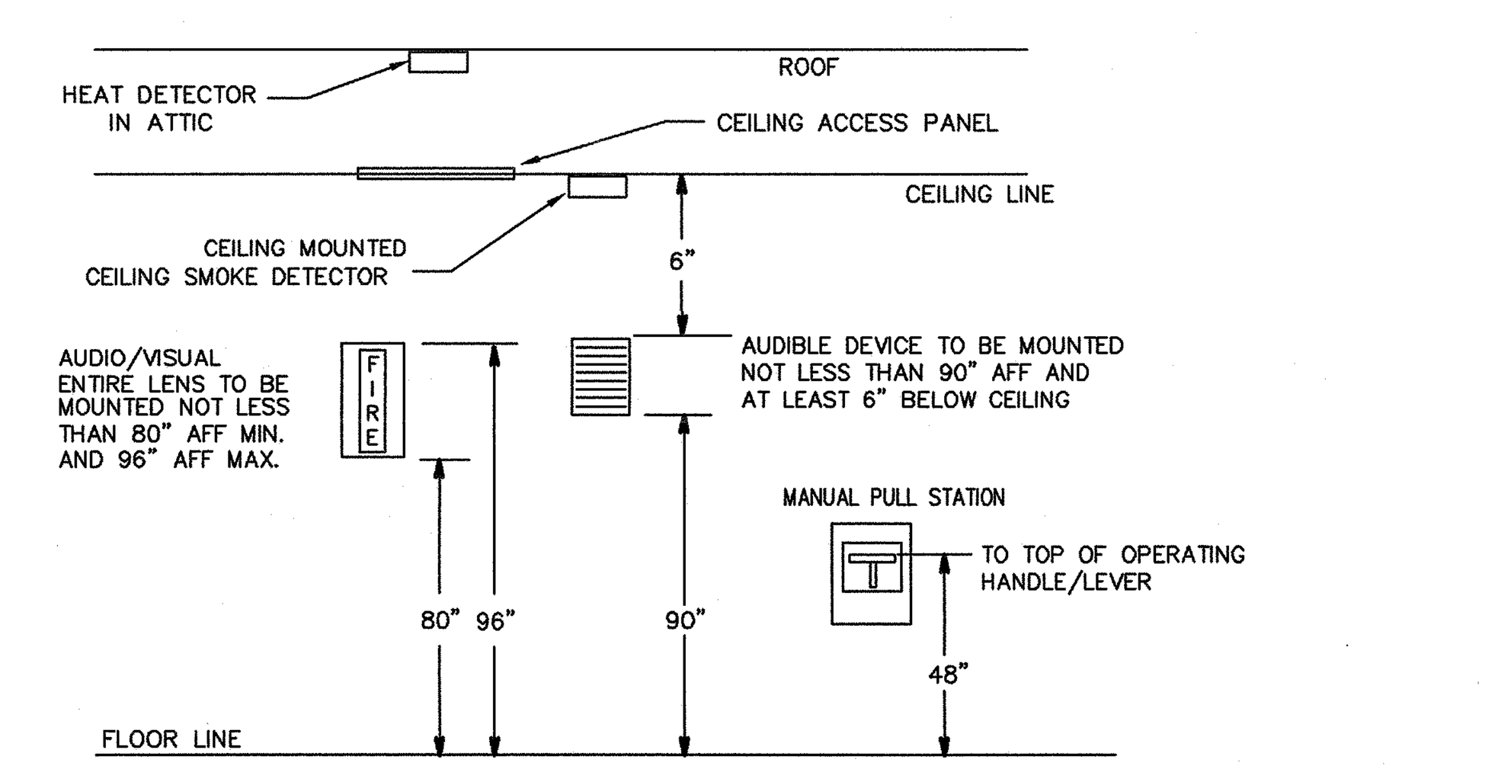
① FIRE ALARM RISER DIAGRAM
N.T.S.



② TYPICAL FIRE ALARM DEVICES WIRING DIAGRAM
N.T.S.



④ HVAC INTERLOCK SHUT DOWN DETAIL
NTS



③ FIRE ALARM DEVICES MT'D DETAIL
NTS

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Revision:	Revision Description:	Rev. Date:	Revision:	Revision Description:	Rev. Date:

Sheet Title: FIRE ALARM RISER DIAGRAM BATTERY CALCULATION
Project Name & Address: NEW ELEMENTARY SCHOOL INCREMENT 2
BAKERSFIELD CITY SCHOOL DISTRICT
@ CITADEL ROAD & MARDI GRAS COURT

Issue Date: 01/31/18
Date: 12/06/16
Designer: J CHONG
DR: J CHONG
PC: --

Agency Approval Stamp:
FILE #: 15-6
IDENTIFICATION STAMP
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OFFICE OF REGULATION SERVICES
03-118394
AC____FLS____SS____
DATE 08-22-18
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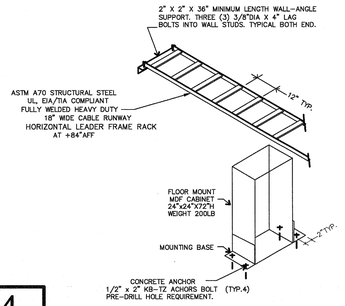
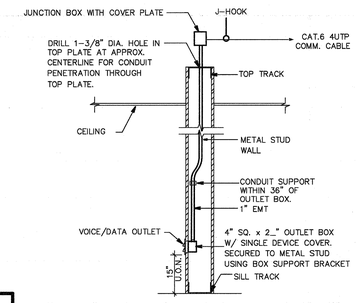
REGISTERED PROFESSIONAL ENGINEER
JOHN S. CHONG
E 14419
Exp.6/30/2020
ELECTRICAL
STATE OF CALIFORNIA

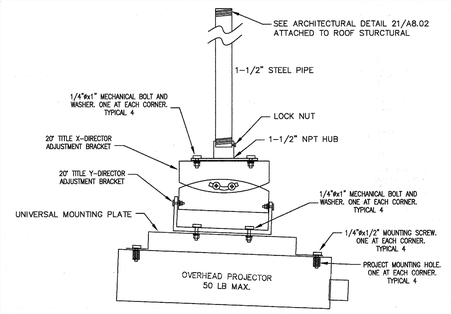
Job No.: 5262
Sheet No.: E6.01
Release:



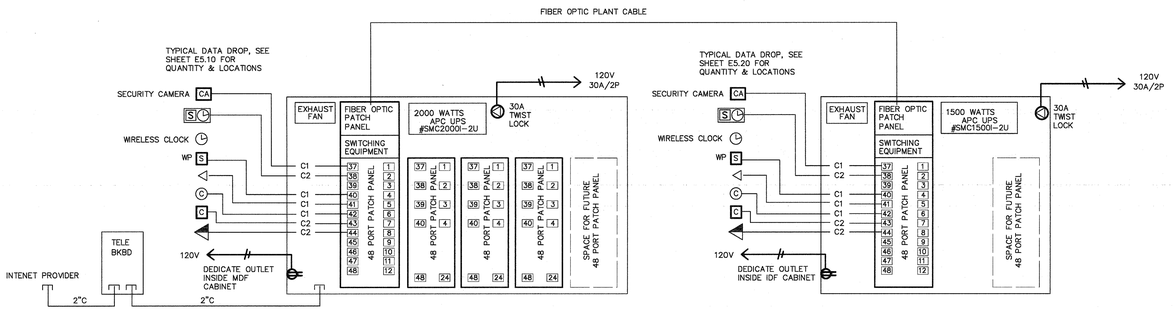
4 'MDF' CABINET DETAIL N.T.S.



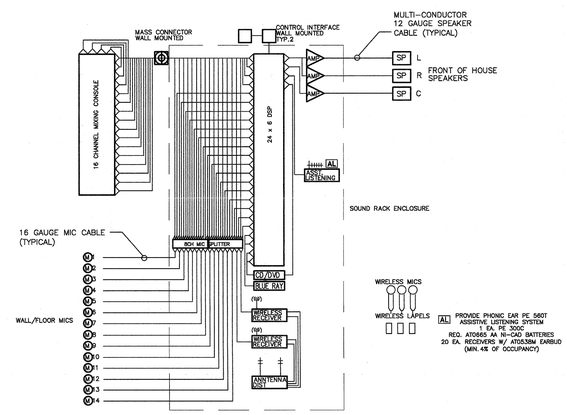
5 DATA AND VOICE OUTLET DETAIL N.T.S.



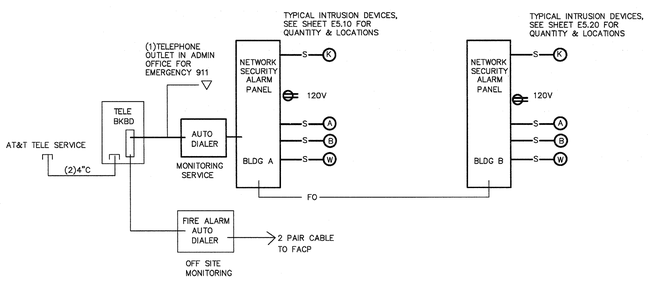
6 OVERHEAD PROJECTOR MOUNTING DETAIL N.T.S.



1 VOIP PA/TELE/CLOCK/DATA RISER DIAGRAM NTS



2 MULTI PURPOSE SOUND REINFORCEMENT RISER DIAGRAM N.T.S.



3 SECURITY ALARM RISER DIAGRAM NTS

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Revision Description: Revision: Rev. Date:

Sheet Title: LOW VOLTAGE RISER DIAGRAM

Project Name & Address: NEW ELEMENTARY SCHOOL INCREMENT 2
BAKERSFIELD CITY SCHOOL DISTRICT
@ CITADEL ROAD & MARDI GRAS COURT

Issue Date: 01/31/18
Issue: 12/06/16
Designer: J CHONG
DR: J CHONG
PIC: ---

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Job No.: 5262

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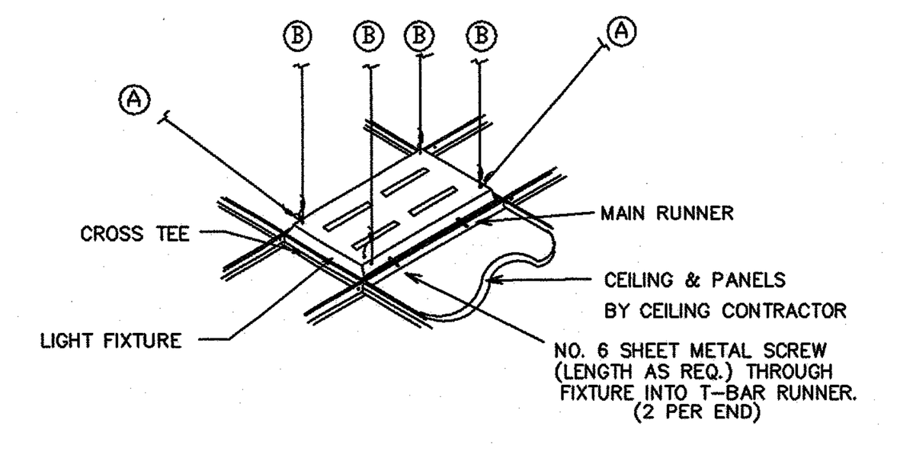
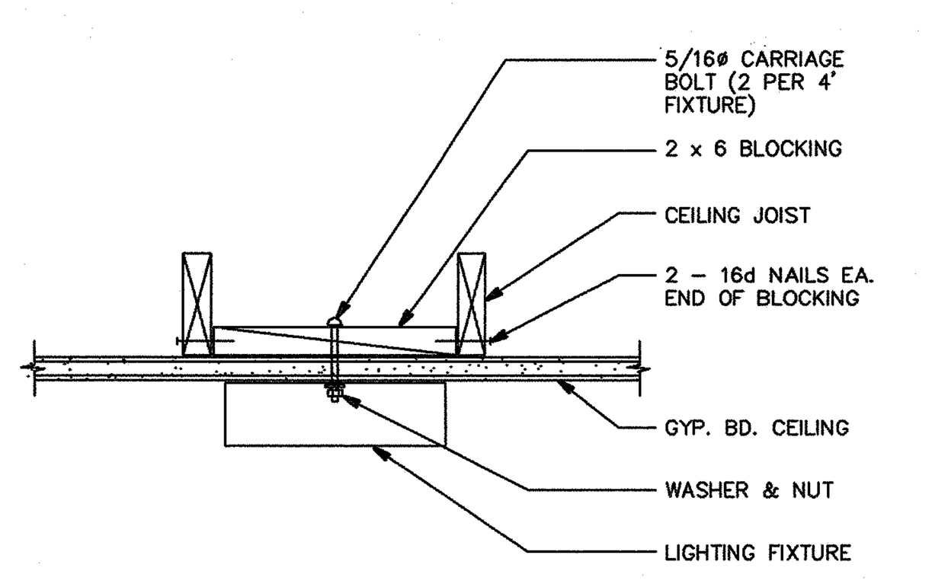
Ⓐ FOR FIXTURE WEIGHING 50 POUNDS OR LESS MINIMUM 12 GA. SLACK SAFETY WIRE AT 45° DIAGONAL FROM OPPOSITE FIXTURE CORNERS TO STRUCTURE ABOVE. ATTACH DIRECTLY TO FIXTURE WITH 3 TURN TIGHT WRAP MINIMUM (WITHIN 1-1/2"). ATTACH TO STRUCTURE PER ACOUSTICAL CEILING ATTACHMENT DETAILS. SET WIRE SLIGHTLY SLACK, TO ALLOW FULL SEATING INTO T-BAR.

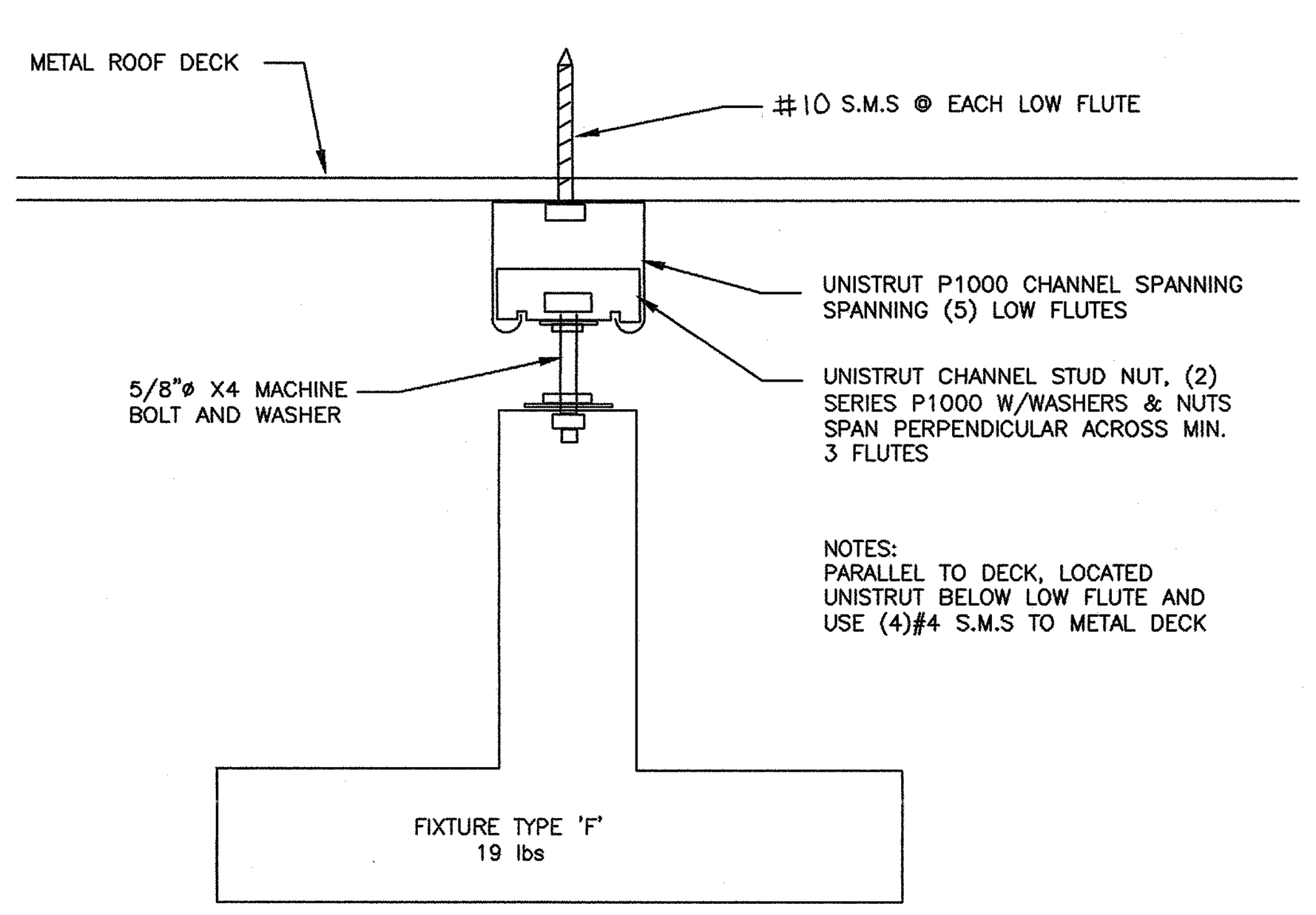
Ⓑ FOR FIXTURE WEIGHING 50 POUNDS OR MORE 12 GA. SUPPORT WIRES WITH 4 TURN TIGHT WRAP (WITHIN 1-1/2") MINIMUM AT EACH END. ATTACH TO STRUCTURE ABOVE PER CEILING SUSPENSION DETAILS (4 PER FIXTURE).



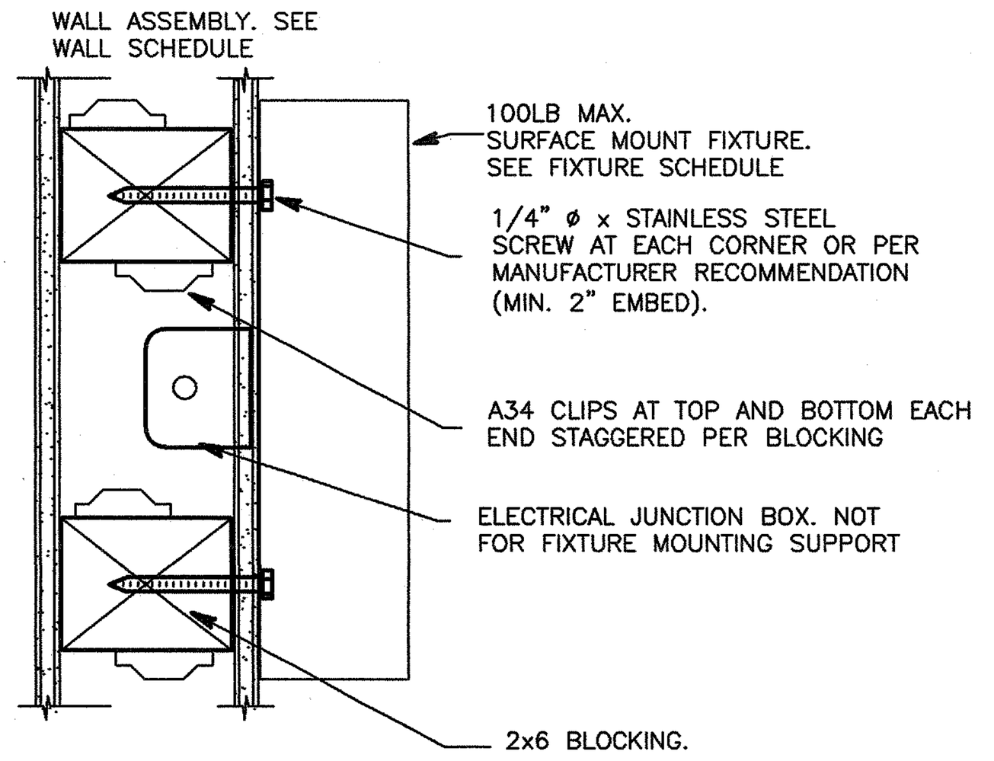
5 RECESSED FIXTURE MT'G DETAIL NTS



4 SURFACE FIXTURE MOUNING DETAIL NTS

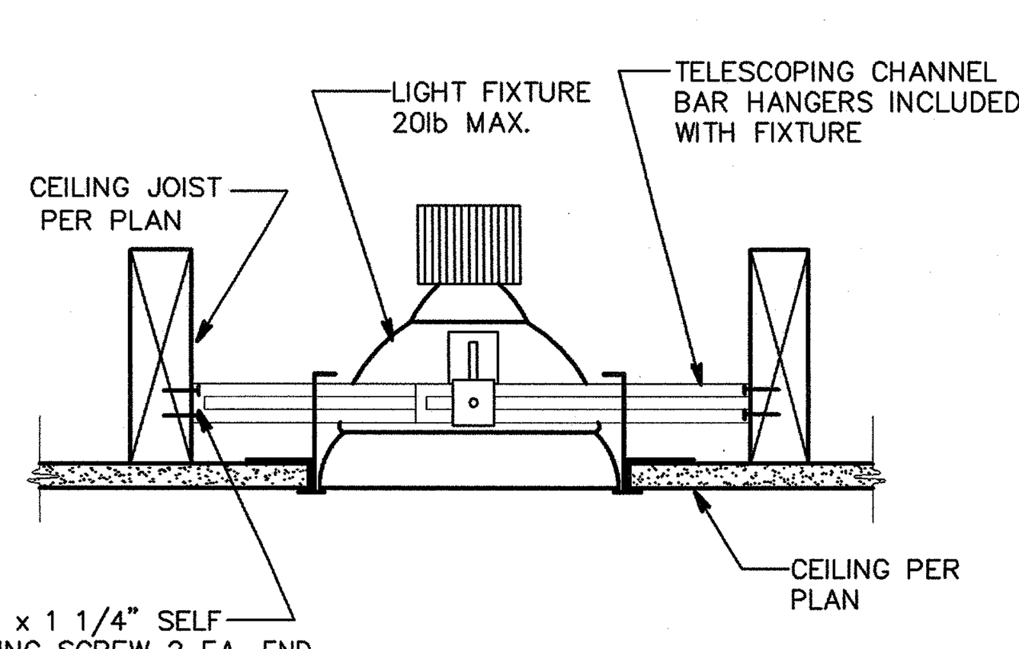


3 FIXTURE F MOUNTING DETAIL NTS

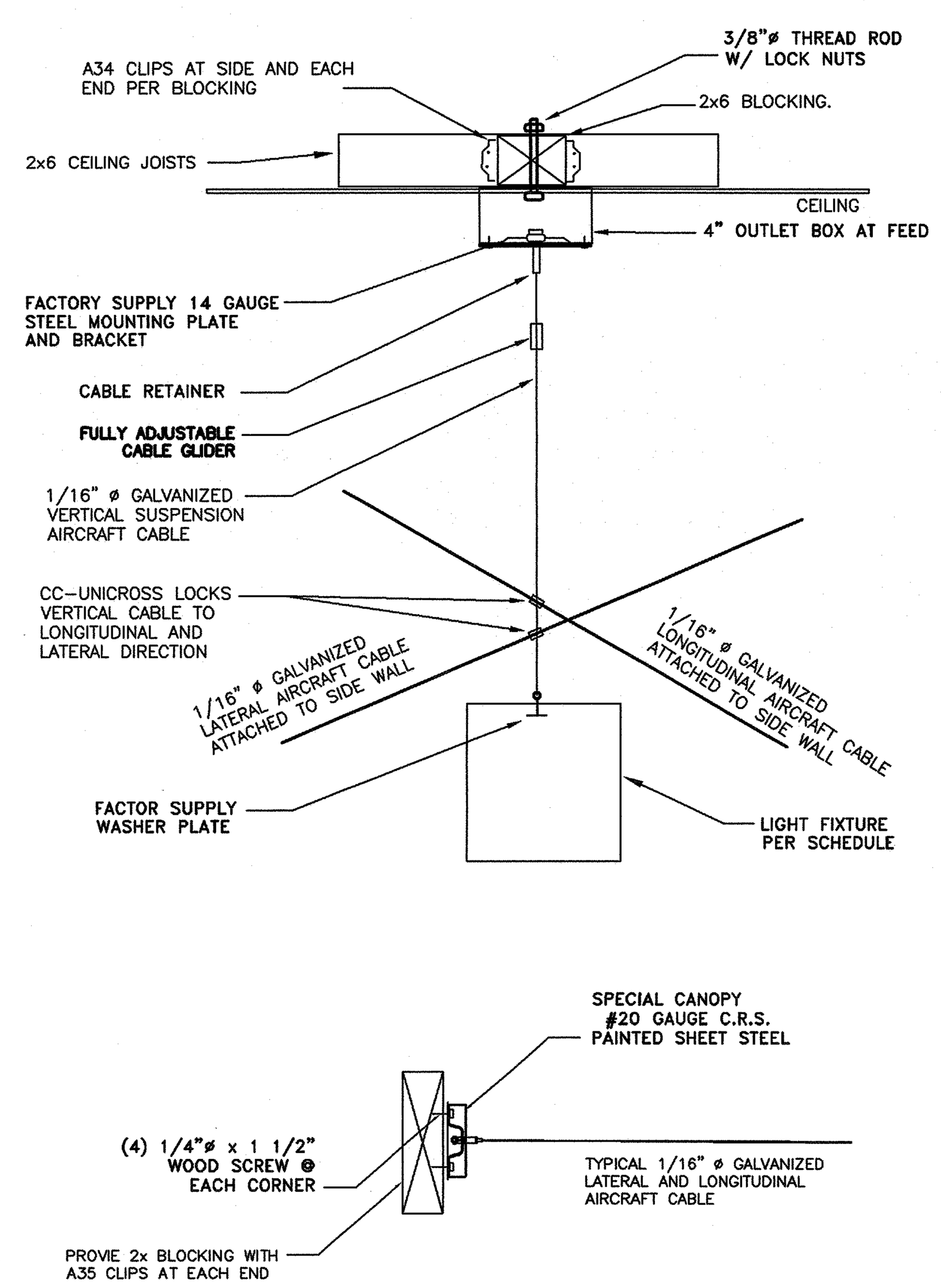


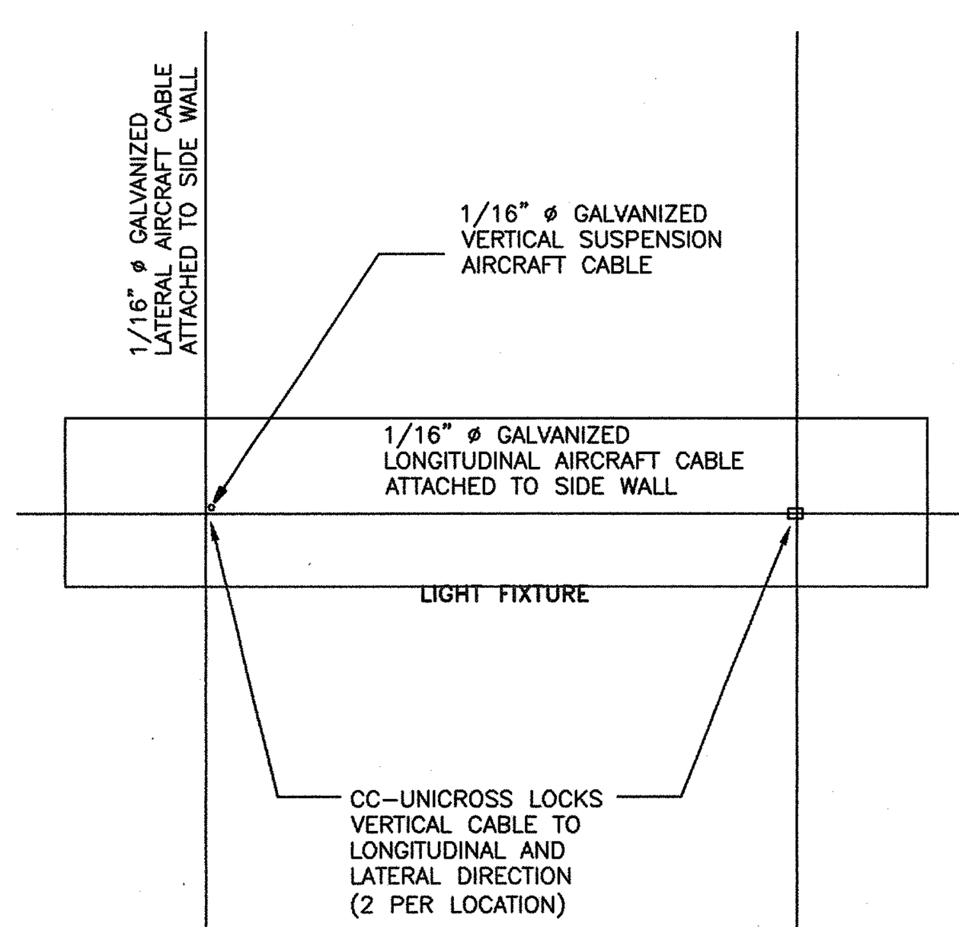
NOTES:
FOR CMU WALL, PROVIDE PRE-CAST 4" SQ. STEEL BACK BOX FLUSH MOUNT IN CMU WALL FOR ELECTRICAL WIRING. LIGHTING FIXTURE SHALL BE SUPPORTED BY FACTORY MOUNTING PLATE AND BRACKET. DRILL HOLE ON CMU WALL AND SET ANCHOR BOLTS PER MANUFACTURER REQUIREMENT FOR FIXTURE MOUNTING.

