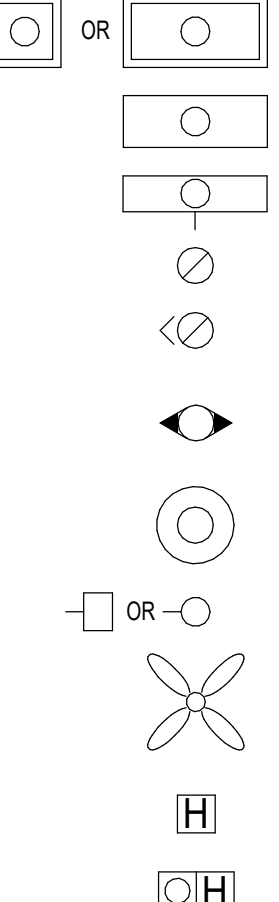
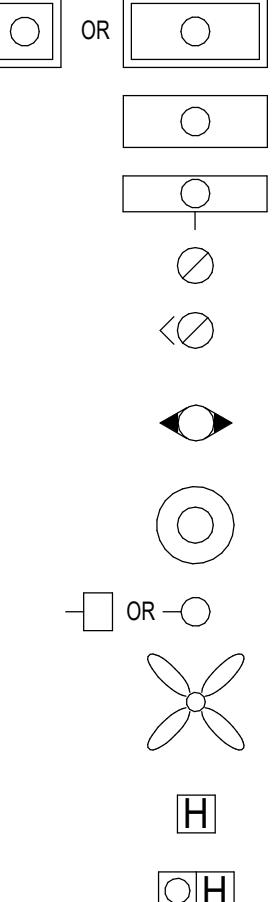
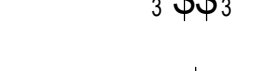
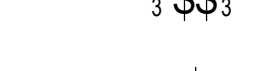


APPROVAL STAMPS

ELECTRICAL SYMBOL LEGEND

(NOTE 1)

FIRE ALARM		DESCRIPTION	LIGHTING		DESCRIPTION	GENERAL		DESCRIPTION
MTG. HGT. (NOTE 2)	SYMBOL (NOTES 3 & 4)		MTG. HGT. (NOTE 2)	SYMBOL (NOTES 3 & 4)		MTG. HGT. (NOTE 2)	SYMBOL (NOTES 3 & 4)	
6'-6"		SMOKE DETECTOR, CEILING "CO" = CARBON MONOXIDE DETECTOR - MODEL 900-0120, OR EQUAL, WITH BATTERY BACK-UP "SB" = SMOKE DETECTOR, LOW FREQUENCY TYPE, UNO "D" = SMOKE DETECTOR, DUCT TYPE. SEE MECHANICAL DRAWINGS FOR EXACT LOCATION (NOTE 7) "V" = VENDOR PROVIDED RYTHMOS SMOKE DETECTOR WITH 10 YEAR SEALED BATTERY "L" = LOW FREQUENCY			CEILING MOUNTED RECESSED LUMINAIRE. (NOTE 6) CEILING SURFACE MOUNTED LUMINAIRE. (NOTE 6) WALL MOUNTED LUMINAIRE. (NOTE 6) CEILING MOUNTED LUMINAIRE. (NOTE 6) CEILING MOUNTED LUMINAIRE, SINGLE WALL-WASHER TYPE. POINTED SIDE INDICATES DIRECTION OF MAXIMUM LIGHT DISTRIBUTION. SURFACE OR PENDANT CEILING MOUNTED LUMINAIRE. (NOTE 6) WALL MOUNTED LUMINAIRE. (NOTE 6) FAN, CEILING MOUNTED WITH LUMINAIRE ACCESSORY.	PLAN NOTE DESIGNATION. KITCHEN EQUIPMENT DESIGNATION. LUMINAIRE TYPE DESIGNATION.		
		SMOKE DETECTOR, WALL. (NOTE 7) "CO" = COMBINATION CARBON MONOXIDE DETECTOR "SB" = SMOKE DETECTOR, LOW FREQUENCY TYPE, UNO "D" = SMOKE DETECTOR, DUCT TYPE. SEE MECHANICAL DRAWINGS FOR EXACT LOCATION (NOTE 7) "V" = VENDOR PROVIDED RYTHMOS SMOKE DETECTOR WITH 10 YEAR SEALED BATTERY "L" = LOW FREQUENCY						
		HEAT DETECTOR, CEILING.						
		HEAT DETECTOR, WALL. (NOTE 7)						
4'-0"		FLAME DETECTOR, CEILING.			CEILING MOUNTED RECESSED HEAT UNIT. "H" = INFRARED HEAT LAMP. CEILING MOUNTED RECESSED COMBINATION UNIT. "H" = INFRARED HEAT LAMP.	1'-4"		DECORATOR DUPLEX RECEPTACLE, WALL MOUNTED. ALPHA NUMERIC OR NUMERIC SUBSCRIPT INDICATES PANELBOARD CIRCUIT. (TYPICAL FOR ALL RECEPTACLES) "SP" = GROUND FAULT DETECTOR RECEPTACLE "WP" = WEATHERPROOF WHILE-IN-USE DEVICE, DECORATOR RECEPTACLE MOUNTED IN (NEMA-3R) WALL PLATE "HD" = HOSPITAL GRADE "T" = MOUNT RECEPTACLE 4" AFF TO CENTER OF BOX OR BOTTOM 9'-1" ABOVE BACKSPRASH/COUNTER "H" = MOUNT RECEPTACLE HORIZONTALLY (ALL RECEPTACLE SHALL BE MOUNTED VERTICALLY UNLESS NOTED BY AN "H") "L" = USE DEVICE, EQUAL TO LEGRAND (VITROUSBACH) "T" = TAMPER RESISTANT DEVICE "MC" = PROVIDE A MINIMUM COVER PLATE FOR RECEPTACLE MOUNTED IN MIRRORS "H" = HOSPITAL GRADE "T" = TAMPER RESISTANT DEVICE "E" = INDICATES EMERGENCY DEVICE IF DEVICE NOT SHADDED
		FLAME DETECTOR, WALL. (NOTE 7)						
5'-0"		FIRE ALARM MANUAL PULL STATION			FIRE ALARM FIRE FIGHTER TWO-WAY COMMUNICATION OUTLET JACK WALL UNIT FIRE ALARM SPEAKER WITH INTEGRAL VISUAL DEVICE.	1'-4"		WALL MOUNTED DECORATOR DUPLEX RECEPTACLE, GROUND FAULT DEVICE. WALL MOUNTED DECORATOR DUPLEX RECEPTACLE, GROUND FAULT DEVICE.
		FIRE ALARM FIRE FIGHTER TWO-WAY COMMUNICATION OUTLET JACK WALL UNIT						
NOTE 7		FIRE ALARM SPEAKER WITH INTEGRAL VISUAL DEVICE.			FIRE ALARM HORN OR SPEAKER WITH INTEGRAL VISUAL DEVICE. NUMBER INDICATES CANDELA RATING OF VISUAL DEVICE. "L" = LOW FREQUENCY TYPE "S" = DIGITAL SPEAKER TYPE	1'-4"		WALL MOUNTED DECORATOR DUPLEX RECEPTACLE, GROUND FAULT DEVICE.
		FIRE ALARM HORN OR SPEAKER WITH INTEGRAL VISUAL DEVICE.						
NOTE 7		FIRE ALARM BELL.			FIRE ALARM BELL.	1'-4"		WALL MOUNTED DECORATOR DUPLEX RECEPTACLE, GROUND FAULT DEVICE.
		FIRE ALARM BELL.						
NOTE 7		FIRE ALARM VISUAL DEVICE, NUMBER INDICATES CANDELA RATING OF VISUAL DEVICE.			FIRE ALARM VISUAL DEVICE, NUMBER INDICATES CANDELA RATING OF VISUAL DEVICE.	1'-4"		WALL MOUNTED DECORATOR DUPLEX RECEPTACLE, GROUND FAULT DEVICE.
		FIRE ALARM VISUAL DEVICE, NUMBER INDICATES CANDELA RATING OF VISUAL DEVICE.						
NOTE 7		FIRE ALARM CHIME.			FIRE ALARM CHIME.	1'-4"		WALL MOUNTED DECORATOR DUPLEX RECEPTACLE, GROUND FAULT DEVICE.
		FIRE ALARM CHIME.						
7'-4"		FIRE ALARM HORN OR SPEAKER WITH INTEGRAL VISUAL DEVICE.			FIRE ALARM HORN OR SPEAKER WITH INTEGRAL VISUAL DEVICE.	1'-4"		WALL MOUNTED DECORATOR DUPLEX RECEPTACLE, GROUND FAULT DEVICE.
		FIRE ALARM HORN OR SPEAKER WITH INTEGRAL VISUAL DEVICE.						
7'-4"		FIRE ALARM SPEAKER FOR AUDIBLE TONE, CEILING/PENDANT MOUNT.			FIRE ALARM SPEAKER FOR AUDIBLE TONE, CEILING/PENDANT MOUNT.	1'-4"		WALL MOUNTED DECORATOR DUPLEX RECEPTACLE, GROUND FAULT DEVICE.
		FIRE ALARM SPEAKER FOR AUDIBLE TONE, CEILING/PENDANT MOUNT.						
7'-4"		ADDRESSABLE OUTPUT MODULE.			ADDRESSABLE OUTPUT MODULE.	1'-4"		WALL MOUNTED DECORATOR DUPLEX RECEPTACLE, GROUND FAULT DEVICE.
		ADDRESSABLE OUTPUT MODULE.						
7'-4"		INDIVIDUAL ADDRESSABLE MONITOR MODULE.			INDIVIDUAL ADDRESSABLE MONITOR MODULE.	1'-4"		WALL MOUNTED DECORATOR DUPLEX RECEPTACLE, GROUND FAULT DEVICE.
		INDIVIDUAL ADDRESSABLE MONITOR MODULE.						
7'-4"		SIGNALING LINE CIRCUIT ISOLATION MODULE.			SIGNALING LINE CIRCUIT ISOLATION MODULE.	1'-4"		WALL MOUNTED DECORATOR DUPLEX RECEPTACLE, GROUND FAULT DEVICE.
		SIGNALING LINE CIRCUIT ISOLATION MODULE.						
7'-4"		SMOKE, HEAT OR FLAME DETECTOR REMOTE ALARM LIGHT, WALL.			SMOKE, HEAT OR FLAME DETECTOR REMOTE ALARM LIGHT, WALL.	1'-4"		WALL MOUNTED DECORATOR DUPLEX RECEPTACLE, GROUND FAULT DEVICE.
		SMOKE, HEAT OR FLAME DETECTOR REMOTE ALARM LIGHT, CEILING.						
7'-4"		SMOKE, HEAT OR FLAME DETECTOR REMOTE ALARM LIGHT, CEILING.			SMOKE, HEAT OR FLAME DETECTOR REMOTE ALARM LIGHT, CEILING.	1'-4"		WALL MOUNTED DECORATOR DUPLEX RECEPTACLE, GROUND FAULT DEVICE.
		SMOKE, HEAT OR FLAME DETECTOR REMOTE ALARM LIGHT, CEILING.						
7'-4"		SPRINKLER SYSTEM WATER FLOW DETECTOR SWITCH. (NOTE 7)			SPRINKLER SYSTEM WATER FLOW DETECTOR SWITCH. (NOTE 7)	1'-4"		WALL MOUNTED DECORATOR DUPLEX RECEPTACLE, GROUND FAULT DEVICE.
		SPRINKLER SYSTEM WATER FLOW DETECTOR SWITCH. (NOTE 7)						
7'-4"		SPRINKLER SYSTEM PRESSURE SWITCH. (NOTE 7)			SPRINKLER SYSTEM PRESSURE SWITCH. (NOTE 7)	1'-4"		WALL MOUNTED DECORATOR DUPLEX RECEPTACLE, GROUND FAULT DEVICE.
		SPRINKLER SYSTEM PRESSURE SWITCH. (NOTE 7)						
7'-4"		SPRINKLER SYSTEM VALVE SUPERVISORY SWITCH. (NOTE 7)			SPRINKLER SYSTEM VALVE SUPERVISORY SWITCH. (NOTE 7)	1'-4"		WALL MOUNTED DECORATOR DUPLEX RECEPTACLE, GROUND FAULT DEVICE.
		SPRINKLER SYSTEM VALVE SUPERVISORY SWITCH. (NOTE 7)						
7'-4"		SPRINKLER SYSTEM VALVE SUPERVISORY SWITCH. (NOTE 7)			SPRINKLER SYSTEM VALVE SUPERVISORY SWITCH. (NOTE 7)	1'-4"		WALL MOUNTED DECORATOR DUPLEX RECEPTACLE, GROUND FAULT DEVICE.
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7'-4"		SPRINKLER SYSTEM VALVE SUPERVISORY SWITCH. (NOTE 7)			SPRINKLER SYSTEM VALVE SUPERVISORY SWITCH. (NOTE 7)	1'-4"		WALL MOUNTED DECORATOR DUPLEX RECEPTACLE, GROUND FAULT DEVICE.
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7'-4"		SPRINKLER SYSTEM VALVE SUPERVISORY SWITCH. (NOTE 7)			SPRINKLER SYSTEM VALVE SUPERVISORY SWITCH. (NOTE 7)	1'-4"		WALL MOUNTED DECORATOR DUPLEX RECEPTACLE, GROUND FAULT DEVICE.
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7'-4"		SPRINKLER SYSTEM VALVE SUPERVISORY SWITCH. (NOTE 7)			SPRINKLER SYSTEM VALVE SUPERVISORY SWITCH. (NOTE 7)	1'-4"		WALL MOUNTED DECORATOR DUPLEX RECEPTACLE, GROUND FAULT DEVICE.
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7'-4"		SPRINKLER SYSTEM VALVE SUPERVISORY SWITCH. (NOTE 7)			SPRINKLER SYSTEM VALVE SUPERVISORY SWITCH. (NOTE 7)	1'-4"		WALL MOUNTED DECORATOR DUPLEX RECEPTACLE, GROUND FAULT DEVICE.
		SPRINKLER SYSTEM VALVE SUPERVISORY SWITCH. (NOTE 7)						
7'-4"		SPRINKLER SYSTEM VALVE SUPERVISORY SWITCH. (NOTE 7)			SPRINKLER SYSTEM VALVE SUPERVISORY SWITCH. (NOTE 7)	1'-4"		WALL MOUNTED DECORATOR DUPLEX RECEPTACLE, GROUND FAULT DEVICE.
		SPRINKLER SYSTEM VALVE SUPERVISORY SWITCH. (NOTE 7)						
7'-4"		SPRINKLER SYSTEM VALVE SUPERVISORY SWITCH. (NOTE 7)			SPRINKLER SYSTEM VALVE SUPERVISORY SWITCH. (NOTE 7)	1'-4"		WALL MOUNTED DECORATOR DUPLEX RECEPTACLE, GROUND FAULT DEVICE.
		SPRINKLER SYSTEM VALVE SUPERVISORY SWITCH. (NOTE 7)						
7'-4"		SPRINKLER SYSTEM VALVE SUPERVISORY SWITCH. (NOTE 7)			SPRINKLER SYSTEM VALVE SUPERVISORY SWITCH. (NOTE 7)	1'-4"		WALL MOUNTED DECORATOR DUPLEX RECEPTACLE, GROUND FAULT DEVICE.
		SPRINKLER SYSTEM VALVE SUPERVISORY SWITCH. (NOTE 7)						
7'-4"		SPRINKLER SYSTEM VALVE SUPERVISORY SWITCH. (NOTE 7)			SPRINKLER SYSTEM VALVE SUPERVISORY SWITCH. (NOTE 7)	1'-4"		WALL MOUNTED DECORATOR DUPLEX RECEPTACLE, GROUND FAULT DEVICE.

APPROVAL STAMPS

LOW VOLTAGE WORKSCOPE NARRATIVE

GENERAL

IT IS THE OWNER'S INTENT TO CONTRACT THROUGH THE GENERAL BUILDING CONSTRUCTION CONTRACT WITH SUBCONTRACTORS AND VENDORS TO SUPPLY LOW VOLTAGE SYSTEMS AS DESCRIBED BELOW. AS PART OF THE WORK SCOPE, THE RESPECTIVE CONTRACTORS/VENDORS SHALL PROVIDE AND INSTALL CABLING, COMPONENTS AND ASSOCIATED HARDWARE AS INDICATED AND SPECIFIED ON DRAWINGS. E.G. SHALL PROVIDE THE PATHWAY, SYSTEMS AND SUPPORTS, AS REQUIRED, TO FACILITATE THE INSTALLATION OF THE LOW VOLTAGE CABLING SYSTEMS. COORDINATION WITH OTHER CONTRACTORS AND VENDORS IS REQUIRED.

UNDERGROUND CONDUIT/RACEWAY TO SMC FOR SERVICE PROVIDER, REFER TO DRAWINGS BY HOLSTEN WHITE.

ALL VOICE, DATA, CATV HORIZONTAL CABLES FOR OUTLETS WITHIN THE NEW COTTAGES/VILLAS SHALL BE EXTENDED AND TERMINATED AT THE EXTERIOR CABINET LOCATED AS SHOWN ON BUILDING PLANS.

CONTRACTORS SHALL COORDINATE WITH FACILITIES AND UTILITY SERVICE PROVIDERS FOR SERVICE WORK TO BUILDINGS. SOME SYSTEMS MAY BE AN EXTENSION OF THE OWNERS EXISTING SYSTEMS.

CONTRACTOR SHALL TEST ALL CABLES TO CONFIRM PROPER PERFORMANCE.

ALL COMMUNICATIONS OUTLETS, HORIZONTAL CABLES AND TERMINATION HARDWARE SHALL BE LABELED PER THE DESIGNED LABELING SCHEME.

VOICE SYSTEMS

FOR VOICE LINES THE LV CONTRACTOR SHALL PROVIDE AND INSTALL SINGLE GANG BACKBOX, FACEPLATE, RJ45 JACK AND EXTEND LABELED HORIZONTAL CABLE AND TERMINATE AT PATCH PANEL IN EXTERIOR NETWORK CABINET. THE CONTRACTOR SHALL PROVIDE PATCH PANEL, CABLE MANAGEMENT, HORIZONTAL CABLING, LABELING PRODUCTS, ETC. ALONG WITH TESTING OF CABLES. THE CONTRACTOR SHALL COORDINATE WITH OWNER FOR LOCATION OF CABINET.

DATA SYSTEM

THE LV CONTRACTOR SHALL PROVIDE AND INSTALL NEW DATA CABLING, BACKBOX AND DATA OR DATA/VOICE FACEPLATE WITH RJ45 DATA JACKS. HORIZONTAL CABLING SHALL BE LABELED AND EXTENDED FROM THE OUTLET LOCATION TO THE EXTERIOR CABINET. TERMINATE CABLES AT PATCH PANEL. THE CONTRACTOR SHALL PROVIDE EXTERIOR CABINET, PATCH PANEL, CABLE MANAGEMENT, HORIZONTAL CABLING, LABELING PRODUCTS, ETC. ALONG WITH TESTING OF CABLES. THE CONTRACTOR SHALL COORDINATE WITH OWNER FOR EXTERIOR CABINET LOCATIONS.

CATV SYSTEM

FOR CATV OUTLET LOCATIONS, THE CONTRACTOR SHALL PROVIDE AND INSTALL CATV OUTLETS AS SHOWN ON THE DRAWINGS. CONTRACTORS SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING OUTLET BOXES, FACEPLATES, COAX TYPE "F" CONNECTOR FOR COAX CABLE AND RJ45 JACKS AS INDICATED IN DETAIL. THE CONTRACTOR SHALL INSTALL THE HORIZONTAL CATV CABLES FROM OUTLET BOX TO EXTERIOR PROVIDER CABINET, LABEL AND TERMINATE AT CATV PLATES. COORDINATE WITH COAXIST FOR THE COAX CABLE ROUTING AND INSTALLATION FROM THE OUTLET BOX TO SERVICE PROVIDER EXTERIOR CABINET. CABLE SHALL BE LABELED AND TERMINATED BY SERVICE PROVIDER.

WIRELESS EMERGENCY CALL SYSTEM

A WIRELESS EMERGENCY CALL SHALL BE INSTALLED THROUGHOUT THE UNITS BY OWNERS VENDOR. COORDINATE WORK WITH THE OWNERS VENDOR FOR DEVICE LOCATIONS AND COORDINATE INSTALLATION OF DEVICES. THE ELECTRICAL CONTRACTOR SHALL INSTALL THE RYTHMOS MOTION LIGHT SWITCH AND ANCHOR PER OWNERS VENDOR DIRECTIONS. COORDINATE POWER REQUIREMENTS AND SWITCH LEG CONNECTIONS WITH VENDOR PRIOR TO BEGINNING. RESIDENT UNITS SHALL INCLUDE EMERGENCY CALL STATIONS, PRERANT OR WIRELESS MOBILE SERVICES, RADAR SENSOR, MOTION LIGHT SWITCH, ANCHOR, SMOKE DETECTOR AND GATEWAY. SMOKE DETECTOR SHALL BE INTERCONNECTED WITH EMERGENCY CALL SYSTEM FOR MONITORING UNIT. ALERTS AND SMOKE ACTIVATION TO SEND STAFF/SECURITY NOTIFICATIONS. COORDINATE ALL WORK WITH OWNERS VENDOR/OWNER BEFORE BEGINNING. RESIDENT UNIT EMERGENCY CALL STATIONS ARE SHOWN FOR REFERENCE ONLY. COORDINATE ALL LOCATIONS AND WORK WITH OWNERS VENDOR.

SECURITY SYSTEM

ACCESS CONTROL SHALL BE PROVIDED AT FRONT DOOR ENTRY. EACH UNIT SHALL INCLUDE DOOR CONTACTS AT EXTERIOR DOORS OF EACH RESIDENT UNIT. DOORS SHALL BE MONITORED AND THE DEVICES SHALL ANNUNCIATE AT THE DISTRICT KIDS SECURITY /STAFF OFFICE. COORDINATION WITH THE OWNERS AND OWNERS VENDOR, FOR ALL NEW WORK, PRIOR TO BEGINNING.

LOW VOLTAGE SYMBOL LEGEND

MTG. HGT. (NOTE 2)	SYMBOL (NOTE 3)	DESCRIPTION	(NOTE 1)
	#	PLAN NOTE DESIGNATION.	
1'-8"	TV R	VOP TELEPHONE OUTLET, WALL. SINGLE GANG OUTLET BOX WITH 3/4" CONDUIT STUBBED INTO ATTIC SPACE. PROVIDE WITH ONE (1) CAT 6A & RJ45 JACK. EXTEND HORIZONTAL CABLE FROM BOX THROUGH ATTIC TO EXTERIOR BUILDING CABINET.	
	TV R	"TV" - EXTEND CAT 6A VOICE CABLE AND TERMINATE AT WALL PLATE AND EXTERIOR CABINET.	
	TV R	"TV" - WALL TYPE TELEPHONE OUTLET MOUNTED 4" AFF. AND PROVIDED WITH RECESSED STAINLESS STEEL WALL PHONE MOUNT FACEPLATE.	
	TV R	"TV" - INDICATES CABLING QUANTITY AT LOCATION. IF NO NUMBER IS SHOWN INCLUDE QUANTITY AS SHOWN IN DESCRIPTION ABOVE.	
1'-8"	TV R	DATA OUTLET, WALL. SINGLE GANG OUTLET BOX WITH 3/4" CONDUIT STUBBED INTO ATTIC SPACE. PROVIDE WITH ONE (1) CAT 6A & RJ45 JACK. EXTEND HORIZONTAL CABLE FROM BOX THROUGH ATTIC TO EXTERIOR BUILDING NETWORK CABINET.	
	TV R	"TV" - EXTEND CAT 6A DATA CABLE AND TERMINATE AT WALL PLATE AND EXTERIOR CABINET.	
	TV R	"TV" - INDICATES CABLING QUANTITY AT LOCATION. IF NO NUMBER IS SHOWN INCLUDE QUANTITY AS SHOWN IN DESCRIPTION ABOVE.	
1'-8"	TV R	COMBINATION VOICE/DATA OUTLET, WALL. TWO-GANG OUTLET BOX WITH SINGLE GANG MUG RING AND 1" CONDUIT STUB INTO ATTIC SPACE. PROVIDE WITH ONE (1) CAT 6A & RJ45 DATA JACK AND ONE (1) CAT 6A & RJ45 VOICE JACK. EXTEND HORIZONTAL CABLES FROM BOX THROUGH ATTIC TO EXTERIOR BUILDING NETWORK CABINET.	
	TV R	"TV" - EXTEND VOICE & DATA CABLING AND TERMINATE AT WALL PLATE AND EXTERIOR CABINET.	
	TV R	"TV" - INDICATES CABLING QUANTITY AT LOCATION. IF NO NUMBER IS SHOWN INCLUDE QUANTITY AS SHOWN IN DESCRIPTION ABOVE.	
FLOOR	TV R	COMBINATION VOP PHONE & DATA OUTLET, FLOOR. REFER TO FLOOR PLANS FOR ADDITIONAL INFORMATION.	
	TV R	"TV" - EXTEND VOICE & DATA CABLING AND TERMINATE AT PLATE AND EXTERIOR BUILDING CABINET.	
	TV R	"TV" - INDICATES CABLING QUANTITY AT LOCATION. IF NO NUMBER IS SHOWN INCLUDE QUANTITY AS SHOWN IN DESCRIPTION ABOVE.	
1'-8" U.O.N. ON DWGS.	TV	WALL MOUNTED COMBINATION RECESSED RECEPTACLE AND TV OUTLET WITH VOLTAGE BARRIER. REFER TO DETAIL ON THIS SHEET. PROVIDE WITH ONE (1) 200 CUPLX RECEPTACLE (1) TYPE F COAX CONNECTOR FOR COAX CABLE, (1) CAT 6A HORIZONTAL CABLE & RJ45 JACK. STUB CONDUITS INTO ATTIC SPACE AND EXTEND FROM BOX HORIZONTAL CABLING THROUGH ATTIC TO EXTERIOR BUILDING CABINET. COORDINATE COAX ROUTING WITH SERVICE PROVIDER THROUGH ATTIC TO CATV DISTRIBUTION POINT.	
CEILING	WAP R	WIRELESS ACCESS POINT. PROVIDE OUTLET BACK BOX AND ADAPTER BRACKET FOR GWS ACCESS POINT INSTALLATION. PROVIDE WITH TWO (2) CAT 6A HORIZONTAL CABLES EXTENDED THROUGH ATTIC TO EXTERIOR BUILDING NETWORK CABINET AND TERMINATE. REFER TO DETAIL FOR ADDITIONAL INFORMATION. WAP DEVICE PROVIDED BY OWNER, COORDINATE EXACT LOCATION BEFORE ROUGH-IN.	
CEILING	C	FIXED CCTV CAMERA - INTERIOR MOUNT. INSTALL WITH FLUSH MOUNT SINGLE GANG OUTLET BOX. INSTALL ONE (1) CAT 6A HORIZONTAL CABLE TO COMMUNICATIONS RACK AND TERMINATE. INSTALL ONE COMMSPEC COAX CAT5E/PLENUM WITH UTP WHP AND TERMINATE CAT 6 CABLE IN CEILING CONNECTOR. CABLE WHP FOR CONNECTION AT CAMERA LOCATION. CAMERA PROVIDED AND INSTALLED BY CONTRACTOR.	
	TV R	"TV" - INDICATES CABLING QUANTITY & QTY. REFER TO LOW VOLTAGE NOTES BELOW FOR ADDITIONAL INFORMATION. IF NO # INDICATED, PROVIDE (1) DATA CABLE (1D) TO OUTLET LOCATION.	
	WAP	"WAP" - EXTERIOR MOUNT. INSTALL WITH FLUSH MOUNT WEATHER-PROOF SINGLE GANG OUTLET BOX AND 3/4" C TO ACCESSIBLE CEILING SPACE.	
4'-0"	DB	WALL MOUNTED DOORBELL WITH HARD WIRED TRANSFORMER AND CHIME. PROVIDE 4" SQUARE JUNCTION BOX AND INSTALL TRANSFORMER TO ONE SIDE. PROVIDE POWER TO TRANSFORMER (120V CAT), COORDINATE WITH OWNER TYPE OF DEVICE PRIOR TO ORDER. RING DOORBELL, OPTIONAL.	
3'-10"	E	RYTHMOS EMERGENCY CALL PULL STATION, WIRELESS - WALL STATION WITH PULL CORD. COORDINATE ALL WORK AND EXACT LOCATION WITH OWNERS VENDOR/OWNER.	
	HPR	RYTHMOS CORNER EMERGENCY RADAR SENSOR. COORDINATE LOCATIONS AND ALL WORK WITH OWNERS VENDOR/OWNER PRIOR TO BEGINNING.	
	ECR	RYTHMOS EMERGENCY CALL GATEWAY MESH HUB. COORDINATE LOCATION OF DEVICE PRIOR TO BEGINNING WITH OWNERS VENDOR/OWNER.	
	P	RYTHMOS EMERGENCY CALL WATCHPENDANT RESIDENT WEARABLE DEVICE. NOT SHOWN ON DOCUMENTS BUT REQUIRED BY OWNERS VENDOR.	
3'-10"	OC	RYTHMOS PRI/PASSIVE INFRARED DETECTION MOTION LIGHT SWITCH. WALL MOUNTED. PROVIDED WITH THE RYTHMOS ANCHOR TYPE C BATTERY POWERED MESH NETWORK NODE. COORDINATE ALL WORK WITH OWNERS VENDOR PRIOR TO BEGINNING. CONFIRM LOADS CONTROLLED DO NOT EXCEED THE MAXIMUM WATTAGE. PROVIDE NEUTRAL WIRE FOR PROPER OPERATION OF MOTION SWITCH. TIME DELAY AND OCCUPANCY/VACANCY SHALL BE ADJUSTED BY OWNERS VENDOR. COORDINATE ALL WORK WITH OWNERS VENDOR/OWNER PRIOR TO BEGINNING WORK.	
	DPS	DOOR POSITION SWITCH CONTACT. INSTALL 1/2" C IN DOOR FRAME TO ACCESSIBLE CEILING SPACE. COORDINATE EXACT REQUIREMENTS WITH OWNERS ACCESS CONTROL. VENDOR COORDINATE DOOR HARDWARE VENDOR FOR CONCEALED SWITCH LOCATION AND INSTALLATION REQUIREMENTS.	
3'-10"	CR	CARDS READER IN FLUSH MOUNT SINGLE GANG OUTLET BOX WITH 3/4" C. TO ACCESSIBLE CEILING SPACE. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR INFORMATION.	
3'-10"	P	POWERED DOOR OPERATOR, WALL.	
	TS	TELECOM SERVICE PROVIDER PEDESTAL.	
3'-10"	IS	INTERCOM SYSTEM CALL-IN STATION, WALL. REFER TO DETAIL.	
3'-10"	MS	INTERCOM SYSTEM MASTER STATION.	

GENERAL NOTE: COORDINATE LOCATIONS AND HEIGHTS OF DEVICES WITH THE ELECTRICAL CONTRACTOR PRIOR TO BEGINNING ROUGH-IN. ALL LOW VOLTAGE WALL DEVICES TO MATCH HEIGHT OF ELECTRICAL OUTLETS.

