NORMAL LIGHTING FIXTURE SCHEDULE

SYMBOL	TYPE	MANUFACTURER CATALOG	LAMP TYPE & LUMENS	BALLAST/DRIVER TYPE	FIXTURE WATTAGE	VOLTS	REMARKS
4 5E0.62	S1 22	VISIONAIRE LIGHTING #OWK-2-8R42-COG-22W-3K-UNV-AB -CC(RAL 7043)-VRB NO SUBSTITUTIONS. MATCH PRODUCT TYPE FROM PREVIOUS PHASE.	LED 800 LUMENS 3,000 °K +80 CRI	LED ELECTRIC	22	120/277V	8" DIAMETER x 42" TALL LED ROUND BOLLARD, WITH OPTICAL LOUVERS. WATER PROOF INTEGRAL DRIVER. DARK GREY RAL 7043
8 5E0.62	S4 13	LIGMAN LIGHTING #ULE-40621-13.5W-W30-O2-120/277 NO SUBSTITUTIONS. MATCH PRODUCT TYPE FROM PREVIOUS PHASE.	LED 1,151 LUMENS 3,000 °K 80 CRI	LED ELECTRIC	13.5	120/277V	RECESSED LED STEP LIGHT WITH ANGLED LENS. ALUMINUM BODY. HIGH IMPACT INTEGRAL DRIVER. DARK GREY FINISH RAL #7043

EMERGENCY LIGHTING FIXTURE SCHEDULE

SYMBOL	TYPE	MANUFACTURER CATALOG	LAMP TYPE & LUMENS	BALLAST/DRIVER TYPE	FIXTURE WATTAGE	VOLTS	REMARKS
4 5E0.62	S1 22	VISIONAIRE LIGHTING #OWK-2-8R42-COG-22W-3K-UNV-AB -CC(RAL 7043)-VRB NO SUBSTITUTIONS. MATCH PRODUCT TYPE FROM PREVIOUS PHASE.	LED 800 LUMENS 3,000 °K +80 CRI	LED ELECTRIC	22	120/277V	8" DIAMETER x 42" TALL LED ROUND BOLLARD, WITH OPTICAL LOUVERS. WATER PROOF INTEGRAL DRIVER. DARK GREY RAL 7043
5 5E0.62	S2 53	LIGMAN LIGHTING #UHAM-20001-53W-T2-W30-02-120/277V-F POLE# APD-RSA-4518-11'-4.5"DIA.188"-SC76-02 NO SUBSTITUTIONS. MATCH PRODUCT TYPE FROM PREVIOUS PHASE.	LED 6,273 LUMENS 3,000 °K +80 CRI	LED ELECTRIC	53	120/277V	POLE / RENON MOUNTED LED FIXTURE STRAIGHT ARM, ROUND/CONICAL SHAPE, DOMED TO, SS FASTNERS, FROSTED LENS, TYPE II DIST. ROUNDS STRAIGHT POLE, 11' TALL 4.5" DIAMETER. COORDINATE TENON WITH FIXTURE. SHIM LEVEL PER MANUFACTURE. FIXTURE AND POLE DARK GREY FINISH RAL #7043
7 5E0.62	S3 18	LIGMAN LIGHTING #UCI-30131-18W-*-W30-02-120/277-F NO SUBSTITUTIONS. MATCH PRODUCT TYPE FROM PREVIOUS PHASE.	LED 2,309 LUMENS 3,000 °K +80 CRI	LED ELECTRIC	18	120/277V	CONICAL SHAPED WALL MOUNTED LED FIXTURE. * DISTRIBUTION PER PLAN DRAWING. VANDAL RESISTANT. TAMPERED GLASS LENS. SEALED AND GASKETED. DARK GREY FINISH RAL #7043. IP65 RATED. PROVIDE WITH OCC SENSOR WHERE INDICATED ON PLANS.
8 5E0.62	S4 13	LIGMAN LIGHTING #ULE-40621-13.5W-W30-O2-120/277 NO SUBSTITUTIONS. MATCH PRODUCT TYPE FROM PREVIOUS PHASE.	LED 1,151 LUMENS 3,000 °K 80 CRI	LED ELECTRIC	13.5	120/277V	RECESSED LED STEP LIGHT WITH ANGLED LENS. ALUMINUM BODY. HIGH IMPACT INTEGRAL DRIVER. DARK GREY FINISH RAL #7043
7 5E0.62	S5 25	RAYON LIGHTING T622LEDB-WS3-UNV-CTS-MTO(RAL 7043) OR EQUAL	LED 2600 LUMENS 3,000 °K 80 CRI	LED ELECTRIC	25	120/277V	MINI LED WALL PACK. DIE CAST ALUMINIUM HOUSING. TEXTURED POWDERCOAT FINISH. UV-RESISTANT POLYCARBONATE LENS.
3 5E0.62	S6 25	ARCHITECTURAL AREA LIGHTING #RN-D-R4-4-7-3K8-SM-DL-UNV-TBD -W-EMF1 OR APPROVED EQUAL	LED 3,325 LUMENS (750L/FT) 3,000 °K 80 CRI	LED ELECTRIC	25	120/277V	WALL MOUNTED EXTERIOR 4' LINEAR LED FIXTURE, 2.5" WIDE x 4" HIGH, DIFFUSED WHITE LENS, SYMMETRIC DISTRIBUTION, EXTRUDED ALUMINUM, SINGLE END FEED OPTION. FINISH TO BE DETERMINED BY ARCHITECT.

LIGHTING FIXTURE SCHEDULE

LIGHTING FIXTURE GENERAL NOTES:

1. FIXTURES SHALL HAVE APPROPRIATE UL LABEL, DAMP, OR WET AS REQUIRED BY CODES AND ORDINANCES.
2. LIGHTING FIXTURE CATALOG NUMBERS ARE SERIES TYPE ONLY. PROVIDE ALL NECESSARY HARDWARE AS REQUIRED BY THE SPECIFICATIONS, DRAWINGS, AND PROJECT CONDITIONS FOR A COMPLETE AND OPERABLE INSTALLATION.
3. PRIOR TO ORDERING ANY LIGHTING EQUIPMENT, THE CONTRACTOR SHALL COORDINATE ALL FIXTURE LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLANS AND CEILING CAVITY DEPTHS.
4. CONTRACTOR SHALL VERIFY FIXTURE VOLTAGES AND CEILING TRIM COMPATIBILITY PRIOR TO ORDERING FIXTURE INCLUDING SLOPED CEILING ADAPTERS SUCH THAT RECESSED DOWN LIGHT FIXTURE LENSES ARE INSTALLED FLUSH WITH CEILING.
5. PROVIDE APPROVED FIRE-RATED ENCLOSURES FOR ALL LIGHTING FIXTURES LOCATED IN FIRE-RATED CEILINGS.
6. ENSURE COMPATIBILITY OF ALL LIGHTING SYSTEM COMPONENTS SUCH AS DIMMING SYSTEMS. FIXTURES, LAMPS, BALLAST(S)/ DRIVER(S), DIMMING PROTOCOL, AND DIMMING SYSTEMS/INDIVIDUAL CONTROLS MUST BE FACTORY CERTIFIED COMPATIBLE FOR FULL RANGE OF DIMMING COMPATIBILITY.
7. PROVIDE CLEARANCES FROM COMBUSTIBLES A MINIMUM OF 1/2" (OTHER THAN AT POINTS OF SUPPORT) AND 3" FROM INSULATION FOR RECESSED LIGHTING FIXTURES WHICH MUST BE NON-IC RATED.
8. PROVIDE A MINIMUM OF TWO (2) #12 SUPPORT WIRES ATTACHED TO BUILDING FRAME IN ADDITION TO T-BAR CLIPS FOR FLUORESCENT FIXTURES RECESSED IN SUSPENDED T-BAR CEILING.
9. PROVIDE (4) SHEET METAL SCREWS, ONE INSTALLED IN EACH CORNER OF THE FIXTURE ATTACHING THE FIXTURE TO THE GRID. SCREWS SHALL NOT BE VISIBLE NOR IMPEDE INSTALLATION OF GRID PANELS.
10. PROVIDE DOOR-TO-FRAME AND LENS-TO-DOOR GASKETING, INVERTED LENS, AND FOOD SERVICE RATING FOR ALL FIXTURES LOCATED IN FOOD SERVICE AREAS.
11. FIXTURES SHALL BE ORDERED WITH APPROPRIATE BALLAST(S)/ DRIVER THAT HAVE UL AND CBM LABELS. ALL BALLASTS/ DRIVER MUST CONFORM TO TITLE 24 REQUIREMENTS FOR PERFORMANCE AND EFFICIENCY.
12. ALL FIXTURES, TRIMS, REFLECTORS, AND LAMPS SHALL BE CLEANED FREE FROM DIRT, DUST, LABEL ADHESIVE, AND FINGER PRINTS.
13. ALL LIGHT FIXTURES SHALL BE MOUNTED AND SUPPORTED IN ACCORDANCE WITH OSHA STANDARDS AND ALL LOCAL, STATE, AND NATIONAL ELECTRICAL CODES. PROVIDE ALL REQUIRED SEISMIC BRACING FOR SUSPENDED LIGHT FIXTURES.
14. PROVIDE LIGHT FIXTURE MOUNTING KITS AS REQUIRED TO SUIT THE EXACT TYPE OF CEILING TO WHICH THEY ARE MOUNTED.
15. COORDINATE FIXTURE AND TRIM FINISHES WITH ARCHITECT PRIOR TO ORDERING.
16. EACH DIMMED CIRCUIT SHALL CARRY A SEPARATE NEUTRAL CONDUCTOR WITH TRACER COLOR TO MATCH PHASE CONDUCTOR.
17. ALL NECESSARY EQUIPMENT/ COMPONENTS ARE TO BE PROVIDED BY CONTRACTOR FOR A COMPLETE OPERATING CONTROL SYSTEM. INCLUDING BUT NOT LIMITED TO EMERGENCY LIGHTING, OCCUPANCY SENSOR, DAYLIGHT CONTROLS, AND DIMMING TO MEET ALL REQUIREMENTS OF 2019 CALIFORNIA TITLE 24.
18. ALL LIGHTING FIXTURES INSTALLED SHALL BE COMPATIBLE WITH THE LIGHTING CONTROL DEVICES, INCLUDING BUT NOT LIMITED TO ELV DIMMERS, MLV DIMMERS, 0-10V DIMMERS AND SHALL BE INCLUDED IN THE BID DOCUMENTS.
19. NONRESIDENTIAL, HIGH-RISE RESIDENTIAL AND HOTEL/ MOTEL BUILDINGS SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS OF CALIFORNIA TITLE 24 SECTIONS 130.4(a) THROUGH 130.4(c). A CERTIFICATE OF ACCEPTANCE SHALL BE SUBMITTED TO THE ENFORCEMENT AGENCY UNDER SECTION 10-103(a) OF PART 1 FOR AUTOMATIC DAY LIGHT CONTROLS AND LIGHTING CONTROLS.
20. ELECTRICAL CONTRACTOR SHALL INCLUDE IN HIS BASE BID AND CONTRACT INSTALLATION AND COMMISSIONING OF ALL LIGHTING CONTROLS INCLUDING BUT NOT LIMITED TO OCCUPANCY SENSORS, TIMERS, DIMMING CONTROLS, AND DAY-LIT ZONE CONTROLS. CONTRACTOR IS ALSO REQUIRED TO VERIFY THAT THE LIGHTING CONTROLS ARE ADJUSTED, PROGRAMMED AND FUNCTIONING IN ACCORDANCE WITH THE DESIGN AND MANUFACTURE'S INSTALLATION INSTRUCTIONS.
21. CONTRACTOR IS RESPONSIBLE FOR SUBMITTING DOCUMENTATION ([INSTALLATION FORMS [NRCI]) CERTIFYING THAT THE LIGHTING SYSTEMS ARE IN COMPLIANCE WITH OR EXCEED THE PERFORMANCE REQUIREMENTS. CONTRACTOR SHALL ALSO FURNISH CEC T24 REQUIRED FUNCTIONAL PERFORMANCE TESTING BY A CERTIFIED LIGHTING CONTROLS TEST TECHNICIAN (CALCATT) AND/ OR SUBMIT DOCUMENTATION (ACCEPTANCE FORMS [NRCA]) AS REQUIRED.
22. FOR LED FIXTURES, THE DRIVER, LED AND FIXTURE SHALL BE FULLY UL CERTIFIED AS A SYSTEM, INCLUDING ANY OPTIONAL EMERGENCY BATTERY PACKS, SPECIAL DRIVERS (DIMMING). COMPONENTS LISTED DISCRETELY SHALL NOT BE PERMITTED.
23. ALL LIGHTING CONTROLS AND EQUIPMENT SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS IN CALIFORNIA ENERGY CODE 110.9 AND STALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTION IN ACCORDANCE WITH SECTION 130.1.
24. PHOTOMETRIC TESTING FOR ALL LED FIXTURES SHALL BE FOR IES LM-70-80 AND TEST REPORTS SHALL BE INCLUDED WITH ALL FIXTURES SUBMITTALS.
25. LUMEN MAINTENANCE REPORTS (IES LM-80) REPORTS ARE ALSO REQUIRED WITH ALL LED FIXTURE SUBMITTALS. LM-80 RESULTS ARE TO INCLUDE A MINIMUM OF 10,000 HOURS TESTING AND REFERENCED TO TM-21 FOR TOTAL LUMEN MAINTENANCE. NO EXTRAPOLATED L-70 ESTIMATES WILL BE ACCEPTED.
26. PROVIDE A MINIMUM 5 YEAR WARRANTY ON AN LED FIXTURES.
27. PROVIDE STANDARD DEVIATION OF COLOR MATCHING (SDCM) BASED ON THE MAC ADAM ELLIPSE, AND NUMBER'S OR QUANTITIES OF ELLIPSE VARIATIONS FOR LED COLOR ACCURACY.
28. ALL LED FIXTURES SUBMITTALS SHALL INCLUDE DATA ON LED CHIP MANUFACTURER AND CHIP DATA, AS WELL AS DRIVER MANUFACTURER, DATA AND CUT SHEETS.

LIGHT FIXTURES IN RESIDENTIAL BUILDINGS:

1. LED LIGHT FIXTURES INSTALLED IN RESIDENTIAL BUILDING SHALL MEET THE FOLLOWING RETIREMENTS IN ADDITION TO ANY PERTINENT REQUIREMENTS MENTIONED IN "LIGHTING FIXTURE GENERAL NOTES":
   - LED LIGHTING FIXTURES INSTALLED IN RESIDENTIAL UNIT(S) OR AREA SHALL MEET THE QUALIFICATIONS REQUIREMENTS FOR LED LIGHT SOURCES AS DESCRIBED IN THE JOINT APPENDIX JA8 OF THE TITLE 24 PART 6.
   - LED LIGHTING FIXTURES INSTALLED IN RESIDENTIAL UNIT OR AREA INTENDED FOR GENERAL LIGHTING, SHALL PROVIDE MINIMUM COLOR RENDERING INDEX (CRI) OF 90.
   - LED LIGHTING FIXTURES INSTALLED IN RESIDENTIAL UNIT OR AREA RATED AS HIGH EFFICACY SHALL MEET THE HIGH EFFICACY QUALIFICATION REQUIREMENTS FOR LUMINARIES OR LIGHT ENGINES USING LED LIGHT SOURCES PER TABLE JA-8.
2. LIGHTING FIXTURES INSTALLED IN LOW-RISE RESIDENTIAL BUILDINGS SHALL MEET THE LOW-RISE MANDATORY LIGHTING MEASURE 110.9
3. LIGHTING FIXTURES INSTALLED IN LOW-RISE RESIDENTIAL BUILDINGS SHALL MEET THE LOW-RISE MANDATORY LIGHTING MEASURES 150.0(k)1A - 150.0(k)12B

EMERGENCY LIGHTING NOTES:

1. PROVIDE EMERGENCY REFLECTORS OR HOUSING WHEN OPTION IS AVAILABLE FROM MANUFACTURE TO ALLOW FOR INSTALLATION OF BATTERY PACKS, TEST SWITCHES, PILOT LIGHTS, ETC. WITHIN FIXTURES.
2. WHEN OPTIONAL EMERGENCY REFLECTORS OR HOUSINGS ARE NOT AVAILABLE, REMOTE BATTERY PACKS, TEST SWITCHES, PILOT LIGHTS, ETC. ARE TO BE INSTALLED IN THE MOST CONSPICUOUS LOCATION AS ALLOWED BY CODE AND LOCAL AHJ REQUIREMENTS. COORDINATE LOCATION WITH ARCHITECT AND/OR ELECTRICAL ENGINEER PRIOR TO ANY ROUGH-IN.
3. NOT USED.
4. SHALL BE INSPECTED AND TESTED AS DESCRIBED IN THE 2022CEC SECTION 604.6 AND 604.7.
5. THE BRANCH CIRCUIT FEEDING EMERGENCY EQUIPMENT (EMERGENCY LIGHT WITH SELF-CONTAINED RECHARGEABLE BATTERY) SHALL BE THE SAME BRANCH CIRCUIT AS THAT SERVING THE NORMAL LIGHTING IN THAT AREA.
6. LIGHTING SYSTEMS WITH SELF-CONTAINED RECHARGEABLE BATTERY SHALL MEET CEC TITLE 20 REQUIREMENTS.

SUBSTITUTION NOTES:

1. ALL SUBSTITUTIONS MUST BE APPROVED BY THE ARCHITECT AND ELECTRICAL ENGINEER. PRIOR TO SUBSTITUTIONS, THE FOLLOWING MUST BE PROVIDED (15) DAYS PRIOR TO BID TIME:
   - COMPLETE AND OPERABLE SAMPLES OF SUBSTITUTIONS CONTAINING 120V CORD AND PLUG CONNECTIONS, ALONG WITH CURRENT MANUFACTURE'S DATA SHEETS.
   - PHOTOMETRIC STUDIES UTILIZING IES STANDARD PHOTOMETRIC DATA AND SOFTWARE FOR THIS PROJECT USING PROPOSED SUBSTITUTIONS FIXTURES TO ENSURE DESIGN INTENT IS MET. LUMEN OUTPUT AND LIGHT LOSS FACTOR VALUES TO BE DICTATED BY SALAS O'BRIEN/OMB ELECTRICAL ENGINEERS FOR THIS STUDY.
   - WHEN APPLICABLE, PHOTOMETRIC STUDIES OF EMERGENCY LIGHTING APPLICATIONS FOR ALL REQUIRED AREAS IN THIS PROJECT UTILIZING PROPOSED SUBSTITUTIONS. BATTERY LUMEN OUTPUT VALUES TO BE BASED ON EMERGENCY LIGHTING NOTES CONTAINED HERE WITHIN.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-125476 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 05/07/2026

Practice
135 W. Green St Suite 200 Pasadena, CA 91105 | 626.568.1248 | practice-la.com

LA CAÑADA UNIFIED SCHOOL DISTRICT
ESTABLISHED 1965

Salas O'Brien
salasobrien.com 949.753.1553
Irvine
8825 Research Drive
Irvine, CA 92618

Project No.: 2022-01629-05

REGISTERED PROFESSIONAL ENGINEER
ROY LEE CHU
No. 13442
Exp. 09/30/26
ELECTRICAL
STATE OF CALIFORNIA

PARADISE CANYON E.S.

PACKAGE 5 - NEW NORTH BUILDINGS

471 KNIGHT WAY, LA CAÑADA FLINTRIDGE, CA 91011

PROJECT NUMBER 20911

LICENSED ARCHITECT
HARRY R DRAKE
NO. C-014869
REN. 05-31-27
STATE OF CALIFORNIA

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ISSUE DATE	DESCRIPTION
04/19/2024	100% SCHEMATIC DESIGN
07/05/2024	50% DESIGN DEVELOPMENT
08/16/2024	100% DESIGN DEVELOPMENT
04/11/2025	50% CONSTRUCTION DOCUMENTS
07/18/2025	100% CONSTRUCTION DOCUMENTS
08/06/2025	DSA V1
12/05/2025	DSA V2
03/20/2026	DSA V3

#.	REVISION DATE	DESCRIPTION

DRAWING TITLE

LIGHTING FIXTURE SCHEDULE

5E0.30

SCALE: AS INDICATED

PLOT DATE

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If this sheet is smaller than 30" high by 42" wide then it has been reduced.

LIGHTING CONTROL SYSTEM SEQUENCE OF OPERATIONS

1. DEMAND RESPONSE CONTROLS:(CA ONLY) LIGHTING POWER IN BUILDINGS SHALL HAVE A TOTAL CONNECTED LIGHTING LOAD GREATER THAN 4 KVA, SHALL BE CAPABLE OF BEING AUTOMATICALLY REDUCED TO A MINIMUM OF 15 PERCENT BELOW THE TOTAL INSTALLED LIGHTING POWER UPON RECEIVING A DEMAND RESPONSE SIGNAL. LIGHTING SHALL BE REDUCED TO COMPLY WITH THE UNIFORM LIGHT LEVEL REQUIREMENTS.

2. EXTERIOR LIGHTING: ALL INSTALLED OUTDOOR LIGHTING SHALL BE CONTROLLED BY AN ASTRONOMICAL TIME CLOCK AND PHOTOCELL DEVICE THAT AUTOMATICALLY TURNS "OFF" THE OUTDOOR LIGHTING WHEN DAYLIGHT IS AVAILABLE. FOR LIGHT FIXTURES MOUNTED 24'-0" OR LESS ABOVE FINISH GRADE, RATED MORE THAN 75 WATTS FOR POLE MOUNTED FIXTURES AND MORE THAN 30 WATTS FOR NON-POLE MOUNTED FIXTURES SHALL BE CONTROLLED BY MOTION SENSORS THAT AUTOMATICALLY REDUCES LIGHTING POWER FOR EACH LIGHT FIXTURE BY 50% WHEN NO MOTION IS DETECTED. LIGHT FIXTURES SHALL RETURN TO FULL BRIGHTNESS WHEN MOTION IS DETECTED.

3. TIME SCHEDULES: PRIOR TO PROJECT COMPLETION, PROGRAM AND COMMISSION THIS SYSTEM IN ACCORDANCE WITH THE OWNER'S FURNISHED SCHEDULE FOR ALL INTERIOR AND EXTERIOR LIGHTING ZONES.

LIGHTING CONTROL SYSTEM SPECIFICATIONS

1. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL REQUIRED ALL LINE VOLTAGE AND LOW-VOLTAGE CABLING, HARDWARE, ACCESSORIES, MODULES, DEVICES, CONTROLLERS, ETC. (SHOWN OR NOT SHOWN) FOR A COMPLETE AND OPERABLE SYSTEM TO ACCOMMODATE THE TOTAL NUMBER OF CONTROL POINTS AND MEET (FOR CA ONLY – CEC TITLE 24 MANDATORY CONTROL REQUIREMENTS) AND THE DESIGN INTENT IDENTIFIED IN THESE CONSTRUCTION DOCUMENTS, INCLUDING THE SEQUENCE OF OPERATIONS.

2. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR FURNISHING ALL PLANS ASSOCIATED WITH THE LIGHTING AND CONTROL SYSTEMS (FIXTURE SCHEDULE, PLANS, SPECIFICATIONS, DETAILS, ETC.) TO THE REQUIRED PARTIES (DISTRIBUTORS, MANUFACTURERS REPS/VENDORS, ETC.) FOR AN ACCURATE ALL-INCLUSIVE BID.

3. CONTROLS SYSTEM LAYOUT: THE FLOOR/CEILING PLANS IDENTIFIED ON LIGHTING CONTROL SHEET ARE TYPICAL ONLY. ELECTRICAL CONTRACTOR AND SELECTED MANUFACTURER ARE RESPONSIBLE FOR ADAPTING THE ACTUAL LIGHTING AND CONTROLS SYSTEM TO THE ACTUAL CONDITIONS OF THIS PROJECT.

4. SYSTEM CONTROLLING MULTIPLE SPACES: A SYSTEM CONTROLLING MULTIPLE SPACES (I.E., ONE DIGITAL ROOM CONTROLLER FOR TWO OFFICES, CLASSROOMS, ETC.) IS ACCEPTABLE HOWEVER A MAXIMUM OF TWO SPACES OR ZONES PER CONTROLLER SHALL NOT BE EXCEEDED. IN CASES WHERE ONE CONTROLLER CONTROLS TWO SEPARATE SPACES OR ZONES, E.C. SHALL INSTALL PERMANENTLY ENGRAVED SIGN LOCATED ADJACENT TO MANUAL DIMMER STATION, IDENTIFYING PRECISE LOCATION OF THE DRC. COORDINATE EXACT LOCATION OF SIGN WITH ARCHITECT PRIOR TO INSTALLATION.

5. PARTIALLY DIMMED OCCUPANCY CONTROLS – FOR AREAS REQUIRING, OR SHOWN TO INCLUDE, PARTIALLY DIMMED OCCUPANCY SENSING CONTROLS, SUCH AS:
   - OPEN OFFICE SPACES – FOR AREAS NOT EXCEEDING 600 SQ. FT.
   - CORRIDORS
   - PARKING GARAGES
   - SITE LIGHTING

   THE CIRCUITS SUPPLYING THESE SPACES SHALL BE CONTROLLED THROUGH INDIVIDUAL RELAYS LOCATED AT THE LIGHTING CONTROL PANEL (LCP). AN INDIVIDUAL 20A/1P RELAY SHALL BE PROGRAMMED IN ACCORDANCE WITH OWNER OR END USERS INPUT ON OPERATIONAL HOURS OR SCHEDULE AND (FOR CA ONLY–IN ACCORDANCE WITH CEC TITLE 24 MANDATORY CONTROL REQUIREMENTS).

   FOR LIGHTING CONTROL SYSTEMS WHICH INCLUDE PROGRAMMABLE TIMECLOCK CONTROL WITHIN INDIVIDUAL CONTROL COMPONENTS, SUCH AS DIGITAL ROOM CONTROLLERS (DRC), IT IS ACCEPTABLE TO UTILIZE THESE COMPONENTS TO MEET TIMECLOCK CONTROL INTENT, WHILE ELIMINATING THE NEED FOR LCP RELAYS. HOWEVER, THE SUBMITTAL SHALL INCLUDE DETAILED PLANS REFLECTING:
   - PRECISE LOCATIONS FOR ALL COMPONENTS INCLUDING TIMECLOCK CONTROL.
   - DETAILED DESCRIPTION IDENTIFYING EACH DIFFERING SPACE, AREA OR ZONE CONTROLLED BY EACH DEVICE.
   - DETAILED PROGRAMMING INSTRUCTIONS FOR EACH SPACE, AREA OR ZONE AS TO STEP BY STEP PROCEDURE FOR END USER TO FOLLOW IN ADJUSTING TIME SCHEDULES.

6. ACCEPTABLE MANUFACTURER'S AND SYSTEMS:

   a. EXISTING CAMPUS WIRELESS EMS SYSTEM BY "PELICAN". PROVIDE ALL EXTERIOR LIGHTING CONTROLS AND PROGRAMMING. MATCH EXISTING SYSTEM.

7. SHOP DRAWING SUBMITTALS: THE ELECTRICAL CONTRACTOR SHALL PROVIDE A DETAILED SHOP DRAWING SUBMITTAL, INCLUDING PLANS SHOWING ALL CONTROL SYSTEM DEVICES/COMPONENTS, AND CONTROL SYSTEM DIAGRAMS SHOWING COMPLETE LINE AND LOW VOLTAGE WIRING, TO EACH CONTROL SYSTEM DEVICE AND COMPONENT, TO INCLUDE:

   a. PROPOSED MANUFACTURER AND SYSTEM IN ACCORDANCE WITH THESE SPECIFICATIONS.

   b. PROPOSED CONTROLS SYSTEM LAYOUT SHOWING TYPES AND LOCATIONS FOR ALL DEVICES / COMPONENTS LINE AND LOW-VOLTAGE CABLING, ETC. ASSOCIATED WITH AND SPECIFIC TO THIS PROJECT.

   c. PLANS SHOWING ALL CONTROL SYSTEM DEVICE AND COMPONENT LOCATIONS.

   d. RISER/SINGLE LINE DIAGRAMS SHOWING COMPLETE SYSTEM LAYOUT AND CONNECTIVITY, FOR ALL CONTROL SYSTEM DEVICES AND COMPONENTS.

   e. OWNER'S DESIRED ON / OFF TIME SCHEDULES FOR ALL INTERIOR AND EXTERIOR CONTROL ZONES.

8. WARRANTY, SUPPORT, AND COMMISSIONING: IN ADDITION TO A MINIMUM 1-YEAR MANUFACTURER'S WARRANTY, INCLUDE IN BID ALL REQUIRED TECHNICAL SUPPORT AND COMMISSIONING BY THE MANUFACTURER TO SUCCESSFULLY EXECUTE, PROGRAM AND MEET THE DESIGN INTENT OF THE OVERALL LIGHTING CONTROL SYSTEM.

9. EMERGENCY LIGHTING: FURNISH AND INSTALL COMPONENTS AND WIRING NECESSARY TO PROVIDE A COMPLETE AND OPERABLE EMERGENCY LIGHTING SYSTEM IN ACCORDANCE WITH THE SELECTED MANUFACTURER'S REQUIREMENTS TO ACCOMMODATE THE BACKUP POWER SOURCE(S) PROVIDED IN THIS PROJECT [GENERATOR VS. BATTERY PACKS VS. INVERTER]. INCLUDE SHUNT RELAY DEVICES AND/OR SEPARATE DRC DEVICES AS NEEDED. INSTALLED LIGHTING CONTROL SYSTEM SHALL BE WIRED, CONFIGURED, PROGRAMMED, AND PROVIDED SUCH THAT DESIGNATED EMERGENCY LIGHTS RETURN TO FULL-BRIGHTNESS AUTOMATICALLY IN THE EVENT OF A POWER LOSS.

10. WIRELESS CONTROL SYSTEMS. WHICH CAN BE PROVIDED BY EACH OF THE APPROVED MANUFACTURERS LISTED IN NOTE 6, ARE ACCEPTABLE ONLY IF SPECIFICALLY APPROVED BY OWNER OR END USER. SUBMIT A COMPLETE SHOP DRAWING SUBMITTAL, INCLUDING ALL INFORMATION IDENTIFIED IN NOTE 7, SHALL BE SUBMITTED (15) DAYS PRIOR TO BID DEADLINE FOR PROPOSED WIRELESS SYSTEM. ALL INFORMATION IDENTIFIED IN NOTE 7.

11. DEMAND RESPONSE CONTROLS: (CA ONLY) SEE LIGHTING CONTROL REQUIREMENTS / SEQUENCE OF OPERATION NOTE 7 – CONTROL SYSTEM MANUFACTURER SHALL INCLUDE ALL COMPONENTS REQUIRED TO RECEIVE DEMAND RESPONSE SIGNAL FROM SERVICING UTILITY COMPANY AND AUTOMATICALLY REDUCE LIGHTING LOAD IN ACCORDANCE WITH CEC TITLE 24 REQUIREMENTS.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-125476 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 05/07/2026

Practice
135 W. Green St Suite 200 Pasadena, CA 91105 | 626.568.1248 | practice-la.com

LA CAÑADA UNIFIED SCHOOL DISTRICT ESTABLISHED 1965

Salas O'Brien
salasobrien.com 949.753.1553
Irvine
8825 Research Drive
Irvine, CA 92618

Project No.: 2022-01629-05

REGISTERED PROFESSIONAL ENGINEER ROY L. LOPEZ No. 13442 Exp. 09/30/26 ELECTRICAL STATE OF CALIFORNIA

PARADISE CANYON E.S.

PACKAGE 5 - NEW NORTH BUILDINGS

471 KNIGHT WAY, LA CAÑADA FLINTRIDGE, CA 91011

PROJECT NUMBER 20911

LICENSED ARCHITECT HENRY R. DRAKE NO. C-014869 REN. 05-31-27 STATE OF CALIFORNIA

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03/20/2026	DSA V3

#.	REVISION DATE	DESCRIPTION

DRAWING TITLE

LIGHTING CONTROLS

5E0.40

SCALE: AS INDICATED

PLOT DATE

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STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E | CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Paradise Canyon Elementary	Report Page:	(Page 4 of 6)
Project Address:	471 Knight Way	Date Prepared:	6/26/2025

H. OUTDOOR LIGHTING CONTROLS

This table demonstrates compliance with controls requirements for all new or altered luminaires installed as part of the permit application. For alteration projects, luminaires which are existing to remain (ie untouched) and luminaires which are removed and reinstalled (wiring only) do not need to be included in this table even if they are within the spaces covered by the permit application.
*When an option having a * is selected, the notes section of this table must be completed. The lighting controls section of the Compliance Summary Table on the first page will show "DOES NOT COMPLY" if the notes are left blank.*

Mandatory Controls

01	02	03	04	05	
Area Description	Shut-Off §130.2(c)1	Auto-Schedule §130.2(c)2	Motion Sensor §130.2(c)3	Field Inspector	
				Pass	Fail
* NOTES: Controls with a * require a note in the space below explaining how compliance is achieved. EX: Not permitted by health & safety to be turned off: EXCEPTION 1 to §130.2(c)					

I. LIGHTING POWER ALLOWANCE (per §140.7)

This table includes areas using allowance calculations per §140.7. General Hardscape Allowance is per Table 140.7-A while "Use it or lose it" Allowances are per Table 140.7-B . Indicate which allowances are being used to expand sections for user input. Luminaires that qualify for one of the "Use it or lose it" allowances shall not qualify for another "Use it or lose it" allowance.

01				
☒ General Hardscape Allowance Table I (below)	"Use it or lose it" Allowance (select all that apply) (select all that apply)			
	☐ Per Application Table J	☐ Sales Frontage Table K	☐ Ornamental Table L	☐ Per Specific Area Table M

Calculated General Hardscape Lighting Power Allowance per Table 140.7-A (LZ 0, 1 & 4)

Calculated General Hardscape Lighting Power Allowance per Table 140.7-A (LZ 2 & 3)

02	03	04	05	06	07	08	09	10
Area Description	Surface Type	Area Wattage Allowance (AWA)			Area Wattage Allowance (AWA)			Total General AWA + LWA (Watts)
		Illuminated Area (ft²)	Allowed Density (W/ft²)	Area Allowance (Watts)	Perimeter Length (lf)	Allowed Density (W/lf)	Linear Allowance (Watts)	
Site Lighting	Asphalt	35373	0.025	884.3	999	0.2	249.8	1134
						Initial Wattage Allowance for Entire Site (Watts):		350
						Total General Hardscape Allowance (Watts):		1484

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E | CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Paradise Canyon Elementary	Report Page:	(Page 5 of 6)
Project Address:	471 Knight Way	Date Prepared:	6/26/2025

J. LIGHTING ALLOWANCE: PER APPLICATION
This section does not apply to this project.

K. LIGHTING ALLOWANCE: SALES FRONTAGE
This section does not apply to this project.

L. LIGHTING ALLOWANCE: ORNAMENTAL
This section does not apply to this project.

M. LIGHTING ALLOWANCE: PER SPECIFIC AREA
This section does not apply to this project.

N. EXISTING CONDITIONS POWER ALLOWANCE (alterations only)
This section does not apply to this project.

O. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION
Selections have been made based on information provided in this document. If any selection have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

Form/Title	Field Inspector	
	Pass	Fail
NRCI-LTO-01-E - Must be submitted for all buildings	☐	☐

P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE
There are no NRCA forms required for this project.

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E | CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Paradise Canyon Elementary	Report Page:	(Page 6 of 6)
Project Address:	471 Knight Way	Date Prepared:	6/26/2025

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Roy Lopez	Documentation Author Signature:
Company: Salas O'Brien Engineers	Signature Date: 2025-06-26
Address: 8825 Research Dr.	CEA/ HERS Certification Identification (if applicable): E13442
City/State/Zip: Irvine CA 92618	Phone: 949-753-1553

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: Roy Lopez	Responsible Designer Signature:
Company: Salas O'Brien	Date Signed: 2025-06-26
Address: 8825 Research Dr.	License: E13442
City/State/Zip: Irvine CA 92618	Phone: 949-753-1553

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E | CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Paradise Canyon Elementary	Report Page:	(Page 1 of 6)
Project Address:	471 Knight Way	Date Prepared:	6/26/2025

A. GENERAL INFORMATION

01	Project Location (city)	La Canada	04	Total Illuminated Hardscape Area (ft²)	35373
02	Climate Zone	9			
03	Outdoor Lighting Zone per Title 24 Part 1 §10.114 or as designated by Authority Having Jurisdiction (AHJ):				
☐ LZ-0: Very Low - Undeveloped Parkland		☐ LZ-2: Moderate - Rural Areas		☐ LZ-4: High - Must be reviewed by CA Energy Commission for Approval	
☐ LZ-1: Low - Developed Parkland		☒ LZ-3: Moderately High - Urban Areas			

B. PROJECT SCOPE

This table includes outdoor lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.7 or §141.0(b)2L for alterations.

My Project Consists of:

01	02		
☐ New Lighting System	Must Comply with Allowances from §140.7		
☒ Altered Lighting System	Is your alteration increasing the connected lighting load (Watts)?	● Yes	○ No
03	04	05	
% of Existing Luminaires Being Altered[1]	Sum Total of Luminaires Being Added or Altered	Calculation Method	
☐ < 10% ☐ >= 10% and < 50% ☐ >= 50%			

Please proceed to Table F. Outdoor Lighting Fixture Schedule to define the project's luminaires.

[1] *FOOTNOTES: % of Existing Luminaires Being Altered = (Sum Total of Luminaires Being Added or Altered / Existing Luminaires within the Scope of the Permit Application) x 100.*

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E | CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Paradise Canyon Elementary	Report Page:	(Page 2 of 6)
Project Address:	471 Knight Way	Date Prepared:	6/26/2025

C. COMPLIANCE RESULTS

Results in this table are automatically calculated from data input and calculations in Tables F through I. Note: If any cell on this table says "COMPLIES with Exceptional Conditions" refer to Table D. Exceptional Conditions for guidance or see applicable Table referenced below.

Calculations of Total Allowed Lighting Power (Watts) §140.7 or §141.0(b)2L											Compliance Results		
01		02		03		04		05		06	07	08	09
General Hardscape Allowance §140.7(d)1 (See Table I)	+	Per Application §140.7(d)2 (See Table J)	+	Sales Frontage §140.7(d)2 (See Table K)	+	Ornamental §140.7(d)2 (See Table L)	+	Per Specific Area §140.7(d)2 (See Table M)	OR	Existing Power Allowance §141.0(b)2L (See Table N)	= Total Allowed (Watts)	≥ Total Actual (Watts)	07 must be >= 08
1,484.08	+	---	+	---	+	---	+	---	OR	---	= 1,484.08	≥ 1,063	COMPLIES
										Cutoff Compliance (See Table G for Details)			N/A
										Controls Compliance (See Table H for Details)			COMPLIES

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

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

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E | CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Paradise Canyon Elementary	Report Page:	(Page 3 of 6)
Project Address:	471 Knight Way	Date Prepared:	6/26/2025

F. OUTDOOR LIGHTING FIXTURE SCHEDULE

For new or altered lighting systems demonstrating compliance with §140.7 all new luminaires being installed and any existing luminaires remaining or being moved within the spaces covered by the permit application are included in the Table below. For altered lighting systems using the Existing Power method per §141.0(b)2L only new luminaires being installed and replacement luminaires being installed as part of the project scope are included (ie, existing luminaires remaining or existing luminaires being moved are not included).

Designed Wattage:

01	02		03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description		Watts per luminaire[1, 2]	How is Wattage determined	Total number luminaires[2]	Luminaire Status[3]	Excluded per §140.7(a)	Design Watts	Cutoff Req. > 6,200 initial lumen output §130.2(b)[4]	Field Inspector	
										Pass	Fail
S1	S1	☐ Linear	22	Mfr. Spec	17	New	☐	374	NA: < 6200 lumens	☐	☐
S2	S2	☐ Linear	53	Mfr. Spec	4	New	☐	212	NA: < 6200 lumens	☐	☐
S3	S3	☐ Linear	18	Mfr. Spec	18	New	☐	324	NA: < 6200 lumens	☐	☐
S4	S4	☐ Linear	13	Mfr. Spec	6	New	☐	78	NA: < 6200 lumens	☐	☐
S5	S5	☐ Linear	25	Mfr. Spec	3	New	☐	75	NA: < 6200 lumens	☐	☐
							Total Design Watts:	1063			
* NOTES: Selections with a * require a note in the space below explaining how compliance is achieved. EX: Luminaire is lighting a statue; EXCEPTION 2 to §130.2(b)											

[1] *FOOTNOTES: Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per §130.0(c)*
[2] *For linear luminaires, wattage should be indicated as W/lf instead of Watts/luminaire. Total linear feet should be indicated in column 05 instead of number of luminaires.*
[3] *Select "New" for new luminaires in a new outdoor lighting project, or for added luminaires in an alteration. Select "Altered" for replacement luminaires in an alteration, Select "Existing to Remain" for existing luminaires within the project scope that are not being altered and are remaining. Select "Existing Reinstalled" for existing luminaires which are being removed and reinstalled as part of the project scope.*
[4] *Compliance with mandatory cutoff requirements is required for luminaires with initial lumen output >= 6,200 unless exempted by §130.2(b)*

G. CUTOFF REQUIREMENTS (BUG)
This section does not apply to this project.

Last plotted by keenon.chu Layout1 P:\2022\2022-01629-00\cad\Pkg 5 New North Building\Elect LV FA\5E0-50 - TITLE 24 COMPLIANCE FORMS.dwg 03/16/2026 14:31

If this sheet is smaller than 30" high by 42" wide then it has been reduced.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-125476 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 05/07/2026

Practice
135 W. Green St Suite 200 Pasadena, CA 91105 | 626.568.1248 | practice-la.com

LA CAÑADA UNIFIED SCHOOL DISTRICT ESTABLISHED 1965

Salas O'Brien.
salasobrien.com 949.753.1553
Irvine
8825 Research Drive
Irvine, CA 92618

Project No.: 2022-01629-05

PARADISE CANYON E.S.

PACKAGE 5 - NEW NORTH BUILDINGS

471 KNIGHT WAY, LA CAÑADA FLINTRIDGE, CA 91011

PROJECT NUMBER 20911

LICENSED ARCHITECT HARRY R DAKE NO. C-014869 REN. 05-31-27 STATE OF CALIFORNIA

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ISSUE DATE	DESCRIPTION
04/19/2024	100% SCHEMATIC DESIGN
07/05/2024	50% DESIGN DEVELOPMENT
08/16/2024	100% DESIGN DEVELOPMENT
04/11/2025	50% CONSTRUCTION DOCUMENTS
07/18/2025	100% CONSTRUCTION DOCUMENTS
08/06/2025	DSA V1
12/05/2025	DSA V2
03/20/2026	DSA V3

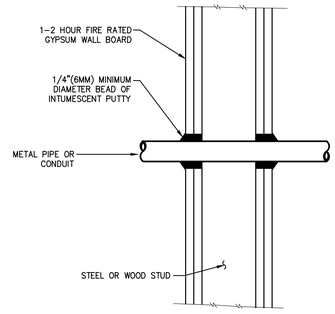
⚠ REVISION DATE	DESCRIPTION

DRAWING TITLE

TITLE 24 COMPLIANCE FORMS

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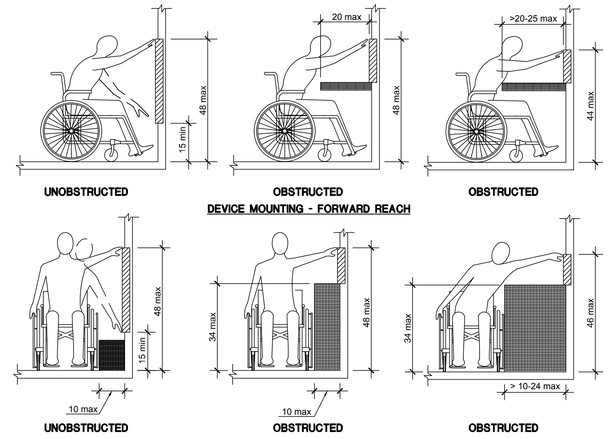
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PLOT DATE



NOTES FOR THIS DETAIL:

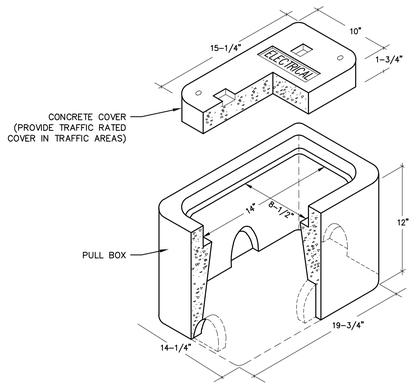
1. THE SPACE BETWEEN THE PENETRATING ITEM AND WALL BOARD MUST ACCOMMODATE AT LEAST ONE WRAP (1/4") OF INTUMESCENT WRAP STRIP.
2. IF THE ANNULAR SPACE IS LESS THAN 1/2", ONE WRAP OF INTUMESCENT WRAP STRIP IS REQUIRED. IF THE ANNULAR SPACE IS 1/2" OR GREATER, FILL WITH ADDITIONAL WRAPS OF FS-195 WRAP/STRIP UNTIL THE ANNULAR SPACE IS LESS THEN 1/4". WRAP STRIPS MAY BE FRICTION FIT INTO OPENING, SECURED WITH FOIL TAPE OR 16 GAUGE STEEL TIE WIRE.
3. SLIDE THE WRAP STRIP INTO THE OPENING, LEAVING A MAX. 3/4" EXPOSED WRAP BEYOND THE WALL SURFACE.
4. SEAL THE WRAP/STRIP EDGES AND SEAMS WITH A 1/4" MINIMUM BEAD OF INTUMESCENT PUTTY.
5. INSTALL FIRESTOP ON BOTH SIDES OF THE WALL.
6. THESE RECOMMENDATIONS ARE BASED ON PRODUCT PERFORMANCE PER ASTM-E814 (UL 1479) FIRE TEST AND UL THROUGH-PENETRATION FIRESTOP SYSTEM # WL 1002.

FIRE PENETRATION DETAIL | SCALE NONE | 2



1. FIXTURES AND DEVICES ARE BASED ON 2022 CBC, FIGURE 11B-308.2.2 FOR FORWARD REACH, AND FIGURE 11B-308.3.2 FOR SIDE APPROACH.
2. ALL OUTLET AND DEVICES SHALL BE INSTALLED AND COMPLIANT PER 2022 CBC 11B-308..

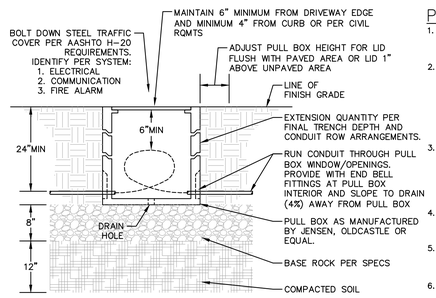
DEVICE MOUNTING DETAIL | SCALE NONE | 1



PULL BOX NOTES

1. ALL BOXES SHALL BE SET ON A MINIMUM 8" GRAVEL BASE WITH 1/2" DIAMETER GRAVEL.
2. PROVIDE WATERTIGHT SPLICES AND CAPS FOR POWER CONDUCTORS. SPLICES ADN CAPS FOR COMMUNICATION CONDUCTORS ARE NOT ACCEPTABLE WITHOUT PRIOR ENGINEER/OWNER APPROVAL. COMMUNICATION CONDUCTORS SHALL BE CONTINUOUS WITH SERVICE LOOPS PROVIDED IN PULL BOXES.
3. PROVIDE SEALING GEL IN ALL CONDUITS (BOTH W/ CONDUCTORS AND IN EMPTY SPARE CONDUITS.) THE GEL SHALL BE INSERTED IN THE CONDUIT TO A DEPTH OF 6" AND FLUSH W/THE END OF THE CONDUIT.
4. PROVIDE IDENTIFYING TAGS ON ALL POWER AND COMMUNICATION CONDUCTORS IN PULLBOXES.
5. PROVIDE IDENTIFICATION ON CONCRETE COVER STATING "ELECTRICAL" OR "COMMUNICATION".
6. PROVIDE BOLTS AND TAMPERPROOF SCREWS TO SECURE COVER.
7. MINIMUM BOX SIZE SHOWN. SIZE BOX PER NEC REQUIREMENTS.

