ELECTRICAL ABBREVIATIONS		MANUFACTURE(R)	MFR.
ANADEDE	A / A A 4 D \	MAXIMUM_OVERCURRENT	MAX
AMPERE	A(AMP)	MAXIMUM OVERCURRENT	МОСР
ABOVE	ABV	PROTECTION	NAFCH
ABOVE FINISHED FLOOR	AFF	MECHANICAL	MECH.
ABOVE FINISHED GRADE	AFG	MINIMUM	MIN.
AIR CONDITIONING	A/C	MINIMUM CURRENT AMPACITY_	MCA
ALUMINUM	AL	MISCELLANEOUS	MISC.
APPROXIMATE(LY)	APPROX.	MOUNTING HEIGHT TO CENTER_	+(#)''
ARCHITECT(URAL)	ARCH('L).	LINE OF DEVICE AFF OR AFG	
AUTHORITY HAVING	 AHJ		
JURISDICTION	_	NATIONAL ELECTRICAL CODE NEMA 1, NEMA 3R, NEMA	_NEC N1,N3R,N
BELOW	BLW	RATING (AS NOTED)	_
BREAKER	BKR	NIGHT LIGHT	NL
BUILDING	BLDG.	NOMINAL	NOM.
		NON-FUSED	NF
CARD READER	CR	NOT APPLICABLE	_N/A
CEILING	CK CLG	NOT APPLICABLE NOT IN CONTRACT	_N.I.C.
CIRCUIT	CKT	NOT TO SCALE	N.T.S.
CIRCUIT CONTINUED	CON'T.	NUMBER	_NO.,#
CONCRETE MASONRY UNIT	CMU		
CONDENSATE DRAIN	COND.	PANEL	_PNL
COPPER	CU	PARTIAL	PART.
CONDUIT	C.	PHASE	 PH. <i>,</i> Ø
COUNTER	CTR	POLE	, <i>p</i> _P
CURRENT TRANSFORMER	CT	POLYVINYL CHLORIDE	_' PVC
	_	POWER POLE	_PP
DEMOLISH(ITION)	DEMO.		
DEPARTMENT	DEPT.	QUANTITY	QTY
DETAIL	DET.		_
DISCONNECT	DISC.	RECEPTACLE	RECEPT.
DIVISION	DIV.	REFER TO / REFERENCE	REF.
DRAWING(S)	DWG(S)	REQUIRE(D)	REQ.('D)
510 (VIII VO(5)	_5*****	DICID CALVANIZED STEEL	
EACH	EA.	RIGID GALVANIZED STEEL	
ELECTRICAL CONTRACTOR		ROOM	RM
ELECTRICAL CONTRACTOR	EC		
ELECTRIC(AL)	ELEC.	SERVICE DISTRIBUTION	_SDE
ELECTRIC WATER COOLER		ENCLOSURE	
ELEVATOR	ELEV.	SPECIFICATION(S)	SPEC.(S)
EMERGENCY	EM,EMER	SQUARE	_sq.
ENGINEER	ENGR.	SQUARE SQUARE FEET	 SF
ENGINEER EQUIPMENT ETCETERA EXHAUST FAN EXISTING	EQPT.	SURGE PROTECTIVE DEVICE	 SPD
TCETERA	ETC.	SWITCH	SW.
EXHAUST FAN	 EF		_
XISTING	EXIST.,(E)	TELEPHONE / DATA COMBO	TELEDATA
EXISTING RELOCATED	ER	TELEPHONE	TEL.
EXISTING TO REMAIN	ETR		
-XISTING TO KLIVIAIN	LIN	TELEPHONE MOUNTING BOARD	_IIVIB
-105 41 404	- / 4	TELEVISION	I V
FIRE ALARM	F/A	TEXAS	_IX
IRE ALARM CONTROL PANEL		THROUGH	_THRU
FIRE ALARM ANNUNCIATOR	FAAP	TRANSFORMER	XFMR
PANEL		TYPICAL	TYP
FIRE / SMOKE DAMPER	_F/S		
OOT/FEET	FT.	UNDERGROUND	UG
•	_	UNDERWRITER LABORATORIES	_ UL
GALVANIZED	GALV.	INC.	_
GENERAL CONTRACTOR	GC	UNINTERRUPTIBLE POWER	UPS
GROUND	_GC GND,G	SUPPLY	
GROUNDING ELEC. CONDCTOR		UNLESS NOTED OTHERWISE	UNO
_		UTILITY	UTIL.
GROUND FAULT CIRCUIT NTERRUPTER	GFCI,GF	OIILIII	_011L.
		VOLT-AMPS	_VA
HEATING, VENTILATION & AIR	HVAC	VOLTAGE / VOLTS	
CONDITIONING	_		
		WEATHER PROOF	WP
NFORMATION	INFO	WEATHER RESISTANT	WR
NTERIOR	INT.		_W/
SOLATED GROUND	IG	WITH WITHOUT	_w/ W/O
JUNCTION BOX	— JB,(J-BOX)		_ ′
KILOAMPERE INTERRUPTING	kAIC		
	KAIC		
CAPACITY	kVA		
ZII OVANIT ARADE	w 1. / 1		
(ILOVOLT-AMPS			
CILOVOLT-AMPSLIGHTING CONTROL PANEL	KVA LCP		

NOTE: NOT ALL ABBREVIATIONS ON THIS LIST ARE APPLICABLE TO THIS PROJECT.

MAIN CIRCUIT BREAKER

MAIN LUG ONLY

LECTRIC	AL LEGEND		NG HEIGHTS LISTED BELOW INDICATE HEIGHT TO CENTER MBOLS SHOWN ON LEGEND ARE NOT NECESSARILY
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
A	1X4 LINEAR FIXTURE W/ DESIGNATION		PANELBOARD OR LOAD CENTER - SURFACE MOUNT, RECESSED MOUNT
А	2X2 LINEAR FIXTURE W/ DESIGNATION		TRANSFORMER
A	2X4 LINEAR FIXTURE W/ DESIGNATION		DISCONNECT SWITCHES - NON-FUSED, FUSED. FUSE SIZES NOTED ON DRAWINGS WITH "AF".
	EMERGENCY LIGHT FIXTURE (HALF-SHADED FOR ANY	$oxed{oxed}$	MAGNETIC MOTOR STARTER
A	FIXTURE) LINEAR 6" OR SLOT FIXTURE W/ DESIGNATION		COMBINATION STARTER AND DISCONNECT
A	LINEAR STRIP FIXTURE W/ DESIGNATION		VARIABLE FREQUENCY DRIVE (VFD), COMBINATION
	RECESSED DOWNLIGHT FIXTURE W/ DESIGNATION	<u> </u>	VFD AND DISCONNECT MOTOR
 O ^A	SURFACE DOWNLIGHT FIXTURE W/ DESIGNATION	 ● ↑	PUSHBUTTON - SINGLE, MUSHROOM HEAD
 © ^A	PENDANT FIXTURE W/ DESIGNATION	<u> </u>	METER - PLAN VIEW, ONE-LINE DIAGRAM
	WALL WASH FIXTURE W/ DESIGNATION, DIRECTION		METER BANK
A A	INDICATED BY TRIANGLE WALL MOUNT LINEAR FLUORESCENT FIXTURE W/		UNISTRUT RACK
	DESIGNATION		
<u>Ω</u> ^A	WALL MOUNT FIXTURE W/ DESIGNATION		LIGHTING CONTROLS LOCCUPANCY SENSOR, VACANCY SENSOR, CELLING
$\underline{\underline{ \ \ \ \ \ \ }}$	SPOTLIGHT	(i) (v)	OCCUPANCY SENSOR, VACANCY SENSOR - CEILING MOUNTED
⊗ 🕏	CEILING W/ FACE INDICATED; WALL W/ FACE, EMERGENCY HEADS, AND DIRECTIONAL ARROWS (INSTALL FACES AND ARROWS AS INDICATED)	©+ V+	OCCUPANCY SENSOR, VACANCY SENSOR - MOUNTED HIGH ON WALL
1	EMERGENCY BATTERY FIXTURE	PC	PHOTOELECTRIC CELL
<u> </u>	CEILING FAN POLE LIGHT (ARM MOUNT, POST-TOP MOUNT)	TC	LIGHTING CONTACTOR TIMECLOCK
	BOLLARD FIXTURE	LCP	LIGHTING CONTROL PANEL
ф	SINGLE 20A RECEPTACLE AT 18" UNLESS NOTED	DZ	DAYLIGHT ZONE SENSOR
ф	20A DUPLEX RECEPTACLE AT 18" UNLESS NOTED	\$	LIGHT SWITCH AT 48" UNLESS NOTED
b	20A GFI DUPLEX RECEPTACLE AT 18" UNLESS NOTED	D	DIMMER SWITCH AT 48" UNLESS NOTED
	DOUBLE 20A DUPLEX RECEPTACLE AT 18" UNLESS		LOW-VOLTAGE SMART LIGHT SWITCH AT 48" UNLESS
<u> </u>	NOTED 20A DUPLEX RECEPTACLE 6" ABOVE COUNTER UNLESS		NOTED SUBSCRIPTS
	NOTED 20A DUPLEX RECEPTACLE SPECIAL MOUNT (FLOOR,		
	CLG)	3	3-WAY SWITCH
Ф ^{IG}	20A ISOLATED GROUND RECEPTACLE	4	4-WAY SWITCH SINGLE POLE CEILING FAN & LIGHT SWITCH WITH
₩ P	20A RECEPTACLE WITH WEATHERPROOF "EXTRA DUTY" COVER AND WEATHER-RESISTANT GFCI RECEPTACLE	F	3-SPEED FAN CONTROL TO ALLOW CONTROL OF FAN INDEPENDENT OF LIGHT KIT
الم ور (۵۵ س	COMBINATION DUAL USB WITH DUPLEX RECEPTACLE	K	KEY-OPERATED SWITCH
4 30	SPECIAL RECEPTACLE (RATING NOTED)	M	MOTOR-RATED SWITCH
$oldsymbol{ abla}$	COMBINATION TELEPHONE/DATA (TELE-DATA) OUTLET (18" ON WALL, 6" ABOVE COUNTER)	0	OCCUPANCY SENSOR SWITCH
v v	COMBINATION TELEPHONE/DATA (TELE-DATA) OUTLET SPECIAL MOUNT (FLOOR, CLG)	Р	SWITCH WITH PILOT LIGHT
▼ ▽	TELEPHONE OUTLET, DATA OUTLET	R	RED EMERGENCY BRANCH SWITCH
φ	TELEVISION CABLE CONNECTION AT 58" A.F.F. UNLESS	Т	TIMER SWITCH
	OTHERWISE NOTED. LOW-VOLTAGE OUTLET INTENDED FOR SPECIFIC		
∇ ^{CR}	PURPOSE (CARD READER SHOWN)	V	VACANCY SENSOR SWITCH (AUTO OFF, MANUAL ON)
	J-BOX (CEILING/WALL, FLOOR)	a	LOWER CASE LETTER AT FIXTURES AND SWITCHES (a, b ETC.) INDICATES SWITCHING CONTROL.
	SECURITY CAMERA		FIRE ALARM SYSTEM
S SH	SPEAKER - CEILING MOUNTED, WALL MOUNTED	FACP	FIRE ALARM CONTROL PANEL
	CONDUIT RUN EXPOSED OR CONCEALED	FAAP	FIRE ALARM ANNUNCIATOR PANEL
	CONDUIT RUN BELOW FLOOR OR GRADE	F	MANUAL PULL STATION DOUBLE ACTION
	ITEM TO BE REMOVED	ă ă	GENERAL ALARM COMBINATION HORN/STROBE (AUDIO/VISUAL) (WALL, CLG)
	SWITCHLEG		FIRE ALARM STROBE (VISUAL DEVICE) (WALL, CLG)
111.	CIRCUIT HOMERUN, #12, THWN/THHN & QTY AS REQ'D, W/ GND, 3/4"C., UNLESS NOTED CIRCUIT HOMERUN CONTAINING 3 HOTS, NEUTRAL,	②	SMOKE/IONIZATION DETECTOR
HICO	GROUND, AND ISOLATED GROUND	<u> </u>	HEAT DETECTOR
	CONDUIT STUB-UP - CAP & MARK	? -	DUCT DETECTOR COMPINATION SMOKE / CARRON MONOVIDE
ightharpoonup	CONDUIT OR CIRCUIT BREAK/CONTINUATION (DIAGRAMMATIC ONLY)	©	COMBINATION SMOKE / CARBON MONOXIDE DETECTOR
	GROUND	B	BEAM DETECTOR
⊣ŀ			
- · ■	BUILDING STEEL GROUND COLD WATER GROUND	FS TTS	SPRINKLER SYSTEM FLOW SWITCH
⊣ŀ	BUILDING STEEL GROUND COLD WATER GROUND CONCRETE ENCASED ELECTRODE GROUND	FS TS	SPRINKLER SYSTEM FLOW SWITCH SPRINKLER SYSTEM TAMPER SWITCH ELECTRIC DOOR HOLDER

VOLTAGE DROP TABLE (20A CIRCUITS ONLY)					
240V, 1Ø 120V, 1Ø					
#12 AWG	0 - 90 FT.	0 - 50 FT.			
#10 AWG	91 - 150 FT.	51 - 90 FT.			
#8 AWG	151 - 250 FT.	91 - 140 FT.			
#6 AWG	251 - 390 FT.	141 - 225 FT.			
#4 AWG 391 - 630 FT. 226 - 300 FT.					
(VERIFY MINIMUM VOLTAGE DROP AND CONDUIT SIZE, PER N.E.C.)					

APPLICABLE CODES
2018 IBC
2018 IMC
2018 IPC
2018 IECC
2017 NEC
LOCAL CODES AND ORDINANCES

ELECTRICAL GENERAL NOTES

AFFECTING THIS TRADE.

- 1. EXISTENCE AND LOCATION OF DEVICES, FIXTURES, EQUIPMENT, CIRCUITING, ETC. THAT ARE SHOWN TO BE EXISTING WAS TAKEN FROM EXISTING DRAWINGS AND/OR VISUAL INSPECTION AND SHOULD BE VERIFIED IN FIELD PRIOR TO ANY PRICING OR WORK.
- 2. COORDINATE LOCATION AND MOUNTING HEIGHT OF ALL LIGHTING FIXTURES WITH ARCHITECTURAL DRAWINGS, REFLECTED CEILING PLANS, AND ELEVATIONS.
- 3. ELECTRICAL CONTRACTOR SHALL VISIT SITE AND SHALL BECOME FAMILIAR WITH SITE CONDITIONS AND VERIFY DIMENSIONS AND WORK TO BE INSTALLED PRIOR TO SUBMITTING A BID: BY SUBMITTING A BID, CONTRACTOR CERTIFIES FAMILIARITY WITH EXISTING JOBSITE CONDITIONS PRIOR TO COMMENCEMENT OF WORK; FAILURE TO DO SO WILL NOT BE CAUSE FOR EXTRA WORK COMPENSATION.
- 4. ALL MATERIAL SHALL BE NEW AND SHALL BE LISTED OR LABELED BY U.L. OR OTHER RECOGNIZED TESTING
- 5. FURNISH ALL MATERIAL, LABOR, EQUIPMENT AND PERMITS TO PROVIDE A COMPLETE, OPERATIONAL ELECTRICAL SYSTEM CONSISTENT WITH THE INTENT OF THE DRAWINGS. WHERE THE WORD "PROVIDE" IS USED, IT SHALL MEAN, "FURNISH AND INSTALL COMPLETE AND READY FOR USE".
- 6. INSTALLATIONS FOUND NOT COMPLYING WITH SPECIFIED WORKMANSHIP PRACTICES SHALL BE REVISED TO COMPLY AT NO ADDITIONAL COST TO THE OWNER.
- 7. ELECTRICAL CONTRACTOR SHALL PERFORM WORK IN A SAFE MANNER AND MAINTAIN ADEQUATE PROTECTION OF WORK, THE OWNER'S PROPERTY AND ALL PERSONS ON SITE FROM INJURY, DAMAGE OR

TRADES AND GENERAL CONTRACTOR, VERIFY EXACT LOCATION OF EQUIPMENT TO BE FURNISHED BY

OTHERS PRIOR TO ROUGH-IN. COORDINATE LOCATION AND INSTALLATION OF OWNER-FURNISHED ITEMS

- 8. FIELD-COORDINATE LOCATION OF PANELS, CONDUITS AND DEVICES WITH STRUCTURAL MEMBERS AND EQUIPMENT FROM OTHER TRADES. CAREFULLY COORDINATE INSTALLATION SCHEDULES WITH OTHER
- FEEDER CONDUCTORS, PANEL BUSS AND GROUND BUSS SHALL BE ALUMINUM, UNLESS NOTED OTHERWISE.
- 10. BRANCH CIRCUIT WIRING SHALL BE COPPER. 11. WIRING DEVICES THAT OCCUR TOGETHER SHALL BE GANGED UNDER A COMMON WALL PLATE, UNLESS
- 12. ELECTRICAL DISTRIBUTION EQUIPMENT SHALL BE GENERAL ELECTRIC, SQUARE D OR SIEMENS.
- 13. ELECTRICAL CONTRACTOR SHALL ASSIGN CIRCUITS IN FIELD ON ALL LOAD CENTER TO MAKE LOADS ON EACH PHASE AS BALANCED AS POSSIBLE.
- 14. ELECTRICAL CONTRACTOR SHALL ASSEMBLE AND PROVIDE TO THE OWNER AS PART OF CLOSE-OUT SUBMISSION REQUIREMENTS, ORGANIZED BINDER WITH TECHNICAL DATA, CUT SHEETS, MAINTENANCE REQUIREMENTS, ADJUSTMENT PROCEDURES, TEST REPORTS, APPROVALS, WARRANTIES, PHONE NUMBERS OF SERVICE PERSONNEL, SOURCES OF REPLACEMENT PARTS AND OTHER PERTINENT INFORMATION.
- 15. BEFORE BEGINNING EXCAVATIONS OF ANY NATURE WHATSOEVER, CONTRACTOR SHALL LOCATE ALL SERVICES AND UTILITIES OCCURRING WITHIN THE BOUNDS OF THE PROJECT. THE CONTRACTOR SHALL THEN PROCEED WITH CAUTION IN HIS WORK SO THAT NO UTILITY OR LINE SERVING AREAS THAT ARE TO REMAIN BE DAMAGED WITH A RESULTANT LOSS OF SERVICE. VERIFY THE SOURCE AND SERVICE OF EACH AND EVERY LINE ENCOUNTERED AND RECORD SERVICE, SIZE AND LOCATION ON RECORD DRAWINGS.
- 16. COORDINATE EACH AND EVERY INTERRUPTION OF SERVICES AND UTILITIES WITH THE OWNER AND UTILITY COMPANIES TO ENSURE MINIMUM SHUT-DOWN TIMES ARE ACCEPTABLE.
- 17. FOR EACH EQUIPMENT CONNECTION SHOWN, PROVIDE THE DEVICE, OUTLET, DISCONNECT SWITCH, OR JUNCTION BOX REQUIRED TO CONNECT THE EQUIPMENT.
- 18. NO SINGLE CONDUIT SHALL CONTAIN MORE THAN 6 CURRENT CARRYING CONDUCTORS, UNLESS NOTED OTHERWISE AND PROPERLY DERATED.
- 19. WHERE FIXTURES CONTAINING BATTERY PACKS ARE SWITCHED (BY TOGGLE SWITCH, OCCUPANCY SENSOR, TIMECLOCK/LIGHTING CONTROL PANEL, ETC.), SUPPLY TO BATTERY PACKS SHALL BE UNSWITCHED. EXIT
- LIGHTS SHOWN ON A SWITCHED CIRCUIT SHALL BE POWERED BY AN UNSWITCHED LINE ON THAT CIRCUIT. 20. LIGHT SWITCHES SHOWN IN ROOM CONTROL ALL LIGHTS IN THAT ROOM UNLESS NOTED OTHERWISE.
- WALL SWITCHES SHOWN IN ROOMS WITH CEILING OCCUPANCY SENSOR SWITCHES SHALL OVERRIDE OCCUPANCY SENSOR CONTROL.
- 21. LAMPS THAT HAVE BEEN USED FOR MORE THAN 1/3 OF THEIR RATED LIFE OR THAT HAVE BLACKENED ENDS, SHALL BE REPLACED BY NEW LAMPS JUST BEFORE FINAL INSPECTION.
- CRITERIA OF IECC SECTION C405 SHALL BE PROVIDED TO THE BUILDING OWNER WITHIN 90 DAYS FROM THE DATE OF RECEIPT OF THE CERTIFICATE OF OCCUPANCY PER IECC C408.3.2.

22. DOCUMENTS CERTIFYING THAT THE INSTALLED LIGHTING CONTROLS MEET DOCUMENTED PERFORMANCE

- 23. REVIEW ARCHITECTURAL, STRUCTURAL, CIVIL, MECHANICAL, PLUMBING, AND OTHER DRAWINGS PRIOR TO
- 24. INSTALL ALL MATERIALS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. ANY DEVIATIONS SHALL BE BROUGHT TO THE ARCHITECT/ENGINEER'S ATTENTION PRIOR TO INSTALLATION.
- 25. PROTECT ALL RECEPTACLES SHOWN AS GFCI-PROTECTED IN LOCATIONS THAT ARE NOT "READILY ACCESSIBLE" (PER THE NEC) WITH GFCI-TYPE CIRCUIT BREAKERS IN LIEU OF GFCI-TYPE RECEPTACLE.
- 26. VERIFY EXACT LOCATIONS OF EXISTING AND NEW UNDERGROUND UTILITIES, PIPING, AND RACEWAY SYSTEMS PRIOR TO TRENCHING. PROVIDE NECESSARY TRENCHING, BACKFILL, EXCAVATION, SUPPORTS, SERVICE FEEDERS (CONDUIT AND/OR WIRE), PULLBOXES, TRANSFORMER PADS, SAWCUTTING AND PATCHING, CONCRETE/PAVING, ETC. REQUIRED. BACKFILL TRENCHES TO 90% COMPACTION AND PATCH TO MATCH EXISTING. CONTRACTOR SHALL OBTAIN AND VERIFY EXACT UTILITY COMPANY DRAWINGS AND
- 27. FOR EACH TELEPHONE, DATA, FIRE ALARM DEVICE, AND T.V. OUTLET, PROVIDE OUTLET BOX AND 3/4" CONDUIT (UNLESS NOTED OTHERWISE) WITH PULL STRING ROUTED UP IN WALL TO ABOVE ACCESSIBLE CEILING. FOR COMBINATION DEVICES (I.E. TELEPHONE/DATA) PROVIDE 1" CONDUIT (UNLESS NOTED OTHERWISE). TERMINATE WITH PLASTIC BUSHING. ALL EXPOSED CABLES, REGARDLESS OF HEIGHT, SHALL BE ENCLOSED IN CONDUIT.
- 28. FIELD LOCATE FIXTURES IN MECHANICAL/ELECTRICAL ROOMS SO EQUIPMENT DOES NOT OBSTRUCT LIGHTING OR EQUIPMENT ACCESS. COORDINATE WITH MECHANICAL AND OTHER TRADES AS NEEDED.
- 29. SEE PLUMBING AND MECHANICAL DRAWINGS FOR ALL DIVISION 22 AND 23 EQUIPMENT LOCATIONS AND ELECTRICAL LOAD REQUIREMENTS.

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- E412 ELECTRICAL UNITS, BUILDING & SITE LIGHT FIXTURE SCHEDULE
- E413 ELECTRICAL CLUBHOUSE LIGHT FIXTURE SCHEDULE
- E501 ELECTRICAL DETAILS

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ISSUANCES		
01	SCHEMATIC DESIGN	09.10.18
02	DEVELOPMENT DESIGN	11.09.18
03	PERMIT SET	01.28.19

REVISIONS



a multifamily project for NRP Group

West Cevallos

San Antonio, Texas

ELECTRICAL GENERAL NOTES, LEGENDS & ABBREVIATIONS

18054 Project Number 01/14/2018 TLR Drawn By EEC Checked By

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ENCOTECH

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GENERAL ELECTRICAL REQUIREMENTS

1.1 SCOPE

A. FURNISH ALL LABOR, TESTING, SUPPLIES AND MATERIALS AS SHOWN ON THE DRAWINGS AND AS SPECIFIED HEREIN INCLUDING. BUT NOT LIMITED TO. INSTALLATION OF LIGHT FIXTURES, CUTTING AND CHASING, COORDINATION WITH OTHER TRADES ON THE JOB, ETC., NECESSARY FOR THE INSTALLATION OF COMPLETE ELECTRICAL SYSTEMS. INCLUDES EMPTY CONDUIT AS REQUIRED FOR THE TELEPHONE SYSTEMS. INCLUDE POWER FOR ANY EQUIPMENT AS SHOWN ON THE DRAWINGS. INCLUDE TEMPORARY ELECTRICAL POWER AND LIGHTING TO SATISFY OSHA

REQUIREMENTS. VERIFY ALL CONDITIONS AND MEASUREMENTS AT SITE. B. THE WORK OF DIVISION 26 CONSISTS OF PROVIDING LABOR, MATERIALS PRODUCTS, AND IN PERFORMING ALL OPERATIONS REQUIRED FOR THE COMPLETE OPERATING INSTALLATION OF ALL ELECTRICAL SYSTEMS IN ACCORDANCE WITH SPECIFICATIONS, APPLICABLE DRAWINGS, TERMS, CONDITIONS OF THE CONTRACT AND ALL APPLICABLE CODES AND ORDINANCES GOVERNING THE INSTALLATION OF THE VARIOUS ELECTRICAL SYSTEMS. ALL WORK SHALL BE FULLY CORRELATED WITH THE WORK OF OTHER TRADES.

C. EACH CONTRACTOR SHALL STUDY THE CONTRACT DOCUMENTS TO DETERMINE THE EXTENT OF WORK PROVIDED UNDER THIS CONTRACT, AS WELL AS TO ASCERTAIN THE DIFFICULTY TO BE ENCOUNTERED IN PERFORMING THE WORK ON THE DRAWINGS AND OUTLINED HEREINAFTER AND IN MAKING CONNECTIONS TO EXISTING UTILITIES, INSTALLING NEW EQUIPMENT AND SYSTEMS AND COORDINATING THE WORK WITH

D. EXAMINATION OF SITE: THE CONTRACTOR SHALL THOROUGHLY EXAMINE SITE AND SATISFY HIMSELF AS TO THE CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED. THE CONTRACTOR SHALL VERIFY, AT THE SITE, ALL MEASUREMENTS AFFECTING HIS WORK AND SHALL BE RESPONSIBLE FOR THE CORRECTNESS OF SAME NO EXTRA COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR FOR EXPENSES DUE TO HIS NEGLECT TO EXAMINE OR FAILURE TO DISCOVER CONDITIONS WHICH AFFECT HIS WORK. NO EXTRA COMPENSATION WILL BE ALLOWED ON ACCOUNT OF DIFFERENCES BETWEEN ACTUAL DIMENSIONS AND THOSE INDICATED ON THE DRAWINGS.