A. COORDINATE LOCATION OF ALL DEVICES WITH ARCHITECTURAL DRAWINGS.

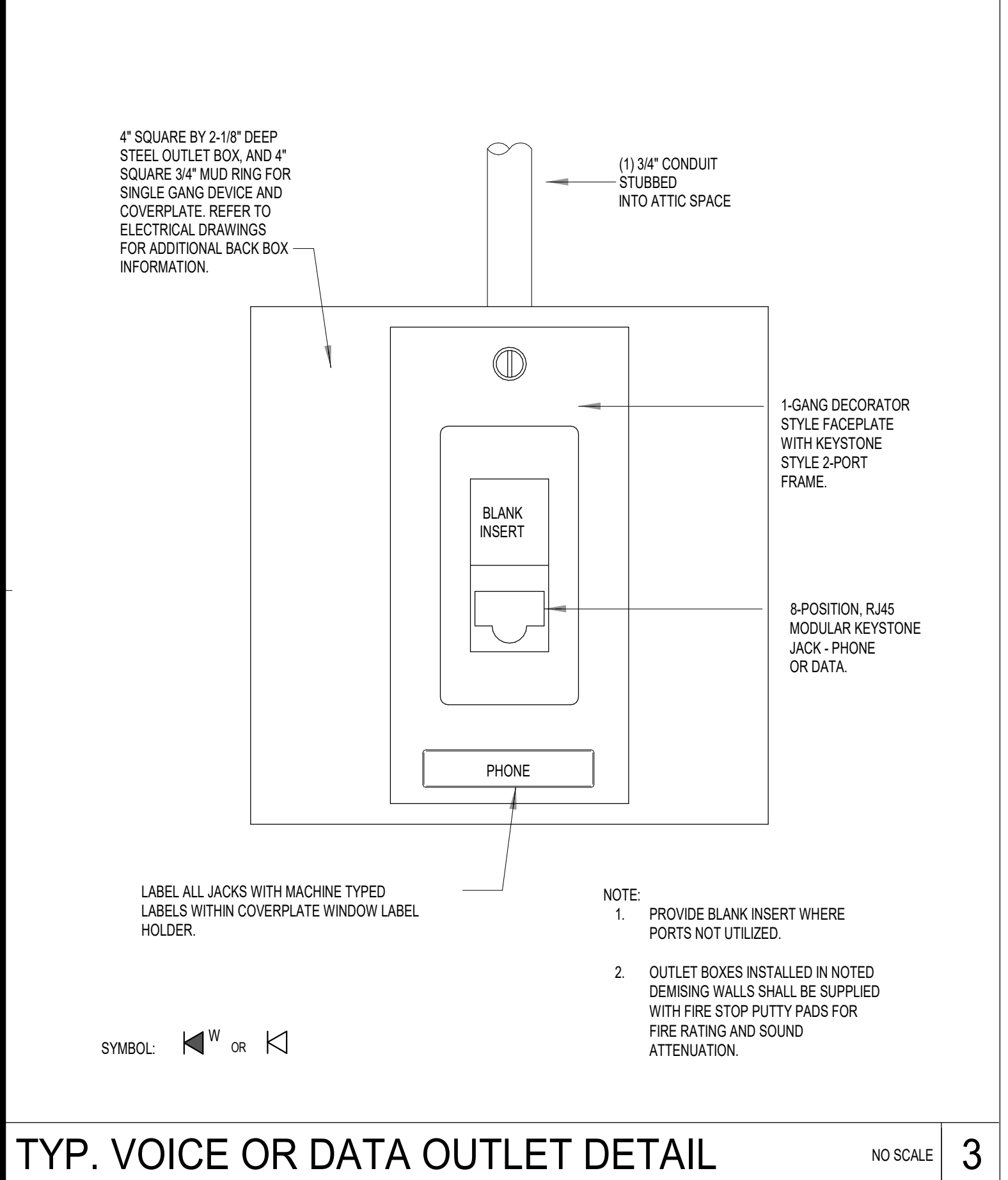
B. WHERE RECESSED DEVICES OR EQUIPMENT ARE INSTALLED IN A SHARED PLUMBING WALL COORDINATE LOCATIONS WITH THE PLUMBING CONTRACTOR PRIOR TO BEGINNING WORK.

C. ELECTRICAL CONTRACTOR SHALL PROVIDE 120V POWER FOR NEW EMERGENCY CALL TRANSCIVER (REPEATER) WILL BE INCLUDED. COORDINATE ALL REPEATER LOCATIONS AND WORK WITH OWNERS SYSTEM REPRESENTATIVE. PRIOR TO BEGINNING WORK ASSOCIATED WITH NEW DEVICES IN UNITS OR SITE.

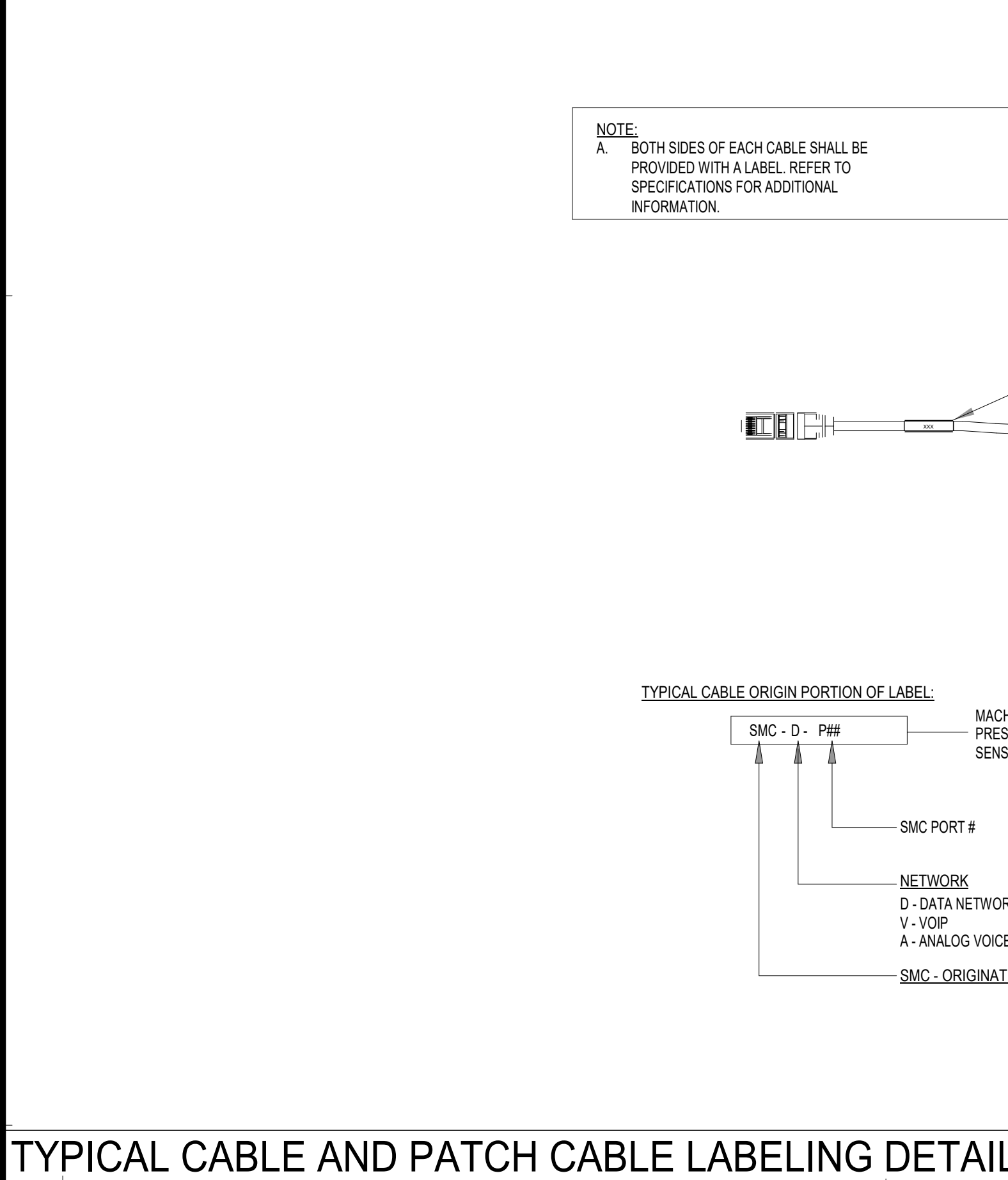
D. VILLA/COTTAGE UNITS SHALL BE SUPPLIED WITH VOICE AND INTERNET SERVICES FROM THE CAMPUS NETWORK INFRASTRUCTURE.

E. CAT6 PROVIDED TO RESIDENTS THROUGH BULK CONTRACT WITH COMCAST. COORDINATE ALL WORK WITH OWNERS CONTRACT.

TYPICAL COMBINATION PHONE/DATA OUTLET DETAIL



TYP. VOICE OR DATA OUTLET DETAIL



TYPICAL COMBINATION TV OUTLET DETAIL



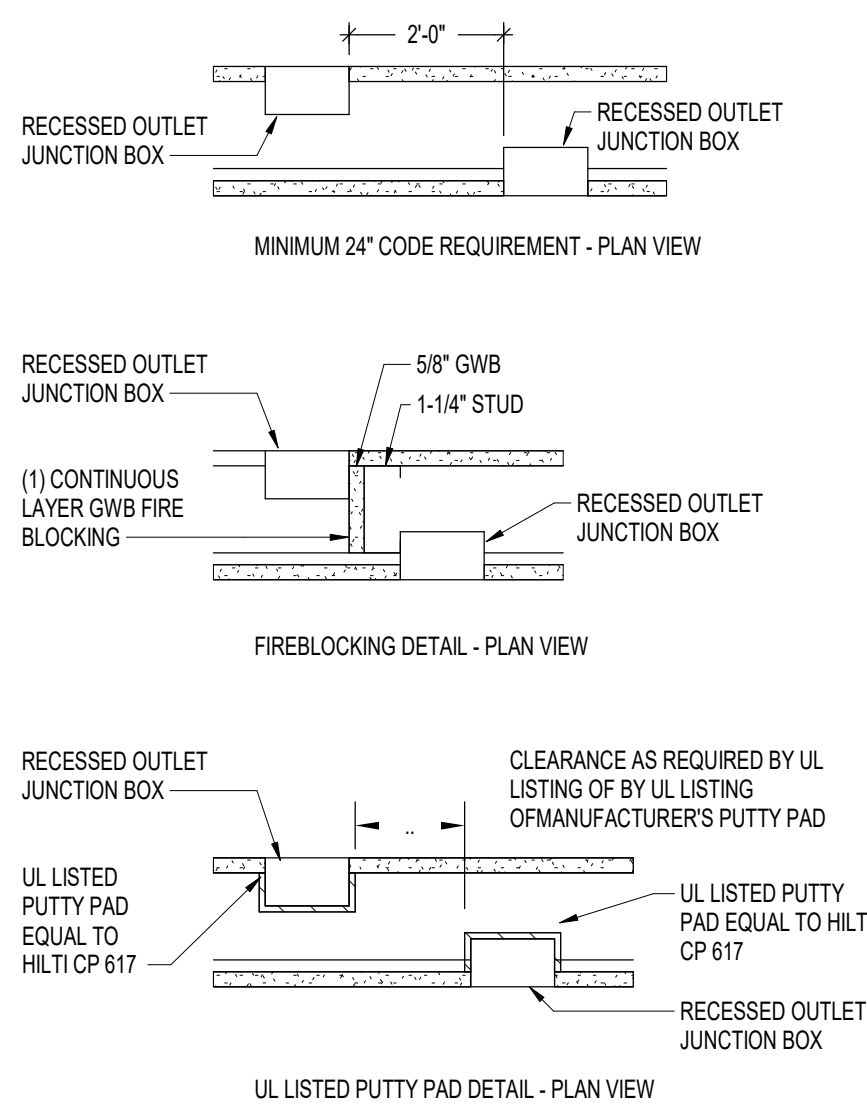
LV WORKSCOPE GENERAL NOTES

- OUTER JACKETS OF CAT 6 AND CAT 6A HORIZONTAL CABLE AND JACKS SHALL BE COLOR CODED FOR RESPECTIVE SYSTEMS. COORDINATE WITH OWNERS (I) TEAM TO CONFIRM PREFERENCES. COLORS LISTED BELOW ARE STANDARD SFCs COLORS.
DATA/WP: BLUE
ANALOG VOICE: WHITE
FAN/ELEVATOR: GREEN
CATV: YELLOW
WAP: PURPLE
WV: ORANGE
- THE LOW VOLTAGE AND ELECTRICAL CONTRACTORS SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL OUTLET BOXES, RACEWAYS, PATHWAYS, SUPPORTS, CABLING, PATCH PANELS, BACKS, ETC. AS SPECIFICALLY INDICATED ON THESE DRAWINGS AND AS REQUIRED FOR COMPLETE INSTALLATION OF THE SYSTEMS.
- LOW VOLTAGE WORK SCOPE CONTRACTOR SHALL PROPERLY SUPPORT RACEWAYS. PROVIDE LOW VOLTAGE CABLING IN RACEWAYS.
- CONTRACTOR SHALL UTILIZE PLENUM RATED VECLOD STRAPS FOR CABLE BUNDLING. NO ZIP TIES ALLOWED. NO MORE THAN 24 CABLES SHALL BE BUNDLED TOGETHER. CABLING FOR DIFFERENT SYSTEMS SHALL BE BUNDLED SEPARATELY.

NOTES (LOW VOLTAGE SYMBOL LEGEND):

- THESE ARE STANDARD SYMBOLS AND MAY NOT ALL APPEAR ON THE PROJECT DRAWINGS. HOWEVER, WHEREVER THIS SYMBOL APPEARS ON THE PROJECT DRAWINGS, THE ITEM SHALL BE FURNISHED AND INSTALLED.
- ALL MOUNTING HEIGHTS SHALL BE VERIFIED WITH THE ELECTRICAL DRAWINGS, WHICH TAKES PRECEDENT OVER MOUNTING HEIGHTS SHOWN ON THIS SHEET. THE EC SHALL PROVIDE AND INSTALL ALL BACKBOXES, CONDUIT AND PULL STRINGS FOR ALL LV DEVICES, UNLESS NOTED OTHERWISE. MOUNTING HEIGHTS ARE FROM FINISHED FLOOR TO CENTERLINE OF OUTLET. WHERE THE MOUNTING HEIGHT INDICATED ON PLAN IS DIFFERENT FROM THE LEGEND, THE PLAN TAKES PRECEDENT.
- E.C. SHALL INSTALL RECEPTACLE AND VOICE/DATA OUTLET BOXES IF APART (EDGE TO EDGE) WHERE SHOWN. SIDE BY SIDE ON WALL, UNLESS INDICATED TO BE INSTALLED IN A MULTIGANG BOX WITH VOLTAGE BARRIER.
- LOW VOLTAGE CONTRACTOR SHALL PROVIDE TELECOMMUNICATION CABLES TO ALL LOW VOLTAGE DEVICES INDICATED ON PLANS ACCORDING TO THE WORKSCHEDULE BELOW. ALL DATA OUTLETS SHALL RECEIVE ONE (1) CAT6 DATA CABLE AND ONE (1) CAT6 VOICE CABLE UNLESS NOTED OTHERWISE ON PLAN DRAWINGS.
HDMI/CATV/D
"1D" - ONE (1) CAT 6 CABLE WITH CONNECTOR ASSEMBLIES. EXTENDED FROM OUTLET TO INDICATED TERMINATION LOCATION.
"TV" - ONE (1) CAT 6 CABLE WITH VOP JACK OR CAT6a VOICE JACK (ANALOG), EXTENDED FROM OUTLET TO TERMINATION LOCATION.
"VC" - ONE (1) COAX CABLE WITH COAX JACK. EXTENDED FROM OUTLET TO LOCAL MEDIA RM.
"HDMI" - ONE (1) HDMI CABLE WITH ASSOCIATED JACK. EXTENDED BETWEEN WALL BOX AND FLOORBOX IN ROOM.

APPROVAL STAMPS

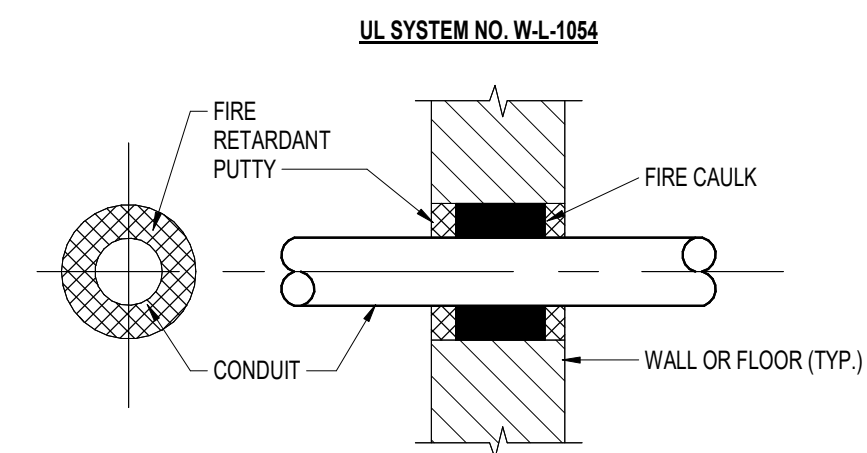


NOTE:
RECESSED ELECTRICAL BOXES IN RATED ASSEMBLIES ARE MEMBRANE PENETRATIONS AND MUST COMPLY WITH 714.4.2 OF THE 2021 MARYLAND BUILDING CODE. RECESSED OUTLET BOXES ON OPPOSITE SIDES OF THE WALL MUST BE SEPARATED BY 24" HORIZONTAL DISTANCE, SOLID FIREBLOCKING, OR WITH UL LISTED PUTTY PADS.

DETAILS FOR MEMBRANE PENETRATIONS IN FIRE & ACOUSTICAL RATED ASSEMBLIES

5
E0.2

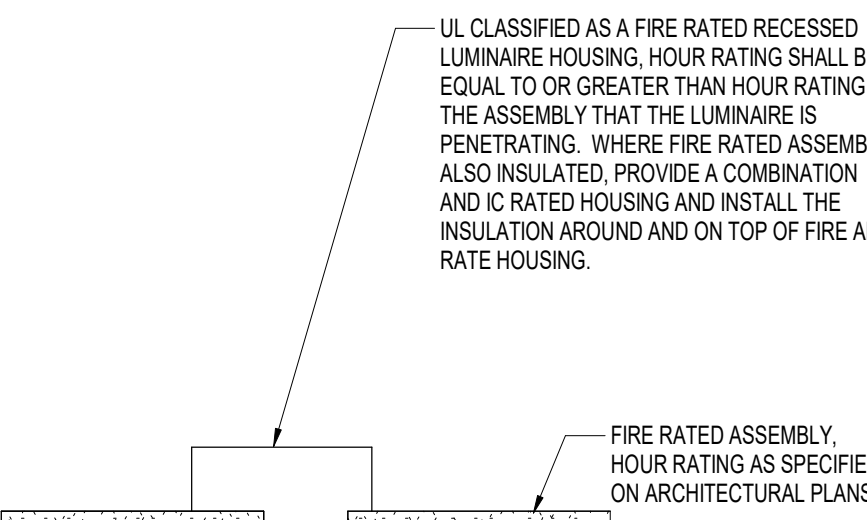
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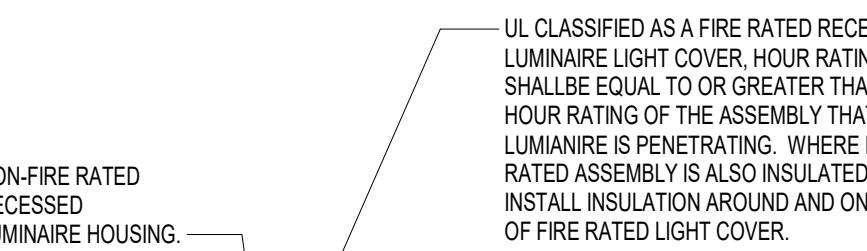
FIRESTOP INSTALLATION DETAIL

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E0.2

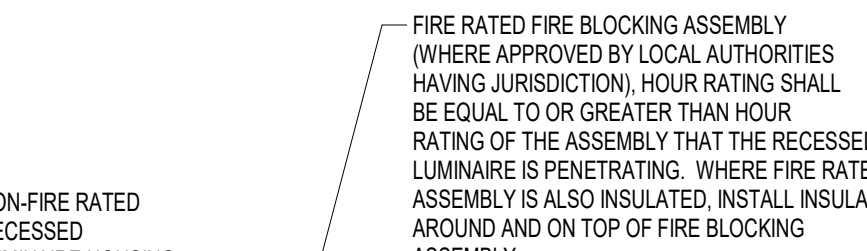
N.T.S.



UL CLASSIFIED FIRE RATED HOUSING DETAIL



UL CLASSIFIED FIRE RATED TENT DETAIL



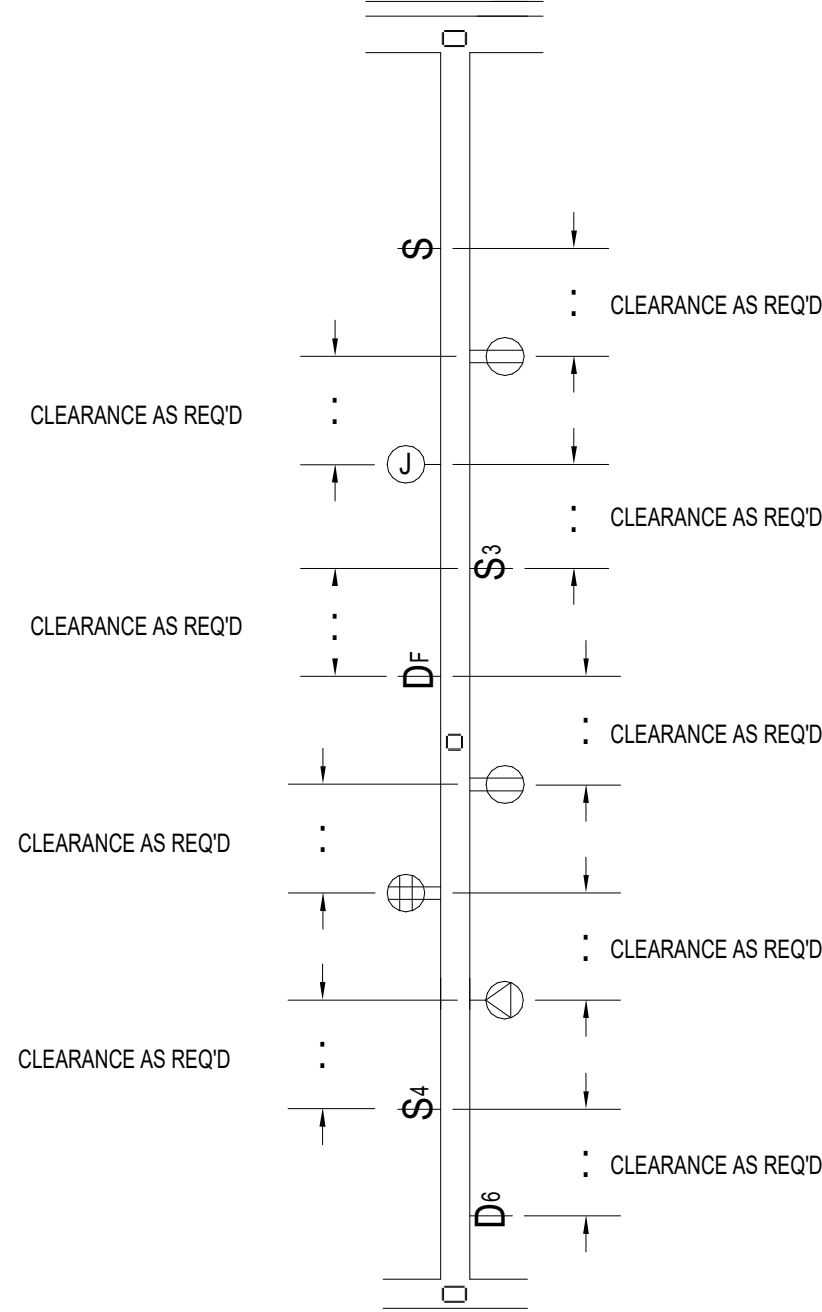
FIREBLOCKING DETAIL

NOTE:
RECESSED LUMINAIRE IN FIRE-RESISTANCE RATED HORIZONTAL ASSEMBLIES ARE MEMBRANE PENETRATIONS AND MUST COMPLY WITH 714.5.1.1 OR 714.5.1.2 OF THE 2021 MARYLAND BUILDING CODE. RECESSED LUMINAIRES SHALL BE INSTALLED SUCH THAT THE REQUIRED FIRE RESISTANCE WILL NOT BE REDUCED.

DETAILS FOR LUMINAIRE PENETRATIONS IN FIRE RATED ASSEMBLIES

3
E0.2

N.T.S.

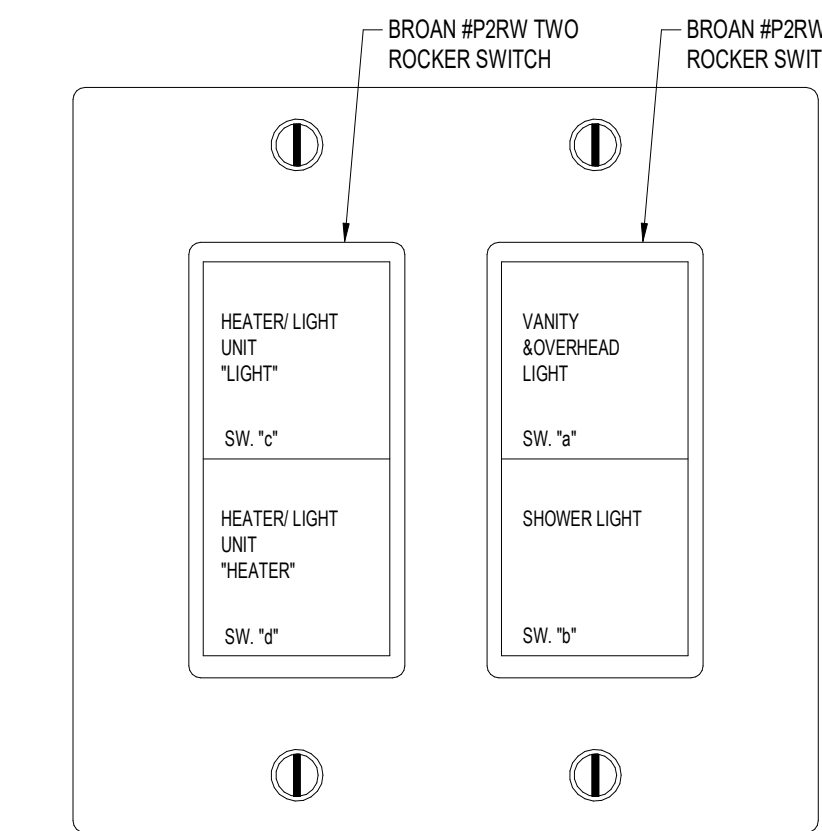


NOTE:
TYPICAL OF RECESSED WALL MOUNTED ELECTRICAL DEVICES LOCATED AT FIRE AND ACOUSTICAL RATED PARTITIONS. REFER TO 'DETAILS FOR MEMBRANE PENETRATIONS IN FIRE & ACOUSTICAL RATED WALLS' ON THIS DRAWING AND TO SPECIFICATIONS.

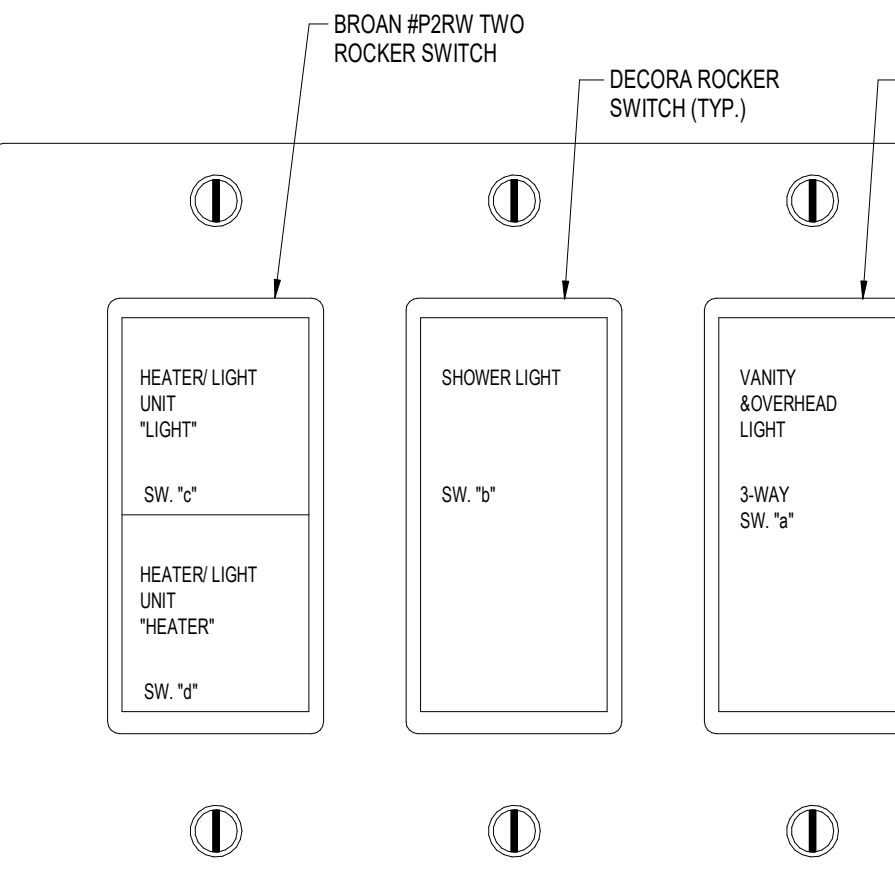
PARTIAL FIRE OR ACOUSTICAL RATED PARTITION

2
E0.2

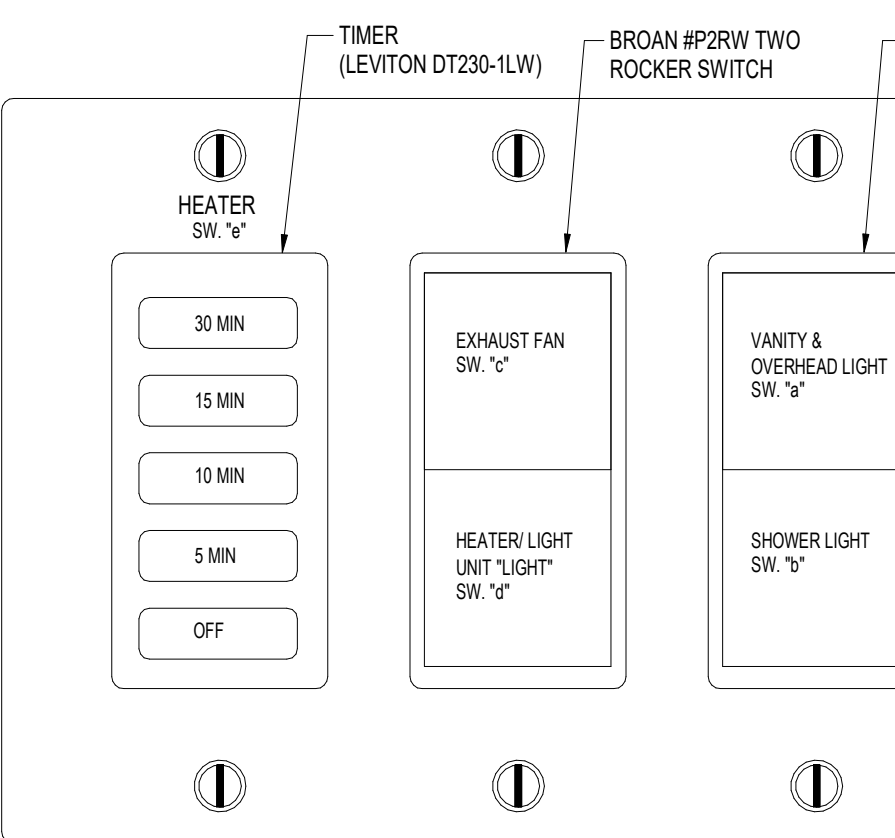
N.T.S.



