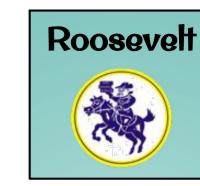


# ROOSEVELT ELEMENTARY SCHOOL



# FIRE ALARM PANEL REPLACEMENT DSA SUBMITTAL SET

DSA FILE NO.

AGENCY TRACKING NO.

ALL WORK SHALL CONFORM TO 2019 TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR).

CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY AN ADDENDUM OR A CONSTRUCTION CHANGED DOCUMENT (CCD) APPROVED BY THE DIVISION OF THE STATE ARCHITECT, AS REQUIRED BY SECTION 4-338, PART 1, TITLE 24, CCR.

A "DSA CERTIFIED" PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY THE DSA SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-342, PART 1, TITLE 24, CCR.

A DSA ACCEPTED TESTING LABORATORY DIRECTLY EMPLOYED BY THE DISTRICT (OWNER) SHALL CONDUCT ALL THE REQUIRED TESTS AND INSPECTIONS FOR THE PROJECT.

THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK OF THE ALTERATION, REHABILITATION OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH TITLE 24, CCR. SHOULD ANY EXISTING CONDITIONS SUCH AS A DETERIORATION OR NON-COMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CCR, A CONSTRUCTION CHANGE DOCUMENT (CCD), OR A SEPARATE SET OF PLANS AND SPECIFICATIONS, DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE WORK. (SECTION 4-317(c), PART 1, TITLE 24, CCR)

GRADING PLANS, DRAINAGE IMPROVEMENTS, ROAD AND ACCESS REQUIREMENTS AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH ALL LOCAL ORDINANCES.

APPLICABLE CODES AND REGULATIONS CALIFORNIA CODE OF REGULATIONS (C.C.R.), TITLE 24 (APPLIES AFTER JANUARY 1, 2020): PART 1-CALIFORNIA BUILDINGS STANDARD ADMINISTRATIVE CODE 2019 EDITION PART 2-CALIFORNIA BUILDING CODE 2019 EDITION PART 3-CALIFORNIA ELECTRICAL CODE 2019 EDITION PART 4-CALIFORNIA MECHANICAL CODE 2019 EDITION PART 5-CALIFORNIA PLUMBING CODE 2019 EDITION PART 6-CALIFORNIA ENERGY CODE 2019 EDITION PART 9-CALIFORNIA FIRE CODE 2019 EDITION PART 10-CALIFORNIA EXISTING BUILDING CODE 2019 EDITION PART 11-CALIFORNIA GREEN BUILDING STANDARDS CODE 2019 EDITION PART 12-CALIFORNIA REFERENCE STANDARDS CODE 2019 EDITION PARTIAL LIST OF NFPA STANDARDS: NFPA 13- AUTOMATIC SPRINKLER SYSTEM (CA AMENDED) 2016 EDITION NFPA 14- STANDPIPES SYSTEMS (CA AMENDED) 2016 EDITION NFPA 17A- WET CHEMICAL SYSTEMS, 2017 EDITION NFPA 20- STANDARD FOR THE INSTALLATION OF STATIONARY 2016 EDITION PUMPS FOR FIRE PROTECTION NFPA 24- PRIVATE FIRE MAINS (CA AMENDED) 2016 EDITION NFPA 72- NAT. FIRE ALARM & SIGNALING CODE 2016 EDITION (CALIFORNIA AMENDED) NFPA 80- STANDARD FOR FIRE DOORS AND OTHER 2016 EDITION OPENING PROTECTIVES NFPA 2001 - STANDARD ON CLEAN AGENT FIRE EXTINGUISHING 2015 EDITION SYSTEMS (CA AMENDED) UL 300- STANDARD FOR FIRE TESTING OF FIRE 2005 (R2010) EXTINGUISHING SYSTEMS FOR PROTECTION OF COMMERCIAL COOKING EQUIPMENT UL 464- AUDIBLE SIGNALING DEVICES FOR FIRE ALARM AND 2003 EDITION SIGNALING SYSTEMS, INCLUDING ACCESSORIES UL 521- STANDARD FOR HEAT DETECTORS FOR FIRE 1999 EDITION PROTECTIVE SIGNALING SYSTEMS UL 1971- STANDARD FOR SIGNALING DEVICES FOR THE 2002 (R2010) HEARING IMPAIRED 2017 EDITION ICC 300- STANDARD FOR BLEACHERS, FOLDING AND

TELESCOPING SEATING, AND GRANDSTANDS

FOR A COMPLETE LIST OF APPLICABLE NFPA STANDARDS REFER TO 2019 CBC (SFM) CHAPTER 35 AND CALIFORNIA FIRE CODE CHAPTER 80.

### SCOPE OF WORK

THE PROJECT CONSISTS OF REMOVING THE EXISTING MAIN FIRE ALARM CONTROL PANEL AND REPLACING THE MAIN FIRE ALARM CONTROL PANEL WITH A NEW ADDRESSABLE FIRE ALARM CONTROL PANEL. EXISTING SIGNALING LINE CIRCUITS AND EXISTING NOTIFICATION APPLIANCE (NAC) CIRCUITS SHALL BE RECONNECTED TO NEW FIRE ALARM EQUIPMENT. A VOICE EVACUATION PANEL WILL BE PROVIDED FOR FUTURE WORK WHERE VOICE EVACUATION IS PROVIDED.

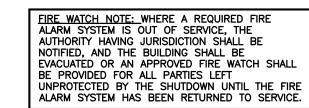
SHEET	DESCRIPTION
E0.0	COVER SHEET
E1.0	ELECTRICAL SYMBOLS AND GENERAL NOTES
E2.0	SITE FIRE ALARM PLAN
E2.1	BLDG 100 FIRE ALARM PLAN
E3.0	FIRE ALARM NOTES, FIRE ALARM SPECIFICATIONS
E3.1	FIRE ALARM RISER DIAGRAM, BATTERY CALCULATION

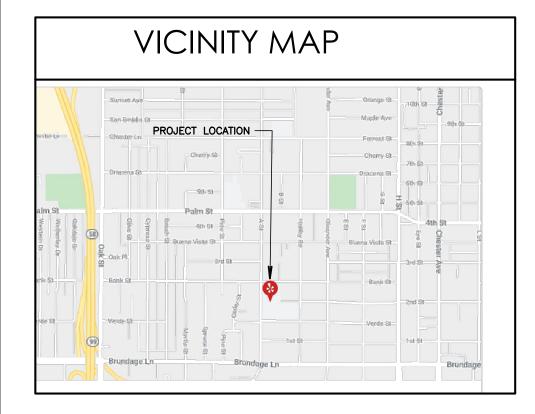
### PROJECT TEAM

OWNER:
BAKERSFIELD CITY SCHOOL DISTRICT
1300 BAKER STREET
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PHONE: (661) 631-5885
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CONTACT: ROBERT VAN TASSEL

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IDENTIFICATION STAMP

DENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT

APP: 03-121106 INC:

REVIEWED FOR
SS FLS ACS D

DATE: 04/23/2021

APP# 03-121106 FILE # 15-6

PTN# 63321-375
CONSULTANT



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BAKERSFIELD CITY SCHOOL DISTRICT



ROOSEVELT
ELEMENTARY SCHOOL
FIRE ALARM PANEL
REPLACEMENT

2324 VERDE STREET BAKERSFIELD, CALIFORNIA 93306

COVER SHEET	
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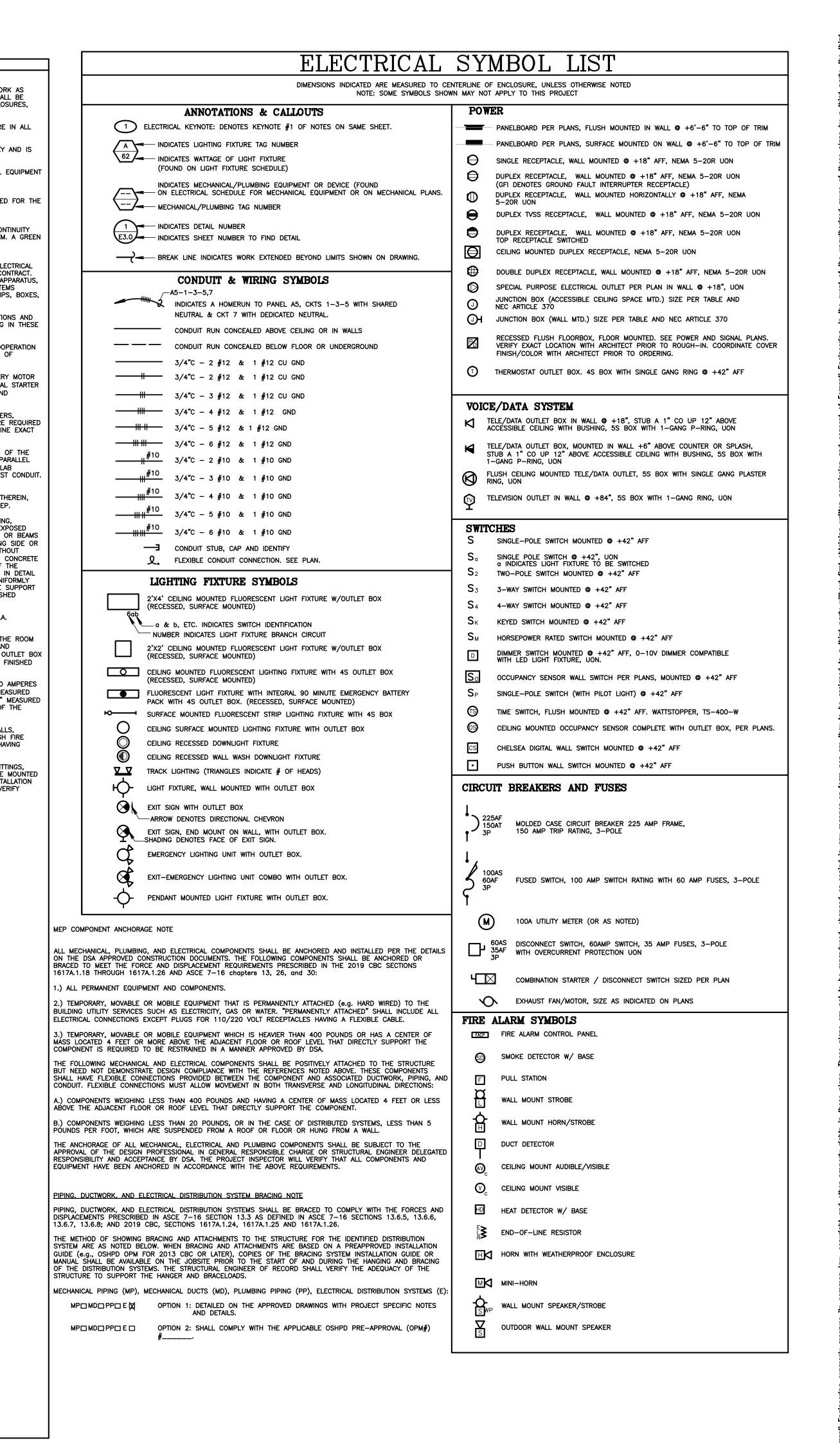
REVISIONS: DATE:

DATE: 3/19/2021
DRAWN: D.FERRANTI

JOB NO.