2 WALL FIXTURE MOUNTING DETAIL NTS



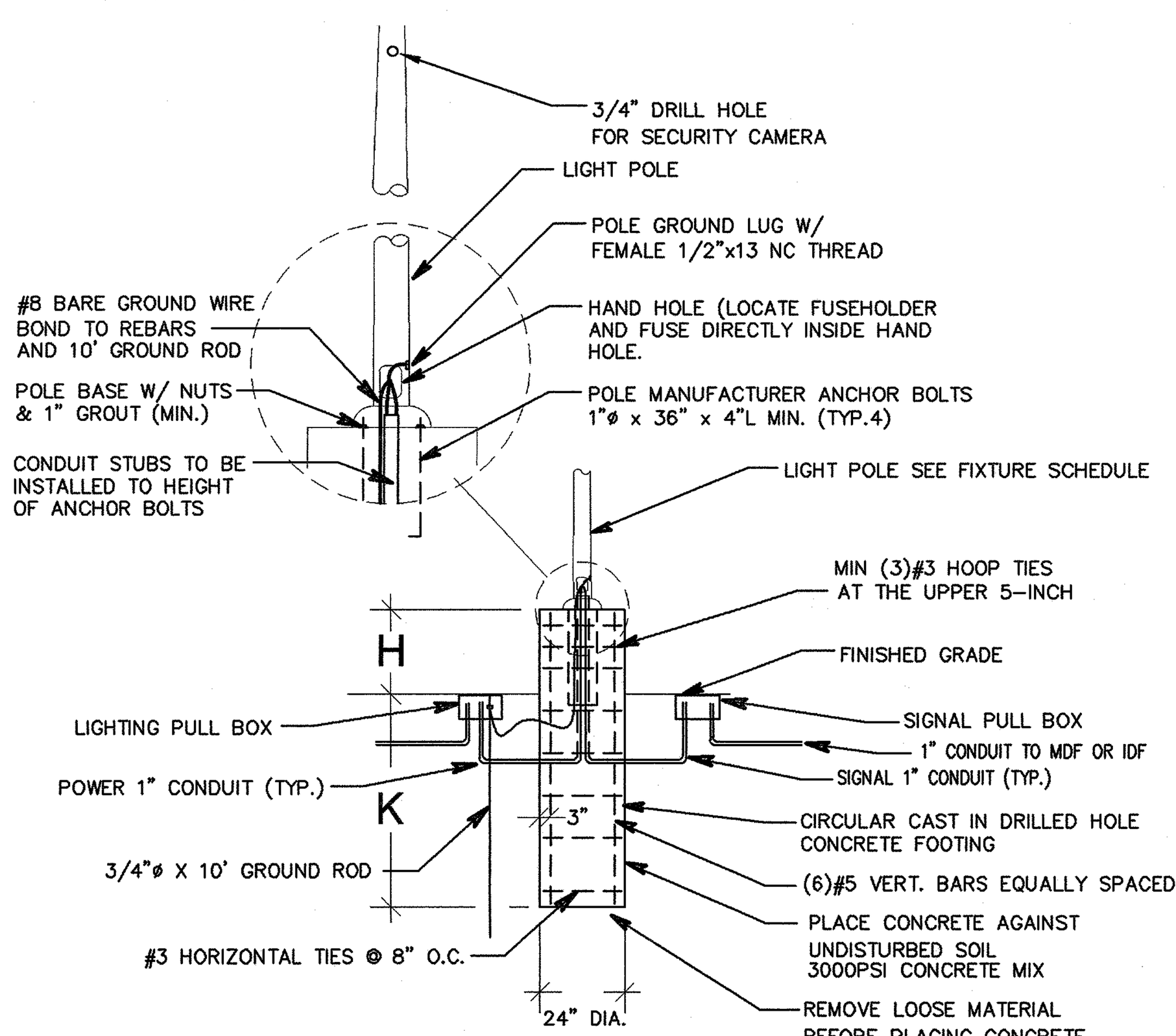
1 RECESSED FIXTURE MOUNTING DETAIL NTS





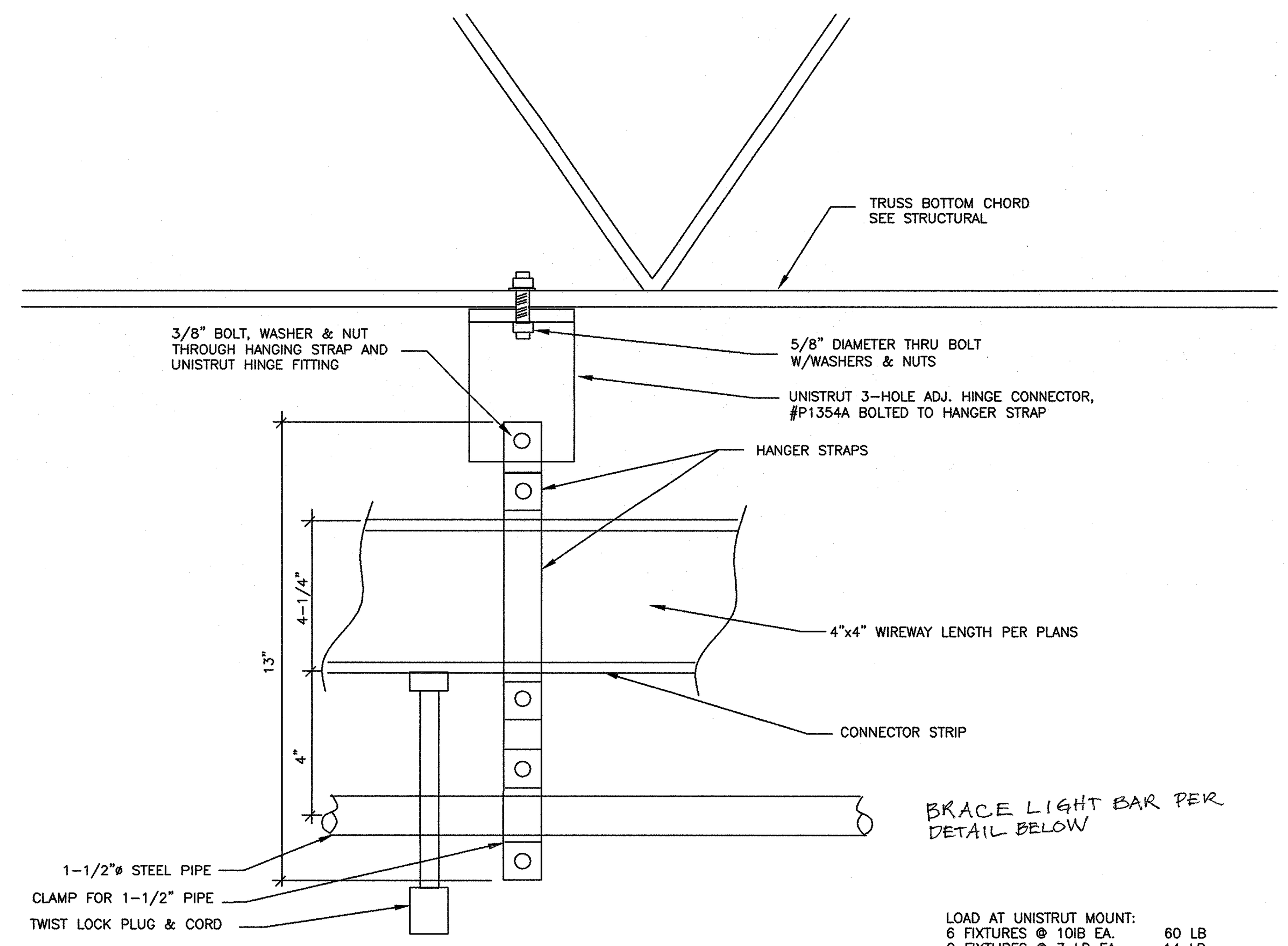
7 PENDING LIGHT MOUNTING DETAIL NTS

FIXTURE TYPE	HEIGHT H	HEIGHT K
S1 S3 S4	36"	9'-0"
S2 S6	FLUSH	7'-0"



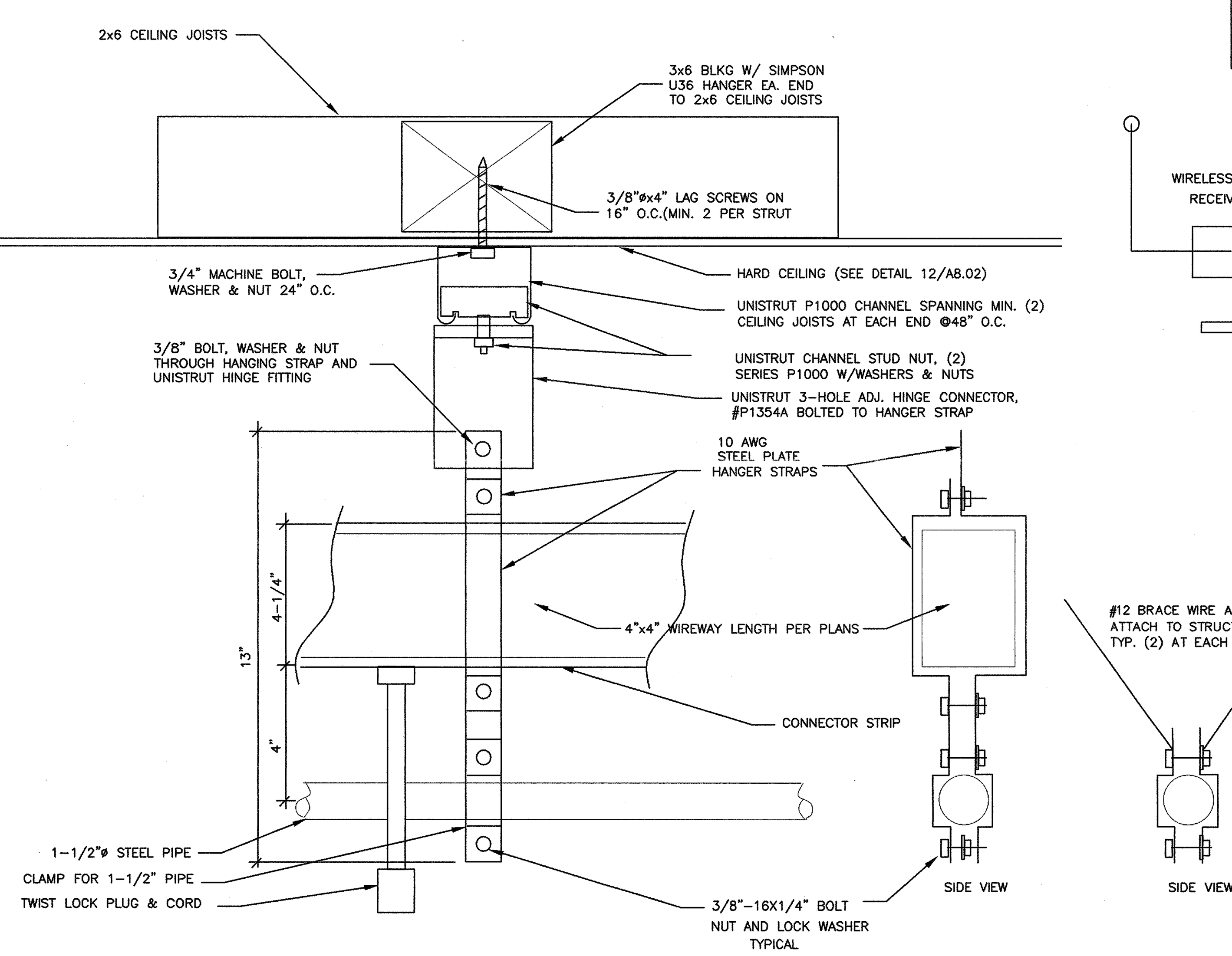
NOTES:
THE LIGHT POLE MANUFACTURER AND CONTRACTOR SHALL BE RESPONSIBLE FOR THE LIGHT POLE PLATE, AND THE WELDING OF THE BASE PLATE TO THE POLE, AND THAT ALL OF THE STRUCTURAL REQUIREMENTS SHALL CONFORM TO 2016 CBC (SEISMIC DESIGN CATEGORY #D, AND BASIC WIND SPEED OF 110 MPH OR GREATER, EXPOSURE C.

6 POLE BASE DETAIL



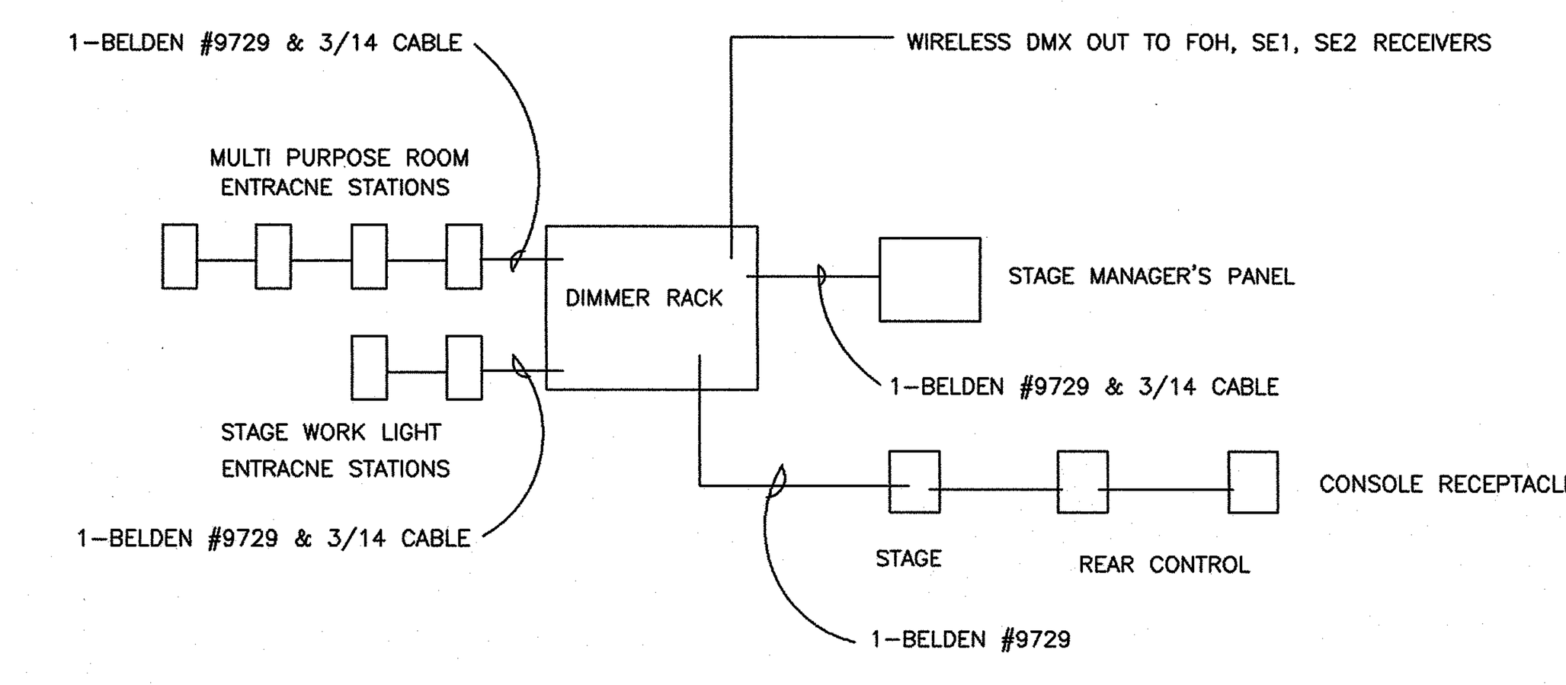
LOAD AT UNISTRUT MOUNT:	
6 FIXTURES @ 10IB EA.	60 LB
2 FIXTURES @ 7 LB EA.	14 LB
20' WIREWAY @ 7LB PER FT	140LB
TOTAL WEIGHT	214LB

STAGE LIGHTING MOUNTING DETAIL (TRUSS CHORD)
N.T.S

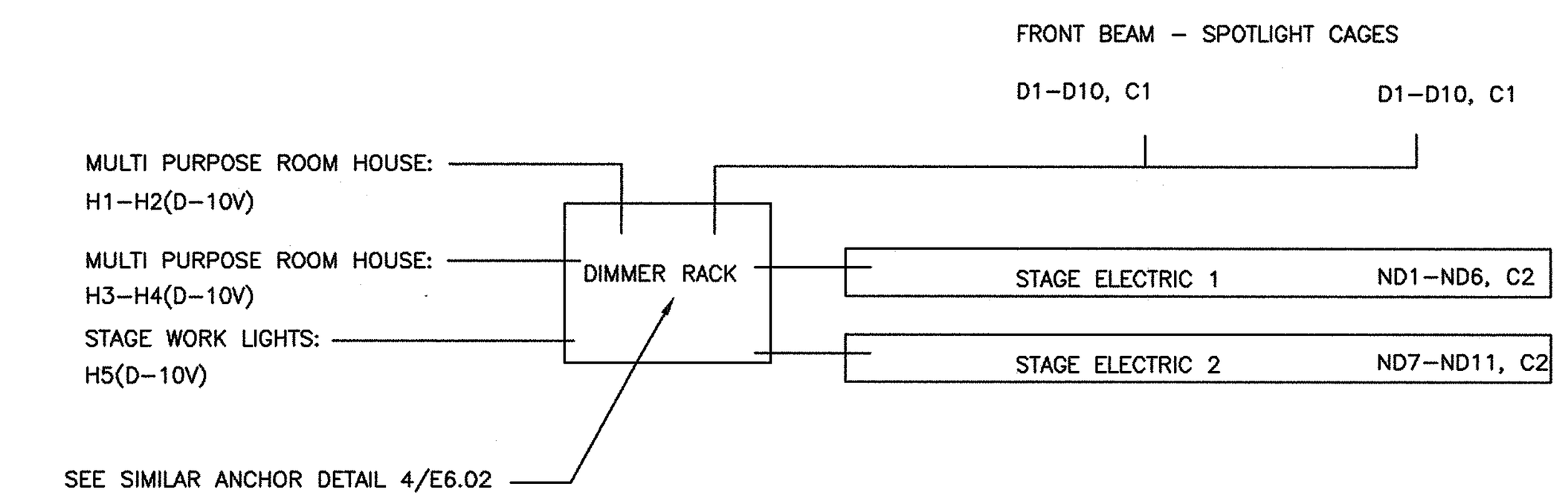


LOAD AT UNISTRUT MOUNT:	
6 FIXTURES @ 10IB EA.	60 LB
2 FIXTURES @ 7 LB EA.	14 LB
20' WIREWAY @ 7LB PER FT	140LB
TOTAL WEIGHT	214LB
AVERAGE LOAD	214LB/20FT=10.7 LB/FT

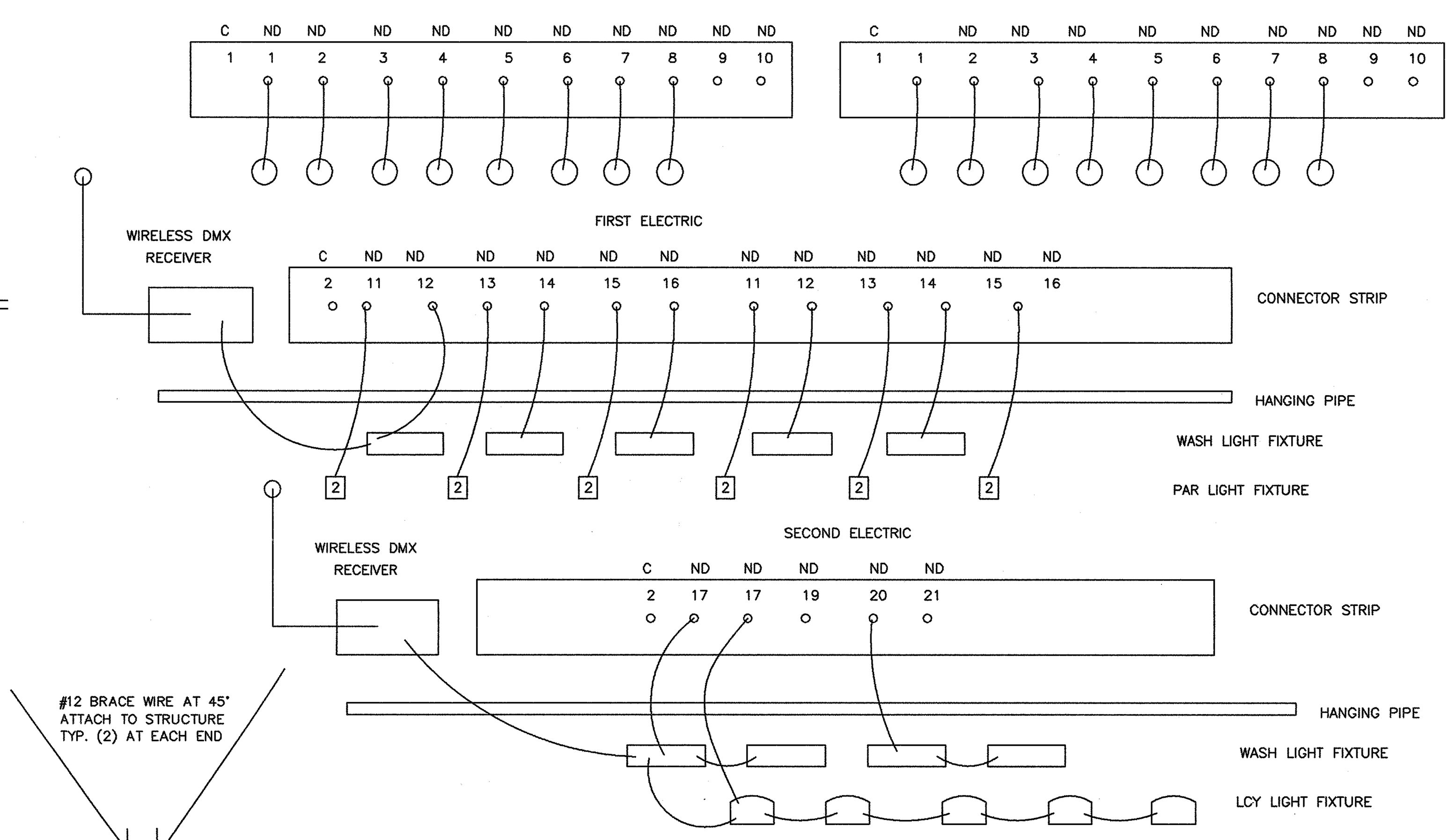
STAGE LIGHTING MOUNTING DETAIL (HARD CEILING)
N.T.S



STAGE LIGHTING CONTROL RISER DIAGRAM
N.T.S

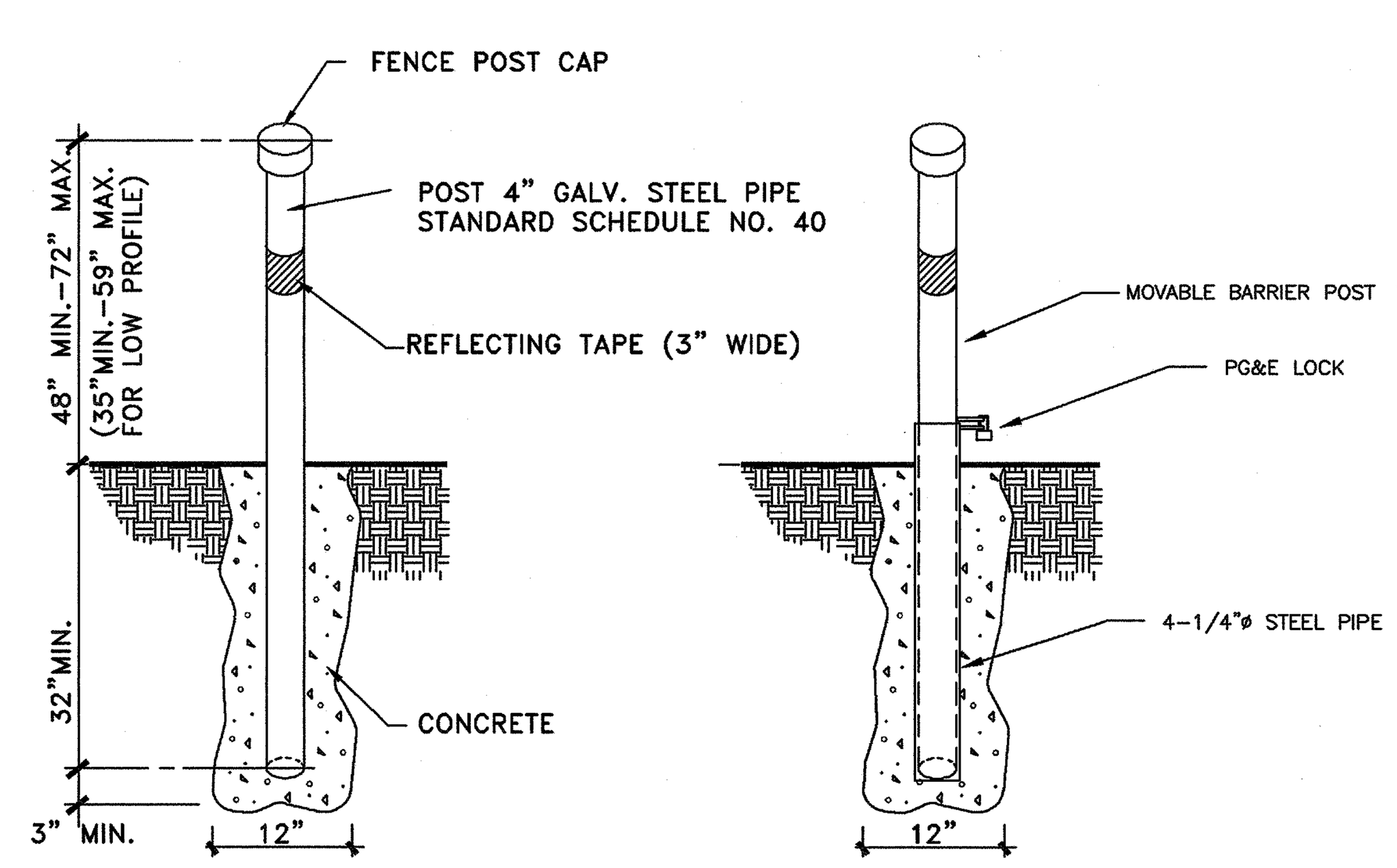


STAGE LIGHTING POWER RISER DIAGRAM
N.T.S

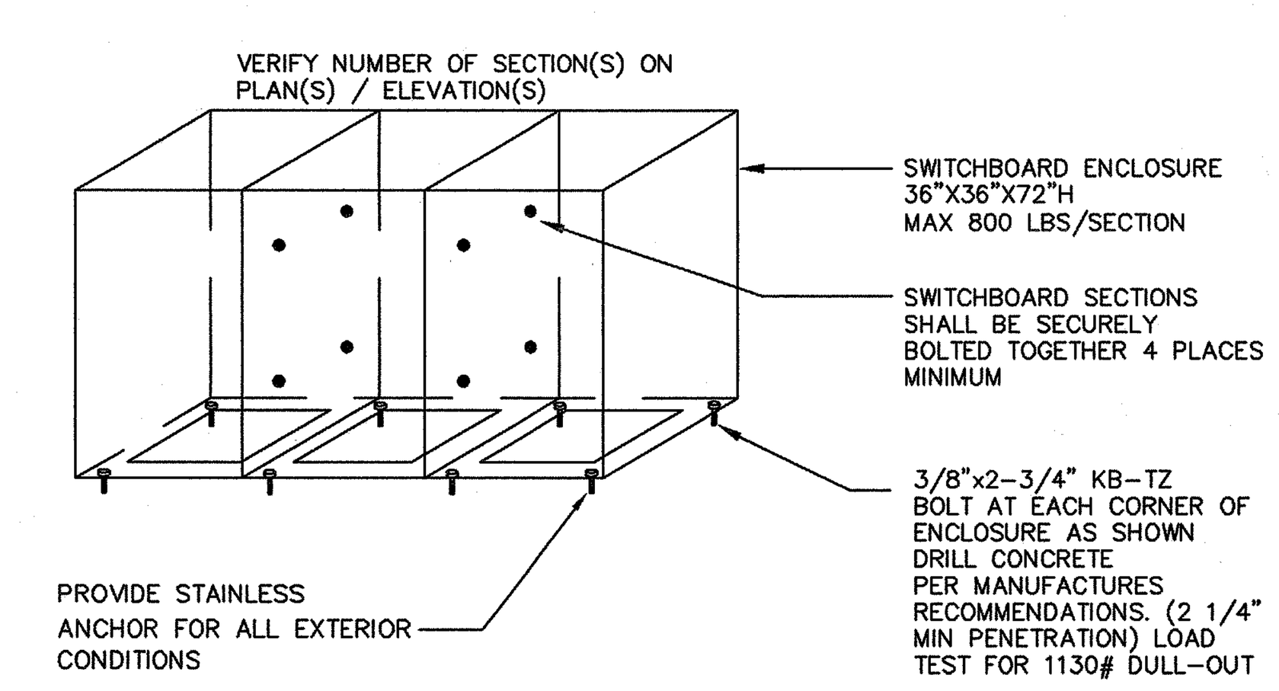


STAGE LIGHTING DETAILS
N.T.S

8 STAGE LIGHTING DETAIL NTS



9 BARRIER POST DETAIL N.T.S.



10 SWITCHBOARD ANCHOR DETAIL N.T.S.

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Sheet Title: DETAILS

Project Name & Address: NEW ELEMENTARY SCHOOL INCREMENT 2
BAKERSFIELD CITY SCHOOL DISTRICT
@ CITADEL ROAD & MARDI GRAS COURT

Issue Date: 01/31/18
Date: 12/06/16
Designer: J CHONG
DR: J CHONG
PC: --

Agency Approval Stamp:
FILE #: 15-6
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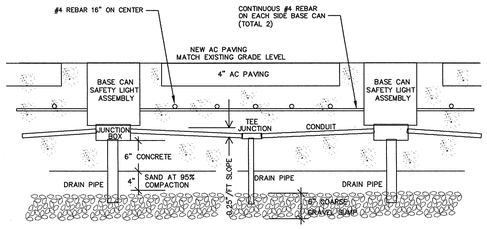
Stamp(s):
REGISTERED PROFESSIONAL ENGINEER JOHN S. CHONG E 14419 Exp.6/30/2020 ELECTRICAL STATE OF CALIFORNIA

Job No.: 5262

Sheet No.: E6.03

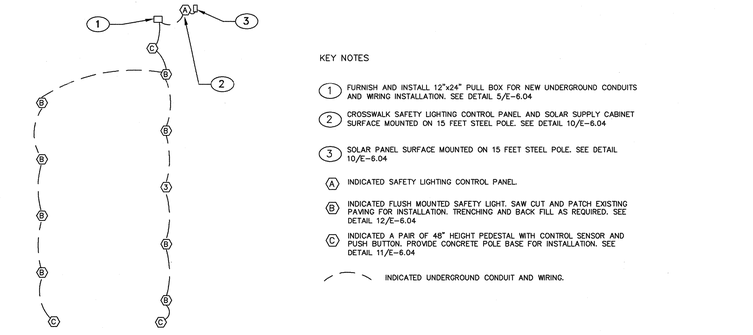
Release:



INSTALLATION NOTES

1. REMOVE BASE CAN COVERS AND STORE THEM IN A SAFE LOCATION.
2. BEGIN TRENCHING PROCESS. AFTER TRENCHING IS COMPLETED ALONG FIXTURE LOCATIONS, PREPARE THE DRAINAGE SYSTEM AS SHOWN ON PLANS.
3. INSTALL DRAIN CONDUIT: RUN 3 INCH, SCHEDULE 40 PVC, FROM THE DRAIN HOLE OF THE BASE CAN INTO THE DRAIN ROCK. THE DRAIN PIPE SHOULD BE CENTERED ON THE DRAIN HOLE AND EXTEND APPROXIMATELY 3 TO 4 INCHES INTO THE DRAIN ROCK. PRIOR TO POURING CONCRETE THE DRAIN PIPE WILL BE HELD IN POSITION BY THE DRAIN ROCK.,
4. SUSPEND THE BASE CANS SO THEY ARE LEVEL WITH THE SURFACE OF THE PAVEMENT. BASE CANS SHOULD BE, DIRENTED SO THAT THE FIXTURE OPTICS WILL BE ALIGNED PARALLEL WITH THE TRAFFIC LANE. USE OF MOUNTING JIGS ARE RECOMMENDED FOR PROPER ALIGNMENT OF BASE CANS. CONSULT THE DESIGN PLANS FOR THE PREFERRED METHOD OF BASE CAN SUSPENSION FOR YOUR INSTALLATION.
5. TEST THE DRAINAGE SYSTEM BY POURING WATER INTO THE INSTALLED BASE CAN AT EACH FIXTURE LOCATION. POUR ENOUGH WATER TO VERIFY THAT THE DRAINAGE SYSTEM IS ABSORBING THE WATER. IF THE BASE CAN IS NOT DRAINING PROPERLY, MODIFICATIONS TO THE DRAINAGE SYSTEM WILL BE NECESSARY. IN THIS CASE CONSULT WITH YOUR DESIGN ENGINEER BEFORE PROCEEDING. ONCE SATISFIED MOVE ON TO THE NEXT STEP.
6. INSTALL FIXTURE CABLE CONDUIT. RUN 1 INCH, SCHEDULE 40 PVC, BETWEEN EACH BASE CAN. PVC CONDUIT SHOULD FIT SNUGLY INTO THE GROMMETS LOCATED AT EACH BASE CAN CONDUIT HOLE. COMPLETE INSTALLATION BY RUNNING CONDUIT FROM THE LAST BASE CAN IN THE SYSTEM TO THE SYSTEM CONTROLLER, AS SPECIFIED BY THE DESIGN ENGINEER.
7. INSTALL THE FIXTURE CABLES. RUN FIXTURE POWER CABLES THROUGH THE CONDUIT INTO EACH BASE CAN, ONE BLACK WIRE AND ONE WHITE WIRE. RUN AN ADDITIONAL WIRE(GREEN OR BLUE) THROUGH THE CONDUIT TO EACH BASE CAN. THE GROUND WIRE CAN BE ATTACHED TO THE BASE CAN USING THE GROUND STRAP PROVIDED AT THE BOTTOM INSIDE OF EACH BASE CAN.
8. ENCASE THE BASE CAN SAND DRAINAGE SYSTEM IN CONCRETE. IT IS RECOMMENDED THAT AT LEAST 6 INCHES OF CONCRETE BE USED BELOW THE BASE.
9. BACK FILL THE TRENCH WITH SPECIFIED MATERIAL, COMPACT AND COVER PER THE SPECIFICATIONS, TAKING CARE NOT TO DAMAGE CONDUIT OR DRAINAGE SYSTEM.
10. REMOVE MOUNTING JIG, CLEAN OUT BASE CAN AND REPLACE PROTECTIVE PLYWOOD COVERS UNTIL FIXTURES ARE READY FOR INSTALLATION.
11. THE BASE CANS ARE SHIPPED WITH PROTECTIVE PLYWOOD COVERS, TSC'S PART# BA-PLCVR-3/4. AFTER INSTALLING FIXTURES, BE SURE TO MARK THESE COVERS, "DO NOT DISCARD", AND RETURN TO OWNER FOR FUTURE FIXTURE USE.