1.2 CODES, PERMITS AND INSPECTIONS

A. CODES: THE INSTALLATIONS SHALL COMPLY WITH THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE, OCCUPATIONAL SAFETY AND HEALTH ACT, AND ANY OTHER AUTHORITIES HAVING JURISDICTION OVER THE WORK. WHERE IN ANY SPECIFIC CASE, DIFFERENT SECTIONS OF ANY OF THE AFOREMENTIONED CODES FOR THESE PLANS AND SPECIFICATIONS SPECIFY DIFFERENT MATERIALS, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE SHALL GOVERN.

B. PERMITS & INSPECTIONS: PROVIDE ALL PERMITS REQUIRED AND OBTAIN FINAL INSPECTION AND APPROVAL FROM THE INSPECTION DEPARTMENT HAVING JURISDICTION.

1.3 STANDARDS

A. ALL MATERIAL USED IN THIS WORK SHALL BE NEW AND SHALL BE LISTED AND LABELED BY THE UNDERWRITER'S LABORATORIES, INC., AS CONFORMING TO ITS STANDARDS, WHERE SUCH A STANDARD HAS BEEN ESTABLISHED FOR THE PARTICULAR TYPE OF MATERIAL IN QUESTION. ALL WORK SHALL BE EXECUTED IN A WORKMANLIKE MANNER, AND SHALL PRESENT A NEAT AND MECHANICAL APPEARANCE WHEN COMPLETED.

1.4 DRAWINGS AND SPECIFICATIONS

A. THE WIRING LAYOUTS ARE SCHEMATIC AND ARE NOT NECESSARILY INTENDED TO SHOW THE EXACT LOCATION OF RACEWAYS, OUTLETS, ETC. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS AND DETAILS FOR DIMENSIONS AND SHALL REFER TO THE ARCHITECTURAL PLANS AND DETAILS OF BUILDING CONSTRUCTION.

B. DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY, EACH TO THE OTHER;

WHAT IS SHOWN ON ONE IS AS BINDING AS IF CALLED FOR IN BOTH. SHOULD THE DRAWINGS DISAGREE IN THEMSELVES. OR WITH THE SPECIFICATIONS, THE BETTER QUALITY OR GREATER QUANTITY OF WORK OR

1.5 SUBMITTALS

MATERIALS SHALL BE USED.

A. SUBMITTALS: PROVIDE SUBMITTALS FOR ALL PRODUCTS AND SYSTEMS DESCRIBED AS SHOWN ON THE DRAWINGS TO DEMONSTRATE COMPLIANCE. FIELD VERIFY AND CONFIRM DIMENSIONS AND SPACE REQUIREMENTS.

B. SUBMITTAL REVIEW IS FOR GENERAL DESIGN AND ARRANGEMENT ONLY AND DOES NOT RELIEVE THE CONTRACTOR FROM ANY OF THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. SUBMITTALS WILL NOT BE CHECKED FOR QUANTITY, DIMENSION, FIT OR PROPER TECHNICAL DESIGN OF MANUFACTURED EQUIPMENT. WHERE DEVIATIONS OF SUBSTITUTE PRODUCT OR SYSTEM PERFORMANCE HAVE NOT BEEN SPECIFICALLY NOTED IN THE SUBMITTAL BY THE CONTRACTOR, PROVISION OF COMPLETE AND SATISFACTORY WORKING INSTALLATION IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR

1.6 CUTTING AND PATCHING

A. CUT AND REPAIR ALL NEW WALLS, FLOORS, AND CEILING NECESSARY FOR THE INSTALLATION OF THE ELECTRICAL WORK. NO CUTTING OF WORK OF OTHER CONTRACTORS WILL BE PERMITTED WITHOUT THE CONSENT OF THE ARCHITECT OR HIS REPRESENTATIVE.

1.7 COOPERATION

A. THE CONTRACTOR SHALL SCHEDULE HIS WORK, AND IN EVERY WAY POSSIBLE, COOPERATE WITH ALL OTHER TRADES IN THE JOB TO AVOID DELAYS, INTERFERENCES AND UNNECESSARY WORK. HE SHALL COOPERATE WITH THEM IN PROVIDING FOR THE INSTALLATION OF THIS WORK AND COORDINATE WITH WORK OF OTHER TRADES TO ASSURE PROPER CLEARANCE OR PIPING, DUCTWORK, CONDUIT, ETC., WHEN SUCH IS REQUIRED.

1.8 SITE INSPECTION

A. THE CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF WITH THE CONDITIONS UNDER WHICH THIS IS TO BE DONE. NO COMPENSATION OR ALLOWANCES WILL BE MADE IN HIS BEHALF BECAUSE OF ANY ERROR ON HIS PART OF HIS LACK OF KNOWLEDGE OF EXISTING CONDITIONS. THE SUBMISSION OF BIDS SHALL BE DEEMED AS EVIDENCE OF SUCH VISITS AND EXAMINATIONS. THE LACK OF SPECIFIC INFORMATION ON THE DRAWINGS SHALL NOT RELIEVE THE CONTRACTOR OF ANY RESPONSIBILITY.

1.9 WIRING WORKMANSHIP

WIRING: WIRING IN ALL BRANCH CIRCUIT, DISTRIBUTION PANELS, AND TERMINAL CABINETS SHALL RUN PARALLEL OR AT RIGHT ANGLES TO THE SIDES OR TOP OF THE EQUIPMENT HOUSING.

B. CONDUCTORS: CONDUCTORS SHALL BE GROUPED AND HARNESSED TOGETHER USING LOCKING TYPE CABLE TIES. CABLE TIES SHALL BE AS MANUFACTURED BY THOMAS AND BETTS.

1.10 MOTOR HORSEPOWER

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A. THE HORSEPOWER OF MOTORS INDICATED ON THE MECHANICAL PLANS IS THE ESTIMATED HORSEPOWER REQUIREMENTS OF EQUIPMENT FURNISHED UNDER OTHER SECTIONS OF THE SPECIFICATIONS. ALL WIRING, FEEDER PROTECTION DEVICES, STARTERS AND DISCONNECT DEVICES SHALL BE OF THE SIZE AND AMPACITY FOR THE HORSEPOWER OF THE RESPECTIVE MOTOR ACTUALLY INSTALLED. THE CONTRACTOR SHALL COORDINATE WITH OTHER TRADES. AND PROVIDE SUITABLE EQUIPMENT SO THAT THE AFOREMENTIONED REQUIREMENTS SHALL BE MET.

1.11 DEVIATIONS

A. SHOULD THE CONTRACTOR FIND, AT ANY TIME, DURING THE PROGRESS OF THE WORK, THAT IN HIS JUDGEMENT, EXISTING CONDITIONS MAKE DESIRABLE A MODIFICATION IN REQUIREMENTS COVERING ANY PARTICULAR ITEM OR ITEMS, HE SHALL REPORT SUCH ITEMS PROMPTLY TO THE PROJECT MANAGER FOR COORDINATION.

1.12 WARRANTY

GUARANTEE ALL WORK UNDER THIS SECTION FOR WORKMANSHIP, LABOR AND MATERIALS FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER OR HIS AUTHORIZED REPRESENTATIVE.

BASIC ELECTRICAL MATERIALS & METHODS

1.1 REGULATORY REQUIREMENTS

CONFORM TO REQUIREMENTS OF ANSI/NFPA 70.

B. FURNISH PRODUCTS LISTED BY UNDERWRITERS LABORATORIES, INC. 1.2 COORDINATION OBTAIN AND REVIEW SHOP DRAWINGS, PRODUCT DATA, AND

SECTIONS TO DETERMINE CONNECTION LOCATIONS AND REQUIREMENTS. B. SEQUENCE ROUGH-IN OF ELECTRICAL CONNECTIONS TO COORDINATE WITH INSTALLATION AND START-UP OF EQUIPMENT FURNISHED UNDER OTHER SECTIONS.

MANUFACTURER'S INSTRUCTIONS FOR EQUIPMENT FURNISHED UNDER OTHER

1.3 GROUNDING

A. THE ELECTRICAL SERVICE NEUTRAL, THE IDENTIFIED NEUTRAL OF THE INTERIOR WIRING SYSTEM AND ALL INTERIOR RACEWAYS AND EQUIPMENT SHALL BE GROUNDED TO THE GROUND BUS IN THE SERVICE DISCONNECTING MEANS. THE SERVICE DISCONNECTING MEANS SHALL BE GROUNDED TO A GROUNDING ELECTRODE. CONTRACTOR SHALL VERIFY THE GROUNDING PATH IS CONTINUOUS AND UNINTERRUPTED BY DIELECTRIC DEVICES AND ANY OTHER DEVICE CAPABLE OF INTERFERING WITH THE GROUNDING PATH.

METAL RACEWAYS, METAL ENCLOSURES OF ELECTRICAL DEVICES, LIGHTING FIXTURES, MOTOR FRAMES, PANELS, CABLE SUPPORTS, ETC. AND NON-CURRENT CARRYING METALLIC PARTS OF ALL EQUIPMENT SHALL BE SECURELY GROUNDED THROUGH THE EQUIPMENT GROUNDING CONDUCTOR.

2.1 GROUNDING MATERIALS GROUND ROD: COPPER 3/4 INCH (19MM) DIAMETER X 10 FEET (3M) LENGTH.

B. MECHANICAL CONNECTORS: BRONZE.

3.1 INSTALLATION

 INSTALL PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. B. INSTALL GROUND ELECTRODES AT LOCATIONS AS PER LOCAL ELECTRIC UTILITY COMPANY REQUIREMENTS AND PER NATIONAL ELECTRIC CODE. INSTALL ADDITIONAL ROD ELECTRODES AS REQUIRED TO MEET REGULATORY REQUIREMENTS.

C. PROVIDE GROUNDING ELECTRODE CONDUCTOR AND CONNECT TO REINFORCING STEEL IN FOUNDATION FOOTING.

D. PROVIDE BONDING TO MEET REGULATORY REQUIREMENTS.

MAKE ELECTRICAL CONNECTIONS TO UTILIZATION EQUIPMENT IN ACCORDANCE WITH EQUIPMENT MANUFACTURER'S INSTRUCTIONS.

VERIFY THAT WIRING AND OUTLET ROUGH-IN WORK IS COMPLETE AND THAT UTILIZATION EQUIPMENT IS READY FOR ELECTRICAL CONNECTION, WIRING,

MAKE WIRING CONNECTIONS IN CONTROL PANEL OR IN WIRING COMPARTMENT OF PRE-WIRED EQUIPMENT. PROVIDE INTERCONNECTING WIRING WHERE INDICATED.

INSTALL AND CONNECT DISCONNECT SWITCHES, CONTROLLERS, CONTROL STATIONS, AND CONTROL DEVICES AS INDICATED.

4. MAKE CONDUIT CONNECTIONS TO EQUIPMENT USING FLEXIBLE CONDUIT. USE LIQUIDTIGHT FLEXIBLE CONDUIT IN DAMP OR WET LOCATIONS.

F. INSTALL SUPPORT SYSTEMS SIZED AND FASTENED TO ACCOMMODATE WEIGHT OF EQUIPMENT AND CONDUIT, INCLUDING WIRING, WHICH THEY CARRY.

FASTEN HANGER RODS, CONDUIT CLAMPS, AND OUTLET AND JUNCTION BOXES TO BUILDING STRUCTURE USING BEAM CLAMPS. USE TOGGLE BOLTS OR HOLLOW WALL FASTENERS IN HOLLOW MASONRY,

PLASTER. OR GYPSUM BOARD PARTITIONS AND WALLS: EXPANSION ANCHORS OR PRESET INSERTS IN SOLID MASONRY WALLS; SELF-DRILLING ANCHORS OR EXPANSION ANCHOR ON CONCRETE SURFACES; SHEET METAL SCREWS IN SHEET METAL STUDS; AND WOOD SCREWS IN WOOD

DO NOT FASTEN SUPPORTS TO PIPING, CEILING SUPPORT WIRES, DUCTWORK, MECHANICAL EQUIPMENT, OR CONDUIT.

4. DO NOT DRILL STRUCTURAL STEEL MEMBERS.

5. FABRICATE SUPPORTS FROM STRUCTURAL STEEL OR STEEL CHANNEL

6. INSTALL FREE-STANDING ELECTRICAL EQUIPMENT ON CONCRETE PADS.

INSTALL SURFACE-MOUNTED CABINETS WITH MINIMUM OF FOUR ANCHORS.

PROVIDE STEEL CHANNEL SUPPORTS TO STAND CABINETS 1 INCH (25 MM) OFF WALL IN WET LOCATIONS.

9. BRIDGE STUDS TOP AND BOTTOM WITH CHANNELS TO SUPPORT FLUSH-MOUNTED CABINETS LOAD CENTERS IN STUD WALLS.

IDENTIFY ELECTRICAL DISTRIBUTION AND CONTROL EQUIPMENT, AND LOADS SERVED, TO MEET REGULATORY REQUIREMENTS AND AS SCHEDULED. 1. DEGREASE AND CLEAN SURFACES TO RECEIVE NAMEPLATES AND TAPE LABELS.

SECURE NAMEPLATES TO EQUIPMENT FRONTS USING SCREWS, OR RIVETS, WITH EDGES PARALLEL TO EQUIPMENT LINES. SECURE NAMEPLATE TO INSIDE FACE OF RECESSED PANELBOARD DOORS IN FINISHED LOCATIONS.

USE NAMEPLATES WITH 1/8 INCH (3 MM) LETTERING TO IDENTIFY INDIVIDUAL SWITCHES AND CIRCUIT BREAKERS, WALL SWITCHES, RECEPTACLE CIRCUITS, AND LOADS SERVED.

4. USE NAMEPLATES WITH 1/4 INCH LETTERS (6 MM) TO IDENTIFY DISTRIBUTION AND CONTROL EQUIPMENT.

A. GROUNDING INSTALLATION:

- 1. THE METHOD OF GROUNDING AND SIZE OF THE GROUNDING CONDUCTORS SHALL BE SELECTED IN ACCORDANCE WITH THE LATEST PUBLISHED RULES OF THE NATIONAL ELECTRIC CODE, NFPA 70 ARTICLE 250. AN EQUIPMENT GROUNDING CONDUCTOR WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH TABLE 250.122, SHALL BE INSTALLED IN ALL FEEDERS INCLUDING MOTOR FEEDERS.
- 2. RUN A GREEN EQUIPMENT GROUND WIRE WITH ALL BRANCH CIRCUIT AND FEEDER CONDUCTORS THROUGHOUT THE BUILDING.
- 3. EQUIPMENT GROUNDING LUGS SHALL BE PROVIDED FOR ALL FEEDERS AND SUBFEEDERS AT ALL PULLBOXES AND EQUIPMENT CABINETS.
- 4. GROUND CABLE SHALL BE CONTINUOUS WHEN POSSIBLE WITHOUT JOINTS OR SPLICES THROUGHOUT ITS LENGTH. IF BARE GROUND CONDUCTORS ARE RUN THROUGH METALLIC CONDUIT, THEY SHALL BE SECURELY BONDED TO EACH CONDUIT AT THE ENTRANCE AND EXIT. ALL CONNECTIONS TO EQUIPMENT FOR CONDUIT SHALL BE MADE WITH SOLDERLESS CONNECTORS, AND THE SAME SHALL BE THOROUGHLY CLEANED AND BRIGHT BEFORE CONNECTION IS MADE SO AS TO INSURE A GOOD METAL CONTACT.
- 5. ASSURE ELECTRICAL CONTINUITY OF METALLIC RACEWAY SYSTEM. PROVIDE BONDING JUMPERS WHEREVER EXPANSION JOINT OCCURS.
- 6. AN INSULATED GREEN GROUND SHALL BE PROVIDED IN ALL FLEXIBLE METALLIC TUBING.
- 7. THE GROUND RESISTANCE OF THE GROUNDING SYSTEM SHALL NOT EXCEED FIVE (5) OHMS.

INSTALL WIRE MARKERS ON EACH CONDUCTOR IN PANELBOARD GUTTERS, PULL BOXES, OUTLET AND JUNCTION BOXES, AND AT LOAD CONNECTIONS.

- 1. USE BRANCH CIRCUIT OR FEEDER NUMBER TO IDENTIFY POWER AND LIGHTING CIRCUITS.
- 2. USE CONTROL WIRE NUMBER AS INDICATED ON SCHEMATIC AND INTERCONNECTION DIAGRAMS TO IDENTIFY CONTROL WIRING.

RACEWAYS

1.1 PRODUCT REQUIREMENTS

A. USE ONLY SPECIFIED RACEWAY IN THE FOLLOWING LOCATIONS:

- UNDERGROUND INSTALLATIONS MORE THAN FIVE FEET (1.5 M) FROM FOUNDATION WALL: PLASTIC CONDUIT.
- 2. INSTALLATIONS IN OR UNDER CONCRETE SLAB, OR UNDERGROUND WITHIN FIVE FEET (1.5 M) FROM FOUNDATION WALL: PLASTIC CONDUIT.
- IN SLAB ABOVE GRADE: RIGID STEEL CONDUIT.
- 4. EXPOSED OUTDOOR LOCATIONS: RIGID STEEL CONDUIT. USE THREADED OR
- RAINTIGHT FITTINGS. 5. WET INTERIOR LOCATIONS: RIGID STEEL CONDUIT. USE THREADED OR
- RAINTIGHT FITTINGS FOR METAL CONDUIT. CONCEALED DRY INTERIOR LOCATIONS: ELECTRICAL METALLIC TUBING. FLEXIBLE METALLIC TUBING IS ONLY ALLOWED FOR HORIZONTAL RUNS

WITHIN ENCLOSED WALLS. NM CABLE MAY BE RUN WITHOUT CONDUIT FOR

- DWELLING UNIT BRANCH CIRCUITS. 7. EXPOSED DRY INTERIOR LOCATIONS: RIGID STEEL CONDUIT.
- SIZE RACEWAYS FOR CONDUCTOR TYPE INSTALLED.
- MINIMUM SIZE CONDUIT: 3/4 INCH (19 MM).
- MINIMUM SIZE CONDUIT IN SLABS ABOVE GRADE: 3/4 INCH (19 MM).

1.2 CONDUIT AND FITTINGS

CONDUIT: METAL CONDUIT AND TUBING: GALVANIZED STEEL, MANUFACTURED BY ALLIED, TRIANGLE, WHEATLAND, PITTSBURG, STEELDUCT, OR APPROVED EQUIVALENT.

- 2. FLEXIBLE CONDUIT: STEEL.
- 3. LIQUIDTIGHT FLEXIBLE CONDUIT: FLEXIBLE CONDUIT WITH PVC JACKET.
- 4. PLASTIC CONDUIT AND TUBING: NEMA TC 2; PVC. USE SCHEDULE 40 CONDUIT. USE PVC COATED RIGID STEEL ELLS FOR ALL BENDS AND WHEN EMERGING FROM GRADE.

CONDUIT FITTINGS: METAL FITTINGS AND CONDUIT BODIES: NEMA FB 1

2. PLASTIC FITTINGS AND CONDUIT BODIES: NEMA TC 3.

1.3 WIREWAY AND AUXILIARY GUTTERS

- A. WIREWAY: RAINTIGHT TYPE WIREWAY, WITH KNOCKOUTS 1. SIZE: AS PER N.E.C. REQUIREMENTS.
- COVER: SCREW COVER WITH FULL GASKET. 3. FITTINGS: LAY-IN TYPE WITH REMOVABLE TOP, BOTTOM, AND SIDE; CAPTIVE
- SCREWS. 4. FINISH: RUST INHIBITING PRIMER COATING WITH GRAY ENAMEL FINISH.
- 5. FOR SERVICE: BUSSED WIREWAY RATED FOR SERVICE SIZE SHOWN ON RISER DIAGRAM.

1.4 ELECTRICAL BOXES

- BOXES:
- 1. SHEET METAL: NEMA OS 1; GALVANIZED STEEL.

HINGED COVER ENCLOSURES: NEMA 250; TYPE 1 OR 3R AS REQUIRED, STEEL ENCLOSURE WITH MANUFACTURER'S STANDARD ENAMEL FINISH AND CONTINUOUS HINGE COVER, HELD CLOSED BY FLUSH LATCH OPERABLE BY SCREWDRIVER. 2.1 EXAMINATION AND PREPARATION

VERIFY THAT SUPPORTING SURFACES ARE READY TO RECEIVE WORK.

ELECTRICAL BOXES ARE SHOWN ON DRAWINGS, IN APPROXIMATE LOCATIONS, UNLESS DIMENSIONED. OBTAIN VERIFICATION FROM ARCHITECT FOR FLOOR BOX LOCATIONS, AND LOCATIONS OF OUTLETS IN OFFICES AND WORK AREAS, PRIOR TO ROUGH-IN.

2.2 INSTALLATION

SMOKE PARTITIONS.

- 1. ARRANGE CONDUIT TO MAINTAIN HEADROOM AND TO PRESENT NEAT APPEARANCE.
- 2. ROUTE EXPOSED RACEWAY PARALLEL AND PERPENDICULAR TO WALLS AND
- ADJACENT PIPING. 3. MAINTAIN MINIMUM 6 INCH (150 MM) CLEARANCE TO PIPING AND 12 INCH
- (305 MM) CLEARANCE TO HEAT SURFACES SUCH AS HEATING APPLIANCES. 4. MAINTAIN REQUIRED FIRE, ACOUSTIC, AND VAPOR BARRIER RATING WHEN PENETRATING WALLS, FLOORS, AND CEILINGS. USE NELSON "FLAMESEAL" FIRESTOP PUTTY OR CAULK TO RETAIN THE INTEGRITY OF THE FIRE AND
- 5. ROUTE CONDUIT THROUGH ROOF OPENINGS FOR PIPING AND DUCTWORK WHERE POSSIBLE; OTHERWISE, ROUTE THROUGH ROOF JACK WITH PITCH
- GROUP IN PARALLEL RUNS WHERE PRACTICAL. USE RACK CONSTRUCTED OF STEEL CHANNEL. MAINTAIN SPACING BETWEEN RACEWAYS OR DERATE CIRCUIT AMPACITIES TO NFPA 70 REQUIREMENTS.
- 7. USE CONDUIT HANGERS AND CLAMPS; DO NOT FASTEN WITH WIRE OR PERFORATED PIPE STRAPS.
- 8. USE CONDUIT BODIES TO MAKE SHARP CHANGES IN DIRECTION.

EMPTY RACEWAYS. EXCEPT SLEEVES AND NIPPLES.

MANUFACTURER'S INSTRUCTIONS.

- TERMINATE CONDUIT STUBS WITH INSULATED BUSHINGS. 10. USE SUITABLE CAPS TO PROTECT INSTALLED RACEWAY AGAINST ENTRANCE
- OF DIRT AND MOISTURE. 11. PROVIDE NO. 12 AWG INSULATED CONDUCTOR OR SUITABLE PULL STRING IN
- 12. INSTALL EXPANSION JOINTS WHERE RACEWAY CROSSES BUILDING

EXPANSION JOINTS. 13. INSTALL PLASTIC CONDUIT AND TUBING IN ACCORDANCE WITH

MANUFACTURER'S INSTRUCTIONS. C. INSTALL ELECTRICAL BOXES AS SHOWN ON THE DRAWINGS, AND AS REQUIRED

B. INSTALL AUXILIARY GUTTER AND WIREWAY IN ACCORDANCE WITH

FOR SPLICES, TAPS, WIRE PULLING, EQUIPMENT CONNECTIONS AND REGULATORY REQUIREMENTS. 1. USE CAST OUTLET BOX IN EXTERIOR LOCATIONS EXPOSED TO WEATHER AND

- WET LOCATIONS. 2. USE HINGED COVER ENCLOSURE FOR INTERIOR PULL AND JUNCTION BOX
- LARGER THAN 12 INCHES (300 MM) IN ANY DIMENSION. 3. LOCATE AND INSTALL ELECTRICAL BOXES TO ALLOW ACCESS. PROVIDE
- ACCESS PANELS IF REQUIRED. 4. LOCATE AND INSTALL ELECTRICAL BOXES TO MAINTAIN HEADROOM AND TO
- PRESENT NEAT MECHANICAL APPEARANCE. 5. INSTALL PULL BOXES AND JUNCTION BOXES ABOVE ACCESSIBLE CEILINGS OR
- IN UNFINISHED AREAS. PROVIDE KNOCKOUT CLOSURES FOR UNUSED OPENINGS.
- 7. ALIGN WALL-MOUNTED OUTLET BOXES FOR SWITCHES, THERMOSTATS, AND SIMILAR DEVICES.
- 8. COORDINATE MOUNTING HEIGHTS AND LOCATIONS OF OUTLETS ABOVE COUNTERS, ETC. WITH THE ARCHITECT.
- D. USE RECESSED OUTLET BOXES IN FINISHED AREAS AND WHERE INDICATED. SECURE BOXES TO INTERIOR WALL AND PARTITION STUDS, ACCURATELY
- POSITIONING TO ALLOW FOR SURFACE FINISH THICKNESS. 2. USE STAMPED STEEL STUD BRIDGES FOR FLUSH OUTLETS IN HOLLOW STUD WALL, AND ADJUSTABLE STEEL CHANNEL FASTENERS FOR FLUSH CEILING OUTLET BOXES.
- LOCATE BOXES IN MASONRY WALLS TO REQUIRE CUTTING CORNER ONLY. COORDINATE MASONRY CUTTING TO ACHIEVE NEAT OPENINGS FOR BOXES.
- 4. DO NOT INSTALL BOXES BACK-TO-BACK IN WALLS; PROVIDE 6 INCHES (150 MM) SEPARATION, MINIMUM; EXCEPT PROVIDE 24 INCHES (600 MM) SEPARATION, MINIMUM IN ACOUSTIC-RATED WALLS.

E. INSTALL SERVICE FITTINGS IN ACCORDANCE WITH MANUFACTURER'S

INSTRUCTIONS. F. DRILL FLOOR OPENING AND INSTALL POKE-THROUGH FITTINGS IN ACCORDANCE

WIRES AND CABLES

2.1 WIRING METHODS

1.1 QUALITY ASSURANCE A. PERFORM WORK IN ACCORDANCE WITH NECA STANDARD OF INSTALLATION.

1.2 REGULATORY REQUIREMENTS

5. DO NOT DAMAGE INSULATION.

WITH MANUFACTURER'S INSTRUCTIONS.