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### GENERAL ELECTRICAL NOTES ) DO ALL DRILLING, CUTTING, CHANNELING AND PATCHING REQUIRED TO INSTALL ELECTRICAL WORK AS REQUIRED FOR THE WORK SHALL BE CONTRACTOR FURNISHED AND CONTRACTOR INSTALLED, UNLESS NDICATED OR HEREIN SPECIFIED. ALL HOLES, CURBS, ETC., IN FLOORS, CEILINGS AND WALLS SHALL BE PATCHED, UNLESS INDICATED OTHERWISE. PAINT ALL NEW ELECTRICAL RACEWAYS, CABINETS, ENCLOSURES, SPECIFICALLY NOTED OTHERWISE. THE WORK INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING PRINCIPAL AND FITTINGS PENETRATING INTO FIRE RATED ENVELOPES, SPACES, ETC. SYSTEMS AND EQUIPMENT. PERMITS AND CHARGES: OBTAIN AND PAY FOR ALL NECESSARY CONSTRUCTION PERMITS, INSPECTION FEES, AND OTHER CHARGES BY 3.) ALL CONDUIT RUNS SHALL BE CONCEALED, UNLESS SHOWN OTHERWISE. PROVIDE A PULL WIRE IN ALL .) EXISTING CONDITION SHOWN IS FROM AVAILABLE RECORD DRAWINGS AND VISUAL FIELD SURVEY AND IS REGULATIONS AND CODES: PROVIDE AND INSTALL ALL MATERIALS IN CONFORMANCE WITH THE NATIONAL ELECTRICAL CODE, CALIFORNIA SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL VERIFY ACTUAL EXISTING CONDITION AT SITE. ADMINISTRATIVE CODE TITLE 8, AND OTHER CODES AND REGULATIONS HAVING JURISDICTION. INSTALL ALL ) ALL WORK SHOWN IS NEW UNLESS SPECIFICALLY INDICATED AS EXISTING (X). ALL ELECTRICAL EQUIPMENT EQUIPMENT IN ACCORDANCE WITH THE REQUIREMENTS OF THE INSPECTING AUTHORITY AND MANUFACTURERS MÓUNTING AND ANCHORAGE MUST CONFORM WITH LOCAL AND STATE SEISMIC CÓDES. TELEPHONE SYSTEMS: PROVIDE RACEWAYS, AND ALL MATERIAL INCLUDING PULLING CABLE IN EACH RACEWAY AS REQUIRED FOR THE VERIFYING EXISTING CONDITIONS: BEFORE SUBMITTING BID, BECOME THOROUGHLY FAMILIAR WITH ACTUAL EXISTING CONDITIONS AT THE TELEPHONE SYSTEM PER THE SERVING TELEPHONE COMPANY REQUIREMENTS. BUILDING SITE. THE INTENT OF THE WORK IS SHOWN ON THE DRAWINGS AND DESCRIBED HEREINAFTER. BY THE ACT OF SUBMITTING A BID PROPOSAL FOR THE WORK, THE CONTRACTOR SHALL BE DEEMED TO HAVE MADE SUCH STUDY AND EXAMINATION AND TO ACCEPT ALL CONDITIONS PRESENT AT THE SITE. NO REQUEST GROUNDING AND BONDING: FURNISH AND INSTALL COMPLETE BONDING AND GROUNDING SYSTEM AS REQUIRED BY CODES. CONTINUITY OF GROUNDING SHALL BE MAINTAINED MECHANICALLY AND ELECTRICALLY THROUGHOUT THE SYSTEM. A GREEN FOR ADDITIONAL PAYMENT WILL BE CONSIDERED AS VALID, DUE TO FAILURE TO ALLOW FOR CONDITIONS GROUNDING CODE SIZED CONDUCTOR SHALL BE CARRIED THROUGH IN ALL CONDUITS. COORDINATION: COORDINATE ALL WORK WITH OTHER TRADES. OBTAIN ALL DRAWINGS THAT WILL REQUIRE COORDINATION AND COORDINATE ALL WORK WITH OTHER TRADES. OBTAIN ALL DRAWINGS THAT WILL REQUIRE COORDINATION AND COORDINATION COORD INSTALLATION: IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS THAT A COMPLETE AND WORKABLE ELECTRICAL PROVIDE ALL ELECTRICAL CONNECTIONS REQUIRED WHETHER SHOWN ON ELECTRICAL DRAWINGS OR NOT. INSTALLATION BE PROVIDED FOR ALL THE EQUIPMENT DESCRIBED OR SHOWN AS BEING IN THIS CONTRACT. ELECTRICAL EQUIPMENT LOCATIONS INDICATED ARE SHOWN DIAGRAMMATICALLY, EXACT LOCATION SHALL BE TOWARD THIS END FURNISH ALL LABOR AND TOOLS NECESSARY AND FURNISH AND INSTALL ALL APPARATUS, MATERIALS AND EQUIPMENT IN A FASHION COMPLYING WITH ALL APPLICABLE CODES, INCLUDING ITEMS REQUIRED BUT NOT NORMALLY SHOWN, SUCH AS LAMPS, COUPLINGS, HANGERS, BRACKETS, CLAMPS, BOXES, SERVICE CONTINUITY: UNINTERRUPTED EXISTING ELECTRICAL POWER SHALL BE MAINTAINED TO OTHER TRADES FOR TEMPORARY POWER AREAS OF THE SITE DURING CONSTRUCTION. PROVIDE ANY TEMPORARY SERVICES AS MAY BE REQUIRED. IDENTIFY AT BID TIME, ALL WORK TO BE DONE ON PREMIUM TIME AND THE TOTAL OVERTIME CONNECTORS, AND HARDWARE. 1.) PROCURE ALL PERMITS FROM LEGALLY CONSTITUTED AUTHORITIES, ARRANGE FOR ALL INSPECTIONS AND PAY ALL COSTS FOR FEES AND TESTS IN CONNECTION THEREWITH. COMPLY WITH CODES: NOTHING IN THESE MAN-HOURS REQUIRED FOR COMPLETION. ) DETERMINE EXACT ROUTING OF CONCEALED FEEDERS AND BRANCH CIRCUIT HOMERUNS IN COOPERATION PROVIDE RECORD DRAWINGS TO THE OWNER WITH ALL CHANGES NOTED THEREON AT THE COMPLETION OF WITH OTHER TRADES TO SIMPLIFY INSTALLATION WHEREVER POSSIBLE BUT SUBJECT TO APPROVAL OF THE PROJECT. RECORD DRAWINGS SHALL BE SIGNED AND DATED BY CONTRACTOR PRIOR TO RELEASE OF ARCHITECT FOR VISUAL AND STRUCTURAL REASONS. .) PROVIDE A CODE APPROVED DISCONNECT SWITCH OR CIRCUIT BREAKER WITHIN SIGHT OF EVERY MOTOR MARK PROJECT RECORD DOCUMENTS DAILY TO INDICATE ALL CHANGES MADE IN THE FIELD. AND FEED MOTORS NOT EQUIPPED WITH "BUILT IN" PROTECTION THROUGH A MAGNETIC OR MANUAL STARTER A.) IN ADDITION TO GENERAL REQUIREMENTS OF PROJECT RECORD DRAWINGS. INDICATE ON WITH OVERLOAD HEATERS SIZED TO COMPLY WITH MOTOR MANUFACTURER'S RECOMMENDATIONS AND DRÁWINGS, CHANGES OF EQUIPMENT LOCATIONS AND RATINGS, TRIP SIZES, AND SETTINGS ON CIRCUIT BREAKERS. ALTERATIONS IN RACEWAY RUNS AND SIZES, CHANGES IN WIRE SIZES, CIRCUIT DESIGNATIONS, INSTALLATION DETAILS, ONE-LINE DIAGRAMS, CONTROL DIAGRAMS AND SCHEDULES. 4.) FOR CONNECTIONS TO EXHAUST FANS, PUMPS, COMPRESSORS, SPACE HEATERS, WATER HEATERS, AQUASTATS, SOLENOID VALVES, AND OTHER MECHANICAL EQUIPMENT AND FOR CONDUITS AND WIRE REQUIRED USE GREEN TO INDICATE DELETIONS AND RED TO INDICATE ADDITIONS. BUT NOT NECESSARILY SHOWN ON THESE DRAWINGS, REFER TO MECHANICAL PLANS AND DETERMINE EXACT A.) USE THE SAME SYMBOLS AND FOLLOW THE SAME DRAFTING PROCEDURES USED ON THE CONTRACT LOCATIONS UNDER DIRECTION OF HEATING AND VENTILATING CONTRACTOR. LOCATE UNDERGROUND CONDUIT STUBBED-OUT FOR FUTURE USE. UNDERGROUND FEEDER CONDUITS. AND .) DO NOT RUN ANY CONDUIT IN SLAB IF ITS OUTSIDE DIAMETER EXCEEDS 1/3 THE THICKNESS OF THE SLAB. LOCATE CONDUITS WITHIN THE MIDDLE OF THE SLAB. WHERE CONDUITS ARE GROUPED IN PARALLEL FEEDER PULL BOX LOCATIONS USING BUILDING LINES BY INDICATING ON THE PROJECT RECORD DRAWINGS. RUNS, SPACE THEM 3" OR MORE APART. WHERE CONDUITS CROSS EACH OTHER, THICKEN THE SLAB PROPORTIONATELY OVER A HORIZONTAL AREA EQUAL TO TEN TIMES THE DIAMETER OF THE LARGEST CONDUIT. AT THE COMPLETION OF UNDERGROUND CONDUIT INSTALLATION, PROVIDE UNDERGROUND CONDUIT RECORD DOCUMENTS TO OWNER'S REPRESENTATIVE. REFER ALSO TO DETAILS SHOWN. 