12 BASE CAN INSTALLATION - TRENCH & FILL NTS



KEY NOTES

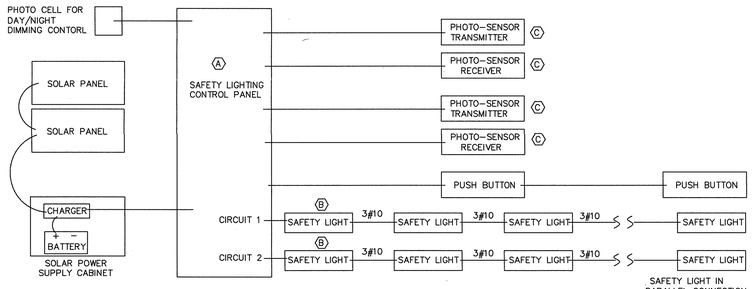
1. FURNISH AND INSTALL 12"x24" PULL BOX FOR NEW UNDERGROUND CONDUITS AND WIRING INSTALLATION. SEE DETAIL 5/E-6.04
2. CROSSWALK SAFETY LIGHTING CONTROL PANEL AND SOLAR SUPPLY CABINET SURFACE MOUNTED ON 15 FEET STEEL POLE. SEE DETAIL 10/E-6.04
3. SOLAR PANEL SURFACE MOUNTED ON 15 FEET STEEL POLE. SEE DETAIL 10/E-6.04

(A) INDICATED SAFETY LIGHTING CONTROL PANEL.

(B) INDICATED FLUSH MOUNTED SAFETY LIGHT. SAW CUT AND PATCH EXISTING PAVING FOR INSTALLATION. TRENCHING AND BACK FILL AS REQUIRED. SEE DETAIL 12/E-6.04

(C) INDICATED A PAIR OF 48" HEIGHT PEDESTAL WITH CONTROL SENSOR AND PUSH BUTTON. PROVIDE CONCRETE POLE BASE FOR INSTALLATION. SEE DETAIL 11/E-6.04

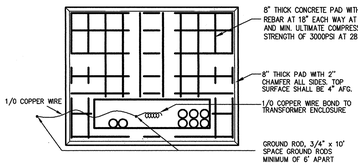
INDICATED UNDERGROUND CONDUIT AND WIRING.



CROSSWALK SAFETY LIGHT SYSTEM RISER DIAGRAM

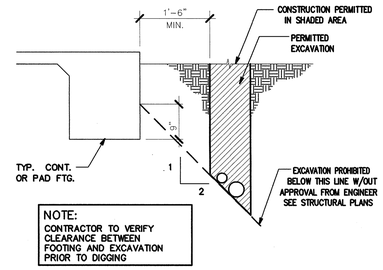
NOT TO SCALE

13 CROSSWALK SAFETY LIGHT SYSTEM DETAIL NTS



NOTES:
1. VERIFY PAD DIMENSIONS WITH MANUFACTURER'S SHOP DRAWING PRIOR TO CONSTRUCTION. CONCRETE PAD TO EXTEND 12" BEYOND TRANSFORMER ENCLOSURE AND CODLING FINS IN ALL DIRECTIONS.
2. FORM PAD ON A FIRM DRY GRAVEL BASE. BASE SHALL BE 6" MINIMUM COMPACTED GRAVEL ON UNDISTURBED SOIL. IN AREAS OF DISTURBED OR UNSUITABLE SOIL, PIER FOOTINGS SHALL BE REQUIRED.
3. CONCRETE SHALL HAVE A MINIMUM STRENGTH OF 3000 PSI IN 28 DAYS. MOIST CURE CONCRETE FOR 7 DAYS BEFORE SETTING TRANSFORMER.

9 TRANSFORMER PAD DETAIL NTS

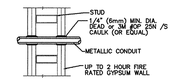


NOTE:
CONTRACTOR TO VERIFY CLEARANCE BETWEEN FOOTING AND EXCAVATION PRIOR TO DIGGING

4 EXCAVATION ADJACENT TO FOOTING NTS

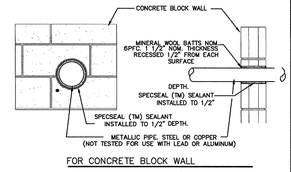
NOTE:

1. THE CAULK IS TO BE FORCED INTO THE ANNULAR SPACE TO THE MAXIMUM EXTENT POSSIBLE FLUSH WITH THE EXTERIOR OF THE PENETRATION SURFACE.
2. FINISH CAULKING WITH A 1/4" (6mm) MINIMUM BEAD OF CP 25N/S CAULK APPLIED TO THE PERIMETER OF THE CONDUIT PIPE AT ITS EGRESS FROM THE WALL.
3. THE MAXIMUM ANNULAR SPACE IS NOT TO EXCEED 3/16" (5mm)
4. INSTALL 3M FIRESTOP ON BOTH SIDES OF THE WALL.
5. THESE RECOMMENDATIONS ARE BASED ON PRODUCT PERFORMANCE PER ASTM E-814 (UL 1479) FIRE TEST AND UL THROUGH-PENETRATION FIRESTOP SYSTEM #147



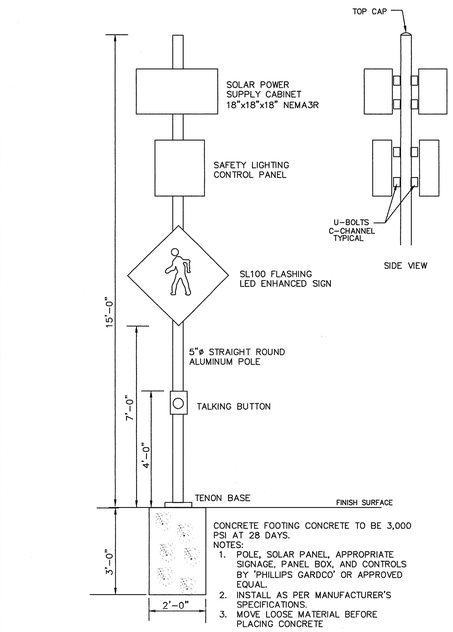
FOR STUD WALL

THE PRODUCTS USED IN THIS DESIGN SYSTEM HAVE BEEN TESTED AS FOLLOWS:
* ASTM E814 (UL1479)
* ASTM E119 (TIME/TEMPERATURE EXPOSURE)
* ANNULAR SPACE REQUIREMENTS (COTTON WASTE IGNITION)



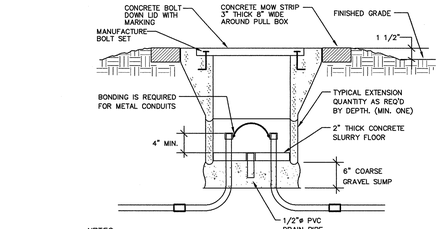
FOR CONCRETE BLOCK WALL

1 CONDUIT PENETRATION FIRESTOP DETAIL NTS



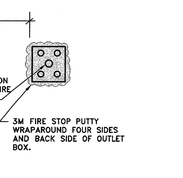
NOTES:
SEE POLE BASE DETAIL 6/E6.03 FOR ADDITIONAL INFORMATION

10 LIGHT POLE ELEVATION DETAIL NTS



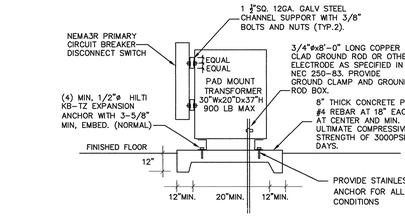
NOTES:
WHERE PULL BOX IS LOCATED WITH IN 30" OF A FOUNDATION OR SIDE WALK, PULL BOX SHALL BE SET FLUSH WITH THE ADJACENT SURFACE, MOW STRIP CONCRETE SHALL BE POURED FLUSH WITH FOUNDATION OR SIDE WALK.

5 PULL BOX AT OPEN YARD DETAIL NTS



NOTES:
1. OUTLET BOX IN FIRE RATED WALL SHALL BE STEEL MATERIAL.
2. SIZE OF WALL OPENING TO INSTALL OUTLET BOX SHALL BE 16 SQ. INCH MAX.
3. IF WALL OPENING LARGER THAN 16 SQ. INCH, PROVIDE ONE LAYER 5/8" PLASTERBOARD WRAPAROUND FOUR SIDES AND BACK SIZE OF THE OUTLET BOX TO MAINTAIN 1 HOUR FIRE RATED ASSEMBLY. PROVIDE TWO LAYER 5/8" PLASTERBOARD FOR 2 HOUR FIRE RATED WALL.

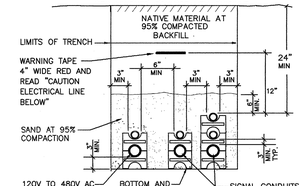
2 OUTLET BOX IN FIRE RATED WALL DETAIL NTS



6 PAD MOUNT XFMR MT'D DETAIL NTS

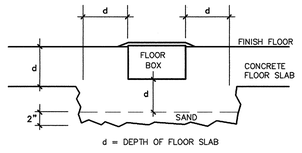
RESTORE NEW FINISHED SURFACE PER ORIGINAL CONDITION AS FOLLOW:

1. STRUCTURES, BUILDING SLABS, WALKWAYS, AND STEPS: COMPACT TOP 6" OF SUBGRADE AND EACH LAYER OF BACKFILL OR FILL MATERIAL AT 92% MAX. RELATIVE COMPACTION. COMPACT UPPER 2' OF BACKFILL IN UTILITIES TRENCHES OR OTHER EXCAVATION TO 92% MIN. RELATIVE COMPACTION. PATCH CONCRETE CURBS/WALKS TO MATCH EXISTING AND SURROUNDING FINISH GRADE.
2. LAWN OR UNPAVED AREAS: COMPACT TOP 6" OF SUBGRADE MATERIAL AT 85% RELATIVE COMPACTION. RESTORE LANDSCAPING TO MATCH EXISTING.
3. PAVEMENTS: COMPACT TOP 6" SUBGRADE IMMEDIATELY BENEATH THE BASE COURSE AT 95% MIN. RELATIVE COMPACTION. PATCH AC PAVEMENT TO MATCH EXISTING.



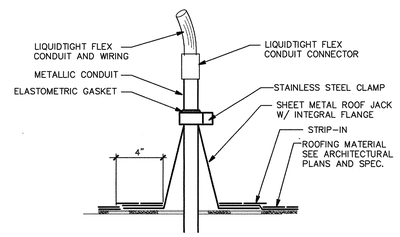
NOTES:
1. IF CONDUITS ARE INSTALLED IN A FILL AREA, THE TOP OF THE FILL MUST BE A MIN. OF 30" ABOVE THE DESIGN CONDUITS ELEVATION BEFORE THE CONDUITS IS INSTALLED.
2. ELECTRICAL CONDUITS SHALL BE MIN. 12" FROM OTHER UTILITY PIPES IN JOIN TRENCH, NO UTILITY PIPES ARE ALLOWED INSTALLED ON THE TOP OF ELECTRICAL CONDUITS.

3 CONDUIT TRENCH DETAIL NTS



d = DEPTH OF FLOOR SLAB

7 FLOOR BOX INSTALLATION DETAIL NTS



11 PEDESTRIAN PHOTO SENSOR BOLLARDS NTS

PROVIDE LEAD (4.0 LB/SQ. FT) HARD TEMPERED ROOF-PENETRATION FLASHING AT CLAY TILE ROOFING. PREPAINTED, METALLIC-COATED IS REQUIRED ON COLOR ROOF AS REQUIRED.

8 ROOF JACK DETAIL NTS

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Rev. Date:	Revision Description:	Revision:
Rev. Date:	Revision Description:	Revision:

Sheet Title: DETAILS

Project Name & Address: NEW ELEMENTARY SCHOOL INCREMENT 2
BAKERSFIELD CITY SCHOOL DISTRICT
@ CITADEL ROAD & MARDI GRAS COURT

Issue Date:	Date:	Designer:	DR:	PC:
01/31/18	12/06/16	J CHONG	J CHONG	---

Agency Approval Stamp:

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REGISTERED PROFESSIONAL ENGINEER
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Job No.: 5262

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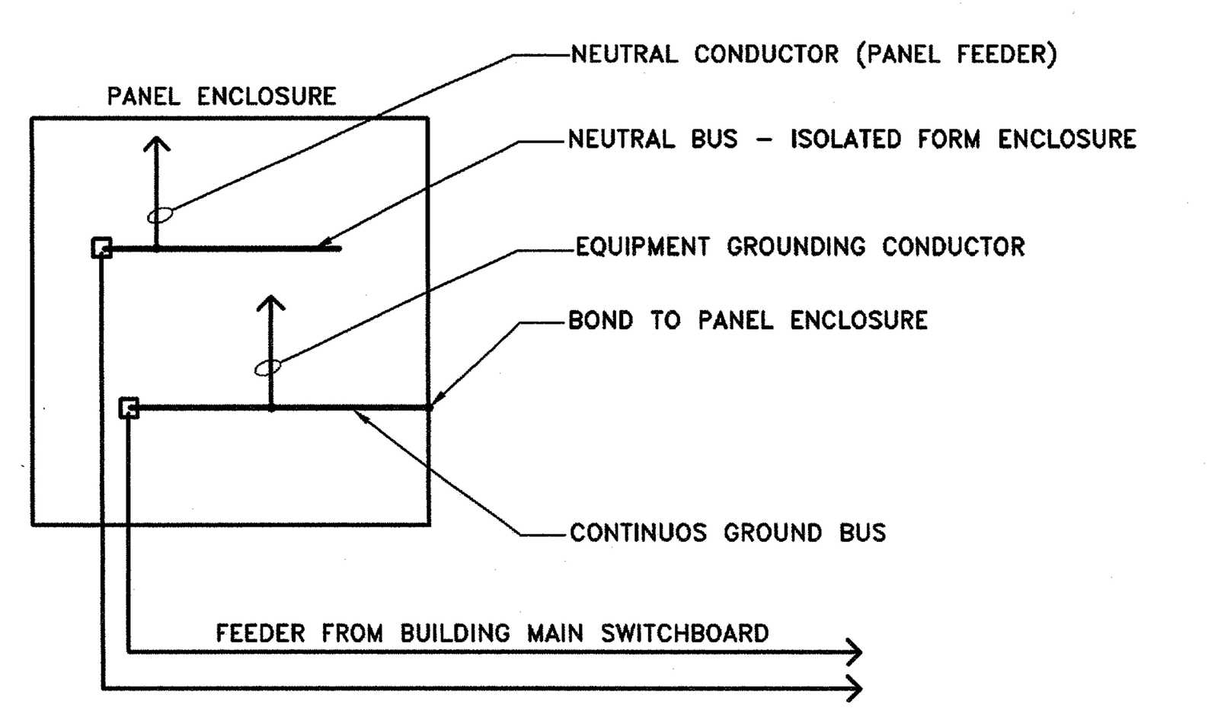
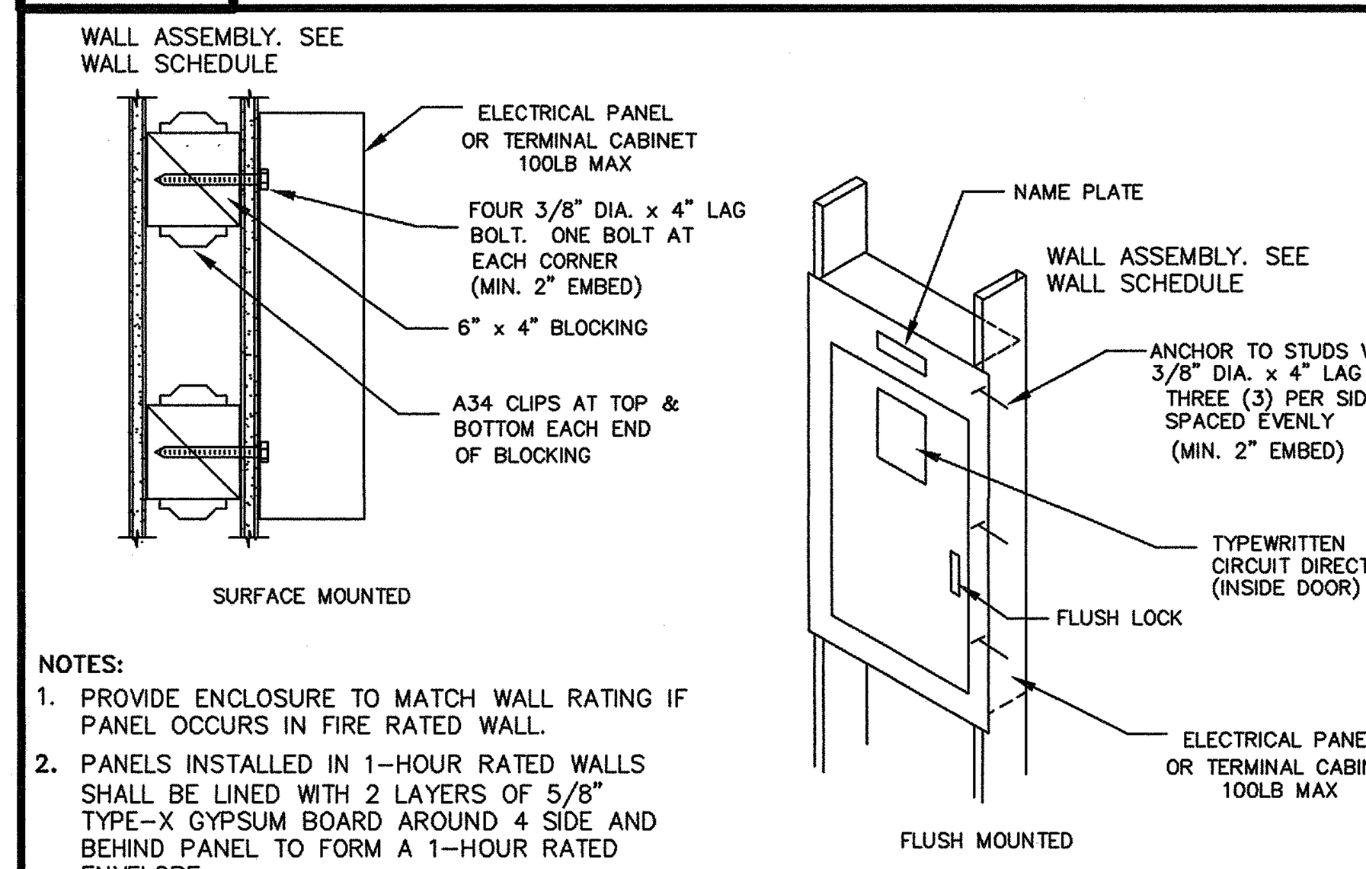
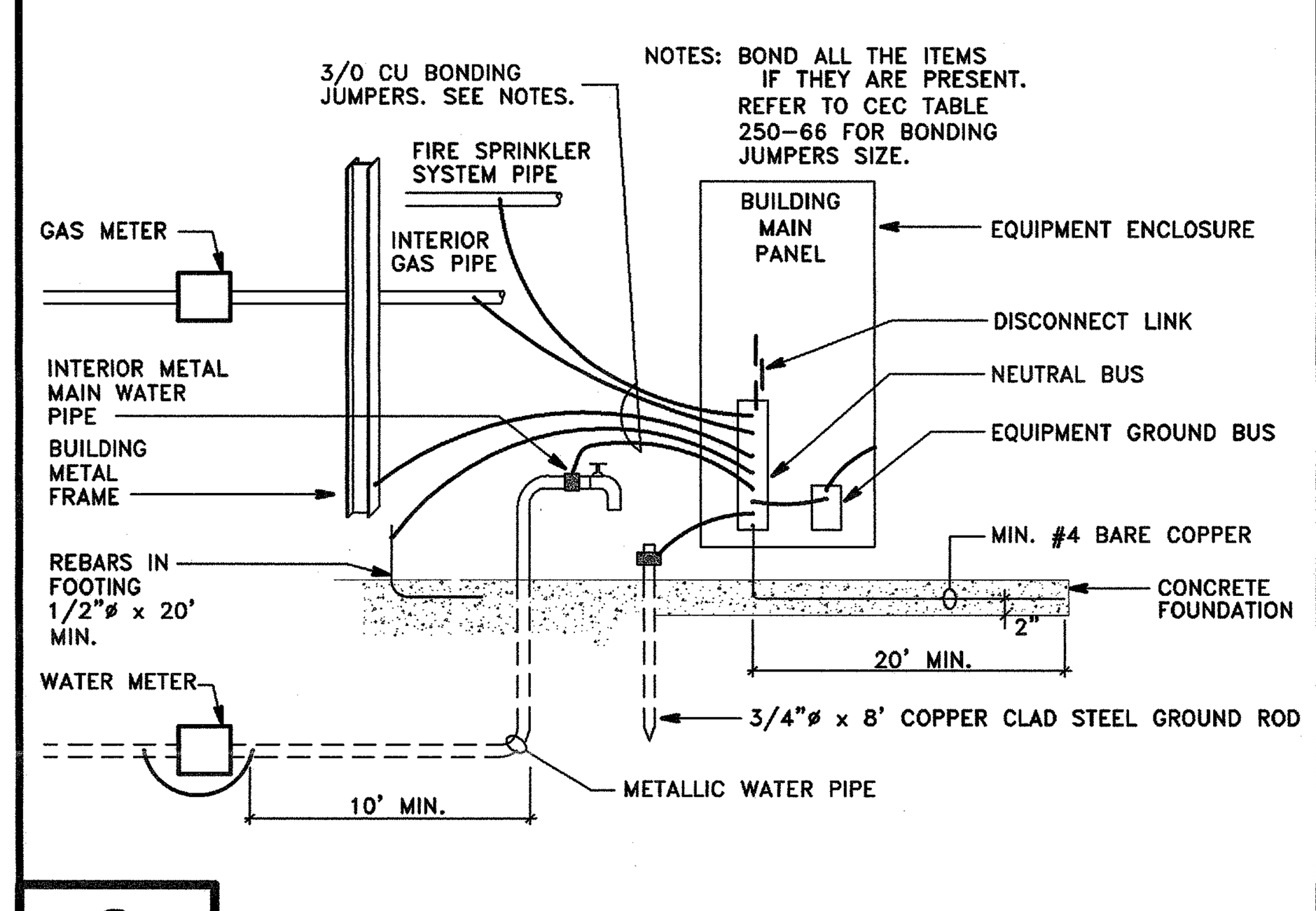


5 PANEL GROUNDING DETAIL N.T.S.

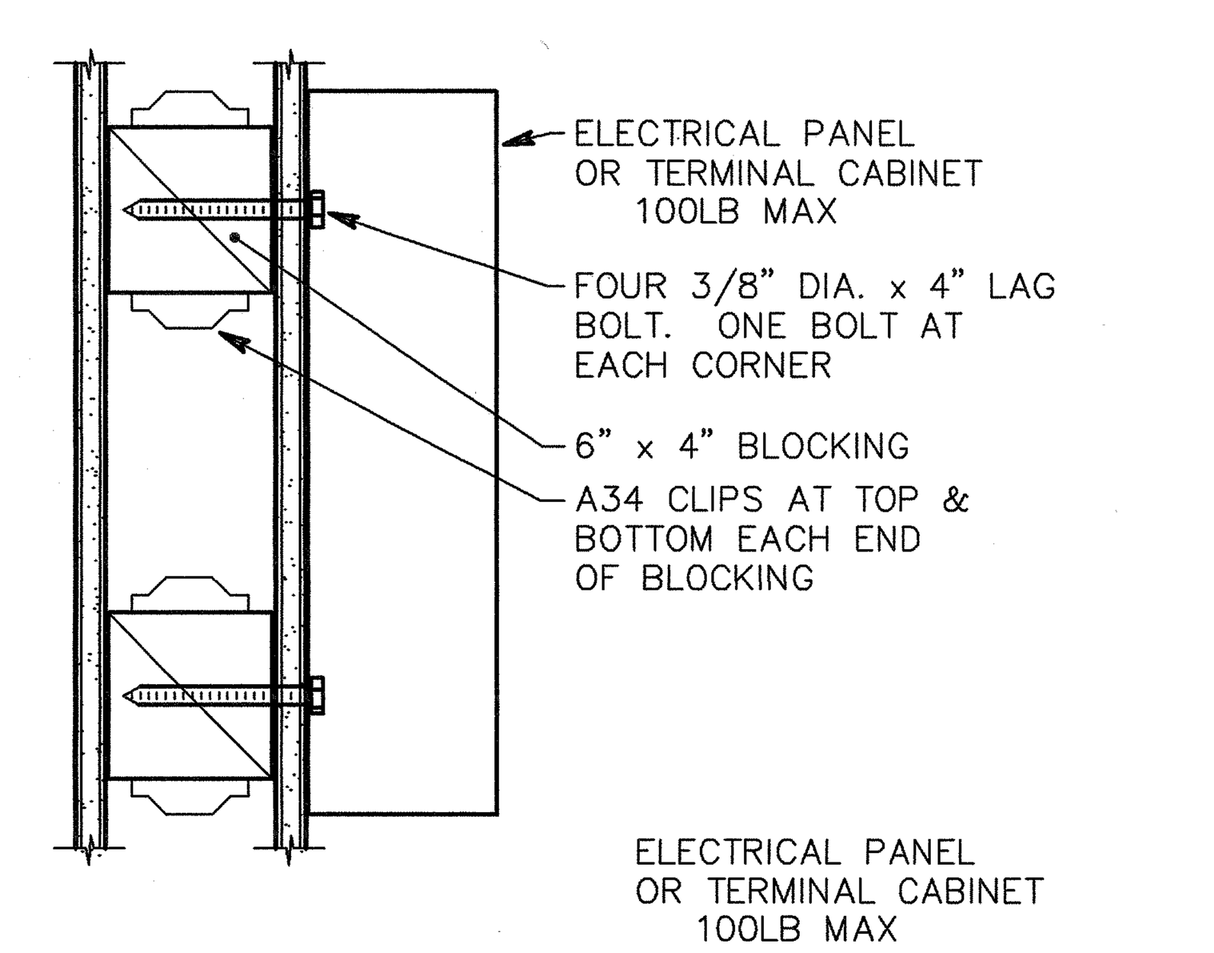


NOTES:
1. PROVIDE ENCLOSURE TO MATCH WALL RATING IF PANEL OCCURS IN FIRE RATED WALL.
2. PANELS INSTALLED IN 1-HOUR RATED WALLS SHALL BE LINED WITH 2 LAYERS OF 5/8" TYPE-X GYPSUM BOARD AROUND 4 SIDE AND BEHIND PANEL TO FORM A 1-HOUR RATED ENVELOPE.
3. PROVIDE FIRE CAULK FOR CONDUITS PENETRATE FIRE RATE ENVELOP PER U.L. ASSEMBLY.