B. FURNISH PRODUCTS LISTED BY UL.

A. CONFORM TO REQUIREMENTS OF NFPA 70.

- A. CONCEALED INTERIOR LOCATIONS: BUILDING WIRE IN RACEWAY. NM CABLE MAY BE RUN WITHOUT RACEWAY FOR DWELLING UNIT BRANCH CIRCUITS
- B. EXPOSED INTERIOR LOCATIONS: BUILDING WIRE IN RACEWAY
- ABOVE ACCESSIBLE CEILINGS: BUILDING WIRE IN RACEWAY D. WET OR DAMP INTERIOR LOCATIONS: BUILDING WIRE IN RACEWAY.
- EXTERIOR LOCATIONS: BUILDING WIRE IN RACEWAYS. UNDERGROUND LOCATIONS: BUILDING WIRE IN RACEWAY. G. USE NO WIRE SMALLER THAN 12 AWG FOR POWER AND LIGHTING CIRCUITS, AND NO SMALLER THAN 14 AWG FOR LINE VOLTAGE CONTROL WIRING. USE MINIMUM 18 GAUGE WIRE FOR LOW-VOLTAGE (LESS THAN 30 VAC) CONTROL

HOME RUNS LONGER THAN 50 FEET. VERIFY MINIMUM VOLTAGE DROP PER N.E.C.

WIRING. USE 10 AWG CONDUCTOR FOR 20 AMPERE, 120 VOLT BRANCH CIRCUIT

- 2.2 WIRE AND CABLE
- A. MANUFACTURERS: 1. TRIANGLE, SOUTHWIRE, OR CABLEC.



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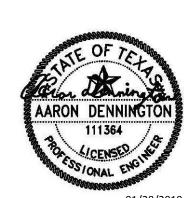
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SCHEMATIC DESIGN

ISSUANCES

11.09.18 DEVELOPMENT DESIGN 01.28.19 REVISIONS

09.10.18



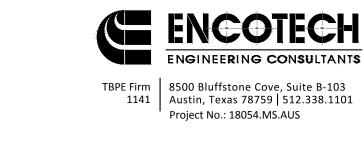
a multifamily project for NRP Group

West Cevallos

San Antonio, Texas

ELECTRICAL SPECIFICATIONS

18054 **Project Number** 01/14/2018 TLR Drawn By **EEC** Checked By



B. BUILDING WIRE:

- 1. FEEDERS AND BRANCH CIRCUITS LARGER THAN 6 AWG: COPPER, STRANDED CONDUCTOR, 600 VOLT INSULATION, THHN/THWN.
- 2. FEEDERS AND BRANCH CIRCUITS 6 AWG AND SMALLER: COPPER CONDUCTOR, 600 VOLT INSULATION, THHN/THWN. 6 AND 8 AWG, STRANDED CONDUCTOR; SMALLER THAN 8 AWG, SOLID CONDUCTOR.
- 3. CONTROL CIRCUITS: COPPER, STRANDED CONDUCTOR, 600 VOLT INSULATION, AS REQUIRED BY CONTROLS MANUFACTURER AND NATIONAL ELECTRIC CODE.
- 4. BRANCH CIRCUITS: MC CABLE

C. DWELLING UNIT WIRE

THHN/THWN

- 1. FEEDERS: COPPER STRANDED CONDUCTOR, 600 VOLT INSULATION
- BRANCH CIRCUITS: NM CABLE, 600 VOLT INSULATION WITH GROUND WIRE.

D. REMOTE CONTROL AND SIGNAL CABLES

- 1. CONTROL CABLE FOR CLASS 1 REMOTE CONTROL AND SIGNAL CIRCUITS: COPPER CONDUCTOR, 600 VOLT INSULATION, RATED 60 DEGREE C, INDIVIDUAL CONDUCTORS TWISTED TOGETHER, OR AS REQUIRED BY CONTROLS MANUFACTURER AND NATIONAL ELECTRIC CODE.
- . CONTROL CABLE FOR CLASS 2 OR CLASS 3 REMOTE CONTROL AND SIGNAL CIRCUITS: COPPER CONDUCTOR, 300 VOLT INSULATION, RATED 60 DEGREE C, INDIVIDUAL CONDUCTORS TWISTED TOGETHER, OR AS REQUIRED BY
- CORDS: OIL-RESISTANT THERMOSET INSULATED MULTICONDUCTOR FLEXIBLE CORD WITH IDENTIFIED EQUIPMENT GROUNDING CONDUCTOR, SUITABLE FOR HARD USAGE IN DAMP LOCATIONS.

CONTROLS MANUFACTURER AND NATIONAL ELECTRIC CODE.

2.3 WIRING DEVICES AND WALL PLATES (COMMERCIAL GRADE)

- a. ALL WALL PLATES SHALL BE NYLON COMMERCIAL GRADE OF THE SAME COLOR AS THE SWITCHES AND OUTLETS. NO EXPOSED SCREWS.
- b. SINGLE POLE SWITCH: HUBBELL MODEL 1221, OR APPROVED EQUIVALENT. COLOR SELECTED BY OWNER. NO EXPOSED SCREWS.
- WALL SWITCH OCCUPANCY VACANCY (MOTION) SENSORS: DUAL-RELAY, MULTI-TECHNOLOGY WALL-SWITCH TYPE, 120/277V, ADJUSTABLE TIME DELAY UP TO 30 MINUTES, 180-DEGREE FIELD OF VIEW, EQUAL LEVITON #OSSMT-MO. NO EXPOSED SCREWS.
- d. CEILING MOUNT OCCUPANCY SENSORS: MULTI-TECHNOLOGY, 360-DEGREE, SELF-ADJUSTING, ADJUSTABLE TIME DELAY UP TO 30 MINUTES, COMMERCIAL GRADE, EQUAL TO LEVITON #OSC05-MOW.
- e. DUPLEX CONVENIENCE RECEPTACLE: HUBBELL MODEL 5342, OR APPROVED EQUIVALENT. COLOR SELECTED BY OWNER.
- f. GFCI RECEPTACLE: HUBBELL MODEL GF-5362, OR APPROVED EQUIVALENT. COLOR SELECTED BY OWNER.
- g. TAMPER RESISTANT RECEPTACLE: LEVITON T5320, OR APPROVED EQUIVALENT. COLOR SELECTED BY OWNER.

h. TELEPHONE OUTLET:

1. COORDINATE COMPATIBILITY WITH OWNER'S TELEPHONE SYSTEM.

3.1 EXAMINATION AND PREPARATION

- A. VERIFY THAT INTERIOR OF BUILDING IS PHYSICALLY PROTECTED FROM WEATHER.
- VERIFY THAT MECHANICAL WORK WHICH IS LIKELY TO INJURE CONDUCTORS HAS BEEN COMPLETED.
- C. COMPLETELY AND THOROUGHLY SWAB RACEWAY SYSTEM BEFORE INSTALLING CONDUCTORS.

3.2 INSTALLATION

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- A. NEATLY TRAIN AND SECURE WIRING INSIDE BOXES, EQUIPMENT, AND LOAD
- B. USE WIRE PULLING LUBRICANT FOR PULLING 4 AWG AND LARGER WIRES.
- C. SUPPORT CABLES ABOVE ACCESSIBLE CEILINGS TO KEEP THEM FROM RESTING ON
- D. MAKE SPLICES, TAPS, AND TERMINATIONS TO CARRY FULL AMPACITY OF CONDUCTORS WITHOUT PERCEPTIBLE TEMPERATURE RISE.
- TERMINATE SPARE CONDUCTORS WITH ELECTRICAL TAPE.
- INSTALL WIRING DEVICES IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- 1. INSTALL WALL SWITCHES 48 INCHES ABOVE FLOOR TO HIGHEST OPERABLE PART OF ON POSITION, OFF POSITION DOWN.
- 2. INSTALL CONVENIENCE RECEPTACLES 15 INCHES ABOVE FLOOR TO CENTERLINE OF LOWEST RECEPTACLE (OR 18" MINIMUM TO CENTERLINE OF BOX), GROUNDING POLE ON BOTTOM.
- 3. INSTALL CONVENIENCE RECEPTACLES 48" TO CENTER OF HIGHEST RECEPTACLE.
- 4. INSTALL GFCI RECEPTACLE IN BATHROOMS AND KITCHENS AT MAXIMUM 44" TO CENTERLINE OF HIGHEST RECEPTACLE.
- 5. INSTALL SPECIFIC PURPOSE RECEPTACLES AT HEIGHTS SHOWN ON DRAWINGS.
- 6. INSTALL CORD AND ATTACHMENT PLUG CAPS ON EQUIPMENT UNDER THE PROVISIONS OF GENERAL ELECTRICAL REQUIREMENTS. SIZE CORD FOR CONNECTED LOAD AND RATING OF BRANCH CIRCUIT OVERCURRENT

SERVICE AND DISTRIBUTION

1.1 ACCEPTABLE MANUFACTURERS

- A. EATON (NO SUBSTITUTION)
- IT IS EMPHASIZED THAT THIS ACCEPTANCE IS FOR THE MANUFACTURER ONLY, AND NOT FOR ANY SPECIFIC PIECES OF EQUIPMENT, SUCH ACCEPTANCE DOES NOT RELIEVE THE CONTRACTOR FROM MEETING OR EXCEEDING ALL ELEMENTS OF THE DESIGN AND SPECIFICATION INTENT, INCLUDING APPEARANCE FOR THOSE ITEMS IN SPACES VISIBLE TO THE GENERAL PUBLIC. NOR DOES IT RELIEVE THE CONTRACTOR FROM VERIFYING ALL DIMENSIONS AND OTHER INSTALLATION REQUIREMENTS PRIOR TO PURCHASE.
- IT SHOULD ALSO BE NOTED THAT SUBMITTALS MUST CLEARLY ILLUSTRATE ALL PERFORMANCE DATA, NOISE DATA, ACCESSORIES, OPTIONS, ELECTRICAL CHARACTERISTICS (AS APPLICABLE), AND OTHER RELATED INFORMATION. ANY DEVIATIONS FROM SCHEDULED OR SPECIFIED EQUIPMENT OR OPTIONS MUST ALSO BE CLEARLY LISTED.

1.2 BRANCH CIRCUIT LOAD CENTERS

A. LOAD CENTERS SHALL BE EQUIPPED WITH THE NUMBER OF PLUG-IN SINGLE POLE AND MULTIPLE POLE CIRCUIT BREAKERS SHOWN BY THE SCHEDULES ON THE DRAWINGS AND OF THE AMPERE RATINGS INDICATED.PROVIDE CIRCUIT BREAKERS U.L. LISTED AS TYPE HACR FOR BRANCH CIRCUITS SERVING AIR CONDITIONING EQUIPMENT.

B. AS INDICATED BY THE SCHEDULES ON THE DRAWINGS, LOAD CENTERS SHALL HAVE EITHER MAIN LUGS ONLY OR MAIN CIRCUIT BREAKERS. BUSSES SHALL BE SIZED AS INDICATED ON THE SCHEDULES AND SHALL BE MADE OF COPPER. THE LOAD CENTER SHALL BE BUSSED FOR SINGLE PHASE THREE WIRE SERVICE AND EQUIPPED WITH COPPER GROUND BUS BONDED TO THE CABINET AND WITH NO. 2 INCOMING LINE LUG. THEY SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST RULES OF THE NATIONAL ELECTRIC CODE AND SHALL BEAR THE STAMPED APPROVAL OF THE UNDERWRITERS' LABORATORIES, INC. AN ENGRAVED MICARTA LABEL SHALL IDENTIFY EACH LOAD CENTER. C. LOAD CENTERS AND CIRCUIT BREAKER RATINGS

MINIMUM A.I.C. FAULT CURRENT RATING OF LOAD CENTERS AND ENCLOSED CIRCUIT BREAKERS, BUSSES, ETC., SHALL BE 22,000 AMPERES, UNLESS OTHERWISE NOTED.

D. CABINET DOORS SHALL BE PROVIDED WITH HEAVY NON-SNAP LOCKS WITH KEYS, AND ALL LOCKS SHALL BE KEYED ALIKE. TRIMS AND CABINETS SHALL BE FINISHED WITH TWO COATS OF TRAY LACQUER. A TYPEWRITTEN CIRCUIT DIRECTORY IDENTIFYING ALL BRANCHES SHALL BE PROVIDED IN A STEEL FRAME ON THE BACK OF THE DOOR OF EACH CABINET. THE DIRECTORY SHALL HAVE A NEATLY TYPED LIST OF WHAT EACH INDIVIDUAL CIRCUIT BREAKER IS SERVING AND WHAT ROOMS THAT BREAKER IS SERVING. THE LOAD CENTERS SHALL BE MOUNTED AT A HEIGHT OF 54" FROM THE CENTER LINE TO THE BOARD OF THE FINISHED FLOOR (A.F.F.). TOP OF PANELS SHALL NOT EXCEED 6'0" A.F.F.

CONTRACTOR SHALL STUB ABOVE THE FINISHED CEILING AT EACH FLUSH MOUNTED BRANCH CIRCUIT LOAD CENTER ONE 3/4" SPARE CONDUIT FOR EACH SPARE CIRCUIT BREAKER IN EACH LOAD CENTER. 1.3 SAFETY SWITCHES

A. SAFETY SWITCHES SHALL BE U.L. APPROVED, DESIGNED FOR QUICK-MAKE, QUICK-BREAK USE AND EQUIPPED WITH ARC-QUENCHING DEVICES. THE SWITCHES SHALL BE OF THE SIZES INDICATED ON THE DRAWINGS AND WHERE USED TO SERVE MOTORS SHALL BEAR THE HORSEPOWER RATING EQUAL TO OR EXCEEDING THAT OF THE MOTOR WHICH THEY SERVE, REGARDLESS OF THE SIZE OR TYPE SPECIFIED ON THE DRAWINGS.

B. IF THE SWITCHES ARE TO BE MOUNTED WHERE WEATHERPROOF UNITS ARE REQUIRED BY CODE, THEY SHALL BE SO FURNISHED BY THE CONTRACTOR.

3.1 INSTALLATION

A. IN ANY SPACE ASSIGNED FOR THE INSTALLATION OF LOAD CENTERS, CONTRACTOR SHALL VERIFY DIMENSIONS OF THE EQUIPMENT TO BE INSTALLED. SHOP DRAWING DATA SUBMITTED SHALL INCLUDE A DIMENSIONED DRAWING SHOWING PLACEMENT OF THE EQUIPMENT WITHIN THE ROOM (MAIN ELECTRICAL ROOM ONLY).

B. SAFETY SWITCHES SHALL BE MOUNTED SEPARATELY FROM THE EQUIPMENT. PROVIDE DUPLEX OUTLET FOR SERVICING SUCH EQUIPMENT.

LIGHTING

- A. PRODUCT DATA: PROVIDE PRODUCT DATA FOR EACH LUMINAIRE AND LIGHTING UNIT.
- B. OPERATING AND MAINTENANCE INSTRUCTIONS: PROVIDE MAINTENANCE AND OPERATING INSTRUCTIONS FOR BATTERY POWERED LIGHTING UNITS.

1.2 REGULATORY REQUIREMENTS

- A. CONFORM TO REQUIREMENTS OF ANSI/NFPA 70.
- B. CONFORM TO REQUIREMENTS OF NFPA 101.
- C. FURNISH PRODUCTS LISTED BY UNDERWRITERS LABORATORIES, INC. OR OTHER TESTING FIRM ACCEPTABLE TO

AUTHORITY HAVING JURISDICTION. 2.1 EXAMINATION AND PREPARATION

- A. EXAMINE ADJACENT SURFACES TO DETERMINE THAT SURFACES ARE READY TO RECEIVE WORK.
- 2.2 INSTALLATION
- A. INSTALL LUMINAIRES AND ACCESSORIES IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- PROVIDE PENDANT ACCESSORY TO MOUNT SUSPENDED LUMINAIRES AT HEIGHT INDICATED. 2. INSTALL RECESSED LUMINAIRES TO PERMIT REMOVAL FROM BELOW. INSTALL GRID CLIPS.
- 3. INSTALL LAMPS IN LUMINAIRES AND LAMPHOLDERS.

2.3 ADJUSTING AND CLEANING

- A. ALIGN LUMINAIRES AND CLEAN LENSES AND DIFFUSERS AT COMPLETION OF WORK
- AIM ADJUSTABLE LUMINAIRES AND LAMPHOLDERS AS INDICATED OR AS DIRECTED
- CLEAN PAINT SPLATTERS, DIRT AND DEBRIS FROM INSTALLED LUMINAIRES TOUCH UP LUMINAIRES FINISH AT COMPLETION OF WORK

AND ANNUNCIATION OPERATIONS FOR THE BUILDING.

RELAMP LUMINAIRES WHICH HAVE FAILED LAMPS AT COMPLETION OF WORK.

FIRE ALARM

PART 1 - GENERAL

1.1 SCOPE A. CONTRACTOR SHALL DESIGN AND INSTALL A COMPLETE FIRE ALARM AND SMOKE DETECTION SYSTEM. COORDINATE WITH LOCAL REGULATORY AGENCIES AND FIRE MARSHALL. THE FINISHED SYSTEM SHALL INCLUDE ALL ITEMS AS REQUIRED BY THE FIRE MARSHALL AND ALL LOCAL, STATE AND NATIONAL CODES AND REGULATIONS.

B. FIRE ALARM SYSTEM SHALL CONSIST OF ALL THE NECESSARY EQUIPMENT TO PERFORM FIRE ALARM DETECTION

1.2 SUBMITTALS

- A. PRODUCT DATA: EACH FIRE ALARM AND SMOKE DETECTION COMPONENT.
- B. MAINTENANCE AND OPERATING INSTRUCTIONS: FIRE ALARM AND SMOKE DETECTION SYSTEM.
- C. SUBMIT DRAWINGS APPROVED BY STATE FIRE MARSHALL. INCLUDE COORDINATING RISER AND CONNECTION DIAGRAMS, SCHEDULES SHOWING LOCATIONS AND FUNCTION OF EACH DEVICE, AND SPECIFICATION DATA SHEETS.
- D. FURNISH THREE (3) SETS OF AS-BUILT DRAWINGS, LITERATURE, AND WIRING DIAGRAMS. INCLUDING WIRE TAG DESIGNATING CONDUCTOR COUNTS AND SIZE, TO OWNER AFTER JOB HAS BEEN COMPLETED.

1.3 REGULATORY REQUIREMENTS

- A. CONFORM TO REQUIREMENTS OF NFPA 70.
- B. FURNISH PRODUCTS LISTED BY UNDERWRITERS LABORATORIES, INC. OR OTHER TESTING FIRM ACCEPTABLE TO AUTHORITY HAVING JURISDICTION.
- C. INTERNATIONAL BUILDING CODE.
- D. NFPA 101, LIFE SAFETY CODE. E. NFPA 72, FIRE ALARM CODE.
- F. LOCAL FIRE CODES AND STATE FIRE MARSHAL.

1.4 QUALITY ASSURANCE

A. SYSTEM SUPPLIER SHALL HAVE OFFICE WITHIN 100 MILES OF SITE AND SHALL PROVIDE SERVICE WITHIN 24 HOURS FROM NOTICE THAT FAULT WITH SYSTEM DOES EXIST.

B. INSTALLER SHALL BE AUTHORIZED BY SYSTEM MANUFACTURER TO INSTALL AND SERVICE SYSTEM SUBMIT PROOF OF SUCH AUTHORIZATION.

C. INSTALLER SHALL HAVE AT LEAST 5 YEARS OF SUCCESSFUL INSTALLATION EXPERIENCE ON SIMILAR PROJECTS AND BE LICENSED AND REGISTERED BY THE STATE FIRE MARSHALL TO SELL, INSTALL, AND SERVICE FIRE DETECTION AND ALARM SYSTEMS.

D. SYSTEM SHALL BE INSTALLED COMPLETE IN EVERY RESPECT BY EXPERIENCED, QUALIFIED AND COMPETENT TECHNICIANS UNDER THE SUPERVISION OF LICENSED INSTALLATION SUPERINTENDENT. 1.5 MAINTENANCE

A. PROVIDE TWO SPARE FIRE ALARM STATION GLASS RODS.

PART 2 - PRODUCTS

2.1 FIRE ALARM SYSTEM A. MANUFACTURERS:

- 1. NOTIFIER, AUTO CALL, FIRELITE, PYROTRONICS OR APPROVED EQUAL.
- B. FIRE ALARM AND SMOKE DETECTION SYSTEM:
- 1. DESIGN TO NFPA 72. MEET REQUIREMENTS FOR AUTOMATIC FIRE ALARM SYSTEM.
- 2. PROVIDE SMOKE DETECTION SYSTEM PERFORMANCE TO NFPA 72E.
- 3. SYSTEM SUPERVISION: ELECTRICALLY-SUPERVISED ALARM INITIATING AND ALARM SIGNALING
- 4. ENCLOSURE SHALL HAVE LOCKABLE DOOR WITH FRAMED WINDOWS SO THAT INDICATING LAMPS AND SYSTEM CONTROL SWITCHES ARE ACCESSIBLE WITHOUT OPENING THE DOOR. PROVIDE TUMBLE LOCK WITH THREE KEYS.
- 5. ZONING: SIX ZONES VERIFY WITH STATE FIRE MARSHALL'S REQUIREMENTS AND OWNER'S REQUIREMENTS.

C. COMPONENTS:

CIRCUITS.

- CONTROL PANEL: MODULAR CONTROL PANEL IN FLUSH WALL MOUNTED ENCLOSURE.
- 2. POWER SUPPLY: INCLUDE BATTERY-OPERATED EMERGENCY POWER SUPPLY FOR OPERATION OF SYSTEM UNDER NORMAL AND ALARM CONDITIONS WITH POWER FAILURE LED LAMP.
- 3. AUXILIARY RELAYS: PROVIDE SUFFICIENT AUXILIARY RELAY CONTACTS TO PROVIDE ACCESSORY FUNCTIONS SPECIFIED AND INDICATED.
- 4. MANUAL STATION: PROVIDE NONCODED SINGLE ACTION HIGH IMPACT RED LEXAN STATIONS WITH RECESSED LEVER PULL. BREAKGLASS OPERATION IS NOT ACCEPTABLE. OPERATING INSTRUCTIONS ON PULL SHALL BE RAISED LETTERS PAINTED WHITE. PROVIDE CONTACTS IN PULL STATIONS TO PERFORM AS PER SYSTEM OPERATION DESCRIBED. PROVIDE LEXAN, TAMPER-RESISTANT COVER FOR EACH STATION. STATIONS SHALL BE FLUSH MOUNTED, 48"
- A.F.F. WITH RECESSED WALL FLANGE. . CEILING MOUNTED SMOKE DETECTOR: DETECTORS SHALL BE PHOTOELECTRIC SOLID-STATE TYPE WITH PULSED LED POWER SUPERVISOR INDICATOR. DETECTORS SHALL HAVE SENSITIVITY ADJUSTMENTS WITHIN U.L. LISTING LIMITS.
- 6. DUCT MOUNTED SMOKE DETECTOR: DUCT SMOKE DETECTORS SHALL BE OF SOLID STATE PHOTOELECTRIC TYPE. DETECTORS SHALL BE DESIGNED TO IGNORE INVISIBLE AIRBORNE PARTICLES OR SMOKE DENSITIES THAT ARE BELOW FACTORY SET ALARM POINT. NO RADIOACTIVE MATERIALS SHALL BE USED. DETECTOR CONSTRUCTION SHALL BE OF SPLIT TYPE, THAT IS, MOUNTING BASE WITH TWIST-LOCK DETECTING HEAD. REMOVAL OF DETECTOR HEAD SHALL INTERRUPT SUPERVISORY CIRCUIT OF THE FIRE ALARM DETECTION LOOP AND CAUSE A TROUBLE SIGNAL AT CONTROL PANEL. DUCT HOUSING COUPLINGS SHALL BE SLOTTED TO INSURE PROPER ALIGNMENT OF SAMPLING AND EXHAUST TUBES. DETECTOR SHALL HAVE VISIBLE ALARM LED, PROVIDE REMOTE INDICATOR LAMP WHERE DETECTOR IS IN CONCEALED SPACE. DETECTORS SHALL OBTAIN THEIR OPERATING POWER FROM SUPERVISED CURRENT IN THE FIRE ALARM LOOP.
- 7. COMBINATION AUDIO/VISUAL UNITS: FLASHING LAMP ASSEMBLY SHALL INCLUDE BUILT- IN REFLECTOR AND WHITE LEXAN LENS WITH THE WORD "FIRE" IN RAISED RED LETTERING ON SIDES. UNITS SHALL FLASH AT SUCH A RATE TO BE IN ACCORDANCE WITH THE U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE SAFETY GUIDELINES FOR PERSONS WHO MAY BE SEIZURE PRONE TO PHOTOSENSITIVE EPILEPSY. UNITS TO BE FLUSH MOUNTED, 84"
- 8. FIRE ALARM AND SMOKE DETECTION SYSTEM CABLE: AS REQUIRED BY SYSTEM **MANUFACTURER**

PART 3 - EXECUTION

- 3.1 INSTALLATION A. INSTALL FIRE ALARM SYSTEMS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS:
- AND VISUAL SIGNAL DEVICES 84 INCHES ABOVE FLOOR. 2. MOUNT END-OF-LINE DEVICE IN BOX WITH LAST DEVICE OR SEPARATE BOX ADJACENT TO LAST

1. INSTALL MANUAL STATION WITH OPERATING HANDLE 48" ABOVE FLOOR. INSTALL AUDIBLE

- DEVICE IN CIRCUIT. . MAKE CONDUIT AND WIRING CONNECTIONS TO DOOR RELEASE DEVICES, SPRINKLER FLOW SWITCHES, SPRINKLER VALVE TAMPER SWITCHES, FIRE SUPPRESSION SYSTEM CONTROL PANELS,
- DUCT SMOKE DETECTORS AND FIRE/SMOKE DAMPERS (IF ANY). 4. INTERFACE INSTALLATION OF DOOR HOLDERS WITH DOORS AND FRAMES TO ACHIEVE PROPER OPERATION AND AVOID INTERFERENCE.
- 5. INTERFACE INSTALLATION OF FIRE ALARM WITH FIRE PROTECTION SYSTEM.