6.) SIZE OUTLET BOXES IN CONFORMITY WITH CODE FOR NUMBER AND GUAGE OF CONDUCTORS THEREIN, TWO COPIES, IN BINDER FORM, OF ALL TEST RESULTS AS REQUIRED BY THESE DOCUMENTS. EXCEPT WHERE NOTED TO BE LARGER. MINIMUM BOX SIZE SHALL BE 4" SQUARE BY 1-1/2" DEEP. TWO COPIES OF LOCAL AND/OR STATE CODE ENFORCING AUTHORITIES FINAL INSPECTION CERTIFICATES. .) ALL ELECTRICAL WORK SHALL BE INSTALLED SO AS TO BE READILY ACCESSIBLE FOR OPERATING. FIRE ALARM SYSTEM RECORDS AND TESTING REPORTS AS OUTLINED IN NFPA 72, CHAPTER 10. SÉRVICING. MAINTAINING AND REPAIRING. ALL CONDUIT SHALL BE CONCEALED WHERE POSSIBLE. EXPOSED CONDUIT SHALL BE IN STRAIGHT LINES PARALLEL WITH, OR AT RIGHT ANGLES TO, COLUMN LINES OR BEAMS TWO COPIES, IN BINDER FORM, OF ELECTRICAL EQUIPMENT CUT SHEETS, MANUFACTURER'S INSTALLATION AND SEPARATED BY AT LEAST THREE (3) INCHES FROM WATER LINES WHENEVER THEY RUN ALONG SIDE OR INSTRUCTIONS, WARRANTY CERTIFICATES, AND PRODUCT LITERATURE FOR ALL PRODUCTS UTILIZED ON ACROSS SUCH LINES. CONDUIT SHALL NOT BE RUN BELOW CABLE TRAYS OR LIGHT FIXTURES WITHOUT SPECIFIC APPROVAL OF THE OWNER'S REPRESENTATIVE. HANGERS SHALL BE FASTENED TO STEEL, CONCRETE OR MASONRY, BUT NOT TO PIPING. HANGERS AND SUPPORT SYSTEMS ARE AN INTEGRAL PART OF GUARANTEE: CONTRACTOR SHALL UNCONDITIONALLY GUARANTEE ALL LABOR AND MATERIALS ON ALL WORK AGAINST ISUAL ENVIRONMENT. ALL HANGERS AND SUPPORTS EXPOSED TO PUBLIC VIEW MUST BE SHOWN IN DETAIL ON PLANS SUBMITTED TO LANDLORD FOR APPROVAL OF APPEARANCE. ALL HANGERS MUST BE UNIFORMLY SPACED AND NEATLY INSTALLED WITH NO EXCESS MATERIAL BEYOND WHAT IS REQUIRED FOR THE SUPPORT DEFECTS IN WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE YEAR. FUNCTION. CONTRACTOR SHALL SELECT ACCESSORIES AND HARDWARE WITH A SMOOTH, NEAT FINISHED SHOP DRAWINGS: SUBMIT SHOP DRAWINGS AND MATERIAL LIST FOR REVIEW PRIOR TO COMMENCING ANY WORK. ALL EQUIPMENT APPEARANCE AND PAINT ALL EXPOSED CONDUIT HANGERS TO MATCH THE ADJACENT FINISHES. TO BEAR U.L. LABEL OR THAT OF ANOTHER ACCEPTABLE TESTING LABORATORY. SHOP DRAWINGS MUST BE .) ALL WALL SWITCHES AND RECEPTACLES SHALL BE MOUNTED BETWEEN 18" AND 48" PER A.D.A. STAMPED BY THE CONTRACTOR FOR CONFORMANCE PRIOR TO SUBMITTAL. RÉQUIREMENTS UNLESS OTHERWISE NOTED. SUBMIT SIX SETS OF SHOP DRAWINGS FOR REVIEW PRIOR TO PURCHASING ALL BREAKER MOUNTING HARDWARE, DISCONNECT SWITCHES, FUSES, CONTROLLERS, LIGHTING FIXTURES, LIGHT SWITCHES, ELECTRICAL SWITCHES: CONTROLS AND SWITCHES INTENDED TO BE USED BY THE OCCUPANT OF THE ROOM RECEPTACLES, ETC. OR AREA TO CONTROL LIGHTING AND RECEPTACLE OUTLETS. APPLIANCES OR COOLING, HEATING AND VENTILATING EQUIPMENT. SHALL BE LOCATED NO MORE THAN 48" MEASURED FROM THE TOP OF OUTLET BOX NOR LESS THAN 15" MEASURED FROM THE BOTTOM OF THE OUTLET BOX TO THE LEVEL OF THE FINISHED CONTRACTOR'S BID SHALL BE BASED ON ALL WORK SHOWN ON THE PLANS AND AS SPECIFIED. I CONTRACTOR PROPOSES TO SUBSTITUTE FOR EQUIPMENT SPECIFIED, HE SHALL SUBMIT HIS REQUEST FOR CONSIDERATION OF THE OWNER AND ENGINEER PRIOR TO BID IN WRITING. ALL SUBSTITUTIONS SHALL BE ELECTRICAL RECEPTACLE OUTLETS: ELECTRICAL RECEPTACLE OUTLETS ON BRANCH CIRCUITS OF 30 AMPERES REVIEWED BY THE ENGINEER IN WRITING. SUCH REVIEW SHALL NOT RELIEVE THE CONTRACTOR FROM COMPLYING WITH THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS, AND THE CONTRACTOR SHALL OR LESS AND COMMUNICATION SYSTEM RECEPTACLES, SHALL BE LOCATED NO MORE THAN 48" MEASURED FROM THE TOP OF THE RECEPTACLE OUTLET BOX OR RECEPTACLE HOUSING NOR LESS THAN 15" MEASURED BE RESPONSIBLE AT HIS/HER OWN EXPENSE FOR ANY CHARGES RESULTING FROM HIS PROPOSED FROM THE BOTTOM OF THE RECEPTACLE OUTLET BOX OR RECEPTACLE HOUSING TO THE LEVEL OF THE SUBSTITUTIONS WHICH AFFECT OTHER PARTS OF HIS/HER OWN WORK, THE OWNER, ENGINEER OF RECORD FINISHED FLOOR OR WORKING PLATFORM. OR THE WORK OF OTHER CONTRACTORS. .) CONTRACTOR SHALL EXAMINE PLANS AND VERIFY IN FIELD LOCATIONS OF ALL FIRE RATED WALLS, CÉILINGS AND FLOORS. CONTRACTOR SHALL SEAL ALL ELECTRICAL SYSTEM PENETRATIONS THROUGH FIRE ALL MATERIALS SHALL BE NEW AND LISTED BY UNDERWRITERS LABORATORY (U.L.). RATED WALLS, CEILINGS AND FLOORS WITH U.L. LISTED MATERIAL APPROVED BY THE AUTHORITY HAVING ALL WORK AND MATERIAL SHALL CONFORM TO THE LATEST RULES OF THE GOVERNING ELECTRICAL CODE AND INSTALLATION SHALL BE OF THE LATEST INDUSTRY STANDARDS OF WORKMANSHIP. 10.) SURFACE MOUNTED RACEWAY COMPLETENESS: CONTRACTOR SHALL PROVIDE ALL RACEWAY, FITTINGS, CONDUIT SHALL BE EMT, PVC, IMC, RIGID OR FLEXIBLE STEEL TYPE. CONDUIT SHALL BE SUPPORTS, BOXES, DEVICES, PLATES ETC. NECESSARY FOR A COMPLETE AND WORKABLE SURFACE MOUNTED ELECTRICAL RACEWAY SYSTEM. PRIOR TO INSTALLATION, CONTRACTOR SHALL PERFORM A PRE-INSTALLATION MANUFACTURED IN ACCORDANCE WITH UL-1. A GROUND WIRE IS REQUIRED IN ALL FLEXIBLE SURFACE MOUNTED RACEWAY JOB WALK WITH OWNER & ARCHITECT FOR CONTRACTOR TO FIELD VERIFY CONDUIT AND UNDERGROUND CONDUIT. BUSHINGS SHALL BE INSTALLED ON ALL EXACT ROUTING OF ANY & ALL SURFACE MOUNTED RACEWAYS. COMMUNICATION, TELEPHONE & SPEAKER CONDUITS. PROVIDE 3/16" NYLON PULL STRING IN ALL EMPTY CONDUITS. NO MC, BX, OR AC90 SHALL BE PERMITTED. SWITCHES AND RECEPTACLES: PROVIDE 20 AMP NEMA RATED SWITCHES AND RECEPTACLES OF SPECIFICATION GRADE. ALL SWITCHES SHALL BE RATED 120 AND/OR 277 VOLT AND RECEPTACLES SHALL BE NEMA 5-20R. IN ALL OFFICES AND OFFICE AREAS, DEVICES SHALL BE DECORA TYPE WITH COLOR SELECTION BY CONTRACTOR/OWNERS REPRESENTATIVE. FEEDERS AND BRANCH CIRCUITS IDENTIFICATION: IDENTIFY FEEDERS WITH THE CORRESPONDING CIRCUIT DESIGNATION AT THE OVER—CURRENT DEVICE, LOAD END, AND IN PULL BOXES WITH E-Z CODE OR OTHER APPROVED WIRE MARKER. IDENTIFY BRANCH CIRCUITS WITH LD MARKERS THE CORRESPONDING CIRCUIT DESIGNATION AT THE OVER-CURRENT DEVICE, AT ALL SPLICES, IN JUNCTION BOXES, AND IN OUTLETS. USE PLASTIC COATED SELF—STICKING MARKERS SUCH AS THOMAS & BETTS E—Z CODE FOR IDENTIFICATION OF CONDUCTORS. IDENTIFY SIGNAL & COMMUNICATION CABLES AT TERMINAL AND OUTLET. <u>CONDUCTORS:</u> DELIVER ALL CONDUCTORS TO THE JOB SITE IN ORIGINAL UNBROKEN CARTON OR REEL, PROPERLY TAGGED WITH U.L. LABEL, SIZE, TYPE, MANUFACTURER, TRADE NAME AND THE DATE OF MANUFACTURE. CONDUCTORS MUST BE MANUFACTURED WITHIN 6 MONTHS. PROVIDE COPPER CONDUCTORS #12 AWG MINIMUM UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS. PROVIDE STRANDED COPPER CONDUCTORS FOR ALL WIRING. USE CONDUCTORS WITH THHN/THWN 600 VOLTS INSULATION, UNLESS OTHERWISE NOTED. DISTRIBUTION AND LIGHTING PANELBOARDS WITHIN PROJECT AREA SHALL BE OF THE COPPER BUS THREE PHASE. FOUR WIRE DISTRIBUTED PHASING TYPE. CIRCUITING SHALL BE ARRANGED TO PROVIDE, AS NEARLY AS POSSIBLE, AN EVENLY BALANCED LOAD ON ALL PHASES. PANELBOARDS SHALL BE BOLT-ON CIRCUIT BREAKER TYPE. AVAILABLE FAULT CURRENT IS STATED ON PANELBOARD SCHEDULE. PROVIDE PANEL IDENTIFICATION NAMEPLATE (ENGRAVED ON -ADHESIVE 1/2" MINIMUM LETTERS) AND TYPEWRITTEN LIST OF CIRCUITS IN THE DIRECTORY DEMOLITION: NOTIFY THE OWNER IMMEDIATELY WHEREVER EXISTING EQUIPMENT IS ENCOUNTERED WHICH MUST BE RELOCATED DUE TO THE NEW CONSTRUCTION, AND WHICH IS NOT INDICATED ON THE PLANS. ALL REMOVED MATERIALS AND EQUIPMENT WHICH ARE SALVAGEABLE SHALL REMAIN THE PROPERTY OF THE OWNER. DELIVER SUCH SALVAGED MATERIALS AND EQUIPMENT ON THE PREMISES AS DIRECTED BY THE OWNER, AND NEATLY PILE OR STORE THEM AND PROTECT FROM DAMAGE, REMOVE FROM PREMISES AND DISPOSE OF ALL MATERIALS CONSIDERED BY THE OWNER TO BE SCRAP 2. ALL DEVICES, CIRCUIT CONDUCTORS, FEEDERS, ETC., WHEN NOTED TO BE REMOVED, SHALL BE REMOVED TO THE LAST ACTIVE DEVICE. ALL OVER-CURRENT PROTECTION AND DISCONNECT DEVICES NO LONGER UTILIZED BUT REMAINING AS LAST ACTIVE DEVICE SHALL BE LABELED AS "SPARE". COORDINATE ALL OUTAGES EXECUTION: CAREFULLY PROTECT ALL WALLS, TRIM, FLOORS, EQUIPMENT UTILITY LINES AND MATERIALS. WHEN WORKING ON FINISHED SURFACES, LIMIT DAMAGE TO THE CONFINES AS MUCH AS POSSIBLE AND RESTORE TO THE ORIGINAL CONDITION ALL SURFACES WHICH ARE DAMAGED BECAUSE OF THE INSTALLATION OF THE WORK .) EQUIPMENT, MATERIALS AND SUPPLIES REMOVED FOR PROTECTION SHALL BE REPLACED IN ORIGINAL LOCATIONS. ANY MATERIALS DAMAGED SHALL BE REPLACED WITH NEW MATERIALS OF LIKE KIND AND QUALITY.