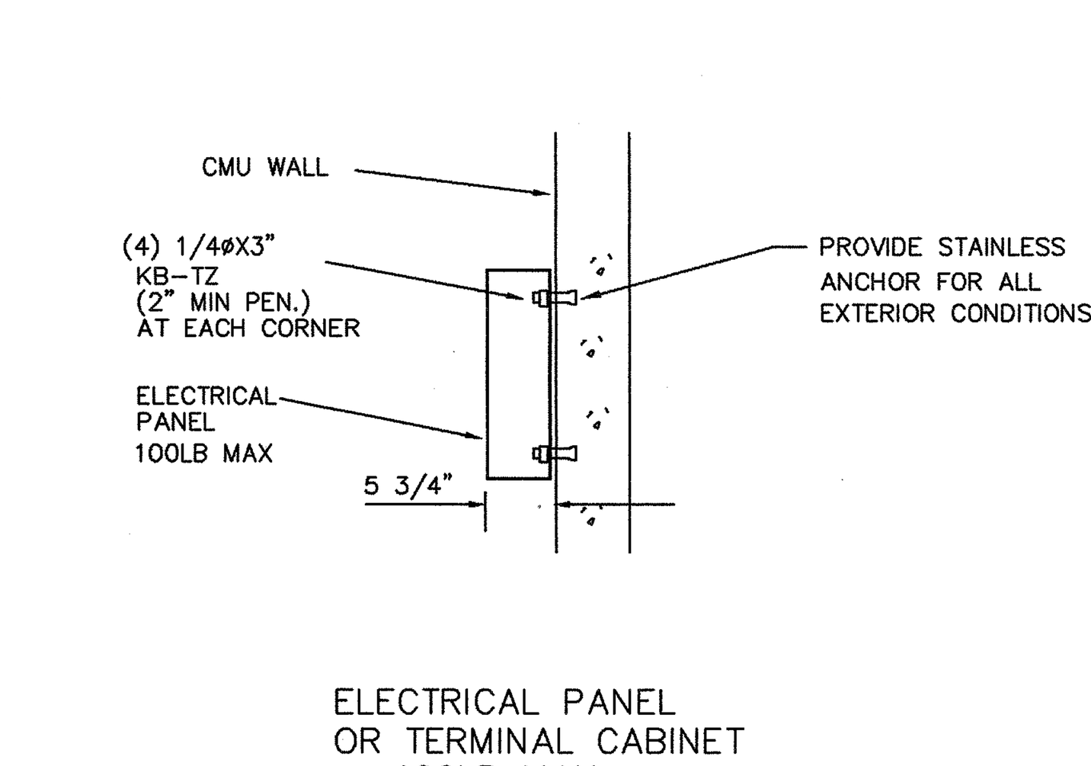
4 PANEL MOUNTING AT WOOD STUB DETAIL NTS



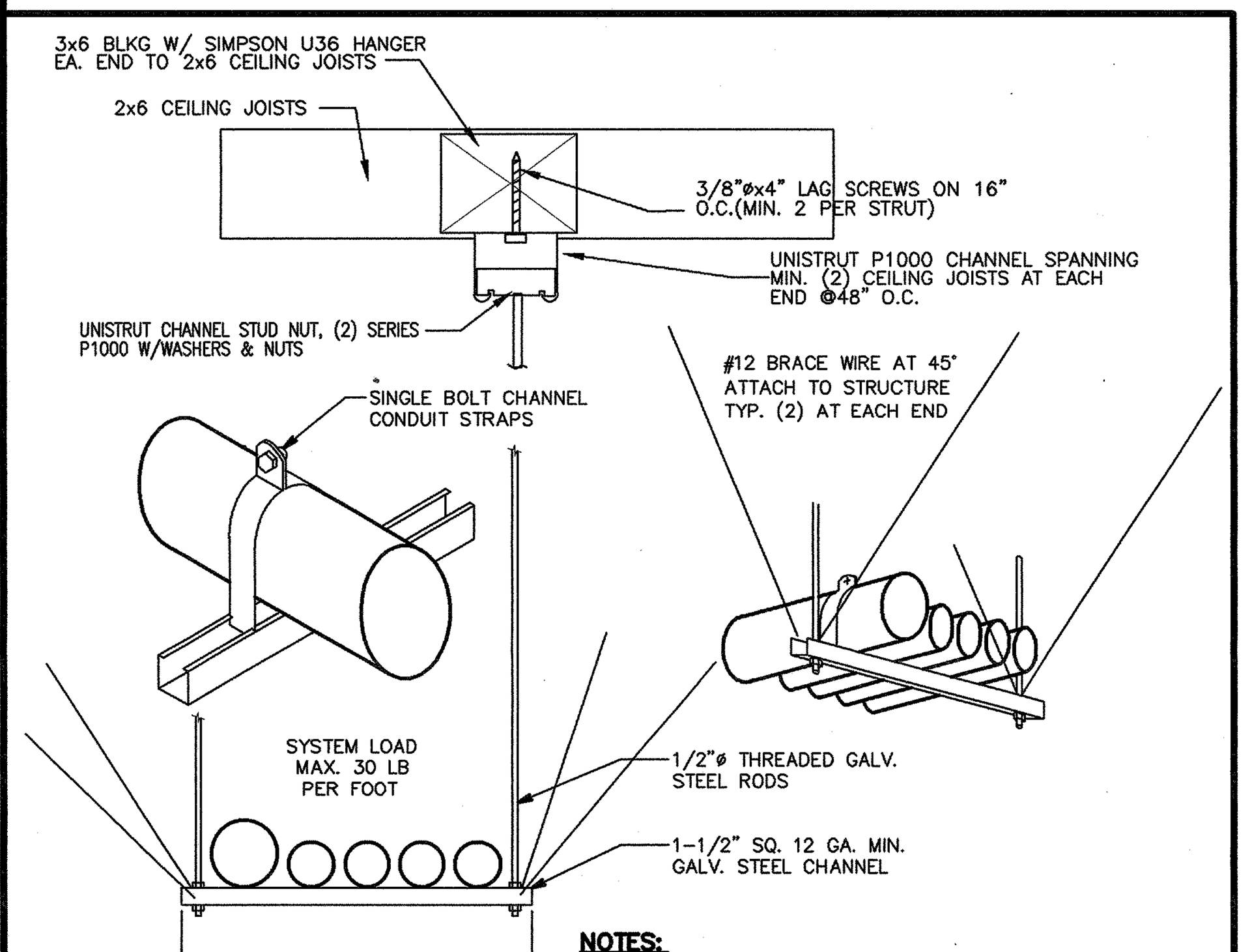
3 MAIN SWTICHBOARD GROUNDING DETAIL NTS



2 SURFACE MOUNTED PANEL DETAIL NTS

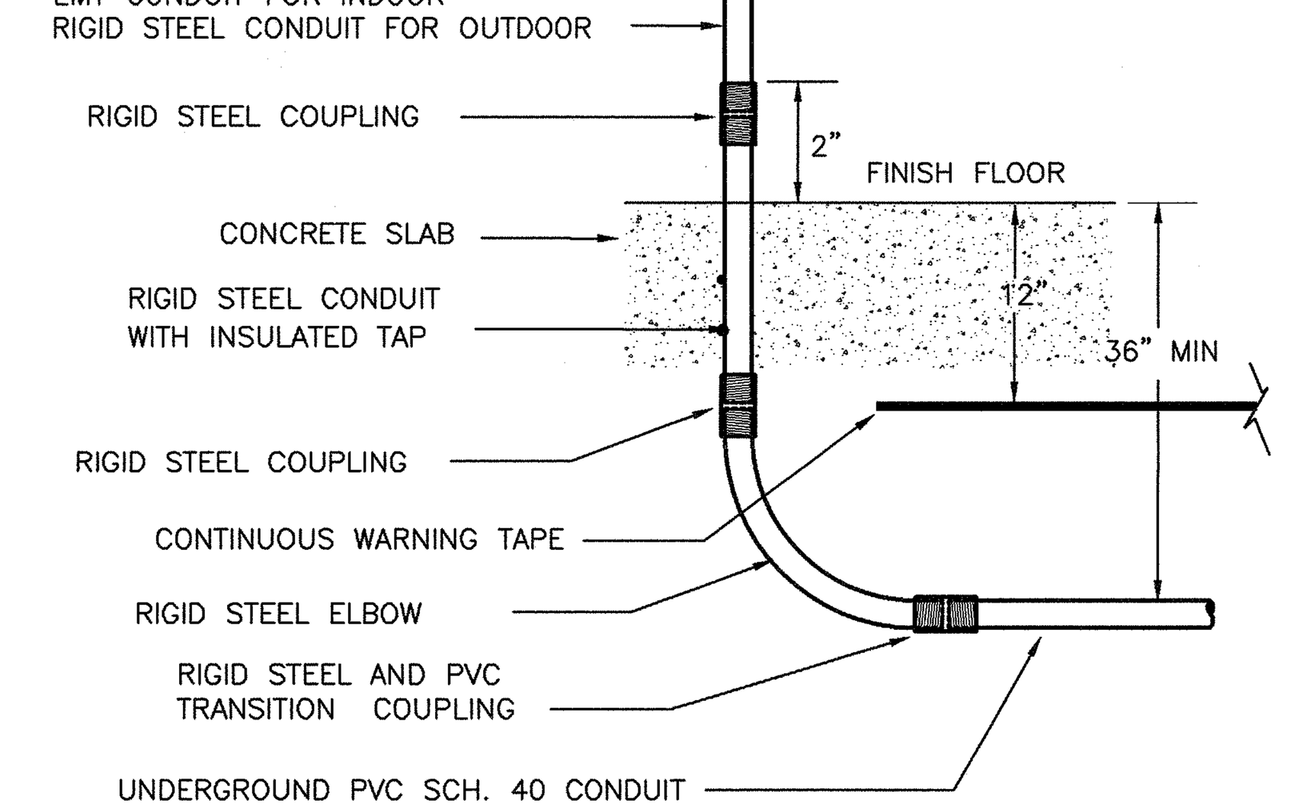


1 WALL MOUNT PANEL DETAIL NTS

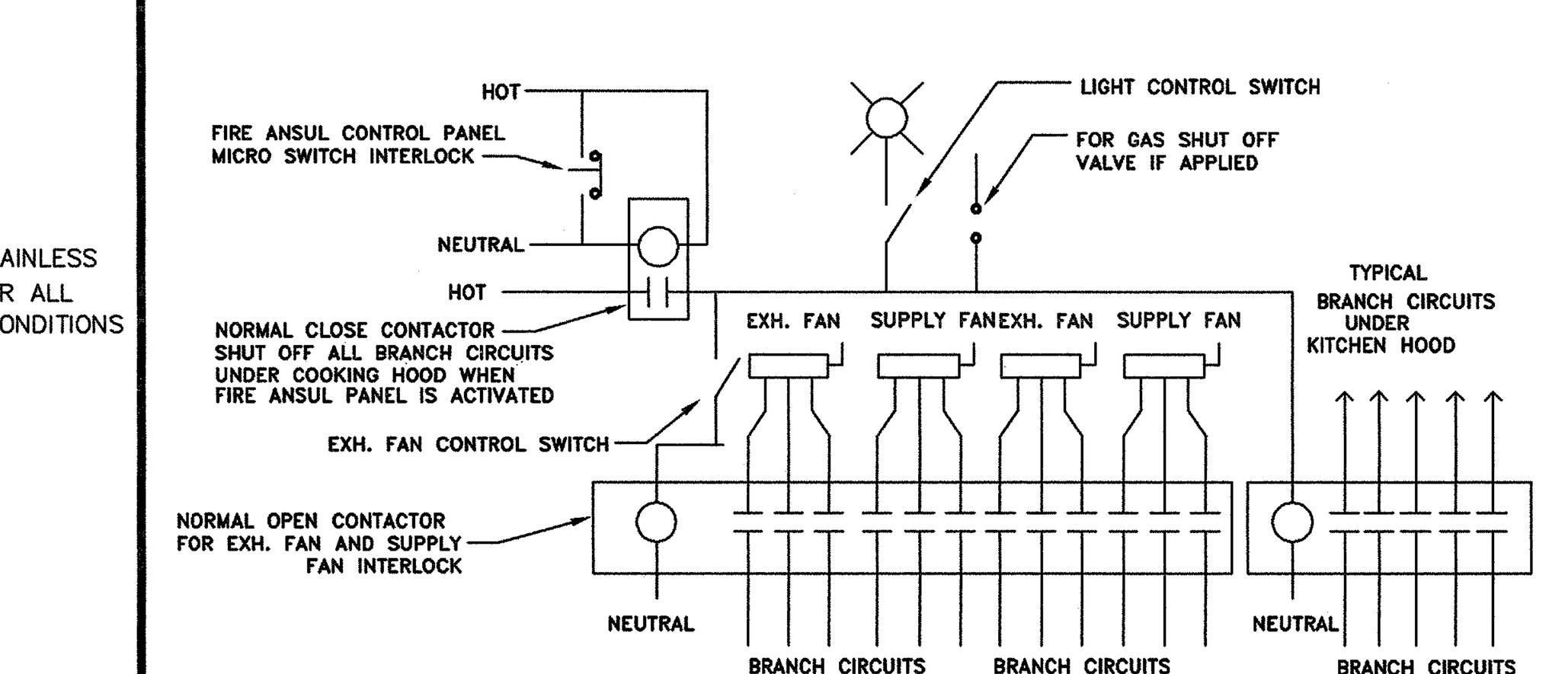


NOTES:
1. CONTRACTOR MAY USE A CONDUIT SUSPENSION SYSTEM EQUIVALENT TO THAT WHICH IS DETAILED, HAVING THE FEATURES SHOWN AND APPROVED BY DSA.
2. PROVIDE A SAMPLE SUPPORT SYSTEM TO KEEP ON JOB SITE FOR CONSTRUCTION GUIDE PURPOSES.
3. CONDUIT SUSPENSION SYSTEM SHALL BE INDEPENDENT OF ANY OTHER SUSPENSION SYSTEM.

8 TYPICAL CONDUITS HANGER DETAIL NTS



7 UNDERGROUND CONDUIT RISER DETAIL NTS



6 KITCHEN HOOD CONTROL DIAGRAM NTS

PANEL HB1
BOLT ON BREAKER | 277/480V 3Ø 4W | 200A MAIN LUGS | BLDG B ELECT RM | 42,000 AIC | SURFACE | NEMA 1

CKT	SERVING	NOTE	GND	WIRE AWG	AMP POLE	ØA	ØB	ØC	AMP POLE	WIRE AWG	GND	NOTE	SERVING	CKT
1, 3, 5	AC UNIT B1 ON ROOF 20 MCA	3	10	10	25/3	5.5 7.5	5.5 7.5	5.5 7.5	30/3	8	8	3	AC UNIT B4 ON ROOF 27 MCA	2, 4, 6
7, 9, 11	SPARE	3			30/3	9.4	9.4	9.4	45/3	8	8	3	AC UNIT B5A ON ROOF 34 MCA	8, 10, 12
13, 15, 17	SPARE	3			15/3	9.4	9.4	9.4	45/3	8	8	3	AC UNIT B5B ON ROOF 34 MCA	14, 16, 18
19, 21, 23	MAKE UP AIR UNIT ON ROOF 11 MCA					5.5	5.5	5.5	25/3	10	10	3	AC UNIT B6 ON ROOF 20 MCA	20, 22, 24
25, 27, 29	SPACE												SPACE	26, 28, 30
31, 33, 35	SPACE												SPACE	32, 34, 36
37, 39, 41	SPACE												SPACE	38, 40, 42
						38KW 137A	38KW 137A	38KW 137A						

NOTES:
1. PROVIDE CIRCUIT DIRECTORY INSIDE PANEL
2. PROVIDE ARC FLASH LABEL ON PANEL DOOR
3. PROVIDE HACR TYPE BREAKER

LOAD SUMMARY
LIGHTING/CONTINUOUS LOADS 125% : 0 KVA
RECEPTACLES (FIRST 10KVA 100%) : 0 KVA
RECEPTACLES (OVER 10KVA 50%) : 0 KVA
HVAC / MISC LOADS 100% : 114 KVA
LARGEST MOTER LOADS 25% : 2 KVA
TOTAL KVA DEMAND : 116 KVA (140AMP)

PANEL HB
BOLT ON BREAKER | 277/480V 3Ø 4W | 350 AMP MAIN BREAKER | BLDG B ELECT RM | 42,000 AIC | SURFACE | NEMA 1

CKT	SERVING	NOTE	GND	WIRE AWG	AMP POLE	ØA	ØB	ØC	AMP POLE	WIRE AWG	GND	NOTE	SERVING	CKT
1, 3, 5	PANEL HB1 SHUNT TRIP BREAKER INTERLOCK	4	6	3/0	200/3	38 7.5	38 7.5	38 7.5	100/3	2	6	3	PANEL LB	2, 4, 6
7, 9, 11	SPACE								15/2			3	SPARE	8, 10, 12
13, 15, 17	AC UNIT B3 ON ROOF 13 MCA	3	10	10	15/3	3.6	3.6	3.6	45/3			3	SPARE	14, 16, 18
19, 21, 23		3	12	12	15/3	3.0	3.0	3.0	25/3			3	SPARE	20, 22, 24
25, 27, 29	HOOD EXHAUST FAN B1	3	12	12	15/3	1.5	1.5	1.5	30/3			3	SPARE	26, 28, 30
31, 33, 35	HOOD EXHAUST FAN B2	3	12	12	15/3	1.5	1.5	1.5						32, 34, 36
37, 39, 41	HOOD EXHAUST FAN B3	3	12	12	15/3	1.0	1.0	1.0						38, 40, 42
						59KW 212A	59KW 212A	59KW 212A						

NOTES:
1. PROVIDE CIRCUIT DIRECTORY INSIDE PANEL
2. PROVIDE ARC FLASH LABEL ON PANEL DOOR
3. PROVIDE HACR TYPE BREAKER
4. PROVIDE SHUT TRIP BREAKER FOR DUCT SMOKE DETECTOR INTERLOCK
5. PROVIDE MECHANICAL LOCK ON BREAKER

LOAD SUMMARY
LIGHTING/CONTINUOUS LOADS 125% : 0 KVA
RECEPTACLES (FIRST 10KVA 100%) : 0 KVA
RECEPTACLES (OVER 10KVA 50%) : 0 KVA
HVAC / MISC LOADS 100% : 177 KVA
LARGEST MOTER LOADS 25% : 10 KVA
TOTAL KVA DEMAND : 187 KVA (225AMP)

PANEL HA
BOLT ON BREAKER | 277/480V 3Ø 4W | 250 AMP MAIN BREAKER | HALL | 42,000 AIC | FLUSH | NEMA 1

CKT	SERVING	NOTE	GND	WIRE AWG	AMP POLE	ØA	ØB	ØC	AMP POLE	WIRE AWG	GND	NOTE	SERVING	CKT
1, 3, 5	XFMR - TA / PANEL A		4	2/0	150/3	33 6.0	33 6.0	33 6.0	25/3	10	10		CONDENSING UNIT A1 22MCA	2, 4, 6
7, 9, 11	PANEL LA		6	2	100/3	6.0 6.0	6.0 6.0	6.0 6.0	25/3	10	10		CONDENSING UNIT A1 22MCA	8, 10, 12
13	LANDSCAPE BOOSTER PUMP	4	10	10	20/3	1.0 1.0			20/1				SPARE	14
15							1.0 1.0		20/1				SPARE	16
17								1.0 1.0	20/1				SPARE	18
19-29	SPACE												SPACE	20-30
						53KW 191A	53KW 191A	53KW 191A						

NOTES:
1. PROVIDE CIRCUIT DIRECTORY INSIDE PANEL
2. PROVIDE ARC FLASH LABEL ON PANEL DOOR
3. STUB OUT (2) 1"C ABOVE ATTIC WITH PULL ROPE
4. FIELD VERIFY LOCATION AND MOUNTING HEIGHT WITH OWNER
5. PROVIDE MECHANICAL LOCK ON BREAKER
6. PROVIDE HACR TYPE BREAKER

LOAD SUMMARY
LIGHTING/CONTINUOUS LOADS 125% : 23 KW
RECEPTACLES (FIRST 10KVA 100%) : 10 KW
RECEPTACLES (OVER 10KVA 50%) : 33 KW
HVAC / MISC LOADS 100% : 66 KW
LARGEST MOTER LOADS 25% : 2 KW
TOTAL KVA DEMAND : 134 KW (161AMP)

PANEL LB
BOLT ON BREAKER | 277/480V 3Ø 4W | 100 AMP MAIN LUG | BLDG B ELECT RM | 14,000 AIC | SURFACE | NEMA 1

CKT	SERVING	NOTE	GND	WIRE AWG	AMP POLE	ØA	ØB	ØC	AMP POLE	WIRE AWG	GND	NOTE	SERVING	CKT
1	EXIT SIGN EMERG LIGHT	5	12	12	20/1	0.5 1.0			20/1	12	12	4	EXTERIOR NIGHT LIGHT	2
3	LIGHT KITCHEN	3	12	12	20/1		1.0 1.0		20/1	12	12	4	EXTERIOR CANOPY LIGHT	4
5	LIGHT MULTI PUPOSE	3	12	12	20/1			1.0 1.0	20/1	12	12	4	EXTERIOR CANOPY LIGHT	6
7	LIGHT MULTI PUPOSE	3	12	12	20/1	1.0 1.0			20/1	12	12	4	EXTERIOR CANOPY LIGHT	8
9	LIGHT MULTI PUPOSE	3	12	12	20/1		1.0 1.0		20/1	12	12		LIGHTING CONTROL PANEL	10
11	LIGHT STAGE VEST CONTR	3	12	12	20/1			1.0 0.5	20/1	10	10	4	SITE LIGHTING	12
13	LIGHT CLASSROOM	3	12	12	20/1	1.0 0.5			20/1	10	10	4	SITE LIGHTING	14
15	LIGHT CLASSROOM	3	12	12	20/1		1.0		20/1				SPARE	16
17	LIGHT KITCHEN	3	12	12	20/1			1.0	20/1				SPARE	18
19	LIGHT LOUNGE	3	12	12	20/1	1.0			20/1				SPARE	20
21	LIGHT LOBBY TOILET TICKET	3	12	12	20/1		1.0		20/1				SPARE	22
23	LIGHT HALLWAY	3	12	12	20/1			1.0	20/1				SPARE	24
						6KW 22A	6KW 22A	6KW 22A						

NOTES:
1. PROVIDE CIRCUIT DIRECTORY INSIDE PANEL
2. PROVIDE ARC FLASH LABEL ON PANEL DOOR
3. ROUTE THRU OCCUPANCY SENSOR
4. ROUTE THRU LIGHTING CONTROL PANEL
5. PROVIDE MECHANICAL LOCK ON BREAKER

LOAD SUMMARY
LIGHTING/CONTINUOUS LOADS 125% : 54 KVA
RECEPTACLES (FIRST 10KVA 100%) : 0 KVA
RECEPTACLES (OVER 10KVA 50%) : 0 KVA
HVAC / MISC LOADS 100% : 0 KVA
LARGEST MOTER LOADS 25% : 0 KVA
TOTAL KVA DEMAND : 54 KVA (150AMP)

PANEL B1
BOLT ON BREAKER | 120/208V 3Ø 4W | 125 AMP MAIN LUGS | BLDG B CONTROL RM | 22,000 AIC | FLUSH | NEMA 1

CKT	SERVING	NOTE	GND	WIRE AWG	AMP POLE	ØA	ØB	ØC	AMP POLE	WIRE AWG	GND	NOTE	SERVING	CKT
1	DUCT SMOKE DETECTOR	3	10	10	20/1	1.0 1.0			20/1	12	12	4	OUTLET CLASSROOM	2
3	OUTLET MULTI USE	4	10	10	20/1		1.0 1.0		20/1	12	12	4	OUTLET CLASSROOM	4
5	OUTLET MULTI USE	4	10	10	20/1			1.0 1.0	20/1	12	12	4	OUTLET CLASSROOM	6
7	OUTLET MULTI USE	4	10	10	20/1	1.0 1.0			20/1	12	12	4	OUTLET CLASSROOM	8
9	OUTLET MULTI USE	4	10	10	20/1		1.0 1.0		20/1	12	12	4	OUTLET LOBBY	10
11	OUTLET MULTI USE	4	10	10	20/1			1.0 1.0	20/1	12	12	4	OUTLET LOBBY	12
13	OUTLET MULTI USE	4	10	10	20/1	1.0 1.0			20/1	12	12	3	OUTLET IDF	14
15	OUTLET LIGHTING CONTROL ROOM	4	10	10	20/1		1.0 1.0		20/1	12	12	4	OUTLET STAGE	16
17	OUTLET LIGHTING CONTROL ROOM	4	10	10	20/1			1.0 1.0	20/1	12	12	4	OUTLET STAGE	18
19	OUTLET LIGHTING CONTROL ROOM	4	10	10	20/1	1.0 1.0			20/1	12	12	4	OUTLET STAGE	20
21	D.F	4	10	10	20/1		1.0 1.0		20/1	12	12	4	CEILING PROJECTOR	22
23	SPARE				20/1			1.0 1.0	20/1	12	12	4	PROJECT SCREEN	24
25	SPARE				20/1	1.0 1.0			20/2	12	12	4	WHEEL CHAIR LIFT	26, 28
27	EXH FAN	4	10	10	20/1		1.0 1.0							
29	EXH FAN	4	10	10	20/1			1.0 1.5	20/1	12	12		SOUND EQUIPMENT	30
31	SPARE				20/3	1.0 1.0			20/1				SPARE	32
33							1.0 1.0		20/1				SPARE	34
35								1.0 1.0	20/1				SPARE	36
37, 39, 41	INDOOR/OUTDOOR UNIT	5	10	10	20/2	1.5	1.5						SPACE	38, 40, 42
						14KW 250A	14KW 250A	14KW 250A						

NOTES:
1. PROVIDE CIRCUIT DIRECTORY INSIDE PANEL
2. PROVIDE ARC FLASH LABEL ON PANEL DOOR
3. PROVIDE MECHANICAL LOCK ON BREAKER
4. FIELD VERIFY LOCATION AND MOUNTING HEIGHT WITH OWNER
5. PROVIDE HACR TYPE BREAKER
6. STUB OUT (2) 1"C ABOVE ATTIC WITH PULL ROPE

LOAD SUMMARY
LIGHTING/CONTINUOUS LOADS 125% : 54 KVA
RECEPTACLES (FIRST 10KVA 100%) : 0 KVA
RECEPTACLES (OVER 10KVA 50%) : 0 KVA
HVAC / MISC LOADS 100% : 0 KVA
LARGEST MOTER LOADS 25% : 0 KVA
TOTAL KVA DEMAND : 54 KVA (150AMP)

PANEL A
BOLT ON BREAKER | 120/208V 3Ø 4W | 350 AMP MAIN BREAKER | JANITOR | 42,000 AIC | FLUSH | NEMA 1

CKT	SERVING	NOTE	GND	WIRE AWG	AMP POLE	ØA	ØB	ØC	AMP POLE	WIRE AWG	GND	NOTE	SERVING	CKT
1	OUTLET CIRCULATION		12	12	20/1	1.0 0.5			20/1	12	12	5	FIRE RISER BELL	2
3	OUTLET CIRCULATION		12	12	20/1		1.0 1.0		20/1	12	12		OUTLET TOILET EXTERIOR	4
5	OUTLET CIRCULATION		12	12	20/1			1.0 1.0	20/1	12	12		OUTLET JAN	6
7	OUTLET LIBRARY		12	12	20/1	1.0 1.0			20/1				SPARE	8
9	OUTLET LIBRARY		12	12	20/1		1.0 1.0		20/1				SPARE	10
11	OUTLET LIBRARY		12	12	20/1			1.0 1.0	20/1				OUTLET D.F VEST	12
13	OUTLET LIBRARY		12	12	20/1	1.0 1.0			20/1				OUTLET D.F VEST	14
15	OUTLET LIBRARY		12	12	20/1		1.0 1.0		20/1				OUTLET VEST HALL	16
17	OUTLET LIBRARY		12	12	20/1			1.0 1.0	20/1				SPARE	18
19	OUTLET RESOURCE LOBBY		12	12	20/1	1.0 1.0			20/1				SPARE	20
21	OUTLET RESOURCE LOBBY		12	12	20/1		1.0 1.0		20/1				SPARE	22
23	OUTLET RESOURCE LOBBY		12	12	20/1			1.0 1.0	20/1				SPARE	24
25	OUTLET WORK STUDY		12	12	20/1	1.0							SPACE	26, 28, 30
27	OUTLET WORK STUDY		12	12	20/1		1.0							
29	OUTLET WORK STUDY		12	12	20/1			1.0						
31, 33, 35	SPACE					14	14	14	125/3	1	4		PANEL A1	32, 34, 36
37, 39, 41	TVSS		4	3/0	200/3	10	10	10	125/3	1	4		PANEL A2	38, 40, 42
						33KW 275A	33KW 275A	33KW 275A						

NOTES:
1. PROVIDE CIRCUIT DIRECTORY INSIDE PANEL
2. PROVIDE ARC FLASH LABEL ON PANEL DOOR
3. ROUTE THRU OCCUPANCY SENSOR
4. FIELD VERIFY LOCATION AND MOUNTING HEIGHT WITH OWNER
5. PROVIDE MECHANICAL LOCK ON BREAKER
6. PROVIDE HACR TYPE BREAKER

LOAD SUMMARY
LIGHTING/CONTINUOUS LOADS 125% : 0 KW
RECEPTACLES (FIRST 10KVA 100%) : 10 KW
RECEPTACLES (OVER 10KVA 50%) : 45 KW
HVAC / MISC LOADS 100% : 0 KW
LARGEST MOTER LOADS 25% : 1 KW
TOTAL KVA DEMAND : 56 KW (155AMP)

PANEL K1
BOLT ON BREAKER | 120/208V 3Ø 4W | 200 AMP MAIN LUGS | BLDG B ELECT RM | 22,000 AIC | SURFACE | NEMA 1

CKT	SERVING	NOTE	GND	WIRE AWG	AMP POLE	ØA	ØB	ØC	AMP POLE	WIRE AWG	GND	NOTE	SERVING	CKT
1	OUTLET LOUNGE	4	10	10	20/1	1.0 1.0			20/1	12	12	6	FA SIGNAL BOOSTER PANEL	2
3	OUTLET LOUNGE	4	10	10	20/1		1.0 1.0		20/1	12	12		SECURITY ALARM PANEL	4
5	OUTLET LOUNGE	4	10	10	20/1			1.0 1.0	20/1	12	12		OUTLET ELECT ROOM	6
7	OUTLET LOUNGE	4	10	10	20/1	1.0 1.0			20/1	12	12		OUTLET STORAGE	8
9	OUTLET LOUNGE	4	10	10	20/1		1.0 1.0		20/1	12	12		OUTLET KITCHEN	10
11	MILK COOLER 7.5A (16)	4	10	10	20/1			1.0 1.0	20/1	12	12		OUTLET TOILET KITCHEN	12
13	MILK COOLER 7.5A (16)	4	12	12	20/1	1.0 1.0			20/1	12	12	4	MUA WATER PUMP	14
15	MILK COOLER 7.5A (16)	4	12	12	20/1		1.0 1.0		20/1	12	12	4	REF	16
17	MILK COOLER 7.5A (16)	4	12	12	20/1			1.0 1.0	20/1	12	12	4	REF	18
19	OUTLET SERVING	4	12	12	20/1	1.0 1.0			20/1	12	12	4	REF	20
21	WALK IN DOOR HEATER LIGHT	4	12	12	20/1		1.0 1.0		20/1	12	12	4	HOOD INTERLOCK CONTORL/LIGHT	22
23	ROOF OUTLET	4	12	12	20/1			1.0 1.0	20/1	12	12	4	WATER HEATER CIRC PUMP	24
25	OUTLET TABLE STORAGE	4	12	12	20/1	1.0 1.5			20/1	12	12	4	CEILING OUTLET	26
27	OUTLET TABLE STORAGE	4	12	12	20/1		1.0 1.5		20/1	12	12	4	CEILING OUTLET	28
29	OUTLET STORAGE	4	12	12	20/1			1.0 1.0	20/1	12	12	4	SKILLET 9A (2)	30
31	OUTLET CORRIDOR	4	12	12	20/1	1.0 1.0			20/1	12	12	4	AIR CURTAIN (7)	32
33	OUTLET CORRIDOR	4	12	12	20/1		1.0 1.0		20/1	12	12	4	OUTLET REFRIGERATOR (55)	34
35	WALK IN DOOR HEATER LIGHT	4	12	12	20/1			1.0 1.0	20/1	12	12		EXH FAN	36
37	HEAT TRACE	4	12	12	20/1	1.0 1.0			20/1	12	12		EXH FAN	38
39	UPS	4	10	10	30/2		1.5 1.0		20/1	12	12		EXH FAN	40
41								1.5 1.0	20/1	12	12		EXH FAN	42
						15KW 125A	15KW 125A	15KW 125A						

NOTES:
1. PROVIDE CIRCUIT DIRECTORY INSIDE PANEL
2. PROVIDE ARC FLASH LABEL ON PANEL DOOR
3. STUB OUT (2) 1"C ABOVE ATTIC WITH PULL ROPE
4. FIELD VERIFY LOCATION AND MOUNTING HEIGHT WITH OWNER
5. PROVIDE HACR TYPE BREAKER
6. PROVIDE MECHANICAL LOCK ON BREAKER PER NFPA 72, 10.6.5.2: DEDICATED CIRCUIT, MECHANICALLY PROTECTED (LOCKOUT), RED MARKING, ACCESSIBLE ONLY TO AUTHORIZED PERSONNEL, ID'D AS FIRE ALARM, EMERGENCY COMMUNICATIONS OR FIRE ALARM/ECS. LOCATION OF CIRCUIT DISCONNECT (BREAKER) PERMANENTLY IDENTIFIED AT THE FIRE ALARM CONTROL UNIT.