3.2 FIELD QUALITY CONTROL

- A. PERFORM FIELD INSPECTION AND TESTING OF FIRE ALARM AND SMOKE DETECTION SYSTEM UNDER PROVISIONS OF DIVISION 01.
- 1. INSPECT AND TEST TO NFPA 72H AND LOCAL FIRE SERVICE REQUIREMENTS.
- 2. INCLUDE DESCRIPTION OF TESTING AND RESULTS IN TEST REPORT





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09.10.18

11.09.18

01.28.19

SCHEMATIC DESIGN

DEVELOPMENT DESIGN

ISSUANCES

REVISIONS



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West Cevallos

San Antonio, Texas

ELECTRICAL SPECIFICATIONS

18054 **Project Number** 01/14/2018 TLR Drawn By Checked By

TRANSFORMER SCHEDULE								
XFMR NUMBER	BLDG#	BLDG TYPE	BLDG SECTION	LENGTH OF SECONDARY	AMPS	PHASE	SHEET (RISER)	VOLTAGE
TI	1	1	1a/CLUB	38	1600	1 Ø	E404	120/240V
T2	1	1	1b	69	1600	1 Ø	E404	120/240V
T3	1	1	1b	69	1200	1Ø	E404	120/240V
T4	1	1	1c	73	1600	1Ø	E405	120/240V
T5	1	1	1d	8	1600	1Ø	E405	120/240V
T6	1	1	1d	8	1600	1Ø	E405	120/240V
T7	1	1	1e	30	1600	1Ø	E406	120/240V
T8	1	1	1e	32	1200	1 Ø	E406	120/240V
T9	2	П		20	1600	1 Ø	E407	120/240V
T10	3	П		27	1600	1 Ø	E407	120/240V
T11	4	П		21	1600	1 Ø	E407	120/240V
T12	5	П		7	1600	1 Ø	E407	120/240V
T13	MAIN/TC	-		93	200	1 Ø	E410	120/240V

ELECTRICAL SITE PLAN
SCALE: 1"=30'-0"

-> KEYED NOTES

MODULAR METERING SYSTEM IN NEMA 3R 6. PROVIDE JUNCTION BOX FOR 115V, 1/2 HP ENCLOSURE. REFER TO E404 THRU E407 FOR RISER DIAGRAM. SYSTEM INCLUDES MAIN DISCONNECT AND METER STACKS OF 5 METERS. 7. ALL COURTYARD LIGHTING SHALL BE

SECONDARY UNDERGROUND LATERAL CONDUIT FROM METER TO TRANSFORMER. REFER TO ELECTRICAL RISER DIAGRAMS FOR 8. WIRE AND CONDUIT SIZES.

120/240V, 1Ø PAD-MOUNTED TRANSFORMER. PROVIDED BY CPS ENERGY. CONCRETE PAD 9. 120/240V, 1Ø, 600 A DISCONNECT AND METER PROVIDED BY OWNER.

CAMERA. SECURITY SYSTEM DESIGNED BY PROVIDE JUNCTION BOX AT GRADE FOR

PROVIDE JUNCTION BOX FOR SECURITY

MONUMENT SIGN LIGHT. ROUTE CONDUIT TO 11. PROVIDE JUNCTION BOX AT CANOPY FOR

GENERAL NOTES

SLIDING ENTRY GATE WITH 24VDC BATTERY.

CIRCUITED TO HP-1a-21. CIRCUIT THRU TIME

120/240V, 1Ø, 200 A DISCONNECT AND METER

FOR MAINTENANCE BUILDING IN NEMA 3R

FOR COMMUNITY CENTER IN NEMA 1

10. 120/240, 1Ø, 100 A DISCONNECT AND METER

FOR TRASH COMPACTOR IN NEMA 3R

CIRCUIT TO NEAREST LOAD CENTER.

CLOCK TO PHOTOCELL.

ENCLOSURE.

ENCLOSURE.

REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.

REFER TO LIFE SAFETY PLANS FOR FIRE WALL INDICATION AND ARCHITECTURAL PLANS, SHEETS A-200 AND A-401 FOR 2-HOUR FIRE RATED DOORS.

EXTERIOR LIGHTING NOTES

ALL EXTERIOR LIGHTING SHALL BE FULLY SHIELDED AND FULL-CUTOFF PER DARK SKY REQUIREMENTS.

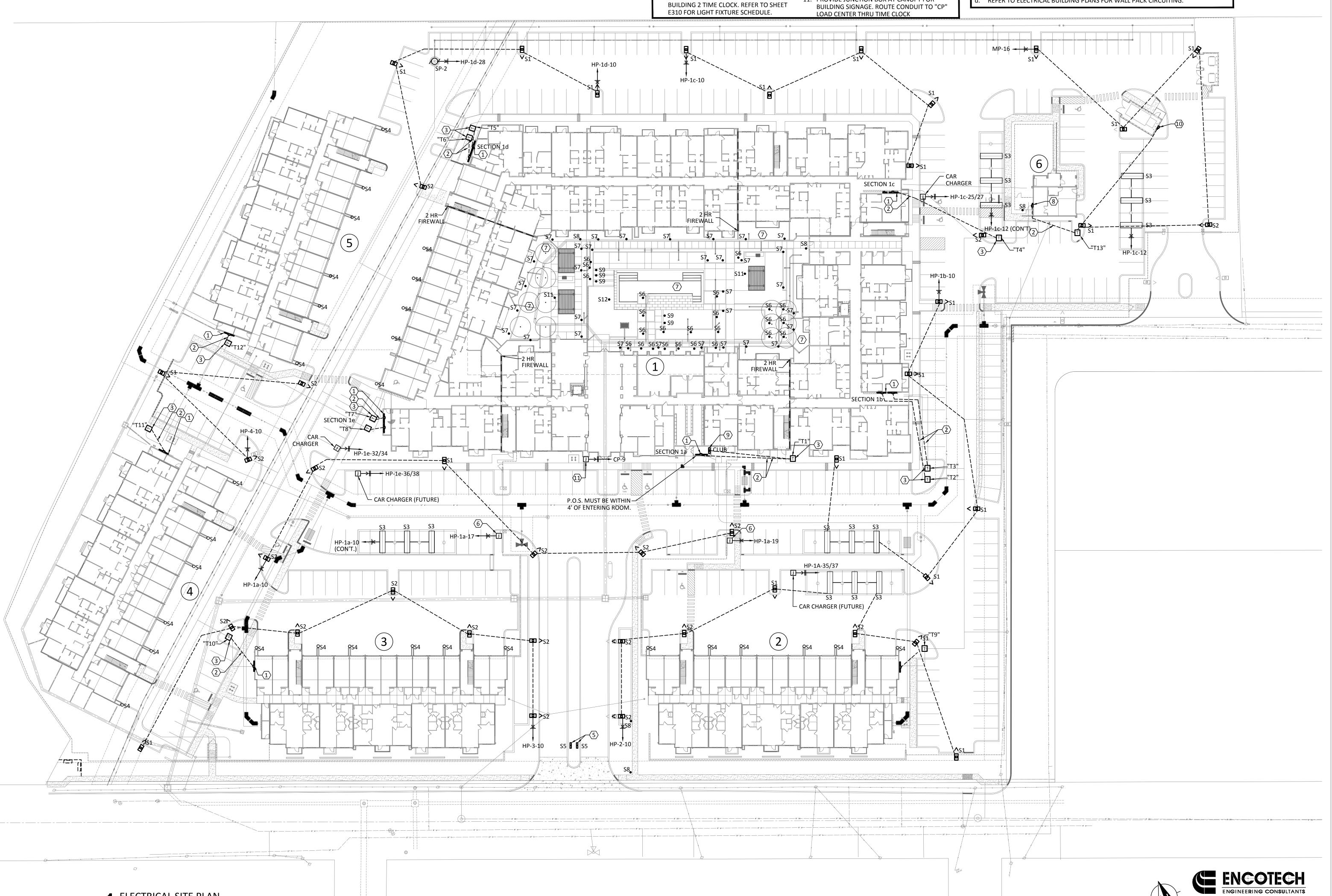
ALL EXTERIOR LIGHTING TO BE CONTROLLED BY PHOTOCELL AND TIMER CLOCK.

CONTROL SHALL BE AS FOLLOWS: TIME CLOCK SHALL ENERGIZE LIGHT FIXTURE CIRCUITS AT PRESCRIBED TIME,

AS PER OWNER. SOME FIXTURES MAY BE DESIGNATED AS SECURITY LIGHTING TO OPERATE

FROM PHOTOCELL. COORDINATE WITH OWNER FOR EXACT REQUIREMENTS.

REFER TO ELECTRICAL BUILDING PLANS FOR WALL PACK CIRCUITING.





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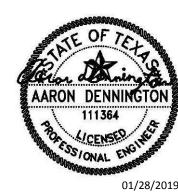
Interior Designer:

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ISSUANCES

	01	SCHEMATIC DESIGN	09.10.18
	02	DEVELOPMENT DESIGN	11.09.18
	03	PERMIT SET	01.28.19
1 1			

REVISIONS



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West Cevallos San Antonio, Texas

ELECTRICAL SITE PLAN

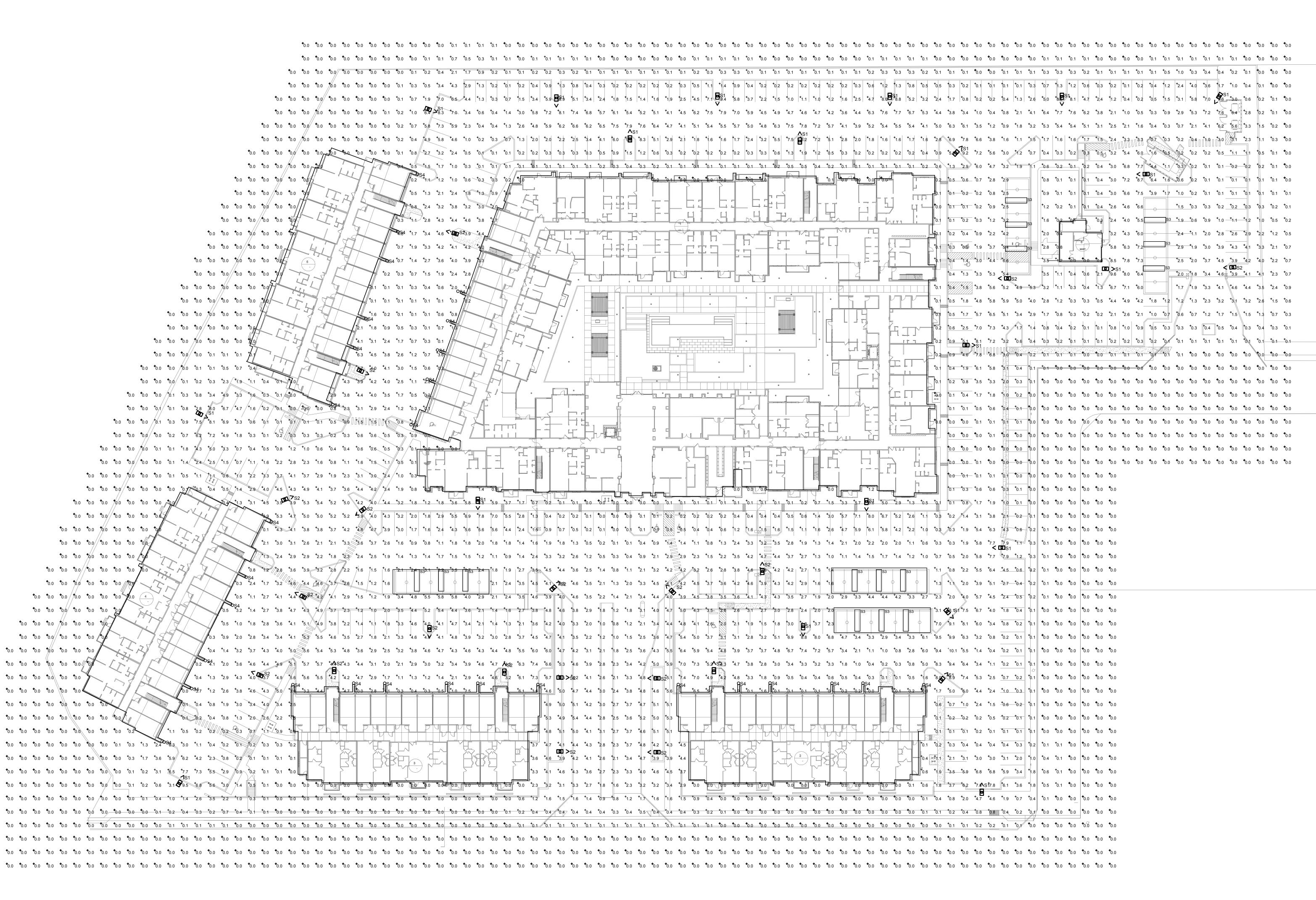
	Project Number	18054
=	Date	01/14/2018
	Drawn By	TLR
	Checked By	EEC

1141 Austin, Texas 78759 512.338.1101 Project No.: 18054.MS.AUS

 Statistics
 Description
 Symbol
 Avg
 Max
 Min
 Max/Min
 Avg/Min

 Calc Zone #1
 +
 1.5 fc
 10.1 fc
 0.0 fc
 N/A
 N/A

Schedule											
Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Filename	Lumens Per Lamp	Light Loss Factor	Wattage
^ -	S1	21	Lithonia Lighting	DSX1 LED 40C 1000 40K T3S MVOLT HS	DSX1 LED with 40 LEDs @ 1000 mA , 4000K , TYPE 3 SHORT OPTICS WITH HOUSE-SIDE SHIELD	LED	1	DSX1_LED_40C_100 0_40K_T3S_MVOLT_ HS.ies	12569	1	138
^ •	S2	19	Lithonia Lighting	DSX1 LED 40C 1000 40K T5M MVOLT	DSX1 LED with 40 LEDs @ 1000 mA , 4000K , TYPE 5 MEDIUM OPTICS	LED	1	DSX1_LED_40C_100 0_40K_T5M_MVOLT.i es	15845	1	138
	S3	15	Lithonia Lighting	DSXSC LED 10C 700 30K T5R MVOLT	DSX SURFACE CANOPY FIXTURE WITH 1 LIGHT ENGINE, 700mA DRIVER, 3000K LEDS, T5R OPTIC.	LED	1	DSXSC_LED_10C_70 0_30K_T5R_MVOLT.i es	2701	1	26
	S4	30	Lithonia Lighting	OLLWD	OUTDOOR LED WALL DOWNLIGHT CYLINDER WITH 4000K LEDS AND POLYCARBONATE LENSES	LED	1	OLLWD.ies	264	1	8.6





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West Cevallos
San Antonio, Texas

ELECTRICAL PHOTOMETRIC

Project Number 18054

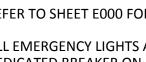
Date 01/14/2018

Drawn By TLR

Checked By EEC

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A. REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.

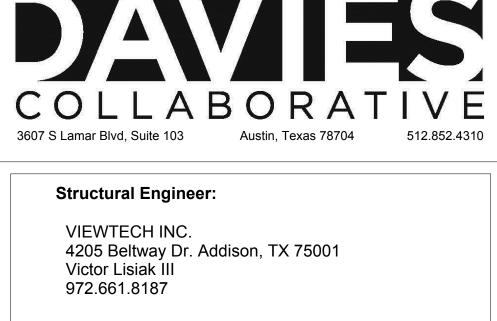
ALL EMERGENCY LIGHTS AND EXIT SIGNS SHALL BE CIRCUITED TO DEDICATED BREAKER ON HOUSE PANEL, CIRCUIT #HP-16.

ALL EXTERIOR LIGHTING SHALL BE CIRCUITED THRU TIME CLOCK

- REFER TO ELECTRICAL SITE PLAN FOR EXACT LOCATION OF
- ELECTRICAL METER SERVICE LOCATION.
- TO PHOTOCELL.
- ALL BREEZEWAY LIGHTING (B1), CEILING FANS (B2) AND STAIRWELL LIGHTS (B4) SHALL BE SWITCHED AT CIRCUIT
- ALL UNIT ENTRY LIGHTING (A) SHALL BE CIRCUITED TO TENANT LOAD CENTER AND UNSWITCHED.

KEYED NOTES:

PROVIDE MAGNETIC DOOR OPEN HOLDERS WITH J-BOX INTERLOCKED WITH SMOKE DETECTORS.



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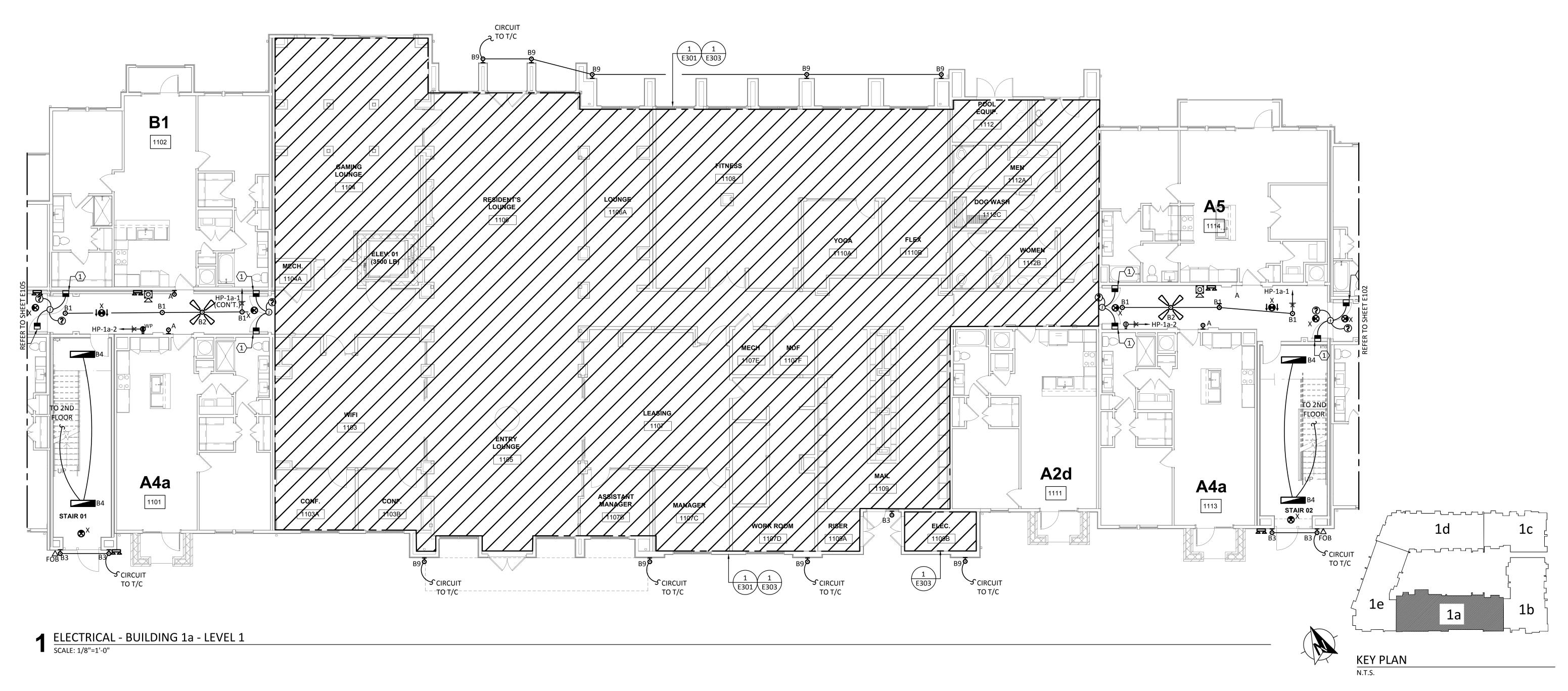


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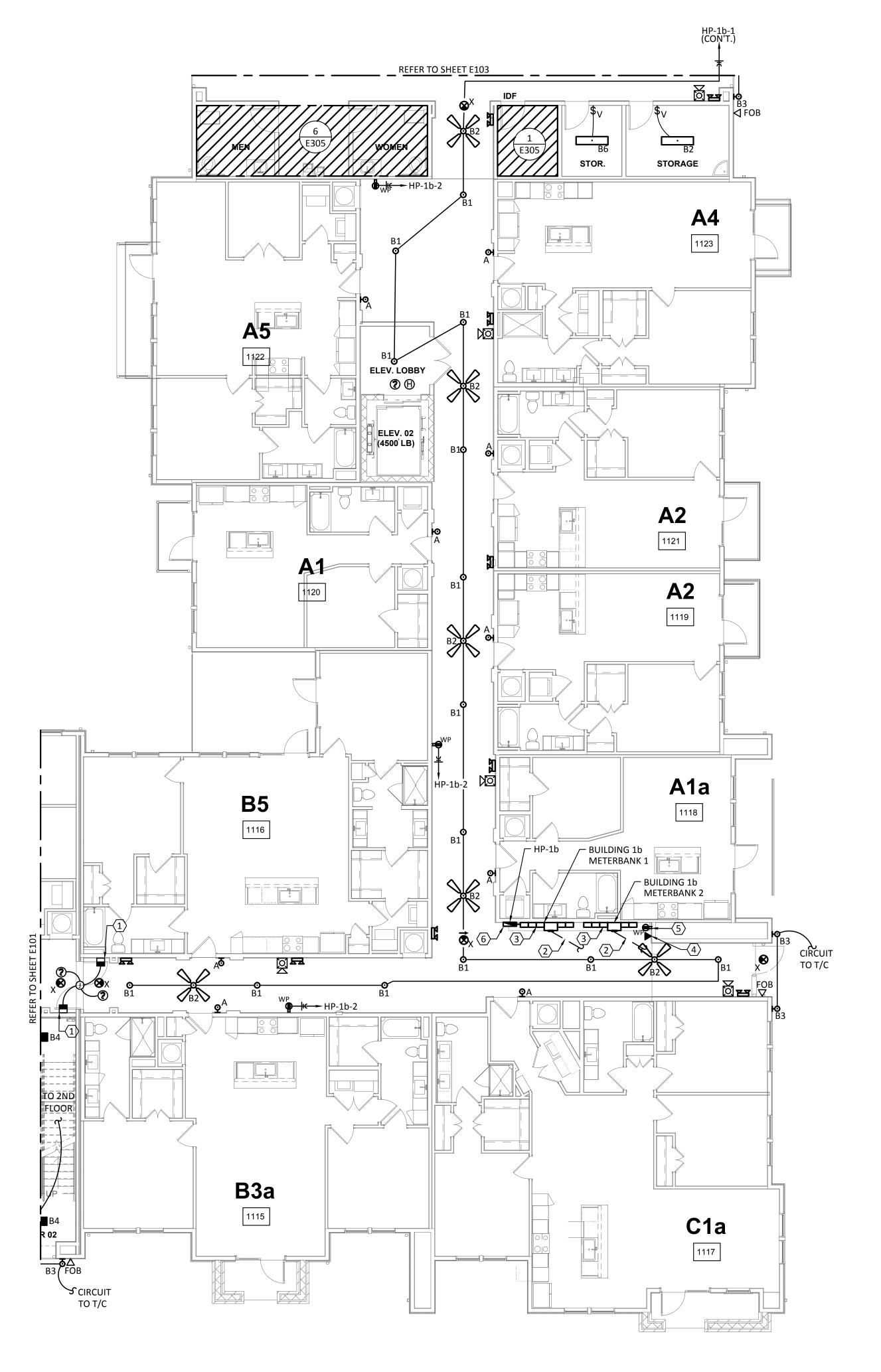
West Cevallos San Antonio, Texas

ELECTRICAL BUILDING 1a LEVEL 1

Project Number	18054
Date	01/14/2018
Drawn By	TLR
Checked By	EEC
	_







ELECTRICAL - BUILDING 1b - LEVEL 1

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



- A. REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.
- . ALL EMERGENCY LIGHTS AND EXIT SIGNS SHALL BE CIRCUITED TO DEDICATED BREAKER ON HOUSE PANEL, CIRCUIT #HP-16.
- REFER TO ELECTRICAL SITE PLAN FOR EXACT LOCATION OF ELECTRICAL METER SERVICE LOCATION.
- . ALL EXTERIOR LIGHTING SHALL BE CIRCUITED THRU TIME CLOCK TO PHOTOCELL.
- ALL BREEZEWAY LIGHTING (B1), CEILING FANS (B2) AND STAIRWELL LIGHTS (B4) SHALL BE SWITCHED AT CIRCUIT
- ALL UNIT ENTRY LIGHTING (A) SHALL BE CIRCUITED TO TENANT LOAD CENTER AND UNSWITCHED.

KEYED NOTES:

- PROVIDE MAGNETIC DOOR OPEN HOLDERS WITH J-BOX INTERLOCKED WITH SMOKE DETECTORS.
- ROUTE SECONDARY LATERALS TO 120/240 V. 1Ø PAD MOUNT TRANSFORMER (PROVIDED BY CPS ENERGY). ALL LATERALS SHALL BE SIZED BY CPS ENERGY. REFER TO SHEET E003.
- MODULAR METERING SYSTEM. MOUNT ON EXTERIOR WALL IN NEMA 3R ENCLOSURE. REFER TO CPS ENERGY DESIGN CRITERIA MANUAL FOR MAXIMUM/MINIMUM MOUNTING HEIGHT LIMITS TO CENTER OF THE METER.
- ALL MODULAR METER AREAS REQUIRE A FUNCTIONAL TELEPHONE LINE TO BE INSTALLED ADJACENT TO METERING EQUIPMENT TO PROVIDE DIAL IN/OUT SERVICE PER CPS ENERGY DESIGN CRITERIA MANUAL, SECTION 1810.1.
- PROVIDE RECEPTACLE WITHIN 50' OF ELECTRICAL SERVICE PER N.E.C. REQUIREMENTS.
- 120/240 V., 1Ø 100 AMP LOAD CENTER IN NEMA 3R ENCLOSURE. MAINTAIN A MINIMUM OF 6" BETWEEN MODULAR METERING SYSTEM AND LOAD CENTER.