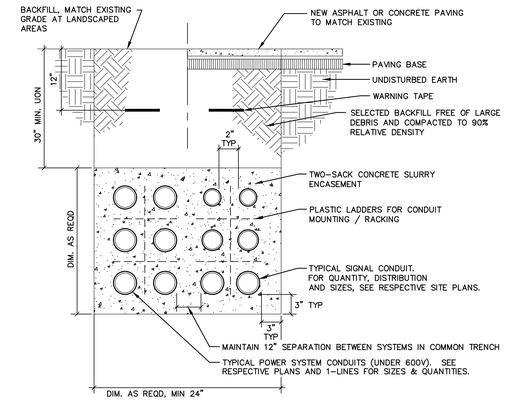
HANDHOLE (PULLBOX 11"X17") | SCALE NONE | 6



PULL BOX NOTES

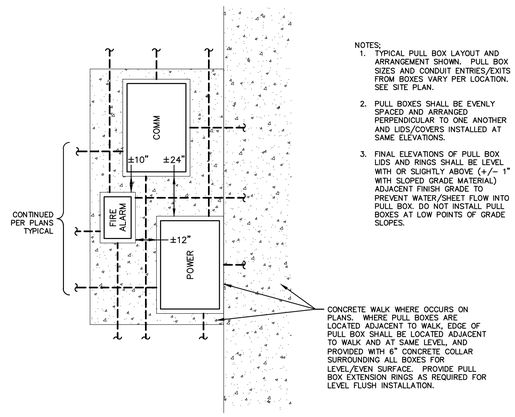
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2. PROVIDE WATERTIGHT SPLICES AND CAPS FOR POWER CONDUCTORS. SPLICES AND CAPS FOR COMMUNICATION CONDUCTORS ARE NOT ACCEPTABLE WITHOUT PRIOR ENGINEER/OWNER APPROVAL. COMMUNICATION CONDUCTORS SHALL BE CONTINUOUS WITH SERVICE LOOPS PROVIDED IN PULL BOXES.
3. PROVIDE SEALING GEL IN ALL CONDUITS (BOTH W/ CONDUCTORS AND IN EMPTY SPARE CONDUITS.) THE GEL SHALL BE INSERTED IN THE CONDUIT TO A DEPTH OF 6" AND FLUSH W/THE END OF THE CONDUIT.
4. PROVIDE IDENTIFYING TAGS ON ALL POWER AND COMMUNICATION CONDUCTORS IN PULLBOXES.
5. PROVIDE IDENTIFICATION ON CONCRETE COVER STATING "ELECTRICAL" OR "COMMUNICATION".
6. PROVIDE BOLTS AND TAMPERPROOF SCREWS TO SECURE COVER.
7. MINIMUM BOX SIZE SHOWN. SIZE BOX PER NEC REQUIREMENTS.

PULL BOX DETAIL | SCALE NONE | 5



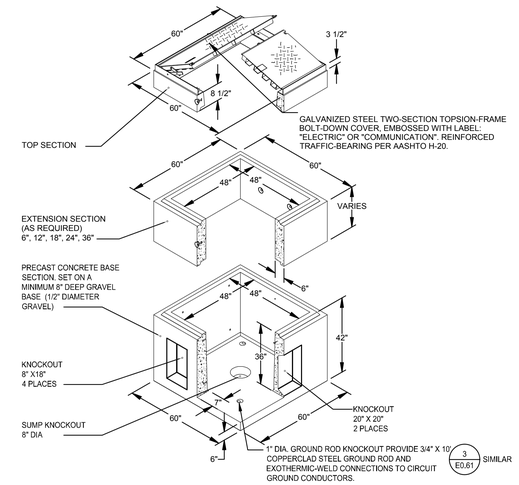
1. PROVIDE ALL TRENCH SHORING AS REQUIRED BY CODE AND LOCAL AHJ.
2. CONTRACTOR SHALL CLOSELY COORDINATE HIS TRENCHING (EXACT LOCATION AND DEPTHS) WITH THAT OF OTHER TRADES IN ORDER TO MINIMIZE INSTALLATION CONFLICTS WITH OTHER BELOW GRADE UTILITIES. CONTRACTOR SHALL ADJUST OVERALL DEPTH OF COVER OF ELECTRICAL DUCT BANKS AVOIDING ANY REQUIRED SLOPING OF OTHER UTILITIES. ALL COORDINATION FOR SUCH INSTALLATIONS SHALL BE MADE WITH NO ADDITIONAL COSTS TO THE OWNER.

TYPICAL TRENCH DETAIL (CONCRETE ENCASED) | SCALE NONE | 4

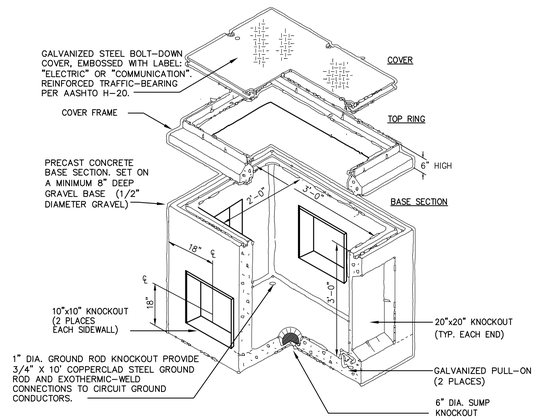


NOTES;
1. TYPICAL PULL BOX LAYOUT AND ARRANGEMENT SHOWN. PULL BOX SIZES AND CONDUIT ENTRIES/EXITS FROM BOXES VARY PER LOCATION. SEE SITE PLAN.
2. PULL BOXES SHALL BE EVENLY SPACED AND ARRANGED PERPENDICULAR TO ONE ANOTHER AND LIDS/COVERS INSTALLED AT SAME ELEVATIONS.
3. FINAL ELEVATIONS OF PULL BOX LIDS AND RINGS SHALL BE LEVEL WITH OR SLIGHTLY ABOVE (+/- 1" WITH SLOPED GRADE MATERIAL) ADJACENT FINISH GRADE TO PREVENT WATER/SHEET FLOW INTO PULL BOX. DO NOT INSTALL PULL BOXES AT LOW POINTS OF GRADE SLOPES.

PULL BOX ARRANGEMENT DETAIL | SCALE NONE | 9



HANDHOLE (PULLBOX 4'X4') | SCALE NONE | 8



HANDHOLE (PULLBOX 2'X3') | SCALE NONE | 7

Practice
135 W. Green St Suite 200 Pasadena, CA 91105 | 626.568.1248 | practice-la.com

Salas O'Brien
salasobrien.com 949.753.1553
Irvine
8825 Research Drive
Irvine, CA 92618

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-125476 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 05/07/2026

LA CAÑADA UNIFIED SCHOOL DISTRICT ESTABLISHED 1965

REGISTERED PROFESSIONAL ENGINEER ROY L. LOPEZ No. 13442 Exp. 09/30/26 ELECTRICAL STATE OF CALIFORNIA

Project No.: 2022-01629-05

PARADISE CANYON E.S.

PACKAGE 5 - NEW NORTH BUILDINGS

471 KNIGHT WAY, LA CAÑADA FLINTRIDGE, CA 91011

PROJECT NUMBER 20911

LICENSED ARCHITECT HENRY R. DRAKE NO. C-014889 REN. 05-31-27 STATE OF CALIFORNIA

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ISSUE DATE	DESCRIPTION
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04/11/2025	50% CONSTRUCTION DOCUMENTS
07/18/2025	100% CONSTRUCTION DOCUMENTS
08/06/2025	DSA V1
12/05/2025	DSA V2
03/20/2026	DSA V3

#.	REVISION DATE	DESCRIPTION

DRAWING TITLE

ELECTRICAL DETAILS

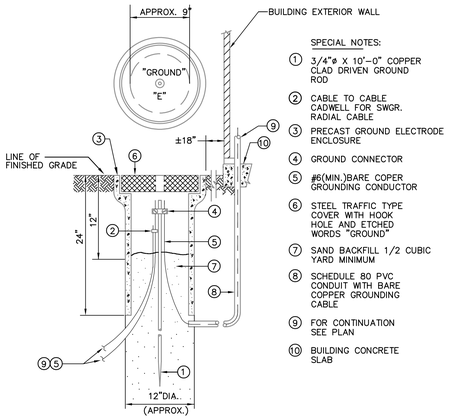
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PLOT DATE

Last plotted by keenan.chu Layout1 P:\2022\2022-01629-00\cad\Pkg 5 New North Building\Elect LV FA\5E0-60 - ELECTRICAL DETAILS.dwg 03/16/2026 14:31

If this sheet is smaller than 30" high by 42" wide then it has been reduced.

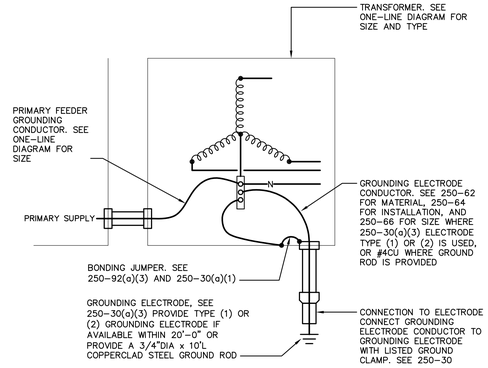


SPECIAL NOTES:

1. 3/4"ø x 10'-0" COPPER CLAD DRIVEN GROUND ROD
2. CABLE TO CABLE CADWELL FOR SWGR. RADIAL CABLE
3. PRECAST GROUND ELECTRODE ENCLOSURE
4. GROUND CONNECTOR
5. #6(MIN.)BARE COPER GROUNDING CONDUCTOR
6. STEEL TRAFFIC TYPE COVER WITH HOOK HOLE AND ETCHED WORDS "GROUND"
7. SAND BACKFILL 1/2 CUBIC YARD MINIMUM
8. SCHEDULE 80 PVC CONDUIT WITH BARE COPPER GROUNDING CABLE
9. FOR CONTINUATION SEE PLAN
10. BUILDING CONCRETE SLAB

GROUND WELL DETAIL

SCALE	
NONE	3

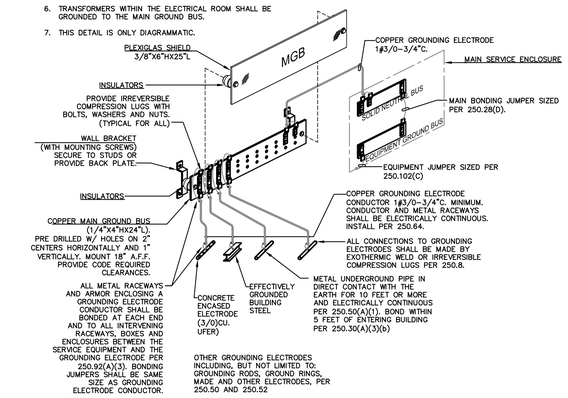


TRANSFORMER GROUNDING DETAIL (SEPARATELY DERIVED AC SYSTEM)

SCALE	
NONE	2

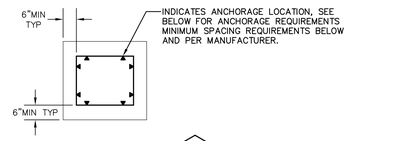
NOTES:

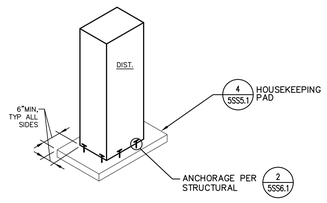
1. ALL GROUNDING SHALL COMPLY WITH ARTICLE 250.
2. ALL GROUNDING CONDUCTORS AND BONDING JUMPERS SHALL BE CONNECTED BY EXOTHERMIC WELDING, LISTED PRESSURE CONNECTORS, LISTED CLAMPS, OR OTHER LISTED MEANS.
3. ALL CONDUCTORS SHALL BE COPPER.
4. ELECTRICALLY CONDUCTIVE MATERIALS, SUCH AS METAL WATER PIPING, METAL GAS PIPING AND STRUCTURAL STEEL SHALL BE BONDED TO THE MAIN GROUND BUS.
5. ALL GROUNDING CONDUCTORS AND BONDING JUMPERS SHALL BE ROUTED TO ENSURE SHORTEST POSSIBLE CONDUCTOR LENGTH.
6. TRANSFORMERS WITHIN THE ELECTRICAL ROOM SHALL BE GROUNDED TO THE MAIN GROUND BUS.
7. THIS DETAIL IS ONLY DIAGRAMMATIC.



SERVICE ENTRANCE GROUNDING DETAIL

SCALE	
NONE	1

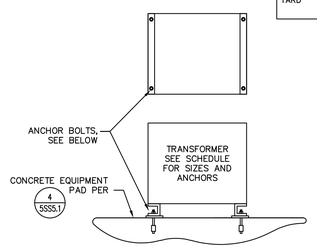




SWITCHBOARD ANCHORAGE

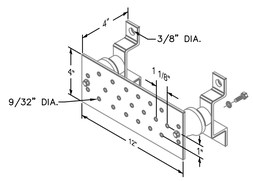
SCALE	
NONE	6

LOCATION	XFRM NAME	KVA	DIMENSIONS (W"xD"xH")	WEIGHT (LBS)	ANCHOR RQMTS
ELECTRICAL YARD	T-LDF	300	35 x 30 x 52	1895	SEE STRUCTURAL DRAWINGS 1/5SS6.1



TRANSFORMER MOUNTING DETAIL

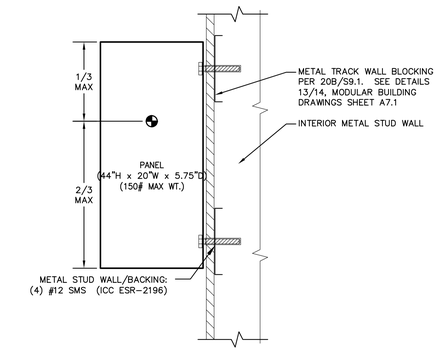
SCALE	
NONE	5



Part Number	Description	Shipping Weight
10622-010	10" x 4" Bus Bar Kit	5 LB

TELECOMMUNICATION GROUND BUS (TGB)

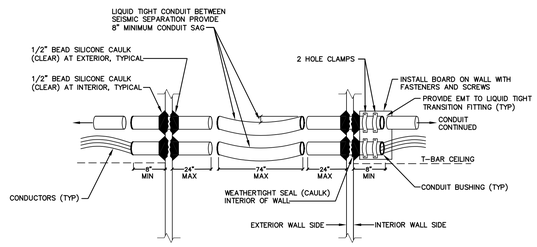
SCALE	
NONE	4



WALL MOUNTING

SURFACE MOUNTED PANEL DETAILS

SCALE	
NONE	9



NOTES:

1. INSTALL LIQUID TIGHT SIDE BY SIDE WITH 2" SEPARATION BETWEEN PATHWAYS.
2. MAXIMUM BUILDING SEPARATION, WALL TO WALL, 10 FEET.

FLEXIBLE CONNECTION DETAIL ACROSS SEISMIC SEPARATION JOINT

SCALE	
NONE	8

NOT USED

SCALE	
NONE	7

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Project No.: 2022-01629-05

REGISTERED PROFESSIONAL ENGINEER ROY L. LOPEZ No. 13442 Exp. 09/30/26 ELECTRICAL STATE OF CALIFORNIA

PARADISE CANYON E.S.

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PROJECT NUMBER 20911

LICENSED ARCHITECT HARRY R DRAKE NO. C-014869 REN. 05-31-27 STATE OF CALIFORNIA

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08/06/2025	DSA V1
12/05/2025	DSA V2
03/20/2026	DSA V3

#	REVISION DATE	DESCRIPTION

DRAWING TITLE

ELECTRICAL DETAILS

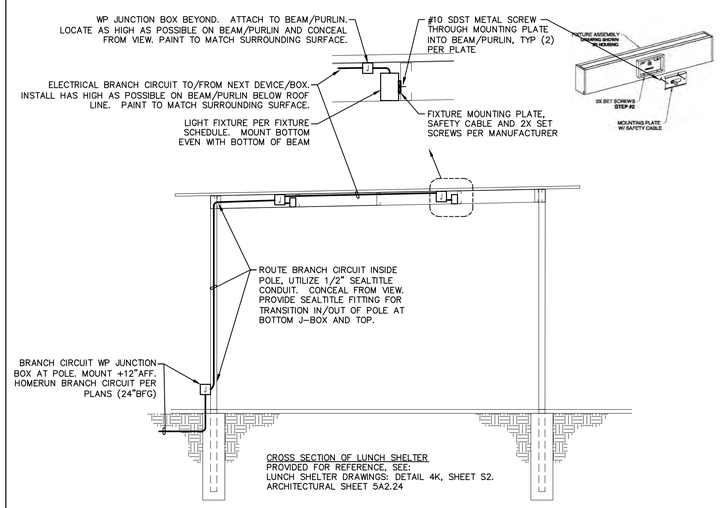
5E0.61

SCALE: AS INDICATED

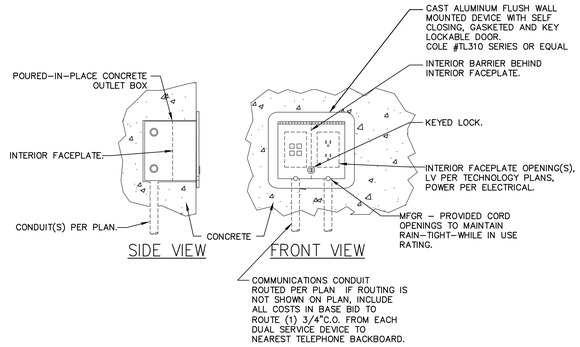
PLOT DATE

Last plotted by keenan.chu Layout1 P:\2022\2022-01629-00\cad\Pkg 5 New North Building\Elect LV FA\5EO-61 - ELECTRICAL DETAILS.dwg 03/16/2026 16:08

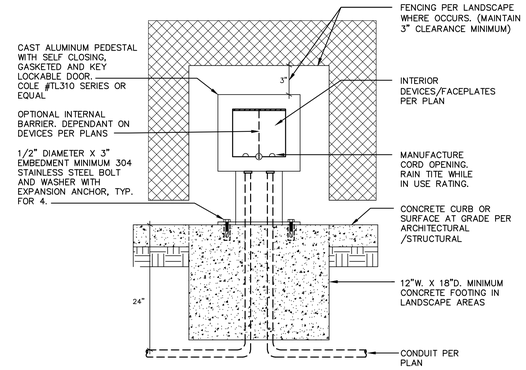
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LUNCH SHELTER LIGHT FIXTURE DETAIL | SCALE NONE | 3



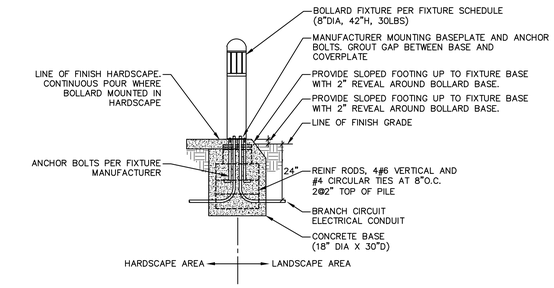
EXTERIOR SITE RECEPTACLE DETAIL (FLUSH MOUNT) | SCALE NONE | 2



EXTERIOR SITE RECEPTACLE DETAIL (PEDESTAL TYPE) | SCALE NONE | 1

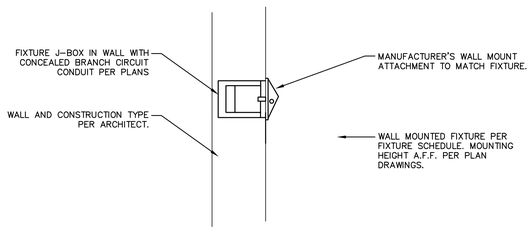
THE LIGHT POLE FOOTING DETAIL SHOWN ON THIS SHEET IS EXEMPT FROM DSA REVIEW AND IS NOT PART OF THIS APPROVAL PER DSA IR A-22

POLE FOOTING/BASE DETAILS | SCALE NONE | 5

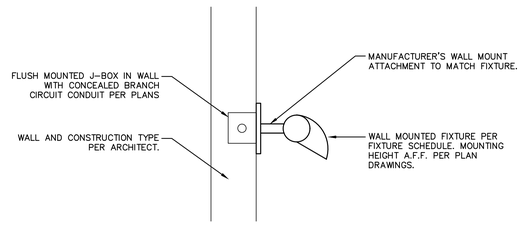


THE LIGHT POLE FOOTING DETAIL SHOWN ON THIS SHEET IS EXEMPT FROM DSA REVIEW AND IS NOT PART OF THIS APPROVAL PER DSA IR A-22

BOLLARD LIGHT FIXTURE DETAIL | SCALE NONE | 4



RECESSED MOUNTED STEP LIGHT | SCALE NONE | 8



BUILDING MOUNTED FIXTURE | SCALE NONE | 7

-

SCALE NONE | 6

-

SCALE NONE | 9

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DRAWING TITLE

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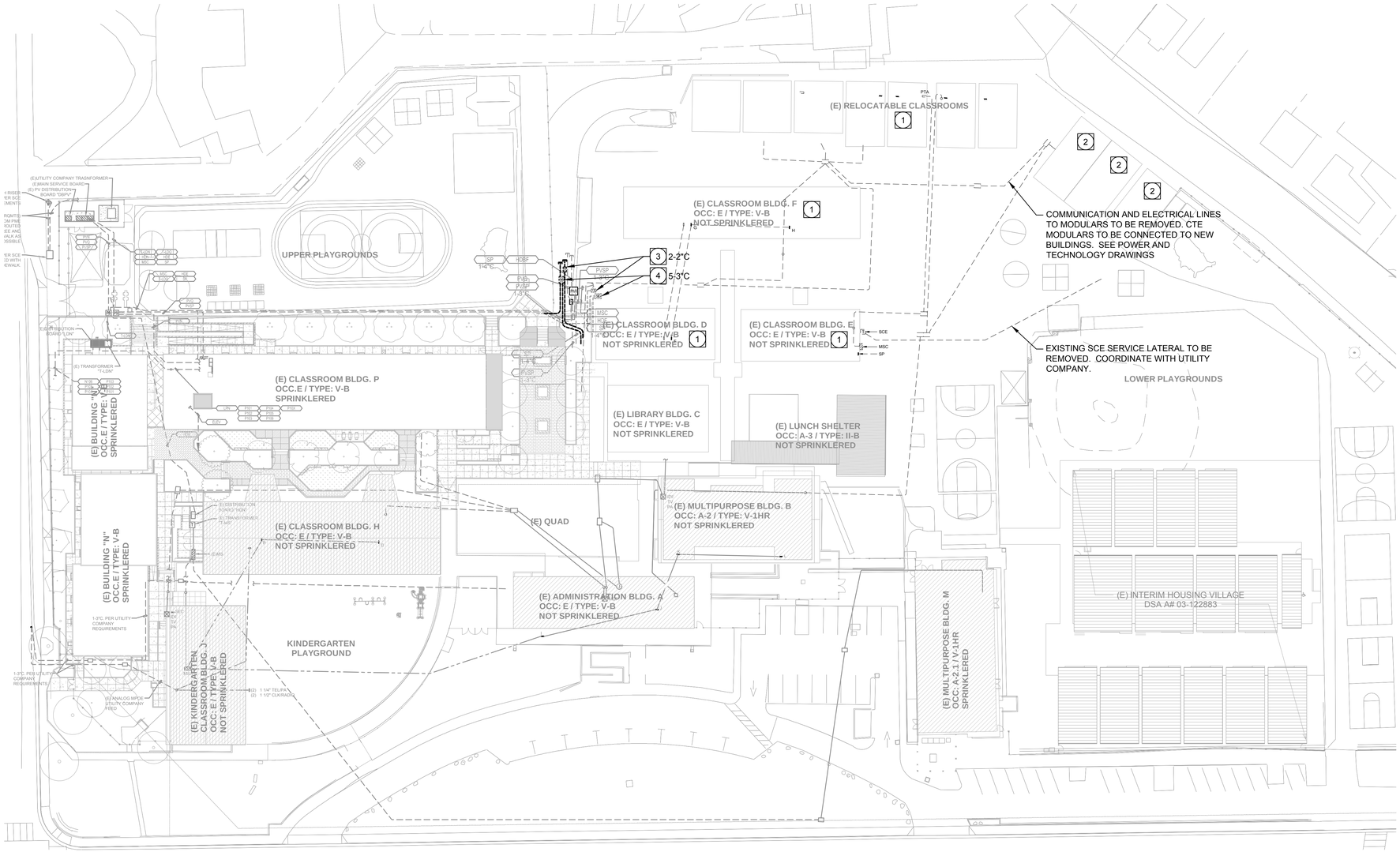
5E0.62

SCALE: AS INDICATED

PLOT DATE

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ELECTRICAL SITE PLAN

SCALE 1"=40'

1

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GENERAL DEMOLITION NOTES

1. ALL EQUIPMENT, DEVICES, ETC. IDENTIFIED AS (X) TO BE DEMOLISHED BACK TO POINT OF ORIGIN. MAINTAIN CIRCUIT CONTINUITY TO ALL DEVICES IN ADJACENT AREAS AND/OR ON SITE BEING SERVED BY SAME CIRCUIT.
2. ALL EXISTING FIXTURES INDICATED AS "ER" ARE EXISTING TO BE RELOCATED. SEE NEW LIGHTING PLANS FOR NEW LOCATIONS. MAINTAIN CIRCUIT AND SWITCHING CONTINUITY TO LIGHT FIXTURES IN ADJACENT AREAS.
3. FIELD VERIFY ALL EXISTING WALL SWITCH AND OCCUPANCY SENSOR LOCATIONS AND RELOCATE AS NECESSARY TO ACCOMMODATE NEW CONSTRUCTION.
4. ALL EQUIPMENT, DEVICES, ETC. NOT IDENTIFIED AS BEING DEMOLISHED ARE EXISTING TO REMAIN UNDISTURBED, UNLESS NOTED OTHERWISE ON NEW POWER AND SIGNAL PLANS. REFERENCE BUILDING POWER PLANS FOR EXISTING DEVICES TO BE RELOCATED, RE-CIRCUITED, ETC.
5. ALL EXISTING WORK SHOWN LIGHT, NEW WORK SHOWN DARK.
6. THE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC ONLY. DO NOT SCALE THE ELECTRICAL DRAWINGS TO DETERMINE THE LOCATION OF EQUIPMENT OR OUTLETS.
7. THE EXISTING CONDITIONS SHOWN ARE FROM AVAILABLE RECORD DRAWINGS AND SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL VERIFY ACTUAL EXISTING CONDITIONS AT SITE PRIOR TO SUBMITTING BID. ALL DEMOLITION, ALTERATION, EXTENSION, RELOCATION, REHABILITATION WORK SHALL BE INCLUDED IN CONTRACT. NO ADDITIONAL ALLOWANCE OR CHANGE ORDERS WILL BE ACCEPTED. REFERENCE ALL CONTRACTUAL DRAWINGS AND SPECIFICATIONS PRIOR TO SUBMITTING BID.
8. CONTRACTOR IS RESPONSIBLE TO RELOCATE OR REMOVE FROM WALLS, CEILINGS, FLOOR SPACES, SITE, ETC. ANY EXISTING CONDUITS, WIRES, BOXES, FITTINGS, FIXTURES OR OTHER ELECTRICAL EQUIPMENT WHICH INTERFERES WITH PLANNED REMODEL WORK. PROVIDE CIRCUIT CONTINUATION REQUIRED FOR ALL EXISTING OUTLETS, FIXTURES, EQUIPMENT, ETC. SCHEDULED TO REMAIN.
9. NOTIFY THE ENGINEER IMMEDIATELY WHEREVER EXISTING EQUIPMENT IS ENCOUNTERED WHICH MUST BE RELOCATED DUE TO THE NEW CONSTRUCTION, OR NOT INDICATED ON "AS-BUILT" DRAWINGS.
10. CAREFULLY PROTECT ALL WALLS, TRIM, FLOORS, EQUIPMENT, UTILITY LINES AND MATERIALS. WHEN WORKING ON FINISHED SURFACES AND SPACES. LIMIT DAMAGE TO THE SMALLER AREA IF POSSIBLE AND RESTORE TO THE ORIGINAL CONDITION ALL SURFACES WHICH ARE DAMAGED BECAUSE OF THE INSTALLATION OF THIS WORK.
11. EQUIPMENT, MATERIALS AND SUPPLIES TEMPORARILY REMOVED FOR PROTECTION SHALL BE REPLACED IN ORIGINAL LOCATIONS. ANY MATERIALS DAMAGED SHALL BE REPLACED WITH NEW MATERIALS OF LIKE KIND AND QUALITY.
12. DEMOLITION WORK SHALL BE DONE IN A MANNER WHICH WILL NOT CAUSE UNNECESSARY INCONVENIENCE OR DANGER TO USERS OF THE PREMISES AND ADJACENT SITE, AND NOT INTERFERE WITH ITS OPERATION. ANY DEMOLITION WORK TO BE PERFORMED MUST BE PLANNED IN ADVANCE.
13. DO ALL DRILLING, CUTTING, ETC. REQUIRED TO DEMOLISH ELECTRICAL WORK AS INDICATED. PROVIDE BLANK COVER PLATES ON ALL OUTLETS EXPOSED BY REMOVAL OF FIXTURE OR DEVICES
14. RESEAL ALL PENETRATIONS OR OPENINGS THROUGH WALLS, CEILING, FLOORS, ETC., TO MAINTAIN THE RATING OF STRUCTURE PENETRATED.
15. ALL REMOVED MATERIALS AND EQUIPMENT WHICH ARE SALVAGED MATERIALS SHALL REMAIN IN THE PROPERTY OF THE OWNER. OWNER SHALL HAVE FIRST RIGHT OF REFUSAL. DELIVER SUCH SALVAGED MATERIALS AND EQUIPMENT ON THE PREMISES AS DIRECTED BY OWNER AND NEATLY PILE OR STORE THEM AND PROTECT FROM DAMAGED. DISPOSE OF ALL HAZARDOUS MATERIAL PER GUIDELINE OF THE STATE OF CALIFORNIA, DEPARTMENT OF HEALTH SERVICES AND OTHER AGENCIES HAVING JURISDICTION.
16. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDUIT/WIRING RUNS, REUSE AS REQUIRED AND REMOVE ALL UNUSED CONDUIT/WIRING. UNUSED CONDUIT IN INACCESSIBLE LOCATIONS (WALLS TO REMAIN) CAN BE ABANDONED IN PLACE. REMOVE UNUSED WIRING, PROVIDE BLANK COVERPLATES ON EXISTING BOXES AND LABEL BOXES IDENTIFYING PATHWAY ENDPOINTS.

KEY NOTES

1. EXISTING BUILDING TO BE REMOVED COMPLETE. SAFE OFF AND DISCONNECT ALL EXISTING POWER, COMMUNICATION AND FIRE LIFE SAFETY CONNECTIONS. REMOVE ABANDON CONDUIT ABOVE AND BELOW GRADE. COORDINATE WITH CIVIL AND GRADING REQUIREMENTS FOR NEW WORK.
2. EXISTING CTE MODULAR BUILDING TO REMAIN. DISCONNECT BUILDING FEEDS AND NEW POWER/COMMUNICATION/FIRE ALARM TO BE CONNECTED TO NEW BUILDINGS SYSTEMS. SEE NEW POWER, TECHNOLOGY AND FIRE ALARM PLANS.
3. EXISTING FIRE ALARM PULL BOX (2'X3') IN CONFLICT WITH NEW BUILDING PAD/FOOTING. REMOVE AND RELOCATE EXISTING BOX TO SLOPE. INSTALL LID FLUSH WITH SURFACE AND PROVIDE NEW GRADE RINGS AND LID AS REQUIRED. REMOVE EXISTING CONDUITS BACK TO POINT UPSTREAM, INTERCEPT AND EXTEND TO NEW PULL BOX LOCATION. CONDUIT QUANTITY AND SIZES AS INDICATED. FIELD COORDINATE FINAL LOCATIONS WITH CIVIL AND DISTRICT
4. EXISTING SIGNAL PULL BOX (3'X4') IN CONFLICT WITH NEW BUILDING PAD/FOOTING. REMOVE AND RELOCATE EXISTING BOX TO SLOPE. INSTALL LID FLUSH WITH SURFACE AND PROVIDE NEW GRADE RINGSAND LID AS REQUIRED. REMOVE EXISTING CONDUITS BACK TO POINT UPSTREAM, INTERCEPT AND EXTEND TO NEW PULL BOX LOCATION. CONDUIT QUANTITY AND SIZES AS INDICATED. FIELD COORDINATE FINAL LOCATIONS WITH CIVIL AND DISTRICT

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1-800
227-2600
TWO WORKING DAYS BEFORE YOU DIG

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REGISTERED PROFESSIONAL ENGINEER
ROY LEON FLORES
No. 13442
Exp. 09/30/26
ELECTRICAL
STATE OF CALIFORNIA

PARADISE CANYON E.S.

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NO. C-014869
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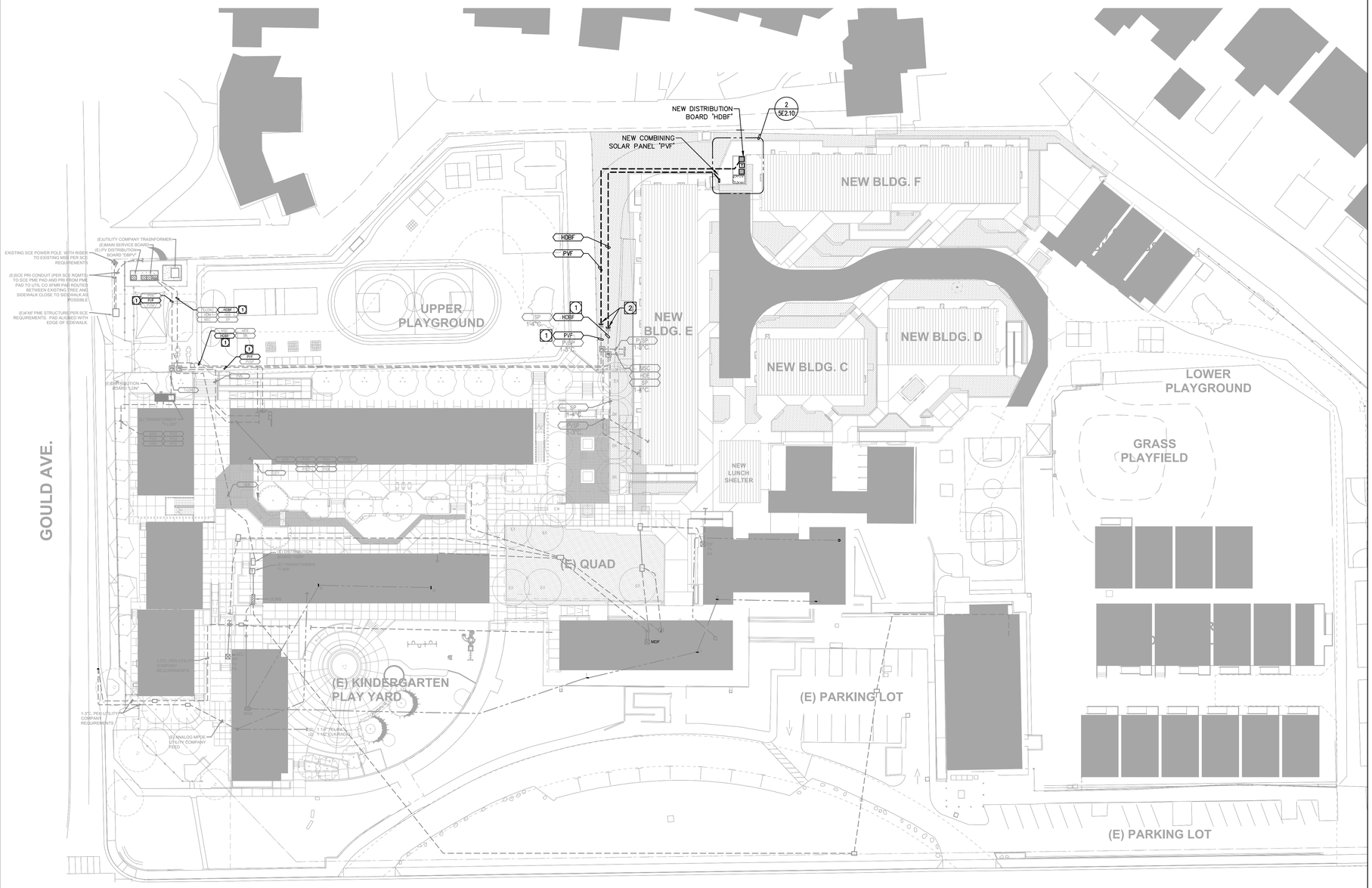
DRAWING TITLE

ELECTRICAL DEMOLITION SITE PLAN

5E1.10

SCALE: AS INDICATED

PLOT DATE



N

SITE GENERAL NOTES

1. SEE SHEET E0.02 FOR SITE ALL GENERAL NOTES AND REQUIREMENTS. CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL REQUIREMENTS INDICATED.

KEY NOTES

1. EXISTING CONDUITS INSTALLED AS PART OF PREVIOUS SCOPE. CONTRACTOR SHALL PULL NEW SYSTEM CONDUCTORS PER SINGLE LINE DIAGRAM INTO EXISTING CONDUIT PATHWAYS.
2. EXISTING CONDUIT STUBS INSTALLED AS PART OF PREVIOUS SCOPE. INTERCEPT EXISTING CONDUIT STUBS AND EXTEND NEW CONDUIT AND WIRE TO NEW SYSTEM EQUPMENT. SEE SINGLE LINE DIAGRAM.

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ELECTRICAL SITE PLAN | SCALE 1"=40' | 1

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ELECTRICAL SITE PLAN

5E1.11

SCALE: AS INDICATED

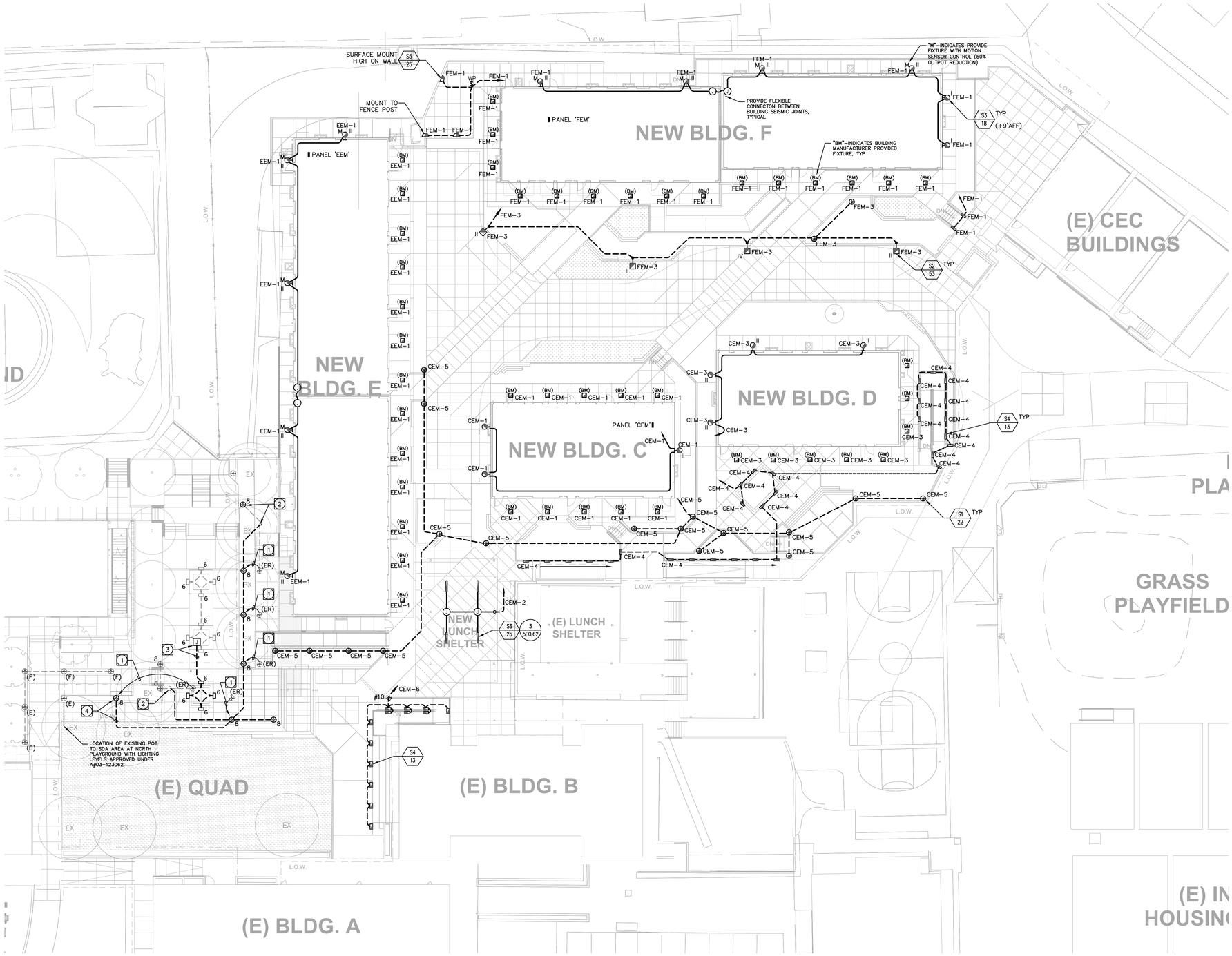
PLOT DATE

SITE GENERAL NOTES

1. SEE SHEET E0.02 FOR TYPICAL PLAN AND SYSTEMS GENERAL NOTES AND REQUIREMENTS. CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL REQUIREMENTS INDICATED.

KEY NOTES

1. EXISTING BOLLARD FIXTURE TO BE RELOCATED. REMOVE FOOTING AND DOWNSTREAM CONDUIT COMPLETE AS SHOWN. PROVIDE NEW ANCHOR BOLTS AND FOOTING FOR EXISTING FIXTURE. (FOOTING PER 4/5E0.62).
2. INTERCEPT EXISTING BRANCH CIRCUIT CONDUIT AND EXTEND TO NEW FIXTURE LOCATION. PROVIDE NEW BRANCH CIRCUIT CONDUCTORS FROM EXISTING BOLLARD FIXTURE UPSTREAM.
3. EXISTING STEP LIGHT FIXTURE CIRCUIT IN PLANTER. INTERCEPT AND PLACE NEW WEATHERPROOF JUNCTION BOX ON INSIDE FACE OF PLANTER WITH TOP BELOW LEVEL OF SEATING CONCEALED FROM VIEW. EXTEND CIRCUIT TO NEW STEP LIGHTS IN NEW SEATING WALL. (1"C-2#10,1#12G.)
4. NEW BOLLARD LOCATION IN PLANTER MATCHING EXISTING BOLLARDS IN PLACEMENT. (FOOTING AND BASE PER 4/5E0.62). BORE NEW CONDUITS UNDER PLANTER WALL FOOTING AND EXISTING WALK TO QUAD LANDSCAPE AREA FOR NEW CONDUIT ROUTING.



ELECTRICAL SITE LIGHTING PLAN | SCALE 1/16"=1'-0" | 1

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07/18/2025	100% CONSTRUCTION DOCUMENTS
08/06/2025	DSA V1
12/05/2025	DSA V2
03/20/2026	DSA V3

#	REVISION DATE	DESCRIPTION

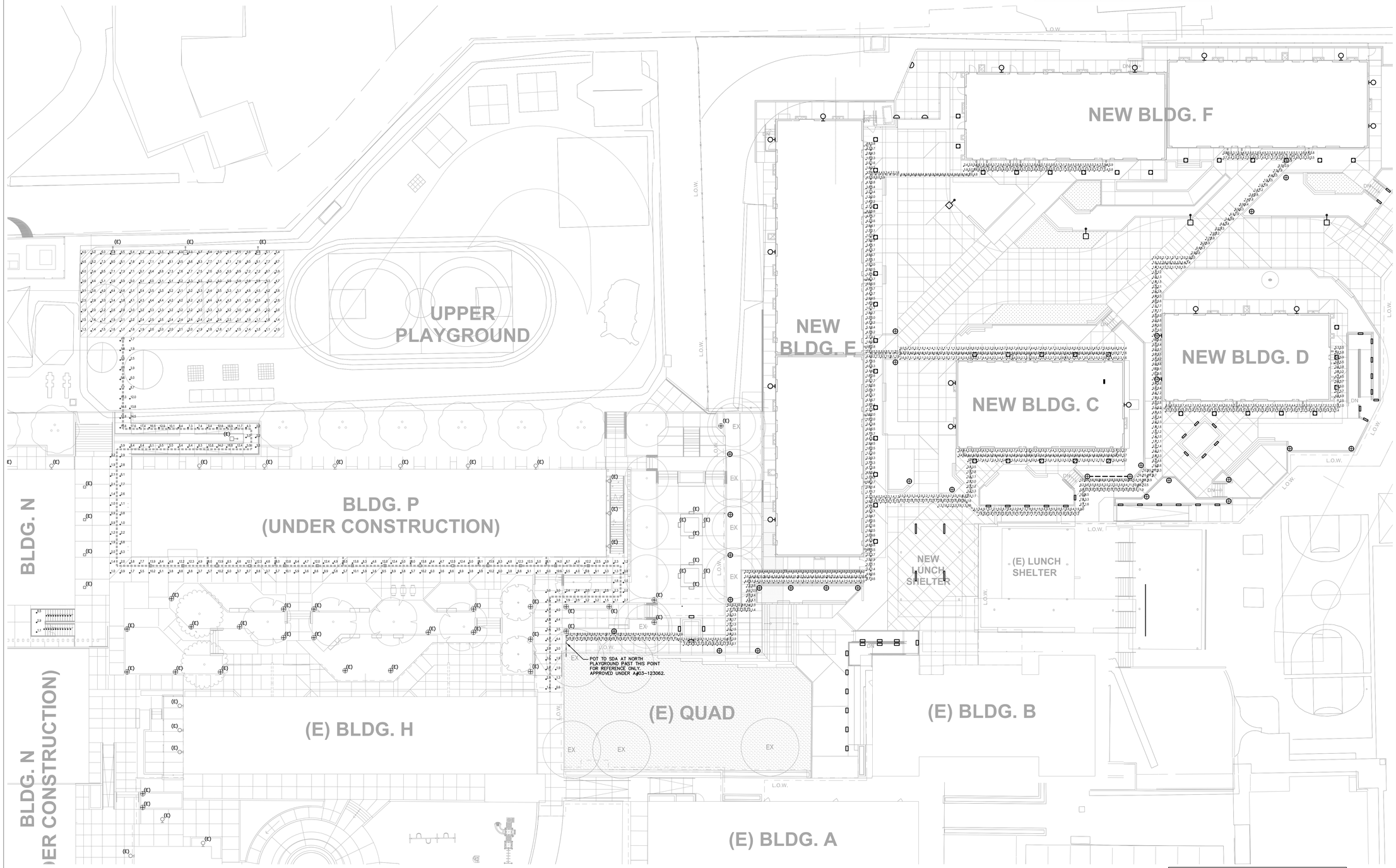
DRAWING TITLE

ELECTRICAL SITE LIGHTING PLAN

5E1.20

SCALE: AS INDICATED

PLOT DATE



Schedule											
Symbol	Label	Image	Quantity	Manufacturer	Catalog Number	Description	Number Lamps	Lumens Per Lamp	Light Loss Factor	Wattage	Voltage
○	B90		42	Southern Architectural Lighting	SPSW.35.ST.4K.FMW.UV	SPUN SITE WRAP 4K FMW UV	1	3000	0.90	35.1	277
○	S1		29	TCP/TWINKLE LIGHTING INC.	TWKLE_STAR_SL.001	TWKLE_STAR_SL.001	1	1,644	0.90	20	120
□	S272		4	CURRAN	0408 (0203) TC4830	Hardtop 1 Street arm wire lightkey luminaire	1	4762	0.90	44	120
□	S274		4	CURRAN	0408 (0203) TC4830	Hardtop 1 Street arm wire lightkey luminaire	1	6248	0.90	56	120
○	S372		4	CURRAN	(1) 0213.72 R4830	CRAFT 1 Surface Mount luminaire	1	3302	0.90	27.3	120
○	S374		3	CURRAN	(1) 0213.74 R4830	CRAFT 1 Surface Mount luminaire	1	5108	0.90	37.3	120
—	S4		47	CURRAN	SPI-0323-WH	Inspire 4 recessed strip lights	1	420	0.90	10.7	120

Statistics					
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Calc Zone #3	+	3.3 fc	15.0 fc	0.1 fc	150.0:1	33.0:1
Calc Zone #4	+	4.4 fc	8.1 fc	0.0 fc	N/A	N/A
Calc Zone #5	+	3.8 fc	6.1 fc	0.8 fc	7.6:1	4.8:1
Calc Zone #6	+	3.9 fc	9.7 fc	0.7 fc	13.9:1	5.6:1
Calc Zone #7	+	5.0 fc	7.5 fc	2.4 fc	3.1:1	2.1:1
Calc Zone #10	+	2.0 fc	10.4 fc	0.2 fc	52.0:1	10.0:1
Calc Zone #11	+	4.1 fc	6.5 fc	0.1 fc	65.0:1	41.0:1
Calc Zone #12	+	4.8 fc	18.6 fc	0.2 fc	93.0:1	24.0:1
Calc Zone #14	+	5.4 fc	11.1 fc	2.0 fc	5.6:1	2.7:1
Calc Zone #15	+	3.1 fc	12.3 fc	0.3 fc	41.0:1	10.3:1
Calc Zone #16	+	3.8 fc	12.9 fc	0.2 fc	64.5:1	19.0:1

NOTE:
LIGHTING CALCULATION VALUES INDICATED ON THIS SHEET ARE PROVIDED FOR REFERENCE ONLY AND REFLECT THE CALCULATED ANTICIPATED VALUES AT POINT LOCATIONS INDICATED. VALUES ARE CALCULATED WITH DATA PROVIDED BY THE MANUFACTURER AND TAKEN UNDER CONTROLLED CONDITIONS. THE MANUFACTURER CONDUCTS ALL DATA TESTING UNDER ILLUMINATION ENGINEERING SOCIETY (IES) APPROVED PROCEDURES.