LOAD SUMMARY
LIGHTING/CONTINUOUS LOADS 125% : 0 KVA
RECEPTACLES (FIRST 10KVA 100%) : 10 KVA
RECEPTACLES (OVER 10KVA 50%) : 18 KVA
HVAC / MISC LOADS 100% : 0 KVA
LARGEST MOTER LOADS 25% : 1 KVA
TOTAL KVA DEMAND : 29 KVA (80 AMP)

PANEL A2
BOLT ON BREAKER | 120/208V 3Ø 4W | 125 AMP MAIN LUGS | STORAGE | 10,000 AIC | FLUSH | NEMA 1

CKT	SERVING	NOTE	GND	WIRE AWG	AMP POLE	ØA	ØB	ØC	AMP POLE	WIRE AWG	GND	NOTE	SERVING	CKT
1, 3	SELECTOR BOX UNIT A1 A2 A3	5	12	12	15/2	1.0 0.2	1.0 0.2		15/2	12	12	3,5	FAN COIL UNIT A1 1.2MCA SHUNT TRIP BREAKER	2, 4
5, 7	SELECTOR BOX UNIT A4 A5 A6	5	12	12	15/2	1.0 0.2		1.0 0.2	15/2	12	12	3,5	FAN COIL UNIT A2 1.2MCA SHUNT TRIP BREAKER	6, 8
9, 11	SELECTOR BOX UNIT A7 A8 A9	5	12	12	15/2		1.0 0.4	1.0 0.4	15/2	12	12	3,5	FAN COIL UNIT A3 2.8MCA SHUNT TRIP BREAKER	10, 12
13, 15	FAN COIL UNIT A7 8.5MCA SHUNT TRIP BREAKER	3,5	12	12	20/2	1.5 0.6	1.5 0.6		15/2	12	12	3,5	FAN COIL UNIT A4 4.5MCA SHUNT TRIP BREAKER	14, 16
17, 19	FAN COIL UNIT A8 1.2MCA SHUNT TRIP BREAKER	3,5	12	12	15/2	0.4 1.5		0.4 1.5	20/2	12	12	3,5	FAN COIL UNIT A5 8.5MCA SHUNT TRIP BREAKER	18, 20
21, 23	FAN COIL UNIT A9 8.5MCA SHUNT TRIP BREAKER	3,5	12	12	20/2		1.5 1.5	1.5 1.5	20/2	12	12	3,5	FAN COIL UNIT A6 8.5MCA SHUNT TRIP BREAKER	22, 24
25	EXH FAN	5	12	12	20/1	0.5 0.5			20/1	12	12	5	EXH FAN	26
27	EXH FAN	5	12	12	20/1		0.5 0.5		20/1	12	12	5	EXH FAN	28
29	EXH FAN	5	12	12	20/1			0.5 0.5	20/1	12	12	5	EXH FAN	30
31	DUCT SMOKE DETECTOR	4	12	12	20/1	0.5 0.5			20/1	12	12		WATER HEATER	32
33	SPARE				20/1		0.5 0.5		20/1				SPARE	34
35	SPARE				20/1			0.5 0.5	20/1				SPARE	36
37, 39, 41	SPACE												SPACE	38, 40, 42
						10KW 83A	10KW 83A	10KW 83A						

NOTES:
1. PROVIDE CIRCUIT DIRECTORY INSIDE PANEL
2. PROVIDE ARC FLASH LABEL ON PANEL DOOR
3. PROVIDE SHUNT TRIP BREAKER INTERLOCK HVAC DUCT SMOKE DETECTOR POWER SHUT DOWN
4. PROVIDE MECHANICAL LOCK ON BREAKER
5. PROVIDE HACR TYPE BREAKER

LOAD SUMMARY
LIGHTING/CONTINUOUS LOADS 125% : 0 KW
RECEPTACLES (FIRST 10KVA 100%) : 0 KW
RECEPTACLES (OVER 10KVA 50%) : 0 KW
HVAC / MISC LOADS 100% : 30 KW
LARGEST MOTER LOADS 25% : 1 KW
TOTAL KVA DEMAND : 31 KW (86 AMP)

PANEL K
BOLT ON BREAKER | 120/208V 3Ø 4W | 200 AMP MAIN LUGS | BLDG B ELECT RM | 22,000 AIC | SURFACE | NEMA 1

CKT	SERVING	NOTE	GND	WIRE AWG	AMP POLE	ØA	ØB	ØC	AMP POLE	WIRE AWG	GND	NOTE	SERVING	CKT
1	DOUBLE GAS OVEN (1)	4	12	12	20/1	1.0 1.5			20/2	12	12	4	220V OUTLET COFFEE	2, 4
3	DOUBLE GAS OVEN (1)	4	12	12	20/1		1.0 1.5							
5	DOUBLE GAS OVEN (1)	4	12	12	20/1			1.0 1.5	20/1	12	12	4	KITCHEN OUTLET	6
7	DOUBLE GAS OVEN (1)	4	12	12	20/1	1.0 1.0			20/1	12	12		OUTLET SERVING	8
9	DOUBLE GAS OVEN (1)	4	12	12	20/1		1.0 1.0		20/1	12	12		OUTLET SERVING	10
11	DOUBLE GAS OVEN (1)	4	12	12	20/1			1.9 1.0	20/1	12	12		OUTLET SERVING	12
13	MICRO OVEN 1200W (5)	4	12	12	20/1	1.5 1.0			20/1				SPARE	14
15	AIR CURTAIN (7)	4	12	12	20/1		1.0 1.0		20/1				SPARE	16
17	MOBILE HEATER 1500W (8)	4	12	12	20/1			1.5 1.0	20/1				SPARE	18
19	MOBILE HEATER 1500W (8)	4	12	12	20/1	1.5 1.5			20/2	12	12	4	ICE CUBER 11.7A (27)	20, 22
21	SLICER 4.8A (9)	4	12	12	20/1		1.0 1.5							
23	SKILLET 9A (2)	4	12	12	20/1			1.0 1.0	20/2	12	12	4	WALK-IN COOLER FAN COIL	24, 26
25	HOT FOOD COUNTER 12A (13)	4	12	12	20/1	1.5 1.0								
27	CASH REGISTER (52)	4	12	12	20/1		1.0 1.0		20/2	12	12	4	WALK-IN FREEZER FAN COIL	28, 30
29	CASH REGISTER (52)	4	12	12	20/1			1.9 1.0						
31	STATIONARY KETTLE 10A (18)	4	12	12	20/1	1.0 1.8			20/1	12	12	4	MICRO OVEN 1200W (5)	32
33	ANSUAL PANEL (26)(36)	4	12	12	20/1		1.0 1.5		20/1	12	12	4	CEILING OUTLET	34
35	HOT FOOD COUNTER 12A (13)	4	12	12	20/1			1.5 1.5	20/1	12	12	3	CEILING OUTLET	36
37	OFFICE OUTLET	3	12	12	20/1	1.0 1.0			20/1	12	12	4	OUTLET SERVING	38
39	MOBILE HEATER 1500W (8)	4	12	12	20/1		1.5 1.0		20/1	12	12	4	OUTLET SERVING	40
41	MOBILE HEATER 1500W (8)	4	12	12	20/1			1.5 1.5	20/1	12	12	4	MOBILE HEATER 1500W (8)	42
						17KW 142A	16KW 133A	19KW 158A						

NOTES:
1. PROVIDE CIRCUIT DIRECTORY INSIDE PANEL
2. PROVIDE ARC FLASH LABEL ON PANEL DOOR
3. ROUTE THRU OCCUPANCY SENSOR
4. FIELD VERIFY LOCATION AND MOUNTING HEIGHT WITH OWNER
5. PROVIDE MECHANICAL LOCK ON BREAKER
6. PROVIDE HACR TYPE BREAKER

LOAD SUMMARY
LIGHTING/CONTINUOUS LOADS 125% : 0 KVA
RECEPTACLES (FIRST 10KVA 100%) : 10 KVA
RECEPTACLES (OVER 10KVA 50%) : 16 KVA
HVAC / MISC LOADS 100% : 0 KVA
LARGEST MOTER LOADS 25% : 1 KVA
TOTAL KVA DEMAND : 27 KVA (75 AMP)

PANEL A1
BOLT ON BREAKER | 120/208V 3Ø 4W | 125 AMP MAIN LUGS | BLDG A ELECT RM | 10,000 AIC | SURFACE | NEMA 1

CKT	SERVING	NOTE	GND	WIRE AWG	AMP POLE	ØA	ØB	ØC	AMP POLE	WIRE AWG	GND	NOTE	SERVING	CKT
1	MDF OUTLET	3	12	12	20/1	1.5 1.0			20/1	12	12	6	FA SIGNAL BOOSTER PANEL	2
3	MDF UPS CHARGER OUTLET	3	10	10	30/1		1.5 1.0		20/1	12	12	3	SECURITY ALARM PANEL	4
5	MASTER PA/IC EQUIP	3	12	12	20/1			1.5 1.0	30/1	12	12	3	HVAC CONTROL PANEL	6
7	OUTLET OFFICE	4	12	12	20/1	1.0 1.0			20/1	12	12		OUTLET TELE BKBD	8
9	OUTLET OFFICE	4	12	12	20/1		1.0 1.0		20/1	12	12		OUTLET DATA ROOM	10
11	OUTLET OFFICE	4	12	12	20/1			1.0 1.0	20/1	12	12		OUTLET DATA ROOM	12
13	OUTLET CONF		12	12	20/1	1.0 1.0			20/1	12	12	4	OUTLET RECEPTION	14
15	OUTLET TOILET HALL		12	12	20/1		1.0 1.0		20/1	12	12	4	OUTLET RECEPTION	16
17	OUTLET OFFICE		12	12	20/1			1.0 1.0	20/1	12	12	4	OUTLET RECEPTION	18
19	OUTLET NURSE STOR HALL		12	12	20/1	1.0 1.0			20/1	12	12	4	OUTLET OFFICE	20
21	OUTLET WORK ROOM		12	12	20/1		1.0 1.0		20/1	12	12	4	OUTLET OFFICE	22
23	OUTLET WORK ROOM		12	12	20/1			1.0 1.0	20/1	12	12	4	OUTLET OFFICE	24
25	OUTLET WORK ROOM		12	12	20/1	1.0 1.0			20/1	12	12	4	OUTLET OFFICE	26
27	OUTLET LOUNGE		12	12	20/1		1.0 1.0		20/1	12	12		OUTLET OFFICE	28
29	OUTLET LOUNGE		12	12	20/1			1.0 1.0	20/1	12	12		OUTLET OFFICE	30
31	OUTLET LOUNGE		12	12	20/1	1.0 1.0			20/1	12	12		OUTLET OFFICE	32
33	OUTLET COPY PRINTER		12	12	20/1		1.0 0.5		20/1	10	10		SAFETY CROSS LIGHT	34
35	OUTLET COPY PRINTER		12	12	20/1			1.0 0.5	20/1	10	10		SAFETY CROSS LIGHT	36
37	OUTLET COPY PRINTER		12	12	20/1	1.0 0.5			20/1				SPARE	38
39	SPARE				20/1		0.5 1.5		20/1	10	10		MARQUEE	40
41	SPARE				20/1			0.5 1.5	20/1	10	10		MARQUEE	42
						14KW 117A	14KW 117A	14KW 117A						

NOTES:
1. PROVIDE CIRCUIT DIRECTORY INSIDE PANEL
2. PROVIDE ARC FLASH LABEL ON PANEL DOOR
3. PROVIDE MECHANICAL LOCK ON BREAKER
4. CONTROL OUTLET ROUTE THRU OCCUPANCY SENSOR VIA SWITCH PACK
5. PROVIDE HACR TYPE BREAKER
6. PROVIDE MECHANICAL LOCK ON BREAKER PER NFPA 72, 10.6.5.2: DEDICATED CIRCUIT, MECHANICALLY PROTECTED (LOCKOUT), RED MARKING, ACCESSIBLE ONLY TO AUTHORIZED PERSONNEL, ID'D AS FIRE ALARM, EMERGENCY COMMUNICATIONS OR FIRE ALARM/ECS. LOCATION OF CIRCUIT DISCONNECT (BREAKER) PERMANENTLY IDENTIFIED AT THE FIRE ALARM CONTROL UNIT.

LOAD SUMMARY
LIGHTING/CONTINUOUS LOADS 125% : 0 KW
RECEPTACLES (FIRST 10KVA 100%) : 10 KW
RECEPTACLES (OVER 10KVA 50%) : 18.5KW
HVAC / MISC LOADS 100% : 0 KW
LARGEST MOTER LOADS 25% : 0 KW
TOTAL KVA DEMAND : 28.5KW (79 AMP)

PANEL B
BOLT ON BREAKER | 120/208V 3Ø 4W | 800 AMP MAIN BREAKER | BLDG B ELECT RM | 42,000 AIC | SURFACE | NEMA 1

CKT	SERVING	NOTE	GND	WIRE AWG	AMP POLE	ØA	ØB	ØC	AMP POLE	WIRE AWG	GND	NOTE	SERVING	CKT
1, 3, 5	PANEL K		4	3/0	200/3	17 15	16 15	19 15	200/3	3/0	4		PANEL K1	2, 4, 6
7, 9, 11	PANEL B1		6	2	100/3	10 2.0	10 2.0	10 2.0	25/3	10	10	6	WALK-IN COOLER COND UNIT 20 MCA (34)	8, 10, 12
13, 15, 17	DIMMING PANEL	6	4	4/0	200/3	12 2.0	12 2.0	12 2.0	25/3	10	10	6	WALK-IN COOLER COND UNIT 20 MCA (34)	14, 16, 18
19, 21, 23	AC UNIT B2 ON ROOF 20 MCA	6	10	10	30/2	2.4 4.0	2.4 4.0	2.4 4.0	40/3	8	8	6	WALK-IN FREEZER COND UNIT 30 MCA (35)	20, 22, 24
25, 27, 29	DISPOSER 8.8 FLA	6	12	12	20/3	1.0 1.8	1.0 1.8	1.0 1.8	30/3	10	10	6	DISPOSER SCRAPPING 208V 3Ø 14.8A (47)	26, 28, 30
31, 33, 35	MIXER 9.5A (12)	6	12	12	20/3	1.2 12	1.2 12	1.2 12	60/3	6	8	6	DISHER WASHER 10KW BOOSTER HEATER (4)	32, 34, 36
37, 39, 41	SPACE													38, 40, 42
						81KW 675A	80KW 667A	84KW 700A						

NOTES:
1. PROVIDE CIRCUIT DIRECTORY INSIDE PANEL
2. PROVIDE ARC FLASH LABEL ON PANEL DOOR
3. ROUTE THRU OCCUPANCY SENSOR
4. FIELD VERIFY LOCATION AND MOUNTING HEIGHT WITH OWNER
5. PROVIDE MECHANICAL LOCK ON BREAKER
6. PROVIDE HACR TYPE BREAKER

LOAD SUMMARY
LIGHTING/CONTINUOUS LOADS 125% : 0 KVA
RECEPTACLES (FIRST 10KVA 100%) : 10 KVA
RECEPTACLES (OVER 10KVA 50%) : 115 KVA
HVAC / MISC LOADS 100% : 7 KVA
LARGEST MOTER LOADS 25% : 10 KVA
TOTAL KVA DEMAND : 142 KVA (395AMP)

PANEL LA
BOLT ON BREAKER | 277/480V 3Ø 4W | 100 AMP MAIN LUG | BLDG A | 14,000 AIC | FLUSH | NEMA 1

CKT	SERVING	NOTE	GND	AVG	AMP POLE	ØA	ØB	ØC	AMP POLE	WIRE AVG	GND	NOTE	SERVING	CKT
1	EXIT SIGN EMERG LIGHT	5	12	12	20/1	0.5 1.0			20/1	12	12	4	EXTERIOR NIGHT LIGHT	2
3	LIGHT LOBBY WORK NURSE	3	12	12	20/1		1.0 1.0		20/1	12	12	4	EXTERIOR CANOPY LIGHT	4
5	LIGHT OFFICE CONF TOILET HALL	3	12	12	20/1			1.0 1.0	20/1	12	12	4	EXTERIOR CANOPY LIGHT	6
7	LIGHT LIBRARY STUDY	3	12	12	20/1	1.0 1.0			20/1	12	12	4	SPARE	8
9	LIGHT LIBRARY LOBBY	3	12	12	20/1		1.0 1.0		20/1	12	12	4,7	EXTERIOR STAGE LIGHT	10
11	LIGHT WORK TOILET	3	12	12	20/1			1.0 1.0	20/1	12	12		LIGHTING CONTROL PANEL	12
13	PARKING LOT LIGHT	4	10	10	20/1	1.0 1.0			20/1	10	10	4	PARKING LOT LIGHT	14
15	PARKING LOT LIGHT	4	10	10	20/1		1.0 1.0		20/1	10	10	4	PARKING LOT LIGHT	16
17	PARKING LOT LIGHT	4	10	10	20/1			1.0 1.0	20/1	10	10	4	PARKING LOT LIGHT	18
19	SPARE				20/1				20/1				SPARE	20
21	SPARE				20/1				20/1				SPARE	22
23	SPARE				20/1				20/1				SPARE	24
						6KW 22A	6KW 22A	6KW 22A						

NOTES:
1. PROVIDE CIRCUIT DIRECTORY INSIDE PANEL
2. PROVIDE ARC FLASH LABEL ON PANEL DOOR
3. ROUTE THRU OCCUPANCY SENSOR
4. ROUTE THRU LIGHTING CONTROL PANEL
5. PROVIDE MECHANICAL LOCK ON BREAKER
6. STUB OUT (2) 1"C ABOVE ATTIC WITH PULL ROPE
7. PROVIDE DIMMING CONTROL SWITCH

LOAD SUMMARY
LIGHTING/CONTINUOUS LOADS 125% : 22.5KW
RECEPTACLES (FIRST 10KVA 100%) : 0 KW
RECEPTACLES (OVER 10KVA 50%) : 0 KW
HVAC / MISC LOADS 100% : 0 KW
LARGEST MOTER LOADS 25% : 0 KW
TOTAL KVA DEMAND : 22.5KW (27 AMP)

CONSULTING ENGINEERS
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6011 N. Fresno, Suite 130 – Fresno, California 93710
Phone (559) 436-0881 Fax (559) 436-0887 E-Mail: design@somam.com
www.integrateddesigns.com

Revision:	Revision Description:	Rev. Date:
8	ADDENDUM #8	

Sheet Title: PANEL SCHEDULES

Project Name & Address: NEW ELEMENTARY SCHOOL INCREMENT 2
BAKERSFIELD CITY SCHOOL DISTRICT
@ CITADEL ROAD & MARDI GRAS COURT

Issue Date: 01/31/18
Date: 12/06/16
Designer: J CHONG
DR: J CHONG
PC: --

Agency Approval Stamp:
FILE #: 15-6
IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
03-118394
AC ___ FLS SPH SS ___
DATE 06-22-18
TRACKING #: 63321-300

Stamp(s):
REGISTERED PROFESSIONAL ENGINEER
JOHN S. CHONG
E 14419
Exp.6/30/2020
ELECTRICAL
STATE OF CALIFORNIA

Job No.: 5262

Sheet No.: E6.05

Release:

1" = 50'-0" (0, 50, 100, 150)

1" = 40'-0" (0, 40, 80, 120)

1" = 30'-0" (0, 30, 60, 90)

1" = 20'-0" (0, 20, 40, 60)

1/8" = 1'-0" (0, 8, 16, 24)

1/4" = 1'-0" (0, 4, 8, 12)

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 04/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 1 of 6)
Project Name: NEW ELEMENTARY SCHOOL, BAKERSFIELD CITY SCHOOL DISTRICT (BUILDING A)	Date Prepared: 1-30-2018

A. General Information

Climate Zone: 13	Conditioned Floor Area: 7000						
	Unconditioned Floor Area: 0						
Building Type:	☑	Nonresidential	☐	High-Rise Residential	☐	Hotel/Motel	
☑ Schools	☐	Relocatable Public Schools	☑	Conditioned Spaces	☐	Unconditioned Spaces	
Phase of Construction:	☑	New Construction	☐	Addition	☐	Alteration	
Method of Compliance:	☑	Complete Building	☐	Area Category	☐	Tailored	
Project Address: AT CITADEL RAOD & MARDI GRAS COURT, BAKERSFIELD							

B. Lighting Compliance Documents (select yes for each document included)

For detailed instructions on the use of this and all Energy Efficiency Standards compliance documents, refer to the Nonresidential Manual published by the California Energy Commission.

YES	NO	COMP. DOC.	TITLE
◉	○	NRCC-LTI-01-E	Certificate of Compliance. All Pages required on plans for all submittals.
◉	○	NRCC-LTI-02-E	Lighting Controls, Certificate of Compliance, and PAF Calculation. All Pages required on plans for all submittals.
◉	○	NRCC-LTI-03-E	Indoor Lighting Power Allowance
○	◉	NRCC-LTI-04-E	Tailored Method Worksheets
○	◉	NRCC-LTI-05-E	Line Voltage Track Lighting Worksheets
○	○	NRCC-LTI-06-E	Indoor Lighting Existing Conditions

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 04/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 5 of 6)
Project Name: NEW ELEMENTARY SCHOOL, BAKERSFIELD CITY SCHOOL DISTRICT (BUILDING A)	Date Prepared: 1-30-2018

A Separate Lighting Schedule Must Be Filled Out for Conditioned and Unconditioned Spaces. Installed Lighting Power listed on this Lighting Schedule is only for:
☑ **CONDITIONED SPACE** ☐ **UNCONDITIONED SPACE**

H. Indoor Lighting Schedule and Field Inspection Energy Checklist

Luminaire Schedule 01 Name or Item Tag	02 Complete Luminaire Description (i.e, 3 lamp fluorescent troffer, F32T8, one dimmable electronic ballast)	Installed Watts 03 Watts per Luminaire	04 How wattage was determined: CEC Default from NA8	04 According to §130.0(c)	05 Number Luminaires	06 Total Installed Watts in this area (H03 xH05)	Location 07 Primary Function area in which these luminaires are installed	Field Inspector[1] 08 Pass	Fail
A	2X4 RECESS LED TROFFER DIMMING BALLAST	40	☑	☐	33	1320	PACK SERVICE LOBBY MAIL	○	○
B	2X2 RECESS LED TROFFER DIMMING BALLAST	30	☑	☐	13	390	TOILET	○	○
C	1X4 LED WRAPAROUND	35	☑	☐	5	175	SERVICE	○	○
D	RECESS DOWN LIGHT LED DIMMING BALLAST	22	☑	☐	7	154		○	○
E	DIRECT/INDIRECT PENDANT DIMMING BALLAST	264	☑	☐	9	2376		○	○
U	UTILITY LIGHT LED ELECTRONIC BALLAST	15	☑	☐	4	60		○	○
			☐	☐		0		○	○
			☐	☐		0		○	○
			☐	☐		0		○	○
					INSTALLED WATTS PAGE TOTAL:	4475	Enter sum total of all pages into NRCC-LTI-01-E; Page 2	4475	

STATE OF CALIFORNIA
INDOOR LIGHTING – LIGHTING CONTROLS
CEC-NRCC-LTI-02-E (Revised 01/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-02-E
Indoor Lighting - Lighting Controls	(Page 3 of 3)
Project Name: NEW ELEMENTARY SCHOOL, BAKERSFIELD CITY SCHOOL DISTRICT (BUILDING A)	Date Prepared: 1-30-2018

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: JOHN CHONG, PE	Documentation Author Signature: [signature]
Company: JOHN CHONG ENGINEERING	Signature Date: 1-30-2018
Address: 1849 N. HELM AVE. SUITE 109	CEA Certification Identification (if applicable):
City/State/Zip: FRESNO, CA 93727	Phone: (559) 325-9988

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: JOHN CHONG, PE	Responsible Designer Signature: [signature]
Company : JOHN CHONG ENGINEERING	Date Signed: 1-30-2018
Address: 1849 N. HELM AVE. SUITE 109	License: E-14419
City/State/Zip: FRESNO, CA 93727	Phone: (559) 325-9988

STATE OF CALIFORNIA
INDOOR LIGHTING POWER ALLOWANCE
CEC-NRCC-LTI-03-E (Revised 04/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-03-E
Certificate of Compliance - Indoor Lighting Power Allowance	(Page 4 of 4)
Project Name: NEW ELEMENTARY SCHOOL, BAKERSFIELD CITY SCHOOL DISTRICT (BUILDING A)	Date Prepared: 1-30-2018

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: JOHN CHONG, PE	Documentation Author Signature: [signature]
Company: JOHN CHONG ENGINEERING	Signature Date: 1-30-2018
Address: 1849 N. HELM AVE. SUITE 109	CEA Certification Identification (if applicable):
City/State/Zip: FRESNO, CA 93727	Phone: (559) 325-9988

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: JOHN CHONG, PE	Responsible Designer Signature: [signature]
Company : JOHN CHONG ENGINEERING	Date Signed: 1-30-2018
Address: 1849 N. HELM AVE. SUITE 109	License: E-14419
City/State/Zip: FRESNO, CA 93727	Phone: (559) 325-9988

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 04/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 2 of 6)
Project Name: NEW ELEMENTARY SCHOOL, BAKERSFIELD CITY SCHOOL DISTRICT (BUILDING A)	Date Prepared: 1-30-2018

C. Summary of Allowed Lighting Power

Conditioned and Unconditioned space Lighting must not be combined for compliance

	Indoor Lighting Power for Conditioned Spaces		Watts	Indoor Lighting Power for Unconditioned Spaces		Watts
01	**Installed** Lighting NRCC-LTI-01-E, Table H, page 5	+	4475	**Installed** Lighting NRCC-LTI-01-E, Table H, page 5	+	0
02	Portable Only for Offices NRCC-LTI-01-E, Table G, page 4	+	0			
03	Minus Lighting Control Credits NRCC-LTI-02-E, page 2	-	0	Minus Lighting Control Credits NRCC-LTI-02-E, page 2	-	0
04	Adjusted **Installed** Lighting Power (row 1 plus row 2 minus row 3)	=	4475	Adjusted **Installed** Lighting Power (row 1 minus row 3)	=	0
	Complies ONLY if **Installed ≤ Allowed** (Box 04 < Box 05)			Complies ONLY if **Installed ≤ Allowed** (Box 04 < Box 05)		
05	**Allowed** Lighting Power Conditioned NRCC-LTI-03-E, page 1. Alterations with replacement luminaires that have at least 50/35%lower power compared to the original existing luminaires, may instead use the allowed wattage from NRCC-LTI-06, page 2		7000	**Allowed** Lighting Power Unconditioned NRCC-LTI-03-E, page 1. Alterations with replacement luminaires that have at least 50/35% lower power compared to the original existing luminaires, may instead use the allowed wattage from NRCC-LTI-06, page 2		0

D. Declaration of Required Certificates of Installation

Declare by selecting yes for all of the Certificates that will be submitted. (Retain copies and verify forms are completed and signed.)

YES	NO	Form/Title	
◉	○	NRCI-LTI-01-E - Must be submitted for all buildings	☐ Field Inspector
◉	○	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.	☐ Field Inspector
◉	○	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.	☐ Field Inspector
○	◉	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.	☐ Field Inspector
○	◉	NRCI-LTI-05-E - Must be submitted for a Power Adjustment Factor (PAF) to be recognized for compliance.	☐ Field Inspector
○	◉	NRCI-LTI-06-E - Must be submitted for additional wattage installed in a video conferencing studio to be recognized for compliance.	☐ Field Inspector

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 04/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 6 of 6)
Project Name: NEW ELEMENTARY SCHOOL, BAKERSFIELD CITY SCHOOL DISTRICT (BUILDING A)	Date Prepared: 1-30-2018

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: JOHN CHONG, PE	Documentation Author Signature: [signature]
Company: JOHN CHONG ENGINEERING	Signature Date: 1-30-2018
Address: 1849 N. HELM AVE. SUITE 109.	CEA Certification Identification (if applicable):
City/State/Zip: FRESNO, CA 93727	Phone: (559) 325-9988

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: JOHN CHONG, PE	Responsible Designer Signature: [signature]
Company : JOHN CHONG ENGINEERING	Date Signed: 1-30-2018
Address: 1849 N. HELM AVE. SUITE 109.	License: E 14419
City/State/Zip: FRESNO, CA 93727	Phone: (559) 325-9988

STATE OF CALIFORNIA
INDOOR LIGHTING POWER ALLOWANCE
CEC-NRCC-LTI-03-E (Revised 04/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-03-E
Certificate of Compliance - Indoor Lighting Power Allowance	(Page 1 of 4)
Project Name: NEW ELEMENTARY SCHOOL, BAKERSFIELD CITY SCHOOL DISTRICT (BUILDING A)	Date Prepared: 1-30-2018

A separate page must be filled out for Conditioned and Unconditioned Spaces. This page is only for:
☑ CONDITIONED spaces ☐ UNCONDITIONED spaces

A. SUMMARY TOTALS OF LIGHTING POWER ALLOWANCES

If using Complete Building Method for compliance, use only the total in column (a) as total allowed building watts.
If using Area Category Method, Tailored Method, or a combination of Area Category and Tailored Method for compliance, use only the total in column (b) as the total allowed building watts

	(a)		(b)
01 Complete Building Method Allowed Watts. Documented in section B of NRCC-LTI-03-E (below on this page)	7000		
02 Area Category Method Allowed Watts. Documented in section C-1 of NRCC-LTI-03-E (below on this page)			0
03 Tailored Method Allowed Watts. Documented in section A of NRCC-LTI-04-E			0
TOTAL ALLOWED BUILDING WATTS. Enter number into correct cell on NRCC-LTI-01, Page 2, Row 1	7000		0

☐ Check here if building contains both conditioned and unconditioned areas.