PLAN SYMBOL: S12



PLAN SYMBOL: S14



PLAN SYMBOL: S13

RESIDENT BATHROOM SWITCH DETAIL

1
E0.2

N.T.S.



Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 64963, Expiration Date: 9/13/2027

PROJECT TITLE

Collington
A KENDAL AFFILIATE
INDEPENDENT LIVING
CONSTRUCTION DOCUMENTS

SFCS Architecture
Engineering
Planning
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DESIGNER : JGB DRAWN : DAH, DKW, JDM
ARCHITECT : KAT, NSS CHECKED : MAY, DAH
ENGINEER : MAW, DAH APPROVED : CW

NO. REVISION DESCRIPTION DATE

DRAWING TITLE
ELECTRICAL DETAILS

DATE: MAY 28, 2026
COMM. NO. 18135.00

E0.2

APPROVAL STAMPS

BASIC ELECTRICAL REQUIREMENTS

1. PART 1 - GENERAL

1.1 ELECTRICAL INSTALLATIONS:

A. In addition to the requirements of the General Conditions, examine areas and conditions for compliance with installation tolerances and other conditions affecting performance of electrical work. Do not proceed with installation until unsatisfactory conditions have been corrected.

B. Install material and equipment in accordance with manufacturer's written installation instructions, applicable requirements of the National Electrical Contractor's Association (NECA) "Standard of Installation" and applicable requirements of National Electrical Code (NEC).

C. Install electrical equipment with National Electrical Code (NEC) required clearances to facilitate maintenance and repair or replacement of equipment components. Connect equipment in such a way as to facilitate future maintenance, with minimum of interference with other items in the vicinity.

D. Coordinate the installation of electrical materials and equipment above ceilings with suspension system, mechanical equipment and systems, and structural components.

E. Accessibility:

1. Furnish, for installation by others, access doors in every location necessary, and as required by Code or equipment manufacturer recommendation whether indicated or not, to allow working access to concealed electrical items which may require operation, inspection, maintenance, or adjustment. Access doors are not required in lay-in panel systems.

F. Sealants:

1. Apply sealant around all exterior mounted electrical devices to provide weatherproofing and pest control.

G. Contractor shall utilize the Construction Documents (CD's) to create MEP Coordination Drawings.

1.2. QUALITY ASSURANCE:

A. Manufacturers: Where a list of manufacturers, or a proprietary item, is not specified, use manufacturer's whose products have been in satisfactory use in similar service for not less than 5 years.

B. Installer's Qualifications: Firms with at least 3 years of successful installation experience on projects utilizing material similar to that required for this project.

C. Codes and Standards: Comply with applicable requirements of the following codes and standards.

1. National Electrical Manufacturers Association (NEMA) Standards.
2. ANS/NFPA 70 - National Electrical Code (NEC).
3. Institute of Electrical and Electronics Engineers (IEEE) Standards.
4. National Electrical Safety Code (NESC).
5. Other applicable ANS/NFPA & UL Standards as required for the project.

D. Provide material and equipment which is listed by Underwriters Laboratories, Inc. (UL) and which bears the UL label. This applies to materials and equipment for which UL Standards have been established and for which label service is regularly furnished. Assemble materials and equipment, for which no UL Product Category exists for the completed unit, with UL-listed components.

1.1. RECORD DOCUMENTS:

A. Mark Drawings to indicate revisions to lighting fixture and wiring device layout, conduit size and location both exterior and interior; actual equipment locations, dimensioned from column lines; concealed equipment, dimensioned from column lines; distribution and branch electrical circuitry; fuse and circuit breaker size and arrangements; support and hanger details; concealed control system devices.

END OF SECTION

SECTION 260519 - LOW VOLTAGE ELECTRICAL POWER CONDUCTORS & CABLE

1. PART 1 - PRODUCTS

1.1. CONDUCTORS AND CABLES:

A. General: Provide electrical conductors and cables of manufacturer's standard materials, as indicated by published product information; designed and constructed as recommended by manufacturer, for a complete installation, and for applications indicated.

B. Line Voltage (100 to 600 volts): Except as otherwise indicated, provide copper conductors with conductivity of not less than 98% at 20C (68). Provide color-coding of conductors. Provide neutral and ground conductor colors as required by the NEC.

1. Provide factory-fabricated copper conductors of sizes, ampacity ratings, and materials for applications and services indicated.

2. Cables: Provide UL-type of materials and jacketing/sheathing as indicated below for services indicated. Select cables with construction features which fulfill project requirements.

2. PART 2 - EXECUTION

2.1. INSTALLATION OF CONDUCTORS, CABLES AND CONNECTORS:

A. Coordinate conductors/cable installation work as necessary to properly interface installation of conductors/cables with other work.

B. Type MC, NM, NMC, and NMS cable shall be used. Only cables with 75 degree centigrade rated insulation will be permitted for connections to equipment requiring larger than 30 amp circuit breakers.

C. Do not install a shared neutral on circuits with ground fault or are fault circuit breakers. The neutral conductor in two and three-circuit shared neutral circuits shall be pigtailed to the device in all feed-through boxes to prevent loss of neutral should the device be removed for any reason in the future.

END OF SECTION 260519

SECTION 260526 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

1. PART 1 - PRODUCTS

2.1. GROUNDING SYSTEMS:

A. General: Except as otherwise indicated, provide electrical grounding and bonding systems in accordance with the NEC 250; with assembly of materials including, but not limited to, conductors/cables, connectors, terminals (solderless lugs), compression connectors, mechanical connectors and/or exothermic process connections, grounding electrodes and bonding jumpers, and additional accessories needed for complete installation. Where materials or components are not indicated, provide products complying with NEC, UL, IEEE and established industry standards for applications indicated. Ground rods and UFER grounds per one-line diagrams on sheet E3.1.

2.1. MISCELLANEOUS MATERIAL

A. Electrical Grounding Connection Accessories: Provide electrical insulating tape, heat-shrinkable insulating tubing, welding materials, bonding jumpers, as recommended by accessories manufacturers for type services indicated.

3. PART 2 - EXECUTION

3.1. INSTALLATION OF ELECTRICAL GROUNDING:

A. Provide equipment grounding conductors per NEC. Size ground conductors in accordance with the NEC.

B. All ground connectors must be provided with a corrosion-inhibiting compound preapplied to the contact surfaces. The compound must be compatible with the conductors accommodated by the connector.

END OF SECTION 260526

SECTION 260533 - RACEWAYS & BOXES FOR ELECTRICAL SYSTEMS

1. PART 1 - PRODUCTS

1.1. OUTLET BOXES:

A. Provide plastic non-gangable outlet boxes, of shapes, cubic inch capacities, and sizes suitable for installation at respective locations. Provide one piece multiple-gang boxes, not built-up. Construct outlet boxes with mounting holes and with cable and conduit-size knockout openings in bottom, ends and sides. Provide boxes with threaded screw holes, with corrosion-resistant cover and grounding screws for fastening surface and device type box covers, and for equipment type grounding.

1.2. INTERIOR JUNCTION AND PULL BOXES:

A. Provide plastic junction and pull boxes, with screw-on covers; of types, shapes and sizes, to suit each respective location and installation. For exterior above-grade locations, provide NEMA 3R boxes with welded seams and equipped with stainless steel nuts, bolts, screws and washers. The number and locations of pullboxes shall be as required by NEC to provide proper support of conductors, where required due to the number of bends in the raceway and where required due to length of raceway to not exceed the maximum pulling tension recommended by the cable manufacturer. Exterior exposed pullboxes shall be provided with screened rain-tight openings to allow heat to escape.

1.3. RACEWAYS: Rigid raceways shall be provided where noted on plans.

2. PART 2 - EXECUTION

2.1. INSTALLATION OF ELECTRICAL BOXES AND FITTINGS:

A. All wall-mounted wiring device boxes shall be mounted with long dimension vertically unless otherwise noted.

B. Do not install boxes back-to-back in walls. Back-to-back boxes may be used for switch outlets next to a cased wall opening (no door).

C. Provide not less than 6" separation between sides of boxes in opposite sides of acoustic walls.

D. Provide membrane protection for penetrations of fire rated walls as required by code:

END OF SECTION 260533

SECTION 262416 - PANELBOARDS

1. PART 1 - PRODUCTS

1. Service entrance rated load centers shall be flush mounted, aluminum bussing, plug-in circuit breakers, insulated neutral & ground bussing. Ground bus shall be copper.

2. Acceptable Manufacturers:

Square D, QO series or equal

END OF SECTION 262416

SECTION 262726 - WIRING DEVICES

1. PART 1 - PRODUCTS

1.1. MANUFACTURERS:

A. Provide wiring devices of one of the following:

1. Receptacles and Switches: Leviton or equal
2. Wallplates: Leviton or equal

1.1. WIRING DEVICES:

A. General:

Provide factory-fabricated wiring devices, in types and electrical ratings for applications indicated. Color selections shall be as noted below.

B. Receptacles:

1. Duplex: Provide residential-grade, tamper proof, duplex receptacles; non-tracking plastic or nylon case; metal plaster ears; side and back wiring with spring-loaded, screw-activated pressure plate; and NEMA configuration 5-20R, unless otherwise indicated.

2. Ground Fault Duplex: Provide residential-grade ground fault duplex receptacles; where noted, grounding type UL-rated Class A, Group 1; solid-state ground fault sensing and signaling with 5 milliamperes ground-fault trip level; NEMA configuration 5-20R, unless otherwise indicated. Receptacles in finished areas shall be decorative style.

C. General Use Switches:

1. Provide residential grade, 120/277 volts AC; quiet type, back and side wiring, 20 ampere rating; spst, dpst, 3 or 4-way maintained contacts in all finished areas.

a. All switches located outside of the room or space where lights are located (i.e., vaults, attic spaces, etc.) shall contain an illuminated rocker plate that is illuminated when load is on.

D. Wallplates: Provide plastic or nylon wallplates for single and combination wiring devices, of types, sizes, and with gangings as indicated and cutouts as required for specified devices. Select plates which mate and match wiring devices to which attached. Construct with metal screws for securing plates to devices; screw heads to match finish of plates. Color of wiring devices and plates shall be as selected by Architect with "White" as a default.

2. PART 2 - EXECUTION

2.1. INSTALLATION OF WIRING DEVICES:

A. Coordinate with other work, including painting, electrical boxes and wiring work, as necessary to interface installation of wiring devices with other work.

B. Install wiring devices only in electrical boxes which are set in wall at depth not greater than permitted by NEC and are clean; free from excess building materials, dirt, and debris.

C. Mount all duplex receptacles vertically with ground slot up, except receptacles noted on the plans to be mounted horizontally, which shall be oriented with ground slot to the left. Unless noted otherwise on the plans all receptacles mounted above kitchen counters or bathroom vanities shall be mounted at 44" above the finished floor to the center of the receptacle.

D. Install wiring devices after wiring work is completed. Provide protective cover over each wiring device installed prior to painting operations.

E. Install wallplates after painting work is completed and remove all protective covers.

END OF SECTION 262726

SECTION 265000 - LIGHTING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Luminaires.
2. Luminaire fittings.
3. Electric-discharge lamp control equipment.
4. Lamps.

B. Related Requirements:

1. Section 260010 "Supplemental Requirements for Electrical" specifies additional abbreviations, definitions, submittals, qualifications, testing agencies, and other Project requirements applicable to Work specified in this Section.
2. Section 260519 "Low-Voltage Electrical Power Conductors and Cables" specifies wiring connections installed by this Section.

1.2 DEFINITIONS

A. Correlated Color Temperature (CCT): The absolute temperature (in kelvins) of a blackbody whose chromaticity (color quality) most nearly resembles that of the light source.

B. Color Rendering Index (CRI): The measure of the degree of color shift objects undergo when illuminated by the light source as compared with the color of those same objects when illuminated by a reference light source. The lower the CRI of a light source, the more difficult it is to identify colors and stripes on electronic components and wiring.

1.3 ACTION SUBMITTALS

A. Product Data:

1. For luminaires.

a. Product Listing: Include copy of unexpired approval letter, on letterhead of qualified electrical testing agency, certifying product's compliance with specified listing criteria.

- 1) If listed manufacturer differs from selling manufacturer, indicate relationship between entities on submittal. Clearly indicate which entity warrants product performance and fitness for purpose.
- 2) Listing criteria identified in approval letter must match specified listing criteria. Approval of only equipment's enclosure is not considered approval of equipment for intended application.
- 3) Product identification in approval letter must match product branding and model numbers in submittal. Approval letters for similar products are not acceptable.

- a. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
- b. Include operating characteristics, electrical characteristics, and furnished accessories.
- c. Include schedule of submitted lighting products. Arrange schedule and accompanying product data in order by luminaire and lamp designations indicated on Drawings.
- d. Include battery and charger data for emergency lighting units.
- f. Include life, output (lumens, CCT, and CRI), and energy-efficiency data.
- h. Include manufacturer's sample warranty language.

2. For lamps.

a. Product Listing: Include copy of unexpired approval letter, on letterhead of qualified electrical testing agency, certifying product's compliance with specified listing criteria.

- 1) If listed manufacturer differs from selling manufacturer, indicate relationship between entities on submittal. Clearly indicate which entity warrants product performance and fitness for purpose.
 - 2) Listing criteria identified in approval letter must match specified listing criteria. Approval of only equipment's enclosure is not considered approval of equipment for intended application.
 - 3) Product identification in approval letter must match product branding and model numbers in submittal. Approval letters for similar products are not acceptable.
- a. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
 - c. Include operating characteristics, electrical characteristics, and furnished accessories.
 - d. Include schedule of submitted lighting products. Arrange schedule and accompanying product data in order by luminaire and lamp designations indicated on Drawings.
 - e. Include life, output (lumens, CCT, and CRI), and energy-efficiency data.
 - f. Include manufacturer's sample warranty language.

1.4 CLOSEOUT SUBMITTALS

A. Warranty documentation.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Spare parts.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Protect exposed surface finishes on lighting equipment by applying strippable, temporary protective covering before shipping.

1.7 WARRANTY FOR LUMINAIRES

A. Special Installer Extended Warranty: Installer warrants that fabricated and installed luminaires perform in accordance with specified requirements and agrees to repair or replace products that fail to perform as specified within extended-warranty period. Warranty must convey to Owner upon acceptance of the Work.

1. Extended-Warranty Period: Two years from date of Substantial Completion; full coverage for labor, materials, and equipment.
- B. Special Manufacturer Extended Warranty: Manufacturer warrants that luminaires perform in accordance with specified requirements and agrees to provide repair or replacement of products that fail to perform as specified within extended-warranty period.
1. Extended-Warranty Period: Five years from date of Substantial Completion; full coverage for labor, materials, and equipment.

1.8 WARRANTY FOR BATTERIES

A. Special Manufacturer Extended Warranty for Batteries: Manufacturer warrants that batteries perform in accordance with specified requirements and agrees to provide repair or replacement of batteries that fail to perform as specified within extended-warranty period.

1. Initial Extended-Warranty Period for Li-ion Batteries: Five years from date of Substantial Completion; full coverage for materials only, free on board origin, freight prepaid.
2. Initial Extended-Warranty Period for Ni-Cd Batteries: Five years from date of Substantial Completion; full coverage for materials only, free on board origin, freight prepaid.

PART 2 - PRODUCTS

2.1 LUMINAIRES

A. Performance Criteria:

1. Regulatory Requirements:
 - a. Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
 - b. See individual product types below for listing criteria.
 - c. Marked in accordance with UL CCN HYXT, including UL 1598, for compatible power supply, installation location, and environmental conditions.
- B. Source Quality Control:
 1. Compile and submit product data.

END OF SECTION 265000



Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 64963, Expiration Date: 9/30/2027

PROJECT TITLE

Collington
A KENDAL AFFILIATE
**INDEPENDENT LIVING
CONSTRUCTION DOCUMENTS**

SFCS | Architecture
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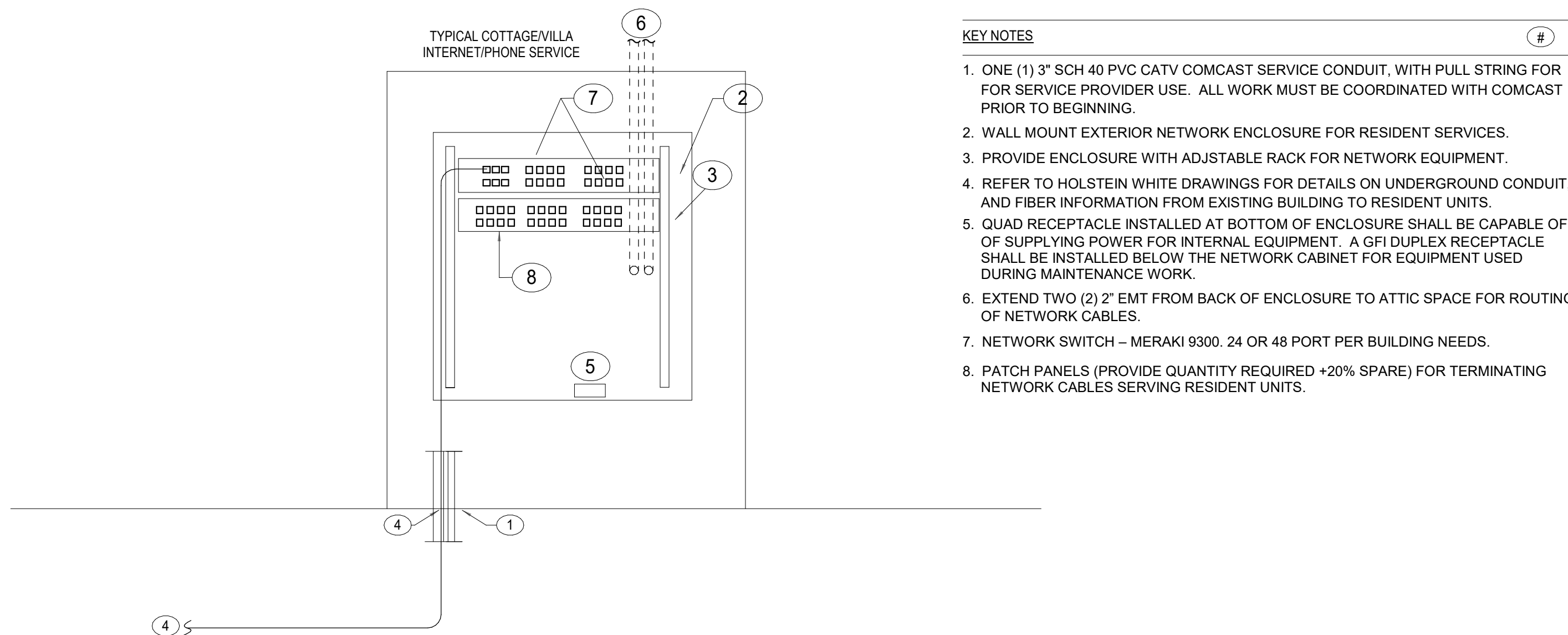
DESIGNER : JGB	DRAWN : DAH, DKW, JDM
ARCHITECT : KAT, NSS	CHECKED : MAW, DAH
ENGINEER : MAW, DAH	APPROVED : CMW

NO.	REVISION DESCRIPTION	DATE
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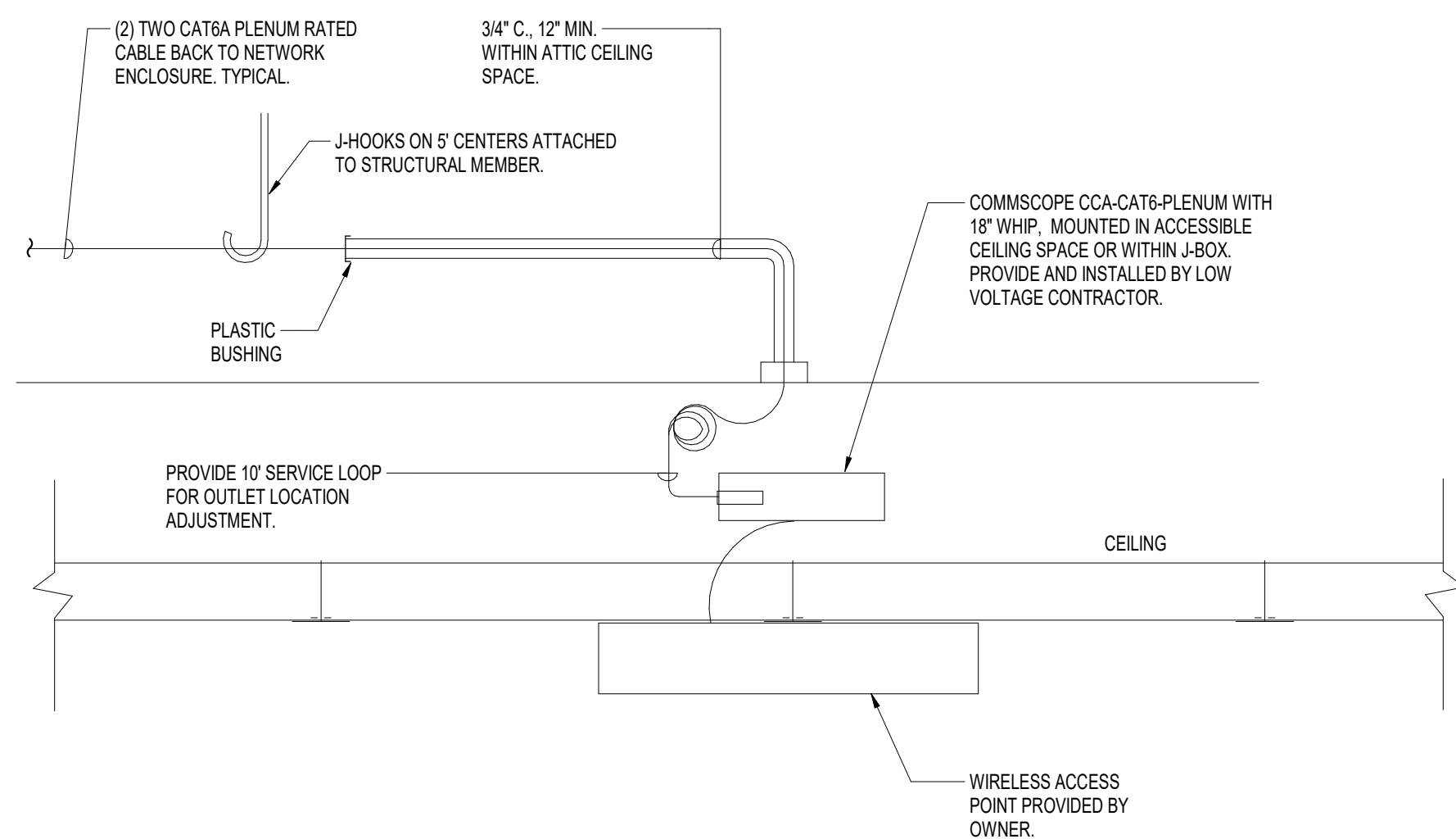
DRAWING TITLE
**ELECTRICAL
SPECIFICATIONS**

DATE:	MAY 28, 2026	DRAWING
COMM. NO.	18135.00	

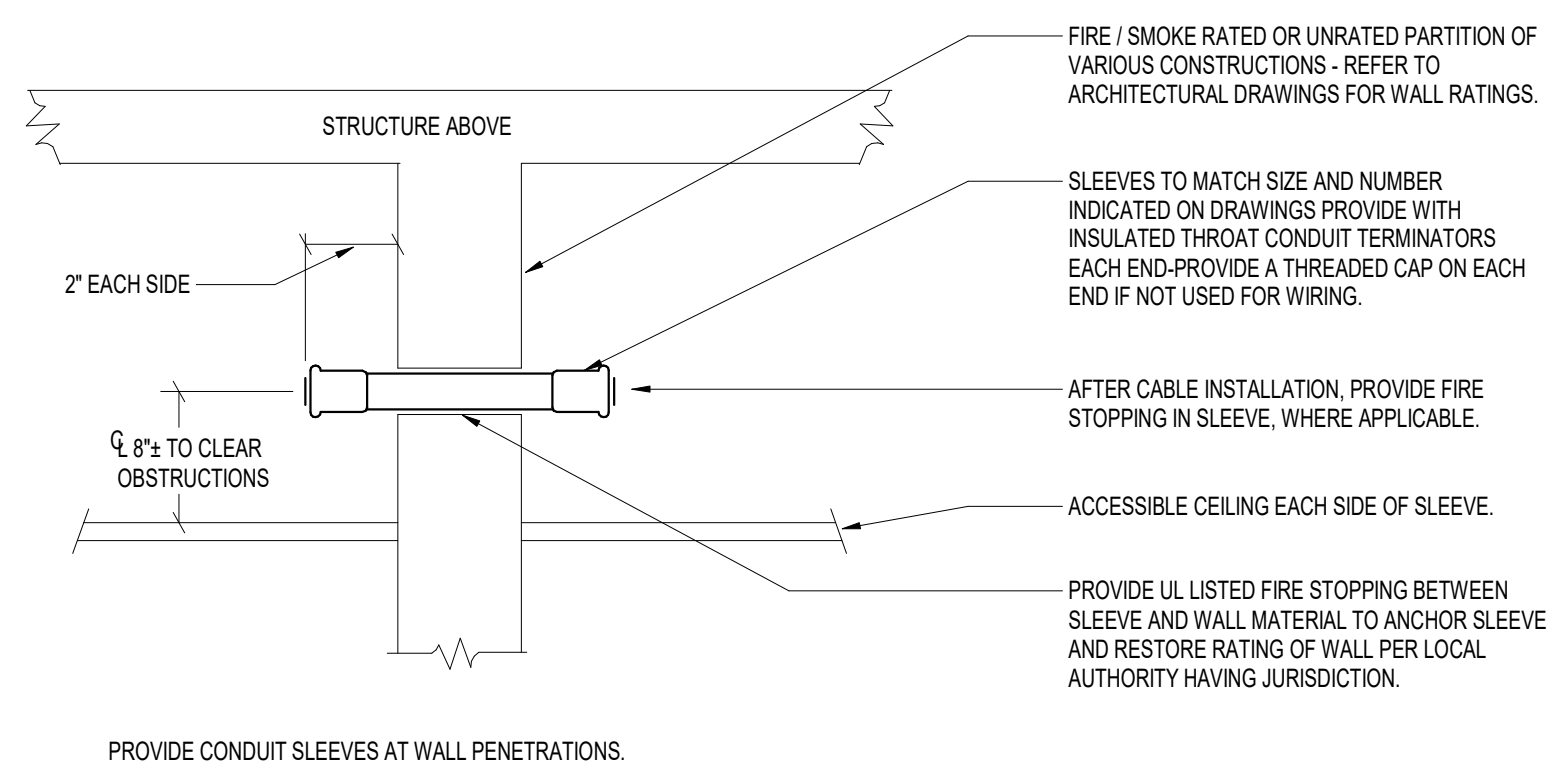
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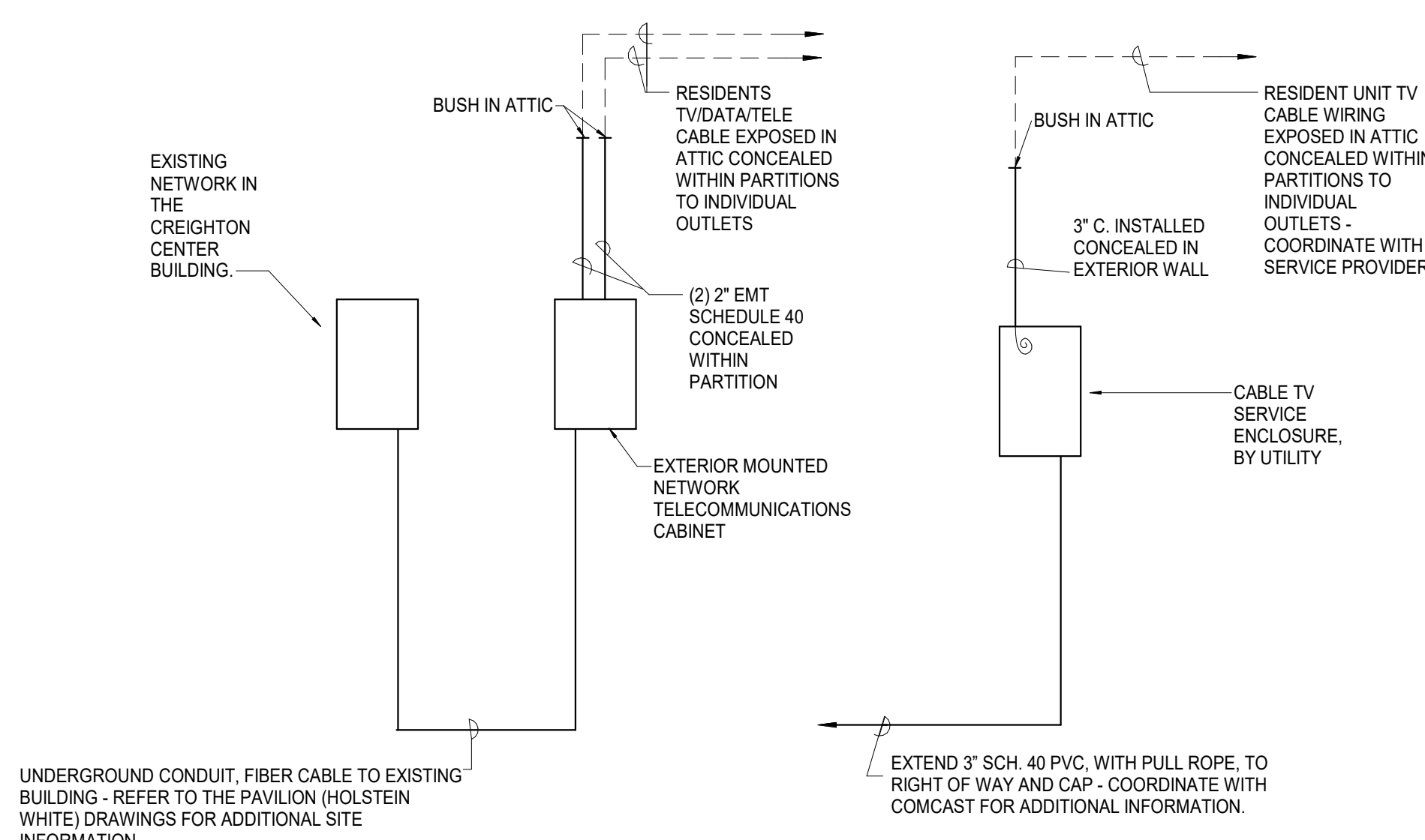
4 LOW VOLTAGE - NETWORK CABINET
E0.5 N.T.S.