AGENCY INFORMATION: IDENTIFICATION STAMP DIV. OF THE STATE ARCHITEC APP: 03-121106 INC: REVIEWED FOR SS 🗹 FLS 🗹 ACS 🗹 DATE: 04/23/2021 APP# 03-121106 FILE # 15-6 PTN# 63321-375 **CONSULTANT** FERRANTI ENGINEERING CONSULTING **ELECTRICAL ENGINEERS** 1211 MARICOPA HWY, SUITE 263 OJAI, CA 93023 (805) 705-4772 DALEFERRANTI@LIVE.COM BAKERSFIELD CITY SCHOOL ROOSEVELT **ELEMENTARY SCHOOL** FIRE ALARM PANEL REPLACEMENT 2324 VERDE STREET BAKERSFIELD, CALIFORNIA 93306  $\triangleleft$ В DATE: **REVISIONS:** 

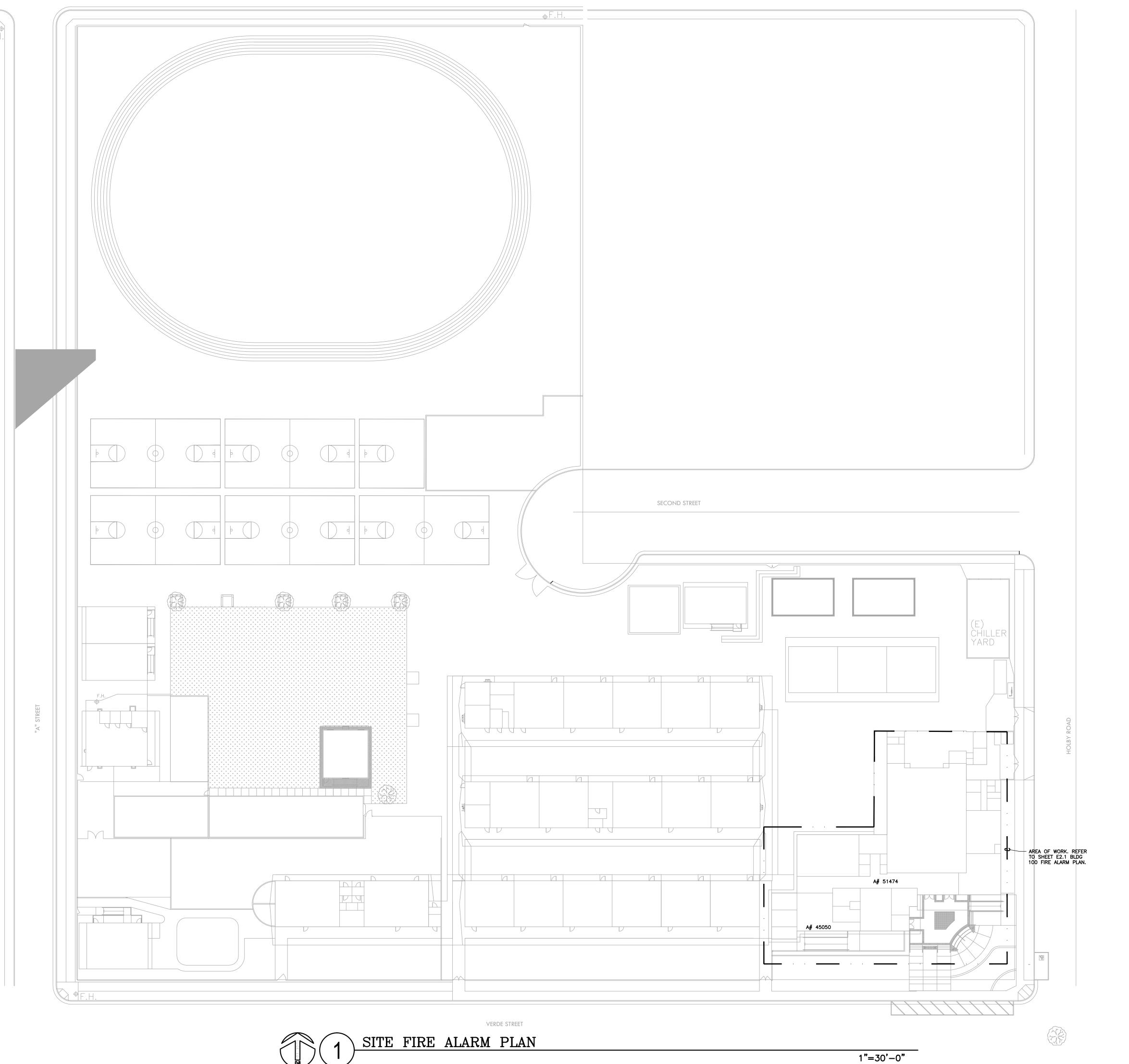
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3/19/2021

DRAWN: D.FERRANTI

DATE:

JOB NO.



SHEET NOT

1. CONTRACTOR SHALL CALL UNDERGROUND SERVICE ALERT AT 811 TO LOCATE UNDERGROUND UTILITIES AT LEAST 2 WORKING DAYS PRIOR TO DIGGING. CONTRACTOR SHALL FIELD VERIFY LOCATION AND DEPTH OF EXISTING IMPROVEMENTS PRIOR TO START OF CONSTRUCTION.

VERIFY LOCATION OF ALL BUILDINGS AND APPENDITURES ON ARCHITECTURAL AND CIVIL PLANS.
 FIELD VERIFY LOCATION ON ALL UNDERGROUND UTILITIES PRIOR TO TRENCHING. SCHEDULE AND COORDINATE ALL SITE WORK WITH OWNER PRIOR TO ANY TRENCHING.