N

ELECTRICAL SITE LIGHTING PLAN | SCALE 1/16"=1'-0" | 1

If this sheet is smaller than 30" high by 42" wide then it has been reduced.

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DATE: 05/07/2026

Practice
135 W. Green St Suite 200 Pasadena, CA 91105 | 626.568.1248 | practice-la.com

LA CAÑADA UNIFIED SCHOOL DISTRICT
ESTABLISHED 1965

Salas O'Brien
salasobrien.com 949.753.1553
Irvine
8825 Research Drive
Irvine, CA 92618

Project No.: 2022-01629-05

REGISTERED PROFESSIONAL ENGINEER
ROY L. LOPEZ
No. 13442
Exp. 09/30/26
ELECTRICAL
STATE OF CALIFORNIA

PARADISE CANYON E.S.

PACKAGE 5 - NEW NORTH BUILDINGS

471 KNIGHT WAY, LA CAÑADA FLINTRIDGE, CA 91011

PROJECT NUMBER 20911

LICENSED ARCHITECT
HARRY R DRAKE
NO. C-014869
REN. 05-31-27
STATE OF CALIFORNIA

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04/19/2024	100% SCHEMATIC DESIGN
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REVISION DATE	DESCRIPTION

DRAWING TITLE

ELECTRICAL SITE LIGHTING PHOTOMETRICS

5E1.21

SCALE: AS INDICATED

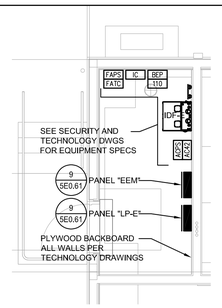
PLOT DATE

KEY NOTES

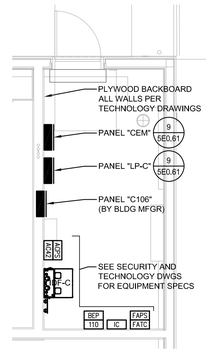
1. NEW 4'X4' X DEPTH AS REQUIRED FLUSH IN GRADE PULL BOX MARKED "POWER"
2. NEW 2'X3'X DEPTH AS REQUIRED FLUSH IN GRADE PULL BOX MARKED "POWER"
3. NEW 2'X3'X DEPTH AS REQUIRED FLUSH IN GRADE PULL BOX MARKED "SOLAR PV"
4. STUB CONDUITS UP INTO ROOM SPACE FOR CONNECTION TO PV EQUIPMENT.
5. SITE CONDUITS AND BUILDING FEEDERS PER SINGLE LINE DIAGRAM.
6. MODULAR BUILDING PANEL SUPPLIED BY BUILDING MANUFACTURER. SEE SINGLE LINE DIAGRAM.
7. EXISTING (3) MODULAR CLASSROOMS TO REMAIN. CONTRACTOR TO DISCONNECT BUILDINGS FROM INTERIM HOUSING AND REMOVE CABLES AND TEMP POLES. RECONNECT TO PERMANENT POWER FROM MAIN SERVICE BOARD VIA DISTRIBUTION BOARD "LDBF." INTERCEPT EXISTING 3" CONDUIT ONLY AT REAR OF EXISTING PORTABLE AND CONNECT TO NEW CONDUIT SYSTEM. CONNECT PANEL HP1 WITH FEEDERS PER SINGLE LINE DIAGRAM
8. BUILDING LOAD CENTER FEEDER TO BE ROUTED IN BUILDING CRAWL SPACE
9. POWER FOR SPRINKLER BELL, 120V. HOMERUN TO NEAREST ELECTRICAL PANEL. PROVIDE 20A/1P LOCKABLE BREAKER WITH FIRE ALARM LABEL IN PANEL.
10. POWER FOR IDF-D. INSTALL RECEPTACLE WITHIN IDF CABINET.

SITE GENERAL NOTES

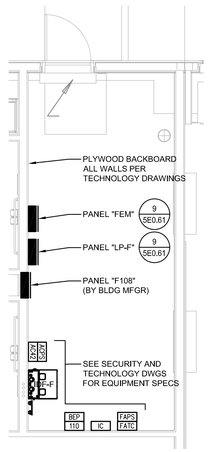
1. SEE SHEET E0.02 FOR TYPICAL PLAN AND SYSTEMS GENERAL NOTES AND REQUIREMENTS. CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL REQUIREMENTS INDICATED.



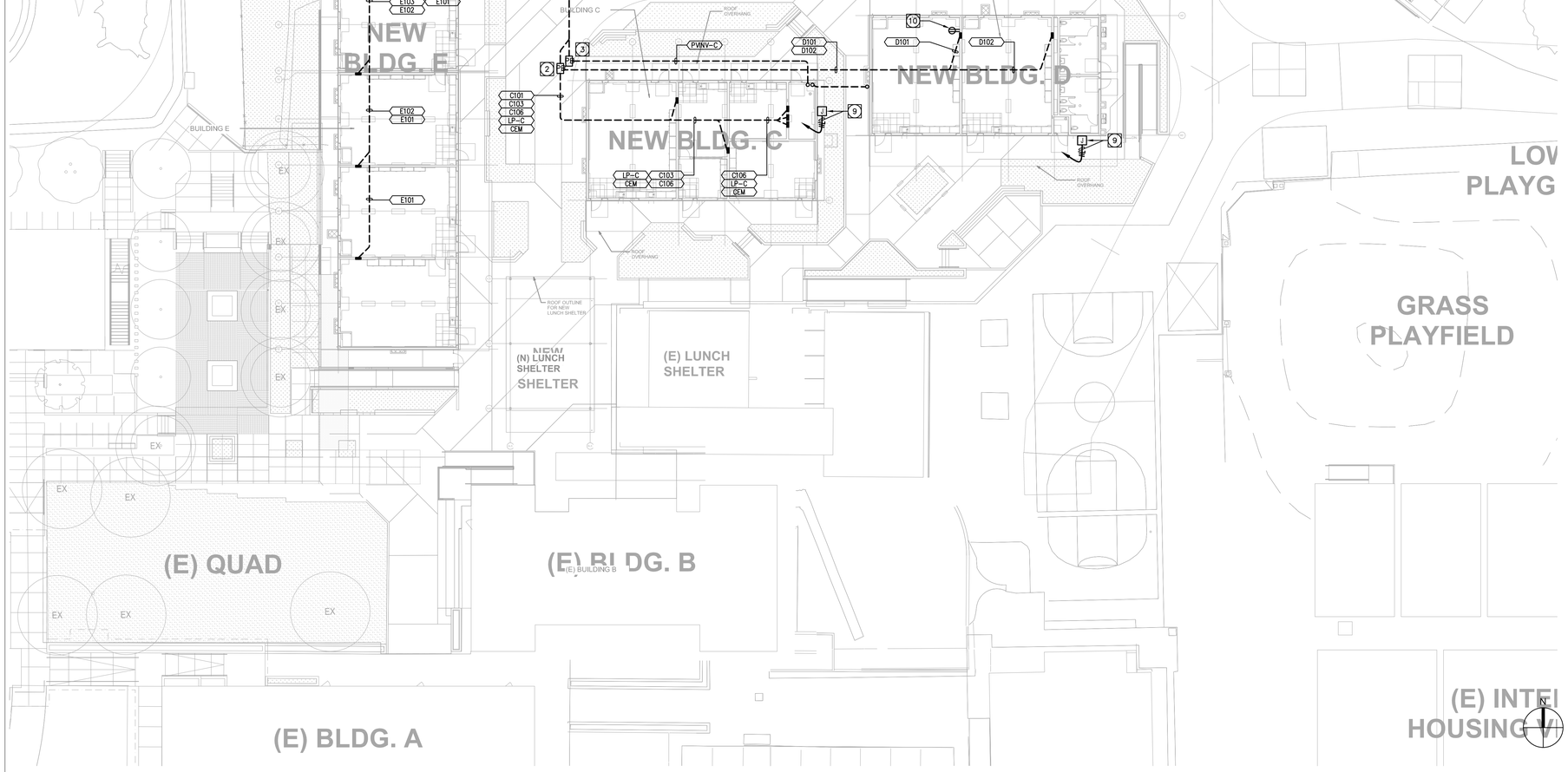
BLDG E - UTILITY ROOM | SCALE 1/4"=1'-0" | 5



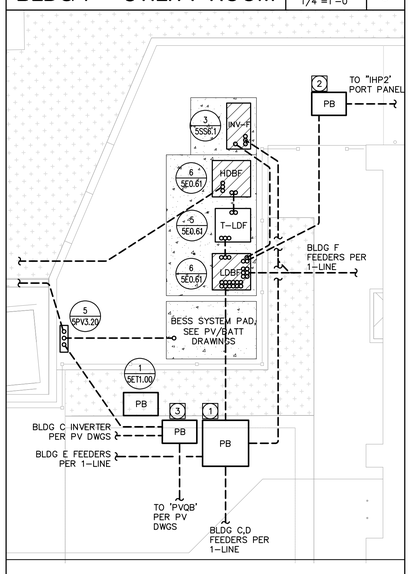
BLDG C - UTILITY ROOM | SCALE 1/4"=1'-0" | 4



BLDG F - UTILITY ROOM | SCALE 1/4"=1'-0" | 3



ELECTRICAL POWER PLAN | SCALE 1/16"=1'-0" | 1



ELECTRICAL YARD | SCALE 3/16"=1'-0" | 2

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REVISION DATE	DESCRIPTION

DRAWING TITLE

ELECTRICAL POWER PLAN

5E2.10

SCALE: AS INDICATED

PLOT DATE

APPLICABLE STANDARDS

APPLICABLE CODES
2025 CALIFORNIA ADMINISTRATIVE CODE (CAC), PART 1, TITLE 24 CCR
2022 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 CCR
2022 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 CCR
2022 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 CCR
2022 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 CCR
2022 CALIFORNIA ENERGY CODE, PART 6, TITLE 24 CCR
2022 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24 CCR
2022 CALIFORNIA EXISTING BUILDING CODE (CEBC), PART 10, TITLE 24 CCR
2022 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN), PART 11, TITLE 24 CCR
2022 CALIFORNIA REFERENCED STANDARDS CODE, PART 12, TITLE 24 CCR
TITLE 19 CCR, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS

APPLICABLE STANDARDS
FOR A LIST OF APPLICABLE STANDARDS, INCLUDING CALIFORNIA AMENDMENTS TO THE NFPA STANDARDS, REFER TO CBC CHAPTER 35 AND CFC CHAPTER 80.

MEP COMPONENT ANCHORAGE NOTE
ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA-APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2022 CBC SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTERS 13, 26, AND 30:

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G., HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.
3. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS:

A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVING 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.

THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH THE ABOVE REQUIREMENTS.

APPLICABLE CODE: 2022 CBC PER IR 16-13.

MEP DISTRIBUTION SYSTEM BRACING NOTE FOR PIPING, DUCTWORK, AND ELECTRICAL CONDUIT

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7 SECTION 13.3 AS DEFINED IN ASCE 7 SECTIONS 13.6.5, 13.6.6, 13.6.7, AND 13.6.8; AND 2022 CBC SECTIONS 1617A.1.24, 1617A.1.25, AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEMS ARE AS NOTED BELOW. THE MEP DESIGN PROFESSIONAL ENGINEER RESPONSIBLE FOR CONTENT ON THESE SHEETS HAS VERIFIED THAT THE DESIGN METHODS IDENTIFIED BELOW ARE IN ACCORDANCE WITH DSA IR 16-13.

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

MP☐MD☐PP☐E☒ – OPTION 1: PROJECT-SPECIFIC DESIGN.

MP☐MD☐PP☐E☐ – OPTION 2: DESIGN BASED ON OSHPD OPM, WITHIN PROJECT SUBMITTAL

MP☐MD☐PP☐E☐ – OPTION 3: DESIGN BASED ON OSHPD OPM, DEFERRED SUBMITTAL

FIRE ALARM GENERAL NOTES

1. FIRE ALARM INSTALLATIONS, OPERATION AND TESTING SHALL COMPLY WITH APPLICABLE STANDARD NFPA 72, AS ADOPTED AND AMENDED CFC CHAPTER 35.
2. FIRE ALARM INSTALLATIONS SHALL NOT COMMENCE UNTIL DETAILED DESIGN DOCUMENTS AND SPECIFICATIONS, INCLUDING STATE FIRE MARSHAL LISTING NUMBERS FOR EACH COMPONENT OF THE SYSTEM HAVE BEEN APPROVED BY DSA.
3. A COMPLETE, STAMPED SET OF APPROVED FIRE ALARM DESIGN DOCUMENTS SHALL BE ON THE JOB SITE AND USED FOR INSTALLATION.
4. UPON COMPLETION OF THE SYSTEM INSTALLATION, CONTRACTOR SHALL PERFORM A 100% PRE-TEST OF THE SYSTEM DEVICES FOR FULL FUNCTIONALITY AND INTELLIGIBILITY OF VOICE MESSAGES, PRIOR TO FINAL ACCEPTANCE, INSPECTION AND TESTING WITH THE DSA IOR.
5. CONTRACTOR SHALL SUBMIT A WRITTEN INSPECTION/TESTING REQUEST TO THE DISTRICT'S CONSTRUCTION MANAGER OR OTHER REPRESENTATIVE, ARCHITECT AND IOR, A MINIMUM OF 48 HRS PRIOR TO THE REQUESTED DATE OF FINAL ACCEPTANCE INSPECTION AND TESTING.
6. CONTRACTOR SHALL PERFORM A TEST OF ALL DEVICES INSTALLED IN THE SYSTEM FOR FULL FUNCTIONALITY AND INTELLIGIBILITY OF VOICE MESSAGES WITH THE DSA IOR.
7. ALL PENETRATIONS THROUGH FIRE-RATED ASSEMBLIES, REQUIRING OPENING PROTECTION, SHALL BE PROVIDED WITH A PENETRATION FIRE STOP SYSTEM AS IDENTIFIED IN CBC CHAPTER 7, UL OR OTHER APPROVED LAB TESTING CRITERIA. APPROVED TYPES OF MATERIALS SHALL BE IDENTIFIED WITHIN THE PROJECT SPECIFICATIONS WITHIN THE FIRE ALARM SECTION.
8. WITHIN THE ACOUSTICALLY DISTINGUISHABLE SPACES (ADS) WHERE VOICE INTELLIGIBILITY IS REQUIRED, VOICE COMMUNICATIONS SYSTEMS SHALL REPRODUCE PRERECORDED, SYNTHESIZED OR LIVE MESSAGES WITH VOICE INTELLIGIBILITY PER NFPA 72, 18.4.10.
9. CONTRACTOR SHALL ADJUST/INSTALL ALL DEVICES TO MAXIMIZE PERFORMANCE AND MINIMIZE NUISANCE ALARMS.
10. VISUAL DEVICES SHALL NOT EXCEED TWO FLASHES PER SECOND AND SHALL NOT BE SLOWER THAN ONE FLASH PER SECOND. THE DEVICE SHALL HAVE A PULSING LIGHT SOURCE NOT LESS THAN 15 CANDELA. VISIBLE DEVICES WITHIN 55' OF EACH OTHER SHALL BE SYNCHRONIZED.
11. UNDERGROUND AND EXTERIOR CONDUITS SHALL HAVE WATER-TIGHT FITTINGS AND CONDUCTORS SHALL BE APPROVED FOR WET LOCATIONS.
12. ALL FIRE ALARM CABLE SHALL BE FIRE POWER LIMITED (FPL), FIRE POWER LIMITED RISER (FPLR) OR FIRE POWER LIMITED PLENUM (FPLP), AS REQUIRED FOR THE APPLICATION. ALL FIRE ALARM WIRE IN CONDUIT SHALL BE TYPE THHN/THWN.
13. ANY DISCREPANCIES BETWEEN THE DRAWINGS AND THE CODE OR RECOGNIZED STANDARDS SHALL BE BROUGHT TO THE ATTENTION OF DSA AND THE ARCHITECT/ENGINEER OF RECORD OF THE PROJECT.
14. FIRE ALARM CONDUCTORS SHALL NOT BE SPLICED NOR EXTENDED BY USE OF WIRE NUTS OR OTHER MECHANICAL CONNECTORS. FIRE ALARM CONDUCTORS SHALL ONLY BE EXTENDED UTILIZING TERMINAL BLOCKS LOCATED INSIDE UL LISTED BOXES, ENCLOSURES OR ON FIRE ALARM DEVICES. IMPROPER TERMINATION OF FIRE ALARM CONDUCTORS SHALL BE REPORTED AS A DEFICIENCY BY THE DSA INSPECTOR OF RECORD.
15. ALL UNDERGROUND FIRE ALARM CONDUCTORS SHALL RUN BUILDING TO BUILDING AND TERMINATE ON TERMINAL BLOCKS WITHIN THE TERMINAL CABINET, WITHOUT SPLICES OR TERMINATIONS IN CONDUITS OR PULL BOXES. UNDERGROUND SPLICING SHALL BE REPORTED AS A DEFICIENCY BY THE DSA IOR.
16. ALL BOXES SHALL BE SIZED PER CEC REQUIREMENTS.
17. SMOKE DETECTORS SHALL NOT BE INSTALLED WITHIN 36" OF AN HVAC SUPPLY REGISTER NOR WITHIN 12" OF A FIRE SPRINKLER HEAD.
18. ALL FIRE ALARM CONDUCTORS INSTALLED ON THIS PROJECT SHALL BE IN CONDUIT OR SURFACE MOUNTED RACEWAY.
19. ALL INDOOR FIRE ALARM CONDUIT SHALL BE MINIMUM OR SURFACE MOUNTED RACEWAY OF EQUIVALENT CAPACITY, BUT IN NO CASE SHALL CONDUIT EXCEED 40% FILL PER CEC.
20. ALL EXTERIOR FIRE ALARM CONDUIT SHALL BE 2" MINIMUM, BUT IN NO CASE SHALL CONDUIT EXCEED 40% FILL PER CEC.
21. FIRE ALARM CONTROL PANELS, REMOTE POWER EXPANDERS, REMOTE AMPLIFIERS AND OTHER CABINET MOUNTED COMPONTENTS SHALL BE SECURED TO MOUNTING SURFACES PER MANUFACTURER'S SPECIFICATIONS. NO SINGLE DEVICE SHALL EXCEED 20 LBS WITHOUT SPECIAL MOUNTING DETAILS.
22. A DEDICATED 20A., 120VAC BRANCH CIRCUIT SHALL BE PROVIDED FOR FIRE ALARM EQUIPMENT. THIS CIRCUIT SHALL BE ENERGIZED FROM THE COMMON USE AREA PANEL AND SHALL POWER FIRE ALARM EQUIPMENT ONLY. ALL FIRE ALARM CIRCUIT BREAKERS SHALL A HAVE RED MARKING AND SHALL BE PROVIDED WITH A LOCK-ON DEVICE. FIRE ALARM CIRCUIT BREAKERS SHALL BE LABELED FIRE ALARM. CIRCUIT IDENTIFICATION SHALL BE PERMANENTLY LABELED AT ALL CONTROL PANELS, REMOTE POWER EXPANDERS AND REMOTE AMPLIFIERS.
23. AT FINAL ACCEPTANCE INSPECTION AND TEST, CONTRACTOR SHALL PROVIDE A COMPLETED SYSTEM RECORD OF COMPLETION PER NFPA 72, FIGURE 17.8.2.
24. FIRE ALARM CONTROL PANELS, REMOTE ANNUNCIATORS, REMOTE MICROPHONES OR ANY OTHER CONTROL EQUIPMENT SHALL BE MOUNTED WITH THE BOTTOM OF THE CONTROL INTERFACE AT 48" ABOVE FINISHED FLOOR.
25. CONTRACTOR SHALL PROVIDE SYSTEM PROGRAMMING FOR SUPERVISORY MONITORING PER CBC SECTION 901.6.2. OWNER SHALL PROVIDE CENTRAL STATION MONITORING ACCOUNT. COORDINATE WITH OWNER FOR CENTRAL STATION MONITORING PROVIDER AND ACCOUNT INFORMATION.
26. COMMUNICATION TO THE SUPERVISING STATION SHALL BE TESTED AND VERIFIED AS SENDING CORRECT SIGNALS IN CONJUNCTION WITH THE FINAL ACCEPTANCE TEST.
27. CONTRACTOR SHALL PROVIDE A CODE REQUIRED LOCKED DOCUMENT CABINET ADJACENT TO THE FIRE ALARM CONTROL PANEL OR REMOTE ANNUNCIATOR. BOTH HARDCOPY AND ELECTRONIC (PDF) FILES OF THE FIRE ALARM RECORD DRAWINGS AND A COPY OF THE SYSTEM PROGRAM FILE SHALL BE KEPT IN THE DOCUMENT CABINET.
28. CONTRACTOR SHALL PROVIDE AND INSTALL A UL LISTED BATTERY CABINET AT FACP WHEN BATTERY REQUIREMENTS EXCEED 18AH AND AT REMOTE POWER EXPANDERS AND REMOTE AMPLIFIERS WHEN BATTERY REQUIREMENTS EXCEED 12AH.
29. FIRE ALARM WIRING SHALL BE CUT AT THE POINT OF EACH TERMINATION. LOOPING OF WIRE AROUND TERMINALS SHALL BE UNACCEPTABLE AND SHALL BE REPORTED AS A DEFICIENCY BY THE INSPECTOR OF RECORD.
30. DEFICIENCIES, IF ANY, SHALL BE REPORTED IN WRITING BY THE DSA IOR. ANY DEFICIENCIES REPORTED SHALL BE CORRECTED WITHIN 48 HOURS AND THOSE SPECIFIC ITEMS SHALL BE RE-TESTED PRIOR TO THE IOR'S RECORDS ENDORSEMENT OF THE NFPA 72 RECORD OF COMPLETION.
31. ALL FIRE ALARM EQUIPMENT SHALL BE INSTALLED PER THE MANUFACTURER'S INSTALLATION MANUALS AND/OR INSTALLATION INSTRUCTIONS.
32. CONTRACTOR SHALL PROVIDE AND INSTALL A RED AND WHITE SIGN ON THE EXTERIOR OF THE DOOR LEADING TO THE ROOM HOUSING THE MAIN FIRE ALARM CONTROL PANEL. SIGN SHALL STATE, FACP INSIDE OR FIRE ALARM CONTROL PANEL INSIDE, IN LETTERING MINIMUM 2" IN HEIGHT. SIGNS MOUNTED OUTDOORS SHALL BE WATER RESISTANT AND UV RESISTANT.
33. IF AT ANY TIME THE EXISTING FIRE ALARM SYSTEM NEEDS TO BE DISCONNECTED OR TAKEN OFF LINE, THE CONTRACTOR SHALL PROVIDE FIRE WATCH FOR ALL OCCUPIED AREAS AFFECTED BY THE OUTAGE FOR THE DURATION OF THE SYSTEM OUTAGE. FIRE WATCH AND SYSTEM/EQUIPMENT SHALL BE PER 2022 CFC 901.7

FIRE ALARM EQUIPMENT SCHEDULE

Symbol	Model #	Manufacturer	Description	C.S.F.M.#
FACP	IFP-2100ECS (E)A#03-123062	FARENHYT	FIRE ALARM CONTROL PANEL WITH INTEGRAL DIALER (DACT) (BLACK CABINET). PROVIDE WITH CELLULAR COMMUNICATOR AND IP PHONE INTERFACE.	7165-0559: 0505
FAPS	RPS-1000	FARENHYT	FIRE ALARM POWER SUPPLY	7165-0559: 0505
AMP	ECS-125W	FARENHYT	REMOTE AMPLIFIER	7300-0559: 0173
ANN	RA-1000/R (E)A#03-123062	FARENHYT	REMOTE ANNUNCIATOR	7165-0559: 0505
②	IDP-PHOTO-W	FARENHYT	PHOTOELECTRIC SMOKE DETECTOR	7272-0559: 0512
	B300-6	SYSTEM SENSOR	BASE	7300-1653: 0109
①	5600 SERIES	SYSTEM SENSOR	PHOTOELECTRIC SMOKE DETECTOR	7270-1653: 0167
	B300-6	SYSTEM SENSOR	BASE	7300-1653: 0109
ISO	IDP-ISO	FARENHYT	SLC LOOP LINE ISOLATOR MODULE (FIELD COORDINATE EXACT LOCATION IN INITIATION DEVICE LOOP ROUTING. (PROVIDE (1) FOR MAXIMUM OF EVERY 25 ADDRESSABLE DEVICES)	7300-0559: 0153
M	IDP-MONITOR	FARENHYT	MONITOR MODULE	7300-0559: 0155
R	IDP-RELAY	FARENHYT	RELAY MODULE (24VDC)	7300-0559: 0155
C 15 FW	SPSCWL	SYSTEM SENSOR	CEILING MOUNTED COMBINATION STROBE/SPEAKER (NUMBER ADJACENT INDICATES CANDELA RATING AND SPEAKER WATTAGE)	7320-1653: 0505
15 FW	SPSRK	SYSTEM SENSOR	WALL MOUNTED COMBINATION STROBE/SPEAKER WITH WEATHERPROOF BACK BOX (NUMBER ADJACENT INDICATES CANDELA RATING AND SPEAKER WATTAGE)	7320-1653: 0505
W WP	SPWK	SYSTEM SENSOR	WALL MOUNTED EXTERIOR SPEAKER ONLY, MOUNT IN FLUSH ENCLOSURE.	7320-1653: 0201
	SSM/SSV SERIES	SYSTEM SENSOR	FIRE ALARM BELL, 10" DIAMETER, RED, COLOR, 120V	7135-1653: 0217
TS	OSY2	SYSTEM SENSOR	SUPERVISORY SWITCH (TAMPER SWITCH)	7770-1653: 0231
FS	WFD SERIES	SYSTEM SENSOR	WATERFLOW DETECTOR	7770-1653: 0231
EOL	7628	HONEYWELL	4.7K OHM END OF LINE RESISTOR	N/A

FIRE ALARM CONDUCTOR SCHEDULE

DESIGN.	DESCRIPTION	MANUFACTURER	DRY LOCATION	WET LOCATION
D	(1)#16 UTP, FPL (SLC)	WEST PENN*	D990	AQC225
A or V	(2)#12 THHN/THWN (VISUAL STROBE, VOICE)	ENCORE*	(2)#12 THHN/THWN	(2)#12 THHN/THWN
P	(2)#14 THHN/THWN (AUX POWER OR IDC)	ENCORE*	(2)#14 THHN/THWN	(2)#14 THHN/THWN
B	(1)#16/4 COND, FPL (S-BUS)	WEST PENN*	992	AQ245
L	(1)#16 TSP, FPL (V-BUS)	WEST PENN*	D991	AQC294
NOTE:	* OR APPROVED EQUAL			

FIRE ALARM ABBREVIATIONS

A	AMPERE
AC	ALTERNATING CURRENT
AMP	AMPLIFIER (EVACS)
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
C	CONDUIT
CD	CANDELA (STROBE)
CBC	CALIFORNIA BUILDING CODE
CEC	CALIFORNIA ELECTRICAL CODE
CFC	CALIFORNIA FIRE CODE
CFCI	CONTRACTOR FURNISHED CONTRACTOR INSTALLED
CKT	CIRCUIT
CO	CONDUIT ONLY
DACT	DIGITAL ALARM COMMUNICATOR TRANSMITTER
DC	DIRECT CURRENT
(E)	ESISTING EQUIPMENT TO REMAIN
EC	ELECTRICAL CONTRACTOR
EOL	END OF LINE RESISTOR
EOLP	END OF LINE RELAY FOR POWER
(ER)	EXISTING EQUIPMENT RELOCATED
FA	FIRE ALARM
FAA	FIRE ALARM ANNUNCIATOR
FACP	FIRE ALARM CONTROL PANEL
FABC	FIRE ALARM BATTERY CABINET
FATC	FIRE ALARM TERMINAL CABINET
FS	FLOW SWITCH (SPRINKLER)
FSC	FIRE SPRINKLER CONTRACTOR
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
IDC	INITIATING DEVICE CIRCUIT
IOR	INSPECTOR OF RECORD
MAX	MAXIMUM
MC	MECHANICAL CONTRACTOR
MIN	MINIMUM
(N)	NEW EQUIPMENT
NAC	NOTIFICATION APPLIANCE CIRCUIT
NC	NORMALLY CLOSED CONTACT
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN CONTACT
NTS	NOT TO SCALE
OC	ON CENTER
OFCI	OWNER FURHISHED, CONTRACTOR INSTALLED
P	POLE
PB	PULL BOX
PNL	PANEL (ELECTRICAL)
POC	POINT OF CONNECTION
(R)	EXISTING EQUIPMENT TO BE REMOVED
(RR)	EXISTING EQUIPMENT TO BE REMOVED AND RELOCATED
RPS	REMOTE POWER SUPPLY
RTU	ROOF TOP UNIT
SLC	SIGNALLING LINE CIRCUIT
TS	TAMPER SWITCH
TYP	TYPICAL
UG	UNDERGROND
UNO	UNLESS NOTED OTHERWISE
V	VOLTS
VAC	VOLTS, ALTERNATING CURRENT
VDC	VOLTS, DIRECT CURRENT
W	WATTS (SPEAKER)
WG	WIREGUARD
WP	WEATHERPROOF

FIRE ALARM SEQUENCE OF OPERATION

ACTION \ DEVICE	CONTROL PANEL	MANUAL PULL STATION	SMOKE DETECTOR	A/C POWER FAILURE	WIRING FAULTS	WATERFLOW	TAMPER	GROUND FAULT	OPEN CIRCUIT
ACTIVATE ALL ALARM SIGNALS	YES	YES	YES	NO	NO	YES	YES	NO	NO
ACTIVATE REMOTE ANNUCIATOR	YES	YES	YES	YES	YES	YES	YES	YES	YES
ACTIVATE TROUBLE OR SUPERVISORY SIGNAL	YES	NO	NO	YES	YES	NO	YES	YES	YES
SEND SIGNAL TO UL LISTED CENTRAL STATION	YES	YES	YES	YES	YES	YES	YES	YES	YES
SHUT DOWN AH-UNIT	YES	YES	YES	NO	NO	YES	NO	NO	NO

FIRE ALARM SCOPE OF WORK

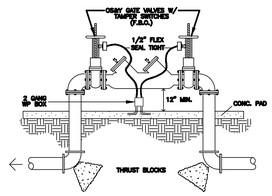
PROVIDE NEW ADDRESSABLE, VOICE EVAC AUTOMATIC FIRE ALARM SYSTEM, INITIATION DEVICES, NOTIFICATION DEVICES (VISUAL AND SPEAKER STROBES) FOR NEW MODULAR CLASSROOM BUILDINGS C, D, E AND F. NEW FIRE ALARM SYSTEM TO BE CONNECTED TO EXISTING CAMPUS FIRE ALARM SYSTEM (A#03-123062) CONTROL PANEL LOCATED IN EXISTING 2-STORY BUILDING. CONTRACTOR SHALL PROVIDE ALL CONDUIT, WIRE, DEVICES, BOXES, ANCILLARY DEVICES, TESTING AND CLOSE OUT DOCUMENTATION FOR A COMPLETE AND OPERABLE SYSTEM.

NOTE: THIS SCOPE OF FIRE ALARM WORK, AS AN EXPANSION OF THE EXISTING FIRE ALARM CONTROL PANEL UNDER A#03-123062, SHALL NOT BE COMPLETE AND CERTIFIED PRIOR TO THE CERTIFICATION AND CLOSE OUT OF THE FACP INSTALLATION A#03-123062

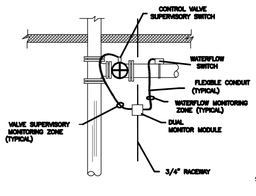
FIRE ALARM SHEET INDEX

5EFA0.01	FIRE ALARM SYMBOLS AND NOTES
5EFA0.21	FIRE ALARM DETAILS
5EFA0.30	FIRE ALARM BLOCK DIAGRAM
5EFA0.40	FIRE ALARM CALCULATIONS
5EFA1.00	FIRE ALARM SITE PLAN
5EFA2.01	BLDGS C & D – FIRE ALARM FLOOR PLAN
5EFA2.02	BLDG E – FIRE ALARM FLOOR PLAN
5EFA2.03	BLDG F – FIRE ALARM FLOOR PLAN

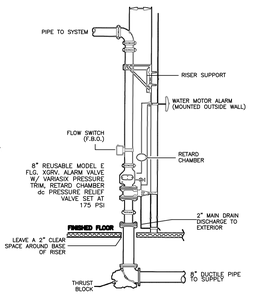
TYPICAL FIRE SPRINKLER SYSTEM DETAILS



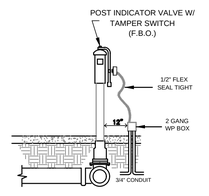
OS & Y



RISER



RISER



P.I.V. & TAMPER SW.

FIRE ALARM SYSTEM COMPLETE SUBMITTAL
FIRE ALARM DESIGN, DOCUMENTATION AND PROJECT SUBMITTAL IN COMPLIANCE WITH DIVISION OF THE STATE ARCHITECT SUBMITTAL GUIDELINE IR A-21

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DATE: 05/07/2026

Practice
135 W. Green St Suite 200 Pasadena, CA 91105 | 626.568.1248 | practice-la.com

Salas O'Brien
salasobrien.com 949.753.1553
Irvine
8825 Research Drive
Irvine, CA 92618

Project No.: 2022-01629-05

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PARADISE CANYON E.S.

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PROJECT NUMBER 20911

LICENSED ARCHITECT HARRY R DRAKE NO. C-014869 REN. 05-31-27 STATE OF CALIFORNIA

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08/06/2025 DSA V1
12/05/2025 DSA V2
03/20/2026 DSA V3

#. REVISION DATE DESCRIPTION

DRAWING TITLE

FIRE ALARM SYMBOLS AND NOTES

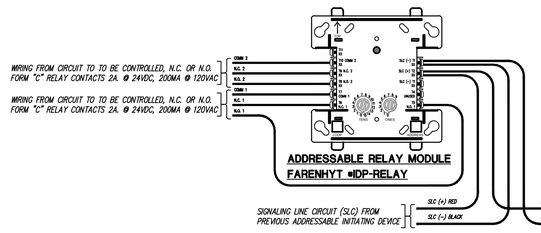
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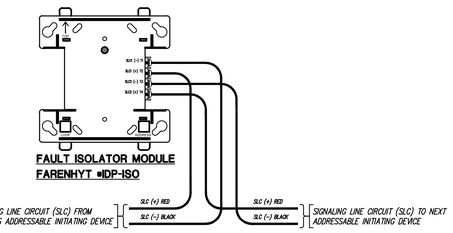
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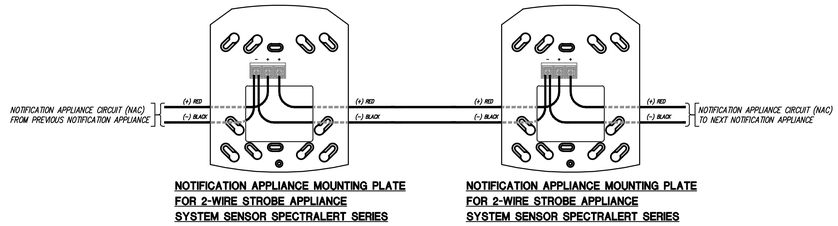
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ADDRESSABLE RELAY MODULE
FARENHYT #IDP-RELAY



FAULT ISOLATOR MODULE
FARENHYT #IDP-ISO

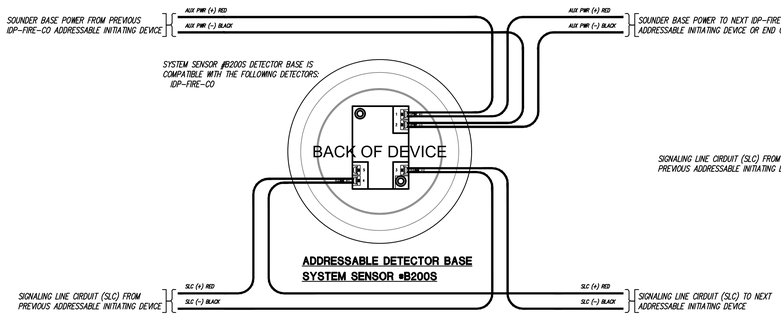


NOTIFICATION APPLIANCE MOUNTING PLATE FOR 2-WIRE STROBE APPLIANCE SYSTEM SENSOR SPECTRALERT SERIES

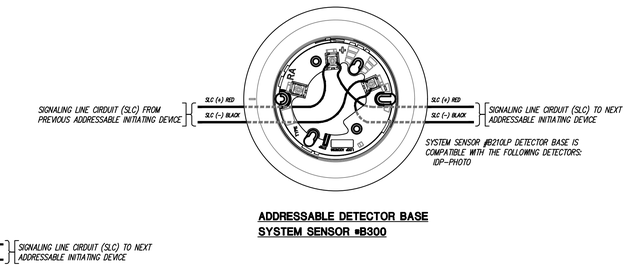
NOTIFICATION APPLIANCE MOUNTING PLATE FOR 2-WIRE STROBE APPLIANCE SYSTEM SENSOR SPECTRALERT SERIES

TYPICAL 2-WIRE NOTIFICATION APPLIANCE WIRING DIAGRAM

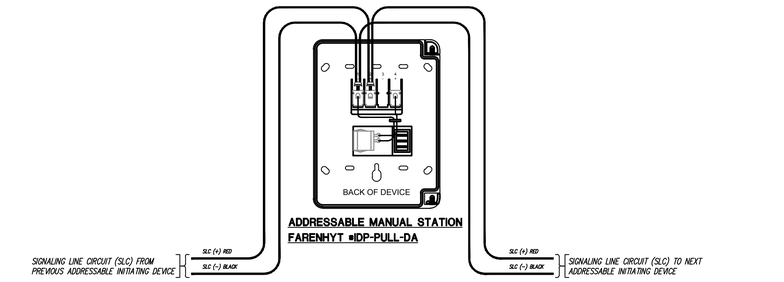
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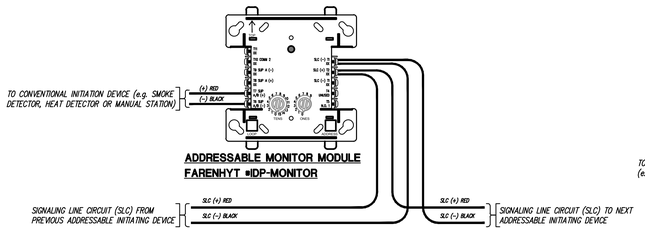
ADDRESSABLE DETECTOR BASE
SYSTEM SENSOR #B200S



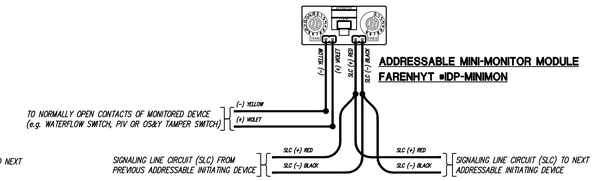
ADDRESSABLE DETECTOR BASE
SYSTEM SENSOR #B300



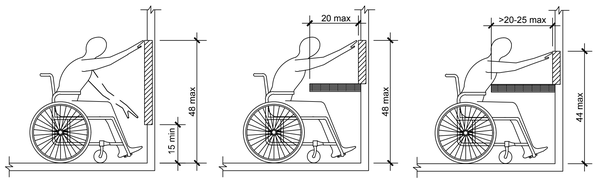
ADDRESSABLE MANUAL STATION
FARENHYT #IDP-PULL-DA



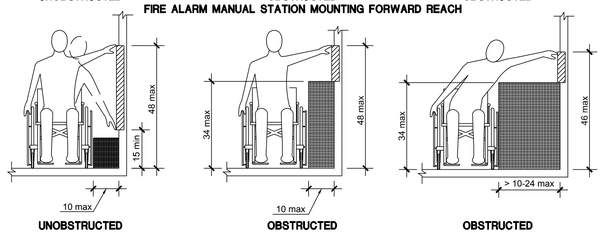
ADDRESSABLE MONITOR MODULE
FARENHYT #IDP-MONITOR



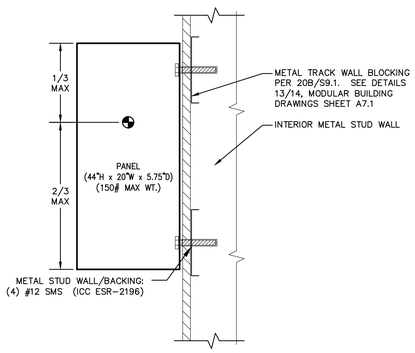
ADDRESSABLE MINI-MONITOR MODULE
FARENHYT #IDP-MINIMON



FIRE ALARM MANUAL STATION MOUNTING FORWARD REACH



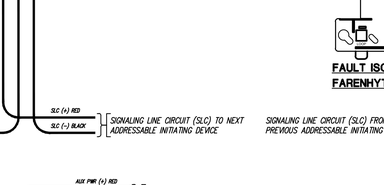
MOUNTING HEIGHT OVER OBSTRUCTION (PULL STATION)



WALL MOUNTING

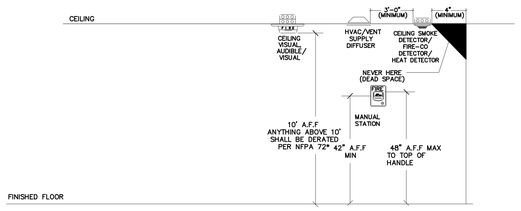
PANEL MOUNTING DETAILS

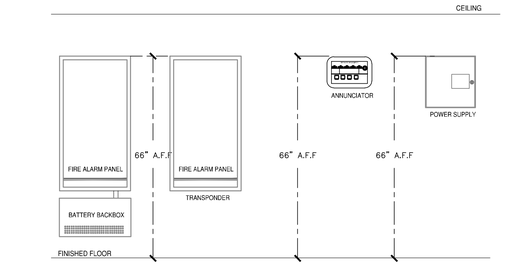
FIRE ALARM EQUIPMENT SCHEDULE



DETECTOR MOUNTING DETAIL

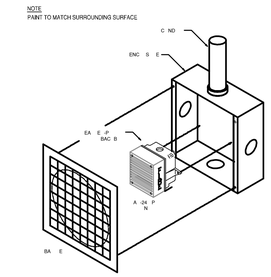
1. ALL WALL-MOUNTED VISUAL SIGNALING APPLIANCES SHALL BE MOUNTED SUCH THAT THE BOTTOM LENS IS NOT LESS THAN 80 IN. AND TOP OF LENS IS NOT GREATER THAN 96 IN. ABOVE THE FINISHED FLOOR (A.F.F.) PER NFPA 72, 18.5.5.1. ALL WALL MOUNTED AUDIBLE DEVICES SHALL BE A MINIMUM OF 90 IN. A.F.F. TO TOP OF DEVICE PER NFPA 72, 18.4.8.1. AREAS HAVING MORE THAN 2 STROBES IN THE FIELD OF VIEW SHALL BE SYNCRONIZED PER NFPA 72, 18.5.5.4.2.
2. ALL MANUAL PULL STATIONS SHALL BE +42IN MINIMUM AND +48IN. MAXIMUM ABOVE FINISHED FLOOR TO THE HIGHEST POINT OF THE ACTIVATING HANDLE OR LEVER PER CFC 907.4.2.2.
3. PER NFPA-72, 17.7.3.2.1 SPOT-TYPE SMOKE DETECTORS SHALL BE LOCATED ON THE CEILING NOT LESS THAN 100mm (4 in.) FROM A SIDEWALL TO THE NEAR EDGE OR, IF ON A SIDEWALL BETWEEN 100mm AND 300mm (4 in. AND 12 in.) DOWN FROM THE CEILING TO THE TOP OF THE DETECTOR.



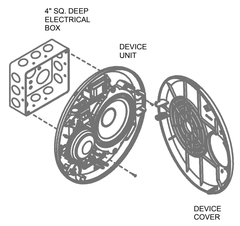


BAC B M N NG E E A N DE A

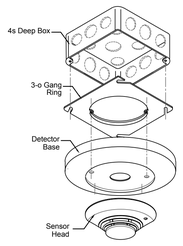
DEVICE MOUNTING DETAILS



WEATHER-PROOF AUDIBLE



SPEAKER/STROBE NOTIFICATION DEVICE



SMOKE DETECTOR

DEVICE DETAILS

FIRE ALARM SYSTEM COMPLETE SUBMITTAL
FIRE ALARM DESIGN, DOCUMENTATION AND PROJECT SUBMITTAL IN COMPLIANCE WITH DIVISION OF THE STATE ARCHITECT SUBMITTAL GUIDELINE IR A-21

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DIV. OF THE STATE ARCHITECT
APP: 03-125476 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 05/07/2026

Practice
135 W. Green St Suite 200 Pasadena, CA 91105 | 626.568.1248 | practice-la.com

LA CAÑADA UNIFIED SCHOOL DISTRICT ESTABLISHED 1965

Salas O'Brien
salasobrien.com 949.753.1553
Irvine
8825 Research Drive
Irvine, CA 92618

Project No.: 2022-01629-05

REGISTERED PROFESSIONAL ENGINEER ROY L. LOPEZ No. 13442 Exp. 09/30/26 ELECTRICAL STATE OF CALIFORNIA

PARADISE CANYON E.S.