COLLABORATIVE

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SJL Design Group 921 N. Riverfront Blvd. Suite 100, Dallas, TX 75207 Cassie Farley

ISSUANCES		
01	SCHEMATIC DESIGN	09.10.18
02	DEVELOPMENT DESIGN	11.09.18
03	PERMIT SET	01.28.19





a multifamily project for NRP Group

West Cevallos San Antonio, Texas

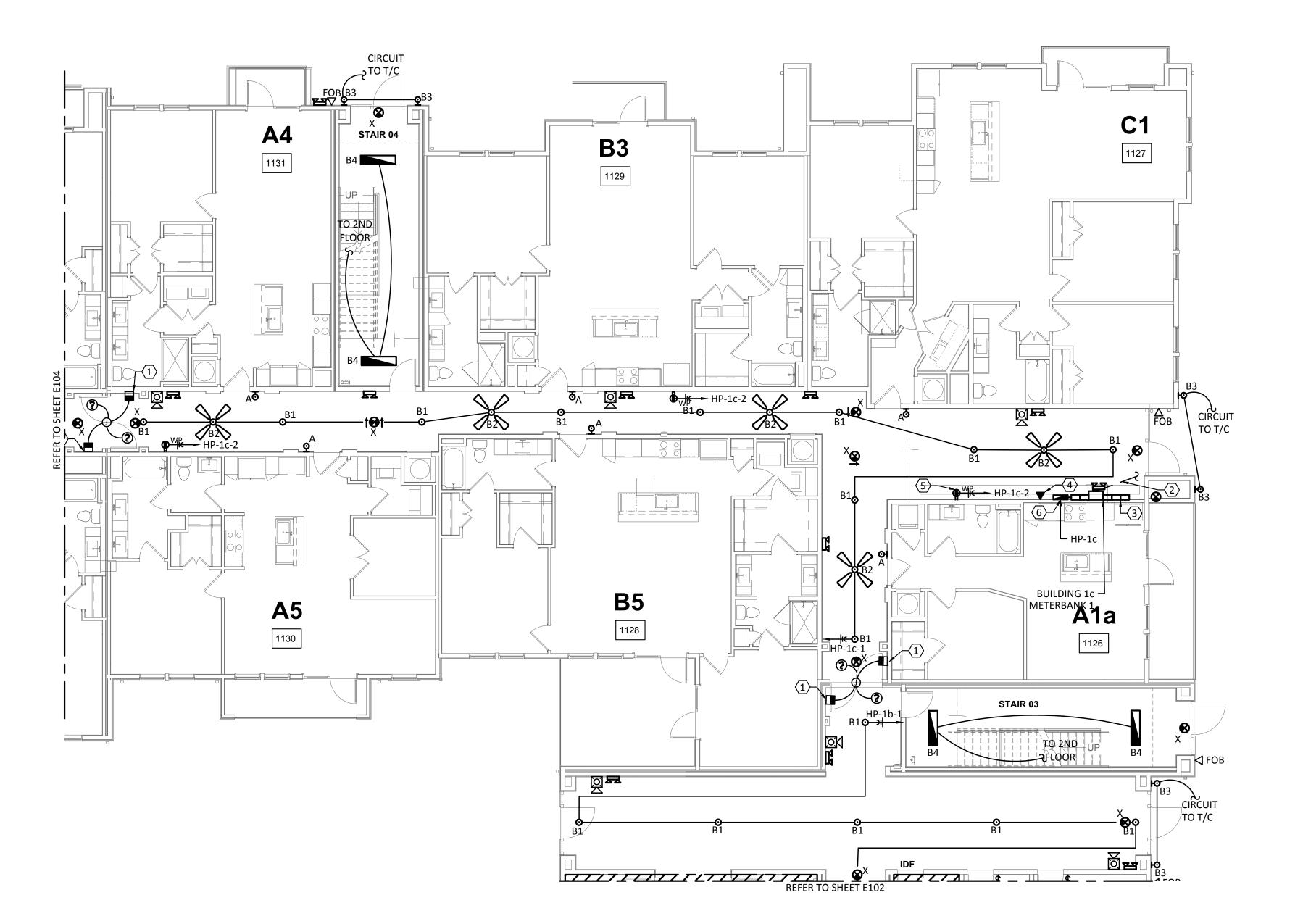
ELECTRICAL BUILDING 1b LEVEL 1

Project Number	18054
Date	01/14/2018
Drawn By	TLR
Checked By	EEC

E102

ENCOTECH ENGINEERING CONSULTANTS TBPE Firm 8500 Bluffstone Cove, Suite B-103 1141 Austin, Texas 78759 | 512.338.1101 Project No.: 18054.MS.AUS

KEY PLAN
N.T.S.



■ ELECTRICAL - BUILDING 1c - LEVEL 1

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

GENERAL NOTES:

- A. REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.
- 3. ALL EMERGENCY LIGHTS AND EXIT SIGNS SHALL BE CIRCUITED TO DEDICATED BREAKER ON HOUSE PANEL, CIRCUIT #HP-28.
- REFER TO ELECTRICAL SITE PLAN FOR EXACT LOCATION OF ELECTRICAL METER SERVICE LOCATION.
- ALL EXTERIOR LIGHTING SHALL BE CIRCUITED THRU TIME CLOCK
- TO PHOTOCELL.
- ALL BREEZEWAY LIGHTING (B1), CEILING FANS (B2) AND STAIRWELL LIGHTS (B4) SHALL BE SWITCHED AT CIRCUIT
- ALL UNIT ENTRY LIGHTING (A) SHALL BE CIRCUITED TO TENANT LOAD CENTER AND UNSWITCHED.

KEYED NOTES:

- PROVIDE MAGNETIC DOOR OPEN HOLDERS WITH J-BOX INTERLOCKED WITH SMOKE DETECTORS.
- ROUTE SECONDARY LATERALS TO 120/240 V. 1Ø PAD MOUNT TRANSFORMER (PROVIDED BY CPS ENERGY). ALL LATERALS SHALL BE SIZED BY CPS ENERGY. REFER TO SHEET E003.
- MODULAR METERING SYSTEM. MOUNT ON EXTERIOR WALL IN NEMA 3R ENCLOSURE. REFER TO CPS ENERGY DESIGN CRITERIA MANUAL FOR MAXIMUM/MINIMUM MOUNTING HEIGHT LIMITS TO CENTER OF THE METER.
- ALL MODULAR METER AREAS REQUIRE A FUNCTIONAL TELEPHONE LINE TO BE INSTALLED ADJACENT TO METERING EQUIPMENT TO PROVIDE DIAL IN/OUT SERVICE PER CPS ENERGY DESIGN CRITERIA MANUAL, SECTION 1810.1.
- PROVIDE RECEPTACLE WITHIN 50' OF ELECTRICAL SERVICE PER N.E.C. REQUIREMENTS.
- 120/240 V., 1Ø 100 AMP LOAD CENTER IN NEMA 3R ENCLOSURE. MAINTAIN A MINIMUM OF 6" BETWEEN MODULAR METERING SYSTEM AND LOAD CENTER.

COLLABORATIVE

3607 S Lamar Blvd, Suite 103 Austin, Texas 78704 512.852.4310

Structural Engineer:

VIEWTECH INC. 4205 Beltway Dr. Addison, TX 75001 Victor Lisiak III 972.661.8187

MEP Engineer:

ENCOTECH 8500 Bluffstone Cove, Austin, TX. 78759 Tessa Roberts 512.338.1101

Civil Engineer:

MBC & Associates, Inc 1035 Central Pkwy N, San Antonio, TX 78732 David Allen 210.545.1122

Landscape Architect:

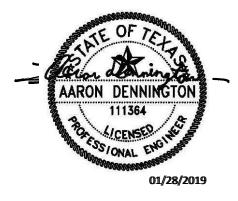
LEE & Associates, Inc. 9020 N Capital of Texas Hwy, Austin, TX. 78759 Amber Rothwell

Interior Designer:

512.345.8477

SJL Design Group 921 N. Riverfront Blvd. Suite 100, Dallas, TX 75207 Cassie Farley 214.443.9090

ISSUANCES		
01	SCHEMATIC DESIGN	09.10.18
02	DEVELOPMENT DESIGN	11.09.18
03	PERMIT SET	01.28.19
		1



a multifamily project for NRP Group

West Cevallos

San Antonio, Texas

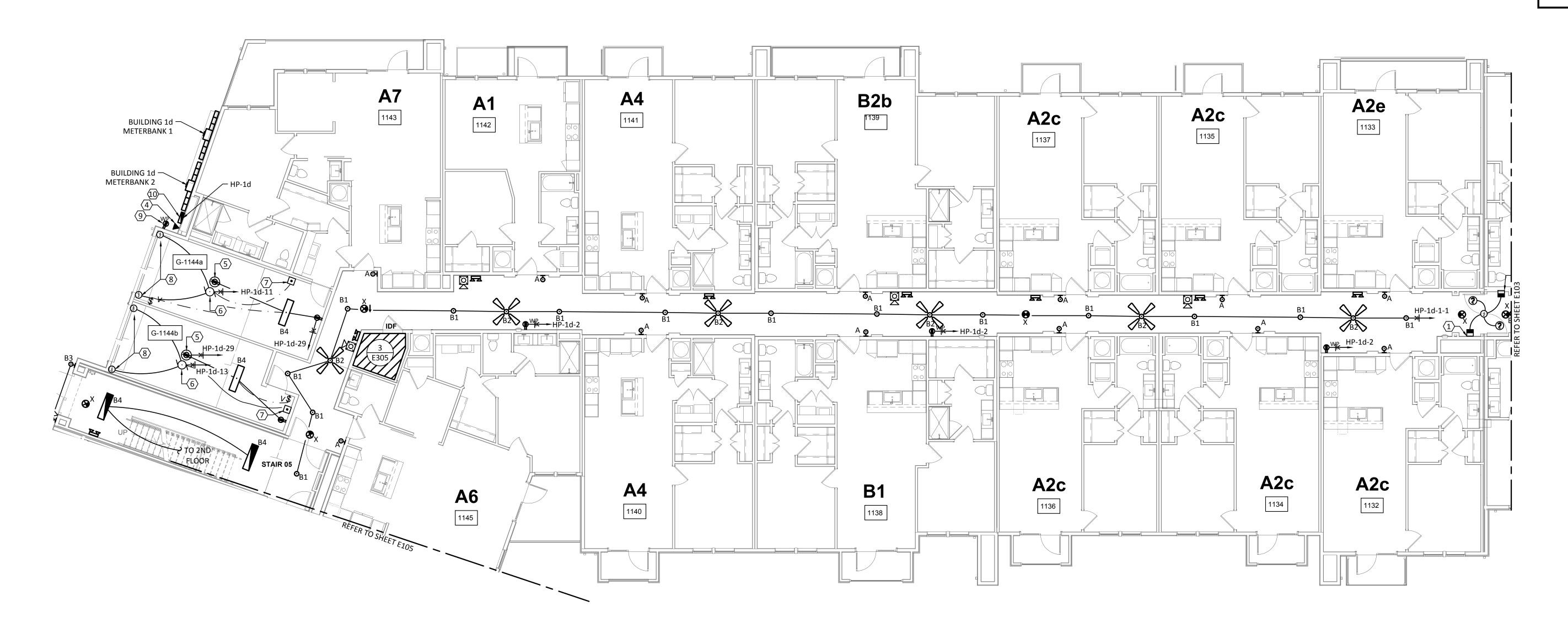
ELECTRICAL BUILDING 1c LEVEL 1

18054
01/14/2018
TLR
EEC

E103

KEY PLAN
N.T.S.





ELECTRICAL - BUILDING 1d - LEVEL 1

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



GENERAL NOTES:

- A. REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.
- B. ALL EMERGENCY LIGHTS AND EXIT SIGNS SHALL BE CIRCUITED TO DEDICATED BREAKER ON HOUSE PANEL, CIRCUIT #HP-35.
- C. REFER TO ELECTRICAL SITE PLAN FOR EXACT LOCATION OF ELECTRICAL METER SERVICE LOCATION.
- D. ALL EXTERIOR LIGHTING SHALL BE CIRCUITED THRU TIME CLOCK TO PHOTOCELL.
- ALL BREEZEWAY LIGHTING (B1). CEILING FANS (B2) AND
- ALL BREEZEWAY LIGHTING (B1), CEILING FANS (B2) AND STAIRWELL LIGHTS (B4) SHALL BE SWITCHED AT CIRCUIT BREAKER.
- ALL UNIT ENTRY LIGHTING (A) SHALL BE CIRCUITED TO TENANT LOAD CENTER AND UNSWITCHED.

KEYED NOTES:

- PROVIDE MAGNETIC DOOR OPEN HOLDERS WITH J-BOX INTERLOCKED WITH SMOKE DETECTORS.
- . ROUTE SECONDARY LATERALS TO 120/240 V. 1Ø PAD MOUNT TRANSFORMER (PROVIDED BY CPS ENERGY). ALL LATERALS SHALL BE SIZED BY CPS ENERGY. REFER TO SHEET E003.
- MODULAR METERING SYSTEM. MOUNT ON EXTERIOR WALL IN NEMA 3R ENCLOSURE. REFER TO CPS ENERGY DESIGN CRITERIA MANUAL FOR MAXIMUM/MINIMUM MOUNTING HEIGHT LIMITS TO CENTER OF THE METER.
- 4. ALL MODULAR METER AREAS REQUIRE A FUNCTIONAL TELEPHONE LINE TO BE INSTALLED ADJACENT TO METERING EQUIPMENT TO PROVIDE DIAL IN/OUT SERVICE PER CPS ENERGY DESIGN CRITERIA MANUAL, SECTION 1810.1.
- 5. PROVIDE DUPLEX OUTLET AT CEILING OF GARAGE ADJACENT TO GARAGE DOOR OPENER.
- 6. PROVIDE AND INSTALL 120V, 1 PHASE, 20 AMP GARAGE DOOR OPENER. INSTALL PER MANUFACTURER'S INSTRUCTIONS. CIRCUIT TO LOAD CENTER.
- 7. PROVIDE GARAGE DOOR OPENER BUTTON AT GARAGE ENTRY DOOR. MOUNT AT 44" A.F.F.
- 8. INSTALL JUNCTION BOX AT BASE OF GARAGE DOOR RAILING.
 JUNCTION BOX SHALL BE "WEATHER TITE" TYPE.
- 9. PROVIDE RECEPTACLE WITHIN 50' OF ELECTRICAL SERVICE PER N.E.C. REQUIREMENTS.
- 10. 120/240 V., 1Ø 100 AMP LOAD CENTER IN NEMA 3R ENCLOSURE. MAINTAIN A MINIMUM OF 6" BETWEEN MODULAR METERING SYSTEM AND LOAD CENTER.

KEY PLAN
N.T.S.



COLLABORATIVE
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Landscape Architect:

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Interior Designer:

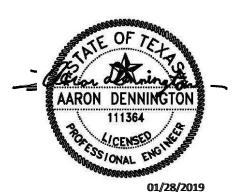
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ISSUANCES

01	SCHEMATIC DESIGN	09.10.18
02	DEVELOPMENT DESIGN	11.09.18
03	PERMIT SET	01.28.19

REVISIONS



a multifamily project for NRP Group

West Cevallos

San Antonio, Texas

ELECTRICAL BUILDING 1d LEVEL 1

Project Number 18054

Date 01/14/2018

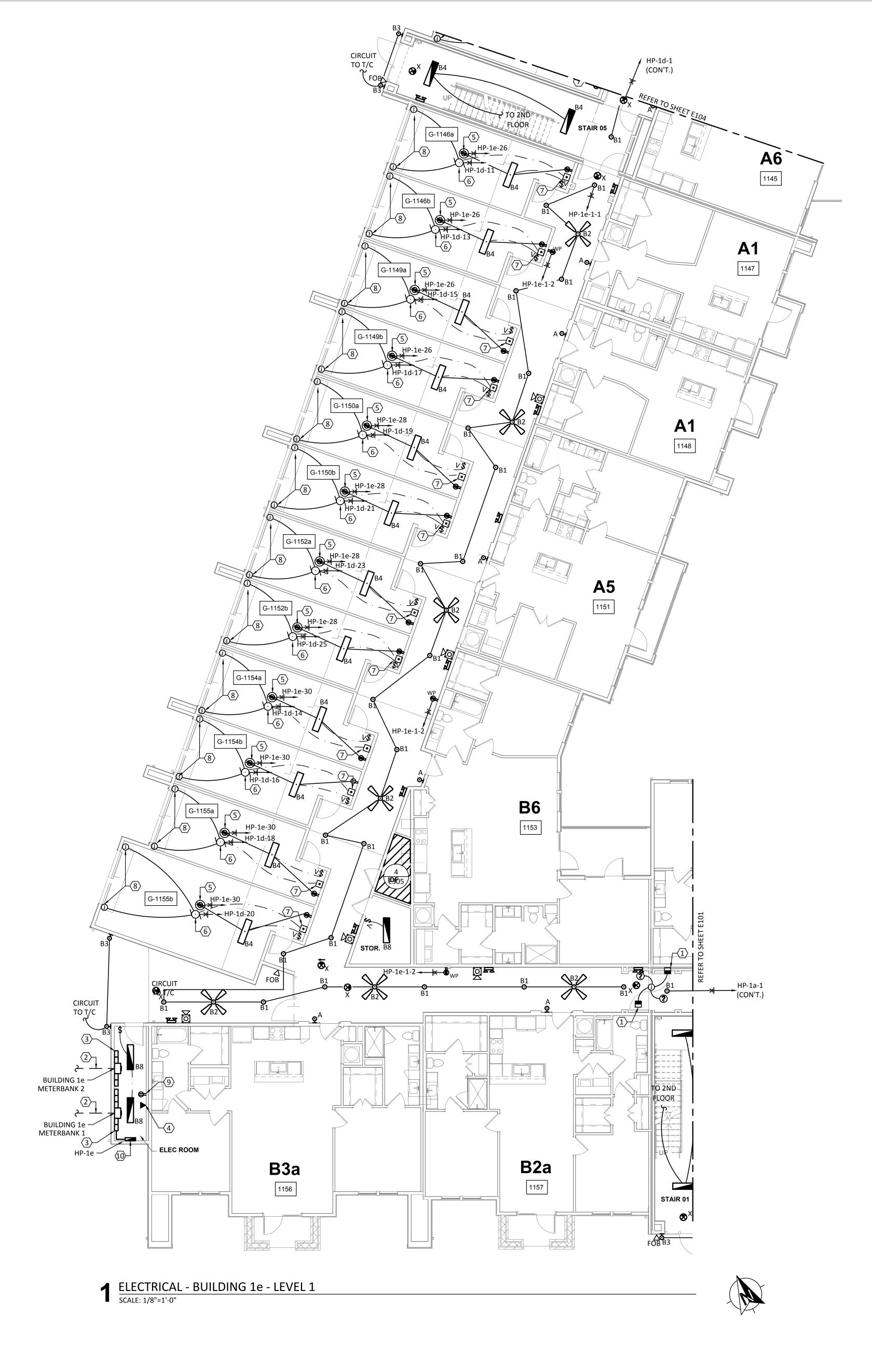
Drawn By TLR

Checked By EEC

F104

TBPE Firm
1141

8500 Bluffstone Cove, Suite B-103
Austin, Texas 78759 | 512.338.1101
Project No.: 18054.MS.AUS



- REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.
- B. ALL EMERGENCY LIGHTS AND EXIT SIGNS SHALL BE CIRCUITED TO DEDICATED BREAKER ON HOUSE PANEL, CIRCUIT #HP-35.
- C. REFER TO ELECTRICAL SITE PLAN FOR EXACT LOCATION OF ELECTRICAL METER SERVICE LOCATION.
- D. ALL EXTERIOR LIGHTING SHALL BE CIRCUITED THRU TIME CLOCK
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- ALL BREEZEWAY LIGHTING (B1), CEILING FANS (B2) AND STAIRWELL LIGHTS (B4) SHALL BE SWITCHED AT CIRCUIT BREAKER
- ALL UNIT ENTRY LIGHTING (A) SHALL BE CIRCUITED TO TENANT LOAD CENTER AND UNSWITCHED.

KEYED NOTES:

TO CENTER OF THE METER.

- PROVIDE MAGNETIC DOOR OPEN HOLDERS WITH J-BOX INTERLOCKED WITH SMOKE DETECTORS.
- 2. ROUTE SECONDARY LATERALS TO 120/240 V. 1Ø PAD MOUNT TRANSFORMER (PROVIDED BY CPS ENERGY). ALL LATERALS SHALL BE SIZED BY CPS ENERGY. REFER TO SHEET E003.
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- 7. PROVIDE GARAGE DOOR OPENER BUTTON AT GARAGE ENTRY DOOR. MOUNT AT 44" A.F.F.
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 JUNCTION BOX SHALL BE "WEATHER TITE" TYPE.
- 9. PROVIDE RECEPTACLE WITHIN 50' OF ELECTRICAL SERVICE PER N.E.C. REQUIREMENTS.
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Interior Designer:

512.345.8477

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ISSUANCES

01	SCHEMATIC DESIGN	09.10.18
02	DEVELOPMENT DESIGN	11.09.18
03	PERMIT SET	01.28.19

REVISIONS



a multifamily project for NRP Group

West Cevallos
San Antonio, Texas

ELECTRICAL BUILDING 1e LEVEL 1

Project Number	18054
Date	01/14/2018
Drawn By	TLR
Checked By	EEC

E105

ENGINEERING CONSULTANTS

TBPE Firm
1141

8500 Bluffstone Cove, Suite B-103
Austin, Texas 78759 | 512.338.1101
Project No.: 18054.MS.AUS

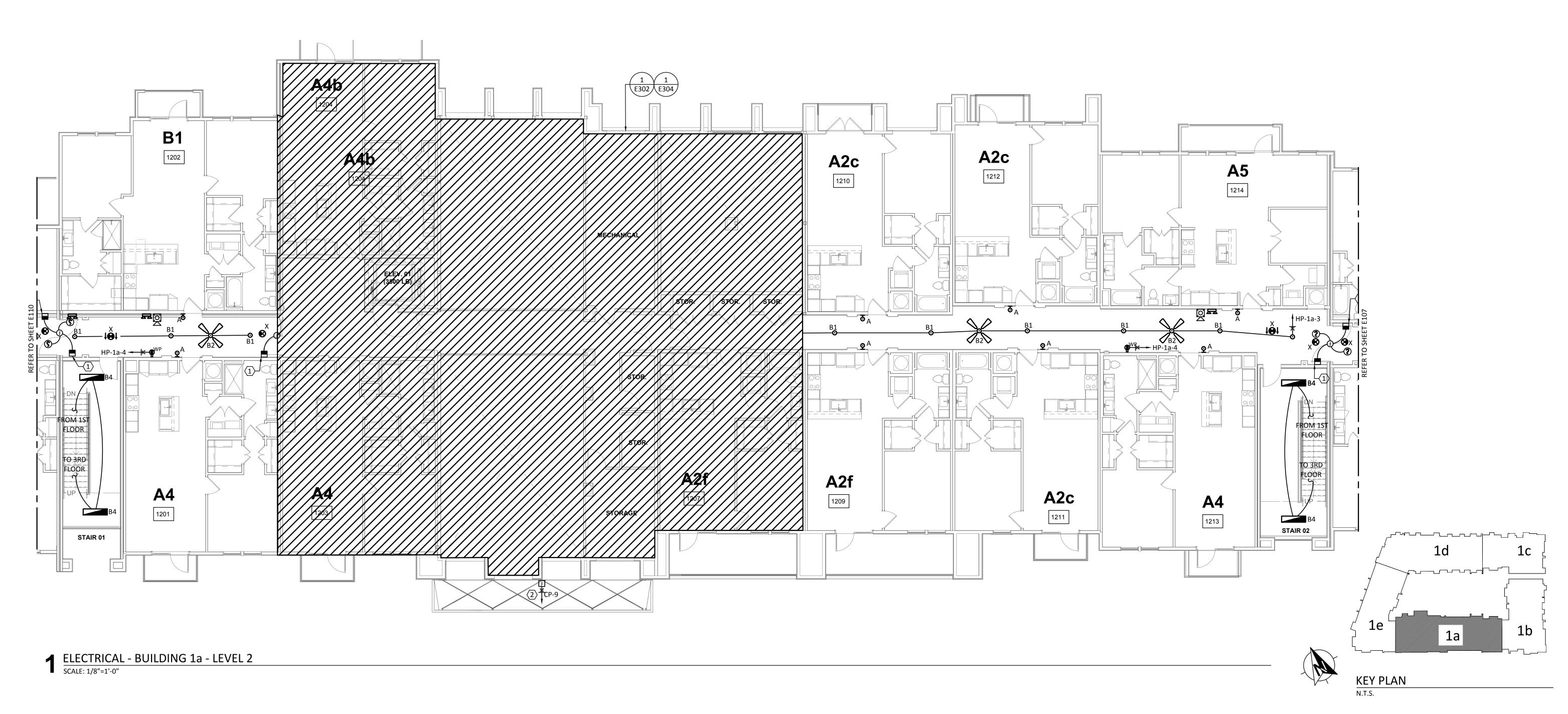
KEY PLAN

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- A. REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.
- B. ALL EMERGENCY LIGHTS AND EXIT SIGNS SHALL BE CIRCUITED TO DEDICATED BREAKER ON HOUSE PANEL, CIRCUIT #HP-7.
- C. ALL EXTERIOR LIGHTING SHALL BE CIRCUITED THRU TIME CLOCK TO PHOTOCELL. TIME CLOCK SHALL BE CIRCUITED TO HOUSE
- D. ALL BREEZEWAY LIGHTING (B1) AND CEILING FANS (B2) SHALL BE SWITCHED AT CIRCUIT BREAKER.
- ALL UNIT ENTRY LIGHTING (A) SHALL BE CIRCUITED TO TENANT LOAD CENTER AND UNSWITCHED.