4. CONTRACTOR SHALL VERIFY LOCATION & REQUIREMENTS OF ALL DEVICES/EQUIPMENT REQUIRING ELECTRICAL CONNECTION PRIOR TO BID PROPOSAL, ROUGH—IN, AND FINISH.

5. CONTRACTOR SHALL, IN ROUTING ALL CIRCUITS, INCREASE CONDUCTOR & CONDUIT SIZE TO ALLOW FOR VOLTAGE DROP SHOULD THE CONTRACTOR EXCEED ROUTING INDICATED ON DRAWINGS. ENGINEER OF RECORD MUST BE NOTIFIED PRIOR TO ANY DEVIATIONS FROM APPROVED PLAN CHECK (PERMIT SET) DRAWINGS.

6. ALL 90 DEGREE CONDUIT BENDS AND RISERS SHALL BE PVC COATED RIGID STEEL.

7. CONTRACTOR SHALL COORDINATE AND PROVIDE ALL SITE ELECTRICAL SERVICE REQUIREMENTS WITH SERVING UTILITY.

8. ALL SERVICE ENTRANCE EQUIPMENT SHOP
DRAWINGS SHALL BE SUBMITTED TO THE LOCAL UTILITY
COMPANY FOR APPROVAL, WITH WRITTEN APPROVAL
RECEIVED PRIOR TO SUBMISSION TO ELECTRICAL
ENCINEER FOR APPROVAL

9. VERIFY LOCATION OF ALL EQUIPMENT ON ARCHITECTURAL AND CIVIL PLANS.

10. MINIMUM CONDUIT BURIAL DEPTH IS 24", 36" MINIMUM BELOW STREETS AND PARKING LOTS. FOR 0-600 VOLT SYSTEMS.

11. PROVIDE CODE SIZED EQUIPMENT GROUNDING CONDUCTORS IN ALL OCCUPIED CONDUITS.12. 1" CONDUIT MINIMUM UNDERGROUND.

13. COORDINATE WORK WITH OTHER TRADES. OBTAIN ALL DRAWINGS THAT WILL REQUIRE COORDINATION AND PROVIDE ALL ELECTRICAL CONNECTIONS, DEVICES, AND WIRING REQUIRED. WHETHER SHOWN ON THE ELECTRICAL DRAWINGS OR NOT.

14. CONTRACTOR SHALL FURNISH AND INSTALL PULL BOXES AS REQUIRED TO INSTALL CONDUCTORS PER CONDUCTOR MANUFACTURERS RECOMMENDATIONS, PER THE NATIONAL ELECTRICAL CODE, AND PER LOCAL AUTHORITIES HAVING JURISDICTION.

15. FIELD CONDITIONS GOVERN DEMOLITION AND NEW CONSTRUCTION. CONTRACTOR SHALL VERIFY ACTUAL CONDITIONS PRIOR TO START OF WORK. THE ARCHITECT/ENGINEER SHALL BE NOTIFIED OF POSSIBLE FIELD PROBLEMS PRIOR TO DEMOLITION. CONTRACTOR SHALL NOTIFY DISTRICT REPRESENTATIVE OF WORK BEING PERFORMED. COORDINATE WITH DISTRICT REPRESENTATIVE.

16. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH DIMENSIONED NYLON PULL STRING.

17. CONTRACTOR SHALL FIELD VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO ANY EXCAVATION OR TRENCHING. CONTRACTOR SHALL PROTECT ALL EXISTING/REMAINING UTILITIES IN PLACE. CONTRACTOR, AT HIS SOLE EXPENSE, SHALL REPAIR ANY UTILITY SYSTEMS DAMAGED DURING CONSTRUCTION.

18. VERIFY AND PROVIDE ALL UTILITY SYSTEMS PER SERVING UTILITY STANDARD REQUIREMENTS.
19. CONTRACTOR SHALL PROVIDE CONCRETE ENCASEMENT AT ALL VERIZON COMPANY CONDUIT BENDS PER VERIZON COMPANY REQUIREMENTS.

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT APP: 03-121106 INC:
REVIEWED FOR SS FLS ACS DATE: 04/23/2021

APP# 03-121106 FILE # 15-6

PTN# 63321-375 CONSULTANT



## FERRANTI ENGINEERING

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BAKERSFIELD CITY SCHOOL DISTRICT



ROOSEVELT
ELEMENTARY SCHOOL
FIRE ALARM PANEL
REPLACEMENT

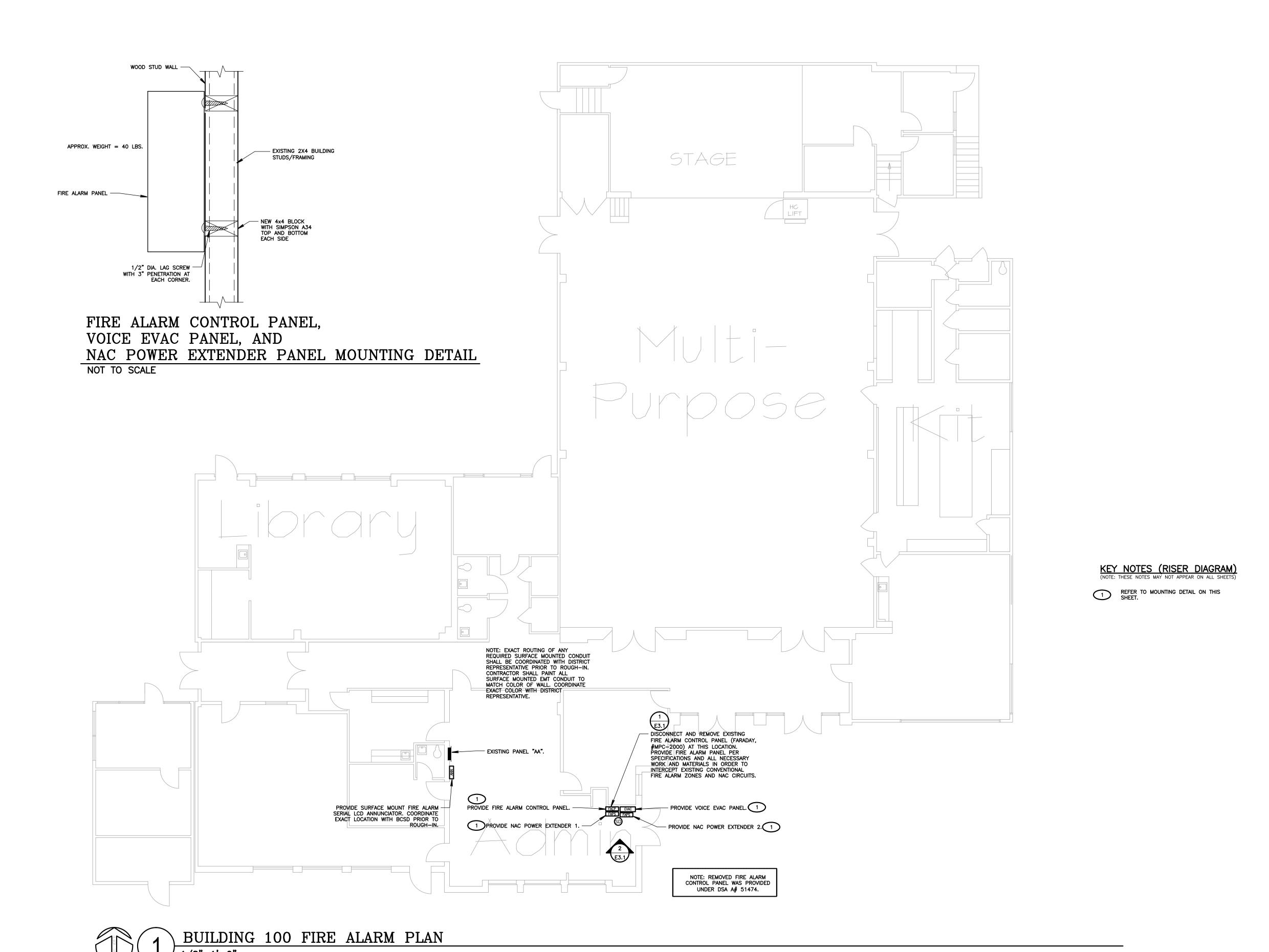
2324 VERDE STREET BAKERSFIELD, CALIFORNIA 93306

DATE:

REVISIONS:

DATE: 3/19/2021
DRAWN: D.FERRANTI
JOB NO.