B. COMPLETE BUILDING METHOD LIGHTING POWER ALLOWANCE

01	02		03		04
TYPE OF BUILDING (From §140.6 Table 140.6-B)	WATTS PER ft^2	X	COMPLETE BLDG. AREA	=	ALLOWED WATTS
SCHOOL BUILDING	1.0		7000		7000
	Total Area:		7000		
Total Watts. Enter Total Watts into section A, row 1 (Above on this page)					7000

C -1 AREA CATEGORY METHOD TOTAL LIGHTING POWER ALLOWANCES	Watts
Total from section C-2.	0
Total from section C-3.	0
Total Watts. Enter Total Watts into section A, row 2 (Above on this page).	0
For Alterations Only – Reduced lighting power option (Total Allowed Watts x 0.85). Enter this value into section A, row 2 if using this option.	

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 04/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 3 of 6)
Project Name: NEW ELEMENTARY SCHOOL, BAKERSFIELD CITY SCHOOL DISTRICT (BUILDING A)	Date Prepared: 1-30-2018

E. Declaration of Required Certificates of Acceptance

Declare by selecting yes for all of the Certificates of Acceptance that will be submitted. (Retain copies and verify forms are completed and signed.)

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

A Separate Lighting Schedule Must Be Filled Out for Conditioned and Unconditioned Spaces. Installed Lighting Power listed on this Lighting Schedule is only for: ☑ **CONDITIONED SPACE** ☐ **UNCONDITIONED SPACE**

F. Indoor Lighting Schedule and Field Inspection Energy Checklist

- ☐ The actual indoor lighting power listed on the next 2 pages includes all installed permanent and planned portable lighting systems.
- ☐ When Complete Building Method is used for compliance, list each different type of luminaire on separate lines.
- ☐ When Area Category Method or Tailored Method is used for compliance, list each different type of luminaire by each different function area on separate lines
- ☐ Also include track lighting in schedule, and submit the track lighting compliance document (NRCC-LTI-05-E) when line-voltage track lighting is installed.

STATE OF CALIFORNIA
INDOOR LIGHTING – LIGHTING CONTROLS
CEC-NRCC-LTI-02-E (Revised 01/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-02-E
Indoor Lighting - Lighting Controls	(Page 1 of 3)
Project Name: NEW ELEMENTARY SCHOOL, BAKERSFIELD CITY SCHOOL DISTRICT (BUILDING A)	Date Prepared: 1-30-2018

A. Mandatory Lighting Control Declaration Statements (Indicate if the measure applies by checking yes or no below.)

YES	NO	Control Requirements
◉	○	Lighting shall be controlled by self-contained lighting control devices which are certified to the Energy Commission according to the Title 20 Appliance Efficiency Regulations in accordance with Section 110.9.
◉	○	Lighting shall be controlled by a lighting control system or energy management control system in accordance with §110.9. An Installation Certificate shall be submitted in accordance with Section 130.4(b).
○	◉	One or more Track Lighting Integral Current Limiters shall be installed which have been certified to the Energy Commission in accordance with §110.9 and §130.0. Additionally, an Installation Certificate shall be submitted in accordance with Section 130.4(b).
○	◉	A Track Lighting Supplementary Overcurrent Protection Panel shall be installed in accordance with Section 110.9 and Section 130.0. Additionally, an Installation Certificate shall be installed in accordance with Section 130.4(b).
◉	○	All lighting controls and equipment shall comply with the applicable requirements in §110.9 and shall be installed in accordance with the manufacturer's instructions in accordance with Section 130.1.
◉	○	All luminaires shall be functionally controlled with manual ON and OFF lighting controls in accordance with Section 130.1(a).
◉	○	General lighting shall be separately controlled from all other lighting systems in an area. Floor and wall display, window display, case display, ornamental, and special effects lighting shall each be separately controlled on circuits that are 20 amps or less. When track lighting is used, general, display, ornamental, and special effects lighting shall each be separately controlled; in accordance with Section 130.1(a)4.
○	◉	The general lighting of any enclosed area 100 square feet or larger, with a connected lighting load that exceeds 0.5 watts per square foot shall meet the multi-level lighting control requirements in accordance with Section 130.1(b).
◉	○	All installed indoor lighting shall be equipped with controls that meet the applicable Shut-OFF control requirements in Section 130.1(c).
○	◉	Lighting in all Daylit Zones shall be controlled in accordance with the requirements in Section 130.1(d) and daylit zones are shown on the plans.
○	◉	Lighting power in buildings larger than 10,000 square feet shall be capable of being automatically reduced in response to a Demand Responsive Signal in accordance with Section 130.1(e).
◉	○	Before an occupancy permit is granted for a newly constructed building or area, or a new lighting system serving a building, area, or site is operated for normal use, indoor lighting controls serving the building, area, or site shall be certified as meeting the Acceptance Requirements for Code Compliance in accordance with Section 130.4.(a). The controls required to meet the Acceptance Requirements include automatic daylight controls, automatic shut-OFF controls, and demand responsive controls.

STATE OF CALIFORNIA
INDOOR LIGHTING POWER ALLOWANCE
CEC-NRCC-LTI-03-E (Revised 04/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-03-E
Certificate of Compliance - Indoor Lighting Power Allowance	(Page 2 of 4)
Project Name: NEW ELEMENTARY SCHOOL, BAKERSFIELD CITY SCHOOL DISTRICT (BUILDING A)	Date Prepared: 1-30-2018

A separate page must be filled out for Conditioned and Unconditioned Spaces. This page is only for:
☑ CONDITIONED spaces ☐ UNCONDITIONED spaces

C -2 AREA CATEGORY METHOD GENERAL LIGHTING POWER ALLOWANCE

- Do not include portable lighting for offices. Portable lighting for offices shall be documented only in Section G of NRCC-LTI-01-E.
- Separately list lighting for each primary function area as defined in §100.1 of the Standards.

01 AREA CATEGORY (From §140.6 Table 140.6-C): Location in Building	Primary Function Area per Table 140.6-C	02 WATTS PER ft^2	X	03 AREA (ft^2)	=	04 ALLOWED WATTS
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
		TOTALS		0		
Enter sum total Area Category allowed watts into section C-1 of NRCC-LTI-03-E (this compliance document)						0
						WATTS

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 04/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 4 of 6)
Project Name: NEW ELEMENTARY SCHOOL, BAKERSFIELD CITY SCHOOL DISTRICT (BUILDING A)	Date Prepared: 1-30-2018

G. Installed Portable Luminaires in Offices – Exception to Section 140.6(a)

- This section shall be filled out ONLY for portable luminaires in offices (As defined in §100.1). All other planned portable luminaires shall be documented on next page of this compliance document.
- This section is used to determine if greater than 0.3 watts of portable lighting is planned for any office
- Fill out a separate line for each different office. Small offices that are typical (having the same general and portable lighting) may be grouped together. This allowance shall not be traded between offices having different lighting systems.

Office Portable Luminaire Schedule 01 Complete Luminaire Description (i.e., LED, under cabinet, furniture mounted direct/indirect)	Office Installed Portable Luminaire W/ft² 02 Watts per Luminaire	03 Number of Luminaires	04 Installed portable luminaire watts in this office (G02 x G03)	05 Square feet of this office	06 Watts per square foot (G04 / G05)	07 If G06 ≤ 0.3, enter zero; If G06 > 0.3, (G06-0.3)	08 (G05 x G07)	Office Location 09 Identify Office area in which these portable luminaires are installed	Field Inspector 10 Pass	Fail
			0				0		○	○
			0				0		○	○
			0				0		○	○
			0				0		○	○
			0				0		○	○
Total installed portable luminaire watts that are greater than 0.3 W/ft² per office:							0	Enter sum total of all pages into NRCC-LTI-01-E; Page 2		

STATE OF CALIFORNIA
INDOOR LIGHTING – LIGHTING CONTROLS
CEC-NRCC-LTI-02-E (Revised 01/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-02-E
Indoor Lighting - Lighting Controls	(Page 2 of 3)
Project Name: NEW ELEMENTARY SCHOOL, BAKERSFIELD CITY SCHOOL DISTRICT (BUILDING A)	Date Prepared: 1-30-2018

A separate document must be filled out for Conditioned and Unconditioned Spaces. This page is used only for the following:
☑ CONDITIONED SPACES ☐ UNCONDITIONED SPACES

B. Mandatory and Prescriptive Indoor Lighting Control Schedule, PAF Calculation, and Field Inspection Checklist

Lighting Control Schedule (01–03); Standards Complying With[1] (✓ all that apply, or leave empty if Exempted) (04–10); PAF Credit Calculation[2] (11–13)

01 Location in Building	02 Type/ Description of Lighting Control (i.e.: occupancy sensor, automatic time switch, dimmer, automatic daylight, etc...)	03 # of Units	04 §130.1(a)	05 §130.0(b)	06 §130.1(c)	07 §130.1(d)	08 §130.1(e)	09 §140.6(a)2	10 §140.6(d)	11 Watts of Controlled Lighting	12 PAF	13 Control Credit (11 x 12)	14 ✓ If Acceptance Test Required	15 Field Inspector Pass	Fail
OFFICE HALL STOR	OCCUPANCY SENSOR	26	•	•								0	☐	○	○
ELECTRICAL ROOM	LIGHTING CONTROL PANEL	1			•							0	☐	○	○
OFFICE LOBBY	PHOTO CELL	14				•						0	☐	○	○
					•							0	☐	○	○
												0	☐	○	○
												0	☐	○	○
												0	☐	○	○
Control Credit PAGE TOTAL (Sum of Column 13):												0			
IF MULTIPLE PAGES ARE USED, ENTER SUM TOTAL OF Control Credit for all pages HERE (Sum of all Column 13):												0			
												Enter Control Credit total into NRCC-LTI-01-E; Page 1.			

1. §130.1(a) = Manual area controls; §130.0(b) = Multi Level; §130.1(c) = Auto Shut-Off; §130.1(d) = Mandatory Daylight; §130.1(e) = Demand Responsive; §140.6(d) = Additional lighting controls installed to earn a PAF; §140.6(d) = Prescriptive Secondary Sidelit Daylight Controls.
2. Check Table 140.6-A for correct Factor. PAFs shall not be traded between conditioned and unconditioned spaces. As a condition to earn a PAF, an Installation Certificate is also required to be filled out, signed, and submitted.

STATE OF CALIFORNIA
INDOOR LIGHTING POWER ALLOWANCE
CEC-NRCC-LTI-03-E (Revised 04/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-03-E
Certificate of Compliance - Indoor Lighting Power Allowance	(Page 3 of 4)
Project Name: NEW ELEMENTARY SCHOOL, BAKERSFIELD CITY SCHOOL DISTRICT (BUILDING A)	Date Prepared: 1-30-2018

A separate page must be filled out for Conditioned and Unconditioned Spaces. This page is only for:
☑ CONDITIONED spaces ☐ UNCONDITIONED spaces

C-3 AREA CATEGORY METHOD ADDITIONAL LIGHTING WATTAGE ALLOWANCE (from Table 140.6-C Footnotes)

01 Primary Function	02 Sq Ft or Linear ft[1]	03[2] Additional Watts Allowed	04 Wattage Allowance (02 x 03)	05 Description(s) and Quantity of Special Luminaire Types in each Primary Function Area	06 Total Design Watts[3]	07 ALLOWED WATTS Smaller of 04 or 06
			0			
			0			
			0			
			0			
			0			
			0			
			0			
			0			
			0			
			0			
			0			
			0			
			0			
			0			
			0			
			0			
			0			
			0			
TOTALS – Enter into TOTAL AREA CATEGORY METHOD ADDITIONAL ALLOWANCES – Section C-1						0

1. Use linear feet only for additional allowance for white board or chalk board. All other additional Area Category allowances shall use watts per square foot.
2. Additional watts are available only when allowed according to the footnotes on bottom of Table 140.6-C, which include: Specialized task work; Ornamental lighting; Precision commercial and industrial work; Per linear foot of white board or chalk board; Accent, display and feature lighting; and Videoconferencing studio lighting..
3. Luminaire classification and wattage shall be determined in accordance with §130.0(c) of the Standards.

CONSULTING ENGINEERS

JOHN CHONG ENGINEERING
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(559) 325-9988 • FAX 297-9401
jcengineer@aol.com

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6011 N. Fresno, Suite 130 – Fresno, California 93710
Phone (559) 436-0881 Fax (559) 436-0887 E-Mail: design@somam.com
www.integrateddesigns.com

Revision:	Revision Description:	Rev. Date:

Sheet Title: TITLE 24 INDOOR LIGHTING COMPLIANCE - BUILDING A

Project Name & Address: NEW ELEMENTARY SCHOOL INCREMENT 2
BAKERSFIELD CITY SCHOOL DISTRICT
@ CITADEL ROAD & MARDI GRAS COURT

Issue Date: 01/31/18
Date: 12/06/16
Designer: J CHONG
DR: J CHONG
PC: --

Agency Approval Stamp:
FILE #: 15-6
IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
03-118394
AC ✓ FLS ✓ SS [initials]
DATE 06-22-18
TRACKING #: 63321-300

Stamp(s):
REGISTERED PROFESSIONAL ENGINEER
JOHN S. CHONG
E 14419
Exp.6/30/2020
ELECTRICAL
STATE OF CALIFORNIA

Job No.: 5262

Sheet No.: E7.01

Release:

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 04/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 1 of 6)
Project Name: NEW ELEMENTARY SCHOOL, BAKERSFIELD CITY SCHOOL DISTRICT (BUILDING B)	Date Prepared: 1-30-2018

A. General Information

Climate Zone: 13	Conditioned Floor Area: 12200					
	Unconditioned Floor Area: 0					
Building Type:	☑	Nonresidential	☐	High-Rise Residential	☐	Hotel/Motel
☑ Schools	☐	Relocatable Public Schools	☑	Conditioned Spaces	☐	Unconditioned Spaces
Phase of Construction:	☑	New Construction	☐	Addition	☐	Alteration
Method of Compliance:	☑	Complete Building	☐	Area Category	☐	Tailored
Project Address: AT CITADEL RAOD & MARDI GRAS COURT, BAKERSFIELD						

B. Lighting Compliance Documents (select yes for each document included)

For detailed instructions on the use of this and all Energy Efficiency Standards compliance documents, refer to the Nonresidential Manual published by the California Energy Commission.

YES	NO	COMP. DOC.	TITLE
◉	○	NRCC-LTI-01-E	Certificate of Compliance. All Pages required on plans for all submittals.
◉	○	NRCC-LTI-02-E	Lighting Controls, Certificate of Compliance, and PAF Calculation. All Pages required on plans for all submittals.
◉	○	NRCC-LTI-03-E	Indoor Lighting Power Allowance
○	◉	NRCC-LTI-04-E	Tailored Method Worksheets
○	◉	NRCC-LTI-05-E	Line Voltage Track Lighting Worksheets
○	◉	NRCC-LTI-06-E	Indoor Lighting Existing Conditions

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INDOOR LIGHTING
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CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 5 of 6)
Project Name: NEW ELEMENTARY SCHOOL, BAKERSFIELD CITY SCHOOL DISTRICT (BUILDING B)	Date Prepared: 1-30-2018

A Separate Lighting Schedule Must Be Filled Out for Conditioned and Unconditioned Spaces. Installed Lighting Power listed on this Lighting Schedule is only for:
☑ CONDITIONED SPACE ☐ UNCONDITIONED SPACE

H. Indoor Lighting Schedule and Field Inspection Energy Checklist

Luminaire Schedule		Installed Watts					Location	Field Inspector [1]	
01	02	03	04		05	06	07	08	
Name or Item Tag	Complete Luminaire Description (i.e, 3 lamp fluorescent troffer, F32T8, one dimmable electronic ballast)	Watts per Luminaire	How wattage was determined: CEC Default from NA8	According to §130.0(c)	Number Luminaires	Total Installed Watts in this area (H03 xH05)	Primary Function area in which these luminaires are installed	Pass	Fail
A	2X4 RECESS LED TROFFER DIMMING BALLAST	40	☑	☐	33	1320	PACK SERVICE LOBBY MAIL	○	○
B	2X2 RECESS LED TROFFER DIMMING BALLAST	30	☑	☐	13	390	TOILET	○	○
C	1X4 LED WRAPAROUND	35	☑	☐	5	175	SERVICE	○	○
D1	RECESS DOWN LIGHT LED DIMMING BALLAST	22	☑	☐	7	154		○	○
E	DIRECT/INDIRECT PENDANT DIMMING BALLAST	264	☑	☐	9	2376		○	○
F	HIGH BAY LED DIMMING BALLAST	15	☑	☐	4	60		○	○
H	2X4 RECESS LED TROFFER DIMMING BALLAST		☐	☐		0		○	○
			☐	☐		0		○	○
U	UTILITY LIGHT LED ELECTRONIC BALLAST		☐	☐		0		○	○
INSTALLED WATTS PAGE TOTAL:						4475	Enter sum total of all pages into NRCC-LTI-01-E; Page 2	4475	

STATE OF CALIFORNIA
INDOOR LIGHTING – LIGHTING CONTROLS
CEC-NRCC-LTI-02-E (Revised 01/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-02-E
Indoor Lighting - Lighting Controls	(Page 3 of 3)
Project Name: NEW ELEMENTARY SCHOOL, BAKERSFIELD CITY SCHOOL DISTRICT (BUILDING B)	Date Prepared: 1-30-2018

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: JOHN CHONG, PE	Documentation Author Signature: [signature]
Company: JOHN CHONG ENGINEERING	Signature Date: 1-30-2018
Address: 1849 N. HELM AVE. SUITE 109	CEA Certification Identification (if applicable):
City/State/Zip: FRESNO, CA 93727	Phone: (559) 325-9988

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: JOHN CHONG, PE	Responsible Designer Signature: [signature]
Company: JOHN CHONG ENGINEERING	Date Signed: 1-30-2018
Address: 1849 N. HELM AVE. SUITE 109	License: E-14419
City/State/Zip: FRESNO, CA 93727	Phone: (559) 325-9988

STATE OF CALIFORNIA
INDOOR LIGHTING POWER ALLOWANCE
CEC-NRCC-LTI-03-E (Revised 04/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-03-E
Certificate of Compliance - Indoor Lighting Power Allowance	(Page 4 of 4)
Project Name: NEW ELEMENTARY SCHOOL, BAKERSFIELD CITY SCHOOL DISTRICT (BUILDING B)	Date Prepared: 1-30-2018

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: JOHN CHONG, PE	Documentation Author Signature: [signature]
Company: JOHN CHONG ENGINEERING	Signature Date: 1-30-2018
Address: 1849 N. HELM AVE. SUITE 109	CEA Certification Identification (if applicable):
City/State/Zip: FRESNO, CA 93727	Phone: (559) 325-9988

RESPONSIBLE PERSON'S DECLARATION STATEMENT

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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: JOHN CHONG, PE	Responsible Designer Signature: [signature]
Company: JOHN CHONG ENGINEERING	Date Signed: 1-30-2018
Address: 1849 N. HELM AVE. SUITE 109	License: E-14419
City/State/Zip: FRESNO, CA 93727	Phone: (559) 325-9988

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 04/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 2 of 6)
Project Name: NEW ELEMENTARY SCHOOL, BAKERSFIELD CITY SCHOOL DISTRICT (BUILDING B)	Date Prepared: 1-30-2018

C. Summary of Allowed Lighting Power

Conditioned and Unconditioned space Lighting must not be combined for compliance

	Indoor Lighting Power for Conditioned Spaces		Watts	Indoor Lighting Power for Unconditioned Spaces		Watts
01	**Installed** Lighting NRCC-LTI-01-E, Table H, page 5	+	4475	**Installed** Lighting NRCC-LTI-01-E, Table H, page 5	+	0
02	Portable Only for Offices NRCC-LTI-01-E, Table G, page 4	+	0			
03	Minus Lighting Control Credits NRCC-LTI-02-E, page 2	-	0	Minus Lighting Control Credits NRCC-LTI-02-E, page 2	-	0
04	Adjusted **Installed** Lighting Power (row 1 plus row 2 minus row 3)	=	4475	Adjusted **Installed** Lighting Power (row 1 minus row 3)	=	0
	Complies ONLY if **Installed ≤ Allowed** (Box 04 < Box 05)			Complies ONLY if **Installed ≤ Allowed** (Box 04 < Box 05)		
05	**Allowed** Lighting Power Conditioned NRCC-LTI-03-E, page 1. Alterations with replacement luminaires that have at least 50/35%lower power compared to the original existing luminaires, may instead use the allowed wattage from NRCC-LTI-06, page 2		7000	**Allowed** Lighting Power Unconditioned NRCC-LTI-03-E, page 1. Alterations with replacement luminaires that have at least 50/35% lower power compared to the original existing luminaires, may instead use the allowed wattage from NRCC-LTI-06, page 2		0

D. Declaration of Required Certificates of Installation

Declare by selecting yes for all of the Certificates that will be submitted. (Retain copies and verify forms are completed and signed.)

YES	NO	Form/Title	
◉	○	NRCI-LTI-01-E - Must be submitted for all buildings	☐ Field Inspector
◉	○	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.	☐ Field Inspector
◉	○	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.	☐ Field Inspector
○	◉	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.	☐ Field Inspector
○	◉	NRCI-LTI-05-E - Must be submitted for a Power Adjustment Factor (PAF) to be recognized for compliance.	☐ Field Inspector
○	◉	NRCI-LTI-06-E - Must be submitted for additional wattage installed in a video conferencing studio to be recognized for compliance.	☐ Field Inspector

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 04/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 6 of 6)
Project Name: NEW ELEMENTARY SCHOOL, BAKERSFIELD CITY SCHOOL DISTRICT (BUILDING B)	Date Prepared: 1-30-2018

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: JOHN CHONG, PE	Documentation Author Signature: [signature]
Company: JOHN CHONG ENGINEERING	Signature Date: 1-30-2018
Address: 1849 N. HELM AVE. SUITE 109.	CEA Certification Identification (if applicable):
City/State/Zip: FRESNO, CA 93727	Phone: (559) 325-9988

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: JOHN CHONG, PE	Responsible Designer Signature: [signature]
Company: JOHN CHONG ENGINEERING	Date Signed: 1-30-2018
Address: 1849 N. HELM AVE. SUITE 109.	License: E 14419
City/State/Zip: FRESNO, CA 93727	Phone: (559) 325-9988

STATE OF CALIFORNIA
INDOOR LIGHTING POWER ALLOWANCE
CEC-NRCC-LTI-03-E (Revised 04/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-03-E
Certificate of Compliance - Indoor Lighting Power Allowance	(Page 1 of 4)
Project Name: NEW ELEMENTARY SCHOOL, BAKERSFIELD CITY SCHOOL DISTRICT (BUILDING B)	Date Prepared: 1-30-2018

A separate page must be filled out for Conditioned and Unconditioned Spaces. This page is only for:
☑ CONDITIONED spaces ☐ UNCONDITIONED spaces

A. SUMMARY TOTALS OF LIGHTING POWER ALLOWANCES

If using Complete Building Method for compliance, use only the total in column (a) as total allowed building watts.
If using Area Category Method, Tailored Method, or a combination of Area Category and Tailored Method for compliance, use only the total in column (b) as the total allowed building watts

	(a)	(b)
01 Complete Building Method Allowed Watts. Documented in section P. of NRCC-LTI-03-E (below on this page)	7000	
02 Area Category Method Allowed Watts. Documented in section C-1 of NRCC-LTI-03-E (below on this page)		0
03 Tailored Method Allowed Watts. Documented in section A of NRCC-LTI-04-E		0
TOTAL ALLOWED BUILDING WATTS. Enter number into correct cell on NRCC-LTI-01, Page 2, Row 1	7000	0

☐ Check here if building contains both conditioned and unconditioned areas.

B. COMPLETE BUILDING METHOD LIGHTING POWER ALLOWANCE

01	02		03		04
TYPE OF BUILDING (From §140.6 Table 140.6-B)	WATTS PER ft^2	X	COMPLETE BLDG. AREA	=	ALLOWED WATTS
SCHOOL BUILDING	1.0		7000		7000
Total Area:			7000		
Total Watts. Enter Total Watts into section A, row 1 (Above on this page)					7000

C -1 AREA CATEGORY METHOD TOTAL LIGHTING POWER ALLOWANCES	Watts
Total from section C-2.	0
Total from section C-3.	0
Total Watts. Enter Total Watts into section A, row 2 (Above on this page).	0
For Alterations Only – Reduced lighting power option (Total Allowed Watts x 0.85). Enter this value into section A, row 2 if using this option.	

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 04/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 3 of 6)
Project Name: NEW ELEMENTARY SCHOOL, BAKERSFIELD CITY SCHOOL DISTRICT (BUILDING B)	Date Prepared: 1-30-2018

E. Declaration of Required Certificates of Acceptance

Declare by selecting yes for all of the Certificates of Acceptance that will be submitted. (Retain copies and verify forms are completed and signed.)

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

A Separate Lighting Schedule Must Be Filled Out for Conditioned and Unconditioned Spaces. Installed Lighting Power listed on this Lighting Schedule is only for: ☑ CONDITIONED SPACE ☐ UNCONDITIONED SPACE

F. Indoor Lighting Schedule and Field Inspection Energy Checklist

- ☐ The actual indoor lighting power listed on the next 2 pages includes all installed permanent and planned portable lighting systems.
- ☐ When Complete Building Method is used for compliance, list each different type of luminaire on separate lines.
- ☐ When Area Category Method or Tailored Method is used for compliance, list each different type of luminaire by each different function area on separate lines
- ☐ Also include track lighting in schedule, and submit the track lighting compliance document (NRCC-LTI-05-E) when line-voltage track lighting is installed.

STATE OF CALIFORNIA
INDOOR LIGHTING – LIGHTING CONTROLS
CEC-NRCC-LTI-02-E (Revised 01/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-02-E
Indoor Lighting - Lighting Controls	(Page 1 of 3)
Project Name: NEW ELEMENTARY SCHOOL, BAKERSFIELD CITY SCHOOL DISTRICT (BUILDING B)	Date Prepared: 1-30-2018

A. Mandatory Lighting Control Declaration Statements (Indicate if the measure applies by checking yes or no below.)

YES	NO	Control Requirements
◉	○	Lighting shall be controlled by self-contained lighting control devices which are certified to the Energy Commission according to the Title 20 Appliance Efficiency Regulations in accordance with Section 110.9.
◉	○	Lighting shall be controlled by a lighting control system or energy management control system in accordance with §110.9. An Installation Certificate shall be submitted in accordance with Section 130.4(b).
○	◉	One or more Track Lighting Integral Current Limiters shall be installed which have been certified to the Energy Commission in accordance with §110.9 and §130.0. Additionally, an Installation Certificate shall be submitted in accordance with Section 130.4(b).
○	◉	A Track Lighting Supplementary Overcurrent Protection Panel shall be installed in accordance with Section 110.9 and Section 130.0. Additionally, an Installation Certificate shall be installed in accordance with Section 130.4(b).
◉	○	All lighting controls and equipment shall comply with the applicable requirements in §110.9 and shall be installed in accordance with the manufacturer's instructions in accordance with Section 130.1.
◉	○	All luminaires shall be functionally controlled with manual ON and OFF lighting controls in accordance with Section 130.1(a).
◉	○	General lighting shall be separately controlled from all other lighting systems in an area. Floor and wall display, window display, case display, ornamental, and special effects lighting shall each be separately controlled on circuits that are 20 amps or less. When track lighting is used, general, display, ornamental, and special effects lighting shall each be separately controlled; in accordance with Section 130.1(a)4.
○	◉	The general lighting of any enclosed area 100 square feet or larger, with a connected lighting load that exceeds 0.5 watts per square foot shall meet the multi-level lighting control requirements in accordance with Section 130.1(b).
◉	○	All installed indoor lighting shall be equipped with controls that meet the applicable Shut-OFF control requirements in Section 130.1(c).
○	◉	Lighting in all Daylit Zones shall be controlled in accordance with the requirements in Section 130.1(d) and daylit zones are shown on the plans.
○	◉	Lighting power in buildings larger than 10,000 square feet shall be capable of being automatically reduced in response to a Demand Responsive Signal in accordance with Section 130.1(e).
◉	○	Before an occupancy permit is granted for a newly constructed building or area, or a new lighting system serving a building, area, or site is operated for normal use, indoor lighting controls serving the building, area, or site shall be certified as meeting the Acceptance Requirements for Code Compliance in accordance with Section 130.4.(a). The controls required to meet the Acceptance Requirements include automatic daylight controls, automatic shut-OFF controls, and demand responsive controls.

STATE OF CALIFORNIA
INDOOR LIGHTING POWER ALLOWANCE
CEC-NRCC-LTI-03-E (Revised 04/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-03-E
Certificate of Compliance - Indoor Lighting Power Allowance	(Page 2 of 4)
Project Name: NEW ELEMENTARY SCHOOL, BAKERSFIELD CITY SCHOOL DISTRICT (BUILDING B)	Date Prepared: 1-30-2018

A separate page must be filled out for Conditioned and Unconditioned Spaces. This page is only for:
☑ CONDITIONED spaces ☐ UNCONDITIONED spaces

C -2 AREA CATEGORY METHOD GENERAL LIGHTING POWER ALLOWANCE

- Do not include portable lighting for offices. Portable lighting for offices shall be documented only in Section G of NRCC-LTI-01-E.
- Separately list lighting for each primary function area as defined in §100.1 of the Standards.

01		02		03		04
AREA CATEGORY (From §140.6 Table 140.6-C)		WATTS				ALLOWED
Location in Building	Primary Function Area per Table 140.6-C	PER ft^2	X	AREA (ft^2)	=	WATTS
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
			TOTALS	0		
Enter sum total Area Category allowed watts into section C-1 of NRCC-LTI-03-E (this compliance document)						0
						WATTS

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 04/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 4 of 6)
Project Name: NEW ELEMENTARY SCHOOL, BAKERSFIELD CITY SCHOOL DISTRICT (BUILDING B)	Date Prepared: 1-30-2018

G. Installed Portable Luminaires in Offices – Exception to Section 140.6(a)

- This section shall be filled out ONLY for portable luminaires in offices (As defined in §100.1). All other planned portable luminaires shall be documented on next page of this compliance document.
- This section is used to determine if greater than 0.3 watts of portable lighting is planned for any office
- Fill out a separate line for each different office. Small offices that are typical (having the same general and portable lighting) may be grouped together. This allowance shall not be traded between offices having different lighting systems.