KEYED NOTES:

- PROVIDE MAGNETIC DOOR OPEN HOLDERS WITH J-BOX INTERLOCKED WITH SMOKE DETECTORS.
- PROVIDE JUNCTION BOX AT CANOPY FOR BUILDING SIGNAGE.
 ROUTE CONDUIT TO "CP" LOAD CENTER THRU TIME CLOCK







Structural Engineer:

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MEP Engineer:

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Civil Engineer:

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Interior Designer:

SJL Design Group 921 N. Riverfront Blvd. Suite 100, Dallas, TX 75207 Cassie Farley 214.443.9090

ISSUANCES		
01	SCHEMATIC DESIGN	09.10.18
02	DEVELOPMENT DESIGN	11.09.18
03	PERMIT SET	01.28.19

REVISIONS



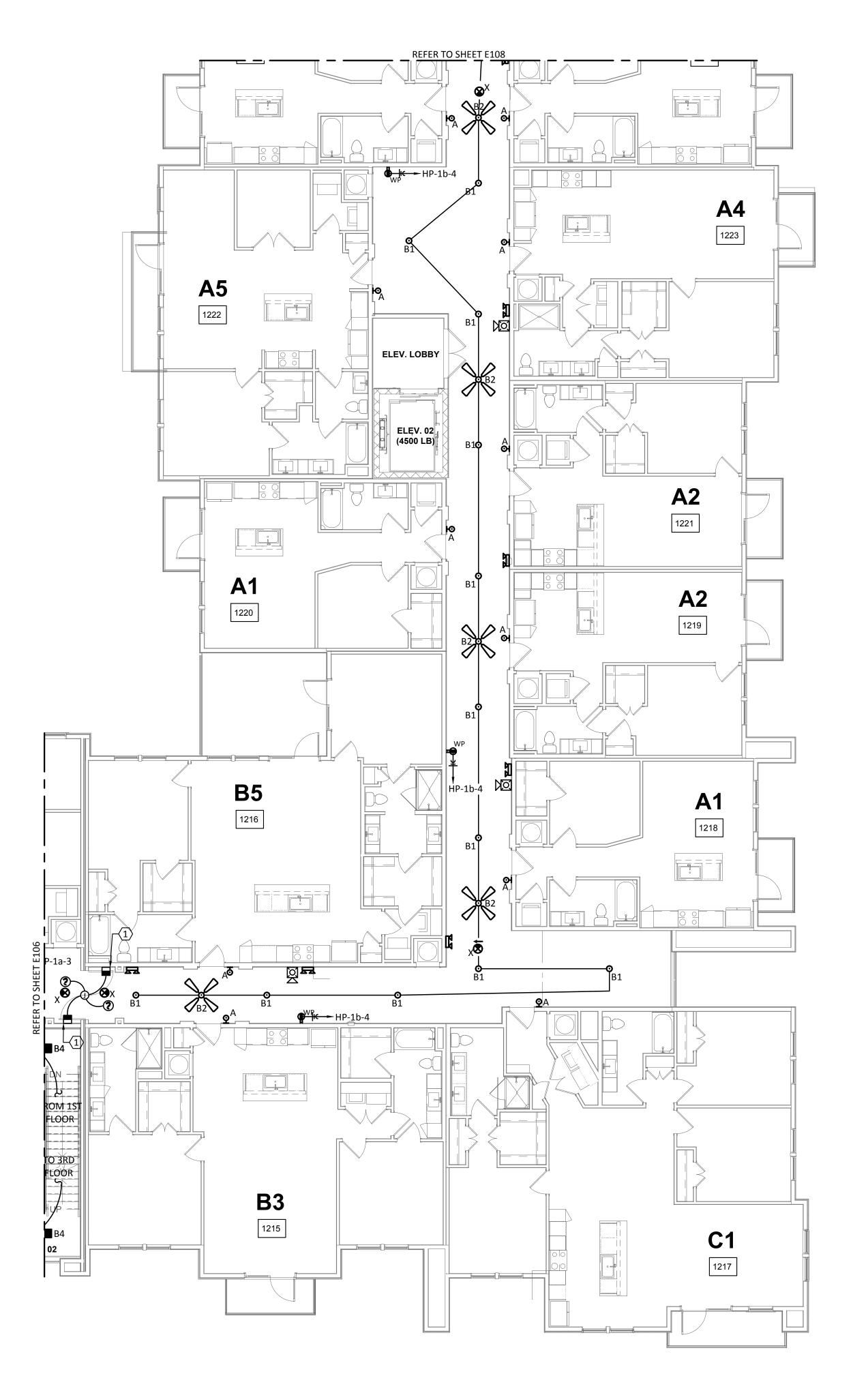
a multifamily project for NRP Group

West Cevallos
San Antonio, Texas

ELECTRICAL BUILDING 1a LEVEL 2

Project Number	18054
Date	01/14/2018
Drawn By	TLR
Checked By	EEC
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E106



1 ELECTRICAL - BUILDING 1b - LEVEL 2
SCALE: 1/8"=1'-0"



GENERAL NOTES:

- A. REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.
- ALL EMERGENCY LIGHTS AND EXIT SIGNS SHALL BE CIRCUITED TO DEDICATED BREAKER ON HOUSE PANEL, CIRCUIT #HP-7.
- ALL EXTERIOR LIGHTING SHALL BE CIRCUITED THRU TIME CLOCK TO PHOTOCELL. TIME CLOCK SHALL BE CIRCUITED TO HOUSE
- ALL BREEZEWAY LIGHTING (B1) AND CEILING FANS (B2) SHALL BE SWITCHED AT CIRCUIT BREAKER.
- ALL UNIT ENTRY LIGHTING (A) SHALL BE CIRCUITED TO TENANT LOAD CENTER AND UNSWITCHED.

KEYED NOTES:

PROVIDE MAGNETIC DOOR OPEN HOLDERS WITH J-BOX INTERLOCKED WITH SMOKE DETECTORS.



Structural Engineer:

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MEP Engineer:

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Civil Engineer:

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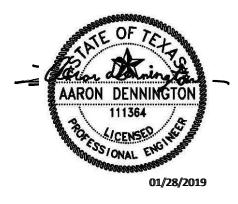
Landscape Architect:

LEE & Associates, Inc. 9020 N Capital of Texas Hwy, Austin, TX. 78759 Amber Rothwell 512.345.8477

Interior Designer:

SJL Design Group 921 N. Riverfront Blvd. Suite 100, Dallas, TX 75207 Cassie Farley 214.443.9090

	ISSUANCES		
	01	SCHEMATIC DESIGN	09.10.18
	02	DEVELOPMENT DESIGN	11.09.18
	03	PERMIT SET	01.28.19
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a multifamily project for NRP Group

West Cevallos San Antonio, Texas

ELECTRICAL BUILDING 1b LEVEL 2

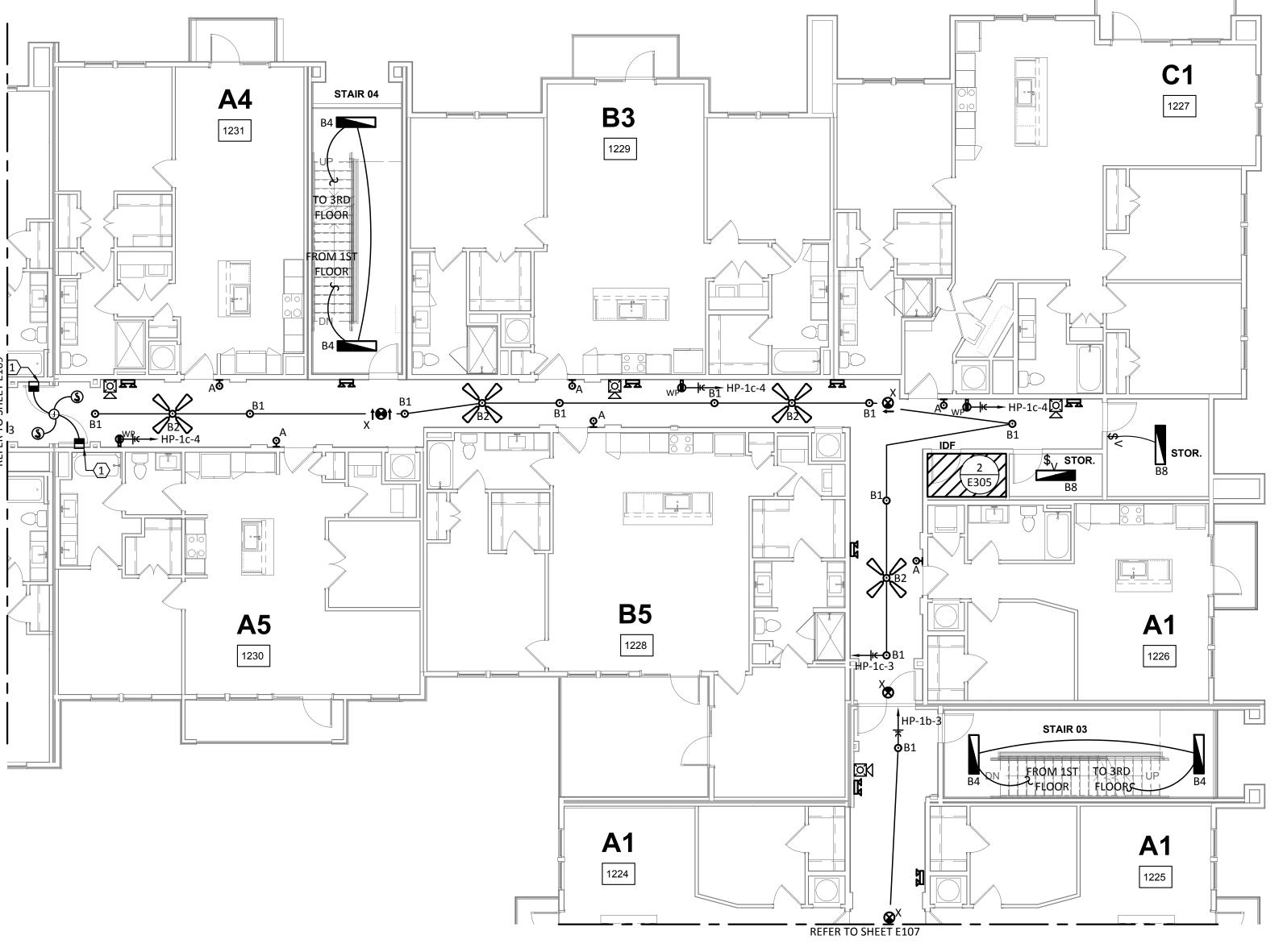
Project Number	18054
Date	01/14/2018
Drawn By	TLR
Checked By	EEC

E107

TBPE Firm | 8500 Bluffstone Cove, Suite B-103 1141 | Austin, Texas 78759 | 512.338.1101 Project No.: 18054.MS.AUS

KEY PLAN
N.T.S.





1 ELECTRICAL - BUILDING 1c - LEVEL 2

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

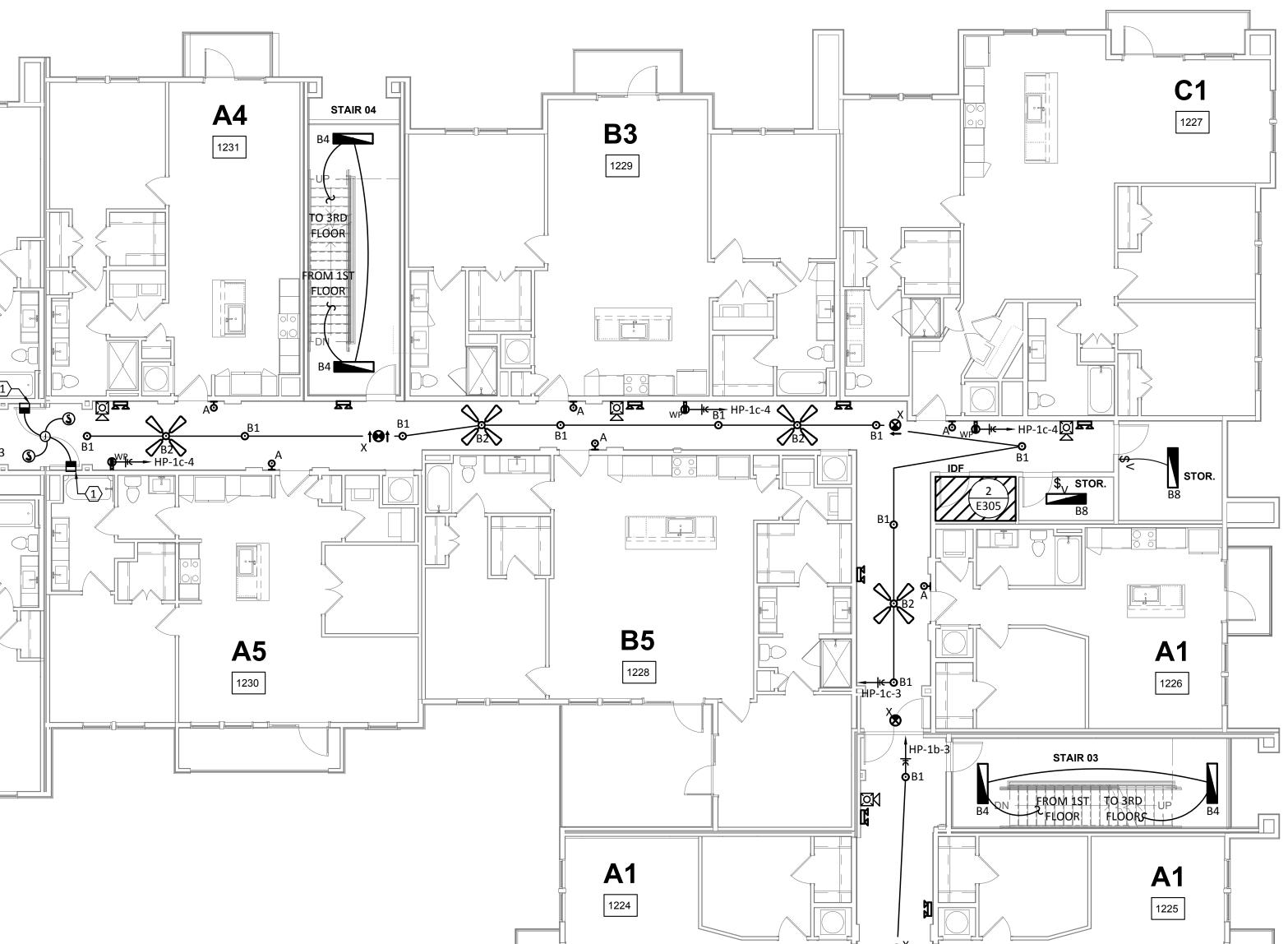


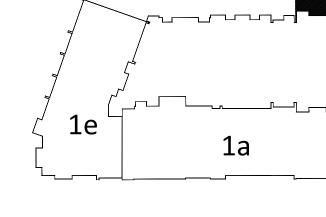


- A. REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.
- ALL EMERGENCY LIGHTS AND EXIT SIGNS SHALL BE CIRCUITED TO DEDICATED BREAKER ON HOUSE PANEL, CIRCUIT #HP-7.
- ALL EXTERIOR LIGHTING SHALL BE CIRCUITED THRU TIME CLOCK TO PHOTOCELL. TIME CLOCK SHALL BE CIRCUITED TO HOUSE
- ALL BREEZEWAY LIGHTING (B1) AND CEILING FANS (B2) SHALL BE SWITCHED AT CIRCUIT BREAKER.
- ALL UNIT ENTRY LIGHTING (A) SHALL BE CIRCUITED TO TENANT LOAD CENTER AND UNSWITCHED.

KEYED NOTES:

PROVIDE MAGNETIC DOOR OPEN HOLDERS WITH J-BOX INTERLOCKED WITH SMOKE DETECTORS.





KEY PLAN
N.T.S.





Structural Engineer:

VIEWTECH INC. 4205 Beltway Dr. Addison, TX 75001 Victor Lisiak III 972.661.8187

MEP Engineer:

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Civil Engineer:

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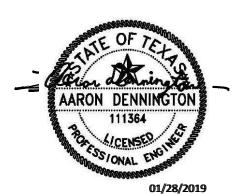
Landscape Architect:

LEE & Associates, Inc. 9020 N Capital of Texas Hwy, Austin, TX. 78759 Amber Rothwell 512.345.8477

Interior Designer:

SJL Design Group 921 N. Riverfront Blvd. Suite 100, Dallas, TX 75207 Cassie Farley 214.443.9090

ISSUANCES			
	01	SCHEMATIC DESIGN	09.10.18
	02	DEVELOPMENT DESIGN	11.09.18
	03	PERMIT SET	01.28.19



a multifamily project for NRP Group

West Cevallos San Antonio, Texas

ELECTRICAL BUILDING 1c LEVEL 2

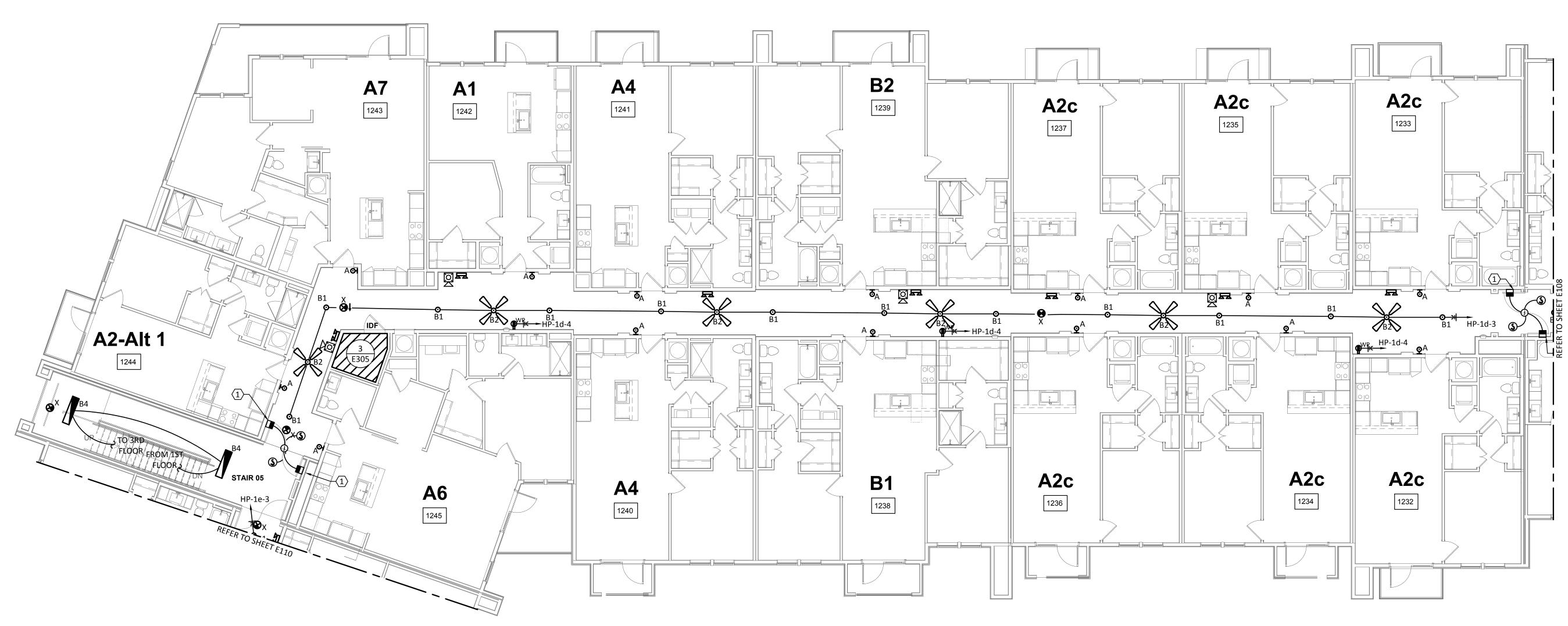
Project Number	18054
Date	01/14/2018
Drawn By	TLR
Checked By	EEC

E108

- A. REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.
- ALL EMERGENCY LIGHTS AND EXIT SIGNS SHALL BE CIRCUITED TO DEDICATED BREAKER ON HOUSE PANEL, CIRCUIT #HP-7.
- . ALL EXTERIOR LIGHTING SHALL BE CIRCUITED THRU TIME CLOCK TO PHOTOCELL. TIME CLOCK SHALL BE CIRCUITED TO HOUSE PANEL.
- D. ALL BREEZEWAY LIGHTING (B1) AND CEILING FANS (B2) SHALL BE SWITCHED AT CIRCUIT BREAKER.
- ALL UNIT ENTRY LIGHTING (A) SHALL BE CIRCUITED TO TENANT LOAD CENTER AND UNSWITCHED.

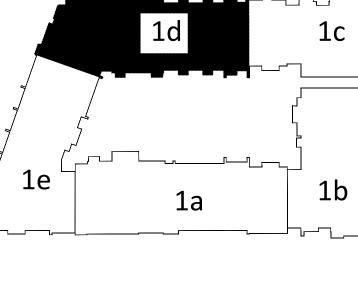
KEYED NOTES:

.. PROVIDE MAGNETIC DOOR OPEN HOLDERS WITH J-BOX INTERLOCKED WITH SMOKE DETECTORS.



1 ELECTRICAL - BUILDING 1d - LEVEL 2
SCALE: 1/8"=1'-0"





KEY PLAN
N.T.S.





Structural Engineer:

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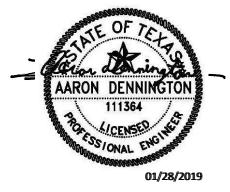
Interior Designer:

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ISSUANCES		
01	SCHEMATIC DESIGN	09.10.18
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REVISIONS



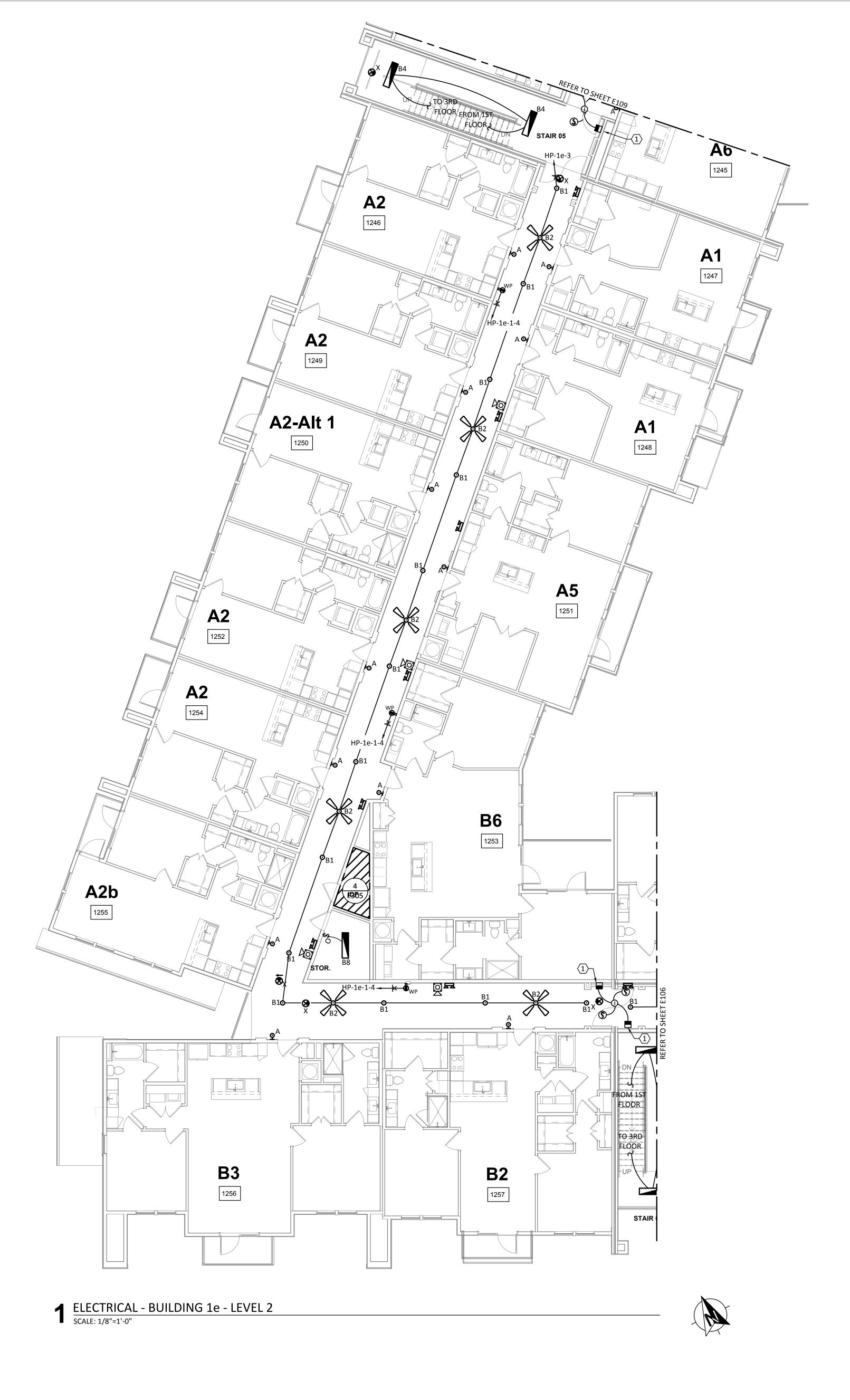
a multifamily project for NRP Group

West Cevallos
San Antonio, Texas

ELECTRICAL BUILDING Id LEVEL 2

Project Number	18054
Date	01/14/2018
Drawn By	TLR
Checked By	EEC

E109





- A. REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.
- ALL EMERGENCY LIGHTS AND EXIT SIGNS SHALL BE CIRCUITED TO DEDICATED BREAKER ON HOUSE PANEL, CIRCUIT #HP-7.
- ALL EXTERIOR LIGHTING SHALL BE CIRCUITED THRU TIME CLOCK TO PHOTOCELL. TIME CLOCK SHALL BE CIRCUITED TO HOUSE
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KEYED NOTES:

PROVIDE MAGNETIC DOOR OPEN HOLDERS WITH J-BOX INTERLOCKED WITH SMOKE DETECTORS.