**E2.0** 



AGENCY INFORMATION: IDENTIFICATION STAMP DIV. OF THE STATE ARCHITEC APP: 03-121106 INC: REVIEWED FOR SS 🗹 FLS 🗹 ACS 🗹 APP# 03-121106 FILE # 15-6 PTN# 63321-375 CONSULTANT FERRANTI ENGINEERING CONSULTING
ELECTRICAL ENGINEERS
1211 MARICOPA HWY,
SUITE 263
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(805) 705-4772
DALEFERRANTI@LIVE.COM BAKERSFIELD CITY SCHOOL DISTRICT **ROOSEVELT ELEMENTARY SCHOOL FIRE ALARM PANEL REPLACEMENT** 2324 VERDE STREET BAKERSFIELD, CALIFORNIA 93306 BLD DATE: **REVISIONS:** 3/19/2021 DATE: DRAWN: **D.FERRANT**I JOB NO. Ferranti Engineeri party shall hold shall be at user'

F.A. SYSTEM WIRE SCHEDULE								
TAG	CONDUCTORS	CONDUCTORS DEVICE/FUNCTION INTERIOR INSTA		EXTERIOR INSTALLATION				
٧	2#12, THWN/THHN	VISIBLE NOTIFICATION DEVICES—STROBE LIGHTS	MIN. 3/4" CONDUIT	MIN. 1" CONDUIT				
Z	1-PAIR #16 TWISTED, SHIELDED PAIR WEST PENN AQC294 (BLDG. EXTERIOR & UNDERGROUND)  1-PAIR #16 TWISTED, WEST PENN D990 (BLDG. INTERIOR)	CAMPUS/BLDG. SLC INTELLIGENT LOOP INITIATING DEVICES (PULL STATIONS, SMOKE AND HEAT DETECTORS, WATER FLOW AND TAMPER SWITCHES, MONITOR AND CONTROL MODULES, ETC.)	MIN. 3/4" CONDUIT	MIN. 1" CONDUIT				
Р	2#14, THWN/THHN	DEVICE POWER-24VDC	MIN. 3/4" CONDUIT	MIN. 1" CONDUIT				
Α	1-PAIR #16 TWISTED SHIELDED PAIR, WEST PENN AQC294 (BLDG. EXTERIOR & UNDERGROUND) 1-PAIR #16 TWISTED SHIELDED PAIR, WEST PENN 991. (BLDG. INTERIOR).	AUDIBLE NOTIFICATION DEVICES—SPEAKERS	MIN. 3/4" CONDUIT	MIN. 1" CONDUIT				

# FIRE ALARM LEGEND

1A2, 2V1, 1Z1 <sup>⊥</sup>

F.A. SYSTEM WIRING, TAG IDENTIFIES THE FOLLOWING: FIRST NUMBER INDICATES QUANTITY OF LOOPS OR CIRCUITS; LETTER NOTATION INDICATES TYPE OF LOOP OR CIRCUIT, INCLUDING CONDUCTOR REQUIREMENTS, PER "F.A. SYSTEM WIRE SCHEDULE" ON THIS SHEET; NUMBER AFTER LETTER INDICATES LOOP NUMBER.

AUDIBLE CIRCUIT -A1 -O-NO. 1 VISIBLE CIRCUIT -NO. 1 DEVICE I.D. -NO. INTELLIGENT LOOP NO. -

DENOTES F.A. DEVICE CONNECTED TO NOTIFICATION CIRCUITS, OR INTELLIGENT LOOP CIRCUITS AND CONSECUTIVE DEVICE

	RETURN AIR GRILLES.
2.	FINAL FIRE ALARM TEST OF ALL DEVICES SHALL BE WITNESSED BY THE PROJECT INSPECTOR. TEST SHALL INCLUDE ALL INFORMATION PER NFPA 72, FIGURE 14.6.2.4 AND READ OUT VERIFICATION FORM FROM CENTRAL

1. SMOKE DETECTORS SHALL BE INSTALLED 3' AWAY FROM SUPPLY AND

**GENERAL NOTES** 

STATION. TEST SHALL ALSO BE WITNESSED BY THE LOCAL AUTHORITY HAVING JURISDICTION (A.H.J.). 3. UNDERGROUND AND EXTERIOR CONDUITS WILL HAVE WATER-TIGHT

- FITTINGS (C.E.C. 110.11 AND 300.6). 4. AUDIBLE DEVICE(S) SHALL BE AT LEAST 15dbA ABOVE AVERAGE AMBIENT
- SOUND LEVEL BUT NOT LESS THAN 75dbA AT 10' OR MORE THAN 110 dba in total, Throughout! (NFPA 72 18.4.1 AND C.F.C. 907.6.2).
- AUDIBLE DEVICES SHALL SOUND THE CALIFORNIA CODE IN TEMPORAL PATTERN, CODE 3.
- 6. VISUAL DEVICES SHALL NOT EXCEED TWO FLASHES PER SECOND AND SHALL NOT BE SLOWER THAN ONE FLASH PER SECOND. (NFPA 72
- PROVIDE AN ENGRAVED NAMEPLATE INDICATING THE D.S.A. APPLICATION NUMBER, FILE NUMBER AND DATE OF INSTALLATION AT FIRE ALARM POWER EXPANDER PANEL. WHITE LETTERS ON A RED BACKGROUND. B. PROVIDE A COPY OF THE BATTERY CALCULATION AT THE FIRE ALARM POWER EXPANDER PANEL. BATTERY CALCULATION SHALL CONTAIN INFORMATION AS NOTED ON SCHEDULES AND BE PLASTIC LAMINATED. MOUNT ONTO INSIDE FACE OF DOOR.
- 9. MORE THAN TWO VISIBLE NOTIFICATION APPLIANCES OR GROUPS OF SYNCHRONIZED APPLIANCES IN THE SAME ROOM OR ADJACENT SPACE WITHIN THE FIELD OF VIEW SHALL FLASH IN SYNCHRONIZATION (NFPA 72
- 10. THE AUTOMATIC ALARM SYSTEM SHALL BE INSTALLED, TESTED AND MAINTAINED IN ACCORDANCE WITH THE STATE FIRE MARSHAL'S REGULATIONS (C.F.C. 907.9).
- 11. THE FIRE ALARM SYSTEM SHALL CONFORM TO ARTICLE 760 OF THE CALIFORNIA ELECTRICAL CODE, CURRENT CALIFORNIA TITLE 24 REQUIREMENTS, CALIFORNIA FIRE CODE, NFPA 72 AND 101 STANDARDS, AMERICAN WITH DISABILITY ACT (ADA) REQUIREMENTS.
- 12. DRAWINGS DO NOT SHOW ALL THE NECESSARY J-BOXES AND PULL BOXES WHICH WILL BE REQUIRED THROUGHOUT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ALL THESE BOXES AS NECESSARY TO TERMINATE CONDUITS AND RACEWAYS. PAINT BOXES TO MATCH COLOR OF THE FINISHED BUILDING WALLS.
- ALL JUNCTIONS BOXES AND DEVICES INDICATED ON BUILDING EXTERIORS SHALL BE WEATHERPROOF TYPE.
- 14. FIRE ALARM WIRES SHALL BE COPPER TYPE THWN/THHN.
- 15. ALL SIGNAL WIRING IN UNDERGROUND CONDUITS SHALL BE WET LOCATION
- 16. WHEN ALL FIRE ALARM DEVICES ARE INSTALLED AND PROGRAMMING IS COMPLETE, PROVIDE A FIRE ALARM DEVICE MAP IN THE SCHOOL MAIN OFFICE TO INDICATE TO SCHOOL PERSONNEL THE LOCATIONS OF THE
- 17. JUNCTION BOXES SHALL NOT CONTAIN SPLICES. CONDUCTORS SHALL BE PULLED THROUGH. TERMINATIONS SHALL BE PERFORMED.
- 18. ALL EXPOSED CONDUITS AND BOXES SHALL BE PAINTED TO MATCH THE SURFACE WHERE INSTALLED.

		FIRE ALARM EQUIPME	ENT SPECIFIC	CATIONS SCH	EDULE		
SYMBOL	MODEL. NO	DESCRIPTION	MANUFACTURER	CSFM. LISTING #	BACKBOX REQUIREMENTS	MOUNTING HEIGHT (TO CENTER U.O.N.)	REMARKS
FACP	FIRENET 4127	FIRE ALARM CONTROL PANEL W/ DIGITAL ALARM COMMUNICATOR FN-DAC	НОСНІКІ	7165-0410:159			
EVAC	EVAX-50-4	VOICE EVAC PANEL (50W, 4-ZONES)	HOCHIKI	6911-0410:176			
ANN	FN-LCD-S	SERIAL LCD ANNUNCIATOR	НОСНІКІ	7120-0410:165			
FAPS	FN-642-ULADA	NAC POWER EXTENDER	HOCHIKI	7315-0410:0166			
<b>©</b>	ALN-V HSB-NSA-6	ADDRESSABLE SMOKE DETECTOR W/6" BASE	HOCHIKI	7272-0410:0204 7300-0410:0132	4" SQ. X. 2 1/8" DP. OUTLET BOX WITH S.G. RAISED RING		
C	DCP-CZM	CONVENTIONAL ZONE MODULE	НОСНІКІ	7300-0410:150	4" SQ. X. 2 1/8" DP. OUTLET BOX		
E R		END OF LINE RESISTOR			4" SQ. X 2 1/8" DP. OUTLET BOX		

CODE, RULES & REGULATIONS

ALL FIRE ALARM CIRCUITS SHALL BE CONTINUOUS FROM DEVICE TO DEVICE. SPLICES ARE NOT ALLOWED UNLESS IN COVERED JUNCTION BOXES ON APPROVED TERMINAL BLOCKS. 'T' TAPPING IS ALLOWED ONLY UNDER THESE CONDITIONS.

					SEQU	IENC	E OF	OPE	RATIC	DNS									
			SOUND FACP TROUBLE BUZZER (ALARM, TROUBLE OR SUPERVISORY)	ANNUNCIATE AT REMOTE FIRE ALARM ANNUNCIATOR (ALARM, TROUBLE OR SUPERVISORY)	ACTIVATE RELAY FOR CENTRAL STATION MONITORING. (ALARM, TROUBLE OR SUPERVISORY)	ACTIVATE AUDIBLEVISUAL ALARM SIGNAL THROUGHOUT BUILDING.	ANNUNCIATE/DISPLAY FIRE ALARM SIGNAL AT FACP	ANNUNCIATE/DISPLAY TROUBLE SIGNAL AT FACP						SYSTEM WILL BE 100% OPERATIONAL (UP TO 24 HOURS) ON BATTERY BACKUP					SHILL DOWN AIR HAND! ER!INITS
		А	В	С	D	E	F	G	Н	I	J	К	L	М	N	0	Р	Q	R
1	MANUAL PULL STATIONS		•	•	•	•	•												
2	SMOKE DETECTORS		•	•	•	•	•												<u>ا</u>
3	FIRE ALARM SYSTEM AC POWER FAIL		•	•	•			•						•					
4	FIRE ALARM SYSTEM LOW BATTERY		•	•	•			•											
5	OPEN CIRCUIT		•	•	•			•											
6	GROUND FAULT		•	•	•			•											
8	HEAT DETECTORS		•	•	•	•	•												
9	NOTIFICATION CIRCUIT SHORT		•	•	•			•											
10																			