Office Portable Luminaire Schedule	Office Installed Portable Luminaire W/ft²							Office Location	Field Inspector	
01	02	03	04	05	06	07	08	09	10	
Complete Luminaire Description (i.e., LED, under cabinet, furniture mounted direct/indirect)	Watts per Luminaire	Number of Luminaires	Installed portable luminaire watts in this office (G02 x G03)	Square feet of this office	Watts per square foot (G04 / G05)	If G06 ≤ 0.3, enter zero; If G06 > 0.3, (G06-0.3)	(G05 x G07)	Identify Office area in which these portable luminaires are installed	Pass	Fail
			0				0		○	○
			0				0		○	○
			0				0		○	○
			0				0		○	○
			0				0		○	○
Total installed portable luminaire watts that are greater than 0.3 W/ft² per office:							0	Enter sum total of all pages into NRCC-LTI-01-E; Page 2		

STATE OF CALIFORNIA
INDOOR LIGHTING – LIGHTING CONTROLS
CEC-NRCC-LTI-02-E (Revised 01/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-02-E
Indoor Lighting - Lighting Controls	(Page 2 of 3)
Project Name: NEW ELEMENTARY SCHOOL, BAKERSFIELD CITY SCHOOL DISTRICT (BUILDING B)	Date Prepared: 1-30-2018

A separate document must be filled out for Conditioned and Unconditioned Spaces. This page is used only for the following:
☑ CONDITIONED SPACES ☐ UNCONDITIONED SPACES

B. Mandatory and Prescriptive Indoor Lighting Control Schedule, PAF Calculation, and Field Inspection Checklist

Lighting Control Schedule			Standards Complying With [1] (✓ all that apply, or leave empty if Exempted)							PAF Credit Calculation [2]: Watts of Controlled Lighting	PAF	Control Credit (11 x 12)	✓ if Acceptance Test Required	Field Inspector	
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	
Location in Building	Type/ Description of Lighting Control (i.e.: occupancy sensor, automatic time switch, dimmer, automatic daylight, etc...)	# of Units	§130.1(a)	§130.0(b)	§130.1(c)	§130.1(d)	§130.1(e)	§140.6(a)2	§140.6(d)					Pass	Fail
OFFICE HALL STOR	OCCUPANCY SENSOR	26	•	•								0	☐	○	○
ELECTRICAL ROOM	LIGHTING CONTROL PANEL	1			•							0	☐	○	○
OFFICE LOBBY	PHOTO CELL	14				•						0	☐	○	○
					•							0	☐	○	○
												0	☐	○	○
												0	☐	○	○
												0	☐	○	○
Control Credit PAGE TOTAL (Sum of Column 13):												0			
IF MULTIPLE PAGES ARE USED, ENTER SUM TOTAL OF Control Credit for all pages HERE (Sum of all Column 13):												0			
												Enter Control Credit total into NRCC-LTI-01-E; Page 1.			

1. §130.1(a) = Manual area controls; §130.0(b) = Multi Level; §130.1(c) = Auto Shut-Off; §130.1(d) = Mandatory Daylight; §130.1(e) = Demand Responsive; §140.6(d) = Additional lighting controls installed to earn a PAF; §140.6(d) = Prescriptive Secondary Sidelit Daylight Controls.
2. Check Table 140.6-A for correct Factor. PAFs shall not be traded between conditioned and unconditioned spaces. As a condition to earn a PAF, an Installation Certificate is also required to be filled out, signed, and submitted.

STATE OF CALIFORNIA
INDOOR LIGHTING POWER ALLOWANCE
CEC-NRCC-LTI-03-E (Revised 04/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-03-E
Certificate of Compliance - Indoor Lighting Power Allowance	(Page 3 of 4)
Project Name: NEW ELEMENTARY SCHOOL, BAKERSFIELD CITY SCHOOL DISTRICT (BUILDING B)	Date Prepared: 1-30-2018

A separate page must be filled out for Conditioned and Unconditioned Spaces. This page is only for:
☑ CONDITIONED spaces ☐ UNCONDITIONED spaces

C-3 AREA CATEGORY METHOD ADDITIONAL LIGHTING WATTAGE ALLOWANCE (from Table 140.6-C Footnotes)

01	02	03 [1]	04	05	06	07
Primary Function	Sq Ft or Linear ft [1]	Additional Watts Allowed	Wattage Allowance (02 x 03)	Description(s) and Quantity of Special Luminaire Types in Each Primary Function Area	Total Design Watts [3]	ALLOWED WATTS Smaller of 04 or 06
			0			
			0			
			0			
			0			
			0			
			0			
			0			
			0			
			0			
			0			
			0			
			0			
TOTALS – Enter into TOTAL AREA CATEGORY METHOD ADDITIONAL ALLOWANCES – Section C-1						0

1. Use linear feet only for additional allowance for white board or chalk board. All other additional Area Category allowances shall use watts per square foot.
2. Additional watts are available only when allowed according to the footnotes on bottom of Table 140.6-C, which include: Specialized task work; Ornamental lighting; Precision commercial and industrial work; Per linear foot of white board or chalk board; Accent, display and feature lighting; and Videoconferencing studio lighting..
3. Luminaire classification and wattage shall be determined in accordance with §130.0(c) of the Standards.

CONSULTING ENGINEERS

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jcengineer@aol.com

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www.integrateddesigns.com

Revision:	Revision Description:	Rev. Date:	Revision:	Revision Description:	Rev. Date:

Sheet Title: TITLE 24 INDOOR LIGHTING COMPLIANCE - BUILDING A

Project Name & Address: NEW ELEMENTARY SCHOOL INCREMENT 2
BAKERSFIELD CITY SCHOOL DISTRICT
@ CITADEL ROAD & MARDI GRAS COURT

Issue Date: 01/31/18
Date: 12/06/16
Designer: J CHONG
DR: J CHONG
PC: --

Agency Approval Stamp:
FILE #: 15-6
IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
03-118394
AC [initials] FLS [initials] SS [initials]
DATE 06-22-18
TRACKING #: 63321-300

Stamp(s):
REGISTERED PROFESSIONAL ENGINEER
JOHN S. CHONG
E 14419
Exp.6/30/2020
ELECTRICAL
STATE OF CALIFORNIA

Job No.: 5262

Sheet No.: E7.02

Release:

STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-NRCC-LTO-01-E (Revised 04/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-01-E
Outdoor Lighting	(Page 1 of 4)
Project Name: NEW ELEMENTARY SCHOOL, BAKERSFIELD CITY SCHOOL DISTRICT	Date Prepared: 1-30-2018

A. General Information

Project Address: AT CITADEL ROAD & MARDI GRAS COURT	Total Illuminated Hardscape Area: 457100
Phase of Construction: ☑ New Construction ☐ Addition ☐ Alteration	
Outdoor Lighting Zone (LZ) ☐ LZ-1 ☐ LZ-2 ☑ LZ-3 ☐ LZ-4	

I have confirmed with the AHJ which LZ applies to this site. For default lighting zone designations, see Title 24 Part 6, §10-114

B. Lighting Compliance Documents (check box for each document included)

For detailed instructions on the use of this and all Energy Efficiency Standards compliance documents, refer to the Nonresidential Manual published by the California Energy Commission.

☑ NRCC-LTO-01-E	Certificate of Compliance
☑ NRCC-LTO-02-E	Outdoor Lighting Controls Certificate of Compliance
☑ NRCC-LTO-03-E	Outdoor Lighting Power Allowance Certificate of Compliance
☐ NRCC-LTO-04-E	Outdoor Lighting Existing Conditions Certificate of Compliance

C. Summary of Allowed Outdoor Lighting Power — Watts

01	**Sum Total ALLOWED** Outdoor Lighting Wattage from NRCC-LTO-03-E, page 1 Alterations with NO increase of connected lighting load may instead use the allowed wattage from NRCC-LTO-04, page 2.	19819
	Complies ONLY if **Installed** (Box 02) ≤ **Allowed** (Box 01)	
02	**Sum Total INSTALLED** Outdoor Lighting Wattage from NRCC-LTO-01-E, page 3.	5072

D. Declaration of Required Installation Certificates
Declare by checking all Installation Certificates that will be submitted. (Retain copies and verify compliance documents are completed and signed.)

☑ NRCI-LTO-01-E - Must be submitted for all buildings	☐ Field Inspector
☑ NRCI-LTO-02-E - Must be submitted for a lighting control system, or for an Energy Management Control System (EMCS), to be recognized for compliance.	☐ Field Inspector

E. Declaration of Required Certificates of Acceptance
Declare by checking all of the Certificates of Acceptance that will be submitted. (Retain copies and verify compliance documents are completed and signed.)

☑ NRCA-LTO-02-A - Must be submitted for outdoor lighting controls.	☐ Field Inspector

F. Schedule of Luminaires Exempt from the Outdoor Lighting Power Requirements in §140.7

01 Name or Symbol	02 Description of exempt luminaire in accordance with the exemptions

STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-NRCC-LTO-01-E (Revised 04/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-01-E
Outdoor Lighting	(Page 2 of 4)
Project Name: NEW ELEMENTARY SCHOOL, BAKERSFIELD CITY SCHOOL DISTRICT	Date Prepared: 1-30-2018

G. Schedule of Luminaires Exempt from the Cutoff Requirements in §130.2(b)

01 Name or Symbol	02 Description of exempt luminaire in accordance with the exemptions

H. Schedule of Luminaires Exempt from the Outdoor Lighting Control Requirements in §130.2(c)

01 Name or Symbol	02 Description of exempt luminaire in accordance with the exemptions

STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-NRCC-LTO-01-E (Revised 04/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-01-E
Outdoor Lighting	(Page 3 of 4)
Project Name: NEW ELEMENTARY SCHOOL, BAKERSFIELD CITY SCHOOL DISTRICT	Date Prepared: 1-30-2018

I. Outdoor Lighting Schedule and Field Inspection Energy Checklist

Luminaire Schedule		Installed Watts				Location	Cutoff	Field Inspector	
01	02	03	04	05	06	07	08	09	
Name or Item Tag	Complete Luminaire Description	Watts per Luminaire	How wattage was determined: CEC Default from NAA	How wattage was determined: According to §130.0(c)	Number of Luminaires	Total Installed Watts in this area (03 x 05)	Primary Function area in which these luminaires are installed (Outdoor Lighting Zone)	BUG Rating	Pass	Fail
A	30 FEET POLE LIGHT LED TYPE S1 S3 S4	225	☑	☐	13	2925		UH:		
								UL:		
								FVH:	○	○
								BVH:		
								FH:		
								BH:		
	LED WALL PACK TYPE S5	113	☑	☐	10	1130		UH:		
								UL:		
								FVH:	○	○
								BVH:		
								FH:		
								BH:		
	30 FEET POLE LIGHT LED TYPE S2	118	☑	☐	9	1017		UH:		
								UL:		
								FVH:	○	○
								BVH:		
								FH:		
								BH:		
		INSTALLED WATTS PAGE TOTAL:				5072	Enter sum total of all pages (**Sum Total INSTALLED** Outdoor lighting wattage) into NRCC-LTO-01-E; Page 1		5072	

STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-NRCC-LTO-01-E (Revised 04/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-01-E
Outdoor Lighting	(Page 4 of 4)
Project Name: NEW ELEMENTARY SCHOOL, BAKERSFIELD CITY SCHOOL DISTRICT	Date Prepared: 1-30-2018

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: JOHN CHONG, PE	Documentation Author Signature:
Company: JOHN CHONG ENGINEERING	Signature Date: 1-23-2018
Address: 1849 N. HELM AVE. SUITE 109	CEA Certification Identification (if applicable):
City/State/Zip: FRESNO, CA 93727	Phone: (559) 325-9988

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 conforms 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: JOHN CHONG, PE	Responsible Designer Signature:
Company: JOHN CHONG ENGINEERING	Date Signed: 1-23-2018
Address: 1849 N. HELM AVE. SUITE 109	License: E-14419
City/State/Zip: FRESNO, CA 93727	Phone: (559) 325-9988

STATE OF CALIFORNIA
OUTDOOR LIGHTING CONTROLS
CEC-NRCC-LTO-02-E (Revised 08/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-02-E
Outdoor Lighting Controls	(Page 1 of 3)
Project Name: NEW ELEMENTARY SCHOOL, BAKERSFIELD CITY SCHOOL DISTRICT	Date Prepared: 1-30-2018

A. Mandatory Outdoor Lighting Control Declaration Statements
Check all that apply:
- ☑ Lighting shall be controlled by self-contained lighting control devices which are certified to the Energy Commission according to the Title 20 Appliance Efficiency Regulations in accordance with §110.9(a).
- ☑ Lighting shall be controlled by a lighting control system or energy management control system in accordance with §110.9. An Installation Certificate shall be submitted in accordance with §130.4(b).
- ☑ All lighting controls and equipment shall comply with the applicable requirements in §110.9 and shall be installed in accordance with the manufacturer's instructions in accordance with §130.0(d).
- ☑ Part-Night Outdoor Lighting Controls, as defined in Section 100.1(b), shall meet the requirements in Section 110.9(b)5.
- ☐ All outdoor incandescent luminaires rated over 100 watts, determined in accordance with Section 130.0(c), shall be controlled by a motion sensor.
- ☑ All outdoor luminaires rated for use with lamps greater than 150 lamp watts, determined in accordance with Section 130.0(c), shall comply with Uplight and Glare requirements in accordance with Section 130.2(b)
- ☑ All installed outdoor lighting shall be controlled by a photocontrol or outdoor astronomical time-switch control, or other control capable of automatically switching OFF in accordance with Section 130.2(c)1.
- ☑ All installed outdoor lighting shall be circuited and independently controlled from other electrical loads by an automatic scheduling control in accordance with Section 130.2(c)2.
- ☑ All installed outdoor lighting, where the bottom of the luminaire is mounted 24 feet or less above the ground, shall be controlled with automatic lighting controls in accordance with Section 130.2(c)3.
- ☐ For Outdoor Sales Frontage, an automatic lighting control shall be installed in accordance with Section 130.2(c)4.
- ☐ For Building Facade, Ornamental Hardscape and Outdoor Dining lighting, an automatic lighting control shall be installed in accordance with Section 130.2(c)5
- ☑ Before an occupancy permit is granted for the newly constructed building or for the addition, or for any altered outdoor lighting controls, shall be certified as meeting the Acceptance Requirements for Code Compliance in accordance with §130.4.(a). Outdoor lighting controls shall comply with the applicable requirements of Section 130.2(c) and Reference Nonresidential Appendix NA7.8.

STATE OF CALIFORNIA
OUTDOOR LIGHTING CONTROLS
CEC-NRCC-LTO-02-E (Revised 08/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-02-E
Outdoor Lighting Controls	(Page 2 of 3)
Project Name: NEW ELEMENTARY SCHOOL, BAKERSFIELD CITY SCHOOL DISTRICT	Date Prepared: 1-30-2018

B. Mandatory Outdoor Lighting Control Schedule and Field Inspection Checklist

Outdoor Lighting Control Schedule			Standards Complying With (✓ all that apply, or leave empty if Exempted)						"✓" at Acceptance Test Required	Field Inspector	
01	02	03	04	05	06	07	08	09	10	11	
Location and Application of Luminaires Being Controlled	Type/ Description of Lighting Control (i.e. outdoor motion sensor, outdoor photocontrol, outdoor astronomical time-switch control, automatic scheduling control, part-night outdoor lighting control)	# of Units	§130.2(a)	§130.2(c)1	§130.2(c)2	§130.2(c)3	§130.2(c)4	§130.2(c)5		Pass	Fail
ELECTRICAL ROOM	LIGHTING CONTROL PNL /PHOTO CELL TIME CLOCK	1	•	•	•				☐	○	○
									☐	○	○
									☐	○	○
									☐	○	○
									☐	○	○
									☐	○	○
									☐	○	○
									☐	○	○
									☐	○	○
									☐	○	○
									☐	○	○
									☐	○	○
									☐	○	○
									☐	○	○
									☐	○	○
									☐	○	○
									☐	○	○
									☐	○	○

STATE OF CALIFORNIA
OUTDOOR LIGHTING CONTROLS
CEC-NRCC-LTO-02-E (Revised 08/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-02-E
Outdoor Lighting Controls	(Page 3 of 3)
Project Name: NEW ELEMENTARY SCHOOL, BAKERSFIELD CITY SCHOOL DISTRICT	Date Prepared: 1-30-2018

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
2. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: JOHN CHONG, PE	Documentation Author Signature:
Company: JOHN CHONG ENGINEERING	Signature Date: 1-30-2018
Address: 1849 N. HELM AVE. SUITE 109	CEA Certification Identification (if applicable):
City/State/Zip: FRESNO, CA 93727	Phone: (559) 325-9988

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 conforms 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: JOHN CHONG, PE	Responsible Designer Signature:
Company: JOHN CHONG ENGINEERING	Date Signed: 1-30-2018
Address: 1849 N. HELM AVE. SUITE 109	License: E-14419
City/State/Zip: FRESNO, CA 93727	Phone: (559) 325-9988

STATE OF CALIFORNIA
OUTDOOR LIGHTING CONTROLS
CEC-NRCC-LTO-02-E (Revised 08/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-02-E
Outdoor Lighting Controls	(Page 3 of 3)
Project Name: NEW ELEMENTARY SCHOOL, BAKERSFIELD CITY SCHOOL DISTRICT	Date Prepared: 1-30-2018

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
2. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: JOHN CHONG, PE	Documentation Author Signature:
Company: JOHN CHONG ENGINEERING	Signature Date: 1-30-2018
Address: 1849 N. HELM AVE. SUITE 109	CEA Certification Identification (if applicable):
City/State/Zip: FRESNO, CA 93727	Phone: (559) 325-9988

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 conforms 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: JOHN CHONG, PE	Responsible Designer Signature:
Company: JOHN CHONG ENGINEERING	Date Signed: 1-30-2018
Address: 1849 N. HELM AVE. SUITE 109	License: E-14419
City/State/Zip: FRESNO, CA 93727	Phone: (559) 325-9988

STATE OF CALIFORNIA
OUTDOOR LIGHTING POWER ALLOWANCES
CEC-NRCC-LTO-03-E (Revised 01/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-03-E
Outdoor Lighting Power Allowances	(Page 1 of 4)
Project Name: NEW ELEMENTARY SCHOOL, BAKERSFIELD CITY SCHOOL DISTRICT	Date Prepared: 1-30-2018

A. OUTDOOR LIGHTING POWER ALLOWANCE SUMMARY

1. General Hardscape Lighting Power Allowance (Site Total from Section B of NRCC-LTO-03-E)	1.	19819
2. Additional Specific "use it or lose it" Lighting Power Allowances listed in each of these cells shall be identical to total allowed watts determined in Section C-1 to C-4 of NRCC-LTO-03-E.		
3. **Sum Total ALLOWED** Outdoor Lighting Wattage (add rows 1 and 2)	3.	19819

PER APPLICATION from Section C-1		PER UNIT LENGTH (SALES FRONTAGE) from Section C-2		PER HARDSCAPE AREA (ORNAMENTAL LIGHTING) from Section C-3		PER SPECIFIC AREA from Section C-4,		
0	+	0	+	0	+	0	=	2. 0

B. GENERAL HARDSCAPE LIGHTING POWER ALLOWANCE FROM TABLE 140.7-A

Area Wattage Allowance (AWA)				Linear Wattage Allowance (LWA)			Initial Wattage Allowance (IWA)	Total General Hardscape Lighting Allowance
01	02	03	04	05	06	07	08	09
Name of Area	Illuminated Hardscape Area	AWA Per Square Foot	AWA (N02 x B03)	Perimeter Length of General Hardscape	LPA per Linear Foot	LWA (B05 x B06)	IWA (Watts)	804 + B07 + B08
DRIVEWAY PARKING	457100	0.04	18284	2900	0.35	1015	520	19819
			0			0		0
			0			0		0
			0			0		0
			0			0		0
			0			0		0
			0			0		0
			0			0		0
			0			0		0
			0			0		0
			0			0		0
			0			0		0
			0			0		0
			0			0		0
							TOTAL	19819

STATE OF CALIFORNIA
OUTDOOR LIGHTING POWER ALLOWANCES
CEC-NRCC-LTO-03-E (Revised 01/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-03-E
Outdoor Lighting Power Allowances	(Page 2 of 4)
Project Name: NEW ELEMENTARY SCHOOL, BAKERSFIELD CITY SCHOOL DISTRICT	Date Prepared: 1-30-2018

C. ADDITIONAL "USE IT OR LOSE IT" OUTDOOR LIGHTING POWER ALLOWANCES FOR SPECIFIC APPLICATIONS
- ☐ The additional specific outdoor lighting power allowance shall be the smaller of the allowed lighting power or the actual lighting power used.
- ☐ Use Outdoor Lighting Zone (OLZ) that is documented on page 1 of NRCC-LTO-01-E to calculate the specific wattage allowances.

C-1. WATTAGE ALLOWANCE PER APPLICATION – Table 140.7-B
- ☐ Available only for qualifying locations, which include Building Entrances or Exits; Primary Entrances to Senior Care Facilities, Police Stations, Hospitals, Fire Stations, and Emergency Vehicle Facilities; Drive Up Windows; Vehicle Service Station Uncovered Fuel Dispenser; ATM Machine Lighting
- ☐ If more than one luminaire type is used per location, use multiple rows for that location

01	02	03	04	05	06	07	08	09	10
	ALLOTTED WATTS		DESIGN WATTS						
Name of Location for Which Allowance is Claimed	Number of Qualifying Locations	Wattage Allowance per Qualifying Location	Allotted Watts (02 x 03)	Luminaire Code or Symbol	Luminaire Description	Luminaire Quantity	Watts per Luminaire	Design Watts (07 x 08)	Allowed Watts (smaller of 04 or 09)
			0					0	
			0					0	
			0					0	
			0					0	
							Sum total allowance per application on this site:		0

C-2. WATTAGE ALLOWANCE PER UNIT LENGTH (Sales Frontage) from Table 140.7-B
- ☐ If more than one luminaire type is used per location, use multiple rows for that location

01	02	03	04	05	06	07	08	09	10
	ALLOTTED WATTS					DESIGN WATTS			
Name of Location for Which Allowance is Claimed	Linear Feet of Sales Frontage	Wattage Allowance per Linear Foot	Allotted Watts (02 x 03)	Luminaire Code or Symbol	Luminaire Description	Luminaire Quantity	Watts per Luminaire	Design Watts (07 x 08)	Allowed Watts (smaller of 04 or 09)
			0					0	
			0					0	
			0					0	
			0					0	
							Sum total allowance for sales frontage on the site::		0

STATE OF CALIFORNIA
OUTDOOR LIGHTING POWER ALLOWANCES
CEC-NRCC-LTO-03-E (Revised 01/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-03-E
Outdoor Lighting Power Allowances	(Page 3 of 4)
Project Name: NEW ELEMENTARY SCHOOL, BAKERSFIELD CITY SCHOOL DISTRICT	Date Prepared: 1-30-2018

C-3. WATTAGE ALLOWANCE PER SQUARE FOOT OF HARDSCAPE AREA (Ornamental Lighting) – Table 140.7-B
- Allowance for the total site illuminated hardscape area. Luminaires qualifying for this allowance shall be rated for 100 watts or less as determined in accordance with Section 130.0(c), and shall be post-top luminaires, lanterns, pendant luminaires, or chandeliers.
- If more than one luminaire type is used per location, use multiple rows for that location

01	02	03	04	05	06	07	08	09	10
	ALLOTTED WATTS					DESIGN WATTS			
Name of area for which ornamental allowance is claimed	Square Feet of Hardscape	Wattage Allowance per Square Foot	Allotted Watts (02 x 03)	Luminaire Code or Symbol	Luminaire Description	Luminaire Quantity	Watts per Luminaire	Design Watts (07 x 08)	Allowed Watts (smaller of 04 or 09)
			0					0	
			0					0	
			0					0	
			0					0	
							Sum total allowance for ornamental lighting on the site::		0

C-4. WATTAGE ALLOWANCE PER SQUARE FOOT OF SPECIFIC AREA - Table 140.7-B
- Allowances for Building Facades; Outdoor Sales Lots; Vehicle Service Station Hardscape; Vehicle Service Station Canopies; Sales Canopies; Non-sales Canopies; Tunnels; Guard Stations; Student Pick-up/Drop-off zone: Outdoor Dining; Special Security Lighting for Retail Parking and Pedestrian Hardscape.
- If more than one luminaire type is used per location, use multiple rows for that location

01	02	03	04	05	06	07	08	09	10
	ALLOTTED WATTS		DESIGN WATTS						
Name of Location for Which Allowance is Claimed	Illuminated Area of Application	Wattage Allowance per Square Foot	Allotted Watts (02 x 03)	Luminaire Code or Symbol	Luminaire Description	Luminaire Quantity	Watts per Luminaire	Design Watts (07 x 08)	Allowed Watts (smaller of 04 or 09)
			0					0	
			0					0	
			0					0	
			0					0	
							Sum total allowance for specific area on the site:		0

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6011 N. Fresno, Suite 130 – Fresno, California 93710
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www.integrateddesigns.com

Revision: | Revision Description: | Rev. Date:

Sheet Title: TITLE 24 OUTDOOR LIGHTING COMPLIANCE

Project Name & Address: NEW ELEMENTARY SCHOOL INCREMENT 2
BAKERSFIELD CITY SCHOOL DISTRICT
@CITADEL ROAD & MARDI GRAS COURT

Issue Date: 01/31/18
Date: 12/06/16
Designed: J CHONG
DR: J CHONG
PC: --

Agency Approval Stamp:

FILE #:15-6
IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
03-118394
AC. FLS SS
DATE 06-22-18
TRACKING #: 63321-300

Stamp(s):

REGISTERED PROFESSIONAL ENGINEER
JOHN S. CHONG
E 14419
Exp.6/30/2020
ELECTRICAL
STATE OF CALIFORNIA

Job No.: 5262

Sheet No.: E7.03

Release:

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JOHN CHONG ENGINEERING
1849 N HELM AVE #109 FRESNO CA 93727
(559) 325-9988 • FAX 237-3401
jcengineer@aol.com

STATE OF CALIFORNIA
Electrical Power Distribution
CEC-NRCC-ELC-01-E (Revised 01/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-ELC-01-E
Electrical Power Distribution	Page 1 of 4
Project Name: NEW ELEMENTARY SCHOOL	Date Prepared: 1-30-2018

General Information

Project Address:	Climate Zone:	Conditioned Floor Area :
AT CITADEL ROAD & MARDI GRAS COURT, BAKERSFIELD, CA	13	19,200 SF
		Unconditioned Floor Area :

Building Type: ☒ Nonresidential ☐ High-Rise Residential ☐ Hotel/Motel
☒ Schools ☐ Relocatable Public Schools ☒ Conditioned Spaces ☒ Unconditioned Spaces
Phase of Construction: ☒ New Construction ☐ Addition ☐ Alteration

In the table below identify all applicable construction documents that specify the requirements for the scope of responsibility reported by this certificate. Use additional pages as needed to list all construction documents related to compliance of Section 130.5.

Document Number	Document Title/Descriptions (include description information for Table or Schedule if it contains compliance information)	Document Sheet # or Page #	Indicate which subsection of Section 130.5 is related to the document (e.g. 130.5(a) for service electrical metering)
	single line diagram	E-1.04	130.5(a)

Add Row | Remove Last

A. Service Electrical Metering

Check one of the three boxes below if the electrical power distribution system is in compliance with Section 130.5(a).

☒ For newly installed electrical service in newly constructed buildings, Service Electrical Metering is required according to Section 130.5(a). *Fill out Column 1 through 6 of table below.*

☐ For new or replacement electrical service equipment in existing buildings, Service Electrical Metering is required according to Section 141.0(b)2Pi. *Fill out Column 1 through 6 of table below.*

☐ EXCEPTION to Electrical Service Metering: Service or feeder for which the utility company provides a metering system that indicates instantaneous kW demand and kWh for a utility-defined period. *Fill out Column 1, 2 and 6 of table below with the compliance information.*

Fill out a separate line for each electrical service that is connected to the building.

Electrical Service Schedule	Electrical Service Rating	Metering Capabilities (check all that are present)				Exception to 130.5 (a)	Field Inspector
01	02	03	04	05	06	07	08
Electrical Service Designation/ Location/Description	kVA	Instantaneous (at the time) kW	Historical peak (kW)	Tracking kWh for a user-definable period	kWh per rate period	Utility metering system	Check that the metering complies
SWBD EXTERIOR 2500A	2078	☒	☒	☒	☒	☐	☐

Add Row | Remove Last

STATE OF CALIFORNIA
Electrical Power Distribution
CEC-NRCC-ELC-01-E (Revised 01/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-ELC-01-E
Electrical Power Distribution	Page 2 of 4
Project Name: NEW ELEMENTARY SCHOOL	Date Prepared: 1-30-2018

B. Separation of Electrical Circuits for Electrical Energy Monitoring

Check all boxes below if the electrical power distribution system is in compliance with Section 130.5(b).

☒ The electrical power distribution system meets the separation of electrical circuits for electrical energy monitoring requirement of Section 130.5(b). The electrical power distribution systems is designed so that measurement devices can monitor the electrical energy usage of load types according to TABLE 130.5-B.

☒ Describe the electrical power distribution system installed and the compliance method chosen in meeting the requirement of Section 130.5(b). Use the space below to include the information. Examples of compliance methods are detailed in Nonresidential Compliance Manual Chapter 8.

Fill out Column 1 thru 3 with the compliance information.

General Information	Electrical Power Distribution System information and Method of compliance	Electrical Service Rating	Enforcement Agency
01	02	03	04
Electrical Service Designation/Location/Description	Describe the electrical power distribution system installed and the compliance method used	kVA	Check that the system complies
2500A MAIN SWBD	NC Manual chapter 8	2078	☐
Panel HA	NC Manual chapter 8	208	
Panel A	NC Manual chapter 8	126	
Panel A1	NC Manual chapter 8	36	
Panel A2	NC Manual chapter 8	36	
Panel LA	NC Manual chapter 8	83	
Panel HB	NC Manual chapter 8	291	
Panel B	NC Manual chapter 8	288	
Panel B1	NC Manual chapter 8	26	
Panel K	NC Manual chapter 8	72	
Panel K1	NC Manual chapter 8	72	
Panel LB	NC Manual chapter 8	83	

Field Inspector Notes:

STATE OF CALIFORNIA
Electrical Power Distribution
CEC-NRCC-ELC-01-E (Revised 01/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-ELC-01-E
Electrical Power Distribution	Page 3 of 4
Project Name: NEW ELEMENTARY SCHOOL	Date Prepared: 1-30-2018

C. Voltage Drop

Check all boxes below if he electrical power distribution system is in compliance with Section 130.5(c).

	Enforcement Agency Check that the system complies
☒ The electrical power distribution system meets the voltage drop requirement of Section 130.5(c). The maximum combined voltage drop on feeder conductors and branch circuit conductors to the farthest connected load or outlet, do not exceed 5%.	☐
☒ Voltage drop calculation documents showing compliance to Section 130.5(c) are submitted as part of the compliance document submittal.	☐

D. Circuit Controls for 120-Volt Receptacles and Controlled Receptacles

Check one or more boxes below for applicable requirements of Section 130.5(d) for the electrical power distribution system.