Structural Engineer:

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a multifamily project for NRP Group

West Cevallos San Antonio, Texas

ELECTRICAL BUILDING 1e LEVEL 2

Project Number	18054
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Drawn By	TLR
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TBPE Firm | 8500 Bluffstone Cove, Suite B-103 1141 | Austin, Texas 78759 | 512.338.1101 Project No.: 18054.MS.AUS

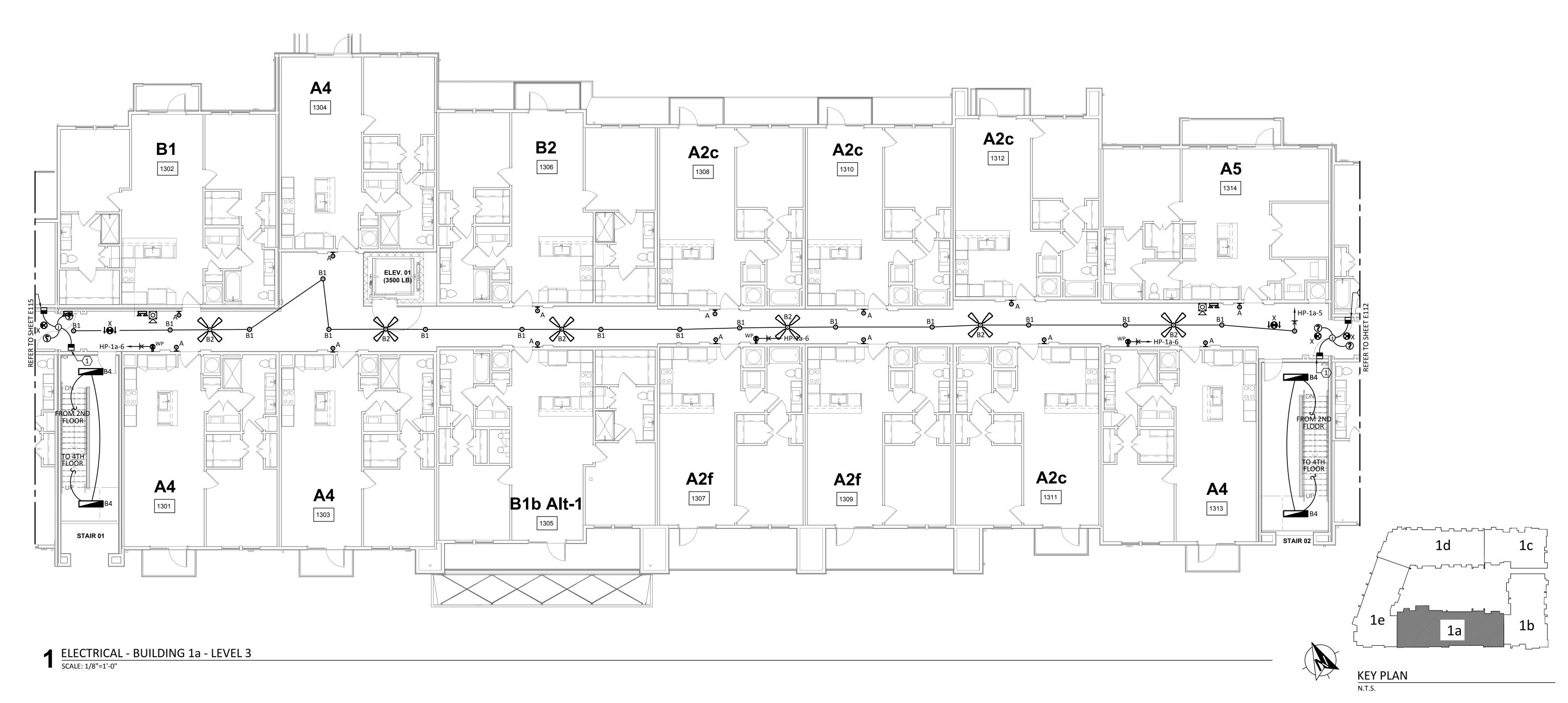


KEY PLAN

- A. REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.
- B. ALL EMERGENCY LIGHTS AND EXIT SIGNS SHALL BE CIRCUITED TO DEDICATED BREAKER ON HOUSE PANEL, CIRCUIT #HP-7.
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KEYED NOTES:

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TBPE Firm 1141 8500 Bluffstone Cove, Suite B-103 Austin, Texas 78759 512.338.1101 Project No.: 18054.MS.AUS



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ISSUANCES		
01	SCHEMATIC DESIGN	09.10.18
02	DEVELOPMENT DESIGN	11.09.18
03	PERMIT SET	01.28.19

REVISIONS



a multifamily project for NRP Group

West Cevallos
San Antonio, Texas

ELECTRICAL BUILDING 1a LEVEL 3

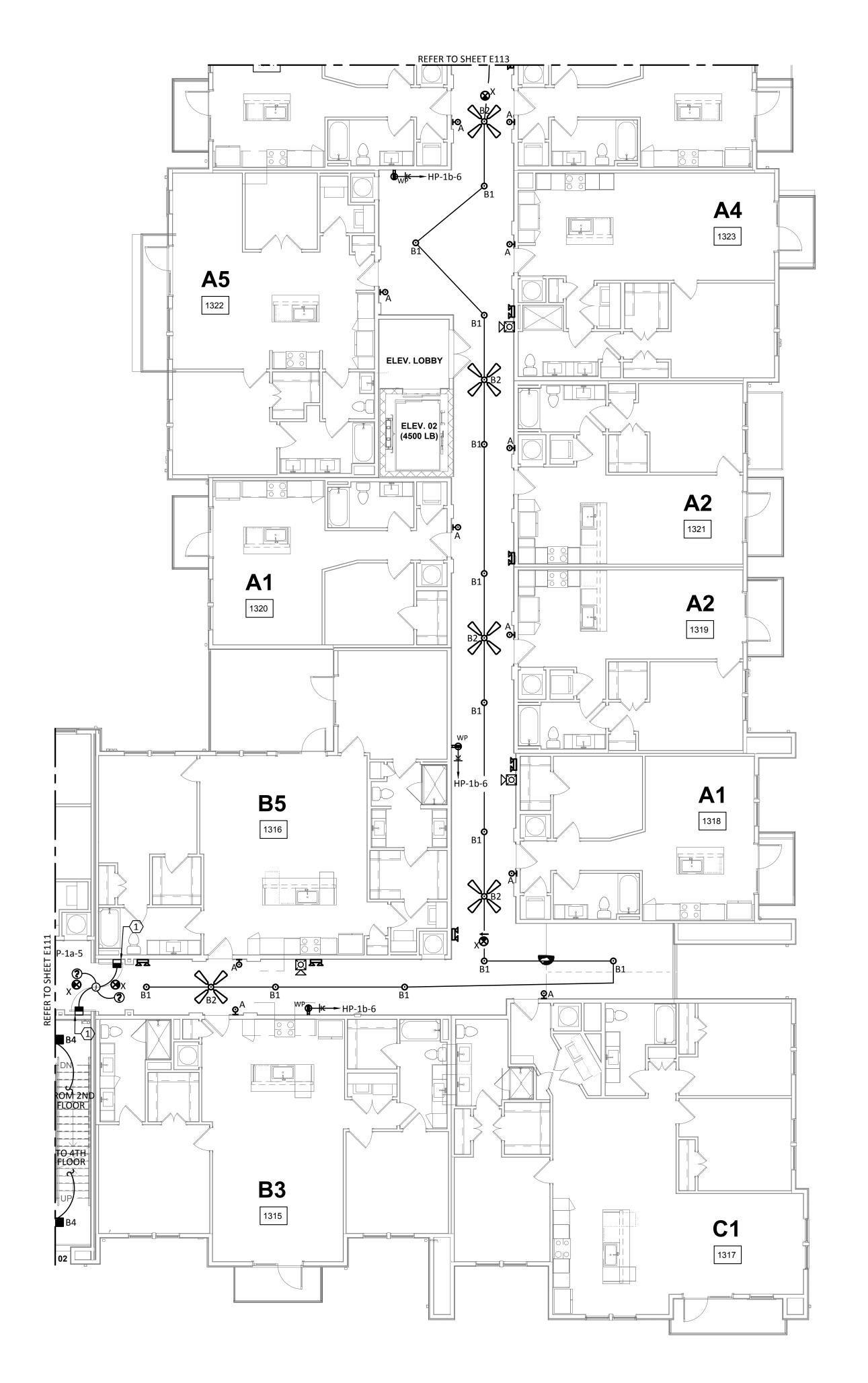
Project Number 18054

Date 01/14/2018

Drawn By TLR

Checked By EEC

E111



ELECTRICAL - BUILDING 1b - LEVEL 3

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





Structural Engineer:

VIEWTECH INC. 4205 Beltway Dr. Addison, TX 75001 Victor Lisiak III 972.661.8187

MEP Engineer:

ENCOTECH 8500 Bluffstone Cove, Austin, TX. 78759 Tessa Roberts 512.338.1101

Civil Engineer:

MBC & Associates, Inc 1035 Central Pkwy N, San Antonio, TX 78732 David Allen 210.545.1122

Landscape Architect:

LEE & Associates, Inc. 9020 N Capital of Texas Hwy, Austin, TX. 78759 Amber Rothwell 512.345.8477

Interior Designer:

SJL Design Group 921 N. Riverfront Blvd. Suite 100, Dallas, TX 75207 Cassie Farley 214.443.9090

ISSUANCES		
01	SCHEMATIC DESIGN	09.10.18
02	DEVELOPMENT DESIGN	11.09.18
03	PERMIT SET	01.28.19

REVISIONS



a multifamily project for NRP Group

West Cevallos
San Antonio, Texas

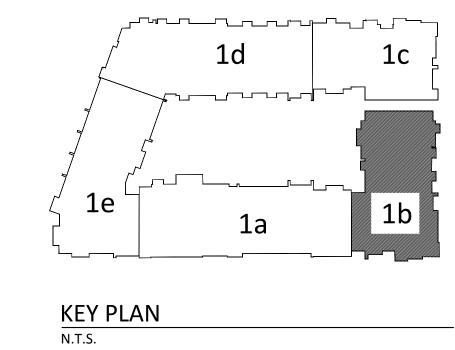
ELECTRICAL BUILDING 1b LEVEL 3

Project Number 18054

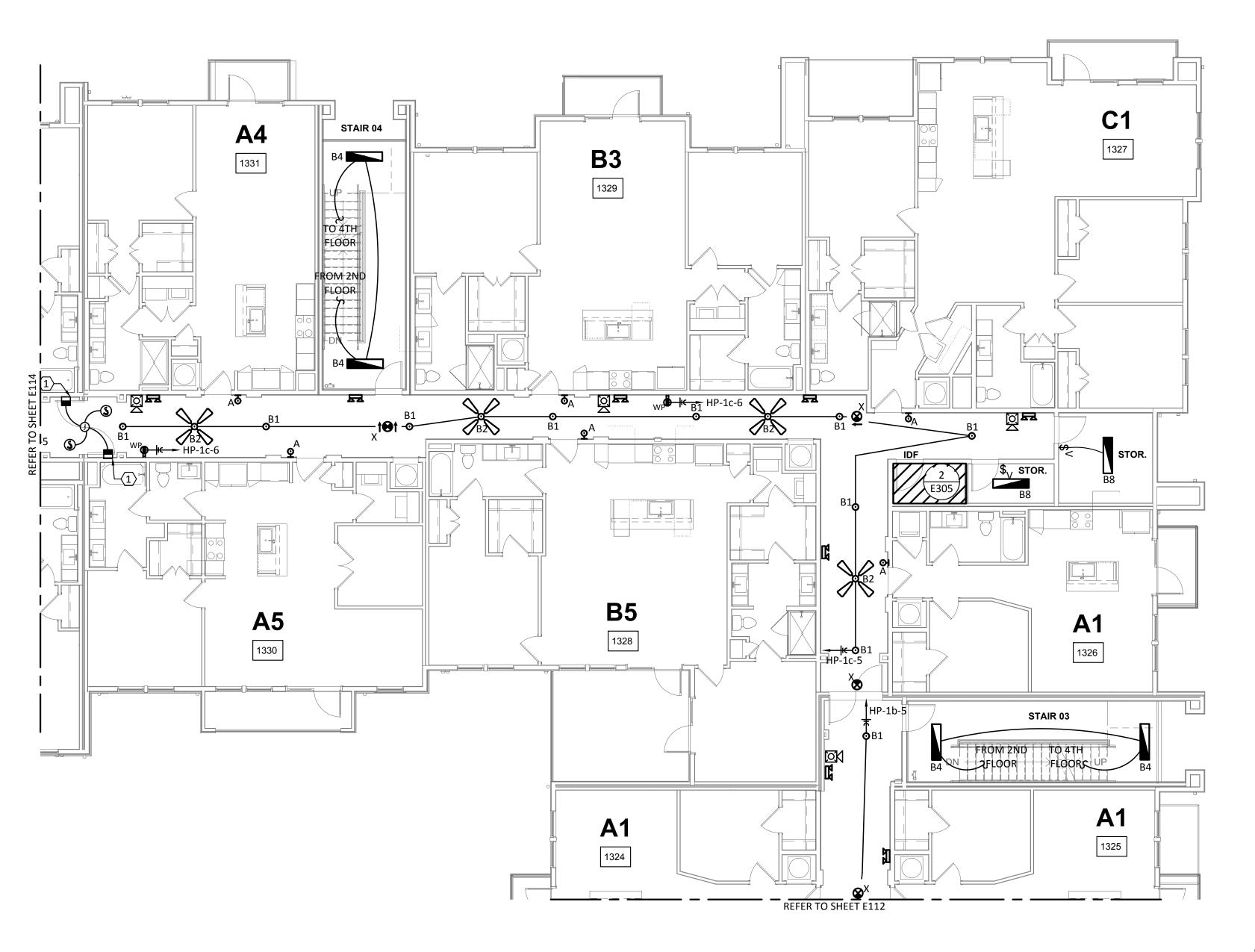
Date 01/14/2018

Drawn By TLR

Checked By EEC





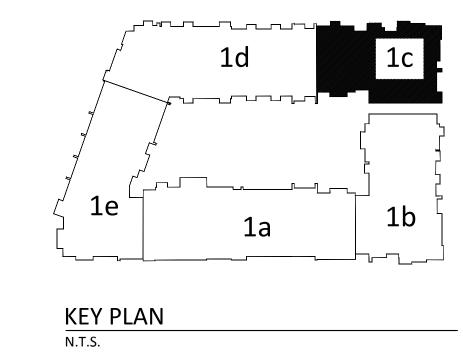


ELECTRICAL - BUILDING 1c - LEVEL 3

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









GENERAL NOTES:

A. REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.

- ALL EMERGENCY LIGHTS AND EXIT SIGNS SHALL BE CIRCUITED TO DEDICATED BREAKER ON HOUSE PANEL, CIRCUIT #HP-7.
- ALL EXTERIOR LIGHTING SHALL BE CIRCUITED THRU TIME CLOCK
- PANEL.
- . ALL BREEZEWAY LIGHTING (B1) AND CEILING FANS (B2) SHALL BE SWITCHED AT CIRCUIT BREAKER.

TO PHOTOCELL. TIME CLOCK SHALL BE CIRCUITED TO HOUSE

ALL UNIT ENTRY LIGHTING (A) SHALL BE CIRCUITED TO TENANT LOAD CENTER AND UNSWITCHED.

KEYED NOTES:

PROVIDE MAGNETIC DOOR OPEN HOLDERS WITH J-BOX INTERLOCKED WITH SMOKE DETECTORS.

COLLABORATIVE 3607 S Lamar Blvd, Suite 103 Austin, Texas 78704 512.852.4310

Structural Engineer:

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MEP Engineer:

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Civil Engineer:

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Landscape Architect:

210.545.1122

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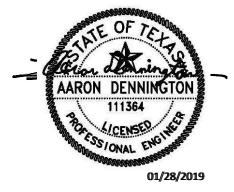
Interior Designer:

512.345.8477

SJL Design Group 921 N. Riverfront Blvd. Suite 100, Dallas, TX 75207 Cassie Farley 214.443.9090

L			
	ISSUANCES		
	01	SCHEMATIC DESIGN	09.10.18
	02	DEVELOPMENT DESIGN	11.09.18
	03	PERMIT SET	01.28.19

REVISION



a multifamily project for NRP Group

West Cevallos
San Antonio, Texas

ELECTRICAL BUILDING 1c LEVEL 3

Project Number	18054
Date	01/14/2018
Drawn By	TLR
Checked By	EEC

E113

A. REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.

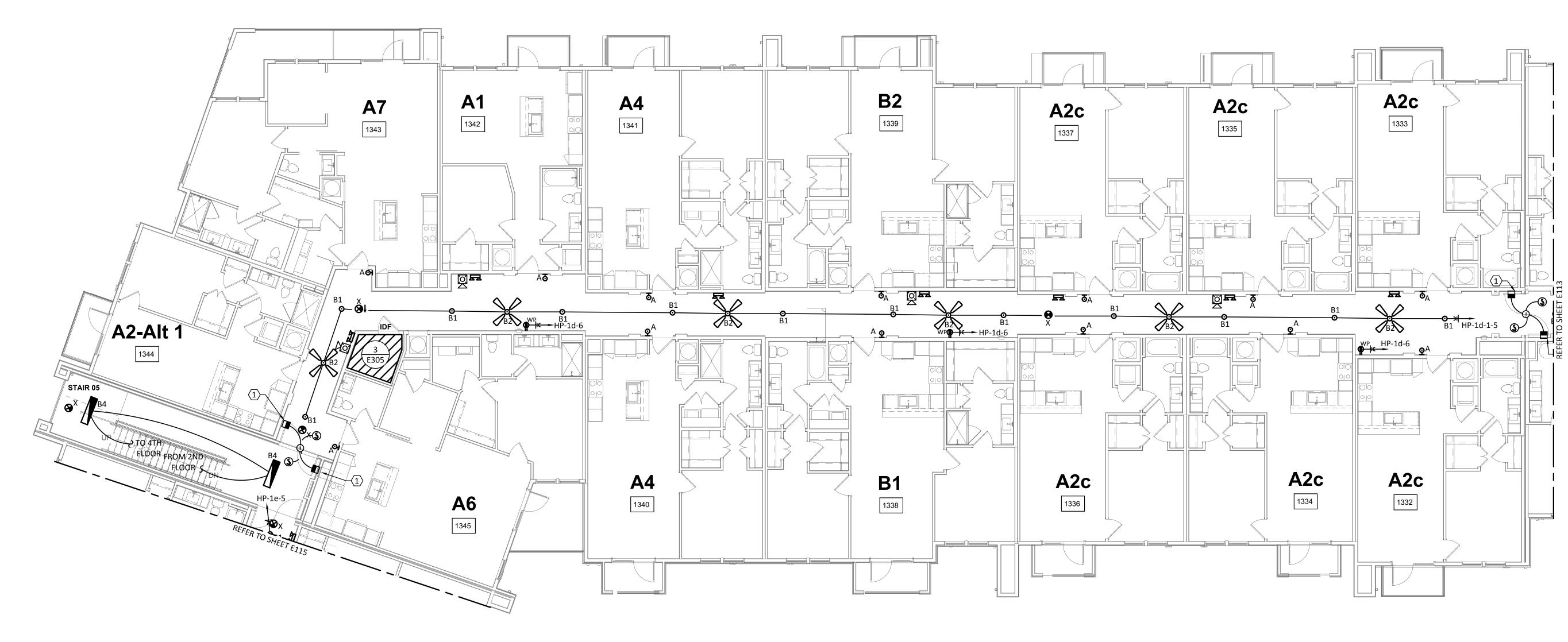
LOAD CENTER AND UNSWITCHED.

- ALL EMERGENCY LIGHTS AND EXIT SIGNS SHALL BE CIRCUITED TO
- DEDICATED BREAKER ON HOUSE PANEL, CIRCUIT #HP-7.

 ALL EXTERIOR LIGHTING SHALL BE CIRCUITED THRU TIME CLOCK
- TO PHOTOCELL. TIME CLOCK SHALL BE CIRCUITED TO HOUSE PANEL.
- . ALL BREEZEWAY LIGHTING (B1) AND CEILING FANS (B2) SHALL BE SWITCHED AT CIRCUIT BREAKER.
- ALL UNIT ENTRY LIGHTING (A) SHALL BE CIRCUITED TO TENANT

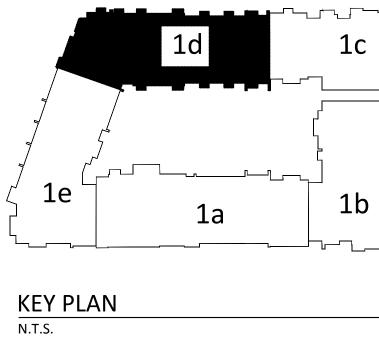
KEYED NOTES:

PROVIDE MAGNETIC DOOR OPEN HOLDERS WITH J-BOX INTERLOCKED WITH SMOKE DETECTORS.



1 ELECTRICAL - BUILDING 1d - LEVEL 3
SCALE: 1/8"=1'-0"





TBPE Firm 1141 8500 Bluffstone Cove, Suite B-103 Austin, Texas 78759 512.338.1101 Project No.: 18054.MS.AUS



Structural Engineer:

VIEWTECH INC. 4205 Beltway Dr. Addison, TX 75001 Victor Lisiak III 972.661.8187

MEP Engineer:

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Civil Engineer:

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Landscape Architect:

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Interior Designer:

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ISSUANCES		
01	SCHEMATIC DESIGN	09.10.18
02	DEVELOPMENT DESIGN	11.09.18
03	PERMIT SET	01.28.19

REVISIONS



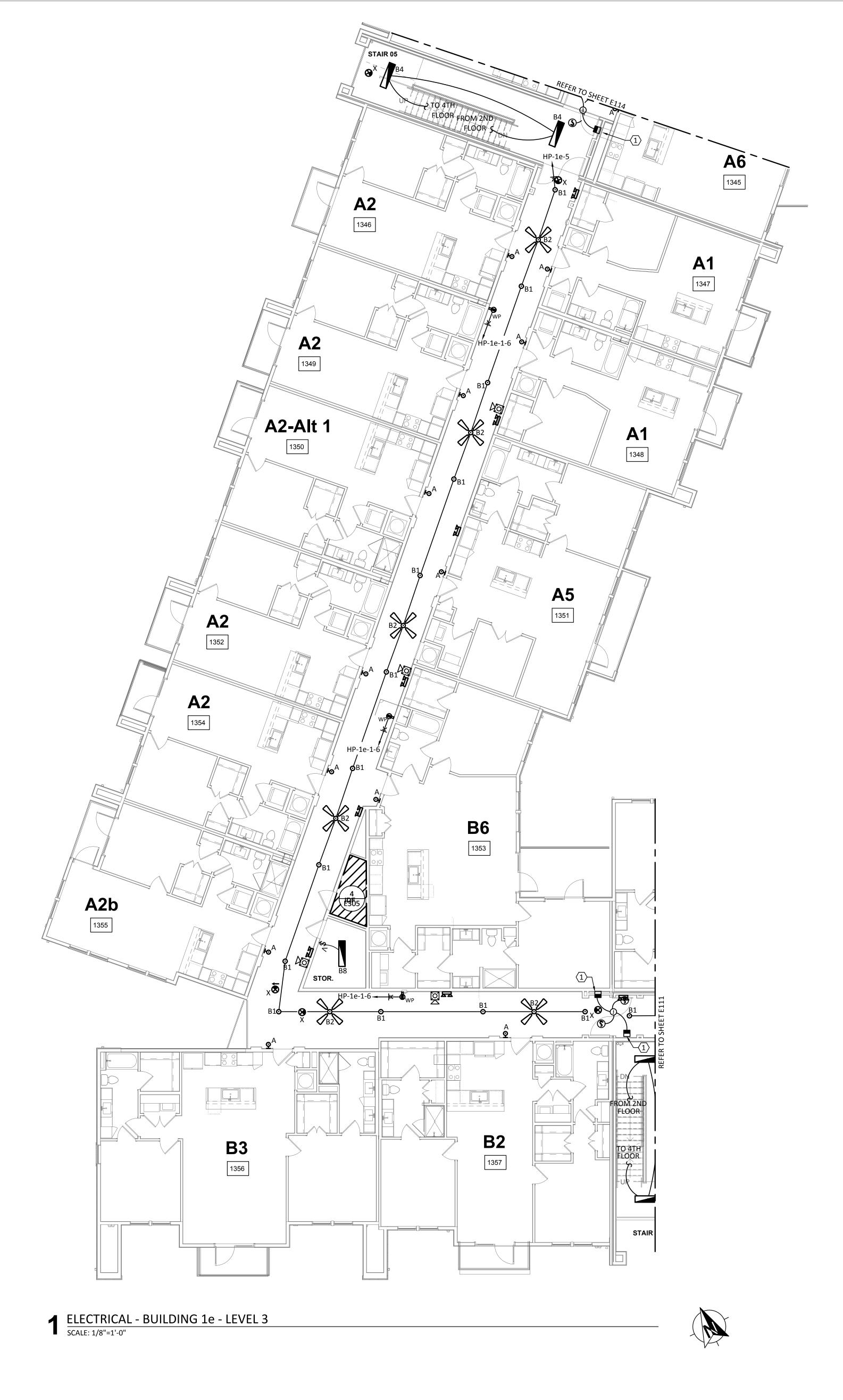
a multifamily project for NRP Group

West Cevallos
San Antonio, Texas

ELECTRICAL BUILDING Id LEVEL 3

•	
Project Number	18054
Date	01/14/2018
Drawn By	TLR
Checked By	EEC

E114





A. REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.

- ALL EMERGENCY LIGHTS AND EXIT SIGNS SHALL BE CIRCUITED TO
- DEDICATED BREAKER ON HOUSE PANEL, CIRCUIT #HP-7.
- ALL EXTERIOR LIGHTING SHALL BE CIRCUITED THRU TIME CLOCK TO PHOTOCELL. TIME CLOCK SHALL BE CIRCUITED TO HOUSE
- ALL BREEZEWAY LIGHTING (B1) AND CEILING FANS (B2) SHALL BE SWITCHED AT CIRCUIT BREAKER.
- ALL UNIT ENTRY LIGHTING (A) SHALL BE CIRCUITED TO TENANT

KEYED NOTES:

PROVIDE MAGNETIC DOOR OPEN HOLDERS WITH J-BOX INTERLOCKED WITH SMOKE DETECTORS.

LOAD CENTER AND UNSWITCHED.



Structural Engineer:

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MEP Engineer:

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Civil Engineer:

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Landscape Architect:

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ISSUANCES		
01	SCHEMATIC DESIGN	09.10.18
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a multifamily project for NRP Group

West Cevallos San Antonio, Texas

ELECTRICAL BUILDING 1e LEVEL 3

Project Number	18054
Date	01/14/2018
Drawn By	TLR
Checked By	EEC

E115

TBPE Firm | 8500 Bluffstone Cove, Suite B-103 1141 | Austin, Texas 78759 | 512.338.1101 Project No.: 18054.MS.AUS

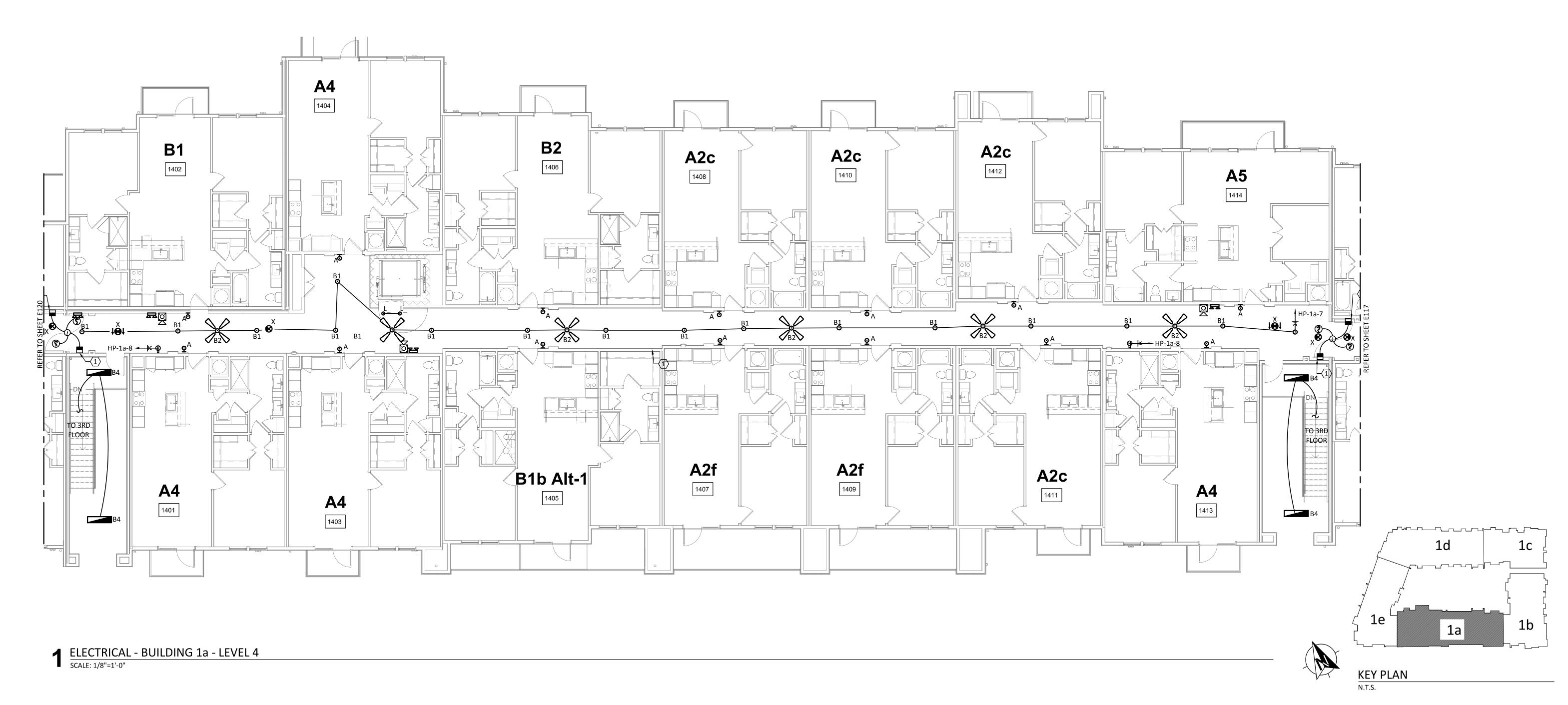
ENCOTECH ENGINEERING CONSULTANTS

KEY PLAN

- A. REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.
- B. ALL EMERGENCY LIGHTS AND EXIT SIGNS SHALL BE CIRCUITED TO DEDICATED BREAKER ON HOUSE PANEL, CIRCUIT #HP-7.
- ALL EXTERIOR LIGHTING SHALL BE CIRCUITED THRU TIME CLOCK TO PHOTOCELL. TIME CLOCK SHALL BE CIRCUITED TO HOUSE PANEL, CIRCUIT #HP-11.
- . ALL BREEZEWAY LIGHTING (B1) AND CEILING FANS (B2) SHALL BE SWITCHED AT CIRCUIT BREAKER.
- . ALL UNIT ENTRY LIGHTING (A) SHALL BE CIRCUITED TO TENANT LOAD CENTER AND UNSWITCHED.