	NOTE	pe d	$  \checkmark  $	
L WORK AND MATERIALS SHALL COMPLY WITH THE LATEST REGULATIONS OF THE STATE REPORT OF THE STATE REPORT OF THE STATE REPORT OF THE STATE	AUTOMATIC FIRE ALARM SYSTEMS SHALL TRANSMIT THE ALARM, SUPERVISORY AND TROUBLE SIGNALS TO AN APPROVED SUPERVISING STATION AS REQUIRED BY NFPA 72 AS AMENDED BY ARTICLE 91. THE SUPERVISING STATION SHALL BE LISTED AS EITHER UUFX OR UUJS BY UNDERWRITERS LABORATORY OF SHALL MEET THE REQUIREMENTS OF	pians. These plans s incorporated her	E AL	
FIRE ALARM LEVEL OF	FACTORY MUTUAL RESEARCH APPROVAL STANDARD 3011. SUPERVISION OF SYSTEM AND LEASED TELEPHONE LINES SHALL BE ARRANGED BY OWNER.	hese plations	FIR	
AUDIBILITY	COMPLETE AUTOMATIC FIRE	its in these	S,	
ARM INDICATING DEVICES OF A FIRE ALARM SYSTEM INTENDED TO ALERT ALL CCUPANTS SHALL BE SO LOCATED AND UNOBSTRUCTED AS TO CAUSE A LEVEL OF	ALARM PLAN SUBMITTAL	ty rights ns and	<u>TE</u>	
IDIBILITY OF NOT LESS THAN 15db ABOVE AMBIENT NOISE LEVELS MEASURED FOUR ET ABOVE THE FLOOR INSIDE BUILDING.  IBIENT NOISE LEVELS SHALL BE CONSTRUED TO MEAN THAT WHICH CAN NORMALLY BE	THE FIRE ALARM SYSTEM SHOWN ON THESE PLANS HAS BEEN SUBMITTED AND APPROVED BY THE DIVISION OF THE STATE ARCHITECT. ANY SUBSTITUTION OF THE FIRE ALARM SYSTEM SHALL BE RESUBMITTED TO THE ARCHITECT FOR REVIEW AND APPROVAL.	r property		
PECTED TO EXIST WHEN THE FACILITY, BUILDING, ROOM OR AREA IS FUNCTIONING IDER NORMAL OPERATIVE OR WORKING CONDITIONS.	THE CONTRACTOR SHALL PAY ANY ADDITIONAL FEES THAT ARE INCURRED DUE TO THIS SUBSTITUTION.	and other cluding the	$\geq$	
IE FIRE ALARM SIGNAL SHALL COMPLY WITH THE CALIFORNIA EDUCATION CODE, CTIONS 32000 AND 32004, AND BE A TEMPORAL PATTERN, CODE 3.	THE FIRE ALARM SYSTEM SHALL BE A TOTAL (COMPLETE) AUTOMATIC HEAT AND SMOKE DETECTION SYSTEM, PER C.F.C SECTION 907.2.3.6, AND SHALL COVER EVERY ROOM AND/OR AREA. UPON THE ACTIVATION OF ANY INITIATION DEVICE THE FIRE ALARM SYSTEM SHALL ALERT ALL OCCUPANTS AND TRANSMIT THE ALARM, SUPERVISORY, AND TROUBLE	ght an ;, inclu	S	REVISIONS:
FIDE ALADMA OVOTEM	SIGNALS TO AN APPROVED SUPERVISING STATION (C.F.C. SECTION 907.2.3.5).	law, copyright e drawings, in	ΓA	
FIRE ALARM SYSTEM	SCHOOLS FIRE ALARM	n law, nese dr	E A	
INSTALLATION NOTES  ALL DRAWINGS ARE DIAGRAMMATIC ONLY, AND SHALL NOT BE USED IN	REQUIREMENTS	commo less. Tr	원	
DETERMINING ACTUAL CONDUIT ROUTING. THE CONTRACTOR SHALL VERIFY ALL CONDUIT ROUTING CONDITIONS AT THE PROJECT SITE AS CONSTRUCTION PROGRESSES.	THE FIRE ALARM SYSTEM SHALL CONFORM TO CALIFORNIA BUILDING CODE, SECTION 907.2.3; CALIFORNIA ELECTRICAL CODE, ARTICLE 760 AND CALIFORNIA FIRE CODE, CHAPTER 9, SECTION 907.	es its harml	Щ	
ALL FIRE ALARM DATA COMMUNICATIONS AND INITIATING CIRCUITS SHALL BE INSTALLED UTILIZING SOLID COPPER CONDUCTORS WITH OUTER COVERING COLORS PER THE SPECIFICATIONS AND AS SHOWN ON THE DRAWINGS. ALL	UPON COMPLETION OF THE INSTALLATION OF THE FIRE PROTECTIVE SIGNALING EQUIPMENT, A SATISFACTORY TEST OF THE ENTIRE SYSTEM SHALL BE MADE IN THE PRESENCE OF THE AUTHORITY HAVING JURISDICTION, NFPA 72. IF TESTING RESULTS	y reserv jineering	DA'	TE: 3/19/2021 AWN: <b>D.FERRANT</b> I
SMOKE DAMPER AND REMOTE TROUBLE INDICATOR CIRCUITS SHALL BE YELLOW. ALL CIRCUITS SHALL BE INDIVIDUALLY LABELED, BOTH AT THE DEVICE END AND AT THE SIGNAL TERMINAL CABINET AND/OR FIRE ALARM MASTER PANEL TERMINATION POINT.	DETERMINE FIRE ALARM AUDIBILITY DOES NOT MEET 15db OVER AMBIENT NOISE LEVELS, ADDITIONAL FIRE ALARM SIGNALING DEVICES MAY BE REQUIRED BY THE AUTHORITY HAVING JURISDICTION.	expressly anti Engin		B NO.
TABLE TERMINATION FORTH		ı ₩₽ <u></u>	1	

FIRE ALARM SYSTEM CERTIFICATION AND DESCRIPTION SHALL BE PROVIDED FOR TESTING AND A PLASTIC LAMINATED COPY SHALL REMAIN (WITH INSTRUCTIONS) AT THE FIRE ALARM CONTROL PANEL PER NFPA 72.

THE FIRE ALARM "RECORD OF COMPLETION" FORM, FIGURE 10, 18, 2, 1 IN NFPA 72, SHALL BE COMPLETED, SIGNED AND SUBMITTED TO THE SCHOOL DISTRICT AND THE LOCAL AUTHORITY (K.C.F.D.) HAVING JURISDICTION AT THE COMPLETION OF THE TEST.

FIRE ALARM MONITORING

AGENCY INFORMATION:

APP# 03-121106

FILE # 15-6

PTN# 63321-375

CONSULTANT

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IDENTIFICATION STAMP

DIV. OF THE STATE ARCHITECT

REVIEWED FOR

SS 🗹 FLS 🗹 ACS 🗹

APP: 03-121106 INC:

DATE: 04/23/2021

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**BAKERSFIELD CITY SCHOOL** 

**DISTRICT** 

**ROOSEVELT** 

**ELEMENTARY SCHOOL** 

FIRE ALARM PANEL

REPLACEMENT

2324 VERDE STREET BAKERSFIELD, CALIFORNIA 93306

E3.0

DATE:

DEVICE	PANE	≣L	FACP				
DESCRIPTION	STAND-BY (mA)	ALARM (mA)	QUANTITY	STAND-BY (mA)	ALARN (mA)		
FIRE ALARM CONTROL PANEL (2-LOOPS)	350	620	1	350	62		
DIGITAL ALARM COMMUNICATOR	20	20	1	20	2		
SERIAL LCD ANNUNCIATOR	20	110	1	20	11		
CONVENTIONAL ZONE MODULE	0.67	0	6	4.02			
SMOKE DETECTORS	0.45	0.54	1	0.45	0.5		
TOTALS (AMPS):				l(s) 0.394	l(a) 0.751		
Amp Hour:				11.59			
Battery to be provided -				18.0			

DEVICE	PANI	≣L	FACP				
DESCRIPTION	STAND-BY (mA)	ALARM (mA)	QUANTITY	STAND-BY (mA)	ALARM (mA)		
FIRE ALARM REMOTE POWER SUPPLY	130	130	1	130	130		
EXISTING NAC CIRCUIT #1	0	590	1	0	590		
EXISTING NAC CIRCUIT #2	0	150	1	0	150		
EXISTING NAC CIRCUIT #3	0	470	1	0	470		
EXISTING NAC CIRCUIT #4	0	490	1	0	490		
TOTALS (AMPS):				I(s) 0.130	I(a) 1.830		
Amp Hour:				4.29			
Battery to be provided -				7.0			

DEVICE	PANI	EL	FACP				
DESCRIPTION	STAND-BY (mA)	ALARM (mA)	QUANTITY	STAND-BY (mA)	ALARM (mA)		
FIRE ALARM REMOTE POWER SUPPLY	130	130	1	130	130		
EXISTING NAC CIRCUIT #5	0	280	1	0	280		
TOTALS (AMPS):				I(s) 0.130	I(a) 0.410		
Amp Hour:  Battery to be provided -				7.0			

FORMULAS USED FOR CALCULATIONS:

FORMULA FOR BATTERY SIZING: FOR FACP/FAPS/DPM — 24 HOURS STANDBY & 15 MIN IN ALARM: AMP HOUR = 1.20 [(24 HOURS X I(S)) + (15/60 HOUR X I(A))]