PACKAGE 5 - NEW NORTH BUILDINGS

471 KNIGHT WAY, LA CAÑADA FLINTRIDGE, CA 91011

PROJECT NUMBER 20911

LICENSED ARCHITECT HARRY R DAKE NO. C-014869 REN. 05-31-27 STATE OF CALIFORNIA

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07/05/2024	50% DESIGN DEVELOPMENT
08/16/2024	100% DESIGN DEVELOPMENT
04/11/2025	50% CONSTRUCTION DOCUMENTS
07/18/2025	100% CONSTRUCTION DOCUMENTS
08/06/2025	DSA V1
12/05/2025	DSA V2
03/20/2026	DSA V3

#	REVISION DATE	DESCRIPTION

DRAWING TITLE

FIRE ALARM DETAILS

5EFA0.20

SCALE: AS INDICATED

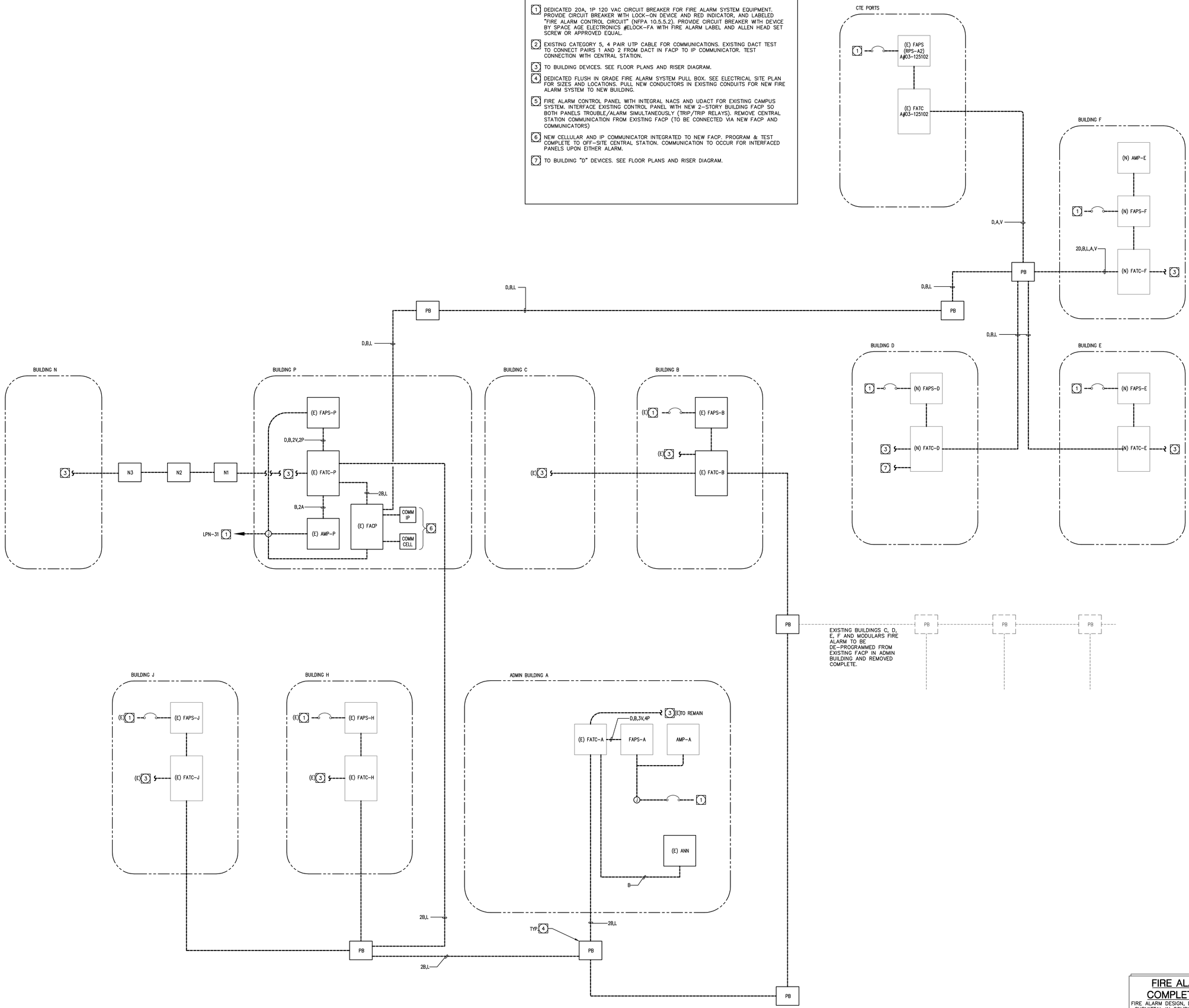
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SHEET NOTES

1. DEDICATED 20A, 1P 120 VAC CIRCUIT BREAKER FOR FIRE ALARM SYSTEM EQUIPMENT. PROVIDE CIRCUIT BREAKER WITH LOCK-ON DEVICE AND RED INDICATOR, AND LABELED "FIRE ALARM CONTROL CIRCUIT" (NFPA 10.5.5.2). PROVIDE CIRCUIT BREAKER WITH DEVICE BY SPACE AGE ELECTRONICS #ELOCK-FA WITH FIRE ALARM LABEL AND ALLEN HEAD SET SCREW OR APPROVED EQUAL.
2. EXISTING CATEGORY 5, 4 PAIR UTP CABLE FOR COMMUNICATIONS. EXISTING DACT TEST TO CONNECT PAIRS 1 AND 2 FROM DACT IN FACP TO IP COMMUNICATOR. TEST CONNECTION WITH CENTRAL STATION.
3. TO BUILDING DEVICES. SEE FLOOR PLANS AND RISER DIAGRAM.
4. DEDICATED FLUSH IN GRADE FIRE ALARM SYSTEM PULL BOX. SEE ELECTRICAL SITE PLAN FOR SIZES AND LOCATIONS. PULL NEW CONDUCTORS IN EXISTING CONDUITS FOR NEW FIRE ALARM SYSTEM TO NEW BUILDING.
5. FIRE ALARM CONTROL PANEL WITH INTEGRAL NACS AND UDACT FOR EXISTING CAMPUS SYSTEM. INTERFACE EXISTING CONTROL PANEL WITH NEW 2-STORY BUILDING FACP SO BOTH PANELS TROUBLE/ALARM SIMULTANEOUSLY (TRIP/TRIP RELAYS). REMOVE CENTRAL STATION COMMUNICATION FROM EXISTING FACP (TO BE CONNECTED VIA NEW FACP AND COMMUNICATORS)
6. NEW CELLULAR AND IP COMMUNICATOR INTEGRATED TO NEW FACP. PROGRAM & TEST COMPLETE TO OFF-SITE CENTRAL STATION. COMMUNICATION TO OCCUR FOR INTERFACED PANELS UPON EITHER ALARM.
7. TO BUILDING "D" DEVICES. SEE FLOOR PLANS AND RISER DIAGRAM.



FIRE ALARM SYSTEM COMPLETE SUBMITTAL

FIRE ALARM DESIGN, DOCUMENTATION AND PROJECT SUBMITTAL IN COMPLIANCE WITH DIVISION OF THE STATE ARCHITECT SUBMITTAL GUIDELINE IR A-21

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FIRE ALARM BLOCK DIAGRAM

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03/20/2026	DSA V3

#.	REVISION DATE	DESCRIPTION

DRAWING TITLE

FIRE ALARM BLOCK DIAGRAM

5EFA0.30

SCALE: AS INDICATED

PLOT DATE

FAPS-C - Farenhyt RPS-1000 Battery Calculation Worksheet

Device Description	Model No.	Qty	Standby Current	Total Standby Current	Alarm Current	Total Alarm Current
Remote Power Supply	RPS-1000	1	0.010000	0.010000	0.010000	0.010000
15cd Speaker/Strobe Ceiling	SPSCRL/SPSCWL	1			0.041000	0.041000
30cd Speaker/Strobe Ceiling	SPSCRL/SPSCWL	4			0.086000	0.344000
75cd Speaker/Strobe Ceiling	SPSCRL/SPSCWL	4			0.111000	0.444000
			Standby Current	0.010000	Alarm Current	0.839000
STANDBY HOURS	24	x	0.010	0.240	Total Standby Amp/Hours	
ALARM HOURS	0.250	x	0.839	0.210	Total Alarm Amp/Hours	
				0.450	Total Amp/Hours	
			x	125%	25% Spare Capacity	
				0.563	Battery Amp/Hours Minimum Required	

ALARM HOURS = 5 MINUTES (0.083 HOURS) FOR NON-VOICE SYSTEMS - REFERENCE NFPA 72 (2022) SECTION 10.6.7.2.1
ALARM HOURS = 15 MINUTES (0.250 HOURS) FOR VOICE SYSTEMS - REFERENCE NFPA 72 (2022) SECTION 10.6.7.2.1(1)

(E) FACP (Bldg A) - Farenhyt IFP-2100ECS Battery Calculation Worksheet

Device Description	Model No.	Qty	Standby Current	Total Standby Current	Alarm Current	Total Alarm Current
(E)Fire Alarm Control Panel*	IFP-2100ECS	1	0.170000	0.170000	0.170000	0.170000
(E)Remote Annunciator	RA-1000	1	0.025000	0.025000	0.050000	0.050000
(E)Photo Smoke Detector	IDP-PHOTO-W	159	0.000200	0.031800	0.004500	0.715500
(E)Heat Detector - Hi-temp	5600	75	0.000300	0.022500	0.006500	0.487500
(E)Smoke/Carbon Monoxide Detector	IDP-HIRE-CO	5	0.000300	0.001500	0.000300	0.001500
(E)Fire/CO Detector Base	B300-6	5	0.000375	0.001875	0.035000	0.175000
(E)Photo Smoke Detector (CSFD)	IDP-PHOTO-W	7	0.000200	0.001400	0.017000	0.119000
(E)Photo Smoke Detector (Duct	IDP-PHOTO-W	1	0.000200	0.000200	0.000300	0.000300
(E)Relay Module	FRM-1(A)	10	0.000170	0.001700	0.005500	0.055000
(E)Monitor Module	FMM-1(A)	9	0.005000	0.045000	0.000350	0.003150
(N)Photo Smoke Detector	IDP-PHOTO-W	48	0.000200	0.009600	0.004500	0.216000
(N)Monitor Module	FMM-1(A)	8	0.005000		0.063000	0.504000
			Standby Current	0.369575	Alarm Current	2.555950
STANDBY HOURS	24	x	0.370	8.880	Total Standby Amp/Hours	
ALARM HOURS	0.250	x	2.556	0.639	Total Alarm Amp/Hours	
				9.519	Total Amp/Hours	
			x	125%	25% Spare Capacity	
				11.899	Battery Amp/Hours Minimum Required	

ALARM HOURS = 5 MINUTES (0.083 HOURS) FOR NON-VOICE SYSTEMS - REFERENCE NFPA 72 (2022) SECTION 10.6.7.2.1 ALARM HOURS = 15 MINUTES (0.250 HOURS) FOR VOICE SYSTEMS - REFERENCE NFPA 72 (2022) SECTION 10.6.7.2.1(1)

* Contractor shall provide (1) #6815 Loop Expander inside new Fire Alarm Control Panel.

FAPS-F - Farenhyt RPS-1000 Battery Calculation Worksheet

Device Description	Model No.	Qty	Standby Current	Total Standby Current	Alarm Current	Total Alarm Current
Remote Power Supply	RPS-1000	1	0.010000	0.010000	0.010000	0.010000
15cd Speaker/Strobe Ceiling	SPSCRL/SPSCWL	4			0.041000	0.164000
30cd Speaker/Strobe Ceiling	SPSCRL/SPSCWL	2			0.086000	0.172000
75cd Speaker/Strobe Ceiling	SPSCRL/SPSCWL	5			0.111000	0.555000
			Standby Current	0.010000	Alarm Current	0.901000
STANDBY HOURS	24	x	0.010	0.240	Total Standby Amp/Hours	
ALARM HOURS	0.250	x	0.901	0.226	Total Alarm Amp/Hours	
				0.466	Total Amp/Hours	
			x	125%	25% Spare Capacity	
				0.583	Battery Amp/Hours Minimum Required	

ALARM HOURS = 5 MINUTES (0.083 HOURS) FOR NON-VOICE SYSTEMS - REFERENCE NFPA 72 (2022) SECTION 10.6.7.2.1
ALARM HOURS = 15 MINUTES (0.250 HOURS) FOR VOICE SYSTEMS - REFERENCE NFPA 72 (2022) SECTION 10.6.7.2.1(1)

(E) CTE MODULARS (A#03-125102)

(E)RPS-A2 - Notifier PSE-6 Battery Calculation Worksheet

Device Description	Model No.	Qty	Standby Current	Total Standby Current	Alarm Current	Total Alarm Current
(E) Remote Power Supply	PSE-6	1	0.015000	0.015000	1.500000	1.500000
(N) 75cd Speaker Strobe Ceiling	SPSCRL/SPSCWL	3			0.143000	0.429000
			Standby Current	0.015000	Alarm Current	2.399000
STANDBY HOURS	24	x	0.015	0.360	Total Standby Amp/Hours	
ALARM HOURS	0.083	x	2.399	0.200	Total Alarm Amp/Hours	
				0.560	Total Amp/Hours	
			x	125%	25% Spare Capacity	
				0.700	Battery Amp/Hours Recommended Minimum	

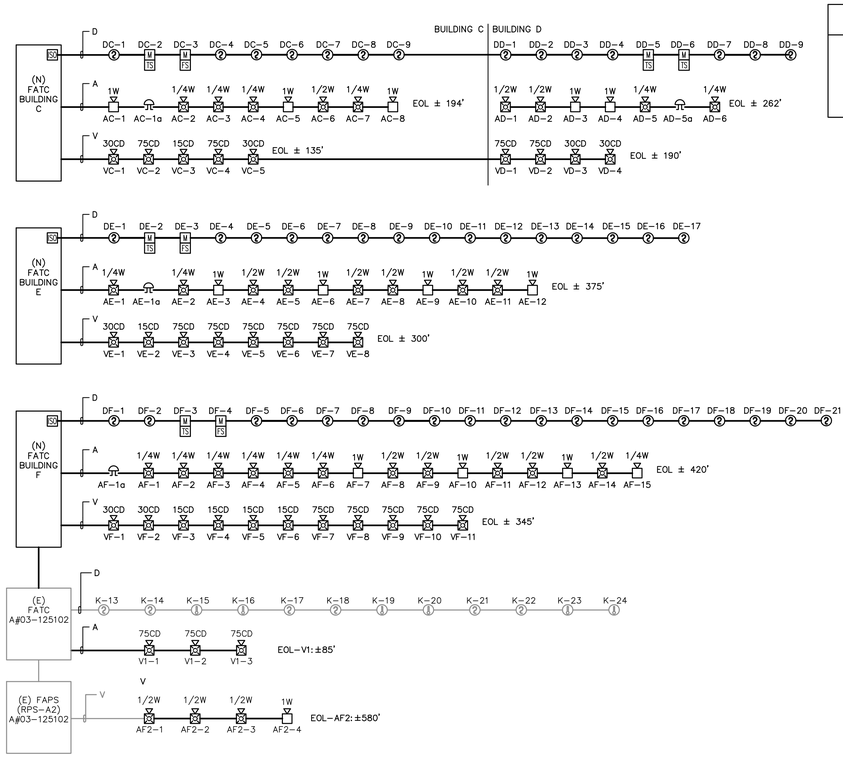
ALARM HOURS = 5 MINUTES (0.083 HOURS) FOR NON-VOICE SYSTEMS - REFERENCE NFPA 72 (2022) SECTION 10.6.7.2.1 ALARM HOURS = 15 MINUTES (0.250 HOURS) FOR VOICE SYSTEMS - REFERENCE NFPA 72 (20122 SECTION 10.6.7.2.1(1)

NOTE: CONTRACTOR TO PROIVDE 7.0AH RATED BATTERIES

FAPS-E - Farenhyt RPS-1000 Battery Calculation Worksheet

Device Description	Model No.	Qty	Standby Current	Total Standby Current	Alarm Current	Total Alarm Current
Remote Power Supply	RPS-1000	1	0.010000	0.010000	0.010000	0.010000
15cd Speaker/Strobe Ceiling	SPSCRL/SPSCWL	1			0.041000	0.041000
30cd Speaker/Strobe Ceiling	SPSCRL/SPSCWL	1			0.086000	0.086000
75cd Speaker/Strobe Ceiling	SPSCRL/SPSCWL	6			0.111000	0.666000
			Standby Current	0.010000	Alarm Current	0.803000
STANDBY HOURS	24	x	0.010	0.240	Total Standby Amp/Hours	
ALARM HOURS	0.250	x	0.803	0.201	Total Alarm Amp/Hours	
				0.441	Total Amp/Hours	
			x	125%	25% Spare Capacity	
				0.552	Battery Amp/Hours Minimum Required	

ALARM HOURS = 5 MINUTES (0.083 HOURS) FOR NON-VOICE SYSTEMS - REFERENCE NFPA 72 (2022) SECTION 10.6.7.2.1
ALARM HOURS = 15 MINUTES (0.250 HOURS) FOR VOICE SYSTEMS - REFERENCE NFPA 72 (2022) SECTION 10.6.7.2.1(1)



Project Name: Paradise Canyon ES - Fire Alarm New Building
Panel Location:
Panel: FAPS-F

NAC SCHEDULE / VOLTAGE DROP CALCULATION
10 % MAXIMUM VOLTAGE DROP
CIRCUIT OUTPUT VOLTAGE = 20.4 (FOR CALCULATIONS)

CIRCUIT	DESCRIPTION	ESTIMATED CIRCUIT LENGTH	Speaker/Strobe 15cd 0.071	Speaker/Strobe 30cd 0.090	Speaker/Strobe 75cd 0.143	TOTAL CKT. LOAD (AMPS)	WIRE GAUGE (18, 16, 14, 12)	ACTUAL VOLTAGE DROP %	ACTUAL VOLTAGE DROP (VOLTS)	TOTAL CIRCUIT RESISTANCE	PANEL/ POWER SUPPLY
			VOLTAGE DROP TOTALS								
VF1	VISUAL CIRCUIT	345 ft.	4	2	5	1.179	12	7.70%	1.570	1.3 Ohms	FAPS-F
	SPARE	ft.				0.000	12	0.00%	0.000	0.0 Ohms	FAPS-F
	SPARE	ft.				0.000	12	0.00%	0.000	0.0 Ohms	FAPS-F
	SPARE	ft.				0.000	12	0.00%	0.000	0.0 Ohms	FAPS-F
			4	2	5						

METHOD USED TO CALCULATE PERCENT OF VOLTAGE DROP:
((CIRCUIT LENGTH IN FEET X 2) (AMPS X OHMS/FOOT)) X 100
20.4 VOLTS
Wire Resistance At 75 Degrees Celsius
Ohm/1000 ft
12GA = 1.93
14GA = 3.07
16GA = 4.89
18GA = 7.77
WIRE RESISTANCE BASED ON TABLE 8 FROM NATIONAL ELECTRICAL CODE (UNCOATED SOLID COPPER WIRE)
NOTE:
LUMP SUM METHOD WAS USED TO CALCULATE ALLOWABLE VOLTAGE DROP. THIS METHOD ALLOWS FOR A SMALL MARGIN OF SAFETY, TAKING INTO CONSIDERATION THE ACTUAL INSTALLED CIRCUIT ROUTING MAY DIFFER FROM WHAT IS SHOWN ON THE SHOP DRAWINGS. IF THE ACTUAL CIRCUIT LENGTH IS GOING TO EXCEED THE MAXIMUM ALLOWABLE CIRCUIT LENGTH, CONTACT YOU LOCAL SIMPLEX BRANCH.

Project Name: Paradise Canyon ES - Fire Alarm New Building
Panel Location:
Panel: AMP-F

NAC SCHEDULE / VOLTAGE DROP CALCULATION
10 % MAXIMUM VOLTAGE DROP
CIRCUIT OUTPUT VOLTAGE = 70 (FOR CALCULATIONS)

CIRCUIT	DESCRIPTION	ESTIMATED CIRCUIT LENGTH	Spkr/Strobe 1/4W 0.004	Spkr/Strobe 1/2W 0.007	EX. SPEAKER 1/4W 0.014	EX. SPEAKER 1W 0.014	TOTAL CKT. LOAD (AMPS)	WIRE GAUGE (18, 16, 14, 12)	ACTUAL VOLTAGE DROP %	ACTUAL VOLTAGE DROP (VOLTS)	TOTAL CIRCUIT RESISTANCE	PANEL/ POWER SUPPLY
			VOLTAGE DROP TOTALS									
AF1	AUDIO CIRCUIT	420 ft.	6	5	1	3	0.112	16	0.66%	0.460	4.1 Ohms	AMP-F
AF2	AUDIO CIRCUIT (CTE PORTABLES)	580 ft.		3		1	0.035	16	0.28%	0.199	5.7 Ohms	AMP-F
	SPARE	ft.					0.000	16	0.00%	0.000	0.0 Ohms	AMP-F
	SPARE	ft.					0.000	16	0.00%	0.000	0.0 Ohms	AMP-F
			6	8	1	4						

METHOD USED TO CALCULATE PERCENT OF VOLTAGE DROP:
((CIRCUIT LENGTH IN FEET X 2) (AMPS X OHMS/FOOT)) X 100
70 VOLTS
Wire Resistance At 75 Degrees Celsius
Ohm/1000 ft
12GA = 1.93
14GA = 3.07
16GA = 4.89
18GA = 7.77
WIRE RESISTANCE BASED ON TABLE 8 FROM NATIONAL ELECTRICAL CODE (UNCOATED SOLID COPPER WIRE)
NOTE:
LUMP SUM METHOD WAS USED TO CALCULATE ALLOWABLE VOLTAGE DROP. THIS METHOD ALLOWS FOR A SMALL MARGIN OF SAFETY, TAKING INTO CONSIDERATION THE ACTUAL INSTALLED CIRCUIT ROUTING MAY DIFFER FROM WHAT IS SHOWN ON THE SHOP DRAWINGS. IF THE ACTUAL CIRCUIT LENGTH IS GOING TO EXCEED THE MAXIMUM ALLOWABLE CIRCUIT LENGTH, CONTACT YOU LOCAL SIMPLEX BRANCH.

Project Name: Paradise Canyon ES - Fire Alarm New Building
Panel Location:
Panel: FAPS-E

NAC SCHEDULE / VOLTAGE DROP CALCULATION
10 % MAXIMUM VOLTAGE DROP
CIRCUIT OUTPUT VOLTAGE = 20.4 (FOR CALCULATIONS)

CIRCUIT	DESCRIPTION	ESTIMATED CIRCUIT LENGTH	Speaker/Strobe 15cd 0.071	Speaker/Strobe 30cd 0.090	Speaker/Strobe 75cd 0.143	TOTAL CKT. LOAD (AMPS)	WIRE GAUGE (18, 16, 14, 12)	ACTUAL VOLTAGE DROP %	ACTUAL VOLTAGE DROP (VOLTS)	TOTAL CIRCUIT RESISTANCE	PANEL/ POWER SUPPLY
			VOLTAGE DROP TOTALS								
VE1	VISUAL CIRCUIT	300 ft.	1	1	6	1.019	12	5.78%	1.180	1.2 Ohms	FAPS-E
	SPARE	ft.				0.000	12	0.00%	0.000	0.0 Ohms	FAPS-E
	SPARE	ft.				0.000	12	0.00%	0.000	0.0 Ohms	FAPS-E
	SPARE	ft.				0.000	12	0.00%	0.000	0.0 Ohms	FAPS-E
			1	1	6						

METHOD USED TO CALCULATE PERCENT OF VOLTAGE DROP:
((CIRCUIT LENGTH IN FEET X 2) (AMPS X OHMS/FOOT)) X 100
20.4 VOLTS
Wire Resistance At 75 Degrees Celsius
Ohm/1000 ft
12GA = 1.93
14GA = 3.07
16GA = 4.89
18GA = 7.77
WIRE RESISTANCE BASED ON TABLE 8 FROM NATIONAL ELECTRICAL CODE (UNCOATED SOLID COPPER WIRE)
NOTE:
LUMP SUM METHOD WAS USED TO CALCULATE ALLOWABLE VOLTAGE DROP. THIS METHOD ALLOWS FOR A SMALL MARGIN OF SAFETY, TAKING INTO CONSIDERATION THE ACTUAL INSTALLED CIRCUIT ROUTING MAY DIFFER FROM WHAT IS SHOWN ON THE SHOP DRAWINGS. IF THE ACTUAL CIRCUIT LENGTH IS GOING TO EXCEED THE MAXIMUM ALLOWABLE CIRCUIT LENGTH, CONTACT YOU LOCAL SIMPLEX BRANCH.

Project Name: Paradise Canyon ES - Fire Alarm New Building
Panel Location:
Panel: AMP-E

NAC SCHEDULE / VOLTAGE DROP CALCULATION
10 % MAXIMUM VOLTAGE DROP
CIRCUIT OUTPUT VOLTAGE = 70 (FOR CALCULATIONS)

CIRCUIT	DESCRIPTION	ESTIMATED CIRCUIT LENGTH	Spkr/Strobe 1/4W 0.004	Spkr/Strobe 1/2W 0.007	EX. SPEAKER 1W 0.014	TOTAL CKT. LOAD (AMPS)	WIRE GAUGE (18, 16, 14, 12)	ACTUAL VOLTAGE DROP %	ACTUAL VOLTAGE DROP (VOLTS)	TOTAL CIRCUIT RESISTANCE	PANEL/ POWER SUPPLY
			VOLTAGE DROP TOTALS								
AE1	AUDIO CIRCUIT	375 ft.	2	6	4	0.105	16	0.55%	0.385	3.7 Ohms	AMP-E
	SPARE	ft.				0.000	16	0.00%	0.000	0.0 Ohms	AMP-E
	SPARE	ft.				0.000	16	0.00%	0.000	0.0 Ohms	AMP-E
	SPARE	ft.				0.000	16	0.00%	0.000	0.0 Ohms	AMP-E
			2	6	4						

METHOD USED TO CALCULATE PERCENT OF VOLTAGE DROP:
((CIRCUIT LENGTH IN FEET X 2) (AMPS X OHMS/FOOT)) X 100
70 VOLTS
Wire Resistance At 75 Degrees Celsius
Ohm/1000 ft
12GA = 1.93
14GA = 3.07
16GA = 4.89
18GA = 7.77
WIRE RESISTANCE BASED ON TABLE 8 FROM NATIONAL ELECTRICAL CODE (UNCOATED SOLID COPPER WIRE)
NOTE:
LUMP SUM METHOD WAS USED TO CALCULATE ALLOWABLE VOLTAGE DROP. THIS METHOD ALLOWS FOR A SMALL MARGIN OF SAFETY, TAKING INTO CONSIDERATION THE ACTUAL INSTALLED CIRCUIT ROUTING MAY DIFFER FROM WHAT IS SHOWN ON THE SHOP DRAWINGS. IF THE ACTUAL CIRCUIT LENGTH IS GOING TO EXCEED THE MAXIMUM ALLOWABLE CIRCUIT LENGTH, CONTACT YOU LOCAL SIMPLEX BRANCH.

Project Name: Paradise Canyon ES - Fire Alarm New Building
Panel Location:
Panel: FAPS-C

NAC SCHEDULE / VOLTAGE DROP CALCULATION
10 % MAXIMUM VOLTAGE DROP
CIRCUIT OUTPUT VOLTAGE = 20.4 (FOR CALCULATIONS)

CIRCUIT	DESCRIPTION	ESTIMATED CIRCUIT LENGTH	Speaker/Strobe 15cd 0.071	Speaker/Strobe 30cd 0.090	Speaker/Strobe 75cd 0.143	TOTAL CKT. LOAD (AMPS)	WIRE GAUGE (18, 16, 14, 12)	ACTUAL VOLTAGE DROP %	ACTUAL VOLTAGE DROP (VOLTS)	TOTAL CIRCUIT RESISTANCE	PANEL/ POWER SUPPLY
			VOLTAGE DROP TOTALS								
VC1	VISUAL CIRCUIT	135 ft.	1	2	2	0.537	12	1.37%	0.280	0.5 Ohms	FAPS-C
VD1	VISUAL CIRCUIT	190 ft.		2	2	0.466	12	1.68%	0.342	0.7 Ohms	FAPS-C
	SPARE	ft.				0.000	12	0.00%	0.000	0.0 Ohms	FAPS-C
	SPARE	ft.				0.000	12	0.00%	0.000	0.0 Ohms	FAPS-C
			1	4	4						

METHOD USED TO CALCULATE PERCENT OF VOLTAGE DROP:
((CIRCUIT LENGTH IN FEET X 2) (AMPS X OHMS/FOOT)) X 100
20.4 VOLTS
Wire Resistance At 75 Degrees Celsius
Ohm/1000 ft
12GA = 1.93
14GA = 3.07
16GA = 4.89
18GA = 7.77
WIRE RESISTANCE BASED ON TABLE 8 FROM NATIONAL ELECTRICAL CODE (UNCOATED SOLID COPPER WIRE)
NOTE:
LUMP SUM METHOD WAS USED TO CALCULATE ALLOWABLE VOLTAGE DROP. THIS METHOD ALLOWS FOR A SMALL MARGIN OF SAFETY, TAKING INTO CONSIDERATION THE ACTUAL INSTALLED CIRCUIT ROUTING MAY DIFFER FROM WHAT IS SHOWN ON THE SHOP DRAWINGS. IF THE ACTUAL CIRCUIT LENGTH IS GOING TO EXCEED THE MAXIMUM ALLOWABLE CIRCUIT LENGTH, CONTACT YOU LOCAL SIMPLEX BRANCH.

Project Name: Paradise Canyon ES - Fire Alarm New Building
Panel Location:
Panel: AMP-C

NAC SCHEDULE / VOLTAGE DROP CALCULATION
10 % MAXIMUM VOLTAGE DROP
CIRCUIT OUTPUT VOLTAGE = 70 (FOR CALCULATIONS)

CIRCUIT	DESCRIPTION	ESTIMATED CIRCUIT LENGTH	Spkr/Strobe 1/4W 0.004	Spkr/Strobe 1/2W 0.007	EX. SPEAKER 1W 0.014	TOTAL CKT. LOAD (AMPS)	WIRE GAUGE (18, 16, 14, 12)	ACTUAL VOLTAGE DROP %	ACTUAL VOLTAGE DROP (VOLTS)	TOTAL CIRCUIT RESISTANCE	PANEL/ POWER SUPPLY
			VOLTAGE DROP TOTALS								
AC1	AUDIO CIRCUIT	194 ft.	4	1	3	0.063	16	0.17%	0.120	1.9 Ohms	AMP-C
AD1	AUDIO CIRCUIT	262 ft.	2	2	2	0.049	16	0.18%	0.126	2.6 Ohms	AMP-C
	SPARE	ft.				0.000	16	0.00%	0.000	0.0 Ohms	AMP-C
	SPARE	ft.				0.000	16	0.00%	0.000	0.0 Ohms	AMP-C
			6	3	5						

METHOD USED TO CALCULATE PERCENT OF VOLTAGE DROP:
((CIRCUIT LENGTH IN FEET X 2) (AMPS X OHMS/FOOT)) X 100
70 VOLTS
Wire Resistance At 75 Degrees Celsius
Ohm/1000 ft
12GA = 1.93
14GA = 3.07
16GA = 4.89
18GA = 7.77
WIRE RESISTANCE BASED ON TABLE 8 FROM NATIONAL ELECTRICAL CODE (UNCOATED SOLID COPPER WIRE)
NOTE:
LUMP SUM METHOD WAS USED TO CALCULATE ALLOWABLE VOLTAGE DROP. THIS METHOD ALLOWS FOR A SMALL MARGIN OF SAFETY, TAKING INTO CONSIDERATION THE ACTUAL INSTALLED CIRCUIT ROUTING MAY DIFFER FROM WHAT IS SHOWN ON THE SHOP DRAWINGS. IF THE ACTUAL CIRCUIT LENGTH IS GOING TO EXCEED THE MAXIMUM ALLOWABLE CIRCUIT LENGTH, CONTACT YOU LOCAL SIMPLEX BRANCH.

SHEET NOTES

1. DISTANCES INDICATED INCLUDE DISTANCE FORM POWER SOURCE TO END OF LINE, PLUS AN ADDITIONAL 10' PER DEVICE.
2. REFERENCE FIRE ALARM BLOCK DIAGRAM, SHEET 5EFA0.30, FOR ADDITIONAL INFORMATION AND REQUIREMENTS

FIRE ALARM SYSTEM COMPLETE SUBMITTAL
FIRE ALARM DESIGN, DOCUMENTATION AND PROJECT SUBMITTAL IN COMPLIANCE WITH DIVISION OF THE STATE ARCHITECT SUBMITTAL GUIDELINE IR A-21

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-125476 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 05/07/2026

Practice
135 W. Green St Suite 200 Pasadena, CA 91105 | 626.568.1248 | practice-la.com

Salas O'Brien
salasobrien.com 949.753.1553
Irvine
8825 Research Drive
Irvine, CA 92618

Project No.: 2022-01629-05

REGISTERED PROFESSIONAL ENGINEER ROY L. LOPEZ No. 13442 Exp. 09/30/26 ELECTRICAL STATE OF CALIFORNIA

PARADISE CANYON E.S.

PACKAGE 5 - NEW NORTH BUILDINGS

471 KNIGHT WAY, LA CAÑADA FLINTRIDGE, CA 91011

PROJECT NUMBER 20911

LICENSED ARCHITECT HARRY R. DRAPE NO. C-014869 REN. 05-31-27 STATE OF CALIFORNIA

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ISSUE DATE	DESCRIPTION
04/19/2024	100% SCHEMATIC DESIGN
07/05/2024	50% DESIGN DEVELOPMENT
08/16/2024	100% DESIGN DEVELOPMENT
04/11/2025	50% CONSTRUCTION DOCUMENTS
07/18/2025	100% CONSTRUCTION DOCUMENTS
08/06/2025	DSA V1
12/05/2025	DSA V2
03/20/2026	DSA V3

REVISION DATE	DESCRIPTION

DRAWING TITLE

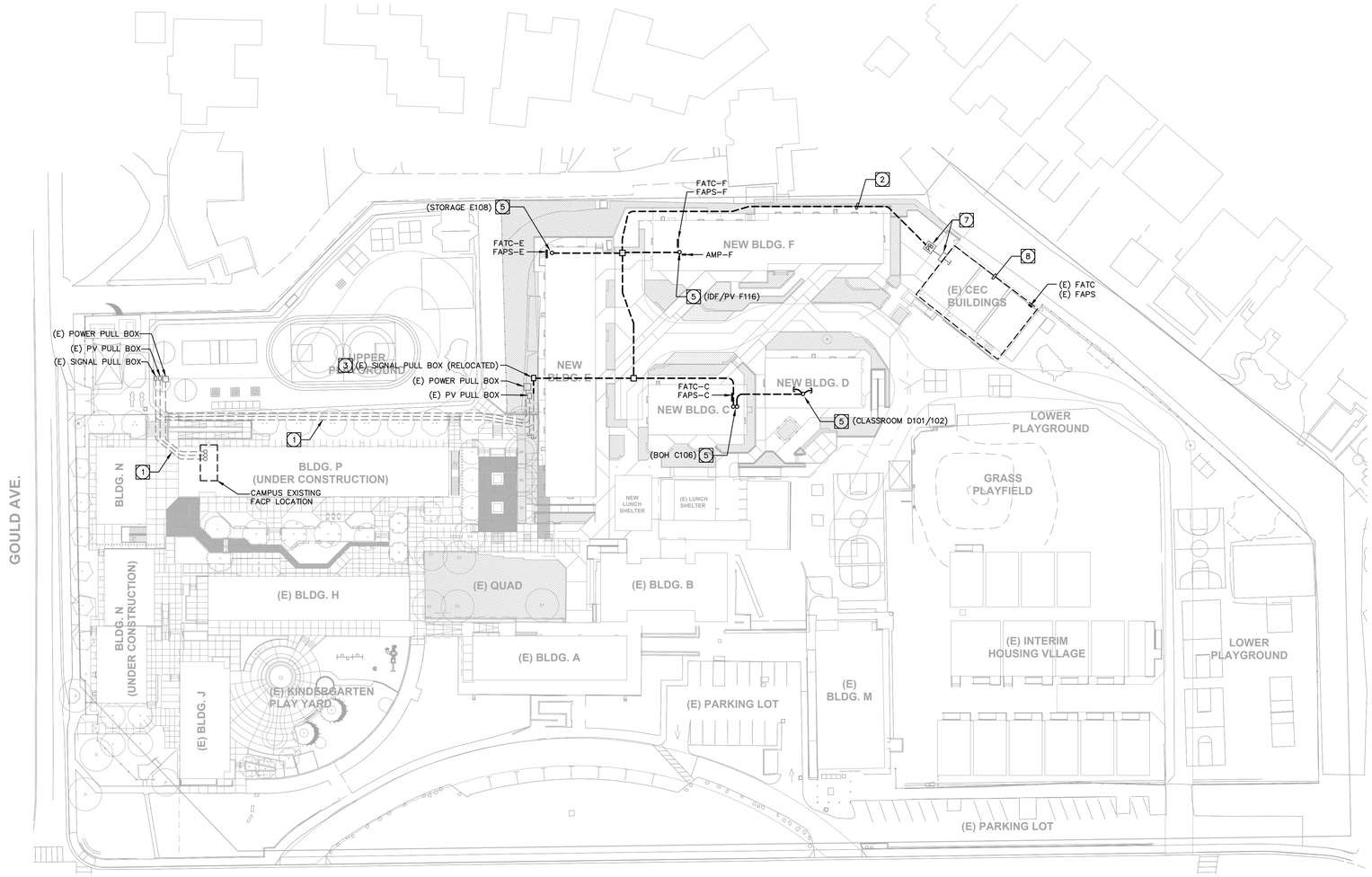
FIRE ALARM CALCULATIONS

5EFA0.40

SCALE: AS INDICATED
PLOT DATE

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If this sheet is smaller than 30" high by 42" wide then it has been reduced.



N

SITE GENERAL NOTES

1. ELECTRICAL DRAWINGS ILLUSTRATE LOCATIONS OF FIXTURES AND ASSEMBLIES, PULL BOXES, MANHOLES, HANDHOLES AND VAULTS, INCLUDING OTHER ELECTRICAL UNDERGROUND STRUCTURES AND PATHWAYS. CONTRACTOR SHALL CLOSELY COORDINATE EXACT LOCATIONS AND MOUNTING DEPTHS OF ALL DEVICES, STRUCTURES AND PATHWAYS WITH OTHER TRADES PRIOR TO PLACEMENT, TO ENSURE FINAL LOCATIONS ARE OUTSIDE CRITICAL LANDSCAPE IN ARCHITECTURAL AREAS AND NOT IN CONFLICT WITH THE INSTALLATION OF MATERIALS BY OTHER TRADES.
2. MINIMUM CONDUIT SIZE SHALL BE 1"C - U.O.N.
3. ALL SITE BRANCH CIRCUITS SHALL INCLUDE AN EQUIPMENT GROUNDING CONDUCTOR THAT, AT MINIMUM, ARE ROUTED/GROUPED TOGETHER. THE EQUIPMENT GROUNDING CONDUCTOR SHALL MATCH THE SIZE OF THE LARGEST BRANCH CIRCUIT CONDUCTOR IN THE GROUP.
4. ALL CONDUIT ONLY SHALL BE PROVIDED WITH A NYLON PULL STRING.
5. SEE ARCHITECTURAL/LANDSCAPE ARCHITECT PLANS FOR EXACT LOCATIONS OF FIXTURES, PULL BOXES, MANHOLES, OTHER ELECTRICAL DEVICES, ETC. COORDINATE ALL UNDERGROUND STRUCTURES AND CONDUIT ROUTING WITH LANDSCAPE ARCHITECT PRIOR TO ROUGH IN TO ENSURE SUCH ITEMS ARE NOT PLACED IN CRITICAL PLANTING HARDSCAPE AREAS.
6. FOR ALL ADDTIONAL REQUIREMENTS, SEE FIRE ALARM BLOCK/RISER DIAGRAM.

KEY NOTES

1. (E) 2"C FOR FIRE ALARM
2. NEW UNDERGROUND CONDUIT - 2"C (FIRE ALARM)
3. FLUSH IN GRADE LOW VOLTAGE PULL BOX INSTALLED AS PART OF 2-STORY MODULAR BUILDING SCOPE.
4. NEW 2'X3'X DEPTH AS REQUIRED FLUSH IN GRADE PULL BOX. MARK LID "FIRE ALARM"
5. STUB CONDUITS UP INTO INDICATED ROOM AT WALL FOR CONNECTION TO FATC/FAPS/AMP PER FIRE ALARM BLOCK DIAGRAM AND FLOOR PLANS.
6. PROVIDE 12"SQ X 8"D NEMA 3R PULL BOX SURFACE MOUNTED ON EXTERIOR FO MODULAR BUILDING PER DETAIL XX, SHEET XX.
7. EXISTING FLUSH IN GRADE PULL BOX AND CONDUITS.
8. EXISTING (3) RELOCATABLE CLASSROOMS TO REMAIN CURRENTLY FED FROM EXISTING INTERIM HOUSING (A#03-125102). RECONNECT FIRE ALARM SYSTEM TO BUILDING F FIRE ALARM SYSTEM AND EXISTING CAMPUS FIRE ALARM SYSTEM PRIOR TO REMOVAL OF EXISTING INTERIM HOUSING VILLAGE. SEE FLOOR PLAN FOR SCOPE OF WORK REQUIREMENTS.

FIRE ALARM SYSTEM COMPLETE SUBMITTAL
FIRE ALARM DESIGN, DOCUMENTATION AND PROJECT SUBMITTAL IN COMPLIANCE WITH DIVISION OF THE STATE ARCHITECT SUBMITTAL GUIDELINE IR A–21

FIRE ALARM SITE PLAN | SCALE 1"=40' | 1

If this sheet is smaller than 30" high by 42" wide then it has been reduced.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-125476 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 05/07/2026

Practice
135 W. Green St Suite 200 Pasadena, CA 91105 | 626.568.1248 | practice-la.com

LA CAÑADA UNIFIED SCHOOL DISTRICT
ESTABLISHED 1965

Salas O'Brien
salasobrien.com 949.753.1553
Irvine
8825 Research Drive
Irvine, CA 92618

Project No.: 2022-01629-05

REGISTERED PROFESSIONAL ENGINEER
ROY L. LOPEZ
No. 13442
Exp. 09/30/26
ELECTRICAL
STATE OF CALIFORNIA

PARADISE CANYON E.S.

PACKAGE 5 - NEW NORTH BUILDINGS

471 KNIGHT WAY, LA CAÑADA FLINTRIDGE, CA 91011

PROJECT NUMBER 20911

LICENSED ARCHITECT
HARRY R. DRAKE
NO. C-014869
REN: 05-31-27
STATE OF CALIFORNIA

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04/19/2024	100% SCHEMATIC DESIGN
07/05/2024	50% DESIGN DEVELOPMENT
08/16/2024	100% DESIGN DEVELOPMENT
04/11/2025	50% CONSTRUCTION DOCUMENTS
07/18/2025	100% CONSTRUCTION DOCUMENTS
08/06/2025	DSA V1
12/05/2025	DSA V2
03/20/2026	DSA V3

#	REVISION DATE	DESCRIPTION

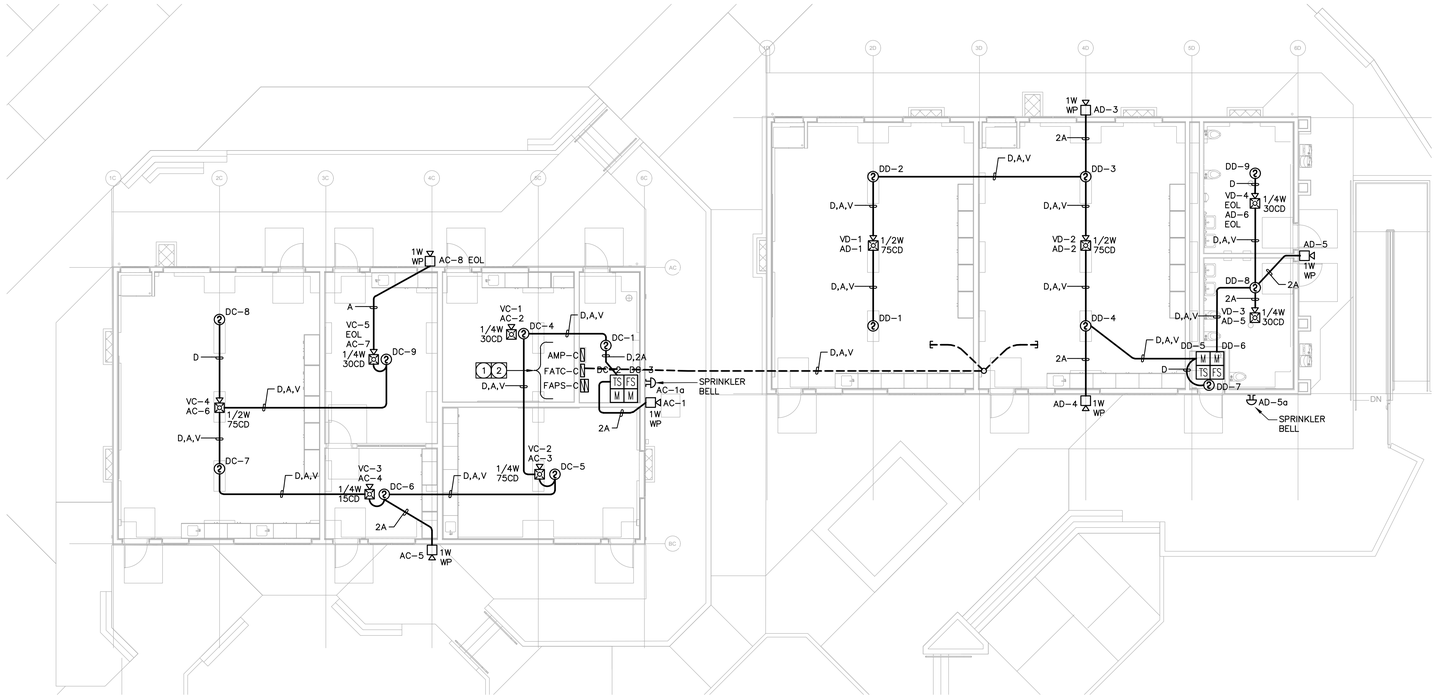
DRAWING TITLE

FIRE ALARM SITE PLAN

5EFA1.00

SCALE: AS INDICATED

PLOT DATE



NOTE:
THIS BUILDING DOES NOT CONTAIN FOSSIL FUEL BURING APPLICANCES. CO DETECTION NOT REQUIRED.

N

BLDGS C & D - FIRE ALARM FLOOR PLAN

SCALE 1/8"=1'-0"

1

If this sheet is smaller than 30" high by 42" wide then it has been reduced.

SHEET NOTES

1. NEW FIRE ALARM TERMINAL CABINET, REMOTE POWER SUPPLY AND VOICE AMPLIFIER.
2. PROVIDE DEDICATED 20A,1P 120 VAC CIRCUIT FOR FIRE ALARM SYSTEM EQUIPMENT. PROVIDE CIRCUIT BREAKER WITH LOCK-ON DEVICE AND RED INDICATOR, AND LABELED "FIRE ALARM CONTROL CIRCUIT" (NFPA 10.5.2.2). PROVIDE CIRCUIT BREAKER WITH DEVICE BY SPACE AGE ELECTRONICS #LOCK-FA IWTH FA LABEL AND ALLEN HEAD SET SCREW OR APPROVED EQUAL

FIRE ALARM GENERAL NOTES

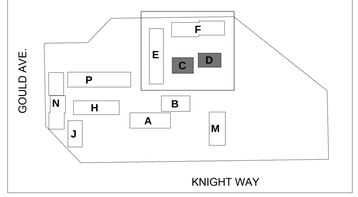
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2. DO NOT DEVIATE FROM CONDUIT RUNS AS SHOWN ON FLOOR PLANS WITHOUT PRIOR APPROVAL FROM SYSTEM SUPPLIER / ENGINEER. FACTORS SUCH AS EXCESSIVE VOLTAGE DROP, ADDITIONAL PARTS, ENGINEERING, ETC. THAT ARE A RESULT OF CONDUIT RUN DEVIATIONS SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
3. DETECTORS SHALL NOT BE LOCATED IN A DIRECT AIR-FLOW, NOR CLOSER THAN 3 FEET (915 mm) FROM ANY AIR SUPPLY DIFFUSER.
4. REFER TO ARCHITECTURAL EXTERIOR ELEVATIONS FOR PRECISE OUTLET LOCATIONS.
5. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF ALL CEILING MOUNTED DEVICES.
6. IF SHIELDED WIRE IS USED, THE FOLLOWNG MUST BE OBSERVED.
   - 6.1. METALLIC CONTINUITY OF THE SHIELD MUST BE MAINTAINED AND INSULATED THROUGHOUT THE ENTIRE LENGTH OF THE CABLE.
   - 6.2. THE ENTIRE LENGTH OF THE CABLE MUST HAVE A RESISTANCE GREATER THAN 1 MEGOHM TO EARTH.
7. ALL PENETRATIONS THROUGH FIRE RATED WALLS SHALL BE PROTECTED FROM THE SPREAD OF FIRE WITH AN APPROVED FIRE STOP SYSTEM EQUAL TO OR GREATER THAN THE FIRE RATING OF THE STRUCTURE / SURFACE BEING PENETRATED.
8. A SYSTEM GROUND MUST BE PROVIDED FOR EARTH DETECTION AND LIGHTNING PROTECTION DEVICES. THIS CONNECTION SHALL BE MADE TO AN APPROVED DEDICATED EARTH CONNECTION PER CEC, ARTICLE 250.
9. WIRING IN DUCTS, PLENUMS AND OTHER AIR HANDLING SPACES MUST BE INSTALLED IN ACCORDANCE WITH CEC 2022.
10. ALL FIRE ALARM SYSTEM CONDUCTORS SHALL BE RUN IN A DEDICATED FIRE ALARM CONDUIT SYSTEM, SIZED 3/4"C MINIMUM.
11. WHERE A DETECTOR IS INDICATED TO BE INSTALLED ABOVE THE CEILING AND NO ACCESS TO THE CEILING SPACE EXISTS, THE ELECTRICAL CONTRACTOR SHALL FURNISH ACCESS PANELS. THE DETECTOR SHALL BE EASILY ACCESSIBLE AND THE LOCATION OF THE DETECTOR SHALL BE CLEARLY MARKED.
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17. CONDUITS AND PULL BOXES ABOVE CEILING AND AT EXTERIOR WALLS FOR FIRE ALARM DEVICES TO BE PROVIDED BY BUILDING MANUFACTURE.