1 TYPICAL WIRELESS ACCESS POINT DETAIL
E0.5 N.T.S.



3 CONDUIT SLEEVE PENETRATION DETAIL
E0.5 N.T.S.



2 TYPICAL TELECOMM / CATV RISER DIAGRAM
E0.5 N.T.S.



Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 64963, Expiration Date: 9/30/2027

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DESIGNER : JGB	DRAWN : DAH, DKW, JDM
ARCHITECT : KAT, NSS	CHECKED : MAW, DAH
ENGINEER : MAW, DAH	APPROVED : CMW

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE
LOW VOLTAGE DETAILS

DATE: MAY 28, 2026	DRAWING
COMM. NO. 18135.00	E0.5

APPROVAL STAMPS

SECTION 270000 — GENERAL REQUIREMENTS FOR COMMUNICATIONS SYSTEMS

PART 1 — GENERAL

1.1 CONTRACT DOCUMENTS

- A. The specifications and the applicable drawings shall be considered complementary, one to the other. All workmanship and/or materials described or implied by one and not described or implied by the other shall be furnished as if they appeared in both sets of documents.
- B. The design drawings are diagrammatic and are not intended to include every detail of construction, materials, methods, and equipment. They indicate the total result to be achieved by an assemblage of various systems.
- C. Locations designated for outlets, devices, equipment etc. are approximate and shall be verified by instructions in these specifications and/or notes on the drawings. Where instructions or notes are insufficient to convey the intent of the design, or where the locations shown conflict with the work of other trades, consult the Engineer.
- D. Whenever the term "Contractor" is used in Division 27 of the specifications, it shall mean the respective Division 27 Contractor. Whenever the word "provide" is used it shall mean to furnish, install, test and place in operation.

1.2 SUMMARY

- A. This section includes general administrative and procedural requirements for work scope provided for in specification sections in Division 27.

1.3 DESCRIPTION

- A. The work included in Division 27 of the specifications is described and defined in general under this section.
- B. The work included under these specifications consists of the provision of all labor, supervision, tools, suppliers, materials, equipment, and operations required to complete, test and commission the electrical installations in accordance with the contract documents.
- C. Submission of a Bid Proposal is considered evidence that a contractor has visited the site, examined the drawings and specifications of all Trades and has fully informed himself as to project and site conditions and is proficient, experienced and knowledgeable of all state, local and federal standards, codes, ordinances, permits and regulations which affect every subcontractor trade's completion, cost and time required and that all costs are included in his Bid Proposal.
- D. Contractor shall always be responsible in charge of the work during construction and a competent Field Superintendent with experience in the work to be installed under this contract.
- E. Where a conflict is found to occur between the drawings and specifications it shall be immediately brought to the Engineer's attention.
- F. All products shall be installed per the manufacturers' written instructions. Where a conflict exists between the contract documents and the manufacturer's instructions, the engineer shall be notified immediately to resolve the conflict.

1.4 CODES AND REFERENCES

- A. All work and materials shall comply with all applicable state codes, local ordinances, industry standards, specifications, utility company regulations, and the applicable requirements of the following codes and standards:
1. NFPA 70 — National Electrical Code 2020 — Maryland Electrical Code based on the NFPA 70, 2020 with amendments.
 2. The Institute of Electrical and Electronic Engineers, Inc. (IEEE).
 3. BICSI — Telecommunications Distribution Methods Manual (TDMM) 14th Edition
 4. Underwriters Laboratories (UL).
- B. All material provided, and work performed shall comply with the requirements of applicable state codes, local ordinances, industry standards, specifications, service provider regulations, and listed codes and standards. The contractor shall bear all costs arising in correcting the deficiencies and any work found to be not in compliance with applicable codes or standards.
- C. Should the drawings or specifications call for sizes and grades different than required by the governing code, this Contractor shall furnish and install the larger size of the higher grade.
- D. Reference made to applicable federal, state, and local codes refer to standards and code bodies listed below and shall apply to all electrical work. Where standards or codes are mentioned in these specifications, the latest edition or revision shall be followed.
1. American National Standard Institute (ANSI)
 2. Institute of Electrical and Electronic Engineers, Inc. (IEEE)
 3. National Electrical Manufacturer's Association (NEMA)
 4. Underwriter's Laboratories (U.L.)
 5. National Fire Protection Association (NFPA)

1.5 WARRANTIES

- A. All materials, items or equipment and workmanship furnished under each section shall carry a one calendar year after the date of final acceptance (except where specific, longer periods are specified) warranty against all defects in material and workmanship. Any fault due to defective or improper material, equipment, workmanship, or design which may develop shall be made good, forthwith, by and at the expense of the contractor including all other damage done to areas, materials and other systems resulting from this failure.
- B. The contractor shall guarantee that all elements of the system provided under contract are of sufficient capacity to meet the specified performance requirements as set forth herein or as indicated in the drawings.

1.6 GENERAL COORDINATION AND SCHEDULING OF WORK

- A. The contractor shall coordinate his drawings and specifications with those of other trades and architectural/engineering drawings and specifications. Before installation, the contractor shall make necessary provisions to avoid interference. All changes caused by the contractor's neglect or lack of planning, understanding the complexity of this project, or owner's instructions shall be made at the contractor's expense.
- B. The contractor shall coordinate his work with other trades' work so that all equipment and systems can be easily, safely, and properly serviced and maintained. It is essential that service personnel can safely access all equipment. Provide safety rails, steps, ladders, etc. as required.
- C. Locations of wiring, outlet boxes, conduits, and equipment shall be adjusted to accommodate all work with interferences anticipated and encountered during installation. Each contractor shall determine the exact routing and location of his system prior to fabrication or installation of any system component. Accurate measurements will have to be completed to verify dimensions and characteristics of the various systems' installations.
- D. Electrical systems and equipment called for in the specification and/or shown on the drawings shall be provided under this contract as if it were required by both the drawings and specifications. However, prior to ordering or installation of any portion of work which appears to be in conflict, such work shall be brought to the Engineer's attention for direction as to what is to be provided.
- E. Sequence, coordinate and integrate installations of electrical materials and equipment for efficient flow of the work. Coordinate installation of large equipment requiring positioning before closing in the building.
- F. Final location of all ceiling components, and wall mounted components that are visible in the public spaces, shall be coordinated with the Architectural reflected ceiling plans and/or other architectural features of the space.

1.7 RECORD DOCUMENTS

- A. The contractor shall maintain onsite throughout construction a current set of drawings on which he shall accurately show the actual installation of all work. Prepare these record drawings in accordance with this specification and the requirements in Division 1.
- B. Record drawings shall indicate any variation from working drawings that occurred during construction. Include revisions made to any portion of the Divisions 27 work.
- C. Upon completion of the project, the contractor shall submit marked-up drawings to the Engineer for review and comment. After the engineer reviews and comments on this set of documents, the contractor shall prepare record drawings.
- D. In addition to the requirements specified in Division 1, indicate the following installed conditions:

1. Major raceway systems, size, and location, for both exterior and interior devices and equipment.
2. Equipment locations (exposed and concealed), dimensioned from prominent building lines.
3. Approved substitutions, contract modifications, and actual equipment and materials installed.

1.8 MAINTENANCE MANUALS

- A. Prepare maintenance manuals in accordance with Division 1. In addition to the requirements specified in Division 1, include the following information for equipment items:
1. Description of function, normal operating characteristics and limitations, performance curves, engineering data and tests, and complete nomenclature and commercial numbers of replacement parts.
 2. Manufacturer's printed operating procedures to include start-up, break-in, and routine and normal operating instructions; regulation, control, stopping, shutdown, and emergency instructions; and summer and winter operating instructions.
 3. Maintenance procedures for routine preventative maintenance and troubleshooting; disassembly, repair, and reassembly; aligning and adjusting instructions.
 4. Servicing instructions, charts, and schedules.

PART 2 - PRODUCTS - REFER TO INDIVIDUAL SECTIONS AND BELOW

2.1 EQUIPMENT SPECIFICATIONS

- A. Where new systems or components are specified to match the owner's existing system or require integration into existing systems and specific manufacturers and models are specified, provide as specified. Substitutions will not be accepted.

PART 3 - EXECUTION

3.1 COMPLETION OF WORK

- A. Systems Verifications: The Installer shall start up, adjust, and operate every phase of Division 27 equipment for verification that each system is complete and operational. All equipment shall be operated separately or in conjunction one with the other, for a sufficient period to demonstrate to the entire satisfaction of the Owner's Representative the ability of the equipment to meet capacity and performance requirements while maintaining design conditions as shown on the Construction Documents.

END OF SECTION 270000

SECTION 270528 - PATHWAYS FOR COMMUNICATIONS SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
1. Nonmetallic conduits and fittings.
 2. Metal conduits and fittings.

PART 2 - PRODUCTS

2.1 METAL CONDUITS AND FITTINGS

- A. General Requirements for Metal Conduits and Fittings:
1. Listed and labeled as defined in NFPA 70, by a nationally recognized testing laboratory, and marked for intended location and application.
 2. Comply with TIA-569-D.
- B. EMT: Comply with ANSI C80.3 and UL 797.
- C. Fittings for Metal Conduit: Comply with NEMA FB 1 and UL 514B.

2.2 NONMETALLIC CONDUITS AND FITTINGS

- A. General Requirements for Nonmetallic Conduits and Fittings:
1. Listed and labeled as defined in NFPA 70, by an NRTL, and marked for intended location and application.
 2. Comply with TIA-569-D.
- B. Continuous HDPE: Comply with UL 651A.
- C. Fittings: Comply with NEMA TC 3; match to conduit or tubing type and material.
- D. Solvents and Adhesives: As recommended by conduit manufacturer.

PART 3 - EXECUTION

3.1 PATHWAY APPLICATION

- A. Minimum Pathway Size: 3/4-inch trade size for copper and aluminum cables, and 1 inch for optical-fiber cables.

3.2 INSTALLATION

- A. Comply with the following standards for installation requirements except where requirements on Drawings or in this Section are stricter:
1. NECA 1.
 2. NECA/BICSI 568.
 3. TIA-569-D.
 4. NECA 101, NECA 102, NECA 111.
- B. Comply with NFPA 70 limitations for types of pathways allowed in specific occupancies.
- C. Install pathway-sealing fittings at accessible locations according to NFPA 70 and fill them with listed sealing compound. For concealed pathways, install each fitting in a flush steel box with a blank cover plate having a finish similar to that of adjacent plates or surfaces. Install pathway-sealing fittings according to NFPA 70.
- D. Mount boxes at heights indicated on Drawings. If the mounting heights of boxes are not individually indicated, give priority to ADA requirements. Install boxes with height measured to center of box unless otherwise indicated.
- E. Horizontally separate boxes mounted on opposite sides of walls, so they are not in the same vertical channel.

END OF SECTION 270528

SECTION 270544 - SLEEVES AND SLEEVE SEALS FOR COMMUNICATIONS PATHWAYS AND CABLING

PART 1 - GENERAL

PART 2 - PRODUCTS

2.1 ROUND SLEEVES

- A. Wall Sleeves, Steel:
1. Description: ASTM A53/A53M, Type E, Grade B, Schedule 40, zinc coated, plain ends and integral waterstop.
- B. Pipe Sleeves, PVC

2.2 FIRE BARRIER SEALANTS

1. Description: 3M Fire Barrier High Performance Sealant, ready to use, gun grade, latex based, intumescent sealant that expands forming a monolithic firestop when dry. Product shall be capable of expanding a minimum of three times its dried volume when exposed to temperatures above 1000 degrees. Firestop all fire-rated floors/ceilings, wall assemblies and any other fire rated interiors. Product shall exhibit full adhesion to a range of construction materials and be listed by independent agencies such as UL, Intertek or FM.

END OF SECTION 270544

SECTION 271513 - COMMUNICATIONS COPPER HORIZONTAL CABLING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
1. Category 6A twisted pair cable.
 2. Coax cable
 3. Twisted pair cable hardware, including plugs and jacks.
 4. Coax cable hardware and connectors
 5. Cabling identification products.
 6. Source quality control requirements for twisted pair cable.

1.2 COPPER HORIZONTAL CABLING DESCRIPTION

- A. Provide horizontal cabling system to provide interconnections between crossconnect locations and the equipment outlet.
- B. The maximum allowable horizontal cable length is 295 feet. This maximum allowable length does not include an allowance for the length of 16 feet to the workstation equipment or in the horizontal cross-connect.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

1.4 QUALITY ASSURANCE

- B. Installer shall be certified by the product manufacturer for installation and testing of the cable system.

1.5 DELIVERY, STORAGE, AND HANDLING

1. Test cables upon receipt at Project site. Test each pair of twisted pair cable for open and short circuits.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. General Performance: Horizontal cabling system shall comply with transmission standards in TIA-568-C.1, when tested according to test procedures of this standard.
- B. Telecommunications Pathways and Spaces: Comply with TIA-569-D.
- C. Grounding: Comply with TIA-607-D.
- 2.2 GENERAL CABLE CHARACTERISTICS
- A. Listed and labeled by an NRTL acceptable to authorities having jurisdiction as complying with the applicable standard and NFPA 70.
- B. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings from an applicable testing agency.
- C. RoHS compliant.

2.3 CATEGORY 6A TWISTED PAIR CABLE

- A. Description: Four-pair, balanced-twisted pair cable, certified to meet transmission characteristics of Category 6A cable with minimum frequencies 250MHz.
- B. Standard: Comply with NEMA WC 66/ICEA S-116-732 and TIA-568-C.2 for Category 6A cables.
- C. Jacket: PVC; Color coded: Refer to Symbols Legend drawing.
- D. Insulation: FEP - Fluorinated Ethylene Propylene
- E. Conductors: 100-ohm, 23 AWG solid copper.

2.4 COAXIAL CABLE

- A. General Coaxial-Cable Requirements: Broadband type, recommended by cable TV provider. Coaxial cable and accessories shall have 75-ohm nominal impedance with a return loss of 20 db maximum from 7 to 806 MHz.
- B. RG-6/U: NFPA 70, Type CATV or CM.
- C. NFPA and UL Compliance: Coaxial cables shall be listed and labeled by an NRTL acceptable to authorities having jurisdiction as complying with UL 1655 and with NFPA 70, Article 820 and Article 830.

2.5 TWISTED PAIR CABLE HARDWARE

- A. Description: Hardware designed to connect, splice, and terminate twisted pair copper communications cables.
- B. General Requirements for Twisted Pair Cable Hardware:
1. Comply with the performance requirements of Category 6A.
 2. Comply with TIA-568-C.2, IDC type, with modules designed for punch-down caps or tools.
 3. Cables shall be terminated with connecting hardware of the same category or higher.
- C. Source Limitations: Obtain twisted pair cable hardware from single source from single manufacturer.
- D. Modular panels housing numbered jack units with IDC-type connectors at each jack location for permanent termination of pair groups of installed cables.
1. Features:
 - a. Universal T568A and T568B wiring labels.
- E. Patch Cords: Factory-made, Cat 6A four-pair cables terminated with an eight-position modular plug at each end.
- F. Plugs and Plug Assemblies:
1. Male: eight positions; color-coded modular telecommunications connector designed for termination of a single four-pair, 100-ohm, unshielded or shielded twisted pair cable.
- G. Jacks and Jack Assemblies:
1. Female: eight positions; modular; fixed telecommunications connector designed for termination of a single four-pair, 100-ohm, unshielded or shielded twisted pair cable.
 2. Designed to snap-in to a faceplate.
 3. Standard: Comply with TIA-568-C.2.
- J. Faceplate:
1. Plastic Faceplate: High-impact plastic. Coordinate color with Section 262726 "Wiring Devices."
 2. For use with snap-in jacks accommodating any combination of twisted pair, optical fiber, and coaxial work area cords.
- L. Legend:
1. Provide labels with machine-printed labels.

2.6 COAX CABLE HARDWARE

- A. Provide F-type fittings for RG-6/U Coaxial-Cable Connectors as per detail.

2.7 IDENTIFICATION PRODUCTS

- A. Comply with TIA-606-B and UL 969 for a system of labeling materials, including label stocks, laminating adhesives, and inks used by printers.

2.8 GROUNDING

- A. Refer to Electrical Specifications. Comply with TIA-607-D.

2.9 SOURCE QUALITY CONTROL

- A. Factory test cables on reels according to TIA-568-C.1.
- B. Factory test twisted pair cables according to TIA-568-C.2.
- C. Cable will be considered defective if it does not pass tests and inspections.
- D. Prepare test and inspection reports.

PART 3 - EXECUTION

3.1 WIRING METHODS

- A. In dwelling units, horizontal cables between outlet locations and the communications service enclosure may be installed as open cable within the wall framing and in the space above drywall ceilings. Where cable passes through metal framing members, vertically or horizontally, provide plastic busing to protect cable from sharp edges.
- B. Wiring within Enclosures: Bundle, lace, and train cables within enclosures.
- C. Extend Cables from the dwelling unit to the network cabinet at the respective building through the attic space. Bundle and support cables with J-hooks.

3.2 INSTALLATION OF TWISTED-PAIR HORIZONTAL CABLES

- A. Comply with NECA 1 and NECA/BICSI 568.
- B. General Requirements for Cabling:
1. Comply with TIA-568-C.0, TIA-568-C.1, and TIA-568-C.2.
 2. Comply with BICSI's "Information Transport Systems Installation Methods Manual (ITSIMM), Ch. 5, "Copper Structured Cabling Systems," "Cable Termination Practices" Section.
 3. Pulling Cable: Comply with BICSI Information Transport Systems Installation Methods Manual, Ch. 5, "Copper Structured Cabling Systems," "Pulling and Installing Cable" Section. Monitor cable pull tensions.
- C. Separation from EMI Sources:
1. Comply with recommendations from BICSI's "Telecommunications Distribution Methods Manual" and TIA-569-D for separating unshielded copper communication cable from potential EMI sources, including electrical power lines and equipment.

3.3 FIRESTOPPING

- A. Comply with TIA-569-D, Annex A, "Firestopping."

3.4 IDENTIFICATION

- A. Cable and Wire Identification:
1. Label each cable within 4 inches of each termination, where it is accessible in a cabinet or junction or outlet box, and elsewhere as indicated.
 2. Label each terminal strip, and screw terminal in cabinet or panel.
- B. Labels shall be preprinted or computer-printed type, with a printing area and font color that contrast with cable jacket color but still comply with TIA-606-B requirements for the following:
1. Cables use flexible vinyl or polyester that flexes as cables are bent.

3.5 FIELD QUALITY CONTROL

- A. Tests and Inspections:
1. Visually inspect jacket materials for NRTL certification markings. Inspect cabling terminations in communications equipment rooms for compliance with color-coding for pin assignments and inspect cabling connections for compliance with TIA-568-C.1.
 2. Testing shall be in accordance with the field test specifications defined in ANSI/TIA-568-C.2 Commercial Balanced Twisted-Pair Telecommunications Cabling and Components Standard.
 3. The final and passing result of the tests for all links shall be provided in the test results and documented per requirements.
 4. Test instruments shall meet or exceed applicable requirements in TIA-568-C.2. Perform tests with a tester that complies with performance requirements in "Test Instruments (Normative)" Annex, complying with measurement accuracy specified in "Measurement Accuracy (Informative)" Annex. Use only test cords and adapters that are qualified by test equipment manufacturer for channel or link test configuration.
 5. The test equipment (tester) shall comply with the accuracy requirements for level III field testers as defined in ANSI/TIA-1152. The tester including the appropriate interface adapter must meet the specified accuracy requirements. The accuracy requirements for the permanent link test configuration (baseline accuracy plus adapter contribution) are specified in Table 3 of ANSI/TIA-1152 (Table 3 in this TIA document also specifies the accuracy requirements for the Channel configuration).
 6. The RJ45 test plug shall fall within the values specified in ANSI/TIA-568-C Annex C for NEXT, FEXT and Return Loss. The Pass or Fail condition for the link-under-test is determined by the results of the required individual tests (detailed in Section 4.2.2 of ANSI/TIA-1152). Any Fail or Fail* result yields 12 of 24 a Fail for the link-under-test. To achieve an overall Pass condition, the results for each individual test parameter must Pass or Pass*.
 7. Data for each measurement shall be documented. Data for submittals shall be printed in a summary report that is formatted similarly to Table 10.1 in BICSI's "Telecommunications Distribution Methods Manual," or shall be transferred from the instrument to the computer, saved as PDF format files, printed, and submitted to the engineer in hard copy and digital format.
- C. End-to-end cabling will be considered defective if it does not pass tests and inspections.

END OF SECTION 271513



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PROJECT TITLE

Collington
A KENDAL AFFILIATE
INDEPENDENT LIVING
CONSTRUCTION DOCUMENTS

SFCS | Architecture
Engineering
Planning
Interiors
SFCS Inc. • 1777 Sentry Parkway West
Suite 220, VEVA 17
Blue Bell, Pennsylvania 19422
610.825.1288
www.sfcs.com

DESIGNER :	JGB	DRAWN :	DAH, DKW, JEM
ARCHITECT :	KAT, NSS	CHECKED :	MAW, DAH
ENGINEER :	MAW, DAH	APPROVED :	CW

NO.	REVISION	DESCRIPTION	DATE
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DRAWING TITLE
**LOW VOLTAGE
SPECIFICATIONS**

DATE:	MAY 28, 2026	DRAWING
COMM. NO.	18135.00	

E0.6

APPROVAL STAMPS



1
ES1.1 ELECTRICAL - SITE PLAN
1" = 40'-0"

GENERAL NOTES

PLAN NOTES



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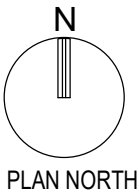
NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

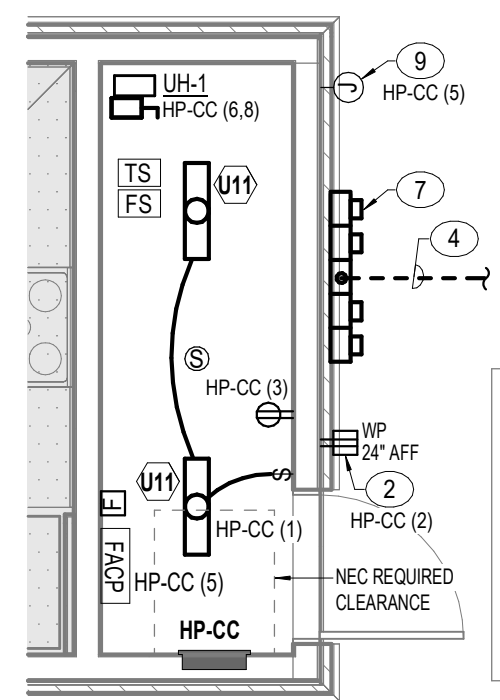
ELECTRICAL - SITE PLAN

DATE:	MAY 28, 2026	DRAWING
COMM. NO.	18135.00	

ES1.1



APPROVAL STAMPS



KEY PLAN

TRUE NORTH

GENERAL NOTES

1. REFER TO SHEET WITH THE ENLARGED PLANS FOR ADDITIONAL UNIT PLAN INFORMATION.

PLAN NOTES

1. QUAD RECEPTACLE INSTALLED AT BOTTOM OF LOW VOLTAGE NETWORK CABINET ENCLOSURE TO SERVE COTTAGES. COORDINATE EXACT LOCATION WITH LOW VOLTAGE CONTRACTOR.
2. DUPLEX GFI / WIP RECEPTACLE INSTALLED FOR MAINTENANCE WORK.
3. PROVIDE NETWORK CABINET TO SERVE NETWORK CABLES FROM RESIDENT UNITS. EACH CABINET SHALL BE ALUMINUM, WEATHERPROOF, NEMA 3R, WITH GARGETED DOOR. CABINET UNIT SHALL INCLUDE A 1P / 100V EQUIPMENT RACK, 20A QUAD RECEPTACLE, GROUNDING TERMINAL, COOLING FAN, INSULATION, LOCKABLE DOOR LATCH, AND ALL STAINLESS STEEL HARDWARE. UNIT TO INCLUDE A METER AND SWITCH PATCH PANELS, FIBER AND COPPER, PATCH CABLES, ETC. FOR TERMINATION OF FIBER AND CAT6 CABLES. NETWORK CABINET SHALL BE AN AP MINORITY ENCLOSURE 37H X 28W X 22D WITH VENTS AND INLET FILL TERS (AND 2002-18R1) OR EQUAL. COORDINATE LOCATION WITH OWNER PRIOR TO ROUGH-IN.
4. UNDERGROUND SERVICE LATERAL PROVIDED AND INSTALLED BY PERCO TO NEAREST SITE UTILITY TRANSFORMER.
5. 3 GANG METER SOCKET (1) METER FOR EACH COTTAGE. REFER TO CEDAR CROSSING ONE-LINE DIAGRAM ON SHEET E3.1.
6. 3 GANG METER SOCKET (1) METER FOR EACH COTTAGE. REFER TO CEDAR CROSSING NORTH SIDE ONE-LINE DIAGRAM ON SHEET E3.1.
7. 4 GANG METER SOCKET (1) METER FOR EACH COTTAGE PLUS (1) METER FOR HOUSE PANEL. REFER TO CEDAR CROSSING SOUTH SIDE ONE-LINE DIAGRAM ON SHEET E3.1.
8. CATV SERVICE DISTRIBUTION POINT. CATV COAX CABLE THROUGH ATTIC TO TV BOX AND TERMINATIONS BY CATV SERVICE PROVIDER. COORDINATE WITH COMCAST FOR EXACT CABLE REQUIREMENTS AND LOCATIONS.
9. 120V FOR ELECTRIC BELL FOR SPRINKLER SYSTEM. COORDINATE EXACT LOCATION WITH FIRE SUPPRESSION CONTRACTOR PRIOR TO ROUGH-IN.



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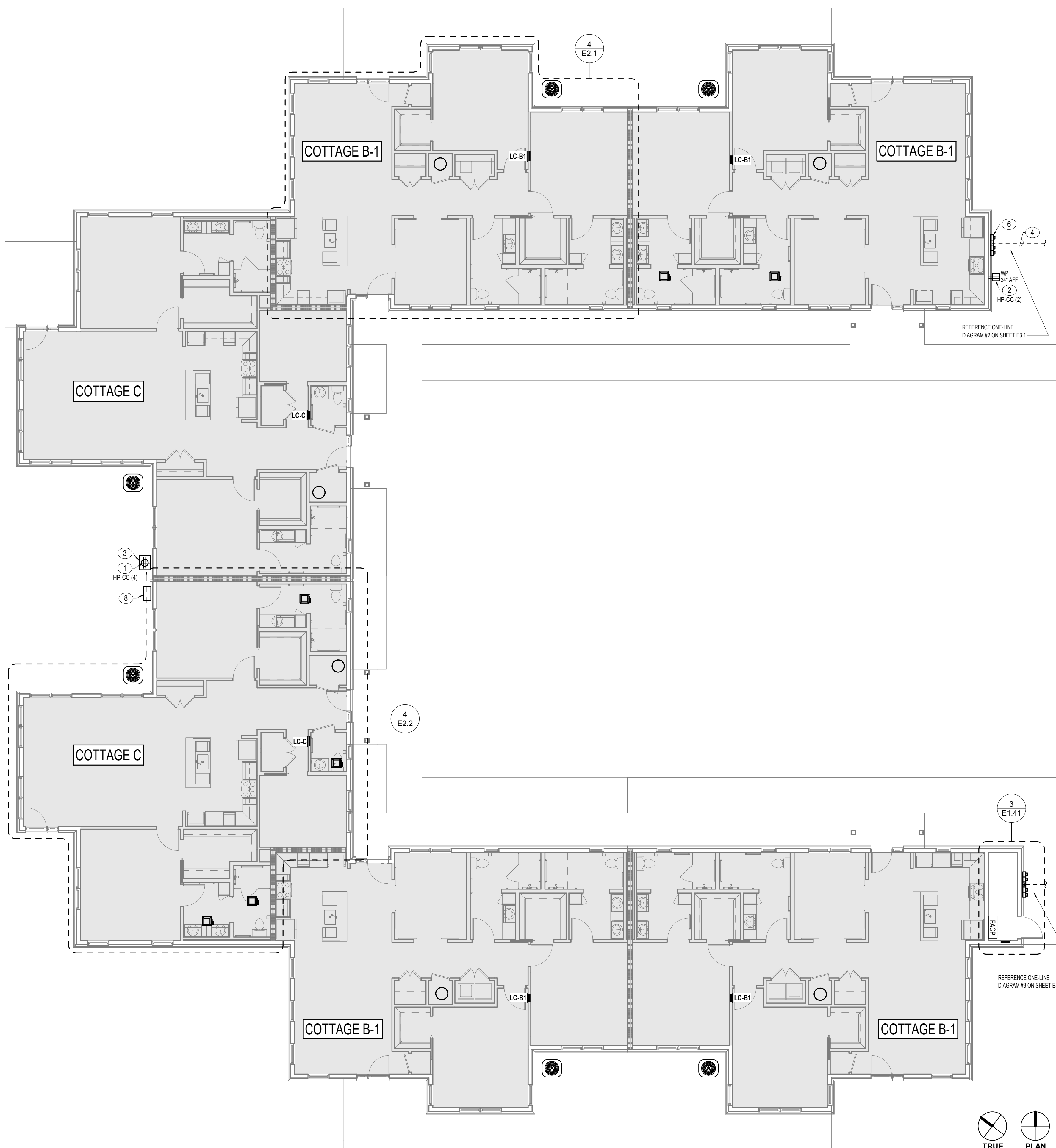
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**FLOOR PLANS - CEDAR
CROSSING - ELECTRICAL
& LOW VOLTAGE**

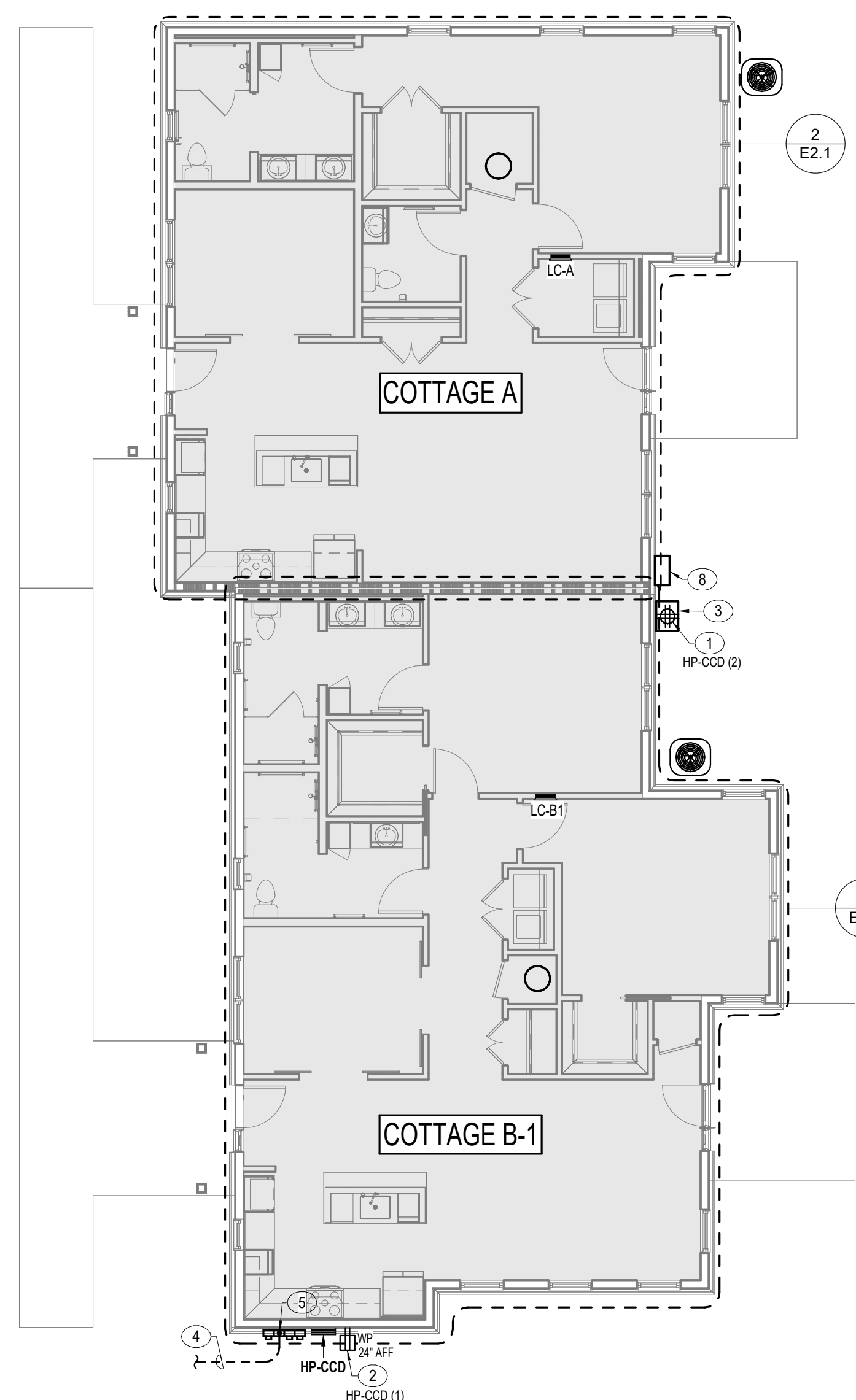
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COMM. NO.	18135.00	E1.41