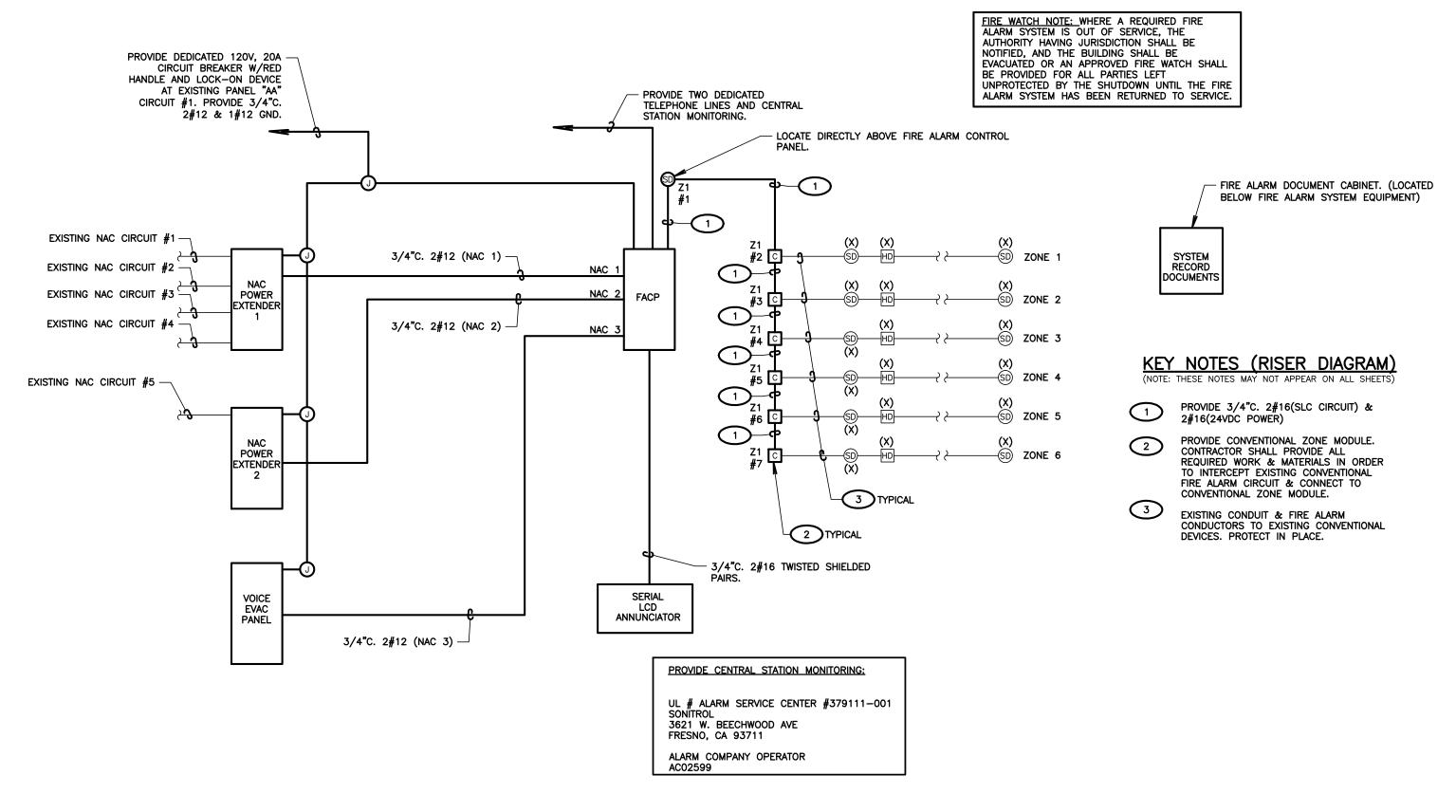
WHERE,
1.20 = BATTERY DERATING VALUE
I(S) = TOTAL SUPERVISORY CURRENT (0 FOR NOTIFICATION DEVICES AND 48 mA FOR FCPS-24)
I(A) = TOTAL ALARM CURRENT

FORMULA FOR VOLTAGE DROP CALCULATIONS

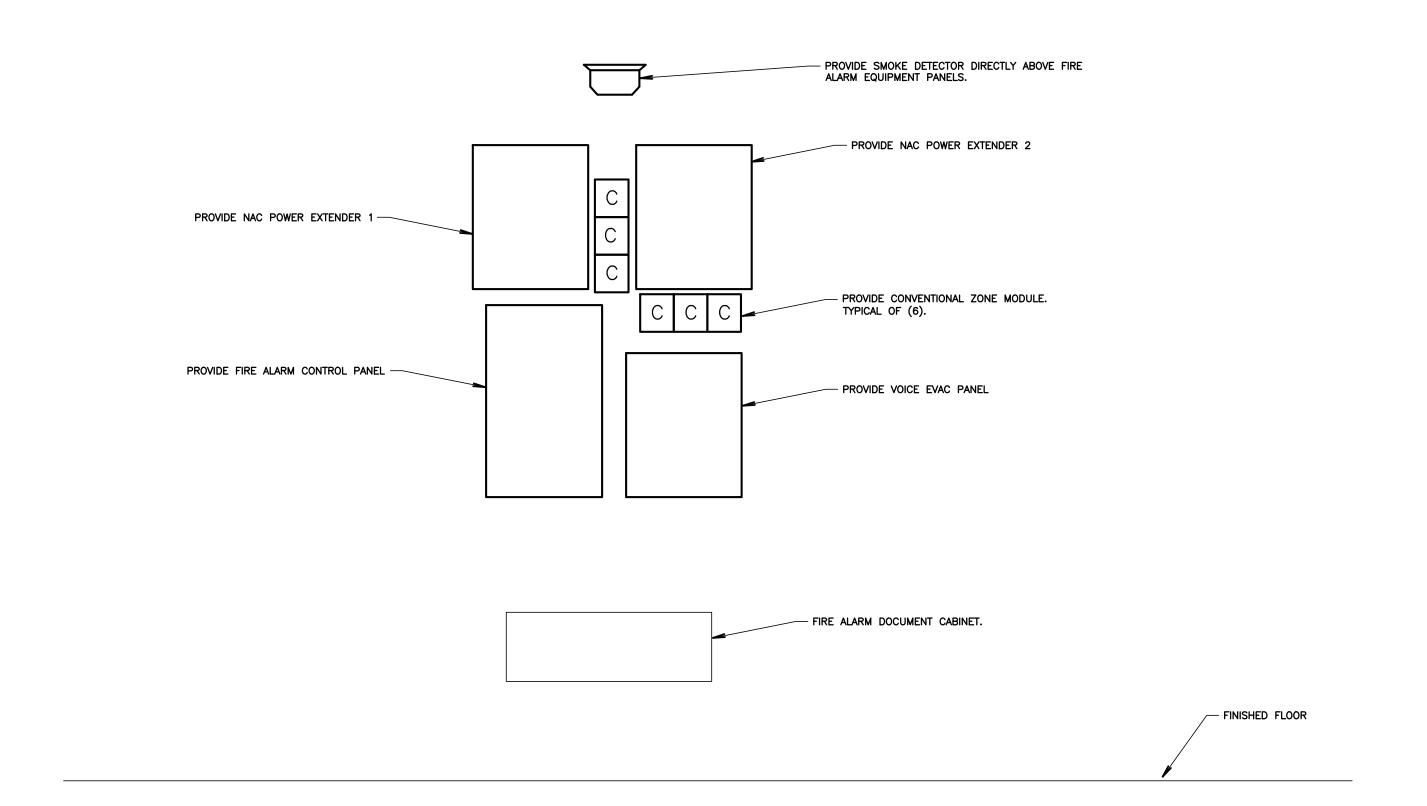
TOTAL DC RESISTANCE = # OF WIRES X Rdc/1000 X ONE-WAY LOOP LENGTH FROM POWER SUPPLY TO MIDDLE OF LOAD TOTAL VD = TOTAL DC RESISTANCE X TOTAL ALARM CURRENT

MINIMUM VOLTAGE AT DEVICES = 20.4V - TOTAL VD20.4V = MINIMUM VOLTAGE AT END OF USEFUL BATTERY LIFE (85% OF 24VDC)

NOTE:
THE MANUFACTURER'S OPERATING VOLTAGE IS BETWEEN 16VDC AND 33 VDC (FOR 24VDC NOMINAL)

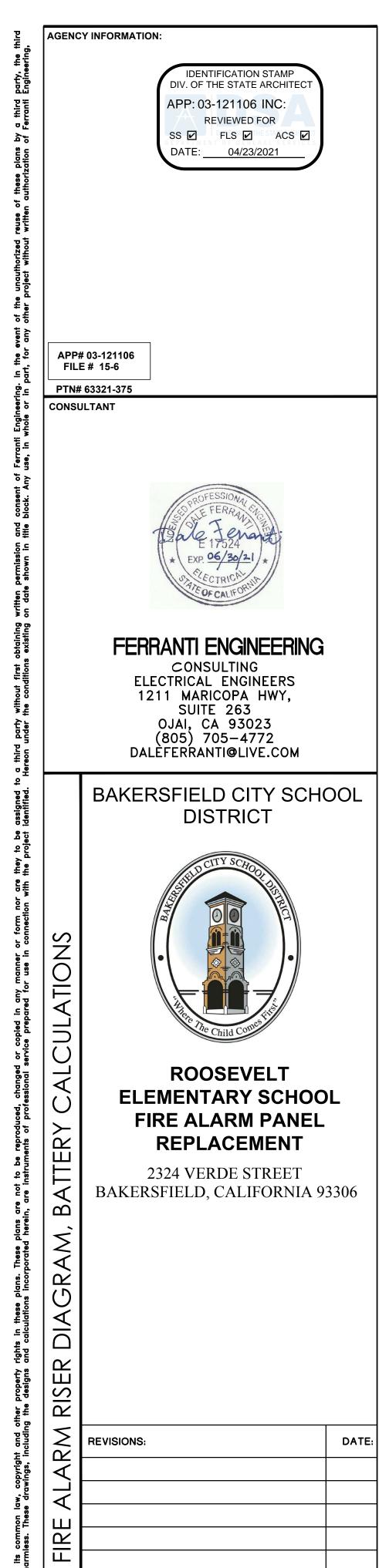


1 FIRE ALARM RISER DIAGRAM
SCALE: NOT TO SCALE



FIRE ALARM PANEL ELEVATION

SCALE: NOT TO SCALE



DATE: 3/19/2021

DRAWN: **D.FERRANT**I

JOB NO.