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FIRE ALARM SYSTEM COMPLETE SUBMITTAL

FIRE ALARM DESIGN, DOCUMENTATION AND PROJECT SUBMITTAL IN COMPLIANCE WITH DIVISION OF THE STATE ARCHITECT SUBMITTAL GUIDELINE IR A-21

KEY PLAN



IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-125476 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 05/07/2026

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135 W. Green St Suite 200 Pasadena, CA 91105 | 626.568.1248 | practice-la.com

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ESTABLISHED 1965

Salas O'Brien
salasobrien.com 949.753.1553
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Project No.: 2022-01629-05

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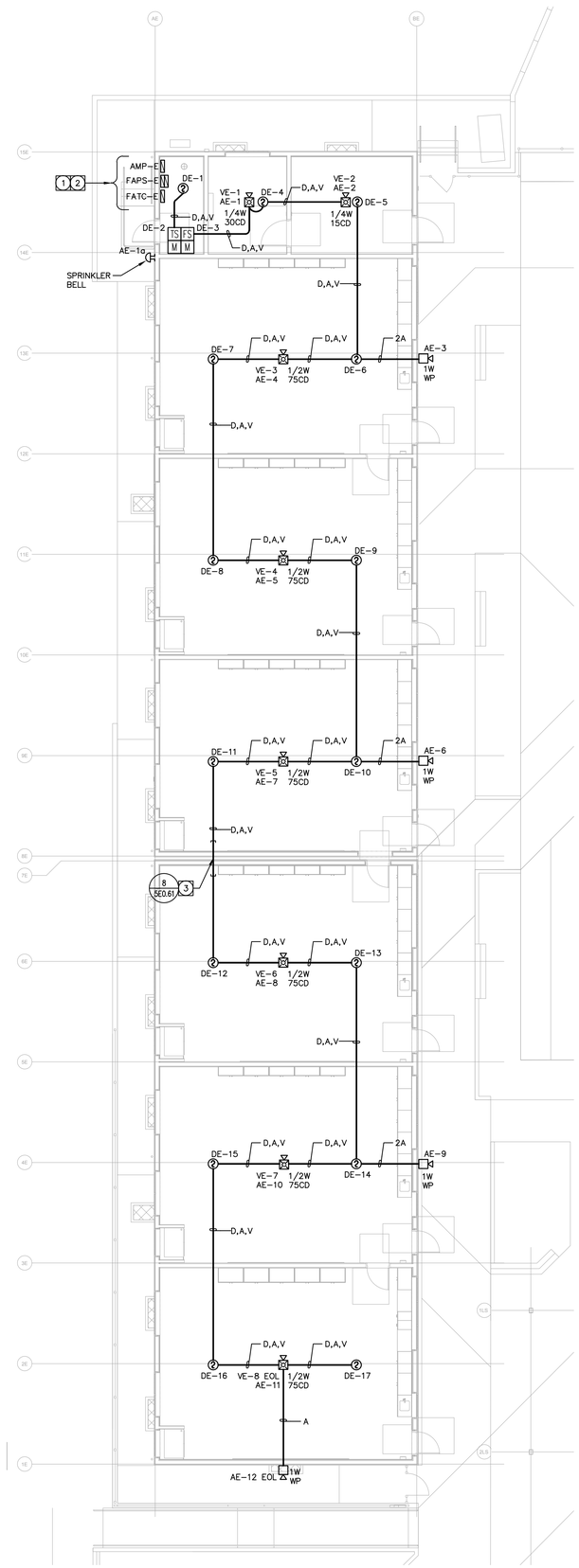
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BLDGS C & D - FIRE ALARM FLOOR PLAN

5EFA2.01

SCALE: AS INDICATED

PLOT DATE



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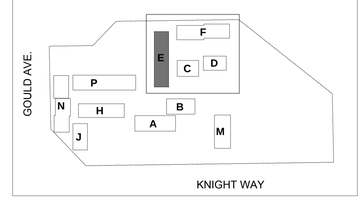
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FIRE ALARM DESIGN, DOCUMENTATION AND PROJECT SUBMITTAL IN COMPLIANCE WITH DIVISION OF THE STATE ARCHITECT SUBMITTAL GUIDELINE IR A-21

KEY PLAN



IDENTIFICATION STAMP
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APP: 03-125476 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 05/07/2026

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LICENSED ARCHITECT HARRY R GRAEF NO. C-014869 REN. 05-31-27 STATE OF CALIFORNIA

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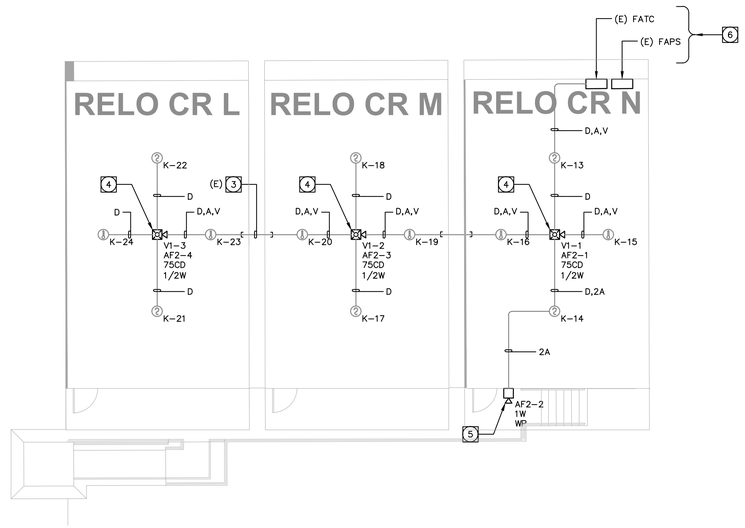
DRAWING TITLE

BLDG E - FIRE ALARM FLOOR PLAN

5EFA2.02

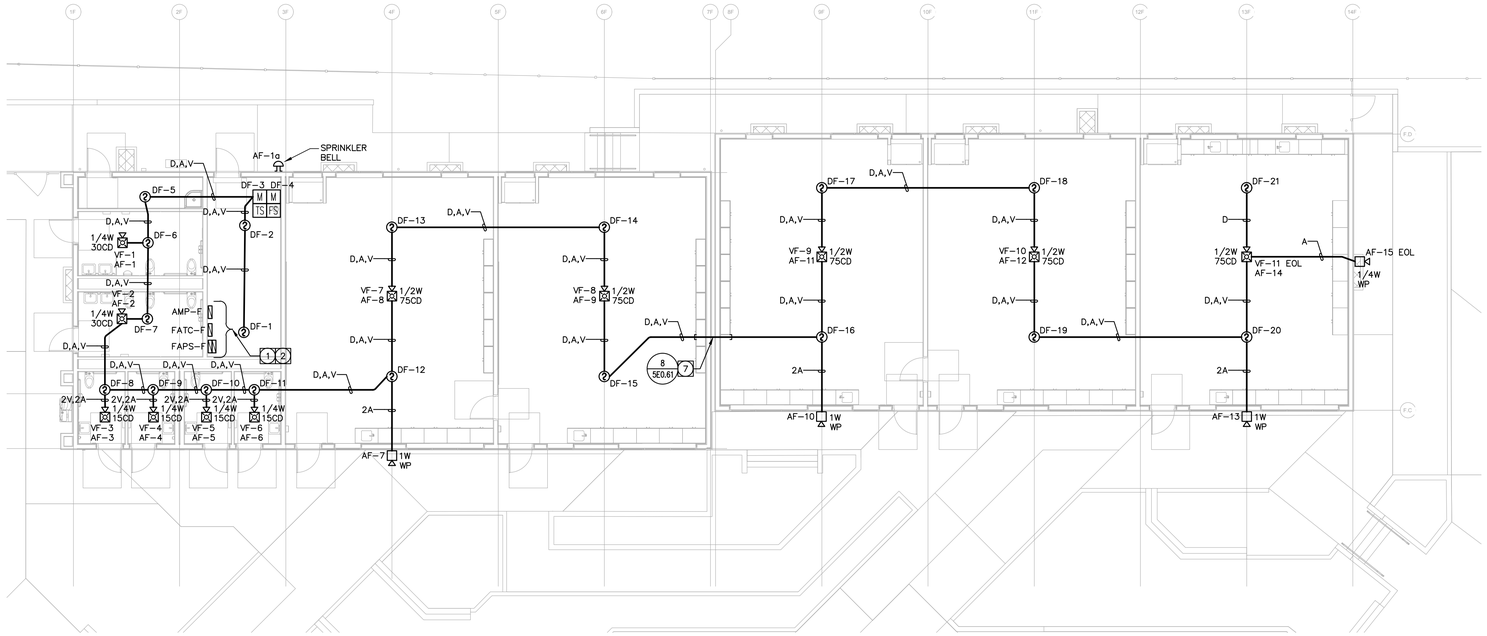
SCALE: AS INDICATED

PLOT DATE



CTE MODULAR BUILDINGS

SCALE	
1/8"=1'-0"	2



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BLDG F - FIRE ALARM FLOOR PLAN

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

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3. 2" RAINTITE FLEXIBLE CONDUIT SLEEVE BETWEEN BUILDINGS ABOVE ACCESSIBLE CEILINGS ACROSS SEISMIC JOINTS AND AT BUILDING SEPARATIONS.
4. EXISTING 4-WIRE CEILING MOUNTED HORN STROBE TO BE REMOVED AND REPLACED WITH NEW SPEAKER STROBE. RECONNECT VISUAL CIRCUITS TO (E) FAPS. RECONNECT AUDIBLE CONDUCTORS TO SPEAKER TERMINALS (VOICE SOUCE FROM AMP-F PER BLOCK DIAGRAM).
5. EXISTING WEATHERPROOF HORN DEVICE TO BE REPLACED WITH NEW WEATHERPROOF SPEAKER. RECONNECT AUDIBLE CONDUCTORS TO SPEAKER TERMINALS.
6. CONTRACTOR SHALL INTERCEPT EXISTING SLC AND COMM WITH INTERIM HOUSING AND REROUTE CONNECTIONS TO NEW BUILDING F. EXTEND SLC CIRCUIT FOR ADDRESSABLE DEVICES AND (E) FAPS TRIGGER. PROVIDE NEW AUDIBLE CIRCUIT CONDUCTORS AND SOURCE FROM AMP-F. PROVIDE ALL PROGRAMMING AND TESTING FOR COMPLETE OPERATION.
7. PROVIDE FLEXIBLE CONNECTION ACROSS SEISMIC SEPARATION JOINT.

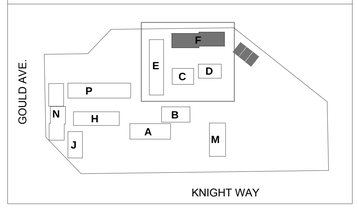
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07/05/2024	50% DESIGN DEVELOPMENT
08/16/2024	100% DESIGN DEVELOPMENT
04/11/2025	50% CONSTRUCTION DOCUMENTS
07/18/2025	100% CONSTRUCTION DOCUMENTS
08/06/2025	DSA V1
12/05/2025	DSA V2
03/20/2026	DSA V3

#	REVISION DATE	DESCRIPTION

DRAWING TITLE

BLDG F - FIRE ALARM FLOOR PLAN

5EFA2.03

SCALE: AS INDICATED

PLOT DATE

REFERENCES & ABBREVIATIONS

X / ES0.XX	DETAIL REFERENCE
1	KEYNOTE REFERENCE
4SQ	4" SQUARE
A	AMPS
AC	ABOVE COUNTER
ACDC	ACCESS CONTROL DOOR CONTROLLER
ACPS	ACCESS CONTROL POWER SUPPLY
ADA	AMERICANS WITH DISABILITIES ACT
AFC	ABOVE FINISHED COUNTER
AFCI	ARC FAULT CIRCUIT INTERRUPTER
AFF	ABOVE FINISH FLOOR
AFG	ABOVE FINISH GRADE
AMS	AMERICAN MODULAR SYSTEMS
AWG	AMERICAN WIRE GAUGE
BDF	BUILDING DISTRIBUTION FRAME
BEP	BUILDING ENTRANCE PROTECTION
BLDG	BUILDING
C	CONDUIT
CAT	CATEGORY
CAT 6A	AUGMENTED CATEGORY 6
CBC	CALIFORNIA BUILDING CODE
CCTV	CLOSED CIRCUIT TELEVISION
CEC	CALIFORNIA ELECTRICAL CODE
CFC	CALIFORNIA FIRE CODE
CFCI	CONTRACTOR FURNISHED CONTRACTOR INSTALLED
CKT	CIRCUIT
CLG	CEILING
CMH	COMMUNICATIONS MANHOLE
CHH	COMMUNICATIONS HAND HOLE
CO	CONDUIT ONLY W/PULL ROPE
CSFD	COMBINATION SMOKE/FIRE DAMPER
CT	CURRENT TRANSFORMER
CU	COPPER
(D)	DEMOLISH OR REMOVE
DIA	DIAMETER
DISC	DISCONNECT
DIST	DISTRIBUTION
(E)	EXISTING TO REMAIN
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
EG	EQUIPMENT GROUND (GREEN)
EM	EMERGENCY
EMH	ELECTRIC MANHOLE/MAINTENANCE HOLE
EMS/EMCS	ENERGY MANAGEMENT CONTROL SYSTEM
EMT	ELECTRIC METALLIC TUBING
EOL	END OF LINE
(ER)	EXISTING TO BE RELOCATED
FA	FIRE ALARM
FLA	FULL LOAD AMPS
G	GROUND
GEC	GROUNDING ELECTRODE CONDUCTOR
GFI	GROUND FAULT INTERRUPTER
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GRC/RGC	GALVANIZED RIGID CONDUIT
HP	HORSEPOWER
IDCP	INTRUSION DETECTION CONTROL PANEL
IDF	INTERMEDIAE DISTRIBUTION FRAME
IDAP	INTRUSION DETECTION ALARM PANEL
IDPS	INTRUSION DETECTION POWER SUPPLY
IMC	INTERMEDIATE METALLIC TUBING
K	DEGREES KELVIN
KCMIL	THOUSAND CIRCULAR MILS
KVA	KILOVOLT AMPERES
KW	KILOWATT
KWH	KILOWATT HOUR
LCL	LONG CONTINUOUS LOAD
M	METER
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPS
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCM	THOUSAND CIRCULAR MILS
MDF	MAIN DISTRIBUTION FRAME
MFGR/MFR	MANUFACTURER
MH	MOUNTING HEIGHT
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MM	MULTIMODE
MOCP	MAXIMUM OVERCURRENT PROTECTION
MTD	MOUNTED
(N)	NEW
NEC	NATIONAL ELECTRICAL CODE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
OFC	OPTICAL FIBER CABLE
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OH	OVER HEAD
PA	PUBLIC ADDRESS
PC	PHOTOCELL
PDU	POWER DISTRIBUTION UNIT
PRI	PRIMARY
PTZ	PAN-TILT-ZOOM
PVC	POLYVINYL CHLORIDE
(R)	RELOCATED
REF	REFERENCE
RGS	RIGID GALVANIZED STEEL
RU	RACK UNIT
SCC	SHORT CIRCUIT CURRENT
SEC	SECONDARY
SM	SINGLEMODE
SPD	SURGE PROTECTIVE DEVICE
SQ	SQUARE
ST	SHUNT TRIP
TEL	TELEPHONE
TGB	TELECOMMUNICATIONS GROUNDING BAR
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTABLE POWER SUPPLY
UTP	UNSHIELDED TWISTED PAIR
V	VOLTS
VA	VOLT AMPS
VD	VOLTAGE DROP
VL	VERIFY LOCATION
WP	WEATHERPROOF
(X)	EXISTING TO BE DEMOLISHED
XFMR	TRANSFORMER

GENERAL SYMBOLS

SYMBOLS	DESCRIPTION
——►	HOMERUN TO DESTINATION AS INDICATED
——●	CONDUIT DROP WITHIN BUILDING WALL
——○	CONDUIT RISER WITHIN BUILDING WALL
——⫤	CONDUIT STUB
——ᔕ	CONDUIT CONTINUATION
⏚	GROUND CONNECTION SIZED AS INDICATED OR PER NEC ARTICLE 250

VIDEO SURVEILLANCE SYSTEM SYMBOLS

SYMBOLS	DESCRIPTION	DEVICE AND CABLING REQUIREMENTS	BACKBOX AND CONDUIT REQUIREMENTS
YY	IP CAMERA, CEILING-MOUNTED (YY = CAMERA LABEL/NUMBER)	PROVIDE (1) CAT 6A CABLE TO DESIGNATED IDF. TERMINATE CABLE IN 1-PORT SURFACE MOUNT AT CAMERA END. TERMINATE CABLE ON RACK-MOUNTED CAT 6A PATCH PANEL IN IDF.	4"SQ x 2-1/8"D RECESSED CEILING-MOUNTED BACKBOX, DUAL-GANG MUD-RING AND 1" CONDUIT TO IDF OR NEAREST ACCESSIBLE CEILING SPACE. PROVIDE STAINLESS STEEL BLANK FACEPLATE.
XX	IP CAMERA, WALL-MOUNTED (XX = MOUNTING HEIGHT)	PROVIDE (1) CAT 6A CABLE TO DESIGNATED IDF. TERMINATE CABLE IN 1-PORT SURFACE MOUNT AT CAMERA END. TERMINATE CABLE ON RACK-MOUNTED CAT 6A PATCH PANEL IN IDF.	4"SQ x 2-1/8"D RECESSED BACKBOX, DUAL-GANG MUD-RING AND 1" CONDUIT TO IDF OR NEAREST ACCESSIBLE CEILING SPACE. PROVIDE STAINLESS STEEL BLANK FACEPLATE. CONFIRM MOUNTING HEIGHT WITH DISTRICT/ARCHITECT PRIOR TO INSTALLATION.
NOTE: IP CAMERAS ARE TO BE FURNISHED AND INSTALLED BY THE DISTRICT.			

ACCESS CONTROL SYMBOLS

SYMBOLS	DESCRIPTION	DEVICE AND CABLING REQUIREMENTS	BACKBOX AND CONDUIT REQUIREMENTS
AC42	VERKADA AC42 DOOR CONTROLLER	PER SPECIFICATION SECTION 28 1000 AND ACCESS CONTROL DETAILS ON SHEET 5ES0.04	N/A
MPS	POWER SUPPLY	PER SPECIFICATION SECTION 28 1000 AND ACCESS CONTROL DETAILS ON SHEET 5ES0.04	N/A
EL	SCHLAGE AD-300 WIRED ELECTRONIC DOOR LOCK PER DOOR HARDWARE SPECS	PER SPECIFICATION SECTION 28 1000 AND ACCESS CONTROL DETAILS ON SHEET 5ES0.04	SEE ACCESS CONTROL DETAILS ON SHEET 5ES0.04

DRAWING INDEX

5ES0.01	SECURITY SYMBOLS, ABBREVIATIONS AND DRAWING INDEX
5ES0.02	SECURITY GENERAL NOTES AND SPECIFICATIONS
5ES0.03	SECURITY SCOPE RESPONSIBILITY MATRIX
5ES0.04	ACCESS CONTROL SYSTEM NOTES & DETAILS
5ES0.05	VIDEO SURVEILLANCE SYSTEM NOTES & DETAILS
5ES2.01	BUILDINGS C & D – SECURITY FLOOR PLAN
5ES2.02	BUILDING E – SECURITY FLOOR PLAN
5ES2.03	BUILDING F – SECURITY FLOOR PLAN

APPLICABLE CODE: 2022 CBC

MEP COMPONENT ANCHORAGE NOTE

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA-APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2022 CBC SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTERS 13, 26, AND 30:

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G., HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.
3. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS:

A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVING 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.

THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH THE ABOVE REQUIREMENTS.

APPLICABLE CODE: 2022 CBC PER IR 16-13.

MEP DISTRIBUTION SYSTEM BRACING NOTE FOR PIPING, DUCTWORK, AND ELECTRICAL CONDUIT

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7 SECTION 13.3 AS DEFINED IN ASCE 7 SECTIONS 13.6.5, 13.6.6, 13.6.7, AND 13.6.8; AND 2022 CBC SECTIONS 1617A.1.24, 1617A.1.25, AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEMS ARE AS NOTED BELOW. THE MEP DESIGN PROFESSIONAL ENGINEER RESPONSIBLE FOR CONTENT ON THESE SHEETS HAS VERIFIED THAT THE DESIGN METHODS IDENTIFIED BELOW ARE IN ACCORDANCE WITH DSA IR 16-13.

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

- ☐ MP ☐ MD ☐ PP ☒ E OPTION 1: PROJECT-SPECIFIC DESIGN.
- ☐ MP ☐ MD ☐ PP ☐ E OPTION 2: DESIGN BASED ON OSHPD OPM, WITHIN PROJECT SUBMITTAL.
- ☐ MP ☐ MD ☐ PP ☐ E OPTION 3: DESIGN BASED ON OSHPD OPM, DEFERRED SUBMITTAL.

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DATE: 05/07/2026

Practice
135 W. Green St Suite 200 Pasadena, CA 91105 | 626.568.1248 | practice-la.com

LA CAÑADA UNIFIED SCHOOL DISTRICT
ESTABLISHED 1965

Salas O'Brien
salasobrien.com 949.753.1553
Irvine
8825 Research Drive
Irvine, CA 92618

Project No.: 2022-01629-05

PARADISE CANYON E.S.

PACKAGE 5 - NEW NORTH BUILDINGS

471 KNIGHT WAY, LA CAÑADA FLINTRIDGE, CA 91011

PROJECT NUMBER 20911

LICENSED ARCHITECT
HARRY R DRAKE
NO. C-014869
REN: 05-31-27
STATE OF CALIFORNIA

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ISSUE DATE	DESCRIPTION
04/19/2024	100% SCHEMATIC DESIGN
07/05/2024	50% DESIGN DEVELOPMENT
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#	REVISION DATE	DESCRIPTION

DRAWING TITLE

SECURITY SYMBOLS, ABBREVIATIONS & DRAWING INDEX

5ES0.01

SCALE: AS INDICATED

PLOT DATE

If this sheet is smaller than 30" high by 42" wide then it has been reduced.

SIGNAL PLAN GENERAL NOTES

1. PROVIDE CONDUITS WITH PULL TAPE/LINE WITH FIVE (5) FEET OF ADDITIONAL PULL TAPE COILED AT EACH END.
2. CONDUIT BEND RADII SHALL BE A MINIMUM OF SIX (6) TIMES THE INTERNAL DIAMETER FOR CONDUITS 2" AND UNDER AND TEN (10) TIMES THE INTERNAL DIAMETER FOR CONDUITS GREATER THAN 2".
3. CONDUITS AND SLEEVES PROTRUDING THROUGH FLOOR SHALL TERMINATE MINIMUM 3" BEYOND FLOOR SURFACE. REFERENCE ELECTRICAL SPECIFICATIONS FOR ADDITIONAL INFORMATION.
4. ALL CONDUIT PENETRATIONS SHALL BE SEALED WITH MECHANICAL SEALS OR PLUGS TO PREVENT THE INFILTRATION OF GAS AND/OR WATER.
5. PROVIDE LABEL IDENTIFICATION FOR EACH CONDUIT AND PULL BOX PER IDENTIFICATION SPECIFICATION REQUIREMENTS. CONDUITS SHALL BE TAGGED WITH THE LOCATION OF THE OTHER END AND DISTANCE OF CONDUIT RUN.
6. ALL BELOW GRADE OR IN-SLAB MOUNTED CONDUITS SHALL BE CLEAN AND FREE OF ALL WATER AND DEBRIS PRIOR TO THE INSTALLATION OF SYSTEM CABLING.
7. PENETRATIONS THROUGH FIRE RATED WALLS SHALL BE PROTECTED WITH AN APPROVED FIRE STOP SYSTEM EQUAL TO OR GREATER THAN THE RATING OF THE WALL BEING PENETRATED.
8. ALL DEVICES MOUNTED BACK TO BACK ON COMMON WALLS SHALL BE INSTALLED IN SEPARATE BOXES AND OFFSET 24" MINIMUM OR PROVIDED WITH PUTTY OR ANOTHER APPROVED SOUND PROOF BACKING.
9. WHEN EXPOSED CEILING OR OPEN GRID CONDITIONS EXIST, CONTRACTOR SHALL PROVIDE:
   A. ALL BRANCH CIRCUITS TO BE INSTALLED IN EMT.
   B. ALL BRANCH CIRCUITS SHALL BE ROUTED PARALLEL TO BUILDING STRUCTURES AND RACKED NEATLY IN GROUPS OF MULTIPLE PATHWAYS.
   C. ALL LOW VOLTAGE CABLES SHALL BE:
      - INSTALLED IN EMT CONDUIT PATHWAYS OR
      - INSTALLED NEATLY IN CABLE MANAGEMENT OPEN BASKET OR LADDER TYPE WIREWAY SUPPORTED INDEPENDENTLY FROM STRUCTURE ABOVE.
10. EXPOSED LOW VOLTAGE CABLING IN OPEN TYPE CEILING APPLICATIONS INSTALLED ON D-RINGS, J-HOOKS OR SIMILAR APPARATUS WILL NOT BE ACCEPTED UNLESS APPROVED IN WRITING BY ARCHITECT/ENGINEER PRIOR TO ANY ROUGH IN OR INSTALLATION. CONTRACTOR SHALL INCLUDE AN ALLOWANCE IN HIS BASE BID FOR THE INSTALLATION OF LOW VOLTAGE CABLES IN OPEN CEILINGS AS DESCRIBED.
11. EXPOSED CABLE/CONDUCTORS INSTALLED IN A PLENUM SPACE SHALL BE LISTED FOR SUCH ENVIRONMENT AND INSTALLATION SHALL CONFORM TO NEC, OR CEC WHERE ADOPTED, ARTICLE 300.22(C).

SECURITY NOTES AND SPECIFICATIONS

1. ALL GENERAL NOTES AND SPECIFICATIONS CONTAINED HEREIN APPLY TO THE GENERAL CONTRACTOR AND SUB-CONTRACTOR(S) BIDDING THESE PLANS. THE GENERAL CONTRACTOR AND OWNER IS RESPONSIBLE FOR PROVIDING THIS SET OF PLANS TO ALL RELEVANT PARTIES (ELECTRICAL CONTRACTOR, LOW-VOLTAGE CONTRACTOR(S), SYSTEM INTEGRATORS, ETC.) IN ORDER TO DEVELOP AN ACCURATE ALL-INCLUSIVE BID, AND TO ENSURE A COMPLETE AND OPERABLE SYSTEM IS DELIVERED, INCLUDING ALL REQUIRED CONDUIT PATHWAYS, POWER SUPPLIES, CONNECTIONS, ETC.
2. SCOPE OF WORK: THE SCOPE OF WORK FOR THIS CONTRACTOR SHALL CONSIST OF DELIVERING A COMPLETE INSTALLATION BASED ON THIS SET OF PLANS FOR THE FOLLOWING SYSTEMS:
   A. ACCESS CONTROL SYSTEM
3. CONTRACTOR SHALL PROVIDE ALL REQUIRED MATERIAL (INCLUDING, BUT NOT LIMITED TO LOW-VOLTAGE CABLING, HARDWARE, PATHWAYS, ACCESSORIES, MODULES, DEVICES, CONTROLLERS, POWER SUPPLIES, ETC. WEATHER INDICATED HEREIN OR NOT), AND LABOR FOR A COMPLETE AND OPERABLE SYSTEM. FINAL SYSTEM SHALL ACCOMMODATE THE TOTAL NUMBER OF DEVICE LOCATIONS AND/OR CONTROL POINTS IDENTIFIED AS A MINIMUM AND MEET THE SYSTEM INTENT OF THESE DOCUMENTS.
4. THE CONTRACTOR(S) SHALL COORDINATE, CONFIRM, AND FINALIZE DESIRED SYSTEM(S) COVERAGE, FEATURES AND PROGRAMMING WITH OWNER, OWNER'S SUPPORT STAFF (IT, SECURITY, ETC.) DESIGN TEAM, AND OTHER TRADES/DISCIPLINES. COORDINATE DEVICE LOCATIONS, HEIGHTS, ETC. WITH ARCHITECT AND OTHER TRADES PRIOR TO ROUGH-IN.
5. COORDINATION AND QUALITY ASSURANCE: ALL DESIGN, MATERIALS AND INSTALLATION METHODS EMPLOYED FOR THESE SYSTEM(S) SHALL BE COMPLIANT WITH THE MOST CURRENT VERSIONS OF ALL NATIONAL AND LOCALLY RECOGNIZED CODES AND REGULATIONS, INCLUDING REQUIREMENTS AS COORDINATED WITH, AND IDENTIFIED BY, THE OWNER. ITEM COORDINATION SHALL INCLUDE, BUT NOT BE LIMITED TO, SOFTWARE/PROGRAMMING PACKAGES, FIELD-OF-VIEW AND FOCAL POINTS (CCTV), FINAL HEAD END EQUIPMENT AND DEVICE LOCATIONS (INCLUDING MOUNTING TYPES AND HEIGHTS), SEQUENCE OF OPERATIONS, DOOR HOLD AND LOCK MECHANISMS, MANUFACTURER POWER REQUIREMENTS, INTEGRATION AND REQUIREMENTS WITH OTHER SYSTEMS (FIRE LIFE SAFETY). VERIFY WITH OWNER LEVEL OF INTEGRATION AND COMPARABILITY BETWEEN THESE SYSTEMS AND MANUFACTURES AS WELL AS ANY OTHER SPECIAL SYSTEMS NOT PART OF THIS SCOPE (AV, LIGHTING CONTROL, ENERGY MANAGEMENT).
6. QUALIFICATIONS: CONTRACTOR(S) SHALL HOLD A VALID STATE OF CALIFORNIA C10 AND C7 LICENSE AND SHALL HAVE BEEN IN THE BUSINESS OF FURNISHING AND INSTALLING SIMILAR SYSTEMS OF SCOPE AND SIZE FOR A MINIMUM OF FIVE (5) YEARS. CONTRACTOR SHALL BE CAPABLE OF BEING BONDED TO ASSURE THE OWNER PERFORMANCE AND SATISFACTORY SERVICE DURING THE WARRANTY PERIOD.
7. INSTALLING CONTRACTOR SHALL BE A FACTORY AUTHORIZED DISTRIBUTOR, INSTALLER AND WARRANTY STATION FOR THE BRAND OF EQUIPMENT BEING OFFERED. IN ADDITION, CONTRACTOR SHALL FURNISH CERTIFICATES OF TRAINING FOR PERSONNEL PERFORMING WORK AND A LETTER FROM THE MANUFACTURER ADDRESSED TO THE OWNER (OR OWNER'S REPRESENTATIVE) CERTIFYING THAT THE CONTRACTOR IS THE AUTHORIZED DISTRIBUTOR AND INSTALLER OF SAID EQUIPMENT AND EQUIPMENT SHALL BE INSTALLED ACCORDING TO INTENDED MANUFACTURER'S PRACTICES. CONTRACTOR SHALL MAINTAIN A FULLY EQUIPPED SERVICE ORGANIZATION CAPABLE OF FURNISHING ADEQUATE REPAIR SERVICE TO WARRANTED EQUIPMENT WITH RESPONSE TIMES TO PROJECT SITE WITHIN 4 HOURS TIME.
8. WIRELESS: WIRELESS DEVICES AND/OR COMPONENTS ARE NOT ALLOWED AS PART OF CONTRACTOR'S BASE BID UNLESS OTHERWISE NOTED, AND APPROVAL OF WIRELESS SYSTEMS SHALL BE AT THE DISCRETION OF THE ENGINEER OF RECORD AND OWNER. ANY PROPOSED WIRELESS SYSTEM COMPONENTS SHALL CONTAIN A PRE-BID SUBMITTAL PACKAGE FOR A BID-ALTERNATE PACKAGE CONSIDERATION. SUBMITTAL SHALL INCLUDE ALL DATA AND DOCUMENTS IDENTIFIED WITHIN THE SUBMITTAL REQUIREMENTS OF THIS SECTION.
9. SOFTWARE: ALL SYSTEM DESIRED SOFTWARE PLATFORMS AND QUANTITY OF LICENSES SHALL BE PROVIDED FOR ALL FURNISHED EQUIPMENT AS PART OF THE CONTRACTOR'S COMPLETE AND OPERABLE SYSTEM(S). ALL SYSTEM SOFTWARE PLATFORMS INSTALLED SHALL BE THE FULL AND COMPLETE VERSION OF THE MOST RECENT SOFTWARE PACKAGE AVAILABLE AT THE TIME OF INSTALLATION. OWNER SHALL BE PROVIDED FORMAL COPIES OF ALL LICENSES AND FURNISHED WITH ALL USER NAMES AND PASSWORDS TO SYSTEMS AS PART OF CLOSE-OUT DOCUMENTATION.
10. SUBMITTALS: FURNISH VIA SUBMITTAL PROCESS COMPLETED CONSTRUCTION DOCUMENTS, SPECIFICATIONS, AND PRODUCT DATA CUT SHEETS FOR THE SYSTEMS IDENTIFIED ABOVE AND HEREIN. SUBMITTALS FOR THESE SYSTEMS MUST INCLUDE, AT A MINIMUM, THE FOLLOWING INFORMATION:
    A. COPY OF CONTRACTOR'S VALID AND CURRENT CALIFORNIA STATE LICENSE (C7 AND C10)
    B. COPY OF PROJECT LIST WITH (10) COMPLETED PROJECTS WITHIN THE LAST (5) YEARS.
    C. COPY OF MANUFACTURER'S AUTHORIZATION LETTERS IDENTIFYING THE CONTRACTOR AS AN AUTHORIZED DISTRIBUTOR AND INSTALLER.
    D. PROOF OF CONTRACTOR'S TRAINED PERSONNEL, AND PERSONNEL ARE LOCATED IN THE LOCAL FACILITY
    E. MANUFACTURER'S WARRANTY.
    F. PROPOSED MANUFACTURER AND SYSTEM IN ACCORDANCE WITH THIS CRITERIA INCLUDING DATA CUT SHEETS FOR ALL PRODUCT EQUIPMENT AND DEVICES
    G. PROPOSED COMPLETE SYSTEM LAYOUT INDICATING LOCATIONS FOR ALL DEVICES, CONTROL POINTS, POWER-SUPPLIES, TERMINAL CABINETS CABLING, ETC. ASSOCIATED WITH THIS PROJECT, INCLUDING WIRING DIAGRAMS, WIRE LEGENDS, DEVICE AND BACK BOX MOUNTING HEIGHTS, ZONING SCHEDULE/LEGEND, ETC. PLANS SUBMITTED SHALL INCLUDE PROPOSED CABLING AND CONDUIT ROUTING ON 1/8" SCALE PLANS
    H. RISER/SINGLE LINE DIAGRAMS AND CALCULATIONS SHOWING COMPLETE SYSTEM LAYOUT, INCLUDING BUT NOT LIMITED TO, CONNECTION DIAGRAMS FOR SYSTEMS AS WELL AS INTERFACE WITH OTHER SYSTEMS WHERE APPLICABLE, AND CONNECTIVITY, INCLUDING ANY BATTERY AND VOLTAGE DROP CALCULATIONS.
    I. HEAD-END EQUIPMENT LOCATIONS AND ELEVATIONS.
    J. TESTING AND COMMISSIONING PER OWNER'S REQUIREMENTS, INDUSTRY STANDARDS, AND MANUFACTURE STANDARDS.
    K. SUBMITTALS WITHOUT THE ABOVE INFORMATION SHALL BE DEEMED INCOMPLETE AND REJECTED
14. WARRANTY, SUPPORT, AND PROGRAMMING: CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR OBTAINING THE MANUFACTURER'S WARRANTY. ALL COMPONENTS, PARTS AND ASSEMBLIES SUPPLIED BY THE MANUFACTURER AND INSTALLED BY THE CONTRACTOR SHALL BE WARRANTED AGAINST DEFECTS IN MATERIAL AND WORKMANSHIP (PARTS AND LABOR) FOR A PERIOD OF ONE (1) YEAR MINIMUM. CONTRACTOR SHALL INCLUDE IN BID ALL REQUIRED TECHNICAL SUPPORT, PROGRAMMING, PARTS AND LABOR TO SUCCESSFULLY EXECUTE AND MEET THE INTENT OF THIS CRITERIA. WARRANTY PERIOD SHALL BEGIN FROM THE DATE OF FINAL WRITTEN ACCEPTANCE BY THE OWNER. PROVIDE TYPED IDENTIFICATION/INFORMATION CARD AT HEAD END EQUIPMENT LOCATION INDICATING WARRANTY PERIOD START DATE AND COMPANY CONTACT INFORMATION FOR WARRANTY SERVICE, INCLUDING COMPANY NAME, ADDRESS AND PHONE NUMBER.
15. CONTRACTOR TO INCLUDE BID-ALTERNATE LINE ITEM AS PART OF HIS BID FOR AN EXTENDED SERVICE/MAINTENANCE AGREEMENT FOR THE DURATION OF THE WARRANTY PERIOD AND ONE (1) YEAR BEYOND WARRANTY EXPIRATION DATE.
16. TRAINING: INCLUDE AS PART OF BASE BID ALLOWANCE FOR UP TO (2) 4 HOUR TRAINING SESSIONS WITH ACCOMMODATIONS FOR A MAXIMUM OF (6) END-USER TRAINEES AT EACH SESSION. TRAINING SESSIONS SHALL BE HELD ON DIFFERENT DAYS AT A LOCATION DETERMINED BY OWNER. TRAINING SHALL BE PROVIDED WITHIN 30-DAYS OF PROJECT COMPLETION AND SESSION TIMES COORDINATED WITH OWNER PRIOR TO PROJECT COMPLETION.
17. ALTERNATES: APPROVAL FOR ALTERNATE SYSTEMS IS REQUIRED PRIOR TO BID. SUBMIT ALL ALTERNATE SYSTEM INFORMATION (15) DAYS PRIOR TO BID DEADLINE FOR ENGINEER REVIEW. PROPOSED ALTERNATE SYSTEM INFORMATION SHALL BE PROVIDED AS IDENTIFIED IN THE SUBMITTAL REQUIREMENTS ABOVE. IN ADDITION, INCLUDE LINE ITEM COST COMPARISON AND OVERALL SYSTEM COST SAVINGS. BIDDING CONTRACTOR SHALL INCLUDE A STATEMENT EXPLAINING THE POTENTIAL BENEFIT TO OWNER FOR THE ACCEPTANCE OF PROPOSED ALTERNATE.
18. EXTENSION OF EXISTING SYSTEMS: WHERE EXISTING SYSTEMS ARE PRESENT ON THE PREMISES OF THIS PROJECT, SYSTEM(S) PROPOSED HEREIN MUST BE EXTENSIONS OF EXISTING SYSTEM(S) WITH COMPONENTS COMPRISED OF MATCHING MANUFACTURERS AND PRODUCTS UNLESS OTHERWISE NOTED. EXISTING SYSTEM EXTENSIONS SHALL NOT VOID EXISTING WARRANTIES IN PLACE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONDUCT ALL SITE INVESTIGATIONS AND TO FAMILIARIZE HIMSELF WITH EXISTING SYSTEMS AND COMPONENTS REQUIRED FOR SAID EXTENSIONS, AND TO BRING TO THE OWNER/ARCITECT'S ATTENTION ANY ITEMS REQUIRING CLARIFICATION PRIOR TO BID. CONTRACTOR SHALL FURNISH ALL DEVICES, PATHWAYS, BOXES, WIRING, PROGRAMMING AND ANCILLARY COMPONENTS REQUIRED FOR A COMPLETE AND OPERABLE EXPANSION OF EXISTING SYSTEM(S).
19. INTERRUPTIONS OR OUTAGE OF SERVICES OF ANY EXISTING SYSTEM SHALL BE COORDINATED AND SCHEDULED WITH OWNER AT A MINIMUM OF TWO WEEKS ADVANCED NOTICE, AND WITH OWNER'S WRITTEN APPROVAL FOR SCHEDULE. OUTAGES SHALL TAKE PLACE OUTSIDE OF NORMAL BUSINESS, OR BUILDING'S OCCUPIED HOURS. ALL COSTS SHALL BE BORNE BY THE CONTRACTOR TO ACCOMMODATE OUTAGE SCHEDULING.
20. BOOK SPECIFICATIONS: IN THE EVENT OF CONFLICTS BETWEEN CONSTRUCTION BID DOCUMENT SPECIFICATIONS AND THE CRITERIA ABOVE, THE MOST STRINGENT OF REQUIREMENTS SHALL APPLY.

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Practice
135 W. Green St Suite 200 Pasadena, CA 91105 | 626.568.1248 | practice-la.com

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Salas O'Brien
salasobrien.com 949.753.1553
Irvine
8825 Research Drive
Irvine, CA 92618

Project No.: 2022-01629-05

REGISTERED PROFESSIONAL ENGINEER
ROY LEON CHUA
No. 13442
Exp. 09/30/26
ELECTRICAL
STATE OF CALIFORNIA

PARADISE CANYON E.S.

PACKAGE 5 - NEW NORTH BUILDINGS

471 KNIGHT WAY, LA CAÑADA FLINTRIDGE, CA 91011

PROJECT NUMBER 20911

LICENSED ARCHITECT
HENRY R. DRAKE
NO. C-014889
REN. 05-31-27
STATE OF CALIFORNIA

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07/05/2024	50% DESIGN DEVELOPMENT
08/16/2024	100% DESIGN DEVELOPMENT
04/11/2025	50% CONSTRUCTION DOCUMENTS
07/18/2025	100% CONSTRUCTION DOCUMENTS
08/06/2025	DSA V1
12/05/2025	DSA V2
03/20/2026	DSA V3

REVISION	DATE	DESCRIPTION

DRAWING TITLE

SECURITY GENERAL NOTES

5ES0.02

SCALE: AS INDICATED

PLOT DATE

VIDEO SURVEILLANCE SYSTEM					
PRODUCT	FURNISHED BY		INSTALLED BY		NOTES
	DISTRICT	CONTRACTOR	DISTRICT	CONTRACTOR	
DEVICE ROUGH-IN	N/A		N/A		SEE NOTE 1
CABLING, LABELING AND IDENTIFICATION	■		■		SEE NOTE 2
VERKADA IP CAMERAS AND COMPATIBLE MOUNTS	■		■		
INSTALLATION OF CAMERAS, LICENSING AND PROGRAMMING	■		■		
ACCESS CONTROL SYSTEM					
PRODUCT	FURNISHED BY		INSTALLED BY		NOTES
	DISTRICT	CONTRACTOR	DISTRICT	CONTRACTOR	
DEVICE ROUGH-IN	N/A		N/A		SEE NOTE 1
SCHLAGE ELECTRONIC NETWORKED HARDWIRED DOOR LOCKS		■		■	
CABLING, LABELING AND IDENTIFICATION		■		■	
ACCESS CONTROL DOOR CONTROLLER (ACDC)		■		■	
ACCESS CONTROL POWER SUPPLY (ACPS)		■		■	
PROGRAMMING, TESTING AND INTEGRATION WITH OTHER SYSTEMS	N/A			■	

NOTES:

1. ALL WALL MOUNTED DEVICE ROUGH-IN BOXES, CONDUITS WITHIN WALLS, CONDUIT SLEEVES ABOVE CEILING AND CONDUIT SLEEVES THROUGH FLOORS SHALL BE PROVIDED AND INSTALLED BY THE BUILDING MANUFACTURER.
2. CABLING TO BE PROVIDED UNDER SPECIFICATION SECTION 27 1000 TELECOMMUNICATIONS SYSTEM.

SECURITY SCOPE RESPONSIBILITY MATRIX | SCALE NONE | 1

If this sheet is smaller than 30" high by 42" wide then it has been reduced.

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APP: 03-125476 INC:
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Salas O'Brien
salasobrien.com 949.753.1553
Irvine
8825 Research Drive
Irvine, CA 92618

Project No.: 2022-01629-05

REGISTERED PROFESSIONAL ENGINEER
ROY LLOYD CHAN
No. 13442
Exp. 09/30/26
ELECTRICAL
STATE OF CALIFORNIA

PARADISE CANYON E.S.

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NO. C-014869
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REVISION DATE	DESCRIPTION

DRAWING TITLE

SECURITY SCOPE RESPONSIBILITY MATRIX

5ES0.03

SCALE: AS INDICATED

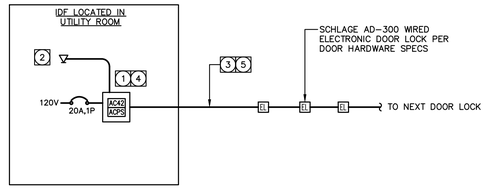
PLOT DATE

GENERAL NOTES

1. REFERENCE SHEET 5ES0.01 FOR ABBREVIATIONS, GENERAL NOTES, DEVICE SYMBOL DEFINITIONS AND ROUGH-IN REQUIREMENTS.
2. REFERENCE SHEET 5ES0.02 FOR SCOPE RESPONSIBILITY MATRIX.
3. CONTRACTOR SHALL PROVIDE INSTALLATION AND PROGRAMMING OF A COMPLETE AND FULLY-OPERATIONAL ACCESS CONTROL SYSTEM. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, ENGINEERING, DESIGN, TESTING AND COMMISSIONING AS PART OF THE SCOPE OF WORK.

KEYNOTES

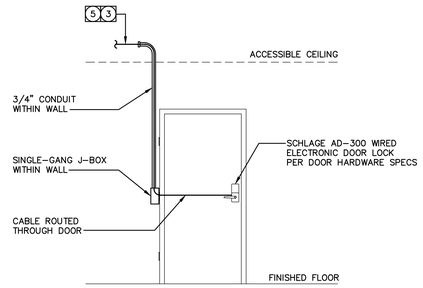
1. VERKADA AC42 DOOR CONTROLLER AND POWER SUPPLY. PROVIDE ALL MODULES AND ACCESSORIES AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM.
2. ETHERNET CONNECTION, PROVIDE (1) CAT 6A 4-PAIR UTP CABLE FROM IDF.
3. ELECTRONIC DOOR LOCKS SHALL BE DAISY-CHAINED USING RS-485 CABLE CONNECTED TO DOOR CONTROLLER.
4. POWER SUPPLY, UL294 OR ULCS319 CERTIFIED 250MA @12V OR 24V DC.
5. CONNECT DOOR LOCKS TO POWER SUPPLY USING 18AWG/2C CABLE.



NOTES:

1. CONFIGURE ACCESS CONTROL SYSTEM TO UTILIZE THE CARD READER, ELECTRIFIED LOCK, DOOR POSITION SWITCH AND REQUEST-TO-EXIT BUILT-IN FEATURES OF SCHLAGE AD-300.
2. CONFIGURE ACCESS CONTROL SYSTEM TO LOCK THE DOOR WHEN BUILT-IN PUSH-BUTTON LOCATED ON INTERIOR SIDE OF AD-300 IS PRESSED. CONFIRM DOORS WITH OWNER/ARCHITECT.
3. REFERENCE DOOR DETAILS ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.

ACCESS CONTROL SYSTEM BLOCK DIAGRAM | SCALE NTS | 1



EXTERIOR SIDE

TYPICAL DOOR WITH ELECTRONIC DOOR LOCK | SCALE NTS | 2

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salasobrien.com 949.753.1553
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ROY L. LOFLAND
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ACCESS CONTROL SYSTEM NOTES AND DETAILS

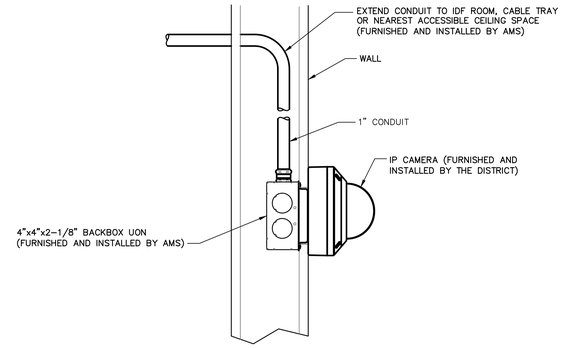
5ES0.04

SCALE: AS INDICATED

PLOT DATE

SHEET NOTES

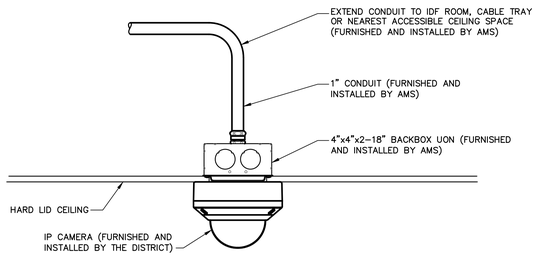
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2. REFERENCE SHEET 5ES0.02 FOR GENERAL NOTES.
3. REFERENCE SHEET 5ES0.03 FOR SECURITY SCOPE RESPONSIBILITY MATRIX.
4. REFERENCE FLOOR PLANS FOR CAMERA LOCATIONS AND CABLING PATHWAY INFORMATION.