	Field Inspector Check that the system complies
☒ The control is capable of automatically shutting OFF the controlled receptacles when the space is typically unoccupied, either at the receptacle or circuit level. For the automatic time switch control, it incorporates an override control that allows the controlled receptacle to remain ON for no more than 2 hours when an override is initiated and an automatic holiday "shut-OFF" feature that turns OFF all loads for at least 24 hours and then resumes the normally scheduled operation. Countdown timer switches are not be used to comply with the automatic time switch control requirements. The controls meet the requirement of Section 130.5(d)1.	☐
☒ There is at least one controlled receptacle within 6 ft from each uncontrolled receptacle. Where receptacles are installed in modular furniture in open office area, at least one controlled receptacle is installed at each workstation. The receptacles meet the requirement of Section 130.5(d)2.	☐
☒ There are installed split wired receptacles with at least one controlled and one uncontrolled receptacle. Where receptacles are installed in modular furniture in open office area, at least one controlled receptacle is installed at each workstation. The receptacles meet the requirement of Section 130.5(d)2.	☐
☒ Permanent and durable marking for controlled receptacles or circuits to differentiate them from uncontrolled receptacles or circuits is provided. The markings meet the requirement of Section 130.5(d)3.	☐
☐ For hotel and motel guest rooms, there are controlled receptacles for at least one-half of the 120-volt receptacles in each guest room. Electric circuits serving controlled receptacles in guestrooms are installed to have captive key controls, occupancy sensing controls, or automatic controls so the power is switched off no longer than 30 minutes after the guest room has been vacated. The receptacles meet the requirement of Section 130.5(d)4.	☐
☐ Receptacles that are only for the following purposes are excepted from Section 130.5(d): - Receptacles specifically for refrigerators and water dispensers in kitchen areas. - Receptacles located a minimum of six ft above the floor that are specifically for clocks. - Receptacles for network copiers, fax machines, A/V and data equipment other than personal computers in copy rooms. - Receptacles on circuits rated more than 20 amperes. - Receptacles connected to an uninterruptible power supply (UPS) that are intended to be in continuous use, 24 hours per day/365 days per year, and are marked to differentiate them from other uncontrolled receptacles or circuits.	☐

STATE OF CALIFORNIA
Electrical Power Distribution
CEC-NRCC-ELC-01-E (Revised 01/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-ELC-01-E
Electrical Power Distribution	Page 4 of 4
Project Name: NEW ELEMENTARY SCHOOL	Date Prepared: 1-30-2018

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: JOHN CHONG, PE	Documentation Author Signature: J.C
Company: JOHN CHONG ENGINEERING	Signature Date: 1-30-2018
Address: 1849 N. HELM AVE. SUITE 109	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: FRESNO, CA 93727	Phone: (559) 325-9988

RESPONSIBLE PERSON'S DECLARATION STATEMENT

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

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Responsible Designer Name: JOHN CHONG, PE	Responsible Designer Signature: J.C
Company : JOHN CHONG ENGINEERING	Date Signed: 1-30-2018
Address: 1849 N. HELM AVE. SUITE 109	License: E-14419
City/State/Zip: FRESNO, CA 93720	Phone: (559) 325-9988

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Rev. Date	Revision	Revision Description:

Sheet Title: TITLE 24 ELECTRICAL POWER DISTRIBUTION

Project Name & Address: NEW ELEMENTARY SCHOOL INCREMENT 2
BAKERSFIELD CITY SCHOOL DISTRICT
@ CITADEL ROAD & MARDI GRAS COURT

Issue Date: 01/31/18	Designer: J CHONG	Dft: J CHONG	PC: ---
Date: 12/06/16			

Agency Approval Stamp:

FILE #: 15-6
IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
03-118394
AC. FLS SS
DATE 06-22-18
TRACKING #: 63321-300

Stamp(s):

REGISTERED PROFESSIONAL ENGINEER
JOHN S. CHONG
E 14419
Exp.6/30/2020
ELECTRICAL
STATE OF CALIFORNIA

CONSULTING ENGINEERS
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Job No.: 5262

Sheet No.: E7.04

Release:

SECURITY SYMBOL LIST

C	FUTURE WALL MOUNTED CAMERA - PROVIDE ONE (1)4S BACK BOX, ONE (1)1G RING, ONE (1)3/4"C FROM BACK BOX TO ACCESSIBLE ATTIC SPACE, ONE (1)DATA CABLE/JACK/MOD PLUG AND WEATHER PROOF FACEPLATE PER SPECIFICATIONS. @+96" T.O.B. UON.
C_A	FUTURE CEILING MOUNTED CAMERA - PROVIDE ONE (1)4S BACK BOX, ONE (1)1G RING, ONE (1)3/4"C FROM BACK BOX TO ACCESSIBLE ATTIC SPACE, ONE (1)DATA CABLE/JACK AND WEATHER PROOF FACEPLATE PER SPECIFICATIONS.
C_B	FUTURE CEILING MOUNTED CAMERA - PROVIDE ONE (1)4S BACK BOX, ONE (1)1G RING, ONE (1)3/4"C FROM BACK BOX TO ACCESSIBLE ATTIC SPACE, ONE (1)DATA CABLE/JACK AND WEATHER PROOF FACEPLATE PER SPECIFICATIONS.

CABINET/RACK SYMBOL LIST

MDF	MDF LOCATION
IDF	IDF LOCATION

CABLE SCHEDULE

DATA CABLE - 4 PAIR TWISTED CABLE. SEE SPECIFICATIONS FOR PRODUCT DATA.

ACRONYMS & DEFINITIONS

#	-	AFTER SYMBOL IS EQUAL TO NUMBER OF CABLES
#"	-	MOUNTING HEIGHT ABOVE FINISHED FLOOR
AFF	-	ABOVE FINISHED FLOOR
B	-	BLANK
B.O.B.	-	BOTTOM OF BOX
C	-	CONDUIT
CAT#	-	DENOTES CATEGORY CABLE
D	-	DEMOLISH
E	-	EXISTING (LIGHT SYMBOLS)
EF	-	ENTRANCE FACILITY (AKA MPOE)
F	-	FUTURE, PROVIDE BLANK FACEPLATE FOR ALL FUTURE OUTLETS
FB#	-	FLOOR BOX NUMBER
HC	-	HORIZONTAL CROSS CONNECT (PREVIOUSLY KNOWN AS IDF)
IC	-	INTERMEDIATE CROSS CONNECT
MC	-	MAIN CROSS CONNECT (PREVIOUSLY KNOWN AS MDF)
MMF	-	MULITI-MODE FIBER OPTIC CABLE
MPOE	-	MAIN POINT OF ENTRY
N	-	NEW (DARK SYMBOLS)
PB	-	PULL BOX
PC	-	PULL CAN
R	-	REMOVE
RMU	-	RACK MOUNT UNITS
SER	-	SOUND EQUIPMENT RACK
SMF	-	SINGLE MODE FIBER OPTIC CABLE
SMR	-	SURFACE MOUNT RACEWAY
TC	-	TERMINAL CABINET
TE	-	TELECOMMUNICATIONS ENCLOSURE
TMGM	-	TELECOMMUNICATIONS MAIN GROUNDING BUS BAR
T.O.B.	-	TOP OF BOX
TR	-	TELECOMMUNICATIONS ROOM
UON	-	UNLESS OTHERWISE NOTED
UPS	-	UNINTERRUPTED POWER SUPPLY
W	-	WALL OUTLET MOUNTED @+46" AFF
WAP	-	WIRELESS ACCESS POINT @+96" AFF UON.
WG	-	WIRE GUARD
WP	-	WEATHER PROOF

SEISMIC ANCHORAGE REQUIREMENTS

MECHANICAL, ELECTRICAL AND PLUMBING ANCHORAGE NOTE:

ALL MECHANICAL, PLUMBING AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. WHERE NO DETAIL IS INDICATED, THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 20[illegible] CBC, SECTION 1616A.1.18 THROUGH 1616A.1.26 AND ASCE 7-10 CHAPTERS 16, 26 AND 30.

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY OR MOVEABLE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER.
3. MOVEABLE EQUIPMENT WHICH IS STATIONED IN ONE PLACE FOR MORE THAN 8 HOURS AND HEAVIER THAN 400 POUNDS ARE REQUIRED TO BE ANCHORED WITH TEMPORARY ATTACHMENTS.

THE ATTACHMENT OF THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT NEED TO BE DETAILED ON THE PLANS. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING AND CONDUIT.

A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.

B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

FOR THOSE ELEMENTS THAT DO NOT REQUIRE DETAILS ON THE APPROVED DRAWINGS, THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD AND THE DSA DISTRICT STRUCTURAL ENGINEER. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.

PIPING, DUCTWORK AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

PIPING, DUCTWORK AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-10 SECTION 13.3 AS DEFINED IN ASCE 7-10 SECTION 13.6.5.6, 13.6.7, 13.6.8 AND THE 2013 CBC SECTION 1616A.1.23, 1616A.1.24, 1616A.1.25 AND 1616A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PRE-APPROVED INSTALLATION GUIDE (E.G., SMACNA OR OSHPD OPM), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPOR THE HANGER AND BRACE LOADS.

MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD) PLUMBING PIPING (PP) ELECTRICAL DISTRIBUTION SYSTEMS (E):

MP ☐ MD ☐ PP ☐ E ☐ OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.

MP ☐ MD ☐ PP ☐ E ☐ OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PRE-APPROVAL (OPM #) # _____

MP ☐ MD ☐ PP ☐ OPTION 3: SHALL COMPLY WITH THE SMACNA SEISMIC RESTRAINT MANUAL, OSHPD EDITION 2009, INCLUDING ANY ADDENDA. FASTENERS AND OTHER ATTACHMENTS NOT SPECIFICALLY IDENTIFIED IN THE SMACNA SEISMIC RETRAINT MANUAL, OSHPD EDITION, ARE DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS. THE DETAILS SHALL ACCOUNT FOR THE APPLICABLE SEISMIC HAZARD LEVEL _____ AND CONNECTION LEVEL _____ FOR THE PROJECT AND CONDITIONS.

SCOPE OF WORK

1. FUTURE SURVEILLANCE CAMERAS
   - 1.A. CONTRACTOR WILL PROVIDE BACK BOX AND CONDUIT INFRASTRUCTURE AS DESCRIBED IN THE DRAWINGS.
   - 1.B. CONTRACTOR WILL PROVIDE ONE (1) DATA CABLE AS SPECIFIED FROM THE CAMERA LOCATION TO THE NEAREST MDF/IDF.
     - 1.B.A. AT THE DEVICE SIDE, CONTRACTOR SHALL INSTALL A MOD PLUG, PER SPECIFICATIONS, NO JACKS AT THE DEVICE SIDE.
     - 1.B.B. CONTRACTOR WILL INSTALL A MODULAR JACK INTO THE MODULAR PATCH PANEL, PER SPECIFICATIONS.
     - 1.B.C. CONTRACTOR WILL PROVIDE A WEATHER PROOF FACE PLATE COVER ALL EXTERIOR VERTICALLY ORIENTED OUTLET BOXES.
     - 1.B.D. FOR ALL FUTURE SUSPENDED CEILING MOUNT CAMERAS, THE CONTRACTOR SHALL COIL THE CABLE ABOVE THE CEILING TILE, AND MARK THE CEILING GRID IN THE APPROXIMATE LOCATION WITH A MACHINE PRINTED LABEL CONTAINING THE IDF, PATCH PANEL, AND PORT NUMBER FOR THE CABLE.
     - 1.B.E. FOR ALL HARD LID CEILING MOUNTS THE CONTRACTOR WILL PROVIDE A BACK BOX AND BLANK FACE PLATE IN THE CEILING MATERIAL. THE FACE PLATE WILL BE LABELED WITH THE MDF/IDF, PATCH PANEL, AND PORT NUMBER FOR THE CABLE.

SHEET INDEX

GENERAL NOTES

A. DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND WORK. CONTRACTOR SHALL PROVIDE AND INSTALL ALL NECESSARY LOW VOLTAGE AND TELECOM EQUIPMENT NECESSARY TO FULFILL APPLICABLE CODES, REGULATIONS, BUILDING STANDARDS AND THE BEST PRACTICES OF THE TRADE FOR INSTALLATION OF LOW VOLTAGE AND TELECOM WORK.

B. ALL LOW VOLTAGE AND TELECOM WORK, MATERIALS AND EQUIPMENT SHALL CONFORM WITH THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE, UNDERWRITERS LABORATORIES, BOARD OF UNDERWRITERS, OSHA, NEMA, NFPA AND ALL AUTHORITIES HAVING JURISDICTION. THE CONTRACTOR SHALL PAY FOR AND OBTAIN ALL REQUIRED PERMITS AND CERTIFICATES OF REQUIRED ORDINANCES, AND DELIVER THEM TO THE OWNER'S REPRESENTATIVE.

C. UPON REVIEW OF THE DRAWINGS PRIOR TO SUBMITTING HIS PROPOSAL, THE LOW VOLTAGE AND TELECOM CONTRACTOR SHALL INFORM THE ARCHITECT AND/OR ENGINEER OF ANY DISCREPANCIES WITHIN THE DRAWINGS AND REQUEST CLARIFICATION CONCERNING THE DISCREPANCIES. LATER CLAIMS WILL NOT BE RECOGNIZED FOR EXTRA LABOR, EQUIPMENT OR MATERIALS SHOULD SUCH PROCEDURE NOT BE FOLLOWED.

D. THE CONTRACTOR SHALL COORDINATE THIS WORK WITH OTHER CONTRACTORS WHOSE WORK MIGHT AFFECT THIS INSTALLATION. THE CONTRACTOR SHALL ARRANGE ALL PARTS OF THIS WORK AND EQUIPMENT IN PROPER RELATION TO THE WORK AND EQUIPMENT OF OTHERS.

RACEWAYS

A. WHERE CONDUIT IS USED, 1" MINIMUM CONDUIT SHALL BE PROVIDED U.O.N.

B. EMPTY CONDUIT FOR OUTLETS SHALL BE 1" THIN WALL INSTALLED CONCEALED IN WALLS, TERMINATED AND BUSHED 6" IN ACCESSIBLE HUNG CEILING AND DIRECTED TOWARDS CLOSET. ALL EMPTY CONDUIT SHALL BE FURNISHED WITH A PULL STRING.

C. ALL CONDUITS INSTALLED OUTDOORS SHALL BE RIGID GALVANIZED WITH THREADED CONNECTIONS. ALL CONDUITS INSTALLED UNDERGROUND OR IN CONCRETE SLABS SHALL BE RIGID PVC WITH A SEPARATE GROUNDING CONDUCTOR AND CONCRETE ENCASEMENT WHERE REQUIRED.

D. FLEXIBLE CONDUIT SHALL BE USED TO MAKE FINAL CONNECTIONS, AND WHERE THE INSTALLATION OF RIGID CONDUIT IS IMPRACTICAL.

E. WIRING SHALL BE INSTALLED CONCEALED IN WALLS, ABOVE CEILING OR BELOW FLOOR WHERE POSSIBLE. INSTALL CONDUIT PARALLEL TO BUILDING LINES. CLEAR ALL OPENINGS, PIPES, DUCTS, STRUCTURAL COMPONENTS, ETC.

F. INSTALL CONDUIT CONTINUOUS BETWEEN BOXES AND CABINETS WITH NO MORE THAN THREE 90 DEGREE BENDS. SECURELY FASTEN IN PLACE WITH STRAPS, HANGERS, AND STEEL SUPPORTS AS REQUIRED.

G. DO NOT SUPPORT CONDUIT FROM SUSPENDED CEILING GRID OR SUSPENSION WIRES. REAM AND THOROUGHLY CLEAN CONDUIT ENDS BEFORE INSTALLATION. OPENINGS SHALL BE PLUGGED OR COVERED TO KEEP CONDUIT CLEAN.

GROUNDING

A. ALL ELECTRICAL SYSTEMS SHALL BE GROUNDED AS REQUIRED BY THE NATIONAL ELECTRICAL CODE, THE LOCAL UTILITY COMPANY AND ALL OTHER LOCAL AUTHORITIES HAVING JURISDICTION. PERMANENTLY AND EFFECTIVELY GROUND ALL METALLIC CONDUITS, SUPPORTS, CABINETS, PLANE BOARDS AND SYSTEM GROUNDING NEUTRAL.

B. GROUND CLAMPS SHALL BE LISTED SPECIFICALLY FOR GROUNDING. WHERE GROUNDING CONDUCTOR IS ENCLOSED IN CONDUIT, GROUND CLAMP SHALL GROUND BOTH CONDUCTOR AND CONDUIT.

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Revision:	Revision Description:	Rev. Date:	Revision:	Revision Description:	Rev. Date:

Sheet Title: TITLE SHEET

Project Name & Address:
NEW ELEMENTARY SCHOOL INCREMENT 2
BAKERSFIELD CITY SCHOOL DISTRICT
@ CITADEL STREET AND MARDI GRAS COURT

Issue Date:	Date:	Designer:	DR:	PC:
01/31/18	01/24/18			--

Agency Approval Stamp:

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Job No.: 5262

Sheet No.: SC-0.0

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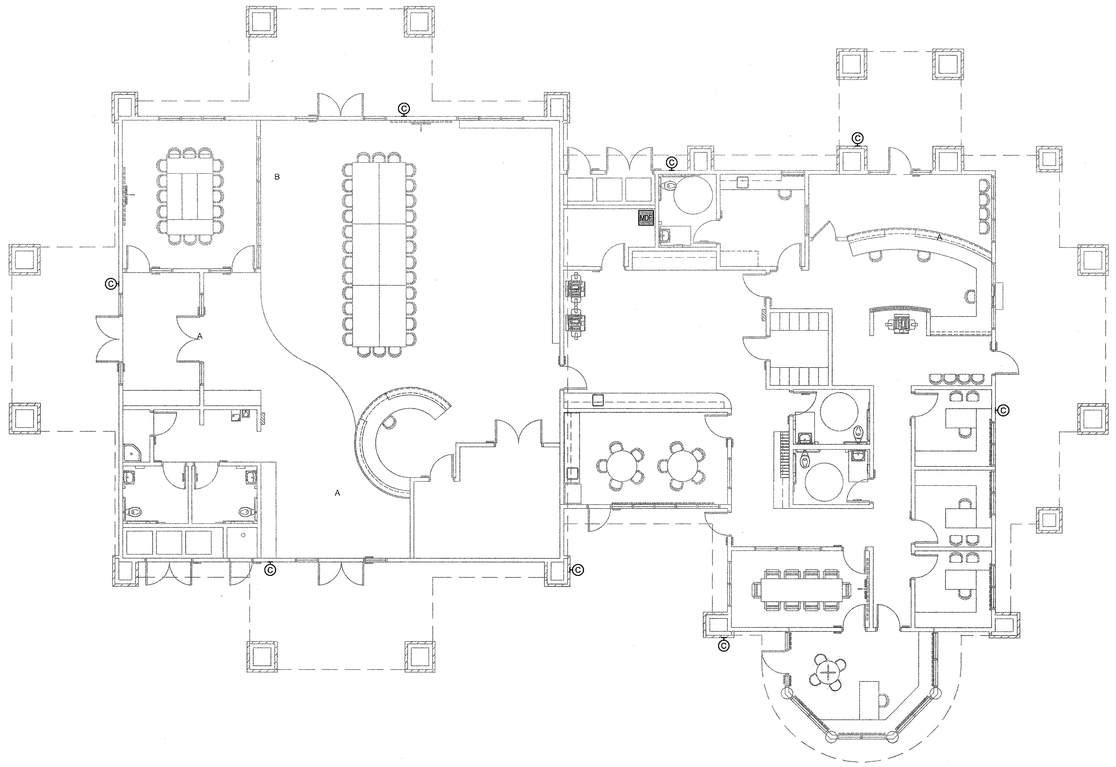
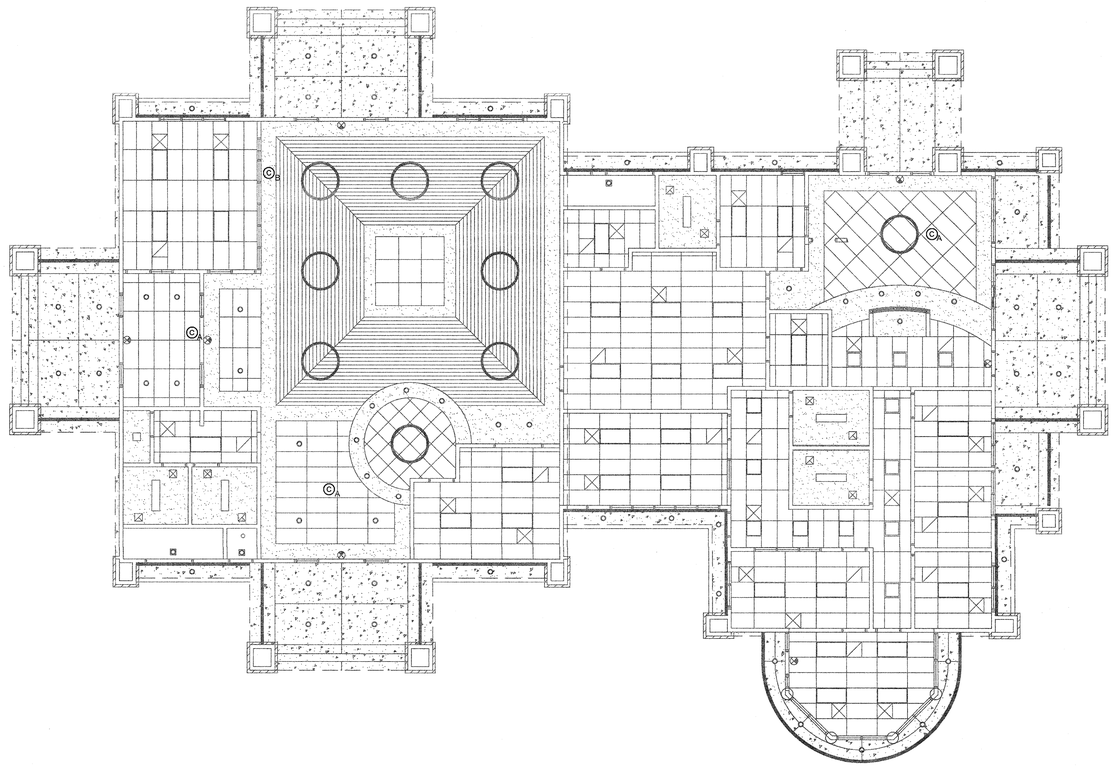


1 BUILDING 'A' - ADMINSTRATION FLOOR PLAN
1/8" - 1'-0"



2 BUILDING 'A' - ADMINISTRATION CEILING PLAN
1/8" - 1'-0"

SHEET NOTES

NOTES ON THIS SHEET ARE TO BE USED ON THIS SHEET ONLY.

1. (F)WALL MOUNTED SURVEILLANCE CAMERA, PER TITLE SHEET.
2. (F)SUSPENDED CEILING MOUNTED SURVEILLANCE CAMERA, PER TITLE SHEET.
3. (F)HARD-LID CEILING MOUNTED SURVEILLANCE CAMERA, PER TITLE SHEET.

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Sheet Title: BUILDING 'A' - FLOOR AND CEILING PLANS

Project Name & Address:
NEW ELEMENTARY SCHOOL INCREMENT 2
BAKERSFIELD CITY SCHOOL DISTRICT
@ CITADEL STREET AND MARDI GRAS COURT

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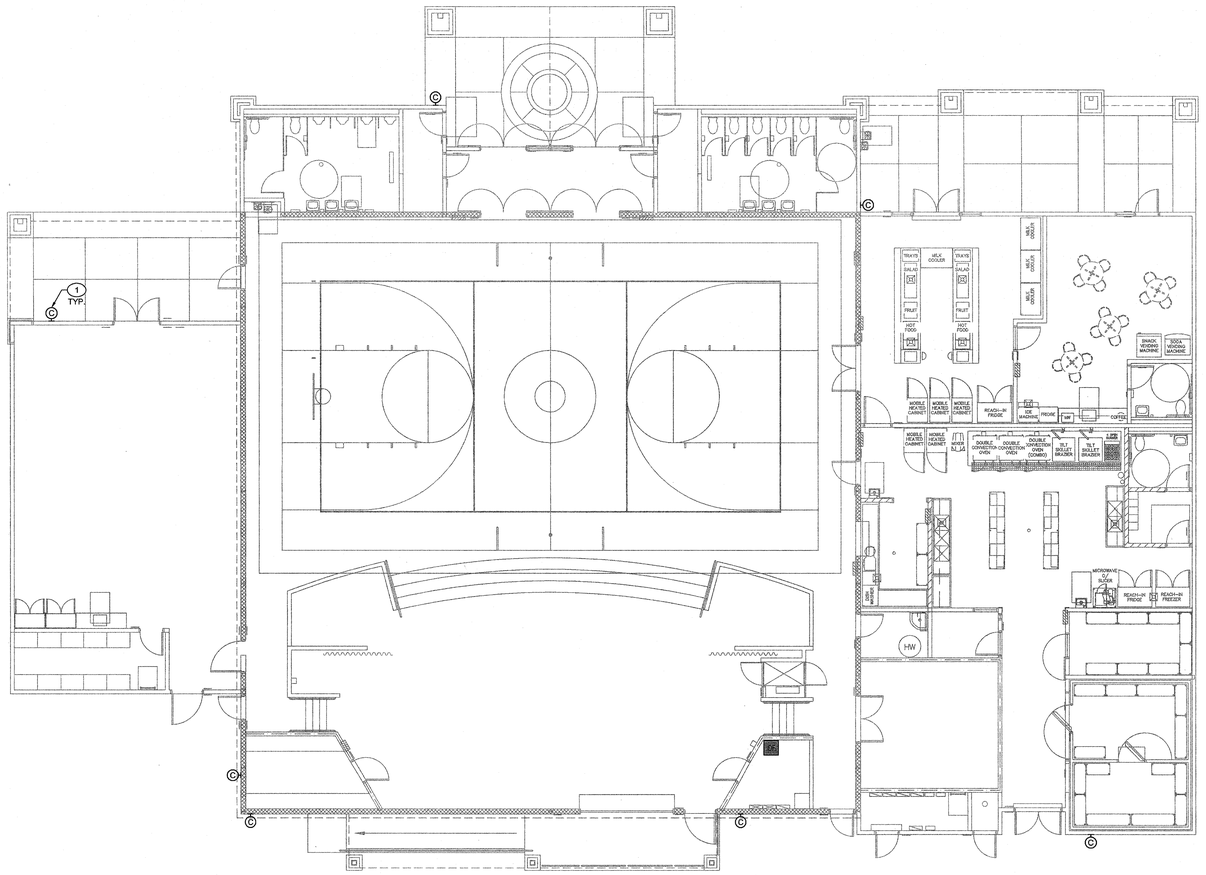
NOTES ON THIS SHEET ARE TO BE USED ON THIS SHEET ONLY.

(1) (F)WALL MOUNTED SURVEILLANCE CAMERA, PER TITLE SHEET.



1 BUILDING 'B' - MULTIPURPOSE BUILDING FLOOR PLAN

1/8" - 1'-0"

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Sheet Title: BUILDING 'B' - FLOOR PLAN

Project Name & Address: NEW ELEMENTARY SCHOOL INCREMENT 2
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@ CITADEL STREET AND MARDI GRAS COURT

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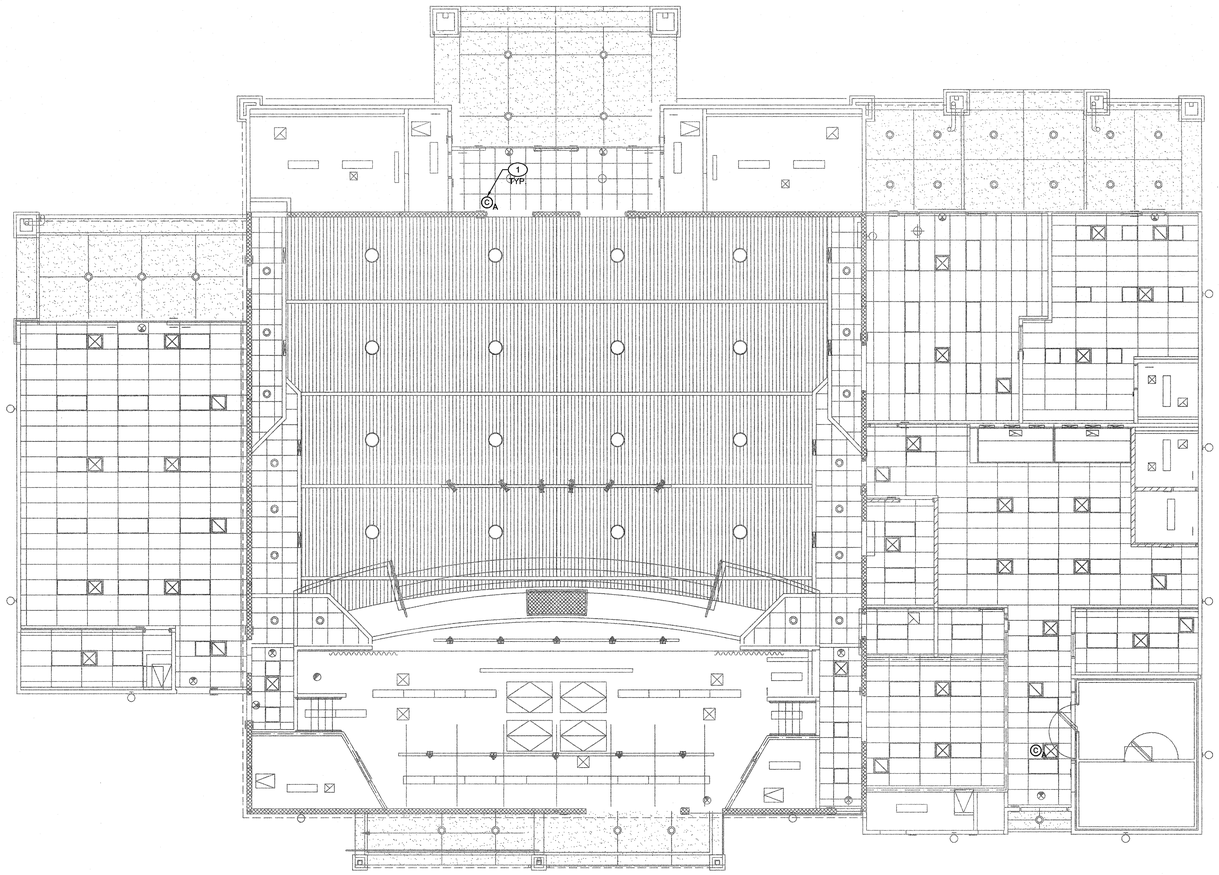

1 BUILDING 'B' - MULTIPURPOSE BUILDING CEILING PLAN
1/8" - 1'-0"

SHEET NOTES

NOTES ON THIS SHEET ARE TO BE USED ON THIS SHEET ONLY.

(1) (F)SUSPENDED CEILING MOUNTED SURVEILLANCE CAMERA, PER TITLE SHEET.

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