**FIRE SERVICE ENTRANCE
RM. - ELECTRICAL**

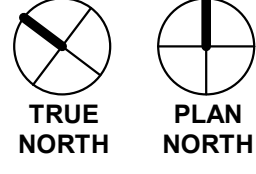
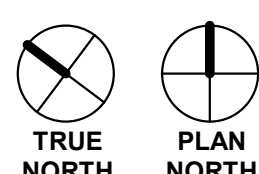
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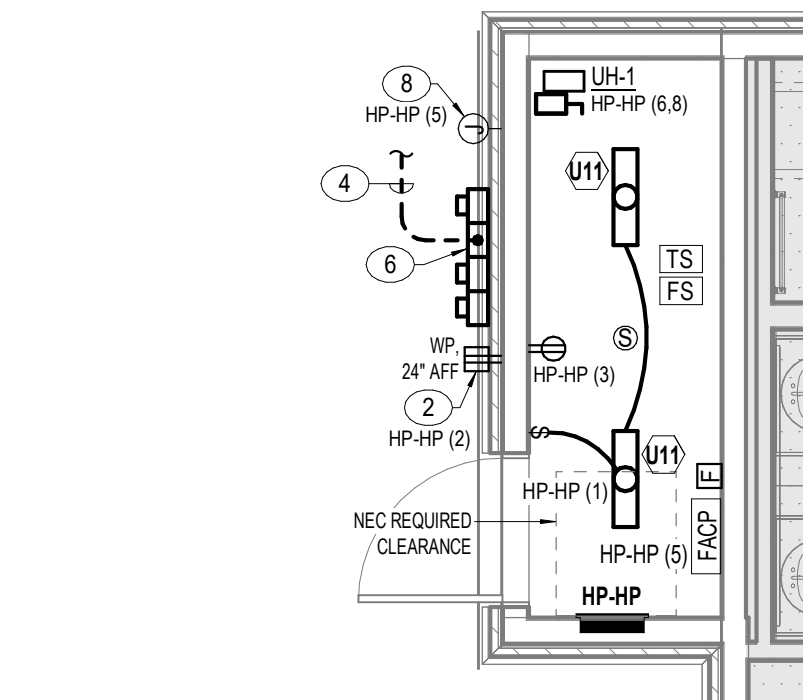
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E1.41
1/8" = 1'-0"
FLOOR PLAN - CEDAR CROSSING #1 - ELECTRICAL, FIRE ALARM & LOW VOLTAGE



2
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1/8" = 1'-0"
**FLOOR PLAN - CEDAR CROSSING #2 -
ELECTRICAL, FIRE ALARM & LOW VOLTAGE**

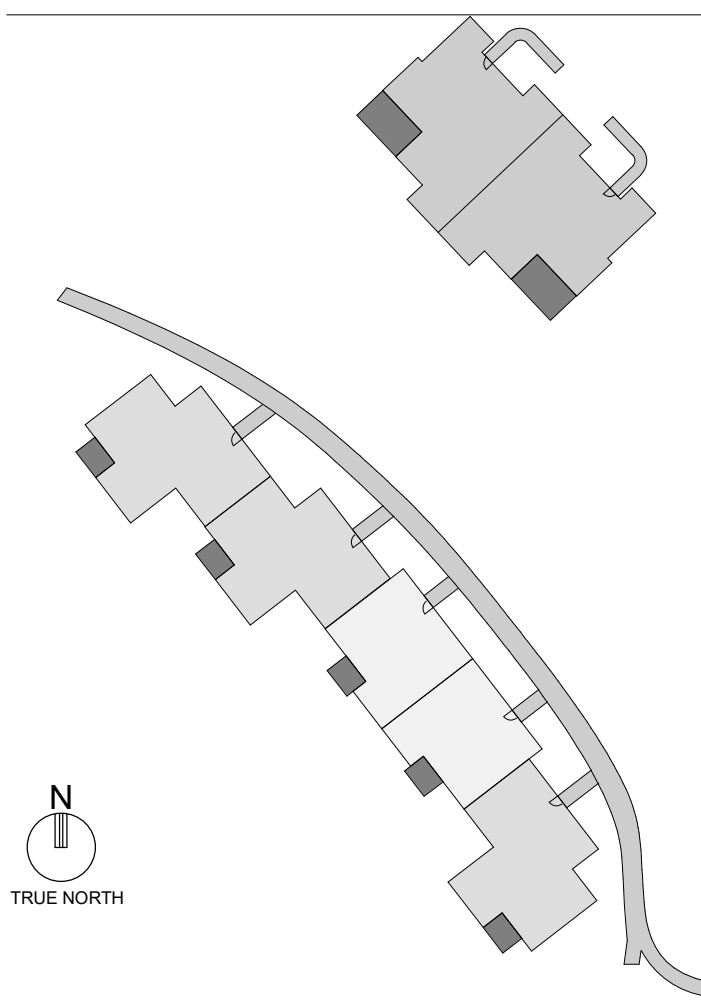


APPROVAL STAMPS



FIRE SERVICE ENTRANCE RM. - ELECTRICAL
E1.51 1/4" = 1'-0"

KEY PLAN



GENERAL NOTES

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4. UNDERGROUND SERVICE LATERAL PROVIDED AND INSTALLED BY PEPCO TO NEAREST SITE UTILITY TRANSFORMER.
5. 3 GANG METER SOCKET. (1) METER FOR EACH COTTAGE. REFER TO HAWTHORN PLACE EAST SIDE ONE-LINE DIAGRAM ON SHEET E3.1.
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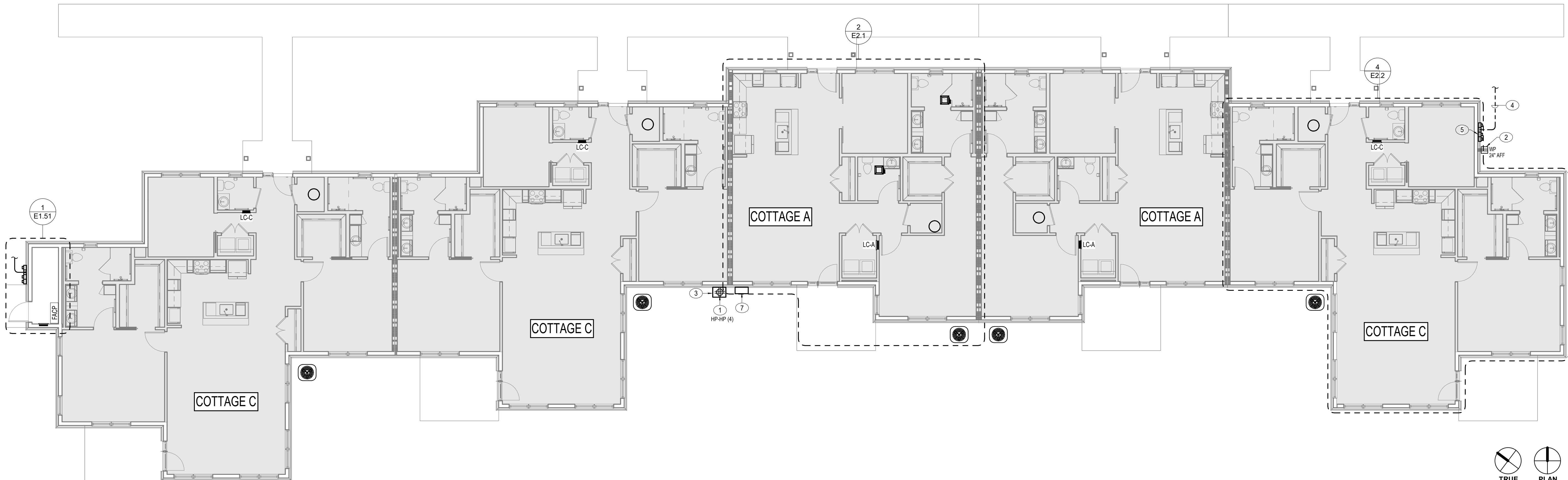
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ENGINEER : MAW, DAH	APPROVED : CW

NO.	REVISION DESCRIPTION	DATE

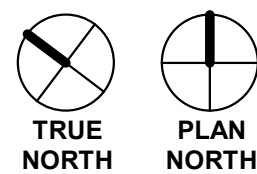
DRAWING TITLE

FLOOR PLANS -
HAWTHORN PLACE -
ELECTRICAL & LOW
VOLTAGE

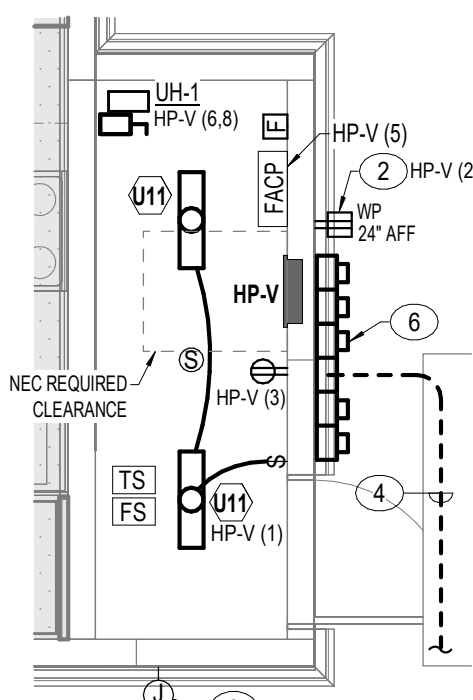
DATE: MAY 28, 2026	DRAWING
COMM. NO. 18135.00	E1.51



FLOOR PLAN - HAWTHORN PLACE - ELECTRICAL, FIRE ALARM & LOW VOLTAGE
E1.51 1/8" = 1'-0"

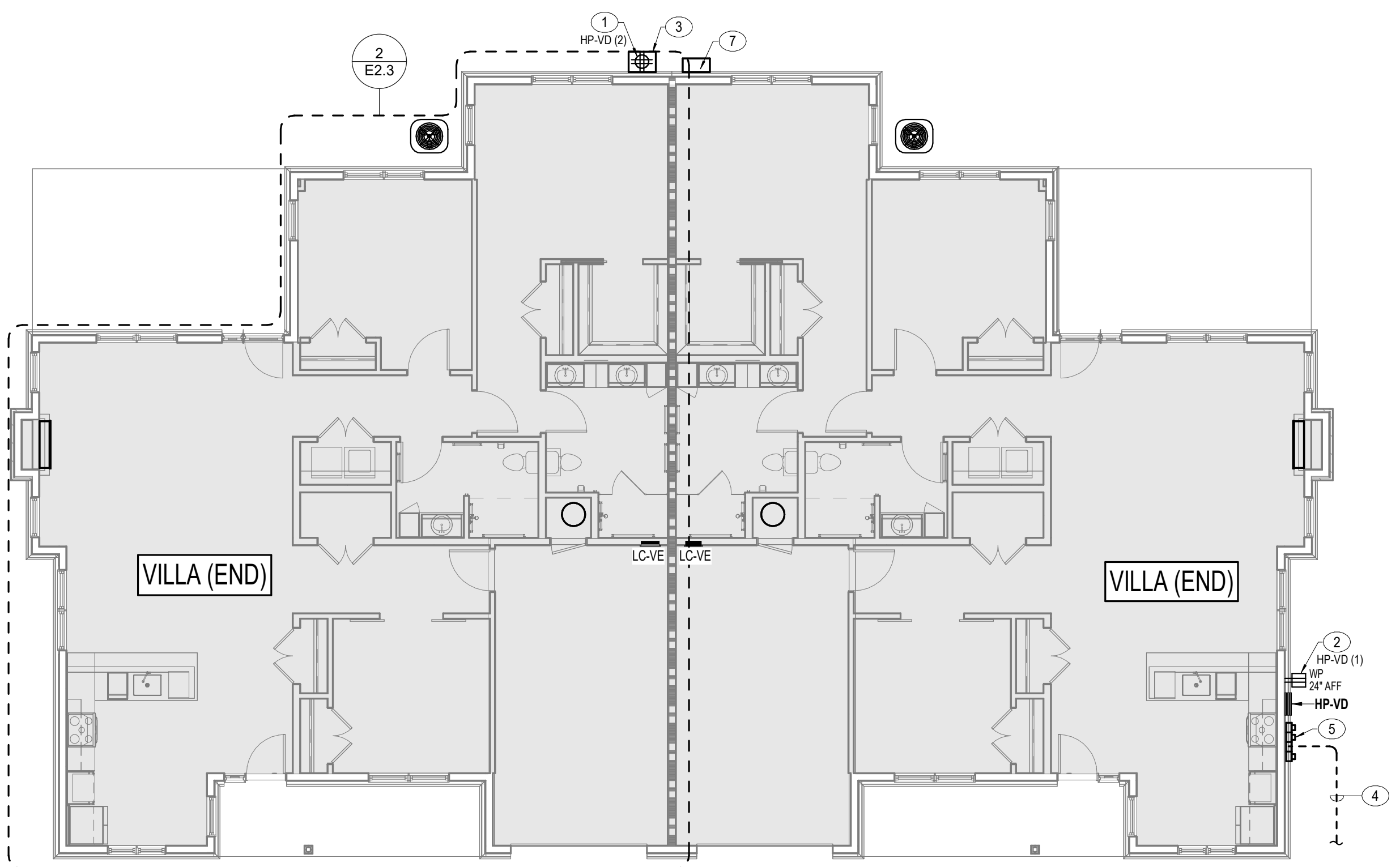


APPROVAL STAMPS



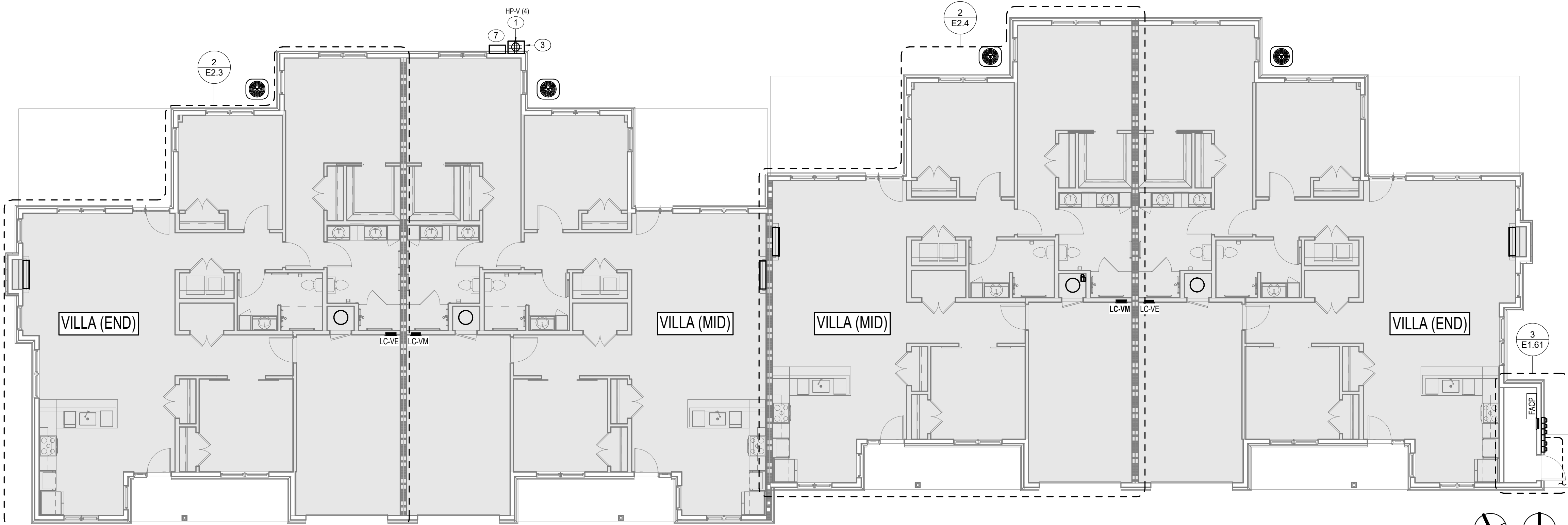
FIRE SERVICE ENTRANCE
RM. - ELECTRICAL

3
E1.61 1/4" = 1'-0"



2 FLOOR PLAN - VILLA (DUPLEX) - ELECTRICAL, FIRE ALARM & LOW VOLTAGE

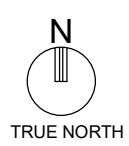
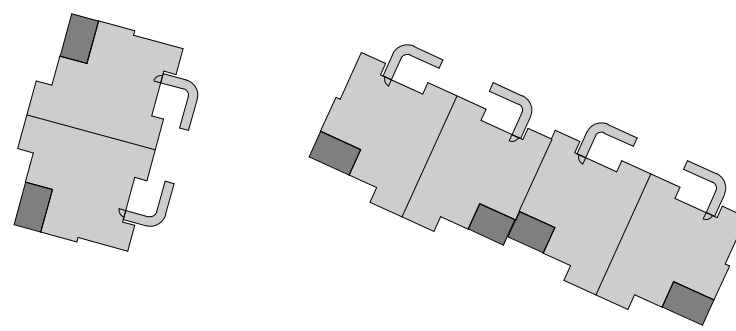
2
E1.61 1/8" = 1'-0"



1 FLOOR PLAN - VILLA (QUAD) - ELECTRICAL, FIRE ALARM & LOW VOLTAGE

1
E1.61 1/8" = 1'-0"

KEYPLAN



GENERAL NOTES

A. REFER TO SHEET WITH THE ENLARGED PLANS FOR ADDITIONAL UNIT PLAN INFORMATION.

PLAN NOTES

- QUAD RECEPTACLE INSTALLED AT BOTTOM OF LOW VOLTAGE NETWORK CABINET ENCLOSURE TO SERVE COTTAGES. REFER TO LOW VOLTAGE DRAWINGS AND COORDINATE EXACT LOCATION WITH LOW VOLTAGE CONTRACTOR.
- DUPLEX GFI / HP RECEPTACLE INSTALLED FOR MAINTENANCE WORK.
- PROVIDE NETWORK CABINET TO SERVE NETWORK CABLES FROM RESIDENT UNITS. EACH CABINET SHALL BE ALUMINUM, WEATHERPROOF, NEMA 3R, WITH GASKETED DOOR. CABINET UNIT SHALL INCLUDE A 1" HP/UR EQUIPMENT RACK, 200 QUAD RECEPTACLE, GROUNDING TERMINAL, COOLING FAN, INSULATION, LOCKABLE DOOR LATCH, AND ALL STAINLESS STEEL HARDWARE. UNIT TO INCLUDE A MERAU 5000 SWITCH PATCH PANELS (FIBER AND COPPER), PATCH CABLES, ETC. FOR TERMINATION OF FIBER AND CAT5 CABLES. NETWORK CABINET SHALL BE AN HP MINIFORT ENCLOSURE 57H X 28" W X 22" D WITH VENTS AND INLET FILTERS (AM20222-HP) OR EQUAL. COORDINATE LOCATION WITH OWNER PRIOR TO ROUGH-IN.
- UNDERGROUND SERVICE LATERAL PROVIDED AND INSTALLED BY PEPCO TO NEAREST SITE UTILITY TRANSFORMER.
- 3 GANG METER SOCKET (1) METER FOR EACH COTTAGE. REFER TO VILLA (DUPLEX) ONE-LINE DIAGRAM ON SHEET E3.1.
- 5 GANG METER SOCKET (1) METER FOR EACH COTTAGE PLUS (1) METER FOR HOUR METER. REFER TO VILLA (QUAD) ONE-LINE DIAGRAM ON SHEET E3.1.
- CATV SERVICE DISTRIBUTION POINT. CATV COAX CABLE THROUGH ATTIC TO TV BOX AND TERMINATIONS BY CATV SERVICE PROVIDER. COORDINATE WITH CONTRACTOR FOR EXACT CABLE REQUIREMENTS AND LOCATIONS.
- 120V FOR ELECTRIC BELL FOR SPRINKLER SYSTEM. COORDINATE EXACT LOCATION WITH FIRE SUPPRESSION CONTRACTOR PRIOR TO ROUGH-IN.



Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 64963, Expiration Date: 9/30/2027

PROJECT TITLE

Collington
A KENDAL AFFILIATE
INDEPENDENT LIVING
CONSTRUCTION DOCUMENTS

SFCS Architecture
Engineering
Planning
Interiors
SFCS Inc. • 1777 Sentry Parkway West
Suite 220, VEA 17
Blue Bell, Pennsylvania 19422
610.825.1288
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DESIGNER : JGB	DRAWN : DAH, DKW, JDM
ARCHITECT : KAT, NSS	CHECKED : MAY, DAH
ENGINEER : MAW, DAH	APPROVED : CW

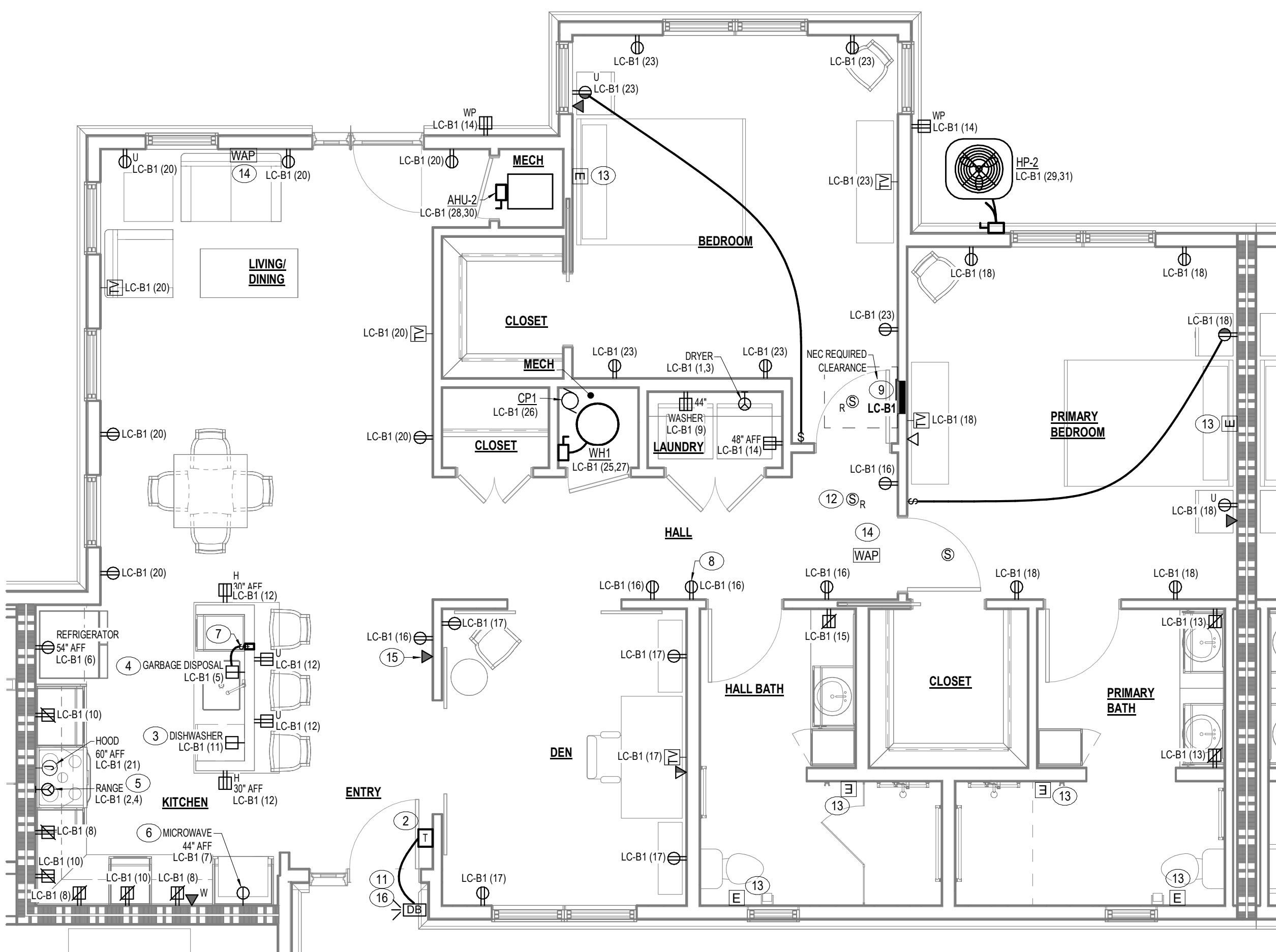
NO.	REVISION DESCRIPTION	DATE
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DRAWING TITLE
FLOOR PLANS - VILLAS -
ELECTRICAL & LOW
VOLTAGE