DRAWING SYMBOL: H C

IP CAMERA, WALL-MOUNTED

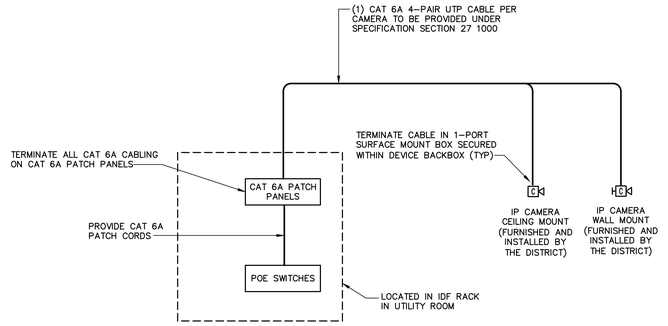
SCALE NTS | 2



DRAWING SYMBOL: C

IP CAMERA, CEILING-MOUNTED

SCALE NTS | 3



NOTE:

ALL DEVICES, CABLING AND EQUIPMENT SHOWN IN THIS DETAIL SHALL BE PROVIDED BY THE DISTRICT.

TYPICAL VIDEO SURVEILLANCE SYSTEM WIRING DIAGRAM

SCALE NTS | 1

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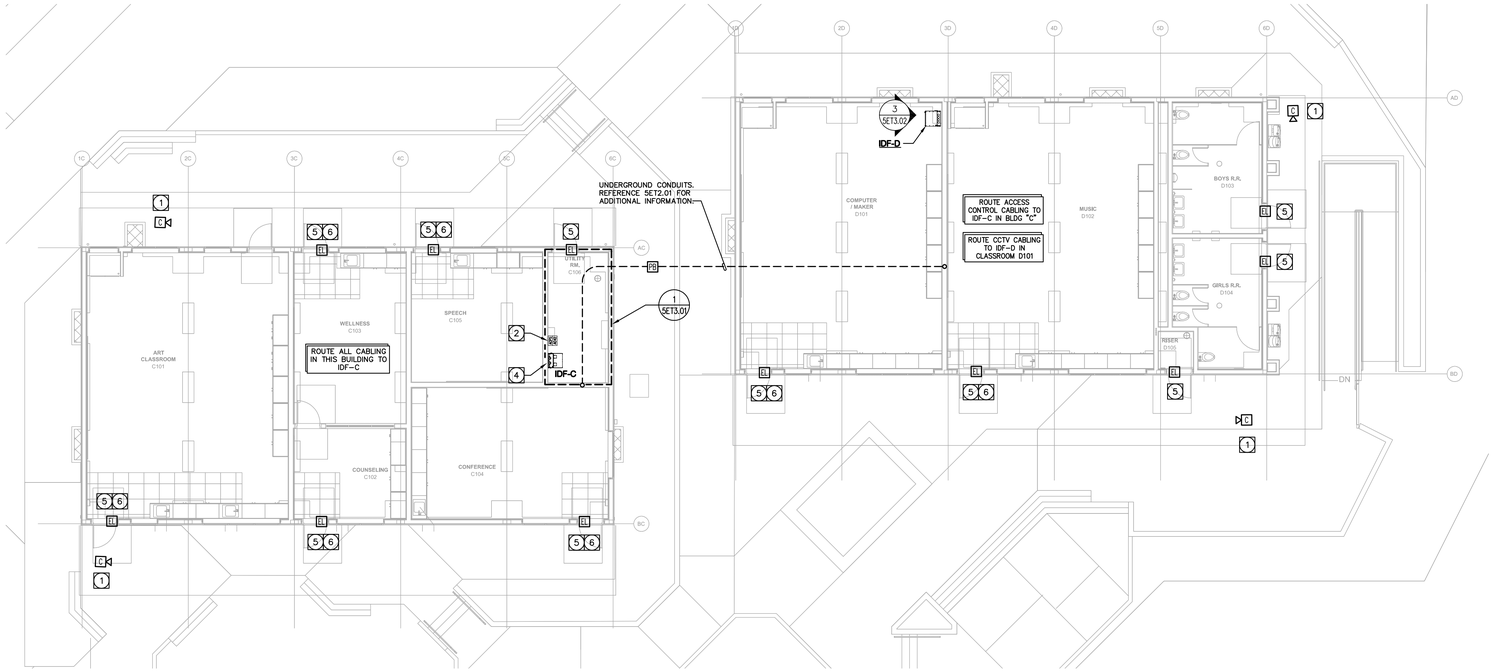
DRAWING TITLE

VIDEO SURVEILLANCE SYSTEM NOTES AND DETAILS

5ES0.05

SCALE: AS INDICATED

PLOT DATE



SHEET NOTES

1. REFERENCE SHEET 5ES0.01 FOR ABBREVIATIONS, DEVICE SYMBOL DEFINITIONS & DRAWING INDEX.
2. REFERENCE SHEET 5ES0.02 FOR GENERAL NOTES.
3. REFERENCE SHEET 5ES0.03 FOR SECURITY SCOPE RESPONSIBILITY MATRIX.
4. REFERENCE SHEET 5ES0.04 FOR ACCESS CONTROL SYSTEM NOTES & DETAILS.
5. PROVIDE (1) INDOOR/OUTDOOR CAT 6A CABLE FROM EACH CAMERA LOCATION TO DESIGNATED IDF. TERMINATE CABLE IN 1-PORT SURFACE MOUNT BOX AT CAMERA LOCATION. TERMINATE CABLE ON RACK-MOUNTED PATCH PANEL IN IDF.
6. REFERENCE TECHNOLOGY DRAWINGS FOR ADDITIONAL PATHWAY INFORMATION.

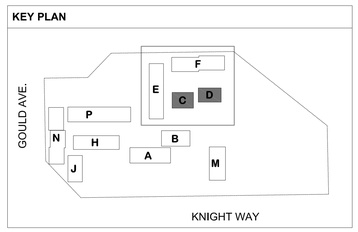
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N

KEY PLAN



BLDGS C & D - SECURITY FLOOR PLAN

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

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LICENSED ARCHITECT HARRY R DRAKE NO. C-014869 REN. 05-31-27 STATE OF CALIFORNIA

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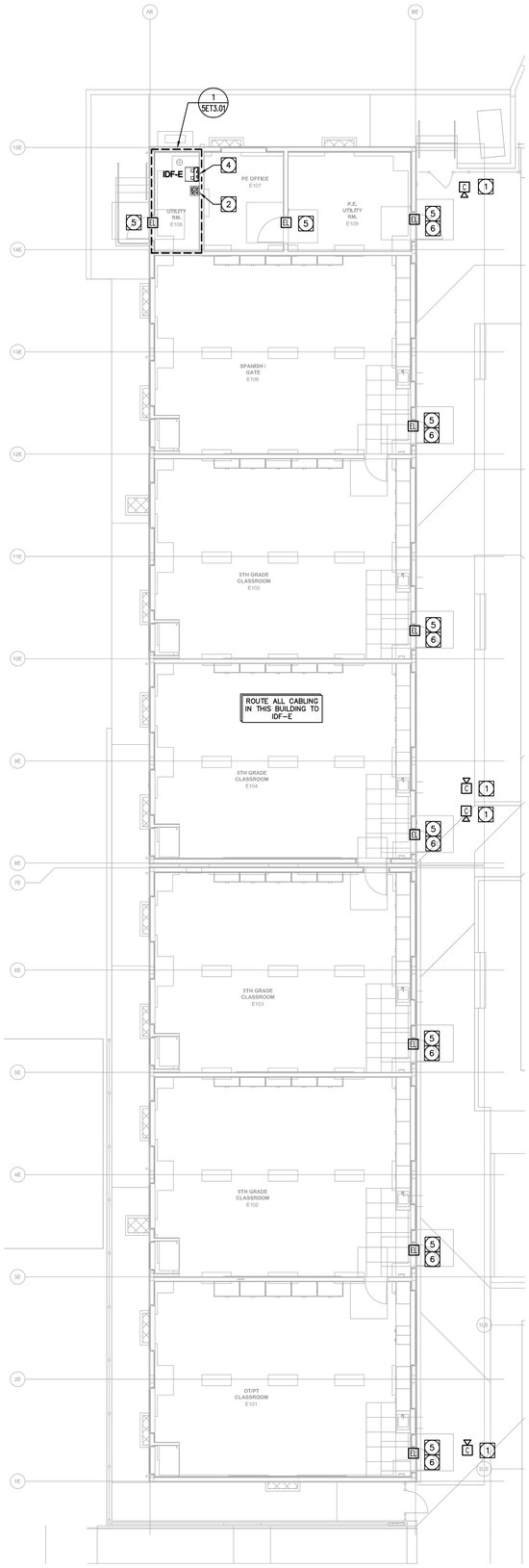
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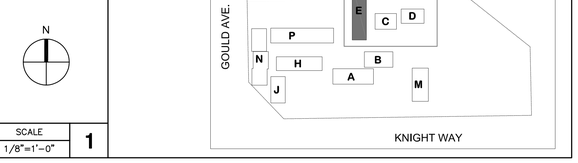
BLDGS C & D - SECURITY FLOOR PLAN

5ES2.01

SCALE: AS INDICATED

PLOT DATE





SHEET NOTES

1. REFERENCE SHEET 5ES0.01 FOR ABBREVIATIONS, DEVICE SYMBOL DEFINITIONS & DRAWING INDEX.
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KEY PLAN

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DRAWING TITLE

BLDG E - SECURITY FLOOR PLAN

5ES2.02

SCALE: AS INDICATED

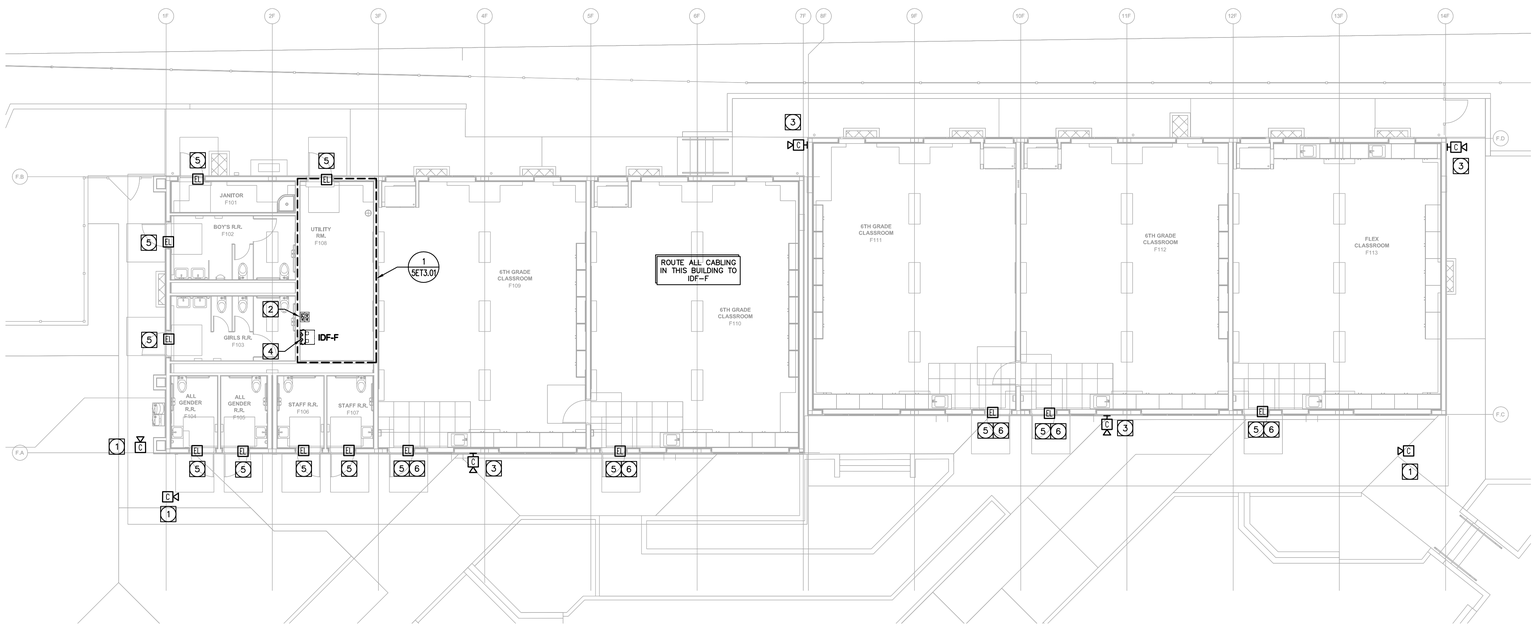
PLOT DATE

BLDG E - SECURITY FLOOR PLAN

SCALE 1/8"=1'-0"

1

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BLDG F - SECURITY FLOOR PLAN

SCALE 1/8"=1'-0"

1

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SHEET NOTES

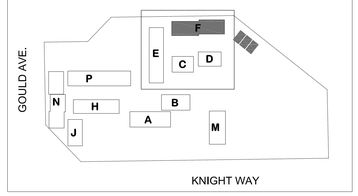
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KEY PLAN



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07/05/2024	50% DESIGN DEVELOPMENT
08/16/2024	100% DESIGN DEVELOPMENT
04/11/2025	50% CONSTRUCTION DOCUMENTS
07/18/2025	100% CONSTRUCTION DOCUMENTS
08/06/2025	DSA V1
12/05/2025	DSA V2
03/20/2026	DSA V3

⚠ REVISION DATE	DESCRIPTION

DRAWING TITLE

BLDG F - SECURITY FLOOR PLAN

5ES2.03

SCALE: AS INDICATED

PLOT DATE

REFERENCES & ABBREVIATIONS

X / ETX.XX	DETAIL REFERENCE
1	KEYNOTE REFERENCE
4SQ	4" SQUARE
A	AMPS
AC	ABOVE COUNTER
ACDC	ACCESS CONTROL DOOR CONTROLLER
ACPS	ACCESS CONTROL POWER SUPPLY
ADA	AMERICANS WITH DISABILITIES ACT
AFC	ABOVE FINISHED COUNTER
AFCI	ARC FAULT CIRCUIT INTERRUPTER
AFF	ABOVE FINISH FLOOR
AFG	ABOVE FINISH GRADE
AMS	AMERICAN MODULAR SYSTEMS
AWG	AMERICAN WIRE GAUGE
BDF	BUILDING DISTRIBUTION FRAME
BEP	BUILDING ENTRANCE PROTECTION
BLDG	BUILDING
C	CONDUIT
CAT	CATEGORY
CAT 6A	AUGMENTED CATEGORY 6
CBC	CALIFORNIA BUILDING CODE
CCTV	CLOSED CIRCUIT TELEVISION
CEC	CALIFORNIA ELECTRICAL CODE
CFC	CALIFORNIA FIRE CODE
CFCI	CONTRACTOR FURNISHED CONTRACTOR INSTALLED
CKT	CIRCUIT
CLG	CEILING
CMH	COMMUNICATIONS MANHOLE
CHH	COMMUNICATIONS HAND HOLE
CO	CONDUIT ONLY W/PULL ROPE
CSFD	COMBINATION SMOKE/FIRE DAMPER
CT	CURRENT TRANSFORMER
CU	COPPER
(D)	DEMOLISH OR REMOVE
DIA	DIAMETER
DISC	DISCONNECT
DIST	DISTRIBUTION
(E)	EXISTING TO REMAIN
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
EG	EQUIPMENT GROUND (GREEN)
EM	EMERGENCY
EMH	ELECTRIC MANHOLE/MAINTENANCE HOLE
EMS/EMCS	ENERGY MANAGEMENT CONTROL SYSTEM
EMT	ELECTRIC METALLIC TUBING
EOL	END OF LINE
(ER)	EXISTING TO BE RELOCATED
FA	FIRE ALARM
FLA	FULL LOAD AMPS
G	GROUND
GEC	GROUNDING ELECTRODE CONDUCTOR
GFI	GROUND FAULT INTERRUPTER
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GRC/RGC	GALVANIZED RIGID CONDUIT
HP	HORSEPOWER
IDCP	INTRUSION DETECTION CONTROL PANEL
IDF	INTERMEDIAE DISTRIBUTION FRAME
IDAP	INTRUSION DETECTION ALARM PANEL
IDPS	INTRUSION DETECTION POWER SUPPLY
IMC	INTERMEDIATE METALLIC TUBING
K	DEGREES KELVIN
KCMIL	THOUSAND CIRCULAR MILS
KVA	KILOVOLT AMPERES
KW	KILOWATT
KWH	KILOWATT HOUR
LCL	LONG CONTINUOUS LOAD
M	METER
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPS
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCM	THOUSAND CIRCUILAR MILS
MDF	MAIN DISTRIBUTION FRAME
MFGR/MFR	MANUFACTURER
MH	MOUNTING HEIGHT
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MM	MULTIMODE
MOCP	MAXIMUM OVERCURRENT PROTECTION
MTD	MOUNTED
(N)	NEW
NEC	NATIONAL ELECTRICAL CODE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
OFC	OPTICAL FIBER CABLE
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OH	OVER HEAD
PA	PUBLIC ADDRESS
PC	PHOTOCELL
PDU	POWER DISTRIBUTION UNIT
PRI	PRIMARY
PTZ	PAN-TILT-ZOOM
PVC	POLYVINYL CHLORIDE
(R)	RELOCATED
REF	REFERENCE
RGS	RIGID GALVANIZED STEEL
RU	RACK UNIT
SCC	SHORT CIRCUIT CURRENT
SEC	SECONDARY
SM	SINGLEMODE
SPD	SURGE PROTECTIVE DEVICE
SQ	SQUARE
ST	SHUNT TRIP
TEL	TELEPHONE
TGB	TELECOMMUNICATIONS GROUNDING BAR
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTABLE POWER SUPPLY
UTP	UNSHIELDED TWISTED PAIR
V	VOLTS
VA	VOLT AMPS
VD	VOLTAGE DROP
VL	VERIFY LOCATION
WP	WEATHERPROOF
(X)	EXISTING TO BE DEMOLISHED
XFMR	TRANSFORMER

TELECOM EQUIPMENT SYMBOLS

SYMBOL	DESCRIPTION
IDF	PIVOTING WALL-MOUNTED IDF RACK
BEP	25-PAIR COPPER BUILDING ENTRANCE PROTECTION (BEP) BLOCK
110	100-PAIR 110 WIRING BLOCK
	10" TELECOM GROUNDING BUSBAR (TGB)
	#6 AWG BONDING STRAP OR EQUIVALENT
	EQUIPMENT GROUND PER NEC, EIA/TIA STANDARDS
	12"W LADDER TRAY

GENERAL SYMBOLS

SYMBOLS	DESCRIPTION
	HOMERUN TO DESTINATION AS INDICATED
	INDICATES CONDUIT DROP
	INDICATES CONDUIT RISER
	INDICATES CONDUIT STUB
	INDICATES CONDUIT CONTINUATION
	INDICATES UNDERGROUND CONDUIT/RACEWAY
	FLEXIBLE CONDUIT CONNECTION
	4"SQ x 2-1/8"D JUNCTION BOX WALL-MOUNTED
	4"SQ x 2-1/8"D JUNCTION BOX CEILING-MOUNTED
PB	PULL BOX

TELECOMMUNICATIONS DEVICE SYMBOLS

SYMBOLS	DESCRIPTION	DEVICE/FACEPLATE REQUIREMENTS	BACKBOX AND CONDUIT REQUIREMENTS
(1)	DATA OUTLET, 1-PORT, WALL-MOUNTED AT 18" AFF, UON	4-PORT SINGLE-GANG FACEPLATE WITH (1) CAT 6A RJ-45 JACK AND (3) BLANK MODULES	4"SQ x 2-1/8"D RECESSED BACKBOX AT +18" AFF, SINGLE-GANG MUD-RING AND 1" CONDUIT TO ACCESSIBLE CEILING SPACE (UON)
(2)	DATA OUTLET, 2-PORT, WALL-MOUNTED AT 18" AFF, UON	4-PORT SINGLE-GANG FACEPLATE WITH (2) CAT 6A RJ-45 JACKS AND (2) BLANK MODULES	4"SQ x 2-1/8"D RECESSED BACKBOX AT +18" AFF, SINGLE-GANG MUD-RING AND 1" CONDUIT TO ACCESSIBLE CEILING SPACE (UON)
(3)	DATA OUTLET, 3-PORT, WALL-MOUNTED AT 18" AFF, UON	4-PORT SINGLE-GANG FACEPLATE WITH (3) CAT 6A RJ-45 JACKS & (1) BLANK MODULE	4"SQ x 2-1/8"D RECESSED BACKBOX AT +18" AFF, SINGLE-GANG MUD-RING AND 1" CONDUIT TO ACCESSIBLE CEILING SPACE (UON)
(4)	DATA OUTLET, 4-PORT, WALL-MOUNTED AT 18" AFF, UON	4-PORT SINGLE-GANG FACEPLATE WITH (4) CAT 6A RJ-45 JACKS	4"SQ x 2-1/8"D RECESSED BACKBOX AT +18" AFF, SINGLE-GANG MUD-RING AND 1" CONDUIT TO ACCESSIBLE CEILING SPACE (UON)
(#)	DATA OUTLET MOUNTED IN FLOOR BOX	SAME TYPE AND QUANTITY OF PORTS AS DATA OUTLETS DESCRIBED ABOVE. PROVIDE FACEPLATE AND MOUNTING STRAP COMPATIBLE WITH FLOOR BOX.	1" CONDUIT ROUTED UNDER THE FLOOR, FROM FLOOR BOX, UP THROUGH WALL AND STUBBED INTO ACCESSIBLE CEILING SPACE
WAP	DATA OUTLET FOR WIRELESS ACCESS POINT, MOUNTED ABOVE GRID CEILING (UON)	2-PORT SURFACE MOUNT BOX WITH (2) CAT 6A RJ-45 JACKS	4"SQ x 2-1/8"D RECESSED CEILING-MOUNTED BACKBOX, SINGLE-GANG MUD-RING AND 1" CONDUIT TO ACCESSIBLE CEILING SPACE (UON)
(2)	DATA OUTLET MOUNTED IN CEILING AV ENCLOSURE	2-PORT SURFACE MOUNT BOX WITH (2) CAT 6A RJ-45 JACKS	NONE
WAP	DATA OUTLET FOR WIRELESS ACCESS POINT, WALL-MOUNTED AT 8'-0" AFF, UON	2-PORT SURFACE MOUNT BOX WITH (2) CAT 6A RJ-45 JACKS	4"SQ x 2-1/8"D RECESSED BACKBOX, SINGLE-GANG MUD-RING AND 1" CONDUIT TO ACCESSIBLE CEILING SPACE. CONFIRM HEIGHT WITH OWNER/ARCHITECT PRIOR TO INSTALLATION.
WP WAP	DATA OUTLET FOR OUTDOOR WIRELESS ACCESS POINT MOUNTED AT 10'-0" AFF, UON WP=WEATHERPROOF	2-PORT SURFACE MOUNT BOX WITH (2) CATA 6 RJ-45 JACKS. DEVICE, CABLING AND EQUIPMENT MUST BE RATED FOR OUTDOOR USE.	4"SQ X 2-1/8"D WEATHERPROOF RECESSED BACKBOX, SINGLE-GANG MUD-RING AND 1" CONDUIT TO ACCESSIBLE CEILING SPACE. CONFIRM HEIGHT WITH OWNER/ARCHITECT PRIOR TO INSTALLATION.
(W)	TELEPHONE OUTLET, WALL-MOUNTED, MAXIMUM 48" AFF TO TOP OF OUTLET	1-PORT SINGLE-GANG FACEPLATE WITH PHONE STUDS AND (1) CAT 6A RJ-45 JACK	4"SQ x 2-1/8"D RECESSED BACKBOX, 48" AFF TOP OF BACKBOX, SINGLE-GANG MUD-RING AND 1" CONDUIT TO ACCESSIBLE CEILING SPACE

INTERCOM / PA / CLOCK

SYMBOLS	DESCRIPTION	DEVICE AND CABLING REQUIREMENTS	BACKBOX, CONDUIT AND SUPPORT REQUIREMENTS
S C	IP CLOCK/SPEAKER, WALL-MOUNTED	IP CLOCK/SPEAKER (VALCOM VL520BK-F). PROVIDE (1) CAT 6A RJ-45 JACK IN 1-PORT SURFACE MOUNT BOX SECURED WITHIN BACKBOX. (1) CAT 6A INDOOR CABLE TO IDF.	4"SQ x 2-1/8"D RECESSED BACKBOX WITH 3/4" CONDUIT TO ACCESSIBLE CEILING SPACE. CONFIRM EXACT LOCATION & MOUNTING HEIGHT WITH DISTRICT/ARCHITECT PRIOR TO INSTALLATION.
WP S	EXTERIOR IP FLEXHORN, WALL-MOUNTED WP = WEATHERPROOF	IP POE FLEXHORN (VALCOM VE4090AL). PROVIDE (1) CAT 6A RJ-45 JACK IN 1-PORT SURFACE MOUNT BOX SECURED WITHIN BACKBOX. PROVIDE (1) CAT 6A INDOOR/OUTDOOR CABLE TO IDF.	8.5"x11"x4" RECESSED VANDAL-RESISTANT BACKBOX WITH STAINLESS STEEL GRILLE (VALCOM V-9805) AND 3/4" CONDUIT TO ACCESSIBLE CEILING SPACE. CONFIRM EXACT LOCATION & MOUNTING HEIGHT WITH DISTRICT/ARCHITECT PRIOR TO INSTALLATION.
S	2'x2' ANALOG SPEAKER (FOR DROP CEILING)	VALCOM VE9022A-2	T-BAR SUPPORT FOR DROP CEILING (VALCOM V-TBAR)
S HL	8" ANALOG ROUND SPEAKER (FOR HARDLID CEILING)	VALCOM V-1020C	BRIDGE AND BACKBOX FOR HARDLID CEILING (VALCOM V9916M)
CS	CALL SWITCH, WALL-MOUNTED AT +44" AFF O.C.	VALCOM V-2970	4"SQ x 2-1/8"D RECESSED BACKBOX WITH 3/4" CONDUIT TO ACCESSIBLE CEILING SPACE
IC	BACKBOARD SPACE FOR ANALOG INTERCOM/PA CABLING TERMINATION BLOCKS AND EQUIPMENT	SEE DETAIL 1 ON SHEET 5ET0.07	N/A

CLASSROOM AV SYSTEM

SYMBOLS	DESCRIPTION	DEVICE AND CABLING REQUIREMENTS	BACKBOX AND CONDUIT REQUIREMENTS
S	SPEAKER, CEILING-MOUNTED	EXTRON FF 120 SPEAKERS WITH 18AWG/2C CABLING	INSTALL PER MANUFACTURER'S INSTALLATION INTRUCTIONS.
AV1	AV1 PLATE, WALL-MOUNTED	EXTRON PVT HDMI (DUAL HDMI AND 3.5mm AUDIO) AND EXTRON WPD-101 (3.5mm AUDIO)	4"SQ x 2-1/8"D RECESSED BACKBOX AT 18" AFF, DUAL-GANG MUD-RING AND 1" CONDUIT TO ACCESSIBLE CEILING SPACE
AV2	AV2 PLATE, WALL-MOUNTED	EXTRON PVT HDMI, DUAL HDMI AND 3.5mm AUDIO JACK	4"SQ x 2-1/8"D RECESSED BACKBOX AT 18" AFF, DUAL-GANG MUD-RING AND 1" CONDUIT TO ACCESSIBLE CEILING SPACE
AV3	AV3 PLATE, WALL-MOUNTED	CABLING FEED-THROUGH, SINGLE-GANG FACEPLATE WITH 1" RUBBER GROMMET	4"SQ x 2-1/8"D RECESSED BACKBOX, SINGLE-GANG MUD-RING AND 1" CONDUIT TO ACCESSIBLE CEILING SPACE. INSTALL DEVICE AT SHORT-THROW VIDEO PROJECTOR ABOVE WHITEBOARD. MOUNTING HEIGHT SHALL BE CONFIRMED WITH DISTRICT/ARCHITECT.
WLM	WIRELESS MICROPHONE SYSTEM	EXTRON VOICELIFT PRO, PENDANT STYLE AND HANDHELD WIRELESS MICS. LOCATE CHARGER AT PRIMARY TEACHER'S DESK. WIRELESS MIC RECEIVER TO BE INSTALLED IN AV ENCLOSURE.	NONE
CP	CONTROL PANEL, WALL-MOUNTED	EXTRON MLC PLUS 200 WITH (1) CAT 6A CABLE TO AV SWITCHER	3-GANG RECESSED BACKBOX, 3-GANG MUD-RING AND 1" CONDUIT TO ACCESSIBLE CEILING SPACE. INSTALL AT 44" AFF ON CENTER.
AV	CEILING-MOUNTED AV ENCLOSURE	EXTRON PVM 200 PLENUMVAULT MOUNTING KIT 2'x2' CEILING-MOUNTED AV ENCLOSURE	INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS
VP	ULTRA SHORT-THROW VIDEO PROJECTOR AND MOUNT	EPSON V11H923520 AND COMPATIBLE MOUNT (OWNER-FURNISHED CONTRACTOR-INSTALLED)	NONE

DRAWING INDEX

5ET0.01	TELECOM SYMBOLS, ABBREVIATIONS AND DRAWING INDEX
5ET0.02	TELECOM GENERAL NOTES AND SPECIFICATIONS
5ET0.03	TELECOM SCOPE RESPONSIBILITY MATRIX
5ET0.04	AUDIO VISUAL SYSTEM NOTES & DETAILS
5ET0.05	TELECOMMUNICATIONS DETAILS
5ET0.06	TELECOMMUNICATIONS DETAILS
5ET0.07	TELECOMMUNICATIONS DETAILS
5ET0.08	TELECOMMUNICATIONS DETAILS
5ET0.09	TELECOMMUNICATIONS ONE-LINE DIAGRAM
5ET1.01	TELECOMMUNICATIONS SITE PLAN
5ET2.01	BUILDINGS C & D - TELECOM FLOOR PLAN
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5ET2.03	BUILDING F - TELECOM FLOOR PLAN
5ET3.01	TELECOM ENLARGED PLANS & RACK ELEVATIONS
5ET3.02	TELECOM ENLARGED PLANS & RACK ELEVATIONS

APPLICABLE CODE: 2022 CBC

MEP COMPONENT ANCHORAGE NOTE

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA-APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2022 CBC SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTERS 13, 26, AND 30:

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G., HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER. PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.
3. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS:

A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVING 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.

THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH THE ABOVE REQUIREMENTS.

APPLICABLE CODE: 2022 CBC PER IR 16-13.

MEP DISTRIBUTION SYSTEM BRACING NOTE FOR PIPING, DUCTWORK, AND ELECTRICAL CONDUIT

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7 SECTION 13.3 AS DEFINED IN ASCE 7 SECTIONS 13.6.5, 13.6.6, 13.6.7, AND 13.6.8; AND 2022 CBC SECTIONS 1617A.1.24, 1617A.1.25, AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEMS ARE AS NOTED BELOW. THE MEP DESIGN PROFESSIONAL ENGINEER RESPONSIBLE FOR CONTENT ON THESE SHEETS HAS VERIFIED THAT THE DESIGN METHODS IDENTIFIED BELOW ARE IN ACCORDANCE WITH DSA IR 16-13.

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

- ☐ MP ☐ MD ☐ PP ☒ E OPTION 1: PROJECT-SPECIFIC DESIGN.
- ☐ MP ☐ MD ☐ PP ☐ E OPTION 2: DESIGN BASED ON OSHPD OPM, WITHIN PROJECT SUBMITTAL.
- ☐ MP ☐ MD ☐ PP ☐ E OPTION 3: DESIGN BASED ON OSHPD OPM, DEFERRED SUBMITTAL.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-125476 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 05/07/2026

Practice
135 W. Green St Suite 200 Pasadena, CA 91105 | 626.568.1248 | practice-la.com

LA CAÑADA UNIFIED SCHOOL DISTRICT ESTABLISHED 1965

Salas O'Brien
salasobrien.com 949.753.1553
Irvine
8825 Research Drive
Irvine, CA 92618

Project No.: 2022-01629-05

REGISTERED PROFESSIONAL ENGINEER ROY L. LOPEZ No. 13442 Exp. 09/30/26 ELECTRICAL STATE OF CALIFORNIA

PARADISE CANYON E.S.

PACKAGE 5 - NEW NORTH BUILDINGS

471 KNIGHT WAY, LA CAÑADA FLINTRIDGE, CA 91011

PROJECT NUMBER 20911

LICENSED ARCHITECT HARRY R. DRAPER NO. C-014869 REN: 05-31-27 STATE OF CALIFORNIA

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DRAWING TITLE

TELECOM SYMBOLS, ABBREVIATIONS AND DRAWING INDEX

5ET0.01

SCALE: AS INDICATED

PLOT DATE

If this sheet is smaller than 30" high by 42" wide then it has been reduced.

SIGNAL PLAN GENERAL NOTES

1. PROVIDE CONDUITS WITH PULL TAPE/LINE WITH FIVE (5) FEET OF ADDITIONAL PULL TAPE COILED AT EACH END.
2. CONDUIT BEND RADII SHALL BE A MINIMUM OF SIX (6) TIMES THE INTERNAL DIAMETER FOR CONDUITS 2" AND UNDER AND TEN (10) TIMES THE INTERNAL DIAMETER FOR CONDUITS GREATER THAN 2".
3. CONDUITS AND SLEEVES PROTRUDING THROUGH FLOOR SHALL TERMINATE MINIMUM 3" BEYOND FLOOR SURFACE. REFERENCE ELECTRICAL SPECIFICATIONS FOR ADDITIONAL INFORMATION.
4. ALL CONDUIT PENETRATIONS SHALL BE SEALED WITH MECHANICAL SEALS OR PLUGS TO PREVENT THE INFILTRATION OF GAS AND/OR WATER.
5. PROVIDE LABEL IDENTIFICATION FOR EACH CONDUIT AND PULL BOX PER IDENTIFICATION SPECIFICATION REQUIREMENTS. CONDUITS SHALL BE TAGGED WITH THE LOCATION OF THE OTHER END AND DISTANCE OF CONDUIT RUN.
6. ALL BELOW GRADE OR IN-SLAB MOUNTED CONDUITS SHALL BE CLEAN AND FREE OF ALL WATER AND DEBRIS PRIOR TO THE INSTALLATION OF SYSTEM CABLING.
7. PENETRATIONS THROUGH FIRE RATED WALLS SHALL BE PROTECTED WITH AN APPROVED FIRE STOP SYSTEM EQUAL TO OR GREATER THAN THE RATING OF THE WALL BEING PENETRATED.
8. ALL DEVICES MOUNTED BACK TO BACK ON COMMON WALLS SHALL BE INSTALLED IN SEPARATE BOXES AND OFFSET 24" MINIMUM OR PROVIDED WITH PUTTY OR ANOTHER APPROVED SOUND PROOF BACKING.
9. WHEN EXPOSED CEILING OR OPEN GRID CONDITIONS EXIST, CONTRACTOR SHALL PROVIDE:
   A. ALL BRANCH CIRCUITS TO BE INSTALLED IN EMT.
   B. ALL BRANCH CIRCUITS SHALL BE ROUTED PARALLEL TO BUILDING STRUCTURES AND RACKED NEATLY IN GROUPS OF MULTIPLE PATHWAYS.
   C. ALL LOW VOLTAGE CABLES SHALL BE:
      - INSTALLED IN EMT CONDUIT PATHWAYS OR
      - INSTALLED NEATLY IN CABLE MANAGEMENT OPEN BASKET OR LADDER TYPE WIREWAY SUPPORTED INDEPENDENTLY FROM STRUCTURE ABOVE.
10. EXPOSED LOW VOLTAGE CABLING IN OPEN TYPE CEILING APPLICATIONS INSTALLED ON D-RINGS, J-HOOKS OR SIMILAR APPARATUS WILL NOT BE ACCEPTED UNLESS APPROVED IN WRITING BY ARCHITECT/ENGINEER PRIOR TO ANY ROUGH IN OR INSTALLATION. CONTRACTOR SHALL INCLUDE AN ALLOWANCE IN HIS BASE BID FOR THE INSTALLATION OF LOW VOLTAGE CABLES IN OPEN CEILINGS AS DESCRIBED.
11. EXPOSED CABLE/CONDUCTORS INSTALLED IN A PLENUM SPACE SHALL BE LISTED FOR SUCH ENVIRONMENT AND INSTALLATION SHALL CONFORM TO NEC, OR CEC WHERE ADOPTED, ARTICLE 300.22(C).

TECHNOLOGY NOTES AND SPECIFICATIONS

1. ALL GENERAL NOTES AND SPECIFICATIONS CONTAINED HEREIN APPLY TO THE GENERAL CONTRACTOR AND SUB-CONTRACTOR(S) BIDDING THESE PLANS. THE GENERAL CONTRACTOR (GC) AND OWNER ARE RESPONSIBLE FOR PROVIDING THIS SET OF PLANS TO ALL RELEVANT PARTIES (ELECTRICAL CONTRACTOR, LOW-VOLTAGE CONTRACTOR(S), SYSTEM INTEGRATORS, ETC.) IN ORDER TO DEVELOP AN ACCURATE, ALL-INCLUSIVE BID, AND TO ENSURE A COMPLETE AND FULLY-OPERATIONAL SYSTEM IS DELIVERED, INCLUDING ALL REQUIRED CONDUIT PATHWAYS, POWER SUPPLIES, CONNECTIONS, ETC.
2. SCOPE OF WORK: THE SCOPE OF WORK FOR THIS CONTRACTOR SHALL CONSIST OF DELIVERING A COMPLETE SYSTEM INSTALLATION BASED ON THIS SET OF PLANS FOR THE TELECOMMUNICATIONS, CLASSROOM AUDIO VIDEO, INTERCOM/PA AND CLOCK SYSTEMS).
3. CONTRACTOR SHALL PROVIDE ALL REQUIRED MATERIAL, INCLUDING BUT NOT LIMITED TO, LOW-VOLTAGE CABLING, HARDWARE, PATHWAYS, ACCESSORIES, MODULES, DEVICES, CONTROLLERS, POWER SUPPLIES, ETC. WHETHER INDICATED HEREIN OR NOT, AND LABOR FOR A COMPLETE AND OPERATIONAL SYSTEM. FINAL SYSTEM SHALL ACCOMMODATE THE TOTAL NUMBER OF DEVICE LOCATIONS AND/OR CONTROL POINTS IDENTIFIED AS A MINIMUM AND MEET THE SYSTEM DESIGN INTENT OF THESE DOCUMENTS.
4. THE SYSTEM(S) PLANS CONTAINED IN THESE SHEETS ARE CONCEPTUAL ONLY AND ARE BASED ON INITIAL OWNER INPUT RECEIVED TO DATE AND DESIGN TEAM INFORMATION COORDINATED THUS FAR. THE AWARDED CONTRACTOR(S) SHALL BE RESPONSIBLE FOR ADAPTING THE SYSTEM(S) AND DESIGN INTENT ILLUSTRATED WITHIN THIS DESIGN-BUILD CRITERIA TO THE ACTUAL CONDITIONS OF THIS PROJECT AND THE FINAL OWNER'S NEEDS. CONTRACTOR(S) SHALL COORDINATE, CONFIRM, AND FINALIZE DESIRED SYSTEM(S) COVERAGE, FEATURES AND PROGRAMMING WITH OWNER, OWNER'S SUPPORT STAFF (IT, SECURITY, ETC.) DESIGN TEAM, AND OTHER TRADES/DISCIPLINES PRIOR TO BID AND PRIOR TO COMPLETING FINAL CONSTRUCTION DOCUMENTS FOR THE SYSTEM(S) IDENTIFIED ABOVE. COORDINATE DEVICE LOCATIONS, HEIGHTS, ETC. WITH ARCHITECT AND OTHER TRADES PRIOR TO ROUGH-IN.
5. COORDINATION AND QUALITY ASSURANCE: ALL DESIGN, MATERIALS AND INSTALLATION METHODS EMPLOYED FOR THESE SYSTEM(S) SHALL BE COMPLIANT WITH THE MOST CURRENT VERSIONS OF ALL NATIONAL AND LOCALLY RECOGNIZED CODES AND REGULATIONS, INCLUDING REQUIREMENTS AS COORDINATED WITH, AND IDENTIFIED BY, THE OWNER. ITEM COORDINATION SHALL INCLUDE, BUT NOT BE LIMITED TO, SOFTWARE/PROGRAMMING PACKAGES, FINAL HEAD END EQUIPMENT AND DEVICE LOCATIONS (INCLUDING MOUNTING TYPES AND HEIGHTS), MANUFACTURER POWER REQUIREMENTS, INTEGRATION AND REQUIREMENTS WITH OTHER SYSTEMS (FIRE LIFE SAFETY), ETC. VERIFY WITH OWNER LEVEL OF INTEGRATION AND COMPARABILITY BETWEEN THESE SYSTEMS AND MANUFACTURES AS WELL AS ANY OTHER SPECIAL SYSTEMS NOT PART OF THIS SCOPE (AV, SECURITY/ CCTV, LIGHTING CONTROL, ENERGY MANAGEMENT, ETC.)
6. QUALIFICATIONS: CONTRACTOR(S) SHALL HOLD A VALID STATE OF CALIFORNIA C10 AND C7 LICENSE AND SHALL HAVE BEEN IN THE BUSINESS OF FURNISHING AND INSTALLING SIMILAR SYSTEMS OF SCOPE AND SIZE FOR A MINIMUM OF FIVE (5) YEARS. CONTRACTOR SHALL BE CAPABLE OF BEING BONDED TO ASSURE THE OWNER PERFORMANCE AND SATISFACTORY SERVICE DURING THE WARRANTY PERIOD.
7. INSTALLING CONTRACTOR SHALL BE A FACTORY AUTHORIZED DISTRIBUTOR, INSTALLER AND WARRANTY STATION FOR THE BRAND OF EQUIPMENT BEING OFFERED. IN ADDITION, CONTRACTOR SHALL FURNISH CERTIFICATES OF TRAINING FOR PERSONNEL PERFORMING WORK AND A LETTER FROM THE MANUFACTURER ADDRESSED TO THE OWNER (OR OWNER'S REPRESENTATIVE) CERTIFYING THAT THE CONTRACTOR IS AN AUTHORIZED DISTRIBUTOR AND INSTALLER OF SAID EQUIPMENT AND EQUIPMENT SHALL BE INSTALLED ACCORDING TO INTENDED MANUFACTURER'S PRACTICES. CONTRACTOR SHALL MAINTAIN A FULLY EQUIPPED SERVICE ORGANIZATION CAPABLE OF FURNISHING ADEQUATE REPAIR SERVICE TO WARRANTED EQUIPMENT WITH RESPONSE TIMES TO PROJECT SITE WITHIN 4 HOURS TIME.
8. WIRELESS: WIRELESS DEVICES AND/OR COMPONENTS ARE NOT ALLOWED AS PART OF CONTRACTOR'S BASE BID UNLESS OTHERWISE NOTED. APPROVAL OF WIRELESS SYSTEMS SHALL BE AT THE DISCRETION OF THE ENGINEER OF RECORD AND OWNER. ANY PROPOSED WIRELESS SYSTEM COMPONENTS SHALL CONTAIN A PRE-BID SUBMITTAL PACKAGE FOR A BID-ALTERNATE PACKAGE CONSIDERATION. SUBMITTAL SHALL INCLUDE ALL DATA AND DOCUMENTS IDENTIFIED WITHIN THE SUBMITTAL REQUIREMENTS OF THIS SECTION.
9. SOFTWARE: ALL SYSTEM DESIRED SOFTWARE PLATFORMS AND QUANTITY OF LICENSES SHALL BE PROVIDED FOR ALL FURNISHED EQUIPMENT AS PART OF THE COMPLETE AND OPERATIONAL SYSTEM. ALL SYSTEM SOFTWARE PLATFORMS INSTALLED SHALL BE THE FULL AND COMPLETE VERSION OF THE MOST RECENT SOFTWARE PACKAGE AVAILABLE AT THE TIME OF INSTALLATION. OWNER SHALL BE PROVIDED FORMAL COPIES OF ALL LICENSES AND FURNISHED WITH ALL USER NAMES AND PASSWORDS TO SYSTEMS AS PART OF CLOSE-OUT DOCUMENTATION.
10. SUBMITTALS: FURNISH VIA SUBMITTAL PROCESS COMPLETED CONSTRUCTION DOCUMENTS, SPECIFICATIONS, AND PRODUCT DATA CUT SHEETS FOR THE SYSTEMS IDENTIFIED ABOVE AND HEREIN. SUBMITTALS FOR THESE SYSTEMS MUST INCLUDE, AT A MINIMUM, THE FOLLOWING INFORMATION:
    A. COPY OF CONTRACTOR'S VALID AND CURRENT CALIFORNIA STATE LICENSE (C7 AND C10)
    B. COPY OF PROJECT LIST WITH (10) COMPLETED PROJECTS WITHIN THE LAST (5) YEARS.
    C. COPY OF MANUFACTURER'S AUTHORIZATION LETTERS IDENTIFYING THE CONTRACTOR AS AN AUTHORIZED DISTRIBUTOR AND INSTALLER.
    D. PROOF OF CONTRACTOR'S TRAINED PERSONNEL, AND PERSONNEL ARE LOCATED IN THE LOCAL FACILITY
    E. MANUFACTURER'S WARRANTY (STANDARD AND EXTENDED WARRANTIES)
    F. PROPOSED MANUFACTURER AND SYSTEM IN ACCORDANCE WITH THIS CRITERIA INCLUDING DATA CUT SHEETS FOR ALL PRODUCT EQUIPMENT AND DEVICES
    G. PROPOSED COMPLETE SYSTEM LAYOUT INDICATING LOCATIONS FOR ALL DEVICES, CONTROL POINTS, POWER-SUPPLIES, TERMINAL CABINETS, CABLING, ETC. ASSOCIATED WITH THIS PROJECT, INCLUDING WIRING DIAGRAMS, WIRE LEGENDS, DEVICE AND BACK BOX MOUNTING HEIGHTS, ZONING SCHEDULE/LEGEND, ETC. PLANS SUBMITTED SHALL INCLUDE PROPOSED CABLING AND CONDUIT ROUTING ON 1/8" SCALE PLANS.
    H. RISER/SINGLE LINE DIAGRAMS AND CALCULATIONS SHOWING COMPLETE SYSTEM LAYOUT, INCLUDING BUT NOT LIMITED TO, CONNECTION DIAGRAMS FOR SYSTEMS AS WELL AS INTERFACE WITH OTHER SYSTEMS WHERE APPLICABLE, AND CONNECTIVITY, INCLUDING ANY BATTERY AND VOLTAGE DROP CALCULATIONS.
    I. HEAD-END EQUIPMENT LOCATIONS AND ELEVATIONS.
    J. INCLUDE TESTING AND COMMISSIONING PROCEDURES, COORDINATED WITH OWNER'S REQUIREMENTS AND MANUFACTURER'S STANDARDS, INCLUDING ANSI/TIA-568-C.0, ANSI/TIA-568-C.1, ANSI/TIA-568-C.2, ANSI/TIA-568-C.3.
    K. SUBMITTALS WITHOUT THE ABOVE INFORMATION SHALL BE DEEMED INCOMPLETE AND REJECTED.
11. WARRANTY, SUPPORT, AND PROGRAMMING:
    A. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR OBTAINING THE MANUFACTURER'S WARRANTY. ALL COMPONENTS, PARTS AND ASSEMBLIES SUPPLIED BY THE MANUFACTURER AND INSTALLED BY THE CONTRACTOR SHALL BE WARRANTED AGAINST DEFECTS IN MATERIAL AND WORKMANSHIP (PARTS AND LABOR) FOR A PERIOD OF ONE (1) YEAR MINIMUM. CONTRACTOR SHALL INCLUDE IN BID ALL REQUIRED TECHNICAL SUPPORT, PROGRAMMING, PARTS AND LABOR TO SUCCESSFULLY EXECUTE AND MEET THE INTENT OF THIS CRITERIA. WARRANTY PERIOD SHALL BEGIN FROM THE DATE OF FINAL WRITTEN ACCEPTANCE BY THE OWNER. PROVIDE TYPED IDENTIFICATION/INFORMATION CARD AT HEAD END EQUIPMENT LOCATION INDICATING WARRANTY PERIOD START DATE AND COMPANY CONTACT INFORMATION FOR WARRANTY SERVICE, INCLUDING COMPANY NAME, ADDRESS AND PHONE NUMBER.
    B. CONTRACTOR SHALL PROVIDE AND INCLUDE ALL PARTS & COMPONENTS OF THE VOICE/ TELECOM SYSTEM, AS PART OF A COMPLETE "END-TO-END" SOLUTION, IN ORDER TO ESTABLISH & MAINTAIN MANUFACTURE'S EXTENDED WARRANTIES. SYSTEM COMPONENTS (AND MANUFACTURE'S RECOGNIZED EXTENDED WARRANTY) SHALL BE INCLUDED WITH SUBMITTAL DOCUMENTATION FOR ALL PROPOSED SYSTEMS. SEE WARRANTY REQUIREMENTS FOR ADDITIONAL INFORMATION.
12. ALTERNATES: APPROVAL FOR ALTERNATE SYSTEMS IS REQUIRED PRIOR TO BID. SUBMIT ALL ALTERNATE SYSTEM INFORMATION (15) DAYS PRIOR TO BID DEADLINE FOR ENGINEER REVIEW. PROPOSED ALTERNATE SYSTEM INFORMATION SHALL BE PROVIDED AS IDENTIFIED IN THE SUBMITTAL REQUIREMENTS ABOVE. IN ADDITION, INCLUDE LINE ITEM COST COMPARISON AND OVERALL SYSTEM COST SAVINGS. BIDDING CONTRACTOR SHALL INCLUDE A STATEMENT EXPLAINING THE POTENTIAL BENEFIT TO OWNER FOR THE ACCEPTANCE OF PROPOSED ALTERNATE.
13. INTERRUPTIONS OR SERVICE OUTAGES OF ANY EXISTING SYSTEM SHALL BE COORDINATED AND SCHEDULED WITH THE OWNER A MINIMUM OF TWO WEEKS ADVANCED NOTICE, AND WITH OWNER'S WRITTEN APPROVAL FOR SCHEDULE. OUTAGES SHALL TAKE PLACE OUTSIDE OF NORMAL BUSINESS, OR BUILDING'S OCCUPIED HOURS. ALL COSTS SHALL BE BORNE BY THE CONTRACTOR TO ACCOMMODATE OUTAGE SCHEDULING.
14. BOOK SPECIFICATIONS: IN THE EVENT OF CONFLICTS BETWEEN CONSTRUCTION BID DOCUMENT SPECIFICATIONS AND THE CRITERIA ABOVE, THE MOST STRINGENT OF REQUIREMENTS SHALL APPLY.

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APP: 03-125476 INC:
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DATE: 05/07/2026

Practice
135 W. Green St Suite 200 Pasadena, CA 91105 | 626.568.1248 | practice-la.com

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ESTABLISHED 1965

Salas O'Brien
salasobrien.com 949.753.1553
Irvine
8825 Research Drive
Irvine, CA 92618

Project No.: 2022-01629-05

REGISTERED PROFESSIONAL ENGINEER
ROY LEON CHUA
No. 13442
Exp. 09/30/26
ELECTRICAL
STATE OF CALIFORNIA

PARADISE CANYON E.S.

PACKAGE 5 - NEW NORTH BUILDINGS

471 KNIGHT WAY, LA CAÑADA FLINTRIDGE, CA 91011

PROJECT NUMBER 20911

LICENSED ARCHITECT
HARRY R DRAKE
NO. C-014869
REN: 05-31-27
STATE OF CALIFORNIA

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03/20/2026	DSA V3

#	REVISION DATE	DESCRIPTION

DRAWING TITLE

TELECOM GENERAL NOTES AND SPECIFICATIONS

5ET0.02

SCALE: AS INDICATED

PLOT DATE

TELECOMMUNICATIONS SYSTEM

PRODUCT	FURNISHED BY		INSTALLED BY		NOTES
	DISTRICT	CONTRACTOR	DISTRICT	CONTRACTOR	
PATHWAYS FOR BACKBONE CABLING		■		■	
BACKBONE CABLING	■		■		
DEVICE ROUGH-IN AND PATHWAYS FOR HORIZONTAL CABLING (WITHIN BUILDINGS)	N/A		N/A		SEE NOTE 1
DEVICES AND HORIZONTAL CABLING	■		■		
WIRELESS ACCESS POINTS	■		■		
WALL-MOUNTED IDF ENCLOSURES, GROUNDING AND BONDING OF EQUIPMENT RACKS AND CONDUITS, PLYWOOD BACKBOARDS, FIBER CABINETS AND RACK-MOUNT POWER STRIPS.		■		■	
LADDER TRAYS FOR ROUTING OF HORIZONTAL CABLING.		■		■	
NETWORK SWITCHES, DESKTOP COMPUTERS, LAPTOPS, TELEPHONES, TABLETS, UPS	■		■		

CLASSROOM AV SYSTEM

PRODUCT	FURNISHED BY		INSTALLED BY		NOTES
	DISTRICT	CONTRACTOR	DISTRICT	CONTRACTOR	
DEVICE ROUGH-IN	N/A		N/A		SEE NOTE 1
DEVICES, CABLING, LABELING/IDENTIFICATION AND TESTING		■		■	
ULTRA SHORT-THROW VIDEO PROJECTOR AND PROJECTOR MOUNT	■			■	
AV EQUIPMENT INCLUDING, BUT NOT LIMITED TO, CEILING MOUNTED ENCLOSURE, AV SWITCHER, WIRELESS MICROPHONE SYSTEM, AV CONTROL PANEL, SPEAKERS)		■		■	
PROGRAMMING, TESTING AND INTEGRATION WITH OTHER SYSTEMS		■		■	

IP INTERCOM CLOCK SYSTEM

PRODUCT	FURNISHED BY		INSTALLED BY		NOTES
	DISTRICT	CONTRACTOR	DISTRICT	CONTRACTOR	
DEVICE ROUGH-IN	N/A		N/A		SEE NOTE 1
CABLING, LABELING/IDENTIFICATION AND TESTING	■		■		SEE NOTE 2
DEVICES AND EQUIPMENT INCLUDING, BUT NOT LIMITED TO, INTERCOM CLOCK SPEAKER COMBOS, CALL SWITCHES, CLOCKS, INDOOR AND OUTDOOR SPEAKERS	■		■		
SERVER & SOFTWARE PROGRAMMING, TESTING AND INTEGRATION WITH OTHER SYSTEMS	■		■		

ASSISTIVE LISTENING SYSTEM

PRODUCT	FURNISHED BY		INSTALLED BY		NOTES
	DISTRICT	CONTRACTOR	DISTRICT	CONTRACTOR	
DEVICES AND EQUIPMENT		■		■	SEE NOTE 3
ASSISTIVE LISTENING SIGNS		■		■	

TELEPHONE SYSTEM

PRODUCT	FURNISHED BY		INSTALLED BY		
	DISTRICT	CONTRACTOR	DISTRICT	CONTRACTOR	
CABLING, DEVICES AND EQUIPMENT	■		■		

NOTE:

1. ALL WALL MOUNTED DEVICE ROUGH-IN BOXES, CONDUITS WITHIN WALLS, CONDUIT SLEEVES ABOVE CEILING AND CONDUIT SLEEVES THROUGH FLOORS SHALL BE PROVIDED AND INSTALLED BY THE BUILDING MANUFACTURER.
2. CABLING TO BE PROVIDED UNDER SPECIFICATION SECTION 27 1000 TELECOMMUNICATIONS SYSTEM.
3. THE CLASSROOM AV CABLING INFRASTRUCTURE WILL ACCOMMODATE THE ASSISTIVE LISTENING SYSTEM.

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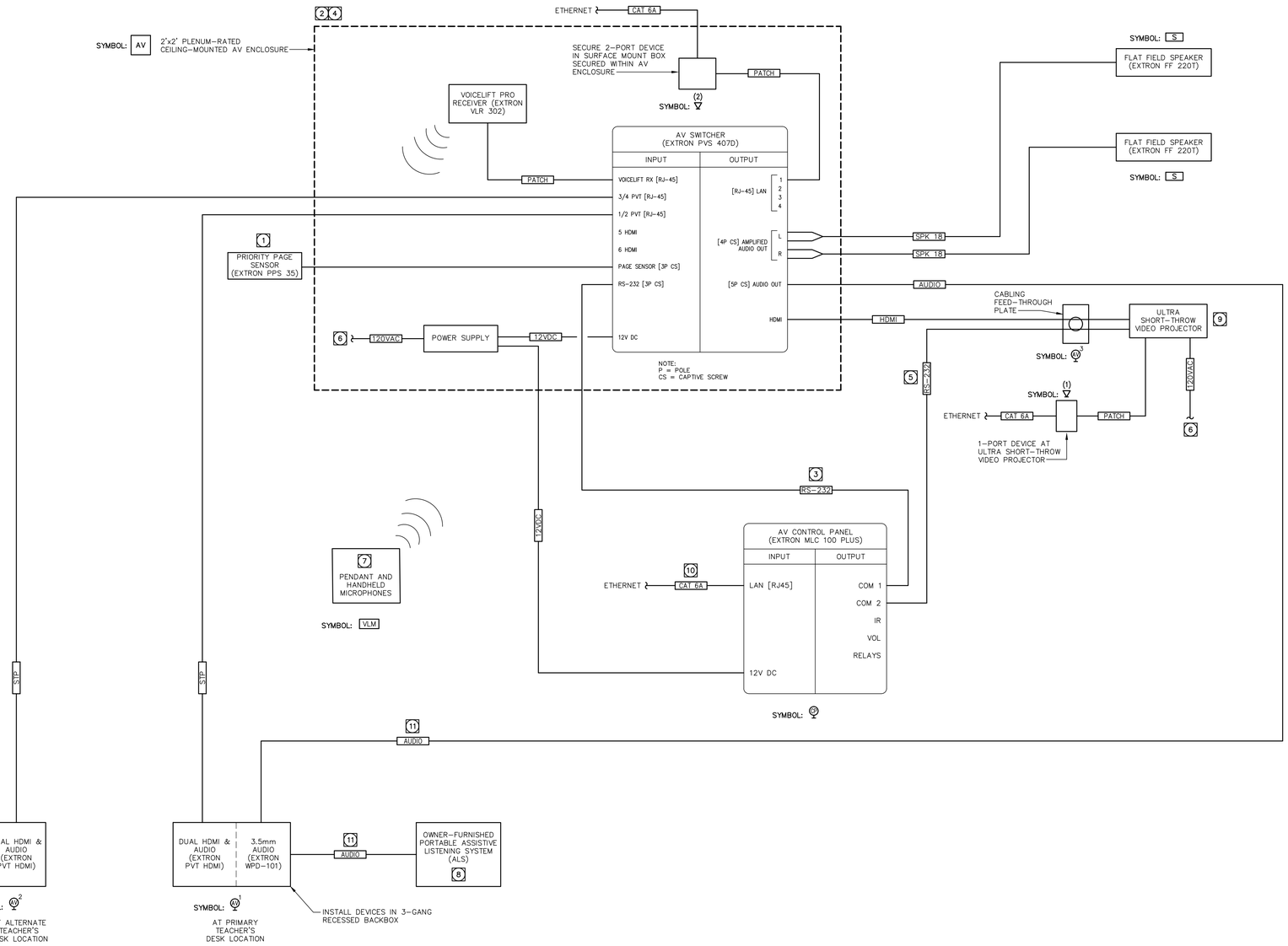
DRAWING TITLE

TELECOM SCOPE RESPONSIBILITY MATRIX

5ET0.03

SCALE: AS INDICATED

PLOT DATE



TYPICAL CLASSROOM AUDIO VISUAL SYSTEM WIRING DIAGRAM

SCALE: NTS | 1

SHEET NOTES

1. REFERENCE SHEET ET0.01 FOR ABBREVIATIONS, GENERAL NOTES, DEVICE SYMBOL DEFINITIONS AND ROUGH-IN REQUIREMENTS.
2. REFERENCE SHEET ET0.02 FOR SCOPE RESPONSIBILITY MATRIX.
3. PROVIDE EXTRON WALLVAULT CLASSROOM AV SYSTEM WITH SOURCE INPUT SWITCHING AND CONTROL TO INTEGRATE DIGITAL AND ANALOG VIDEO SOURCES. SYSTEM SHALL USE TWISTED PAIR CABLING FOR TRANSMITTING SIGNALS AND SHALL INCLUDE NETWORK CONNECTIVITY FOR WEB-BASED AV RESOURCE MANAGEMENT, MONITORING, AND CONTROL. THE AV SYSTEM SHALL INCLUDE ALL THE NECESSARY AUDIO AND VIDEO SWITCHING, AUDIO AMPLIFICATION, SYSTEM CONTROL, SOURCE CONNECTIVITY, SPEAKERS, MOUNTING HARDWARE, AND CABLING FOR A COMPLETE CLASSROOM AV SOLUTION.

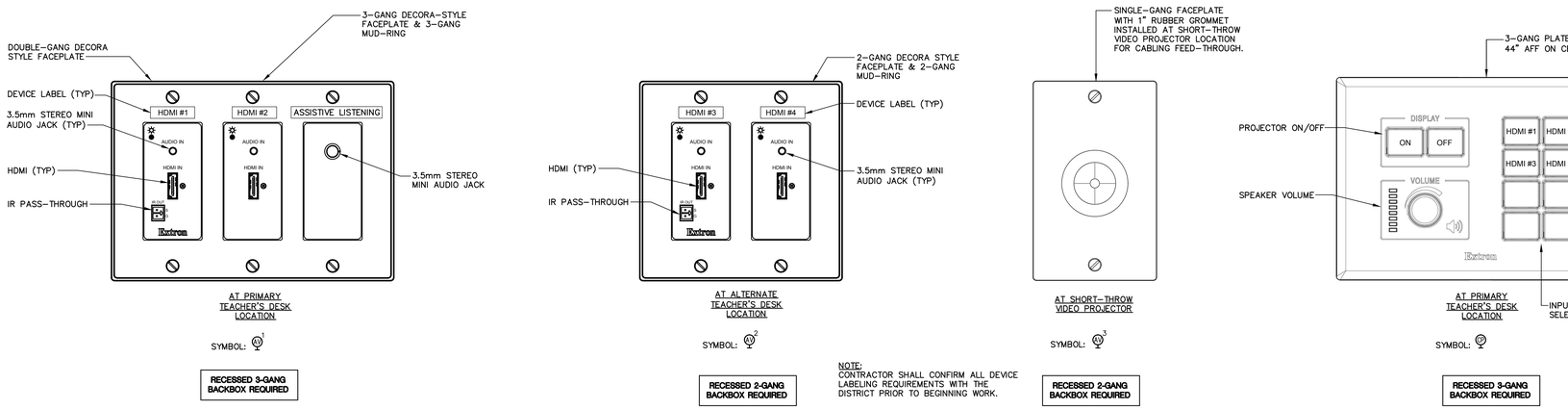
CABLE LEGEND

(NOTE: CABLES SHALL BE PLENUM-RATED WHERE REQUIRED BY CODE.)

STP	SHIELDED TWISTED PAIR (EXTRON XTP DTP 24)
RS-232	RS-232 CABLE
SPK 18	18 AWG/2-CONDUCTOR SPEAKER CABLE
CAT 6A	CAT 6A 4-PAIR UTP CABLE
HDMI	HDMI CABLE
120VAC	120VAC POWER
12VDC	12VDC POWER
AUDIO	3.5MM AUDIO CABLE
PATCH	CAT 6A 4-PAIR UTP PATCH CORD

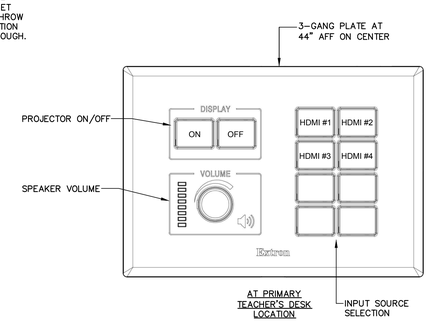
KEYNOTES

1. INSTALL PRIORITY PAGE SENSOR (EXTRON PPS 35) ON FRONT GRILLE OF INTERCOM SPEAKER. THE CLASSROOM AUDIO SHALL BE MUTED DURING ANNOUNCEMENTS.
2. INSTALL VOICELIFT PRO RECEIVER, AV SWITCHER AND POWER SUPPLY WITHIN EQUIPMENT ENCLOSURE.
3. FOR CONTROL OF AV SWITCHER.
4. PROVIDE 2'x2' PLENUM-RATED CEILING-MOUNTED ENCLOSURE TO HOUSE AV EQUIPMENT AS ILLUSTRATED IN THIS DIAGRAM.
5. FOR CONTROL OF VIDEO PROJECTOR.
6. TO POWER RECEPTACLE.
7. PROVIDE WIRELESS MICROPHONE SYSTEM EXTRON VOICELIFT PRO FOR EACH CLASSROOM WITH THE FOLLOWING COMPONENTS:
   PENDANT AND HANDHELD MIC: EXTRON VLM 3002H
   CHARGING STATION: EXTRON VLC 302 (PRIMARY TEACHER'S DESK)
   WIRELESS RECEIVER: EXTRON VLR 302 (CEILING AV ENCLOSURE)
8. OWNER-FURNISHED OWNER-INSTALLED PORTABLE ASSISTIVE LISTENING SYSTEM KIT. REFERENCE DETAIL 6/SET0.05 FOR REQUIRED MINIMUM NUMBER OF RECEIVERS AND MINIMUM NUMBER OF HEARING AID COMPATIBLE RECEIVERS PER BUILDING.
9. ULTRA SHORT-THROW VIDEO PROJECTOR AND PROJECTOR MOUNT LOCATED ABOVE WHITEBOARD. PROJECTOR AND MOUNT SHALL BE OWNER-FURNISHED CONTRACTOR-INSTALLED (OFCI).
10. TERMINATE (1) CAT 6A 4-PAIR UTP CABLE ON CAT 6A RJ-45 MODULAR PLUG AND CONNECT TO DEVICE.
11. RETURN AUDIO FOR ASSISTIVE LISTENING SYSTEM.



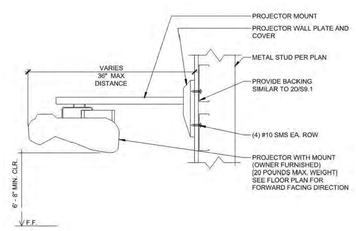
TYPICAL CLASSROOM AV SYSTEM FACEPLATE DETAILS

SCALE: NTS | 2



PROJECTOR MOUNTING DETAIL

SCALE: NTS | 3



NOTE: REFERENCE ARCHITECTURAL INTERIOR ELEVATION DRAWINGS FOR EXACT HEIGHT OF PROJECTOR.

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salasobrien.com 949.753.1553
Irvine
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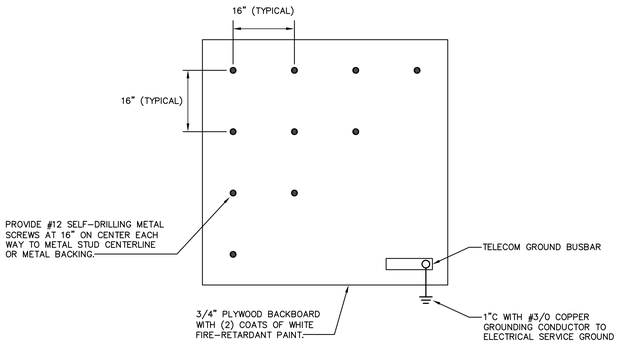
DRAWING TITLE

AUDIO VISUAL SYSTEM NOTES & DETAILS

5ET0.04

SCALE: AS INDICATED

PLOT DATE

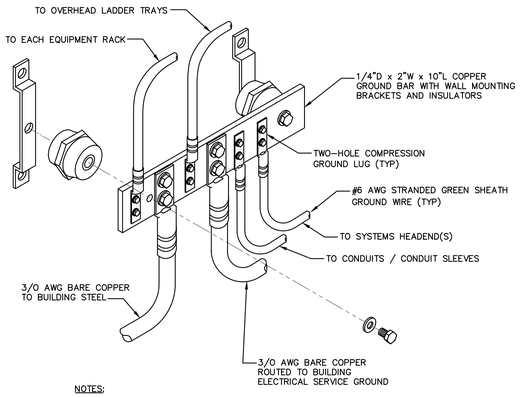


NOTE:

THE BUILDING MANUFACTURER SHALL BE RESPONSIBLE FOR FURNISHING AND INSTALLING THE PLYWOOD BACKBOARD.

PLYWOOD BACKBOARD MOUNTING DETAIL

SCALE	
NTS	9

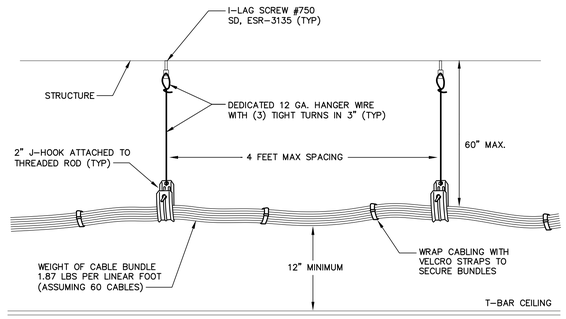


NOTES:

1. NOT ALL PARTS AND PART NUMBERS ARE SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR A COMPLETE WORKING INSTALLATION INCLUDING, MISCELLANEOUS APPURTENANCES.
2. ALL GROUNDING CONNECTORS SHALL BE DOUBLE LUG, DOUBLE COMPRESSION TERMINATIONS ON BOTH ENDS.

TELECOM GROUNDING BUSBAR DETAIL

SCALE	
NTS	4



NOTES:

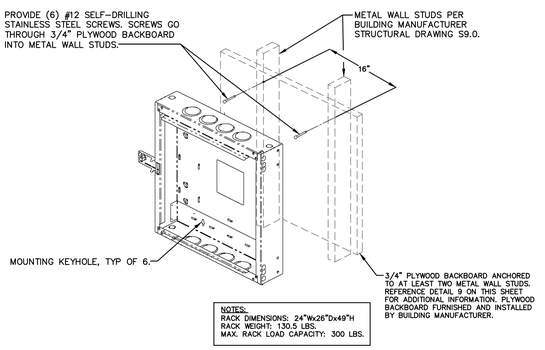
1. 2" J-HOOKS SHALL BE CADDY/ERICO MODEL NO. CAT32HP24, PRE-GALVANIZED, WITH STATIC LOAD CAPACITY OF 60 LBS. OR 270 NEWTONS.

J-HOOK SUPPORT DETAIL

SCALE	
NTS	3



PROVIDE (6) #12 SELF-DRILLING STAINLESS STEEL SCREWS. SCREWS GO THROUGH 3/4" PLYWOOD BACKBOARD INTO METAL WALL STUDS. REFERENCE DETAILS 13 & 14 ON BUILDING MANUFACTURER DRAWING A7.1 FOR ADDITIONAL WALL ANCHORAGE REQUIREMENTS AND WALL INFORMATION.

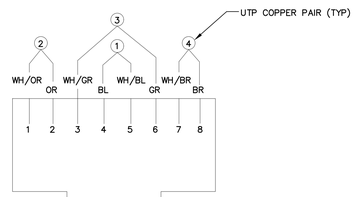


NOTES:
RACK DIMENSIONS: 24"Wx26"Dx49"H
RACK WEIGHT: 130.5 LBS.
MAX. RACK LOAD CAPACITY: 300 LBS.

IDF RACK ANCHORAGE REQUIREMENTS

SCALE	
NTS	8

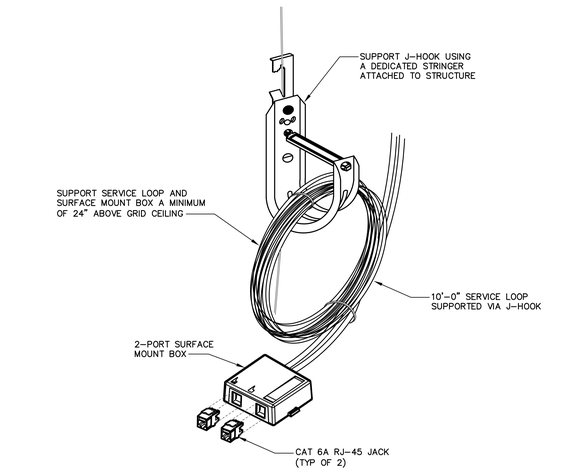
TIA-568B WIRING SCHEME



NOTE:
TYPICAL FOR ALL TERMINATIONS.

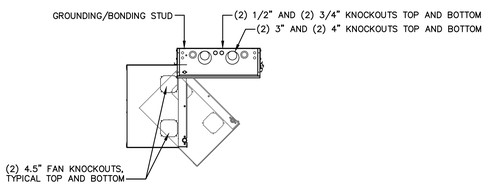
TIA-568B WIRING SCHEME

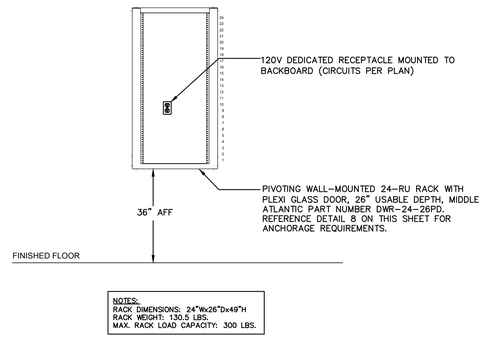
SCALE	
NTS	5



DEVICE FOR WIRELESS ACCESS POINT DETAIL

SCALE	
NTS	2

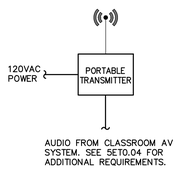




NOTES:
RACK DIMENSIONS: 24"Wx26"Dx49"H
RACK WEIGHT: 130.5 LBS.
MAX. RACK LOAD CAPACITY: 300 LBS.

IDF RACK DETAILS

SCALE	
NTS	7





REFERENCE SCHEDULE BELOW FOR CALCULATIONS OF REQUIRED MINIMUM NUMBER OF RECEIVERS AND HEARING AID COMPATIBLE RECEIVERS.

NOTES:

1. ASSISTIVE LISTENING SYSTEM SHALL BE MANUFACTURED BY WILLIAMS AV.
2. ASSISTIVE LISTENING SYSTEM SHALL BE IN ACCORDANCE WITH CBC SECTION 11B-219 AND SHALL COMPLY WITH CBC SECTION 11B-706.
3. THE MINIMUM NUMBER OF RECEIVERS TO BE PROVIDED SHALL BE EQUAL TO 4% OF THE TOTAL NUMBER OF SEATS (OR LISTED OCCUPANCY, WHICHEVER IS GREATER), BUT IN NO CASE BE LESS THAN TWO (2). 25% MINIMUM OF THE RECEIVERS PROVIDED, BUT NO LESS THAN TWO (2), SHALL BE HEARING-AID COMPATIBLE IN ACCORDANCE WITH CBC SECTION 11B-706.3. SEE SCHEDULE BELOW FOR CALCULATIONS PER BUILDING.
4. PROVIDE ALL ALS SIGNAGE IN THE QUANTITIES AND LOCATIONS AS INDICATED ON ARCHITECTRUAL PLANS.

ASSISTIVE LISTENING SYSTEM - NUMBER OF RECEIVERS

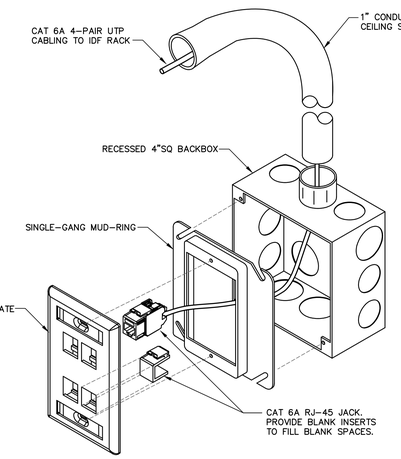
BUILDING	TOTAL OCCUPANCY	REQUIRED MIN. # OF RECEIVERS	REQUIRED MIN. # OF HEARING AID COMPATIBLE RECEIVERS (NECKLOOPS)	REQUIRED # OF PORTABLE ALS KITS	NOTES
BUILDING C	98	4	2	2	1
BUILDING D	86	4	2	2	1
BUILDING E	294	12	3	6	1
BUILDING F	196	8	2	4	1

NOTES:

1. EACH PORTABLE ALS KIT (WILLIAMS AV FM ADA KIT 1) CONTAINS TWO (2) BODYPACK RECEIVERS, TWO (2) EARPHONES AND TWO (2) HEARING AID COMPATIBLE NECKLOOPS.
2. THE PORTABLE ALS KITS SHALL BE OWNER-FURNISHED OWNER-INSTALLED.

ASSISTIVE LISTENING SYSTEM DIAGRAM

SCALE	
NTS	6



NOTE:
NOT ALL PARTS ARE SHOWN. CONTRACTOR SHALL ENSURE A COMPLETE WORKING INSTALLATION INCLUDING MISCELLANEOUS APPURTENANCES.

TELECOM OUTLET ASSEMBLY DETAIL

SCALE	
NTS	1

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Salas O'Brien
salasobrien.com 949.753.1553
Irvine
8825 Research Drive
Irvine, CA 92618

Project No.: 2022-01629-05

REGISTERED PROFESSIONAL ENGINEER
ROY L. LOPEZ
No. 13442
Exp. 08/30/26
ELECTRICAL
STATE OF CALIFORNIA

PARADISE CANYON E.S.

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PROJECT NUMBER 20911

LICENSED ARCHITECT
HARRY R DRAKE
NO. C-014869
REN. 05-31-27
STATE OF CALIFORNIA

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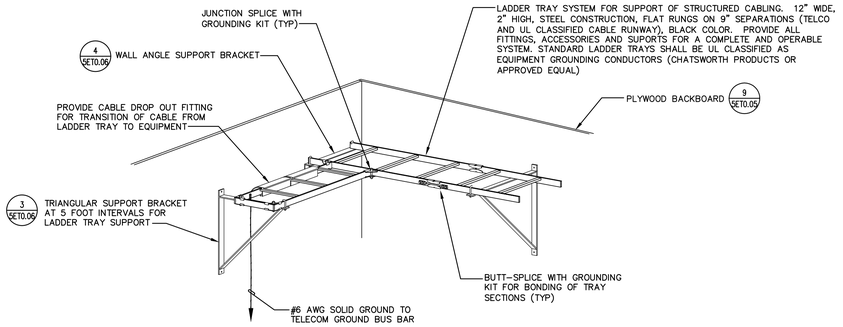
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TELECOMMUNICATIONS DETAILS

5ET0.05

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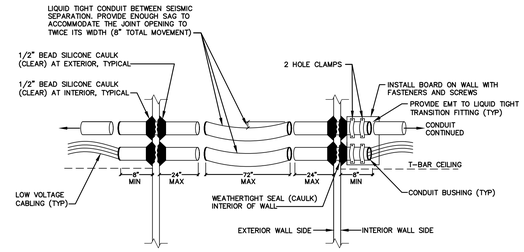
PLOT DATE



NOTE:
THE MAXIMUM TOTAL CABLE WEIGHT SUPPORTED BY LADDER TRAYS SHALL BE 5 LBS/FT.

LADDER TRAY INSTALLATION DETAIL

SCALE NTS | 5

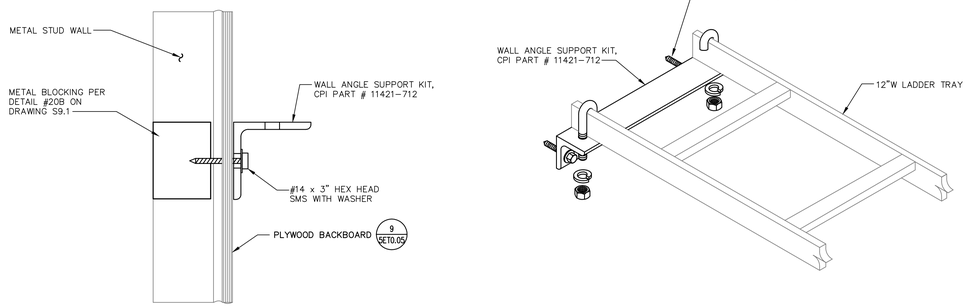


NOTES:

1. INSTALL LIQUID TIGHT SIDE BY SIDE WITH 2" SEPARATION BETWEEN PATHWAYS.
2. MAXIMUM BUILDING SEPARATION, WALL TO WALL, 10 FEET.

FLEXIBLE CONNECTION DETAIL ACROSS SEISMIC SEPARATION JOINT

SCALE NTS | 6



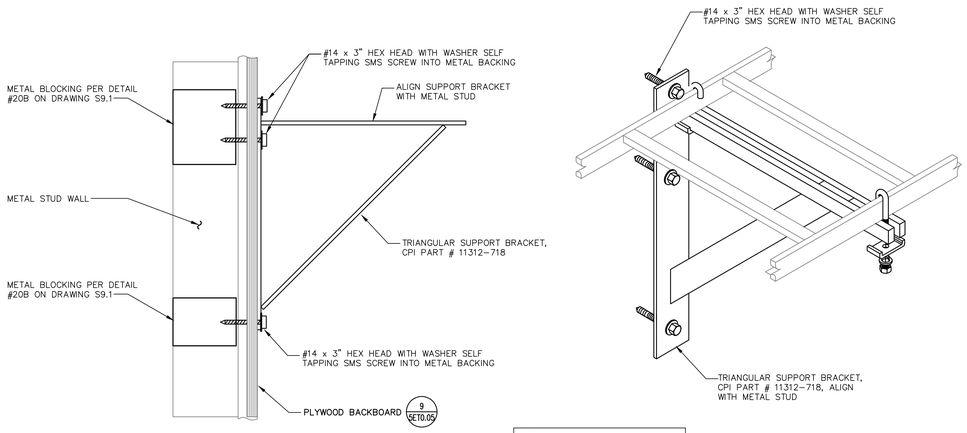
NOTE:
THE MAXIMUM TOTAL CABLE WEIGHT SUPPORTED BY LADDER TRAYS SHALL BE 5 LBS/FT.

WALL ANGLE SUPPORT DETAIL

SCALE NTS | 4

NOT USED

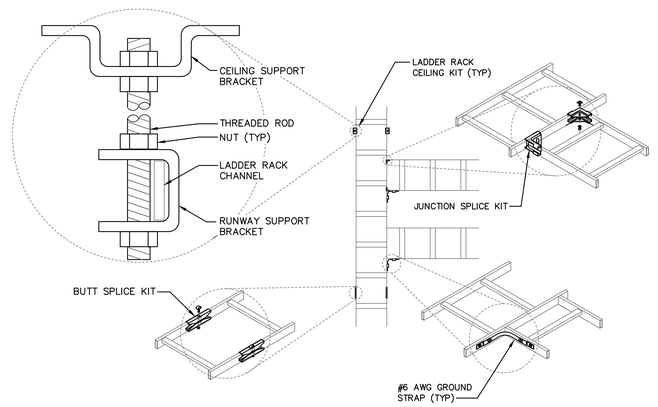
SCALE NTS | 2



NOTE:
THE MAX. TOTAL CABLE WEIGHT TO BE SUPPORTED BY LADDER TRAY SHALL BE 5 LBS/FT.

TRIANGULAR SUPPORT BRACKET DETAIL

SCALE NTS | 3



LADDER TRAY GROUNDING DETAIL

SCALE NTS | 1

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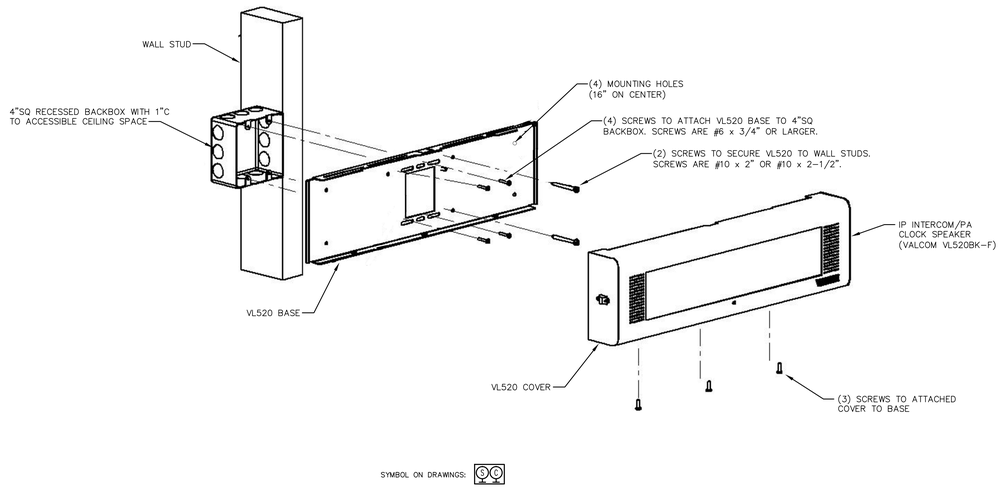
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TELECOMMUNICATIONS DETAILS

5ET0.06

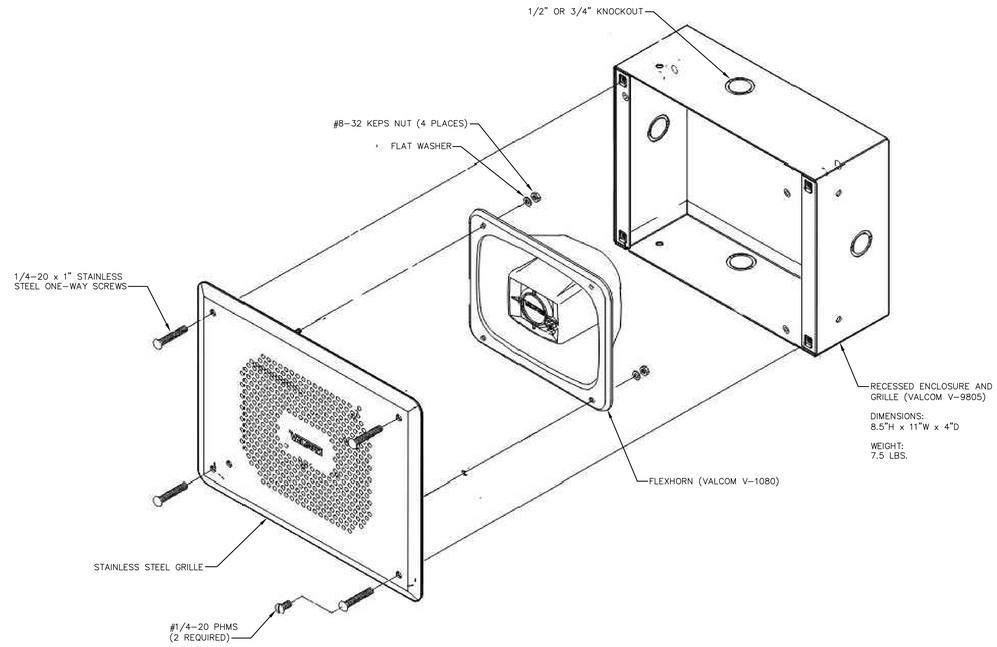
SCALE: AS INDICATED

PLOT DATE



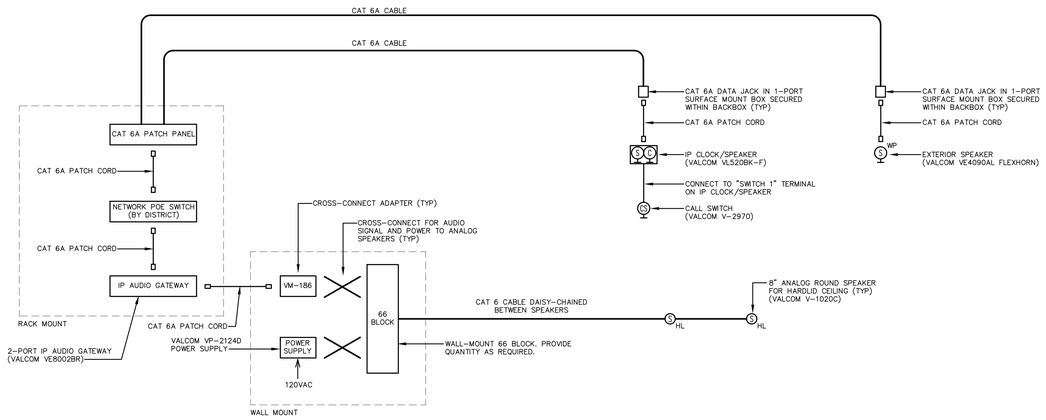
SYMBOL ON DRAWINGS: (S)(C)

IP INTERCOM / PA CLOCK SPEAKER ASSEMBLY DETAIL | SCALE NTS | 3



SYMBOL ON DRAWINGS: (S)WP

EXTERIOR INTERCOM / PA SPEAKER ASSEMBLY DETAIL | SCALE NTS | 2



TYPICAL INTERCOM WIRING DIAGRAM | SCALE NTS | 1

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TELECOMMUNICATIONS DETAILS

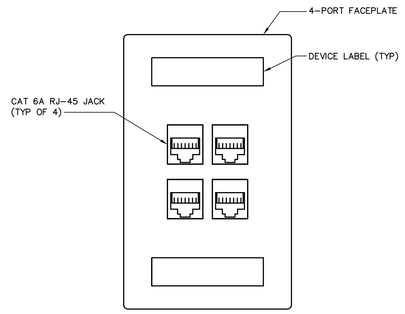
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PLOT DATE

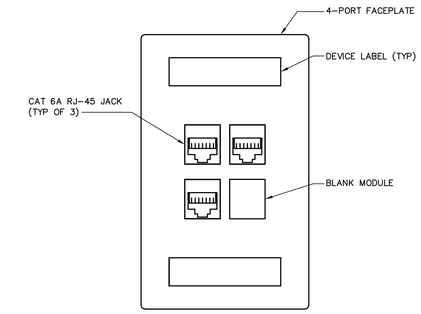
SHEET NOTES

1. REFERENCE SHEET ET0.01 FOR ABBREVIATIONS, GENERAL NOTES, DEVICE SYMBOL DEFINITIONS AND ROUGH-IN REQUIREMENTS.
2. REFERENCE SHEET ET0.02 FOR SCOPE RESPONSIBILITY MATRIX.



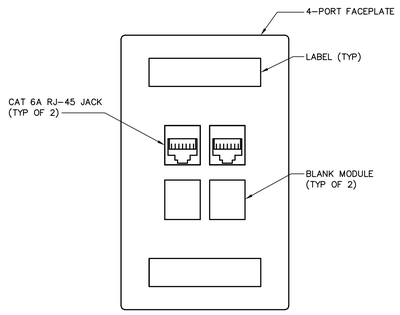
(4)
SYMBOL:

TELECOM 4-PORT FACEPLATE DETAIL | SCALE NTS | 5



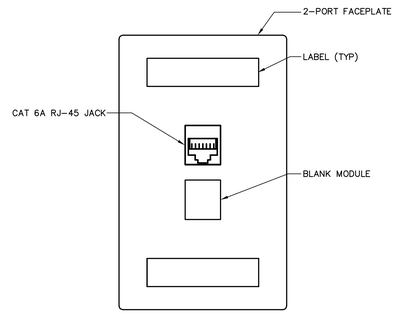
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SYMBOL:

TELECOM 3-PORT FACEPLATE DETAIL | SCALE NTS | 4



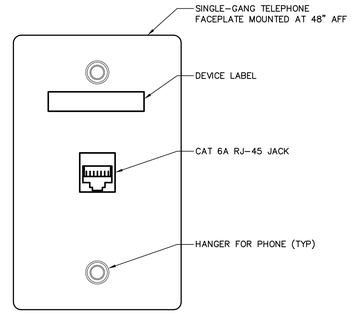
(2)
SYMBOL:

TELECOM 2-PORT FACEPLATE DETAIL | SCALE NTS | 3



(1)
SYMBOL:

TELECOM 1-PORT FACEPLATE DETAIL | SCALE NTS | 2



+48"
SYMBOL:

NOTE:
INSTALL DEVICE AT MAXIMUM 48" AFF MEASURED TO TOP OF DEVICE.

TELECOM FACEPLATE FOR WALL PHONE DETAIL | SCALE NTS | 1

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REVISION DATE DESCRIPTION

DRAWING TITLE

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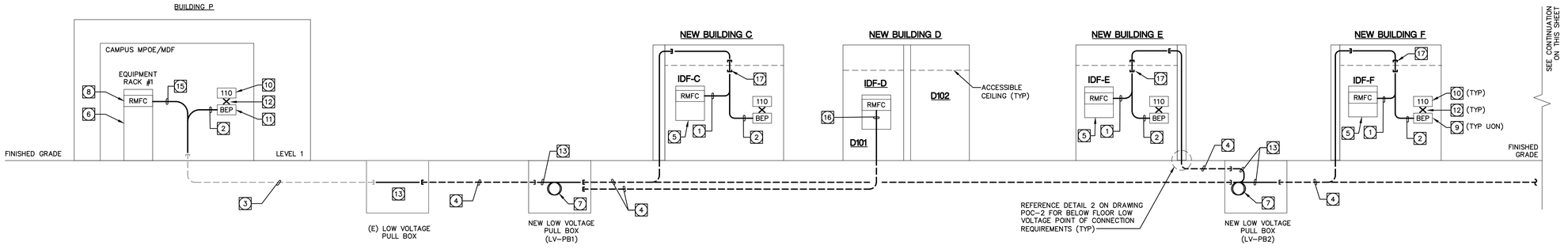
SCALE: AS INDICATED
PLOT DATE

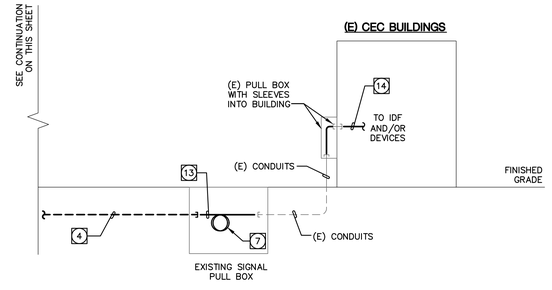
SHEET NOTES

1. REFERENCE SHEET 5ET0.01 FOR ABBREVIATIONS, GENERAL NOTES, DEVICE SYMBOL DEFINITIONS AND ROUGH-IN REQUIREMENTS.
2. ONE-LINE DIAGRAM DESCRIBES THE COPPER AND FIBER BACKBONE CABLING REQUIREMENTS BETWEEN THE NEW BUILDINGS AND CAMPUS MPOE/MDF IN BUILDING P.
3. REFERENCE TELECOM SITE PLAN SHEET 5ET1.00 FOR ADDITIONAL PATHWAY INFORMATION.

KEYNOTES

1. PROVIDE (2) INDOOR/OUTDOOR 12-STRAND SINGLEMODE OPTICAL FIBER BACKBONE CABLES FROM CAMPUS MPOE/MDF IN BUILDING P
2. PROVIDE (1) 25-PAIR COPPER BACKBONE CABLE FROM CAMPUS MPOE/MDF IN BUILDING P TO EACH NEW IDF
3. EXISTING UNDERGROUND LOW VOLTAGE CONDUITS
4. NEW UNDERGROUND LOW VOLTAGE CONDUITS. SEE TELECOM SITE PLAN FOR ADDITIONAL INFORMATION.
5. IDF WALL MOUNTED RACK
6. EXISTING 19"W EQUIPMENT RACK
7. FIBER AND COPPER SERVICE LOOPS
8. PROVIDE 2-RU RACK MOUNT FIBER CABINET (RMFC) WITH (6) DUPLEX LC SINGLEMODE OPTICAL FIBER ADAPTER PLATES. INSTALL RMFC IN (E) RACK 1. FIELD COORDINATE EXACT LOCATION WITH DISTRICT IT STAFF.
9. 25-PAIR COPPER BUILDING ENTRANCE PROTECTOR
10. 100-PAIR 110 BLOCK MOUNTED ON BACKBOARD
11. 100-PAIR COPPER BUILDING ENTRANCE PROTECTOR
12. CROSS CONNECT WIRES
13. ROUTE CABLING THROUGH UNDERGROUND PULL BOX
14. PROVIDE NEW BACKBONE/HORIZONTAL CABLING AS REQUIRED TO RECONNECT THE (E) CEC BUILDINGS TO CAMPUS NETWORK.
15. NEW OPTICAL FIBER BACKBONE CABLING
16. PROVIDE (1) INDOOR/OUTDOOR 12-STRAND SINGLEMODE OPTICAL FIBER BACKBONE CABLES FROM CAMPUS MPOE/MDF IN BUILDING P
17. PROVIDE (4) 2" CONDUIT SLEEVES STUBBED INTO ACCESSIBLE CEILING.