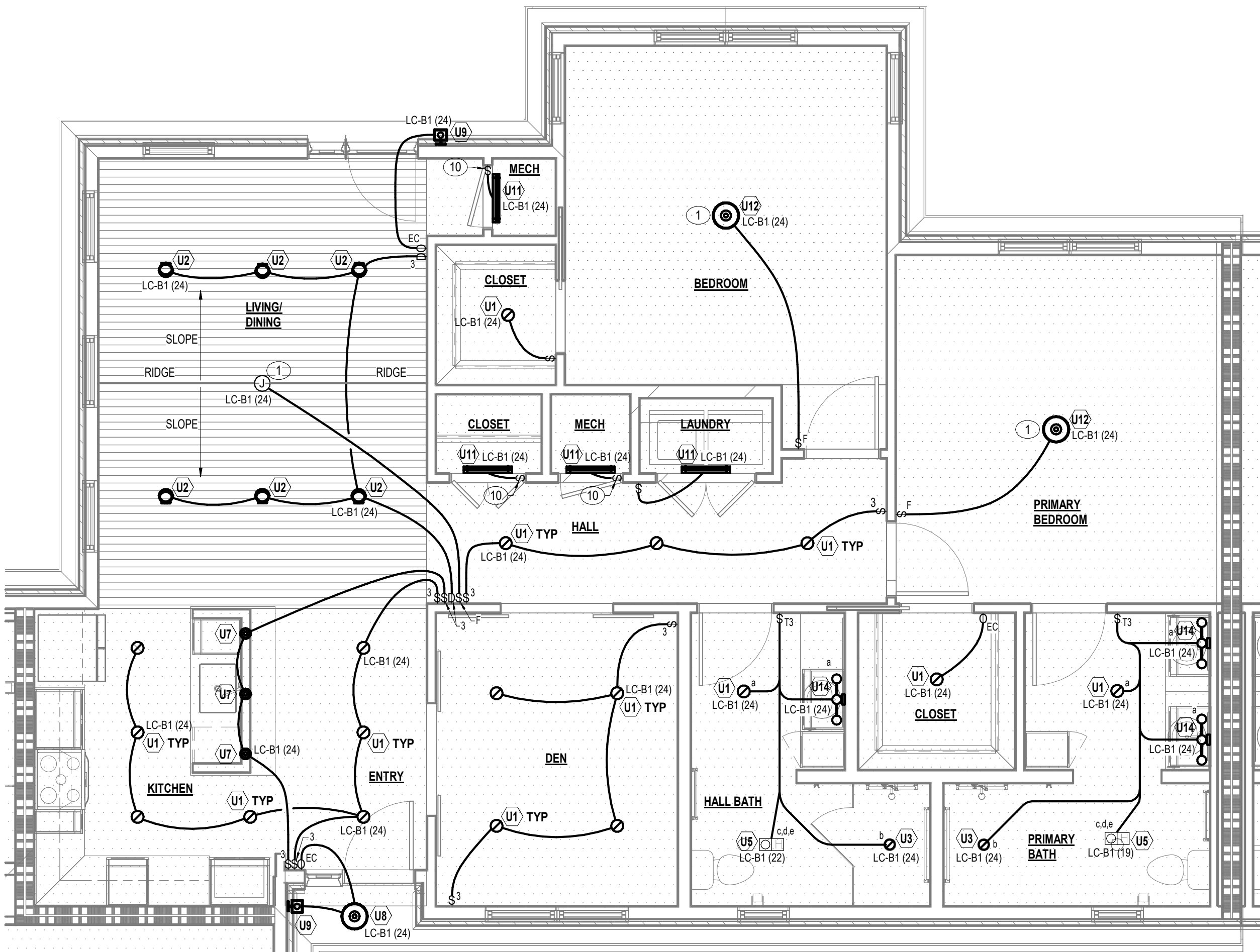
DATE:	MAY 28, 2026
COMM. NO.	18135.00

E1.61

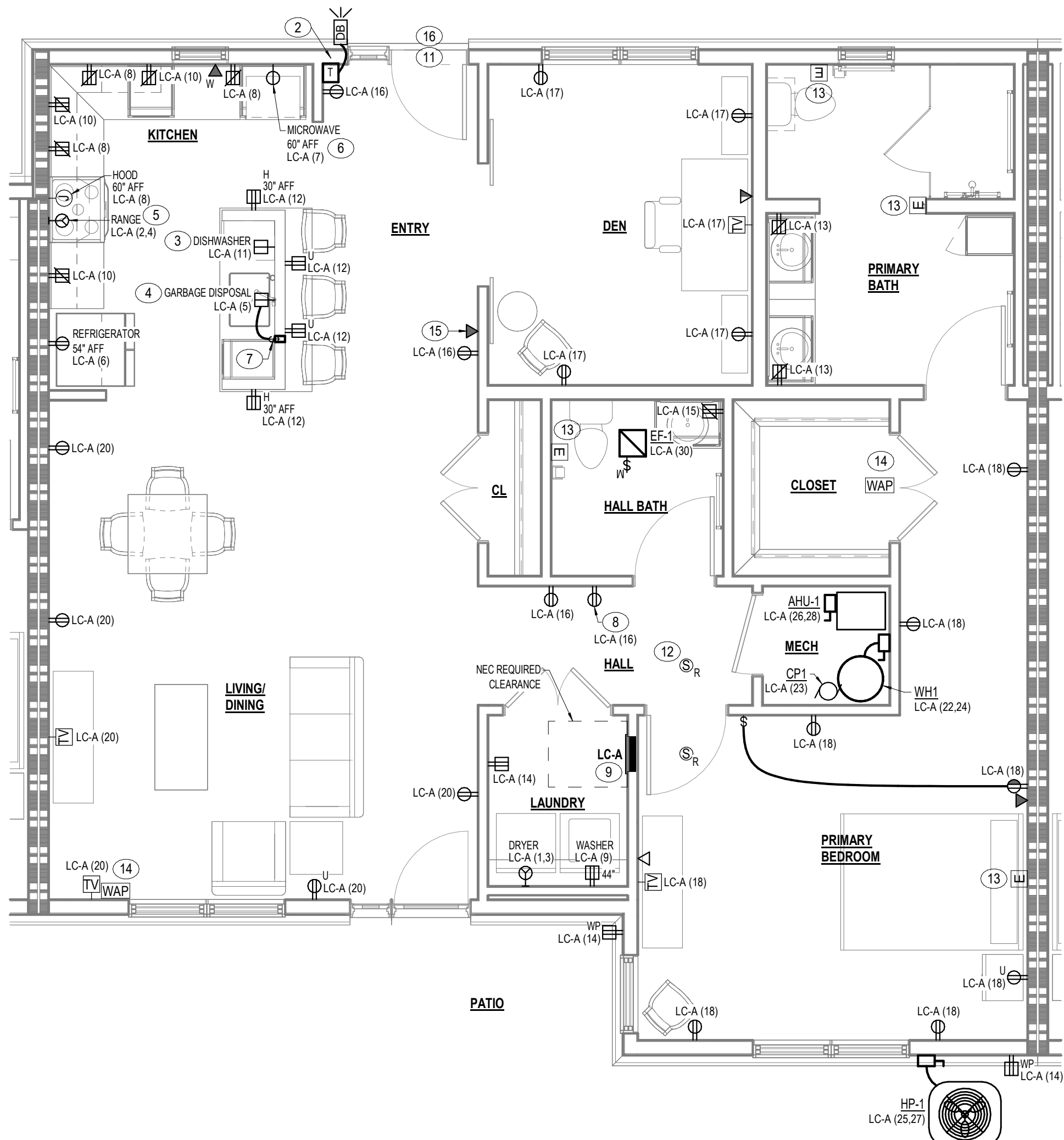
APPROVAL STAMPS



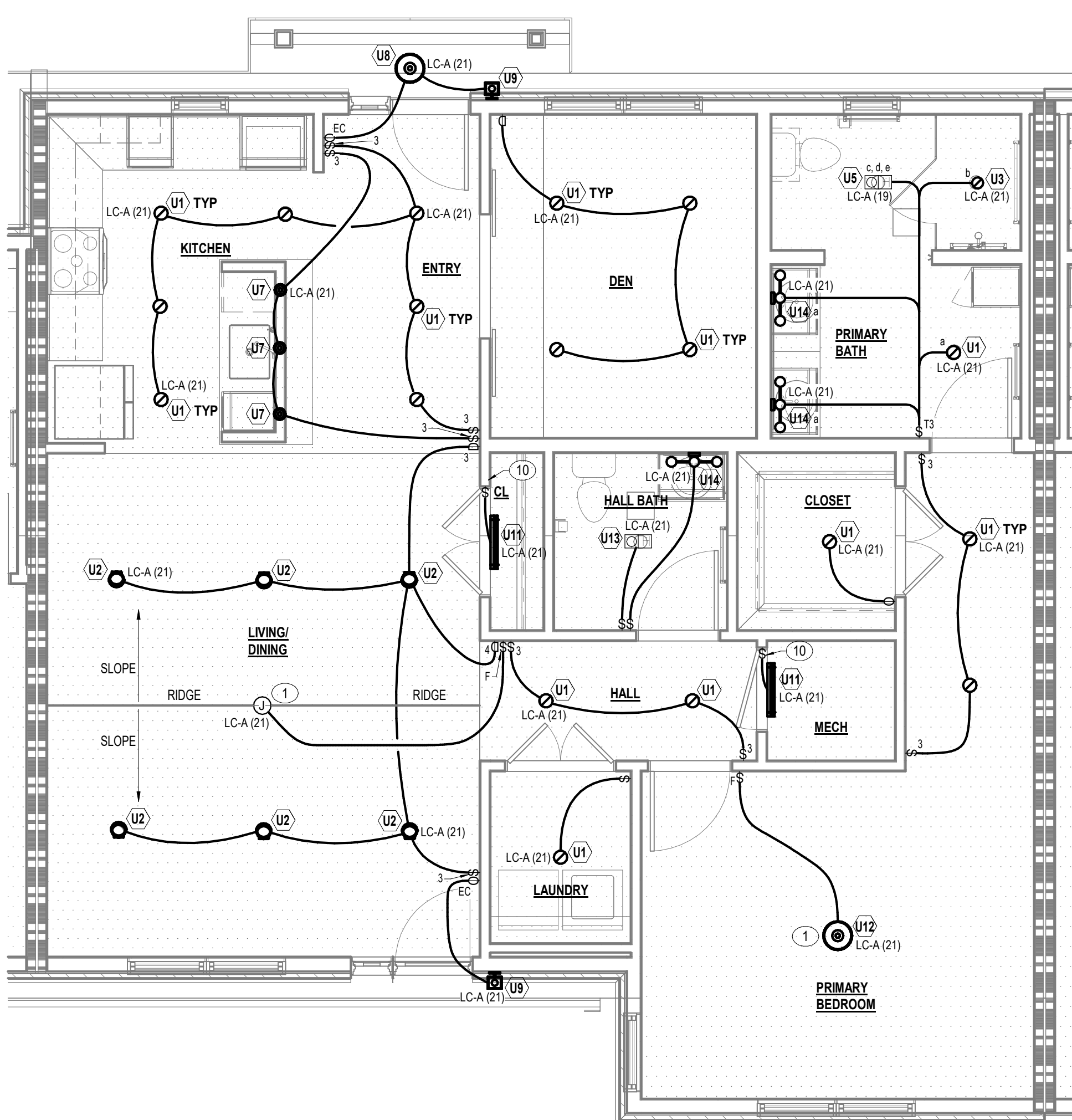
UNIT FLOOR PLAN - COTTAGE B1 - POWER, FIRE ALARM & LOW VOLTAGE
E2.1 1/4" = 1'-0"



UNIT FLOOR PLAN - COTTAGE B1 - LIGHTING
E2.1 1/4" = 1'-0"



UNIT FLOOR PLAN - COTTAGE A - POWER, FIRE ALARM & LOW VOLTAGE
E2.1 1/4" = 1'-0"



UNIT FLOOR PLAN - COTTAGE A - LIGHTING
E2.1 1/4" = 1'-0"

PLAN NOTES (CONTINUED)

- CLOSET LIGHT CONTROLLED THROUGH AN EDWARDS 800 SERIES (OR EQUAL) DOOR SWITCH. TYPICAL AT ALL LOCATIONS.
- EACH UNIT FRONT ENTRY DOOR, PATIO DOOR AND GARAGE ENTRY DOOR, WHERE APPLICABLE PER ARCHITECTURAL DRAWINGS, TO BE MONITORED FOR DOOR OPEN STATUS WITH DOOR POSITION SWITCH. COORDINATE ALL DOOR HARDWARE WITH THE ARCHITECTURAL DRAWINGS AND ARCHITECTURAL SPECS FOR ALL WORK.
- RHYTHM8 WIRELESS SMOKE DETECTOR, WITH 10 YEAR SEALED BATTERY. INTERFACE WITH THE EMERGENCY-CALL SYSTEM. ALL SMOKE ALARMS SHALL BE CONNECTED THROUGH THE EMERGENCY CALL SYSTEM AND ANNUNCIATE AT THE CAMPUS SECURITY OFFICE, OR AS DETERMINED BY CAMPUS PERSONNEL. COORDINATE ALL WORK WITH THE OWNERS VENDOR.
- RHYTHM8 EMERGENCY CALL DEVICE WITH ANCHOR PROVIDED AND INSTALLED BY OWNERS VENDOR. SHOWN FOR REFERENCE ONLY. TYPICAL FOR ALL UNITS.
- OWNER VENDOR PROVIDED CEILING WIRELESS ACCESS POINT AND WALL MOUNTED WIRELESS ACCESS POINT. COORDINATE ALL LOCATIONS WITH OWNERS VENDOR. HEAT MAPS PRIOR TO ROUGH-IN. TYP. ALL UNITS.
- PROVIDE DROP FOR POWER OVER ETHERNET (PoE) TABLET. OWNER PROVIDED. AT Foyer. JACK TO BE INSTALLED AT 48" AFF. COORDINATE WITH OWNER FOR EXACT LOCATION PRIOR TO ROUGH-IN. TYP. ALL UNITS.
- INSTALL ACCESS CONTROL CARD READER, SOLAGE I.E. (SAME DEVICE AT THE PAVILION), FOR RESIDENT FRONT ENTRY DOOR. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR FULL DESCRIPTION AND INFORMATION.

GENERAL NOTES

- PROVIDE FOM GASKETS FOR ALL WIRING DEVICES (RECEPTACLES, SWITCHES, AND DIMMERS) INSTALLED ON THE INTERIOR OF AN EXTERIOR BUILDING WALL. FOM GASKETS PROVIDE ADDITIONAL INSULATION BETWEEN THE BACK BOX, WIRING DEVICES, AND WALL PLATE(S).
- REFER TO ARCHITECTURAL FIRE PROTECTION PLAN AND FOR LOCATIONS OF FIRE RATED WALLS. ALL RECESSED ELECTRICAL JUNCTION BOXES LOCATED IN FIRE OR ACOUSTICAL RATED WALLS SHALL BE SEPARATED AS REQUIRED BY THE LATEST ENFORCED IBC.
- WALL BOXES FOR SWITCH BOXES OR RECEPTACLES IN WALL WITH POCKET DOORS SHALL BE INSTALLED SO WALL BOX OR WIRING TO WALL BOX DOES NOT CONFLICT WITH THE OPENING OR CLOSING OF THE POCKET DOOR.
- ALL BRANCH CIRCUITS SUPPLYING OUTLETS INSTALLED IN DWELLING UNIT DINING ROOMS, LIVING, DENS, BEDROOMS, CLOSETS AND HALLWAYS SHALL BE PROTECTED IN A LISTED ARC-FAULT CIRCUIT INTERRUPTER TYPE CIRCUIT BREAKER.
- BRANCH CIRCUIT WIRING WITHIN APARTMENTS IS TYPE NM CABLE WITH INSULATED COPPER CONDUCTORS AND AN INSULATED GROUNDING CONDUCTOR.
- RECEPTACLES IN DWELLING UNITS SHALL BE TAMPER-PROOF TYPE AS REQUIRED PER NEC ARTICLE 406.12 AND 210.52.
- PLACEMENT OF RECEPTACLES WITHIN DWELLING UNITS SHALL BE IN ACCORDANCE WITH NEC ARTICLE 210.
- LIVING UNIT LOCKER/DOOR DOORS SHALL BE PAINTED TO MATCH INTERIOR WALL COLOR.
- RANGE HOODS SHALL BE SERVED FROM A LOCAL BRANCH CIRCUIT.
- REFER TO PANEL SCHEDULES FOR BRANCH CIRCUIT OF HVAC UNITS SERVING APARTMENTS.
- ELECTRICAL CONTRACTOR SHALL SUPPLY AND INSTALL ALL APPLIANCE ELECTRICAL CORDS NOT SUPPLIED BY THE MANUFACTURER.
- ROCKER (DECORA STYLE) SWITCHES AND RECEPTACLES.
- DEVICE AND SWITCH PLATE COLOR, OR WHITE, UNLESS ON EMERGENCY POWER (RED, OR DENOTE WITH RED 'EMERGENCY' LABEL, SM TO LEGRAND TREX).
- COORDINATE LOCATION OF ALL DEVICES WITH ARCHITECTURAL DRAWINGS.
- WHERE RECESSED DEVICES/EQUIPMENT IS INSTALLED IN A SHARED PLUMBING WALL COORDINATE LOCATIONS WITH THE PLUMBING CONTRACTOR PRIOR TO BEGINNING WORK.
- NEW EMERGENCY CALL DEVICES AND LOCATIONS SHALL BE COORDINATED WITH THE OWNERS SYSTEM REPRESENTATIVE, RHYTHM8, PRIOR TO BEGINNING ANY WORK.
- REFER TO ARCHITECTURAL SPECIFICATIONS - DIVISION 08 FOR ALL HARDWARE, INCLUDING SMART LOCKS AT ENTRY.

PLAN NOTES

- PROVIDE CEILING FAN RATED BACKBOX FOR OPTIONAL TYPE 'U1' CEILING FAN. PROVIDE 1/2" MC CABLE FROM CEILING FAN RATED BACKBOX TO LIGHT SWITCH FOR WIRING OF OPTIONAL CEILING FAN. COORDINATE MOUNTING OF JUNCTION BOX AT THE CEILING FAN WITH ARCHITECT.
- PROVIDE AUDIO/VIDEO RING CAMERA DOORBELL WITH CHIME AND TRANSFORMER. E.C. TO PROVIDE 120V CIRCUIT FOR VIDEO DOORBELL TRANSFORMER.
- 120V SIMPLEX RECEPTACLE FOR UNDERCOUNTER DISHWASHER. VERIFY LOCATION AND INSTALL PER DISHWASHER MANUFACTURER REQUIREMENTS PRIOR TO ROUGH-IN.
- 120V SIMPLEX RECEPTACLE FOR GARBAGE DISPOSAL. VERIFY LOCATION AND INSTALL PER DISPOSAL MANUFACTURER REQUIREMENTS PRIOR TO ROUGH-IN. PROVIDE CONNECTION FOR SINKTOP AS SWITCH OR WALL SWITCH AS REQUIRED.
- RECEPTACLE FOR ELECTRIC RANGE. VERIFY LOCATION AND NEMA CONFIGURATION WITH MANUFACTURER PRIOR TO ROUGH-IN.
- RECEPTACLE FOR MICROWAVE IN KITCHEN CASEWORK. VERIFY EXACT LOCATION AND NEMA CONFIGURATION WITH MANUFACTURER PRIOR TO ROUGH-IN.
- INVERTERATOR SINKTOP SWITCH DUAL OUTLET MODEL #ST5-009N. MOUNT TRANSFORMER UNDER CABINET. GARBAGE DISPOSAL WILL PLUG INTO INVERTERATOR FOR ON/OFF PUSH BUTTON OPERATION. MOUNTED ON COUNTERTOP. STANDARD COLOR PUSH BUTTON SHALL BE SATIN NICKEL. REFER TO MANUFACTURERS INSTALLATION REQUIREMENTS FOR MORE INFORMATION.
- DUPLEX RECEPTACLE INSTALLED 6" BELOW CEILING FOR PLUG IN 120V TRANSFORMER FOR THE EMERGENCY CALL SYSTEM. COORDINATE EXACT LOCATION WITH LOW VOLTAGE CONTRACTOR & OWNERS SYSTEM REPRESENTATIVE, TYPICAL FOR ALL UNITS.
- MOUNT LOAD CENTER SO THAT TOP MOST BREAKER IS NO HIGHER THAN 48" AFF.



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 64963, Expiration Date: 9/30/2027

PROJECT TITLE

Collington
A KENDA AFFILIATE
INDEPENDENT LIVING
CONSTRUCTION DOCUMENTS

SFCs | Architecture
Engineering
Planning
Interiors
SFCs Inc. • 1777 Sentry Parkway West
Suite 220, VEVA 17
Blue Bell, Pennsylvania 19422
610.825.1288
www.sfcsc.com

DESIGNER : JSB DRAWN : DAH, DKW, JDM
ARCHITECT : KAT, NSS CHECKED : MAY, DAH
ENGINEER : MAW, DAH APPROVED : CW

NO. REVISION DESCRIPTION DATE

DRAWING TITLE

**ENLARGED UNIT PLANS -
ELECTRICAL & LOW
VOLTAGE**

DATE: MAY 28, 2026
COMM. NO. 18135.00

E2.1

APPROVAL STAMPS

PLAN NOTES (CONTINUED)

10. CLOSET LIGHT CONTROLLED THROUGH AN EDWARDS 800 SERIES (OR EQUAL) DOOR SWITCH. TYPICAL AT ALL LOCATIONS.
11. EACH UNIT FRONT ENTRY DOOR, PATIO DOOR AND GARAGE ENTRY DOOR, WHERE APPLICABLE PER ARCHITECTURAL DRAWINGS, TO BE MONITORED FOR DOOR OPEN STATUS WITH DOOR POSITION SWITCH. COORDINATE ALL DOOR HARDWARE WITH ARCHITECTURAL DRAWINGS AND SPECS.
12. RHYTHMS WIRELESS SMOKE DETECTOR WITH 10 YEAR SEALED BATTERY. INTERFACE WITH THE EMERGENCY CALL SYSTEM. ALL SMOKE ALARMS SHALL BE CONNECTED THROUGH THE EMERGENCY CALL SYSTEM AND ANNUNCIATE AT THE CAMPUS SECURITY OFFICE, OR AS DETERMINED BY CAMPUS PERSONNEL. COORDINATE ALL WORK WITH THE OWNERS VENDOR. TYPICAL ALL LOCATIONS.
13. EMERGENCY CALL DEVICE PROVIDED AND INSTALLED BY OWNERS VENDOR. SHOWN FOR REFERENCE ONLY. TYPICAL FOR ALL UNITS.
14. OWNER VENDOR PROVIDED CEILING WIRELESS ACCESS POINT AND WALL MOUNTED WIRELESS ACCESS POINT. COORDINATE ALL LOCATIONS WITH OWNERS VENDOR HEAT MAPS PRIOR TO ROUGH-IN. TYPICAL ALL UNITS.
15. PROVIDE DROP FOR POWER OVER ETHERNET (PoE) TABLET. OWNER PROVIDED. AT COVER JACK TO INSTALLED AT 48" AFF. COORDINATE WITH OWNER FOR EXACT LOCATION PRIOR TO ROUGH-IN. TYP. ALL UNITS.
16. PROVIDE ACCESS CONTROL CARD READER. SAME AS USED AT THE PAVILION. FOR RESIDENT FRONT ENTRY DOOR.

GENERAL NOTES

- A. PROVIDE FOM GASKETS FOR ALL WIRING DEVICES (RECEPTACLES, SWITCHES, AND DIMMERS) INSTALLED ON THE INTERIOR OF AN EXTERIOR BUILDING WALL. FOM GASKETS PROVIDE ADDITIONAL INSULATION BETWEEN THE BACK BOX, WIRING DEVICES, AND WALL PLATE(S).
- B. REFER TO ARCHITECTURAL FIRE PROTECTION PLAN FOR LOCATIONS OF FIRE RATED WALLS. ALL RECESSED ELECTRICAL JUNCTION BOXES LOCATED IN FIRE OR ACOUSTICAL RATED WALLS SHALL BE SEPARATED AS REQUIRED BY THE LATEST ENFORCED IBC.
- C. WALL BOXES FOR SWITCH BOXES OR RECEPTACLES IN WALL WITH POCKET DOORS SHALL BE INSTALLED SO WALL BOX OR WIRING TO WALL BOX DOES NOT INTERFERE WITH THE OPENING OR CLOSING OF THE POCKET DOOR.
- D. ALL BRANCH CIRCUITS SUPPLYING OUTLETS INSTALLED IN DWELLING UNIT DINING ROOMS, LIVING, DENS, BEDROOMS, CLOSETS AND HALLWAYS SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER TYPE CIRCUIT BREAKER.
- E. BRANCH CIRCUIT WIRING WITHIN APARTMENTS IS TYPE NM CABLE AS REQUIRED PER NEC ARTICLE 408.12 AND 210.52.
- F. RECEPTACLES IN DWELLING UNITS SHALL BE TAMPER-PROOF TYPE AS REQUIRED PER NEC ARTICLE 408.12 AND 210.52.
- G. PLACEMENT OF RECEPTACLES WITHIN DWELLING UNITS SHALL BE IN ACCORDANCE WITH NEC ARTICLE 210.
- H. LIVING UNIT LOCKER/DOOR DOORS SHALL BE PAINTED TO MATCH INTERIOR WALL COLOR.
- I. RANGE HOODS SHALL BE SERVED FROM LOCAL BRANCH CIRCUIT.
- J. REFER TO PANEL SCHEDULES FOR BRANCH CIRCUIT OF HVAC UNITS SERVING APARTMENTS.
- K. ELECTRICAL CONTRACTOR SHALL SUPPLY AND INSTALL ALL APPLIANCE ELECTRICAL CORDS NOT SUPPLIED BY THE MANUFACTURER.
- L. ROCKER (DECORA STYLE) SWITCHES AND RECEPTACLES.
- M. DEVICE AND SWITCH PLATE COLOR, WHITE, UNLESS ON EMERGENCY POWER (RED, OR DENOTE WITH RED "EMERGENCY" LABEL, SM. TO LEGRAND TREX).
- N. COORDINATE LOCATION OF ALL DEVICES WITH ARCHITECTURAL DRAWINGS.
- O. WHERE RECESSED DEVICES/EQUIPMENT IS INSTALLED IN A SHARED PLUMBING WALL COORDINATE LOCATIONS WITH THE PLUMBING CONTRACTOR PRIOR TO BEGINNING WORK.
- P. NEW EMERGENCY CALL DEVICES AND LOCATIONS SHALL BE COORDINATED WITH THE OWNERS SYSTEM REPRESENTATIVE, RHYTHMS, PRIOR TO BEGINNING ANY WORK.
- Q. REFER TO ARCHITECTURAL SPECIFICATIONS - DIVISION 08 FOR ALL HARDWARE, INCLUDING SMART LOCKS AT ENTRY.

PLAN NOTES

1. PROVIDE CEILING FAN RATED BACKBOX FOR OPTIONAL TYPE "UP" CEILING FAN. PROVIDE 12-3/4" IAC CABLE FROM CEILING FAN RATED BACKBOX TO LIGHT SWITCH FOR WIRING OF OPTIONAL CEILING FAN. COORDINATE MOUNTING OF JUNCTION BOX AT THE CEILING PEAK WITH ARCHITECT.
2. PROVIDE AUDIO/VIDEO RING CAMERA DOORBELL WITH CHIME AND TRANSFORMER. E.C. TO PROVIDE 120V CIRCUIT FOR VIDEO DOORBELL TRANSFORMER.
3. 120V SIMPLEX RECEPTACLE FOR UNDERCOUNTER DISHWASHER. VERIFY LOCATION AND INSTALL PER DISHWASHER MANUFACTURER REQUIREMENTS PRIOR TO ROUGH-IN.
4. 120V SIMPLEX RECEPTACLE FOR GARBAGE DISPOSAL. VERIFY LOCATION AND INSTALL PER DISPOSAL MANUFACTURER REQUIREMENTS PRIOR TO ROUGH-IN. PROVIDE CONNECTION FOR SINKTOP AIR SWITCH OR WALL SWITCH AS REQUIRED.
5. RECEPTACLE FOR ELECTRIC RANGE. VERIFY LOCATION AND NEMA CONFIGURATION WITH MANUFACTURER PRIOR TO ROUGH-IN.
6. RECEPTACLE FOR MICROWAVE IN KITCHEN CASEWORK. VERIFY EXACT LOCATION AND NEMA CONFIGURATION WITH MANUFACTURER PRIOR TO ROUGH-IN.
7. DISHWASHER OR SINKTOP SWITCH DUAL OUTLET MODEL, IES-1030L, MOUNT TRANSFORMER UNDER CABINET. GARBAGE DISPOSAL WILL PLUG INTO DISHWASHER OR ON/OFF PUSH BUTTON OPERATION. MOUNTED ON COUNTERTOP. STANDARD COLOR PUSH BUTTON SHALL BE SATIN NICKEL. REFER TO MANUFACTURERS INSTALLATION REQUIREMENTS FOR MORE INFORMATION.
8. DUPLEX RECEPTACLE INSTALLED 1" BELOW CEILING FOR PLUG IN 120V TRANSFORMER FOR THE EMERGENCY CALL SYSTEM. COORDINATE EXACT LOCATION WITH LOW VOLTAGE CONTRACTOR & OWNERS SYSTEM REPRESENTATIVE. TYPICAL FOR ALL UNITS.
9. MOUNT LOAD CENTER SO THAT TOP MOST BREAKER IS NO HIGHER THAN 48" AFF.



Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 64963, Expiration Date: 9/30/2027

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Collington
A KENDAL AFFILIATE
INDEPENDENT LIVING
CONSTRUCTION DOCUMENTS

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DESIGNER : JGB	DRAWN : DAH, DKW, JDM
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ENGINEER : MAW, DAH	APPROVED : CMW

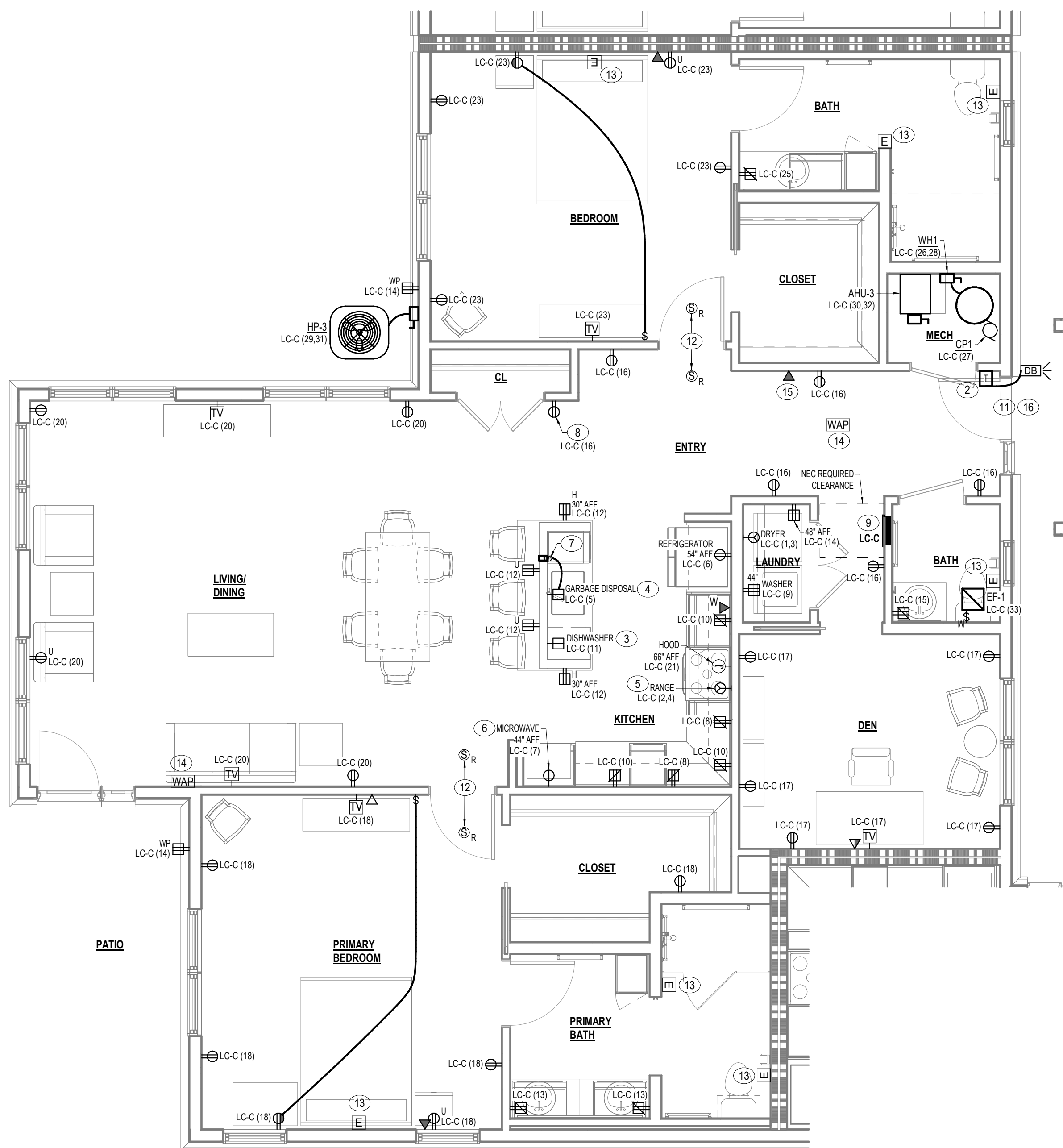
NO.	REVISION DESCRIPTION	DATE
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DRAWING TITLE

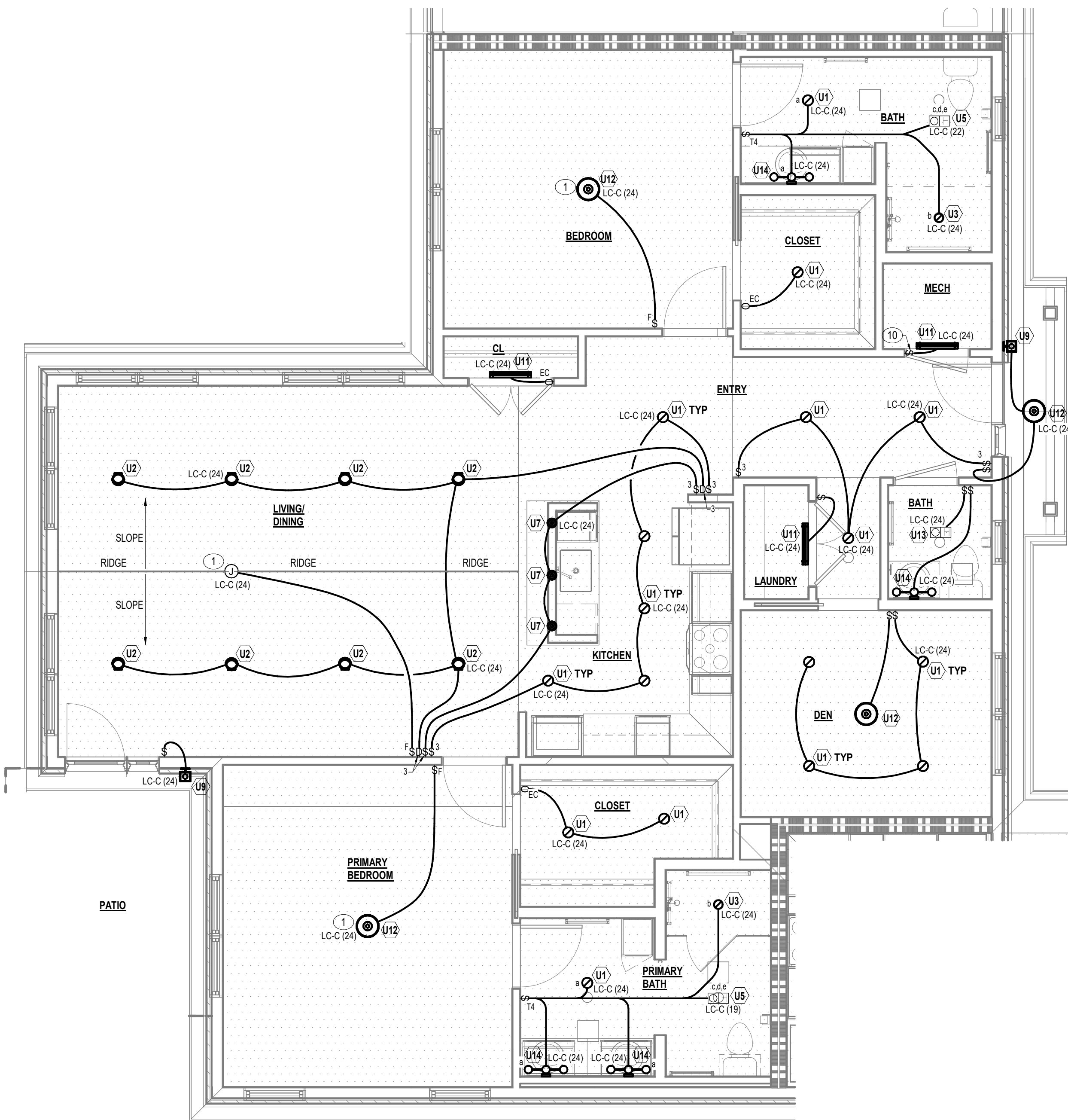
**ENLARGED UNIT PLANS -
ELECTRICAL & LOW
VOLTAGE**