TELECOM BACKBONE AND HORIZONTAL CABLING ONE-LINE DIAGRAM

SCALE NTS

1

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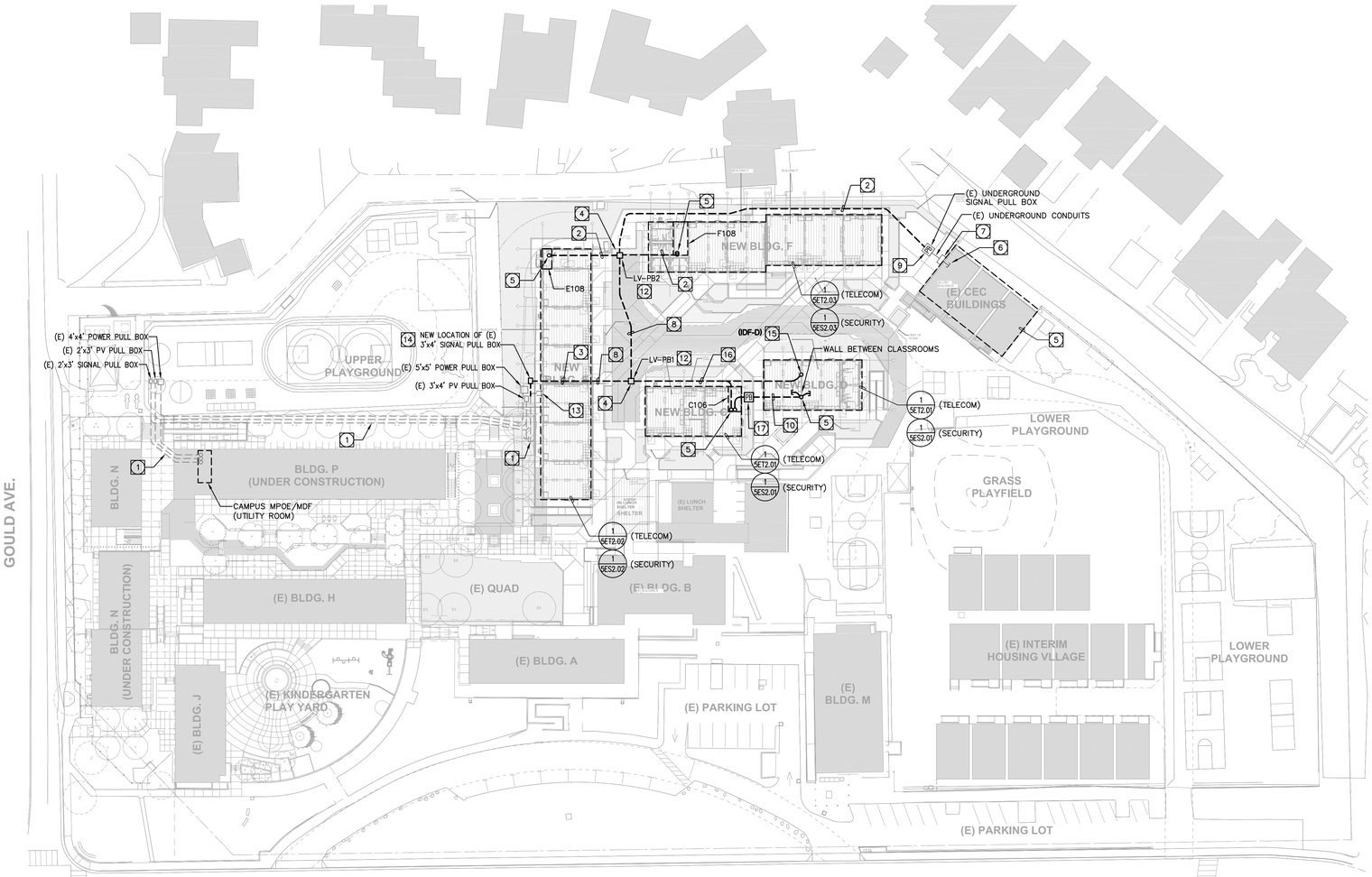
DRAWING TITLE

TELECOM ONE-LINE DIAGRAM

5ET0.09

SCALE: AS INDICATED

PLOT DATE



N

SHEET NOTES

1. REFERENCE SHEET 5ET0.01 FOR TELECOM ABBREVIATIONS, DEVICE SYMBOL DEFINITIONS AND DRAWING INDEX.
2. REFERENCE SHEET 5ET0.02 FOR TELECOM GENERAL NOTES.
3. PROVIDE FIBER AND COPPER BACKBONE CABLING BETWEEN CAMPUS MPOE/MDF AND EACH NEW IDF. REFERENCE TELECOM ONE-LINE DIAGRAM ON SHEET 5ET0.10 FOR REQUIREMENTS.

KEYNOTES

1. (E) UNDERGROUND CONDUITS:
   (5)3"C – SIGNAL
   (1)2"C – FIRE ALARM
2. NEW UNDERGROUND LOW VOLTAGE CONDUITS:
   (1)2"C – TELECOM (FIBER)
   (1)2"C – TELECOM (COPPER)
   (1)2"C – TELECOM (SPARE)
   (1)2"C – FIRE ALARM
3. ROUTE NEW CONDUITS BELOW FOOTINGS.
4. PROVIDE NEW 4' X 4' X (DEPTH AS REQUIRED) FLUSH IN GRADE LOW VOLTAGE PULL BOX. PROVIDE BOLT DOWN COVER LABELED AS "SIGNAL".
5. LOW VOLTAGE POINT OF CONNECTION.
6. UTILIZE (E) CONDUIT SLEEVES FROM PULL BOX STUBBED INTO BUILDING.
7. UTILIZE (E) PULL BOX MOUNTED ON EXTERIOR OF MODULAR BUILDING FOR ROUTING OF NEW CABLING.
8. NEW UNDERGROUND CONDUITS:
   (5)3"C – SIGNAL
   (1)2"C – FIRE ALARM
9. CONNECT NEW CONDUITS TO (E) PULL BOX.
10. PROVIDE THE FOLLOWING UNDERGROUND CONDUITS BETWEEN BLDG "C" AND BLDG "D" AS FOLLOWS:
    (1)2"C – SECURITY
    (1)2"C – FIRE ALARM
    (1)2"C – SPARE
11. (E) (3) CLASSROOM CEC BUILDINGS TO REMAIN. RECONNECT ALL LOW VOLTAGE SYSTEMS TO (E) CAMPUS. SYSTEMS SHALL INCLUDE, BUT NOT LIMITED TO, VOICE/DATA, INTERCOM/PA/CLOCK, INTRUSION DETECTION AND ACCESS CONTROL. REFERENCE TELECOM ONE-LINE DIAGRAM ON SHEET 5ET0.09 FOR ADDITIONAL CABLING REQUIREMENTS. COORDINATE ALL WORK WITH DISTRICT.
12. PULL BOX NAME/NUMBER IS FOR IDENTIFICATION PURPOSES ONLY. CONFIRM EXACT REQUIREMENTS WITH DISTRICT.
13. (E) 3'x4' SIGNAL PULL BOX IS WITHIN FOOTPRINT OF NEW BUILDING E. RELOCATE PULL BOX AS INDICATED TO ACCOMMODATE CONSTRUCTION OF NEW BUILDING E.
14. INTERCEPT (E) CONDUITS AND EXTEND TO NEW LOCATION OF (E) SIGNAL PULL BOX.
15. ROUTE 2" CONDUIT UP (FOR FIBER) AND STUB INTO PULL BOX BEHIND WALL-MOUNTED IDF CABINET.
16. NEW UNDERGROUND LOW VOLTAGE CONDUITS:
    (2)2"C – TELECOM (FIBER)
    (1)2"C – TELECOM (COPPER)
    (1)2"C – TELECOM (SPARE)
    (1)2"C – FIRE ALARM
17. PROVIDE (2) 24"x24"xDEPTH REQUIRED FLUSH IN GRADE PULL BOXES FOR FOR FIRE ALARM AND SIGNAL. PROVIDE BOLT DOWN COVERS LABELED AS "FIRE" AND "SIGNAL".

TELECOMMUNICATIONS SITE PLAN | SCALE 1"=40' | 1

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salasobrien.com 949.753.1553
Irvine
8825 Research Drive
Irvine, CA 92618

Project No.: 2022-01629-05

REGISTERED PROFESSIONAL ENGINEER ROY L. LOPEZ No. 13442 Exp. 09/30/26 ELECTRICAL STATE OF CALIFORNIA

PARADISE CANYON E.S.

PACKAGE 5 - NEW NORTH BUILDINGS

471 KNIGHT WAY, LA CAÑADA FLINTRIDGE, CA 91011

PROJECT NUMBER 20911

LICENSED ARCHITECT HARRY R DRAKE NO. C-014869 REN: 05-31-27 STATE OF CALIFORNIA

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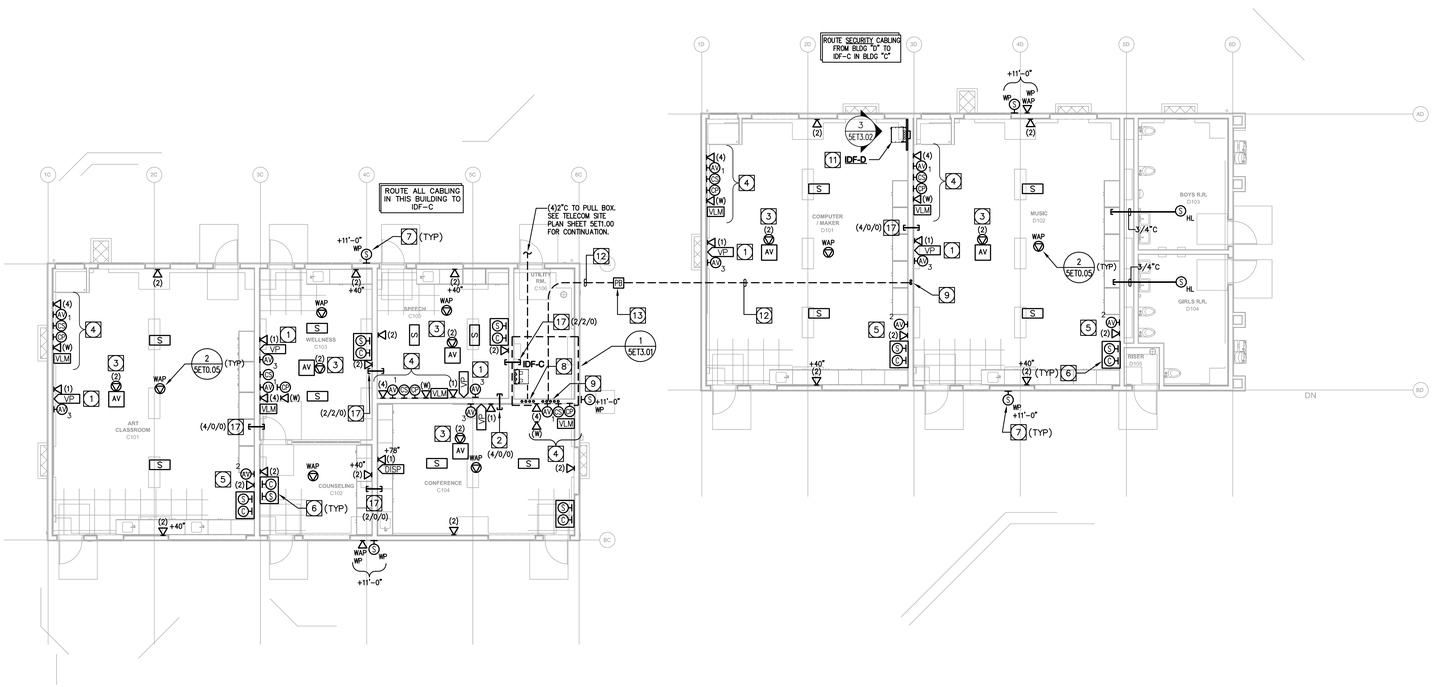
DRAWING TITLE

TELECOMMUNICATIONS SITE PLAN

5ET1.01

SCALE: AS INDICATED

PLOT DATE



SHEET NOTES

1. REFERENCE SHEET 5ET0.01 FOR TELECOMMUNICATIONS ABBREVIATIONS, DEVICE SYMBOL DEFINITIONS & DRAWING INDEX.
2. REFERENCE SHEET 5ET0.02 FOR TELECOMMUNICATIONS GENERAL NOTES.
3. REFERENCE SHEET 5ET0.03 FOR TELECOMMUNICATIONS SCOPE RESPONSIBILITY MATRIX.
4. REFERENCE SHEET 5ET0.04 FOR ADDITIONAL AUDIO VISUAL SYSTEM REQUIREMENTS.
5. REFERENCE SHEETS 5ET0.05 THRU 5ET0.09 FOR ADDITIONAL TELECOMMUNICATIONS DEVICE AND CABLING REQUIREMENTS.
6. REFERENCE ARCHITECTURAL INTERIOR ELEVATION DRAWINGS FOR EXACT LOCATION AND MOUNTING HEIGHT OF DEVICES.

SHEET KEYNOTES

(NOT ALL KEYNOTES MAY BE USED ON THIS SHEET.)

1. INSTALL DEVICES ABOVE ULTRA SHORT-THROW VIDEO PROJECTOR. VIDEO PROJECTOR AND MOUNTING BRACKET SHALL BE OWNER-FURNISHED CONTRACTOR-INSTALLED. REFERENCE ARCHITECTURAL INTERIOR ELEVATION DRAWINGS FOR ADDITIONAL INFORMATION.

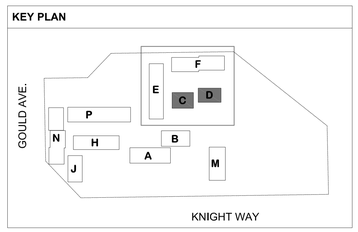
(X/Y/Z) 2. PROVIDE CONDUIT SLEEVES ABOVE CEILING FOR ROUTING OF HORIZONTAL CABLING.
"X" = INDICATES QUANTITY OF 2" CONDUIT SLEEVES
"Y" = INDICATES QUANTITY OF 3" CONDUIT SLEEVES
"Z" = INDICATES QUANTITY OF 4" CONDUIT SLEEVES

3. PROVIDE A 2'x2' CEILING MOUNTED AV ENCLOSURE. INSTALL 2-PORT DATA SURFACE MOUNT BOX WITHIN ENCLOSURE.
4. LOCATED AT PRIMARY TEACHER'S DESK LOCATION.
5. LOCATED AT ALTERNATE TEACHER'S DESK LOCATION.
6. PROVIDE RECESSED 4"SQ x 2-1/8"D BACKBOX AT +8'-0" AFF AND 3/4"C TO ACCESSIBLE CEILING. REFERENCE DETAIL 3 ON SHEET 5ET0.07 FOR ADDITIONAL REQUIREMENTS.
7. PROVIDE VALCOM V-9805 RECESSED VANDAL-RESISTANT ENCLOSURE AND STAINLESS STEEL GRILLE WITH 3/4"C TO ACCESSIBLE CEILING SPACE FOR EXTERIOR SPEAKER. REFERENCE DETAIL 2 ON SHEET 5ET0.07 FOR ADDITIONAL REQUIREMENTS.
8. UNDERGROUND CONDUITS FOR INTERBUILDING BACKBONE CABLING. SEE TELECOM SITE PLAN SHEET 5ET1.01 FOR CONTINUATION AND ADDITIONAL INFORMATION.
9. UNDERGROUND CONDUITS BETWEEN BUILDING C AND D.

(X/Y/Z) 10. PROVIDE FLEXIBLE CONNECTION ACROSS SEISMIC SEPARATION JOINT.
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11. ROUTE DATA HORIZONTAL CABLES FROM DEVICES IN CLASSROOM D101 AND CLASSROOM D102 TO IDF-D.
12. NEW UNDERGROUND CONDUITS. SEE SHEET 5ET1.01 FOR ADDITIONAL INFORMATION.
(2)2"C - SIGNAL
(1)2"C - FIRE ALARM
13. NEW UNDERGROUND PULL BOXES WITH BOLT DOWN COVERS. SEE SHEET 5ET1.01 FOR ADDITIONAL INFORMATION.
(1) 24"x24"xDEPTH AS REQUIRED - FIRE ALARM
(1) 24"x24"xDEPTH AS REQUIRED - SIGNAL

KEY PLAN



N

BLDGS C & D - TELECOM FLOOR PLAN

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

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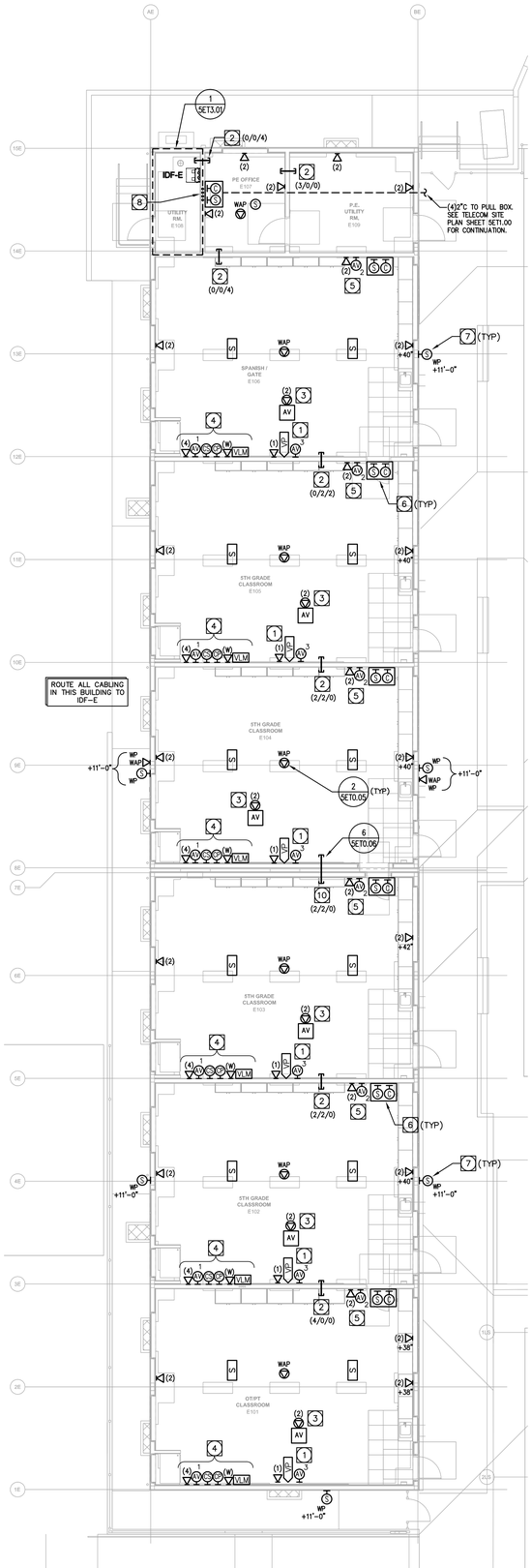
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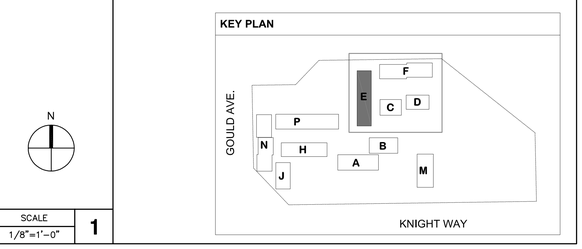
BLDGS C & D - TELECOM FLOOR PLAN

5ET2.01

SCALE: AS INDICATED

PLOT DATE





SHEET NOTES

1. REFERENCE SHEET 5ET0.01 FOR TELECOMMUNICATIONS ABBREVIATIONS, DEVICE SYMBOL DEFINITIONS & DRAWING INDEX.
2. REFERENCE SHEET 5ET0.02 FOR TELECOMMUNICATIONS GENERAL NOTES.
3. REFERENCE SHEET 5ET0.03 FOR TELECOMMUNICATIONS SCOPE RESPONSIBILITY MATRIX.
4. REFERENCE SHEET 5ET0.04 FOR ADDITIONAL AUDIO VISUAL SYSTEM REQUIREMENTS.
5. REFERENCE SHEETS 5ET0.05 THRU 5ET0.09 FOR ADDITIONAL TELECOMMUNICATIONS DEVICE AND CABLING REQUIREMENTS.
6. REFERENCE ARCHITECTURAL INTERIOR ELEVATION DRAWINGS FOR EXACT LOCATION AND MOUNTING HEIGHT OF DEVICES.

SHEET KEYNOTES

(NOT ALL KEYNOTES MAY BE USED ON THIS SHEET.)

1. INSTALL DEVICES ABOVE ULTRA SHORT-THROW VIDEO PROJECTOR. VIDEO PROJECTOR AND MOUNTING BRACKET SHALL BE OWNER-FURNISHED CONTRACTOR-INSTALLED. REFERENCE ARCHITECTURAL INTERIOR ELEVATION DRAWINGS FOR ADDITIONAL INFORMATION.

(X/Y/Z) 2. PROVIDE CONDUIT SLEEVES ABOVE CEILING FOR ROUTING OF HORIZONTAL CABLING.
"X" = INDICATES QUANTITY OF 2" CONDUIT SLEEVES
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8. UNDERGROUND CONDUITS FOR INTERBUILDING BACKBONE CABLING. SEE TELECOM SITE PLAN SHEET 5ET1.01 FOR CONTINUATION AND ADDITIONAL INFORMATION.
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(1) 24"x24"xDEPTH AS REQUIRED - SIGNAL

N

BLDG E - TELECOM FLOOR PLAN

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

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PARADISE CANYON E.S.

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PROJECT NUMBER 20911

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REN: 05-31-27
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REVISION DATE	DESCRIPTION

DRAWING TITLE

BLDG E - TELECOM FLOOR PLAN

5ET2.02

SCALE: AS INDICATED

PLOT DATE

SHEET NOTES

1. REFERENCE SHEET 5ET0.01 FOR TELECOMMUNICATIONS ABBREVIATIONS, DEVICE SYMBOL DEFINITIONS & DRAWING INDEX.
2. REFERENCE SHEET 5ET0.02 FOR TELECOMMUNICATIONS GENERAL NOTES.
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4. REFERENCE SHEET 5ET0.04 FOR ADDITIONAL AUDIO VISUAL SYSTEM REQUIREMENTS.
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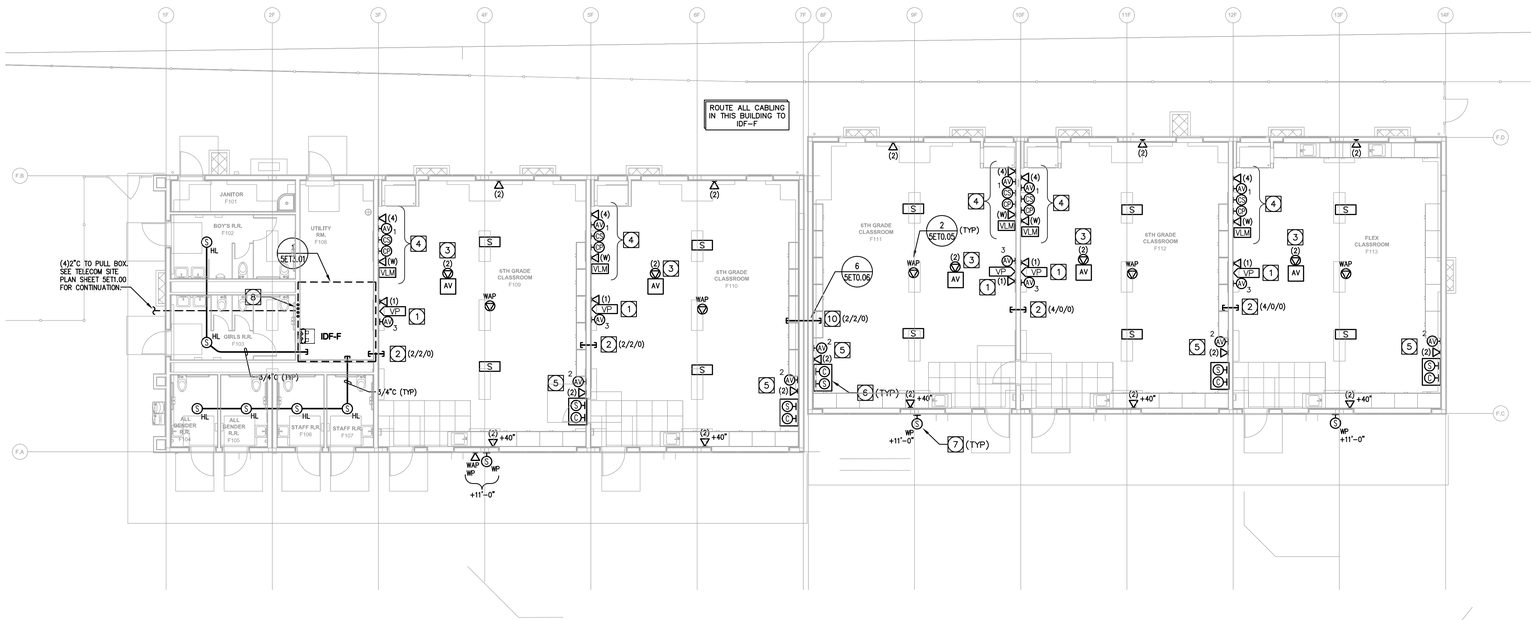
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9. UNDERGROUND CONDUITS BETWEEN BUILDING C AND D.

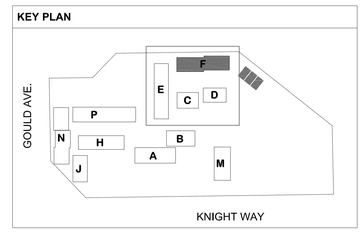
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(1) 24"x24"xDEPTH AS REQUIRED - FIRE ALARM
(1) 24"x24"xDEPTH AS REQUIRED - SIGNAL



N

KEY PLAN



BLDG F - TELECOM FLOOR PLAN

SCALE 1/8"=1'-0"

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#	REVISION DATE	DESCRIPTION

DRAWING TITLE

BLDG F - TELECOM FLOOR PLAN

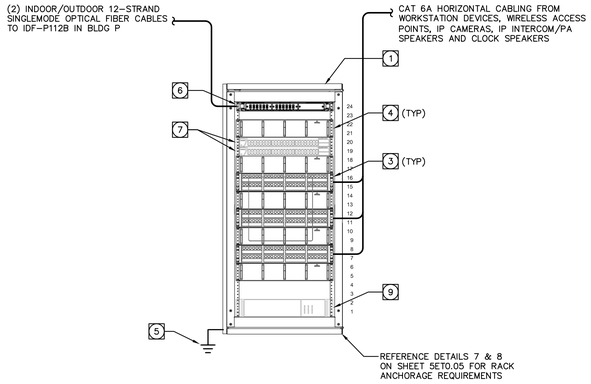
5ET2.03

SCALE: AS INDICATED

PLOT DATE

TOTAL IDF-E RACK LOAD

EQUIPMENT	QTY	WEIGHT PER ITEM (LBS)	SUBTOTAL WEIGHT (LBS)	COMMENTS
1–RU RACK MOUNT FIBER CABINET	1	10	10	
FIBER ADAPTER PLATES	3	1	3	
48–PORT NETWORK SWITCHES	2	10	20	
2–RU HORIZONTAL CABLE MANAGERS	5	3	15	
48–PORT COPPER PATCH PANELS	3	6	18	
UPS	1	75	75	MAX. UPS WEIGHT 100 LBS.
HORIZONTAL AND PATCH CABLES	1	–	10	
TOTAL LOAD (LBS.)			**151**	IDF RACK MAX. LOAD IS 300 LBS.



NOTES:

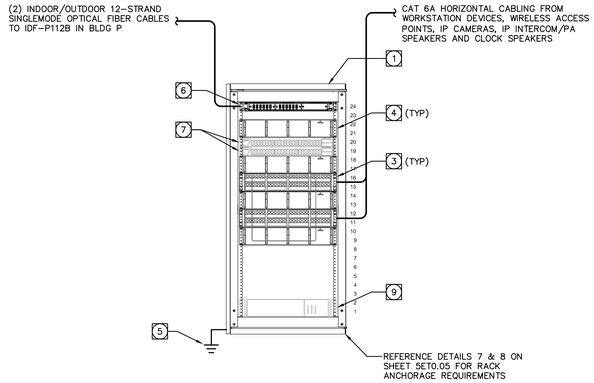
1. PROVIDE A COMPLETE WALL–MOUNTED ENCLOSURE ASSEMBLY, INCLUDING BOLTS, CLAMPS, ENCLOSURE AND MISCELLANEOUS INSTALLATION HARDWARE. EQUIP CEILING ENCLOSURE AS SHOWN AND AS DESCRIBED IN THE SPECIFICATIONS.
2. GROUND EQUIPMENT TO NEAREST NEC RECOGNIZED GROUNDING ELECTRODE SUBSYSTEM WITH A DEDICATED #6 AWG COPPER, STRANDED, GREEN SHEATH GROUNDING CONDUCTOR.
3. ASSEMBLE ENCLOSURE SO RACK UNIT 1 IS NEAREST TO THE FLOOR AND NUMBERS INCREASE VERTICALLY.
4. RACK DIMENSIONS: 24"Wx26"Dx49"H
   RACK WEIGHT: 130.5 LBS
   MAX. RACK LOAD CAPACITY: 300 LBS.

IDF-E RACK ELEVATION DETAIL

SCALE NTS | 4

TOTAL IDF-C RACK LOAD

EQUIPMENT	QTY	WEIGHT PER ITEM (LBS)	SUBTOTAL WEIGHT (LBS)	COMMENTS
1–RU RACK MOUNT FIBER CABINET	1	10	10	
FIBER ADAPTER PLATES	3	1	3	
48–PORT NETWORK SWITCHES	2	10	20	
2–RU HORIZONTAL CABLE MANAGERS	5	3	15	
48–PORT COPPER PATCH PANELS	2	6	12	
UPS	1	75	75	MAX. UPS WEIGHT 100 LBS.
HORIZONTAL AND PATCH CABLES	1	–	10	
TOTAL LOAD (LBS.)			**145**	IDF CABINET MAX. LOAD IS 300 LBS.

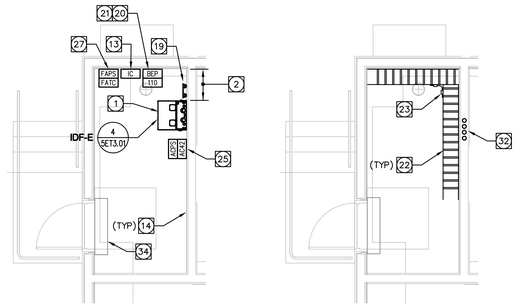


NOTES:

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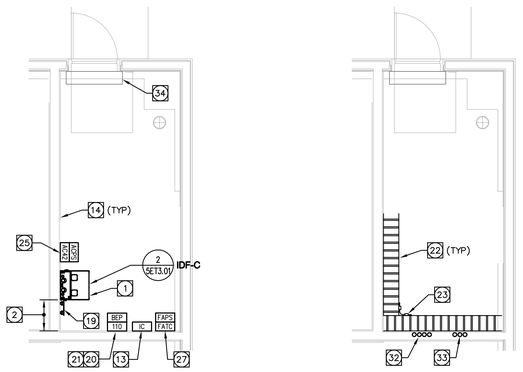
IDF-C RACK ELEVATION DETAIL

SCALE NTS | 2



ENLARGED IDF-E PLANS

SCALE NTS | 3



ENLARGED IDF-C PLANS

SCALE NTS | 1

GENERAL NOTES

1. REFERENCE SHEET 5ET0.01 FOR ABBREVIATIONS, GENERAL NOTES, DEVICE SYMBOL DEFINITIONS AND ROUGH–IN REQUIREMENTS.
2. REFERENCE SHEET 5ET0.02 FOR SCOPE RESPONSIBILITY MATRIX.
3. REFERENCE RISER DIAGRAM ON SHEET 5ET0.09 FOR ADDITIONAL TELECOM BACKBONE AND HORIZONTAL CABLING REQUIREMENTS.
4. REFERENCE TELECOM SITE PLAN ON SHEET 5ET1.01 FOR INTERBUILDING PATHWAY INFORMATION.

SHEET KEYNOTES

(NOT ALL KEYNOTES MAY BE USED ON THIS SHEET.)

1. PIVOTING WALL MOUNTED RACK WITH PLEXI GLASS DOOR, 24"WX49"HX26"D (24" USABLE DEPTH), MIDDLE ATLANTIC PART NUMBER DWR–24–26PD. REFERENCE DETAILS 7 & 8 ON SHEET 5ET0.05 FOR ADDITIONAL REQUIREMENTS.
2. MINIMUM DISTANCE OF 24" FROM SIDE OF RACK TO WALL TO ALLOW RACK TO PIVOT.
3. CAT 6A 48–PORT STATION PATCH PANEL
4. 2–RU HORIZONTAL CABLE MANAGER
5. EQUIPMENT GROUND PER NEC, EIA/TIA STANDARDS
6. 1–RU RACK MOUNT FIBER CABINET (RMFC) WITH (2) 6–DUPLEX LC SINGLEMODE FIBER ADAPTER PLATES AND (1) BLANK PLATE
7. NETWORK SWITCH FURNISHED AND INSTALLED BY THE DISTRICT
8. VERTICAL POWER STRIP MOUNTED ON BACKSIDE OF RACK USING STAND–OFF BRACKET
9. UPS FURNISHED AND INSTALLED BY THE DISTRICT
10. CAT 6A 24–PORT PATCH PANEL LABELED "VSS" (FOR VIDEO SURVEILLANCE SYSTEM)
11. CAT 6A 24–PORT PATCH PANEL LABELED "WAP" (FOR WIRELESS ACCESS POINTS)
12. 1–RU EQUIPMENT SUPPORT BRACKET (MAX. LOAD 100 LBS.)
13. BACKBOARD SPACE FOR ANALOG INTERCOM/PA CABLING TERMINATION BLOCKS AND EQUIPMENT. SEE DETAIL 1 ON SHEET 5ET0.07 FOR ADDITIONAL REQUIREMENTS.
14. 3/4"Dx8'–0"H PLYWOOD BACKBOARD WITH (2) COATS OF WHITE FIRE–RETARDANT PAINT MOUNTED ON ALL WALLS AT +6" AFF. BACKBOARD SHALL BE FURNISHED AND INSTALLED BY THE BUILDING MANUFACTURER AMS.
15. PROVIDE 2–RU RACK MOUNT FIBER CABINET (RMFC) WITH (4) 6–DUPLEX LC 50/125 MULTIMODE 12–FIBER ADAPTER PLATES AND (2) BLANK PLATES.
16. IP POE GATEWAY, PROVIDE QUANTITY AS REQUIRED.
17. AUDIO AMPLIFIER FOR INTERCOM/PAGING.
18. 2–RU EQUIPMENT SHELF.
19. 10" TELECOM GROUNDING BUSBAR (TGB) MOUNTED 12" BELOW RACK.
20. 25–PAIR BUILDING ENTRANCE PROTECTION (BEP) BLOCK. PROVIDE #6 AWG GREEN SHEATH GROUNDING CONDUCTOR TO TGB.
21. 100–PAIR 110 BLOCK WITH LEGS WITH 110 JUMPER TROUGHS ABOVE AND BELOW 110 BLOCK.
22. 12"W LADDER TRAY MOUNTED ABOVE IDF RACK/EQUIPMENT.
23. #6 AWG BONDING STRAP OR EQUIVALENT.
24. PROVIDE AN ELEVATION KIT FOR EACH RACK TO INSTALL LADDER TRAYS AT SPECIFIED HEIGHT.
25. BACKBOARD SPACE RESERVED FOR ACCESS CONTROL PANEL AND POWER SUPPLY.
26. BACKBOARD SPACE RESERVED FOR INTRUSION ALARM PANEL AND POWER SUPPLY.
27. BACKBOARD SPACE RESERVED FOR FIRE ALARM CONTROL PANEL AND POWER SUPPLY.
28. UNDERGROUND CONDUITS FOR CABLING DISTRIBUTION. REFERENCE TELECOM SITE PLAN FOR ADDITIONAL INFORMATION.
29. PROVIDE 18"W LADDER TRAY MOUNTED VERTICALLY ON BACKBOARD FROM FLOOR TO HORIZONTAL LADDER TRAY FOR CABLING SUPPORT.
30. CONDUITS FOR HORIZONTAL CABLING. SEE FLOOR PLANS FOR ADDITIONAL INFORMATION.
31. BACKBOARD SPACE RESERVED FOR INTERCOM 66–TYPE TERMINATION BLOCKS AND POWER SUPPLY FOR ANALOG SPEAKERS.
32. (4) 2" CONDUITS FOR INTERBUILDING BACKBONE CABLING. REFERENCE TELECOM SITE PLAN SHEET 5ET1.01 FOR CONTINUATION AND ADDITIONAL INFORMATION.
33. (3) 2" CONDUITS ROUTED BETWEEN BUILDINGS C AND C. REFERENCE SHEETS 5ET1.01 AND 5ET2.01 FOR CONTINUATION AND ADDITIONAL INFORMATION.
34. MINI SPLIT SYSTEM AC UNIT MOUNTED ABOVE DOOR. REFERENCE MECHANICAL DRAWINGS FOR REQUIREMENTS.
35. PROVIDE 3/4"D PLYWOOD BACKBOARD WITH (2) COATS OF WHITE FIRE–RETARDANT PAINT. PROVIDE 8"x8" CUTOUT IN PLYWOOD BACKBOARD ALIGNED WITH RECESSED BACKBOX AND ENCLOSURE BACK PANEL CUTOUT.
36. EXTEND (1) 2" CONDUIT FROM RECESSED BACKBOX TO ACCESSIBLE CEILING SPACE OF EACH CLASSROOM D101 AND D102 FOR ROUTING OF CAT 6A HORIZONTAL CABLING.
37. PROVIDE 8"x8"x4" BACKBOX RECESSED WITHIN WALL AND ALIGNED WITH 6"x6" CUTOUT IN ENCLOSURE BACK PANEL.
38. 1–RU HORIZONTAL CABLE MANAGER

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-125476 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 05/07/2026

Practice
135 W. Green St Suite 200 Pasadena, CA 91105 | 626.568.1248 | practice-la.com

LA CAÑADA UNIFIED SCHOOL DISTRICT ESTABLISHED 1965

Salas O'Brien
salasobrien.com 949.753.1553
Irvine
8825 Research Drive
Irvine, CA 92618

Project No.: 2022-01629-05

REGISTERED PROFESSIONAL ENGINEER ROY L. LOPEZ No. 13442 Exp. 09/30/26 ELECTRICAL STATE OF CALIFORNIA

PARADISE CANYON E.S.

PACKAGE 5 - NEW NORTH BUILDINGS

471 KNIGHT WAY, LA CAÑADA FLINTRIDGE, CA 91011

PROJECT NUMBER 20911

LICENSED ARCHITECT HARRY R GRAY NO. C-014869 REN: 05-31-27 STATE OF CALIFORNIA

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ISSUE DATE	DESCRIPTION
04/19/2024	100% SCHEMATIC DESIGN
07/05/2024	50% DESIGN DEVELOPMENT
08/16/2024	100% DESIGN DEVELOPMENT
04/11/2025	50% CONSTRUCTION DOCUMENTS
07/18/2025	100% CONSTRUCTION DOCUMENTS
08/06/2025	DSA V1
12/05/2025	DSA V2
03/20/2026	DSA V3

#	REVISION DATE	DESCRIPTION

DRAWING TITLE

TELECOM ENLARGED IDF PLANS & RACK ELEVATIONS

5ET3.01

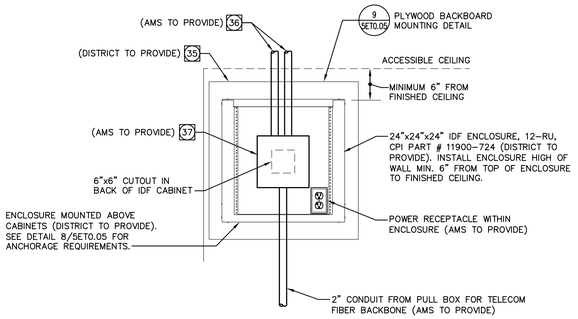
SCALE: AS INDICATED

PLOT DATE

If this sheet is smaller than 30" high by 42" wide then it has been reduced.

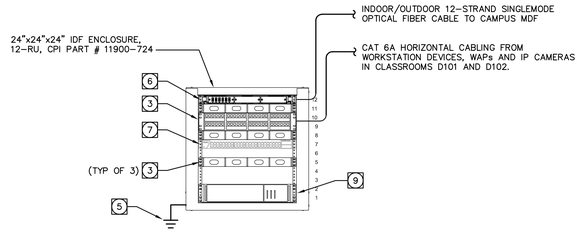
TOTAL IDF-D RACK LOAD

EQUIPMENT	QTY	WEIGHT PER ITEM (LBS)	SUBTOTAL WEIGHT (LBS)	COMMENTS
1–RU RACK MOUNT FIBER CABINET	1	10	10	
FIBER ADAPTER PLATES	3	1	3	
48–PORT NETWORK SWITCHES	1	10	10	
2–RU HORIZONTAL CABLE MANAGERS	3	3	9	
48–PORT COPPER PATCH PANELS	1	6	6	
UPS	1	75	75	MAX. UPS WEIGHT 100 LBS.
HORIZONTAL AND PATCH CABLES	1	–	10	
TOTAL LOAD (LBS.)			**123**	MAX. LOAD CAPACITY IS 300 LBS.



ENCLOSURE INSTALLATION DETAIL

NOTES:
RACK DIMENSIONS: 24"x24"x24"
RACK WEIGHT: 100 LBS
MAX LOAD CAPACITY: 300 LBS



NOTES:

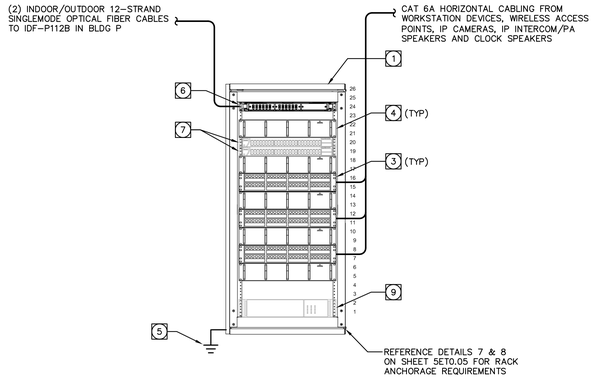
1. THIS DETAIL APPLIES TO IDF–D ONLY.
2. PROVIDE A COMPLETE WALL–MOUNTED ENCLOSURE ASSEMBLY, INCLUDING BOLTS, CLAMPS, ENCLOSURE AND MISCELLANEOUS INSTALLATION HARDWARE. EQUIP CEILING ENCLOSURE AS SHOWN AND AS DESCRIBED IN THE SPECIFICATIONS.
3. GROUND EQUIPMENT TO NEAREST NEC RECOGNIZED GROUNDING ELECTRODE SUBSYSTEM WITH A DEDICATED #6 AWG COPPER, STRANDED, GREEN SHEATH GROUNDING CONDUCTOR.
4. ASSEMBLE ENCLOSURE SO RACK UNIT 1 IS NEAREST TO THE FLOOR AND NUMBERS INCREASE VERTICALLY.

IDF–D RACK ELEVATION DETAIL

SCALE: NTS | 3

TOTAL IDF-F RACK LOAD

EQUIPMENT	QTY	WEIGHT PER ITEM (LBS)	SUBTOTAL WEIGHT (LBS)	COMMENTS
1–RU RACK MOUNT FIBER CABINET	1	10	10	
FIBER ADAPTER PLATES	3	1	3	
48–PORT NETWORK SWITCHES	2	10	20	
2–RU HORIZONTAL CABLE MANAGERS	5	3	15	
48–PORT COPPER PATCH PANELS	3	6	18	
UPS	1	75	75	MAX. UPS WEIGHT 100 LBS.
HORIZONTAL AND PATCH CABLES	1	–	10	
TOTAL LOAD (LBS.)			**151**	IDF RACK MAX. LOAD IS 300 LBS.

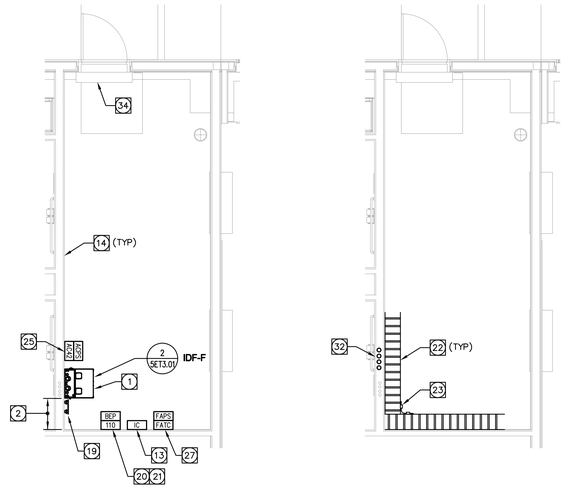


NOTES:

1. PROVIDE A COMPLETE WALL–MOUNTED ENCLOSURE ASSEMBLY, INCLUDING BOLTS, CLAMPS, ENCLOSURE AND MISCELLANEOUS INSTALLATION HARDWARE. EQUIP CEILING ENCLOSURE AS SHOWN AND AS DESCRIBED IN THE SPECIFICATIONS.
2. GROUND EQUIPMENT TO NEAREST NEC RECOGNIZED GROUNDING ELECTRODE SUBSYSTEM WITH A DEDICATED #6 AWG COPPER, STRANDED, GREEN SHEATH GROUNDING CONDUCTOR.
3. ASSEMBLE ENCLOSURE SO RACK UNIT 1 IS NEAREST TO THE FLOOR AND NUMBERS INCREASE VERTICALLY.
4. RACK DIMENSIONS: 24"WX26"DX49"H
   RACK WEIGHT: 130.5 LBS
   MAX. RACK LOAD CAPACITY: 300 LBS.

IDF–F RACK ELEVATION DETAIL

SCALE: NTS | 2



EQUIPMENT LAYOUT

PATHWAY LAYOUT

NOTE:

THE BUILDING MANUFACTURER SHALL INSTALL 3/4"Dx8'H PLYWOOD BACKBOARDS WITH (2) COATS OF FIRE–RETARDANT WHITE PAINT ON ALL FOUR WALLS OF THIS ROOM.

ENLARGED IDF–F PLANS

SCALE: 1/4"=1'–0" | 1

GENERAL NOTES

1. REFERENCE SHEET 5ET0.01 FOR ABBREVIATIONS, GENERAL NOTES, DEVICE SYMBOL DEFINITIONS AND ROUGH–IN REQUIREMENTS.
2. REFERENCE SHEET 5ET0.02 FOR SCOPE RESPONSIBILITY MATRIX.
3. REFERENCE RISER DIAGRAM ON SHEET 5ET0.09 FOR ADDITIONAL TELECOM BACKBONE AND HORIZONTAL CABLING REQUIREMENTS.
4. REFERENCE TELECOM SITE PLAN ON SHEET 5ET1.01 FOR INTERBUILDING PATHWAY INFORMATION.

SHEET KEYNOTES

(NOT ALL KEYNOTES MAY BE USED ON THIS SHEET.)

1. PIVOTING WALL MOUNTED RACK WITH PLEXI GLASS DOOR, 24"WX49"HX26"D (24" USABLE DEPTH), MIDDLE ATLANTIC PART NUMBER DWR–24–26PD. REFERENCE DETAILS 7 & 8 ON SHEET 5ET0.05 FOR ADDITIONAL REQUIREMENTS.
2. MINIMUM DISTANCE OF 24" FROM SIDE OF RACK TO WALL TO ALLOW RACK TO PIVOT.
3. CAT 6A 48–PORT STATION PATCH PANEL
4. 2–RU HORIZONTAL CABLE MANAGER
5. EQUIPMENT GROUND PER NEC, EIA/TIA STANDARDS
6. 1–RU RACK MOUNT FIBER CABINET (RMFC) WITH (2) 6–DUPLEX LC SINGLEMODE FIBER ADAPTER PLATES AND (1) BLANK PLATE
7. NETWORK SWITCH FURNISHED AND INSTALLED BY THE DISTRICT
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17. AUDIO AMPLIFIER FOR INTERCOM/PAGING.
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DATE: 05/07/2026

Practice
135 W. Green St Suite 200 Pasadena, CA 91105 | 626.568.1248 | practice-la.com

LA CANADA UNIFIED SCHOOL DISTRICT ESTABLISHED 1965

Salas O'Brien
salasobrien.com 949.753.1553
Irvine
8825 Research Drive
Irvine, CA 92618

Project No.: 2022-01629-05

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PARADISE CANYON E.S.

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03/20/2026	DSA V3

#	REVISION DATE	DESCRIPTION

DRAWING TITLE

TELECOM ENLARGED IDF PLANS & RACK ELEVATIONS

5ET3.02

SCALE: AS INDICATED

PLOT DATE

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