DATE:	MAY 28, 2026	DRAWING
COMM. NO.	18135.00	

E2.2

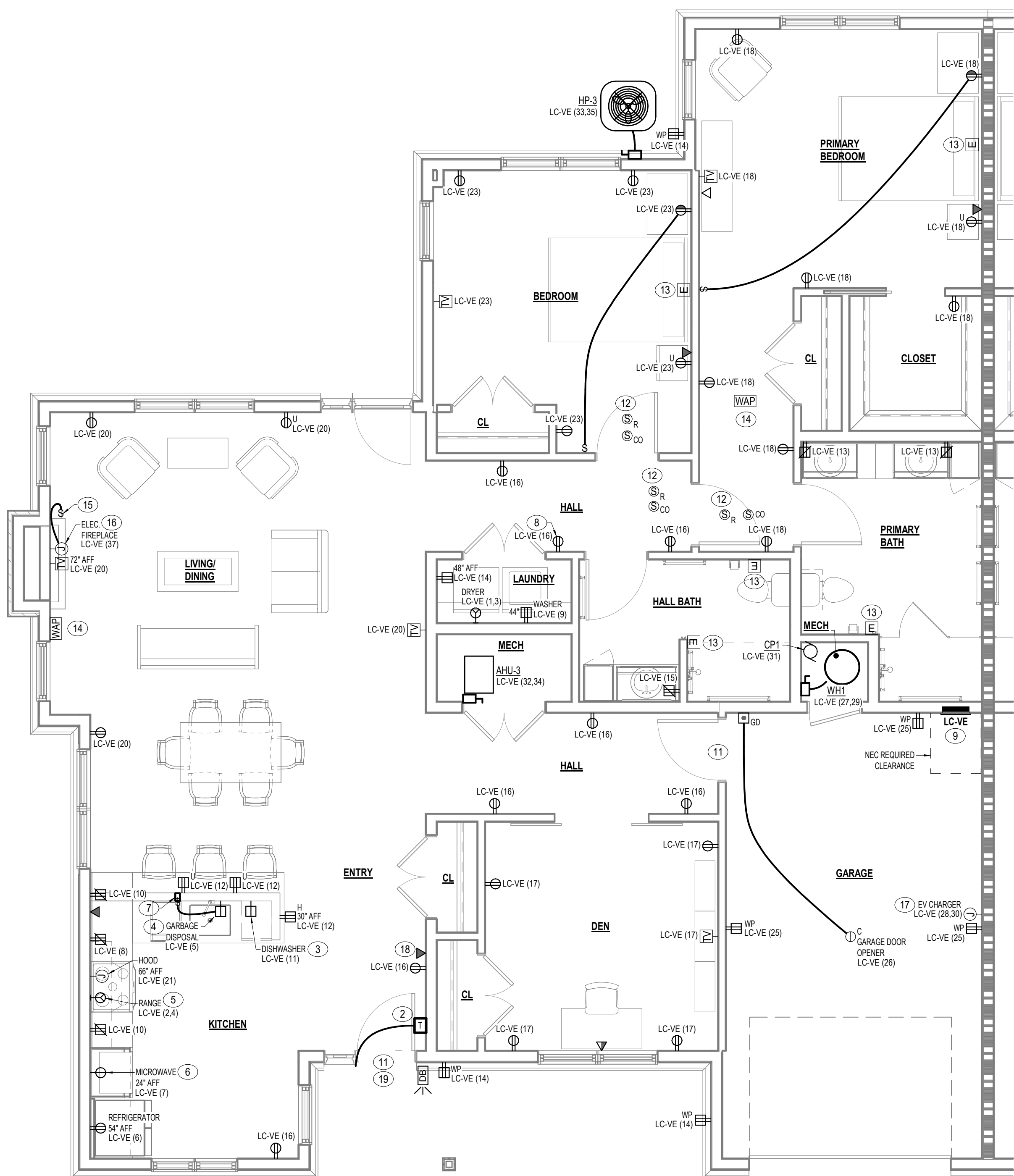


4 UNIT FLOOR PLAN - COTTAGE C - POWER, FIRE ALARM & LOW VOLTAGE
E2.2 1/4" = 1'-0"

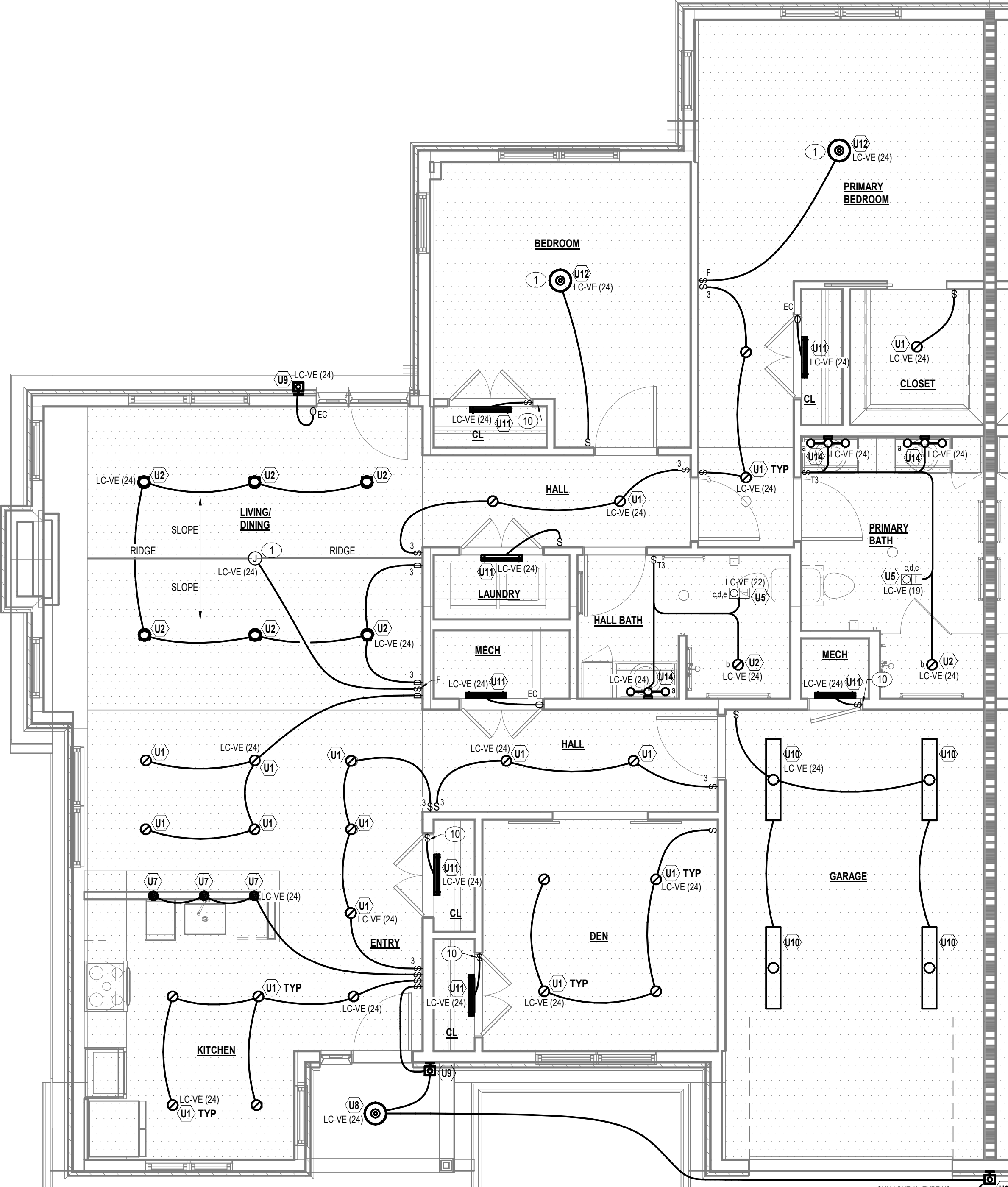


3 UNIT FLOOR PLAN - COTTAGE C - LIGHTING
E2.2 1/4" = 1'-0"

APPROVAL STAMPS



2 UNIT FLOOR PLAN - VILLA (END) - POWER, FIRE ALARM & LOW VOLTAGE
E2.3 1/4" = 1'-0"



1 UNIT FLOOR PLAN - VILLA (END) - LIGHTING
E2.3 1/4" = 1'-0"

PLAN NOTES (CONTINUED)

- CLOSET LIGHT CONTROLLED THROUGH AN EDWARDS 500 SERIES (OR EQUAL) DOOR SWITCH. TYPICAL AT ALL LOCATIONS.
- EACH UNIT FRONT ENTRY DOOR, PATIO DOOR AND GARAGE ENTRY DOOR, WHERE APPLICABLE PER ARCHITECTURAL DRAWINGS, TO BE MONITORED FOR DOOR OPEN STATUS WITH DOOR POSITION SWITCH. COORDINATE ALL DOOR HARDWARE WITH ARCHITECTURAL DRAWINGS AND SPECS.
- RHYTHMOS WIRELESS SMOKE DETECTOR, WITH 10 YEAR SEALED BATTERY. INTERFACE WITH THE EMERGENCY CALL SYSTEM. ALL SMOKE ALARMS SHALL BE CONNECTED THROUGH THE EMERGENCY CALL SYSTEM AND ANNUNCIATE AT THE CAMPUS SECURITY OFFICE, OR AS DETERMINED BY CAMPUS PERSONNEL. COORDINATE ALL WORK WITH THE OWNERS VENDOR. TYPICAL ALL LOCATIONS.
- EMERGENCY CALL DEVICE PROVIDED AND INSTALLED BY OWNERS VENDOR. SHOWN FOR REFERENCE ONLY. TYPICAL FOR ALL UNITS.
- OWNER VENDOR PROVIDED CEILING WIRELESS ACCESS POINT AND WALL MOUNTED WIRELESS ACCESS POINT. COORDINATE ALL LOCATIONS WITH OWNERS VENDOR HEAT MAPS PRIOR TO ROUGH-IN. TYPICAL ALL UNITS.
- PROVIDE MANUFACTURER RECOMMENDED CONTROL SWITCH FOR FIREPLACE.
- VERIFY WITH FIREPLACE SHOP DRAWINGS AND PROVIDE HARDWARE OR RECEPTACLE CONNECTION PER MANUFACTURERS REQUIREMENTS.
- LOCATION OF FUTURE ELECTRIC VEHICLE CHARGER. ELECTRICAL CONTRACTOR TO SECURELY MOUNT METAL 2 GANG OUTLET BOX WITH BLANK COVER PLATE WITH INSULATED BUSINESS AND PULL STRING. PROVIDE A 40A/2P CIRCUIT BREAKER.
- PROVIDE DROP FOR POWER OVER ETHERNET (PoE) TABLET. OWNER PROVIDED. AT FUTURE JACK TO BE INSTALLED AT 4' AFF. COORDINATE WITH OWNER FOR EXACT LOCATION PRIOR TO ROUGH-IN. TYP. ALL UNITS.
- PROVIDE ACCESS CONTROL CARD READER. SAME AS USED AT THE PAULSON, FOR RESIDENT FRONT ENTRY DOOR.

GENERAL NOTES

- PROVIDE FOAM GASKETS FOR ALL WIRING DEVICES (RECEPTACLES, SWITCHES, AND DIMMERS) INSTALLED ON THE INTERIOR OF AN EXTERIOR BUILDING WALL. FOAM GASKETS PROVIDE ADDITIONAL INSULATION BETWEEN THE BACK BOX, WIRING DEVICES, AND WALL PLATE(S).
- REFER TO ARCHITECTURAL FIRE PROTECTION PLAN AND FOR LOCATIONS OF FIRE RATED WALLS. ALL RECESSED ELECTRICAL JUNCTION BOXES LOCATED IN FIRE OR ACOUSTICAL RATED WALLS SHALL BE SEPARATED AS REQUIRED BY THE LATEST ENFORCED IBC.
- WALL BOXES FOR SWITCH BOXES OR RECEPTACLES IN WALL WITH POCKET DOORS SHALL BE INSTALLED SO WALL BOX OR WIRING TO POCKET DOORS DOES NOT INTERFERE WITH THE OPENING OR CLOSING OF THE POCKET DOOR.
- ALL BRANCH CIRCUITS SUPPLYING OUTLETS INSTALLED IN DWELLING UNIT DINING ROOMS, LIVING, DENS, BEDROOMS, CLOSETS AND HALLWAYS SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER TYPE CIRCUIT BREAKER.
- BRANCH CIRCUIT WIRING WITHIN APARTMENTS IS TYPE NM CABLE WITH INSULATED COPPER CONDUCTORS AND AN INSULATED GROUNDING CONDUCTOR.
- RECEPTACLES IN DWELLING UNITS SHALL BE TAMPER-PROOF TYPE AS REQUIRED PER NEC ARTICLE 408.12 AND 210.52.
- PLACEMENT OF RECEPTACLES WITHIN DWELLING UNITS SHALL BE IN ACCORDANCE WITH NEC ARTICLE 210.
- LIVING UNIT LOCKER/DOOR DOORS SHALL BE PAINTED TO MATCH INTERIOR WALL COLOR.
- RANGE HOODS SHALL BE SERVED FROM LOCAL BRANCH CIRCUIT.
- REFER TO PANEL SCHEDULES FOR BRANCH CIRCUIT OF HVAC UNITS SERVING APARTMENTS.
- ELECTRICAL CONTRACTOR SHALL SUPPLY AND INSTALL ALL APPLIANCE ELECTRICAL CORDS NOT SUPPLIED BY THE MANUFACTURER.
- ROCKER (DECORA STYLE) SWITCHES AND RECEPTACLES.
- DEVICE AND SWITCH PLATE COLOR, WHITE, UNLESS ON EMERGENCY POWER (RED, OR DENOTE WITH RED "EMERGENCY" LABEL, SM. TO LEGRAND TREX).
- COORDINATE LOCATION OF ALL DEVICES WITH ARCHITECTURAL DRAWINGS.
- WHERE RECESSED DEVICES/EQUIPMENT IS INSTALLED IN A SHARP PLUMBING WALL COORDINATE LOCATIONS WITH THE PLUMBING CONTRACTOR PRIOR TO BEGINNING WORK.
- NEW EMERGENCY CALL DEVICES AND LOCATIONS SHALL BE COORDINATED WITH THE OWNERS SYSTEM REPRESENTATIVE, RHYTHMOS, PRIOR TO BEGINNING ANY WORK.
- REFER TO ARCHITECTURAL SPECIFICATIONS - DIVISION 08 FOR ALL HARDWARE, INCLUDING SMART LOCKS AT ENTRY.

PLAN NOTES

- PROVIDE CEILING FAN RATED BACKBOX FOR OPTIONAL TYPE "U" CEILING FAN. PROVIDE 1/2" MC CABLE FROM CEILING FAN RATED BACKBOX TO LIGHT SWITCH FOR WIRING OF OPTIONAL CEILING FAN. COORDINATE MOUNTING OF JUNCTION BOX AT THE CEILING PEAK WITH ARCHITECT.
- PROVIDE AUDIO/VIDEO RING CAMERA DOORBELL WITH CHIME AND TRANSFORMER. E.G. TO PROVIDE 120V CIRCUIT FOR VIDEO DOORBELL TRANSFORMER.
- 120V SIMPLEX RECEPTACLE FOR UNDERCOUNTER DISHWASHER. VERIFY LOCATION AND INSTALL PER DISHWASHER MANUFACTURER REQUIREMENTS PRIOR TO ROUGH-IN.
- 120V SIMPLEX RECEPTACLE FOR GARBAGE DISPOSAL. VERIFY LOCATION AND INSTALL PER DISPOSAL MANUFACTURER REQUIREMENTS PRIOR TO ROUGH-IN. PROVIDE CONNECTION FOR SINKTOP AIR SWITCH OR WALL SWITCH AS REQUIRED.
- RECEPTACLE FOR ELECTRIC RANGE. VERIFY LOCATION AND NEMA CONFIGURATION WITH MANUFACTURER PRIOR TO ROUGH-IN.
- RECEPTACLE FOR MICROWAVE IN KITCHEN CASEWORK. VERIFY EXACT LOCATION AND NEMA CONFIGURATION WITH MANUFACTURER PRIOR TO ROUGH-IN.
- MINIATURIZED SINKTOP SWITCH DUAL OUTLET MODEL #ETS-805N. MOUNT TRANSFORMER UNDER CABINET. GARBAGE DISPOSAL WALL PLUG INTO INSINKERATOR FOR ON/OFF PUSH BUTTON OPERATION. MOUNTED ON COUNTERTOP. STANDARD COLOR PUSH BUTTON SHALL BE SATIN NICKEL. REFER TO MANUFACTURERS INSTALLATION REQUIREMENTS FOR MORE INFORMATION.
- DUPLEX RECEPTACLE INSTALLED 8" BELOW CEILING FOR PLUG IN 120V TRANSFORMER FOR THE EMERGENCY CALL SYSTEM. COORDINATE EXACT LOCATION WITH LOW VOLTAGE CONTRACTOR & OWNERS SARA SYSTEM REPRESENTATIVE. TYPICAL FOR ALL UNITS.
- MOUNT LOAD CENTER SO THAT TOP MOST BREAKER IS NO HIGHER THAN 4' AFF.



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 64963, Expiration Date: 9/30/2027

PROJECT TITLE

Collington
A KENDA AFFILIATE
INDEPENDENT LIVING
CONSTRUCTION DOCUMENTS

SFCs Architecture
Engineering
Planning
Interiors
SFCs Inc. • 1777 Sentry Parkway West
Suite 220, VEVA 17
Blue Bell, Pennsylvania 19422
610.825.1288
www.sfcscs.com

DESIGNER : JGB DRAWN : DAH, DKW, JDM
ARCHITECT : KAT, NSS CHECKED : MAY, DAH
ENGINEER : MAW, DAH APPROVED : CW
NO. REVISION DESCRIPTION DATE

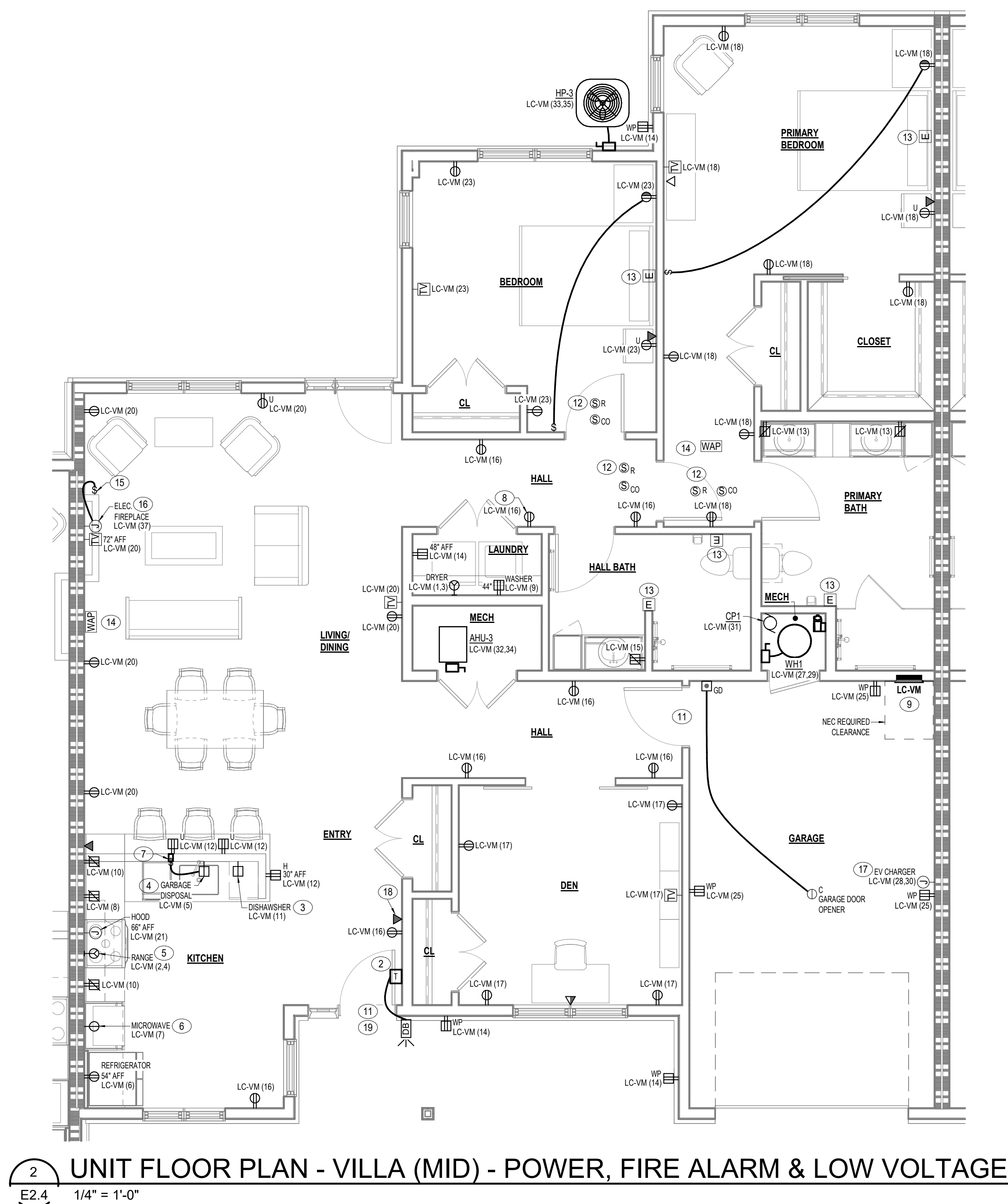
DRAWING TITLE

**ENLARGED UNIT PLANS -
ELECTRICAL & LOW
VOLTAGE**

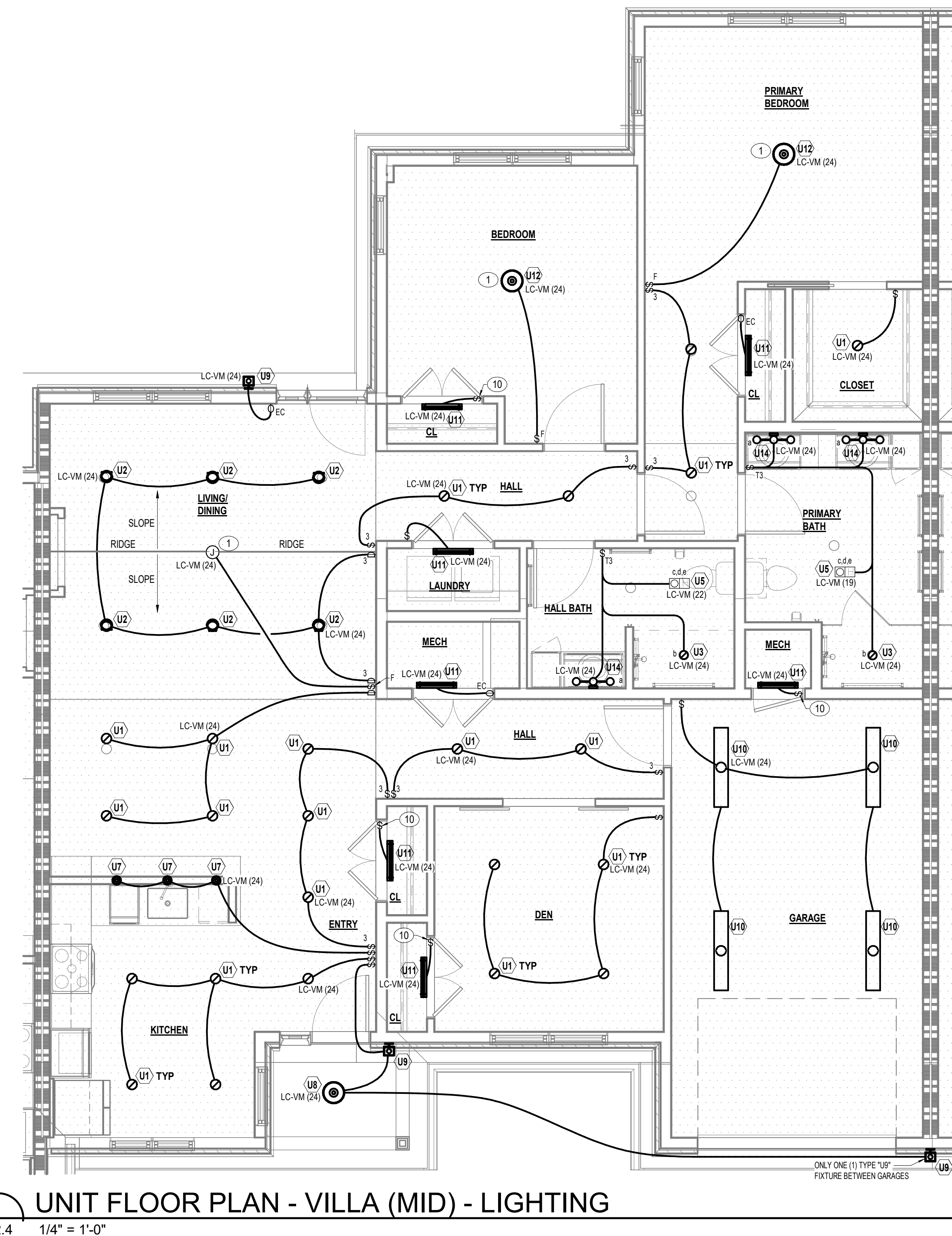
DATE : MAY 28, 2026
COMM. NO. : 18135.00

E2.3

APPROVAL STAMPS



2 UNIT FLOOR PLAN - VILLA (MID) - POWER, FIRE ALARM & LOW VOLTAGE
E2.4 1/4" = 1'-0"



1 UNIT FLOOR PLAN - VILLA (MID) - LIGHTING
E2.4 1/4" = 1'-0"

PLAN NOTES (CONTINUED)

- CLOSET LIGHT CONTROLLED THROUGH AN EDWARDS 800 SERIES (OR EQUAL) DOOR SWITCH.
- EACH UNIT FRONT ENTRY DOOR, PATIO DOOR AND GARAGE ENTRY DOOR, WHERE APPLICABLE PER ARCHITECTURAL DRAWINGS, TO BE MONITORED FOR DOOR OPEN STATUS WITH DOOR POSITION SWITCH. COORDINATE ALL DOOR HARDWARE WITH ARCHITECTURAL DRAWINGS AND SPECS.
- RHYTHMOS WIRELESS SMOKE DETECTOR, WITH 10 YEAR SEALED BATTERY, INTERFACE WITH THE EMERGENCY CALL SYSTEM. ALL SMOKE ALARMS SHALL BE CONNECTED THROUGH THE EMERGENCY CALL SYSTEM AND ANNUNCIATE AT THE CAMPUS SECURITY OFFICE, OR AS DETERMINED BY CAMPUS PERSONNEL. COORDINATE ALL WORK WITH THE OWNERS VENDOR. TYPICAL ALL LOCATIONS.
- EMERGENCY CALL DEVICE PROVIDED AND INSTALLED BY OWNERS VENDOR. SHOWN FOR REFERENCE ONLY. TYPICAL FOR ALL UNITS.
- OWNER VENDOR PROVIDED CEILING WIRELESS ACCESS POINT AND WALL MOUNTED WIRELESS ACCESS POINT. COORDINATE ALL LOCATIONS WITH OWNERS VENDOR HEAT MAPS PRIOR TO ROUGH-IN. TYPICAL ALL UNITS.
- PROVIDE MANUFACTURER RECOMMENDED CONTROL SWITCH FOR FIREPLACE.
- VERIFY WITH FIREPLACE SHOP DRAWINGS AND PROVIDE HARDWIRED OR RECEPTACLE CONNECTION PER MANUFACTURERS REQUIREMENTS.
- LOCATION OF FUTURE ELECTRIC VEHICLE CHARGER. ELECTRICAL CONTRACTOR TO SECURELY MOUNT METAL 2 GANG OUTLET BOX WITH BLANK COVER PLATE WITH INSULATED BUSBARS AND PULL STRING. PROVIDE A 40A/2P CIRCUIT BREAKER.
- PROVIDE DROP FOR POWER OVER ETHERNET (PoE) TABLET. OWNER PROVIDED. AT FUTURE JUNCTION TO BE INSTALLED AT 4' AFF. COORDINATE WITH OWNER FOR EXACT LOCATION PRIOR TO ROUGH-IN. TYP. ALL UNITS.
- PROVIDE ACCESS CONTROL CARD READER, SAME AS USED AT THE PAULSON, FOR RESIDENT FRONT ENTRY DOOR.

GENERAL NOTES

- PROVIDE FOAM GASKETS FOR ALL WIRING DEVICES (RECEPTACLES, SWITCHES, AND DIMMERS) INSTALLED ON THE INTERIOR OF AN EXTERIOR BUILDING WALL. FOAM GASKETS PROVIDE ADDITIONAL INSULATION BETWEEN THE BACK BOX, WIRING DEVICES, AND WALL PLATE(S).
- REFER TO ARCHITECTURAL FIRE PROTECTION PLAN AND FOR LOCATIONS OF FIRE RATED WALLS. ALL RECESSED ELECTRICAL JUNCTION BOXES LOCATED IN FIRE OR ACoustICAL RATED WALLS SHALL BE SEPARATED AS REQUIRED BY THE LATEST ENFORCED IBC.
- WALL BOXES FOR SWITCH BOXES OR RECEPTACLES IN WALL WITH POCKET DOORS SHALL BE INSTALLED SO WALL BOX OR WIRING TO POCKET DOORS DOES NOT INTERFERE WITH THE OPENING OR CLOSING OF THE POCKET DOOR.
- ALL BRANCH CIRCUITS SUPPLYING OUTLETS INSTALLED IN DWELLING UNIT DINING ROOMS, LIVING, DENS, BEDROOMS, CLOSETS AND HALLWAYS SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER TYPE CIRCUIT BREAKER.
- BRANCH CIRCUIT WIRING WITHIN APARTMENTS IS TYPE NM CABLE WITH INSULATED COPPER CONDUCTORS AND AN INSULATED GROUNDING CONDUCTOR.
- RECEPTACLES IN DWELLING UNITS SHALL BE TAMPER-PROOF TYPE AS REQUIRED PER NEC ARTICLE 408.12 AND 210.52.
- PLACEMENT OF RECEPTACLES WITHIN DWELLING UNITS SHALL BE IN ACCORDANCE WITH NEC ARTICLE 210.
- LIVING UNIT LOCKER/DOOR DOORS SHALL BE PAINTED TO MATCH INTERIOR WALL COLOR.
- RANGE HOODS SHALL BE SERVED FROM LOCAL BRANCH CIRCUIT.
- REFER TO PANEL SCHEDULES FOR BRANCH CIRCUIT OF HVAC UNITS SERVING APARTMENTS.
- ELECTRICAL CONTRACTOR SHALL SUPPLY AND INSTALL ALL APPLIANCE ELECTRICAL CORDS NOT SUPPLIED BY THE MANUFACTURER.
- ROCKER (DECORA STYLE) SWITCHES AND RECEPTACLES.
- DEVICE AND SWITCH PLATE COLOR, WHITE, UNLESS ON EMERGENCY POWER (RED, OR DENOTE WITH RED "EMERGENCY" LABEL, SM. TO LEGRAND TREX).
- COORDINATE LOCATION OF ALL DEVICES WITH ARCHITECTURAL DRAWINGS.
- WHERE RECESSED DEVICES/EQUIPMENT IS INSTALLED IN A SHARED PLUMBING WALL COORDINATE LOCATIONS WITH THE PLUMBING CONTRACTOR PRIOR TO BEGINNING WORK.
- NEW EMERGENCY CALL DEVICES AND LOCATIONS SHALL BE COORDINATED WITH THE OWNERS SYSTEM REPRESENTATIVE, RHYTHMOS, PRIOR TO BEGINNING ANY WORK.
- REFER TO ARCHITECTURAL SPECIFICATIONS - DIVISION 08 FOR ALL HARDWARE, INCLUDING SMART LOCKS AT ENTRY.

PLAN NOTES

- PROVIDE CEILING FAN RATED BACKBOX FOR OPTIONAL TYPE "UF" CEILING FAN. PROVIDE 12-3/4" IAC CABLE FROM CEILING FAN RATED BACKBOX TO LIGHT SWITCH FOR WIRING OF OPTIONAL CEILING FAN. COORDINATE MOUNTING OF JUNCTION BOX AT THE CEILING PEAK WITH ARCHITECT.
- PROVIDE AUDIO/VIDEO RING CAMERA DOORBELL WITH CHIME AND TRANSFORMER. E.C. TO PROVIDE 120V CIRCUIT FOR VIDEO DOORBELL TRANSFORMER.
- 120V SIMPLEX RECEPTACLE FOR UNDERCOUNTER DISHWASHER. VERIFY LOCATION AND INSTALL PER DISHWASHER MANUFACTURE REQUIREMENTS PRIOR TO ROUGH-IN.
- 120V SIMPLEX RECEPTACLE FOR GARAGE DISPOSAL. VERIFY LOCATION AND INSTALL PER DISPOSAL MANUFACTURE REQUIREMENTS PRIOR TO ROUGH-IN. PROVIDE CONNECTION FOR SINKTOP AIR SWITCH OR WALL SWITCH AS REQUIRED.
- RECEPTACLE FOR ELECTRIC RANGE. VERIFY LOCATION AND NEMA CONFIGURATION WITH MANUFACTURER PRIOR TO ROUGH-IN.
- RECEPTACLE FOR MICROWAVE IN KITCHEN CASEWORK. VERIFY EXACT LOCATION AND NEMA CONFIGURATION WITH MANUFACTURER PRIOR TO ROUGH-IN.
- INSULATOR SINKTOP SWITCH DUAL, OUTLET MODEL, NTS-003N, MOUNT TRANSFORMER UNDER CABINET. GARAGE DISPOSAL WILL PLUG INTO INSULATOR FOR ON/OFF PUSH BUTTON OPERATION. MOUNTED ON COUNTERTOP. STANDARD COLOR PUSH BUTTON SHALL BE BATH NICKEL. REFER TO MANUFACTURERS INSTALLATION REQUIREMENTS FOR MORE INFORMATION.
- DUPLEX RECEPTACLE INSTALLED IF BELOW CEILING FOR PLUG IN 120V TRANSFORMER FOR THE EMERGENCY CALL SYSTEM. COORDINATE EXACT LOCATION WITH LOW VOLTAGE CONTRACTOR & OWNERS SYSTEM REPRESENTATIVE, TYPICAL FOR ALL UNITS.
- MOUNT LOAD CENTER SO THAT TOP MOST BREAKER IS NO HIGHER THAN 4' AFF.



Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 64963, Expiration Date: 9/30/2027

PROJECT TITLE

Collington
A KENDAL AFFILIATE
**INDEPENDENT LIVING
CONSTRUCTION DOCUMENTS**
SFCS Architecture
Engineering
Planning
Interiors
SFCS Inc. • 1777 Sentry Parkway West
Suite 220, VEVA 17
Blue Bell, Pennsylvania 19422
610.825.1288
www.sfcs.com

DESIGNER : JGB	DRAWN : DAH, DKW, JDM
ARCHITECT : KAT, NSS	CHECKED : MAV, DAH
ENGINEER : MAV, DAH	APPROVED : CW

NO.	REVISION DESCRIPTION	DATE
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DRAWING TITLE

**ENLARGED UNIT PLANS -
ELECTRICAL & LOW
VOLTAGE**

DATE:	DRAWING
MAY 28, 2026	
COMM. NO.	
18135.00	

E2.4

APPROVAL STAMPS

Branch Panel: HP-HP																	
Location: FIRE SERVICE ENTRANCE ROOM						Volts: 120/240 Single			A.I.C. Rating: 10,000 AIC								
Supply From:						Phases: 1			Mains Type: MLO								
Mounting: SURFACE						Wires: 3			Mains Rating: 100 A								
Enclosure: NEMA 1									MCB Rating:								
Notes:																	
CKT	Circuit Description	Brkr Type	Trip	Poles	A	B	Poles	Trip	Brkr Type	Circuit Description	CKT						
1	LTG - FIRE SERVICE ENTRANCE RM.	20 A	1	30 VA	300 VA		1	20 A		MAINTENANCE RECEPTACLE	2						
3	MAINTENANCE RECEPTACLE	20 A	1			160 VA	30 VA	1	20 A	NETWORK CABINET ENCLOSURES	4						
5	FIRE ALARM CONTROL PANEL (FACP)	20 A	1	350 VA	1500 VA		2	20 A		UH-1 (HAWTHORN PLACE)	6						
7	SPARE	20 A	1		0 VA	0 VA	1500 VA	--	--		8						
9	SPARE			1	0 VA	0 VA		1	20 A	SPARE	10						
11	SPARE		--	1		--	--	1	--	SPACE	12						
Total Load:					2240 VA	2040 VA											
Total Amps:					19 A	17 A											
Legend:																	
Load Classification		Connected Load		Demand Factor		Estimated Demand		Panel Totals									
Other		100 VA		100.00%		100 VA		Total Conn. Load: 4280 VA									
Receptacle		1150 VA		100.00%		1150 VA											
Lighting		30 VA		125.00%		38 VA		Total Est. Demand: 4288 VA									
Power		3000 VA		100.00%		3000 VA		Total Conn.: 18 A									
								Total Est. Demand: 18 A									
Notes:																	

Branch Panel: HP-CC

Location: FIRE SERVICE ENTRANCE ROOM

Supply From:

Mounting: SURFACE

Enclosure: NEMA 1

Volts: 120/240 Single

Phases: 1

Wires: 3

A.I.C. Rating: 10,000 AIC

Mains Type: MLO

Mains Rating: 100 A

MCB Rating:

Notes:

CKT	Circuit Description	Brkr Type	Trip	Poles	A	B	Poles	Trip	Brkr Type	Circuit Description	CKT
1	LTG - FIRE SERVICE ENTRANCE RM.	20 A	1		30 VA	300 VA	1	20 A		MAINTENANCE RECEPTACLE	2
3	MAINTENANCE RECEPTACLE	20 A	1		180 VA	360 VA	1	20 A		NETWORK CABINET ENCLOSURES	4
5	FIRE ALARM CONTROL PANEL (FACP)	20 A	1		350 VA	1500 VA	2	20 A		UH-1 (CEDAR CROSSING)	6
7	SPARE	20 A	1			0 VA	1500 VA	--	--		8
9	SPARE				0 VA	0 VA		1	20 A	SPARE	10
11	SPACE	--	1		--	--	--	1	--	SPACE	12
Total Load:					2240 VA	2040 VA					
Total Amps:					19 A	17 A					
Legend:											
Load Classification		Connected Load		Demand Factor		Estimated Demand		Panel Totals			
Other		350 VA		100.00%		350 VA		Total Conn. Load: 4280 VA			
Receptacle		900 VA		100.00%		900 VA					
Lighting		30 VA		125.00%		38 VA		Total Est. Demand: 4288 VA			
Power		3000 VA		100.00%		3000 VA		Total Conn.: 18 A			
								Total Est. Demand: 18 A			
Notes:											

Branch Panel: LC-C												
Location: COTTAGE C - ENTRY						Volts: 120/240 Single			A.I.C. Rating: 10,000 AIC			
Supply From:						Phases: 1			Mains Type: MLO			
Mounting: FLUSH						Wires: 3			Mains Rating: 200 A			
Enclosure: NEMA 1									MCB Rating:			
Notes:												
ALL 20A/1P CIRCUIT BREAKERS SUPPLYING OUTLETS INSTALLED IN DWELLING UNIT KITCHENS, FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, DENS, BEDROOMS, CLOSETS, HALLWAYS, LAUNDRY AREAS, OR SIMILAR ROOMS SHALL BE AFCI (ARC-FAULT CIRCUIT-INTERRUPTER) TYPE PER NEC 210.12(A).												
CKT	Circuit Description	Brkr Type	Trip	Poles	A	B	Poles	Trip	Brkr Type	Circuit Description	CKT	
1	CLOTHES DRYER	GFCI	40 A	2	2200 VA	4000 VA		2	40 A	ELEC COOKTOP - KITCHEN	2	
3	--	--	--	--	--	--	--	--	--	--	4	
5	GARBAGE DISPOSAL - KITCHEN	DUAL	20 A	1	800 VA	1300 VA		1	20 A	DUAL REFRIGERATOR - KITCHEN	6	
7	MICROWAVE - KITCHEN	DUAL	20 A	1	1500 VA	360 VA		1	20 A	AFCI GFI RECPTS - KITCHEN COUNTER	8	
9	CLOTHES WASHER	AFCI	20 A	1	1320 VA	540 VA		1	20 A	AFCI GFI RECPTS - KITCHEN COUNTER	10	
11	DISHWASHER - KITCHEN	DUAL	20 A	1	1000 VA	720 VA		1	20 A	AFCI GFI RECPTS - KITCHEN ISLAND	12	
13	GFI RECPTS - PRIMARY BATHROOM	20 A	1	360 VA	540 VA		1	20 A	AFCI GFI RECPTS - LAUNDRY & PATIO	14		
15	GFI RECPTS - HALL BATHROOM	20 A	1	180 VA	1080 VA		1	20 A	AFCI RECPTS - ENTRY & HALL	16		
17	RECPTS - DEN	AFCI	20 A	1	1080 VA	1440 VA		1	20 A	AFCI RECPTS - PRIMARY BEDROOM	18	
19	HEATER / LIGHT / FAN - PRIMARY...	AFCI	20 A	1	1300 VA	1080 VA		1	20 A	AFCI RECPTS - DINING & LIVING ROOM	20	
21	HOOD - KITCHEN	AFCI	20 A	1	300 VA	1300 VA		1	20 A	AFCI HEATER / LIGHT / FAN - BATHROOM	22	
23	RECPTS - BEDROOM	AFCI	20 A	1	1080 VA	888 VA		1	20 A	AFCI LIGHTING - COTTAGE C	24	
25	GFI RECPTS - BATHROOM	AFCI	20 A	1	180 VA	2250 VA		2	20 A	WHI (COTTAGE C)	26	
27	CP1 (COTTAGE C)	20 A	1	--	--	90 VA	2250 VA	--	--	--	28	
29	HP-3 (COTTAGE C)	30 A	2	1975 VA	4546 VA		2	60 A	AHU-3 (COTTAGE C)	30		
31	--	--	--	--	--	--	--	--	--	--	32	
33	EF-1 (COTTAGE C)	AFCI	20 A	1	0 VA	0 VA		1	20 A	SPARE	34	
35	SPARE	20 A	1	0 VA	0 VA			1	20 A	SPARE	36	
37	SPARE	20 A	1	0 VA	0 VA			1	20 A	SPARE	38	
39	SPARE	20 A	1	0 VA	0 VA			1	20 A	SPARE	40	
41	SPARE	20 A	1	0 VA	--			1	--	SPACE	42	
Total Load:					23682 VA	24221 VA						
Total Amps:					197 A	202 A						
Legend:												
Notes:												
*AFCI BREAKER TYPE = (ARC-FAULT CIRCUIT-INTERRUPTER) TYPE CIRCUIT BREAKER PER NEC 210.12(A).												
*GFCI BREAKER TYPE = (GROUND FAULT CIRCUIT INTERRUPTER) TYPE CIRCUIT BREAKER.												
*DUAL BREAKER TYPE = DUAL-FUNCTION AFCI / GFCI BREAKER TYPE.												

Branch Panel: LC-B1												
Location: COTTAGE B1 - BEDROOM						Volts: 120/240 Single			A.I.C. Rating: 10,000 AIC			
Supply From:						Phases: 1			Mains Type: MLO			
Mounting: FLUSH						Wires: 3			Mains Rating: 200 A			
Enclosure: NEMA 1									MCB Rating:			
Notes:												
ALL 20A/1P CIRCUIT BREAKERS SUPPLYING OUTLETS INSTALLED IN DWELLING UNIT KITCHENS, FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, DENS, BEDROOMS, CLOSETS, HALLWAYS, LAUNDRY AREAS, OR SIMILAR ROOMS SHALL BE AFCI (ARC-FAULT CIRCUIT-INTERRUPTER) TYPE PER NEC 210.12(A).												
CKT	Circuit Description	Brkr Type	Trip	Poles	A	B	Poles	Trip	Brkr Type	Circuit Description	CKT	
1	CLOTHES DRYER	GFCI	40 A	2	2200 VA	4000 VA		2	40 A	ELEC COOKTOP - KITCHEN	2	
3	--	--	--	--	--	--		--	--	--	4	
5	GARBAGE DISPOSAL - KITCHEN	DUAL	20 A	1	800 VA	1300 VA		1	20 A	DUAL REFRIGERATOR - KITCHEN	6	
7	MICROWAVE - KITCHEN	DUAL	20 A	1	1500 VA	540 VA		1	20 A	AFCI GFI RECPTS - KITCHEN COUNTER	8	
9	CLOTHES WASHER	AFCI	20 A	1	1320 VA	540 VA		1	20 A	AFCI GFI RECPTS - KITCHEN COUNTER	10	
11	DISHWASHER - KITCHEN	DUAL	20 A	1	1000 VA	720 VA		1	20 A	AFCI GFI RECPTS - KITCHEN ISLAND	12	
13	GFI RECPTS - PRIMARY BATHROOM	20 A	1	360 VA	1680 VA			1	20 A	AFCI GFI RECPTS - LAUNDRY & PATIO	14	
15	GFI RECPTS - HALL BATHROOM	20 A	1	180 VA	900 VA			1	20 A	AFCI RECPTS - ENTRY & HALL	16	
17	RECPTS - DEN	AFCI	20 A	1	900 VA	1260 VA		1	20 A	AFCI RECPTS - PRIMARY BEDROOM	18	
19	HEATER / LIGHT / FAN - PRIMARY	AFCI	20 A	1	1300 VA	1440 VA		1	20 A	AFCI RECPTS - DINING & LIVING ROOM	20	
21	HOOD - KITCHEN	AFCI	20 A	1	300 VA	1300 VA		1	20 A	AFCI HEATER / LIGHT / FAN - HALL BATHROOM	22	
23	RECPTS - BEDROOM	AFCI	20 A	1	1080 VA	825 VA		1	20 A	AFCI LIGHTING - COTTAGE B1	24	
25	WH1 (COTTAGE B1)	20 A	2	2250 VA	60 VA			1	20 A	CP1 (COTTAGE B1)	26	
27	--	--	--	--	--	--		2	60 A	AHU-2 (COTTAGE B1)	28	
29	HP-2 (COTTAGE B1)	30 A	2	1864 VA	6046 VA			--	--	--	30	
31	--	--	--	--	--	--		--	--	--	32	
33	SPARE	20 A	1	0 VA	0 VA			1	20 A	SPARE	34	
35	SPARE	20 A	1	0 VA	0 VA			1	20 A	SPARE	36	
37	SPARE	20 A	1	0 VA	0 VA			1	20 A	SPARE	38	
39	SPARE	20 A	1	0 VA	0 VA			1	20 A	SPARE	40	
41	SPARE	--	--	--	--	--		1	--	SPARE	42	
Total Load:					23970 VA	24325 VA						
Total Amps:					200 A	203 A						
Legend:												
Notes:												
"AFCI" BREAKER TYPE = (ARC-FAULT CIRCUIT-INTERRUPTER) TYPE CIRCUIT BREAKER PER NEC 210.12(A).												
"GFCI" BREAKER TYPE = (GROUND FAULT CIRCUIT-INTERRUPTER) TYPE CIRCUIT BREAKER.												
"DUAL" BREAKER TYPE = "DUAL-FUNCTION AFCI / GFCI" BREAKER TYPE.												

APPROVAL STAMPS

Branch Panel: HP-V

Location: FIRE SERVICE ENTRANCE ROOM
Supply From:
Mounting: SURFACE
Enclosure: NEMA 1

Volts: 120/240 Single
Phases: 1
Wires: 3

A.I.C. Rating: 10,000 AIC
Mains Type: MLO
Mains Rating: 100 A
MCB Rating:

Notes:

CKT	Circuit Description	Brkr Type	Trip	Poles	A	B	Poles	Trip	Brkr Type	Circuit Description	CKT
1	LTG - FIRE SERVICE ENTRANCE RM.	20A	1	30 VA	300 VA		1	20 A		MAINTENANCE RECEPTACLE	2
3	MAINTENANCE RECEPTACLE	20 A	1	180 VA	300 VA		1	20 A		NETWORK CABINET ENCLOSURES	4
5	FIRE ALARM CONTROL PANEL (FACP)	20 A	1	350 VA	1800 VA		2	20 A		UH-1 (VILLAS QUAD)	6
7	SPARE	20 A	1		0 VA	1500 VA		--		SPARE	8
9	SPARE	20 A	1	0 VA	0 VA		1	20 A		SPARE	10
11	SPACE	--	1		--	--	1	--		SPACE	12
Total Load:					2240 VA	2040 VA					
Total Amps:					19 A	17 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Receptacle	1100 VA	100.00%	1100 VA	Total Conn. Load: 4280 VA
Lighting	30 VA	125.00%	38 VA	Total Est. Demand: 4288 VA
Power	3000 VA	100.00%	3000 VA	Total Conn.: 18 A
				Total Est. Demand: 18 A

Notes:

Branch Panel: HP-VD

Location:
Supply From:
Mounting: SURFACE
Enclosure: NEMA 3R

Volts: 120/208 Single
Phases: 3
Wires: 3

A.I.C. Rating: 10,000 AIC
Mains Type: MLO
Mains Rating: 100 A
MCB Rating:

Notes:

CKT	Circuit Description	Brkr Type	Trip	Poles	A	B	Poles	Trip	Brkr Type	Circuit Description	CKT
1	MAINTENANCE RECEPTACLE	20A	1	180 VA	300 VA		1	20 A		NETWORK CABINET ENCLOSURE	2
3	SPARE	20 A	1		0 VA	0 VA	1	20 A		SPARE	4
5	SPACE	--	1	--	--	--	1	--		SPACE	6
7	SPACE	--	1	--	--	--	1	--		SPACE	8
9	SPACE	--	1	--	--	--	1	--		SPACE	10
11	SPACE	--	1	--	--	--	1	--		SPACE	12
Total Load:					540 VA	0 VA					
Total Amps:					5 A	0 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Receptacle	540 VA	100.00%	540 VA	Total Conn. Load: 540 VA
				Total Est. Demand: 540 VA
				Total Conn.: 3 A
				Total Est. Demand: 3 A

Notes:

Branch Panel: HP-CCD

Location:
Supply From:
Mounting: SURFACE
Enclosure: NEMA 3R

Volts: 120/208 Single
Phases: 1
Wires: 3

A.I.C. Rating: 10,000 AIC
Mains Type: MLO
Mains Rating: 100 A
MCB Rating:

Notes:

CKT	Circuit Description	Brkr Type	Trip	Poles	A	B	Poles	Trip	Brkr Type	Circuit Description	CKT
1	MAINTENANCE RECEPTACLE	20A	1	180 VA	300 VA		1	20 A		NETWORK CABINET ENCLOSURE	2
3	SPARE	20 A	1		0 VA	0 VA	1	20 A		SPARE	4
5	SPACE	--	1	--	--	--	1	--		SPACE	6
7	SPACE	--	1	--	--	--	1	--		SPACE	8
9	SPACE	--	1	--	--	--	1	--		SPACE	10
11	SPACE	--	1	--	--	--	1	--		SPACE	12
Total Load:					540 VA	0 VA					
Total Amps:					5 A	0 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Receptacle	540 VA	100.00%	540 VA	Total Conn. Load: 540 VA
				Total Est. Demand: 540 VA
				Total Conn.: 3 A
				Total Est. Demand: 3 A

Notes:

Branch Panel: LC-VM

Location: VILLA (MID) - GARAGE
Supply From:
Mounting: FLUSH
Enclosure: NEMA 1

Volts: 120/240 Single
Phases: 1
Wires: 3

A.I.C. Rating: 10,000 AIC
Mains Type: MLO
Mains Rating: 200 A
MCB Rating:

Notes:

ALL 20A/1P CIRCUIT BREAKERS SUPPLYING OUTLETS INSTALLED IN DWELLING UNIT KITCHENS, FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, DEN'S, BEDROOMS, CLOSETS, HALLWAYS, LAUNDRY AREAS, OR SIMILAR ROOMS SHALL BE AFCI (ARC-FAULT CIRCUIT-INTERRUPTER) TYPE PER NEC 210.12(A).

CKT	Circuit Description	Brkr Type	Trip	Poles	A	B	Poles	Trip	Brkr Type	Circuit Description	CKT
1	CLOTHES DRYER	GFCI	30 A	2	2800 VA	6000 VA	2	50 A		RANGE - KITCHEN	2
3											4
5	GARBAGE DISPOSAL - KITCHEN	DUAL	20 A	1	518 VA	1725 VA		1	20 A	DUAL REFRIGERATOR - KITCHEN	6
7	MICROWAVE - KITCHEN	DUAL	20 A	1		1000 VA	180 VA	1	20 A	AFCI GFI RECPTS - KITCHEN COUNTER	8
9	CLOTHES WASHER	AFCI	20 A	1	1320 VA	360 VA		1	20 A	AFCI GFI RECPTS - KITCHEN COUNTER	10
11	DISHWASHER - KITCHEN	DUAL	20 A	1	1300 VA	540 VA		1	20 A	AFCI GFI RECPTS - KITCHEN ISLAND	12
13	GFI RECPTS - PRIMARY BATHROOM		20 A	1	360 VA	120 VA		1	20 A	AFCI GFI RECPTS - LAUNDRY & PATIO	14
15	GFI RECPTS - HALL BATHROOM		20 A	1	180 VA	1440 VA		1	20 A	AFCI RECPTS - ENTRY & HALL	16
17	RECPTS - DEN	AFCI	20 A	1	800 VA	1620 VA		1	20 A	AFCI RECPTS - PRIMARY BEDROOM	18
19	HEATER / LIGHT / FAN - PRIMARY	AFCI	20 A	1		1380 VA	180 VA	1	20 A	AFCI RECPTS - DINING & LIVING ROOM	20
21	HOOD - KITCHEN	AFCI	20 A	1	300 VA	1300 VA		1	20 A	AFCI HEATER / LIGHT / FAN - HALL BATHROOM	22
23	RECPTS - BEDROOM	AFCI	20 A	1	800 VA	1188 VA		1	20 A	AFCI LIGHTING - VILLA VM	24
25	GFI RECPTS - GARAGE	AFCI	20 A	1	540 VA	1650 VA		1	20 A	AFCI GARAGE DOOR OPENER	26
27	WHY (VILLA MID)		20 A	2	2250 VA	2880 VA	2	60 A	AFCI	EV CHARGER (FUTURE)	28
29					2250 VA	2880 VA					30
31	CP1 (VILLA MID)		20 A	1	30 VA	4086 VA	2	60 A		AHU-3 (VILLA MID)	32
33	HP-3 (VILLA MID)		30 A	2	1978 VA	4046 VA					34
35											36
37	ELEC. FIREPLACE	AFCI	20 A	1	1500 VA	0 VA		1	20 A	SPARE	38
39	SPARE		20 A	1	0 VA	0 VA	1	20 A	SPARE		40
41	SPARE		20 A	1	0 VA	0 VA	1	20 A	SPARE		42
Total Load:					32771 VA	29490 VA					

Legend:

Notes:

"AFCI" BREAKER TYPE = (ARC-FAULT CIRCUIT-INTERRUPTER) TYPE CIRCUIT BREAKER PER NEC 210.12(A).

"GFCI" BREAKER TYPE = (GROUND FAULT CIRCUIT INTERRUPTER) TYPE CIRCUIT BREAKER.

"DUAL" BREAKER TYPE = DUAL-FUNCTION AFCI / GFCI BREAKER TYPE.

PROJECT TITLE: COLLINGTON-COTTAGES AND VILLAS: VILLA										PROJECT #: 18135.00		
Optional Method Load Calculation for One-Family Dwellings												
1	General Lighting and Receptacle Loads 220.12			3		x	2056	=	1	6168		
Do not include open porches, garages, and unvented or unfinished spaces not adaptable for future use.												
2	Small Appliance Branch-Circuits 220.52(A)			1500		x	2	=	2	3000		
At least two small appliance branch circuits must be included. 210.11(C)(1)												
3	Laundry Branch Circuits 220.52(B)			1500		x	1	=	3	1500		
At least one laundry branch circuit must be included. 210.11(C)(2)												
4	Appliances 220.53											
Use nameplate rating of ALL appliances (fastened-in-place, permanently connected, or connected to a specific circuit), ranges, ovens, cooktops, motors, and clothes dryers.												
Convert any nameplate rating given in amperes to volt-amperes by multiplying the amperes by the rated voltage.												
Do not include any heating or air conditioning equipment in this section.												
	Water Heater	/	600				Wall Oven	/	3600			
		(va each)	1098					(va each)				
	Dishwasher	/	1068				Clothes Dryer	/	5760			
		(va each)	540					(va each)				
	Disposer	/	540				Cooktop	/	9600			
		(va each)	1000					(va each)				
	Microwaves	/	1200				Hood	/	300			
		(va each)	1725					(va each)				
	Clothes Washer	/	1320				Refrigerator	/	1725			
		(va each)	1900					(va each)				
	Heat/Fan/Light	/	0						0			
		(va each)	0									
		/	0						0			
		(va each)	0									
Total volt-amperes of all appliances LISTED ABOVE										4	28863	
5	Apply 220.62(b) demand factor to the total of lines 1 through 4.										5	21912
(Total of lines 1 through 4) = 10000 + 27551 x 40% = 11012 + 10000 =												
6	Heating and/or Air Conditioning System 220.62(C)										6	
Use the nameplate ratings in volt-amperes for all applicable systems in lines 1 through 6.												
a) Central electric space heating equipment, including integral supplemental heating in heat pumps where the controller prevents the compressor and supplemental heating from operating at the same time.												
5000 x 65% = c) 3250												
b) Electric space heating equipment, if less than four separately controlled units.												
12000 x 100% = d) 12000												
c) Electric thermal storage and other heating systems where the usual load is expected to be continuous at full nameplate value. Systems qualifying under this section shall not be figured under any other selection in 220.62(C).												
0 x 100% = e) 0												
Total Volt-Amperes Demand Load										7	33012	
(Largest VA rating from line 6a through 6e)												
8	Minimum Amperes										8	159
Divide the total volt-amperes by the voltage												
33012 + 208 = (min. is 100A)												
Minimum Service Amperes												
208												
200												
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Branch Panel: LC-VE

Location: VILLA (END) - GARAGE
Supply From:
Mounting: FLUSH
Enclosure: NEMA 1

Volts: 120/240 Single
Phases: 1
Wires: 3

A.I.C. Rating: 10,000 AIC
Mains Type: MLO
Mains Rating: 200 A
MCB Rating:

Notes:

ALL 20A/1P CIRCUIT BREAKERS SUPPLYING OUTLETS INSTALLED IN DWELLING UNIT KITCHENS, FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, DEN'S, BEDROOMS, CLOSETS, HALLWAYS, LAUNDRY AREAS, OR SIMILAR ROOMS SHALL BE AFCI (ARC-FAULT CIRCUIT-INTERRUPTER) TYPE PER NEC 210.12(A).

CKT	Circuit Description	Brkr Type	Trip	Poles	A	B	Poles	Trip	Brkr Type	Circuit Description	CKT
1	CLOTHES DRYER	GFCI	40 A	2	2200 VA	4000 VA		2	40 A	ELEC COOKTOP - KITCHEN	2
3	--	--	--	--	--	--	--	--	--	--	4
5	GARBAGE DISPOSAL - KITCHEN	DUAL	20 A	1	850 VA	1300 VA		1	20 A	DUAL REFRIGERATOR - KITCHEN	6
7	MICROWAVE - KITCHEN	DUAL	20 A	1		1000 VA	180 VA	1	20 A	AFCI GFI RECPTS - KITCHEN COUNTER	8
9	CLOTHES WASHER	AFCI	20 A	1	1320 VA	360 VA		1	20 A	AFCI GFI RECPTS - KITCHEN COUNTER	10
11	DISHWASHER - KITCHEN	DUAL	20 A	1	1300 VA	540 VA		1	20 A	AFCI GFI RECPTS - KITCHEN ISLAND	12
13	GFI RECPTS - PRIMARY BATHROOM	20 A	1	360 VA	120 VA		1	20 A	AFCI GFI RECPTS - LAUNDRY & PATIO	14	
15	GFI RECPTS - HALL BATHROOM	20 A	1	360 VA	1440 VA		1	20 A	AFCI RECPTS - ENTRY & HALL	16	
17	RECPTS - DEN	AFCI	20 A	1	800 VA	1620 VA		1	20 A	AFCI RECPTS - PRIMARY BEDROOM	18
19	HEATER / LIGHT / FAN - PRIMARY.	AFCI	20 A	1		1380 VA	180 VA	1	20 A	AFCI RECPTS - DINING & LIVING ROOM	20
21	HOOD - KITCHEN	AFCI	20 A	1	300 VA	1300 VA		1	20 A	AFCI HEATER / LIGHT / FAN - HALL BATHROOM	22
23	RECPTS - BEDROOM	AFCI	20 A	1	800 VA	1188 VA		1	20 A	AFCI LIGHTING - VILLA VE	24
25	GFI RECPTS - GARAGE	AFCI	20 A	1	540 VA	0 VA		1	20 A	AFCI GARAGE DOOR	26
27	WHY (VILLA END)	20 A	2	2250 VA	3338 VA		2	40 A	AFCI EV CHARGER	28	
29	--	--	--	--	--	--	--	--	--	--	30
31	CP1 (VILLA END)	20 A	1		30 VA	4086 VA	2	60 A	AHU-3 (VILLA END)	32	
33	HP-3 (VILLA END)	30 A	2	1978 VA	4046 VA						34
35	--	--	--	--	--	--	--	--	--	--	36
37	ELEC. FIREPLACE	AFCI	20 A	1	1500 VA	0 VA		1	20 A	SPARE	38
39	SPARE	20 A	1	0 VA	0 VA	0 VA	0 VA	1	20 A	SPARE	40
41	SPARE	20 A	1	0 VA	0 VA			1	20 A	SPARE	42
					Total Loads	24820 VA	75867 VA				