KEYED NOTES:

PROVIDE MAGNETIC DOOR OPEN HOLDERS WITH J-BOX INTERLOCKED WITH SMOKE DETECTORS.







Structural Engineer:

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Landscape Architect:

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Interior Designer:

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ISSUANCES		
01	SCHEMATIC DESIGN	09.10.18
02	DEVELOPMENT DESIGN	11.09.18
03	PERMIT SET	01.28.19

REVISIONS



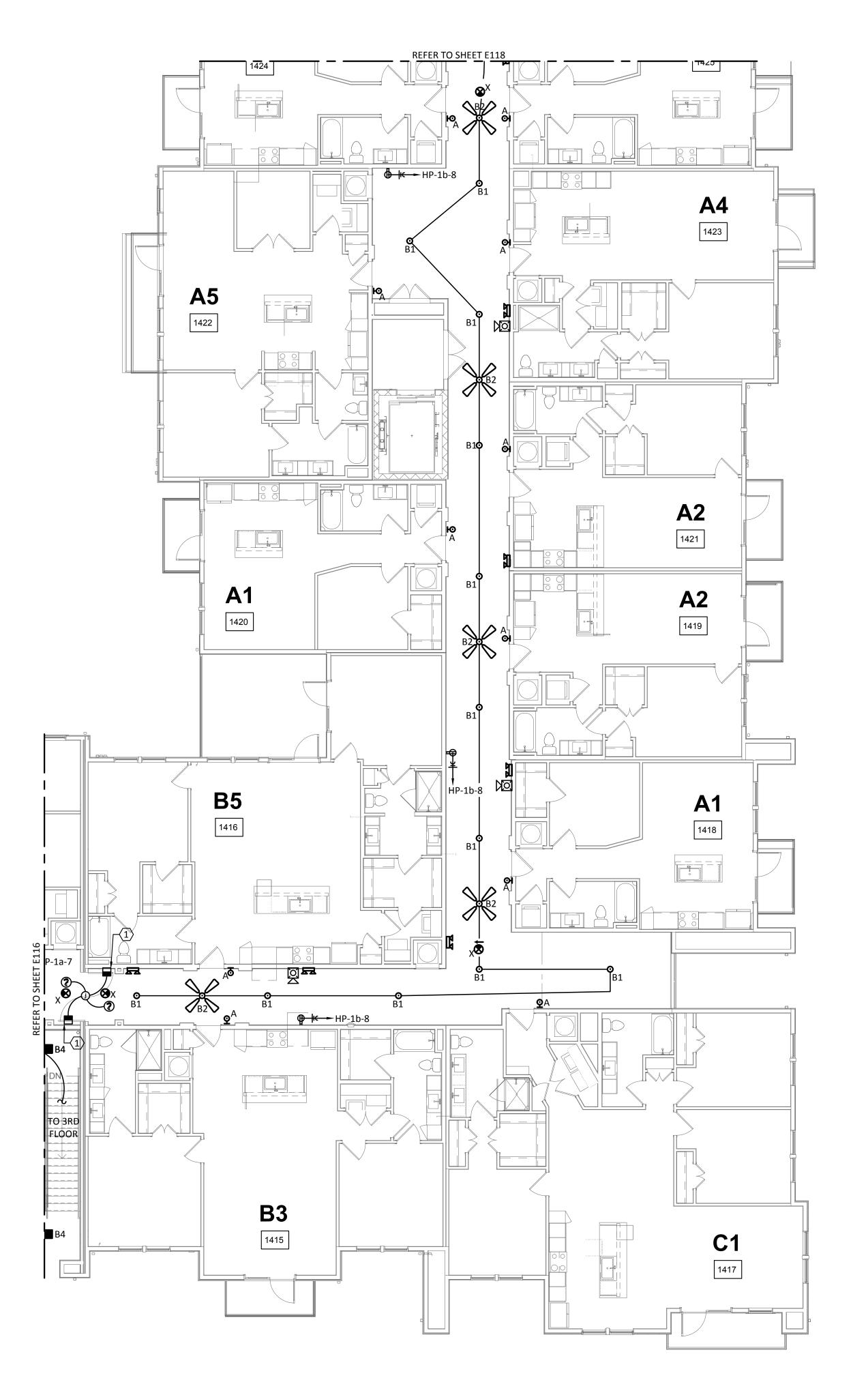
a multifamily project for NRP Group

West Cevallos
San Antonio, Texas

ELECTRICAL BUILDING 1a LEVEL 4

Project Number	18054
Date	01/14/2018
Drawn By	TLR
Checked By	EEC

F116



1 ELECTRICAL - BUILDING 1b - LEVEL 4

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



- A. REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.
- ALL EXTERIOR LIGHTING SHALL BE CIRCUITED THRU TIME CLOCK

ALL EMERGENCY LIGHTS AND EXIT SIGNS SHALL BE CIRCUITED TO

- ALL BREEZEWAY LIGHTING (B1) AND CEILING FANS (B2) SHALL BE SWITCHED AT CIRCUIT BREAKER.
- ALL UNIT ENTRY LIGHTING (A) SHALL BE CIRCUITED TO TENANT LOAD CENTER AND UNSWITCHED.

KEYED NOTES:

INTERLOCKED WITH SMOKE DETECTORS.

GENERAL NOTES:

PANEL, CIRCUIT #HP-11.

- DEDICATED BREAKER ON HOUSE PANEL, CIRCUIT #HP-7. TO PHOTOCELL. TIME CLOCK SHALL BE CIRCUITED TO HOUSE

PROVIDE MAGNETIC DOOR OPEN HOLDERS WITH J-BOX



Structural Engineer:

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MEP Engineer:

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Civil Engineer:

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Landscape Architect:

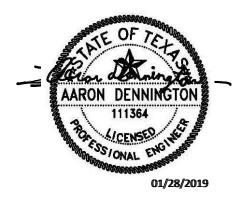
LEE & Associates, Inc. 9020 N Capital of Texas Hwy, Austin, TX. 78759 Amber Rothwell

Interior Designer:

512.345.8477

SJL Design Group 921 N. Riverfront Blvd. Suite 100, Dallas, TX 75207 Cassie Farley 214.443.9090

	ISSUANCES		
	01	SCHEMATIC DESIGN	09.10.18
	02	DEVELOPMENT DESIGN	11.09.18
	03	PERMIT SET	01.28.19
•			



a multifamily project for NRP Group

West Cevallos San Antonio, Texas

ELECTRICAL BUILDING 1b LEVEL 4

Project Number	18054
Date	01/14/2018
Drawn By	TLR
Checked By	EEC

E117

ENCOTECH ENGINEERING CONSULTANTS TBPE Firm | 8500 Bluffstone Cove, Suite B-103 1141 | Austin, Texas 78759 | 512.338.1101 Project No.: 18054.MS.AUS

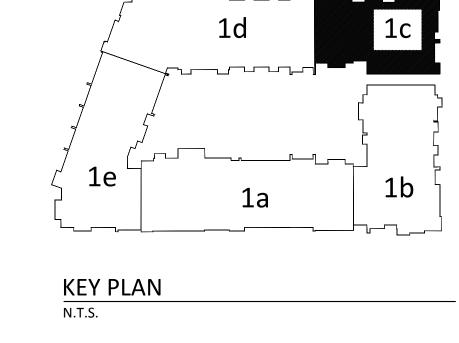
KEY PLAN
N.T.S.

C1 1427 **B3** 1429 **B5 A5 A1**1426 **A1 A1** 1425 1424

1 ELECTRICAL - BUILDING 1c - LEVEL 4
SCALE: 1/8"=1'-0"









GENERAL NOTES:

A. REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.

- DEDICATED BREAKER ON HOUSE PANEL, CIRCUIT #HP-7.
- ALL EXTERIOR LIGHTING SHALL BE CIRCUITED THRU TIME CLOCK TO PHOTOCELL. TIME CLOCK SHALL BE CIRCUITED TO HOUSE PANEL, CIRCUIT #HP-11.
- ALL BREEZEWAY LIGHTING (B1) AND CEILING FANS (B2) SHALL BE SWITCHED AT CIRCUIT BREAKER.
- ALL UNIT ENTRY LIGHTING (A) SHALL BE CIRCUITED TO TENANT LOAD CENTER AND UNSWITCHED.

KEYED NOTES:

PROVIDE MAGNETIC DOOR OPEN HOLDERS WITH J-BOX INTERLOCKED WITH SMOKE DETECTORS.

ALL EMERGENCY LIGHTS AND EXIT SIGNS SHALL BE CIRCUITED TO COLLABORATIVE

Structural Engineer:

VIEWTECH INC. 4205 Beltway Dr. Addison, TX 75001 Victor Lisiak III

3607 S Lamar Blvd, Suite 103 Austin, Texas 78704 512.852.4310

MEP Engineer:

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Civil Engineer:

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	ISSUANCES		
	01	SCHEMATIC DESIGN	09.10.18
	02	DEVELOPMENT DESIGN	11.09.18
	03	PERMIT SET	01.28.19
•			



a multifamily project for NRP Group

West Cevallos

San Antonio, Texas

ELECTRICAL BUILDING 1c LEVEL 4

Project Number	18054
Date	01/14/2018
Drawn By	TLR
Checked By	EEC



PANEL, CIRCUIT #HP-11.

- A. REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.
- DEDICATED BREAKER ON HOUSE PANEL, CIRCUIT #HP-7.

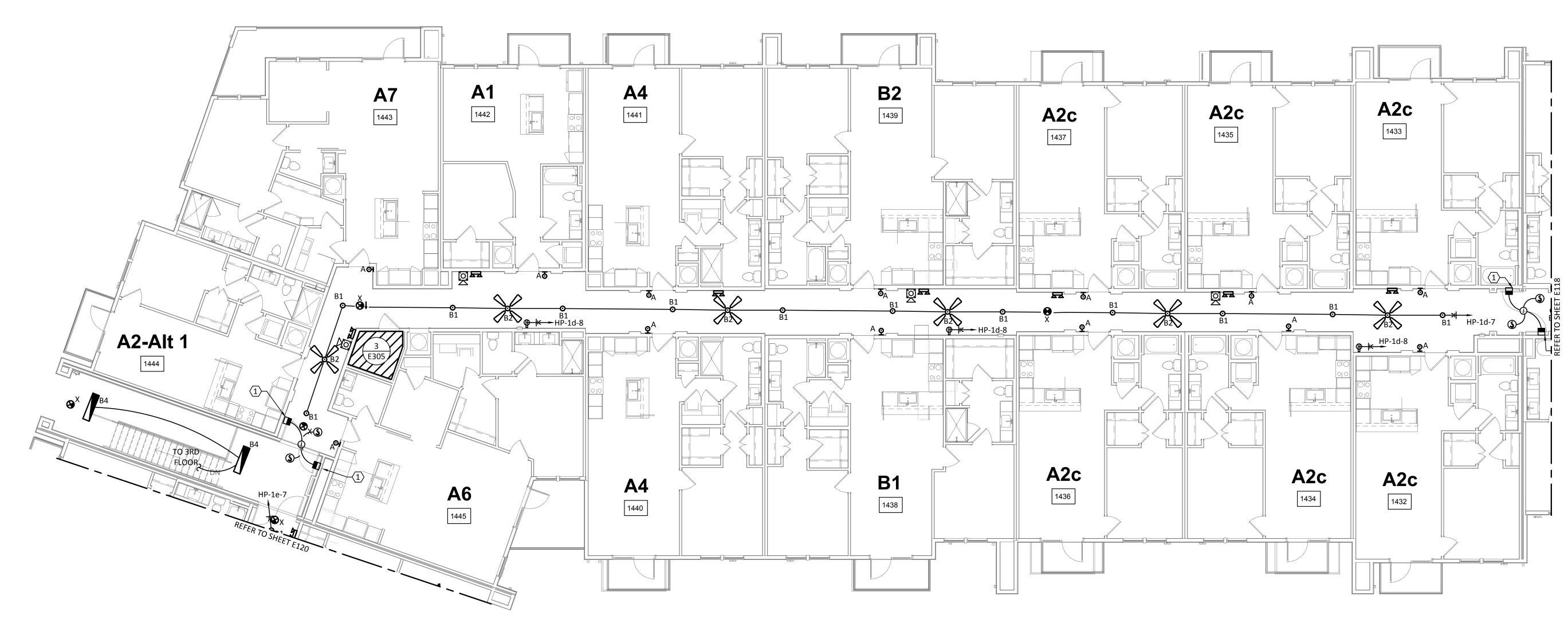
 C. ALL EXTERIOR LIGHTING SHALL BE CIRCUITED THRU TIME CLOCK TO PHOTOCELL. TIME CLOCK SHALL BE CIRCUITED TO HOUSE
- O. ALL BREEZEWAY LIGHTING (B1) AND CEILING FANS (B2) SHALL BE SWITCHED AT CIRCUIT BREAKER.

ALL EMERGENCY LIGHTS AND EXIT SIGNS SHALL BE CIRCUITED TO

ALL UNIT ENTRY LIGHTING (A) SHALL BE CIRCUITED TO TENANT LOAD CENTER AND UNSWITCHED.

KEYED NOTES:

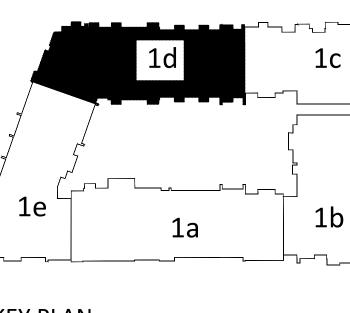
PROVIDE MAGNETIC DOOR OPEN HOLDERS WITH J-BOX INTERLOCKED WITH SMOKE DETECTORS.



ELECTRICAL - BUILDING 1d - LEVEL 4

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





KEY PLAN





Structural Engineer:

VIEWTECH INC. 4205 Beltway Dr. Addison, TX 75001 Victor Lisiak III 972.661.8187

MEP Engineer:

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Civil Engineer:

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Landscape Architect:

LEE & Associates, Inc. 9020 N Capital of Texas Hwy, Austin, TX. 78759 Amber Rothwell

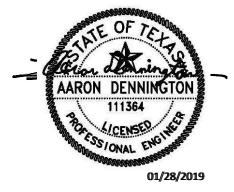
Interior Designer:

512.345.8477

SJL Design Group 921 N. Riverfront Blvd. Suite 100, Dallas, TX 75207 Cassie Farley 214.443.9090

ISSUANCES		
01	SCHEMATIC DESIGN	09.10.18
02	DEVELOPMENT DESIGN	11.09.18
03	PERMIT SET	01.28.19

REVISION



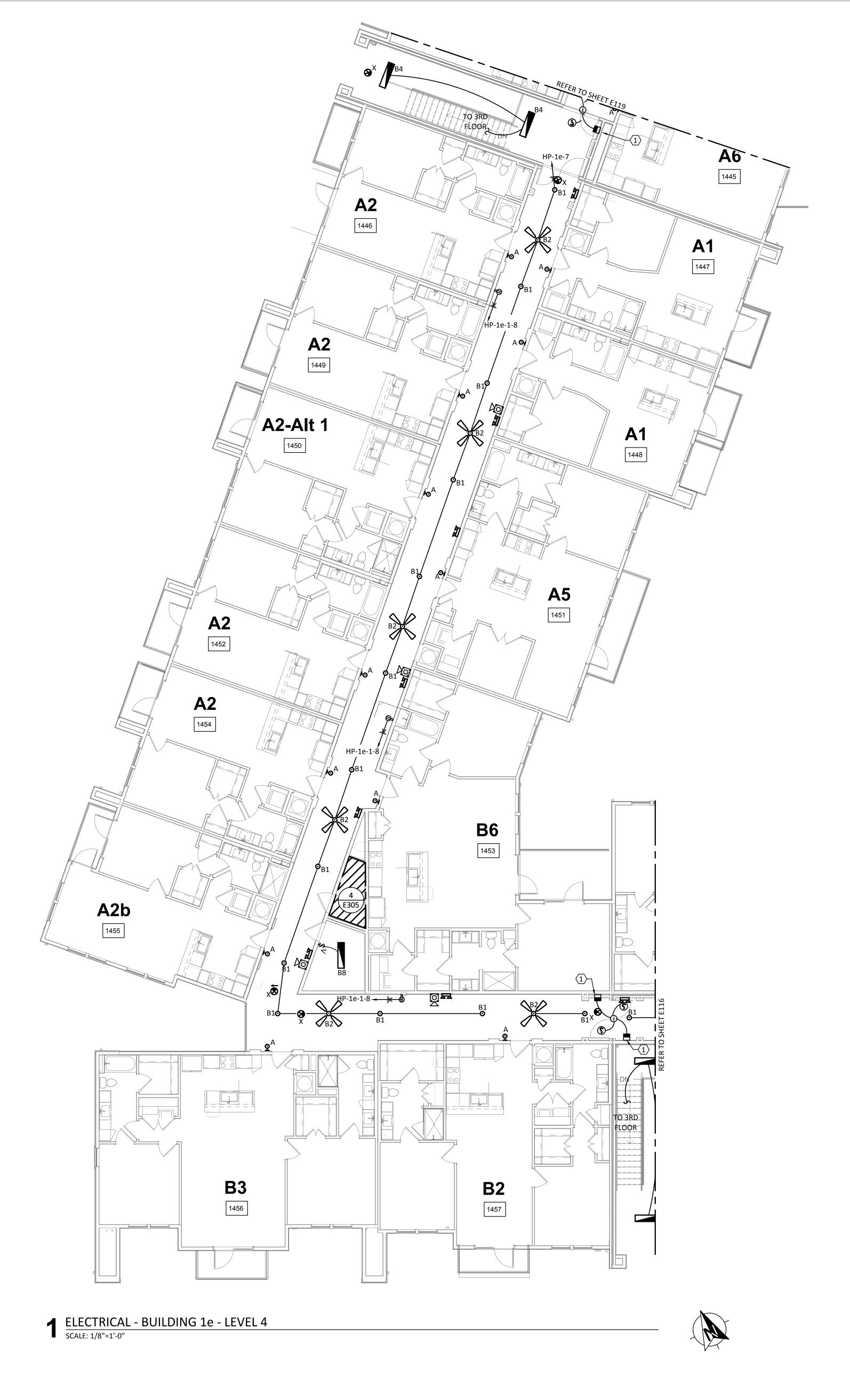
a multifamily project for NRP Group

West Cevallos
San Antonio, Texas

ELECTRICAL BUILDING Id LEVEL 4

Project Number	18054
Date	01/14/2018
Drawn By	TLR
Checked By	EEC

F119



A. REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.

- ALL EMERGENCY LIGHTS AND EXIT SIGNS SHALL BE CIRCUITED TO DEDICATED BREAKER ON HOUSE PANEL, CIRCUIT #HP-7.
- ALL EXTERIOR LIGHTING SHALL BE CIRCUITED THRU TIME CLOCK TO PHOTOCELL. TIME CLOCK SHALL BE CIRCUITED TO HOUSE PANEL, CIRCUIT #HP-11.
- ALL BREEZEWAY LIGHTING (B1) AND CEILING FANS (B2) SHALL BE SWITCHED AT CIRCUIT BREAKER.
- ALL UNIT ENTRY LIGHTING (A) SHALL BE CIRCUITED TO TENANT LOAD CENTER AND UNSWITCHED.

KEYED NOTES:

PROVIDE MAGNETIC DOOR OPEN HOLDERS WITH J-BOX INTERLOCKED WITH SMOKE DETECTORS.

DAVIES

Structural Engineer:

VIEWTECH INC. 4205 Beltway Dr. Addison, TX 75001 Victor Lisiak III

MEP Engineer:

972.661.8187

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Interior Designer:

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ISSUANCES SCHEMATIC DESIGN 09.10.18 DEVELOPMENT DESIGN 11.09.18 01.28.19



a multifamily project for NRP Group

West Cevallos San Antonio, Texas

ELECTRICAL BUILDING 1e LEVEL 4

18054 Project Number 01/14/2018 Drawn By TLR Checked By EEC

E120

ENCOTECH ENGINEERING CONSULTANTS TBPE Firm | 8500 Bluffstone Cove, Suite B-103 1141 | Austin, Texas 78759 | 512.338.1101 Project No.: 18054.MS.AUS

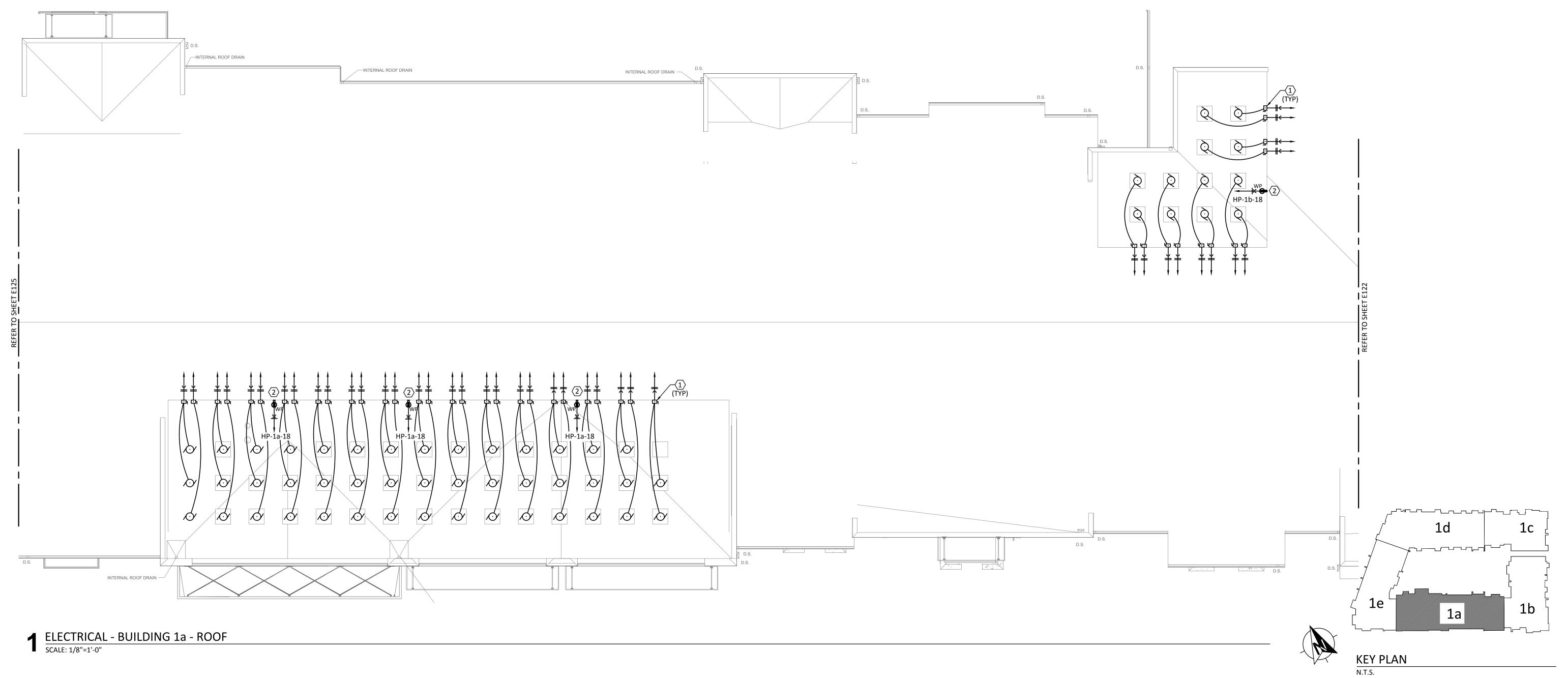
KEY PLAN



A. REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.

KEYED NOTES:

- 1. PROVIDE 240V, 30A/2P/NF/N3R DISCONNECT FOR EACH DWELLING UNIT CONDENSING UNIT. MOUNT DISCONNECTS SPACED VERTICALLY IN ROWS OF 2 OR 3 ON PARAPET WALL. CIRCUIT TO RESPECTIVE DWELLING UNIT LOAD CENTER. MAINTAIN A MINIMUM OF 3'-0" CLEAR WORKING SPACE IN FRONT OF ALL ELECTRICAL EQUIPMENT. REFER TO DETAIL 5/E501. CIRCUIT TO RESPECTIVE DWELLING UNIT LOAD CENTER. REFER TO E401 FOR UNIT CALCULATIONS. ROUTE CONDUIT ON 4"X4", WOLMANIZED, PRESSURE-TREATED WOOD ROOF SUPPORTS BETWEEN CONDENSING UNIT AND DISCONNECT SWITCH.
- PROVIDE WEATHERPROOF DUPLEX RECEPTACLE WITHIN 25' OF FARTHEST CONDENSING UNIT. CIRCUIT TO THIS BUILDING HOUSE PANEL.







Structural Engineer:

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MEP Engineer:

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Civil Engineer:

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Landscape Architect:

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Interior Designer:

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ISSUANCES		
SCHEMATIC DESIGN	09.10.18	
DEVELOPMENT DESIGN	11.09.18	
PERMIT SET	01.28.19	
	DEVELOPMENT DESIGN	

REVISIONS



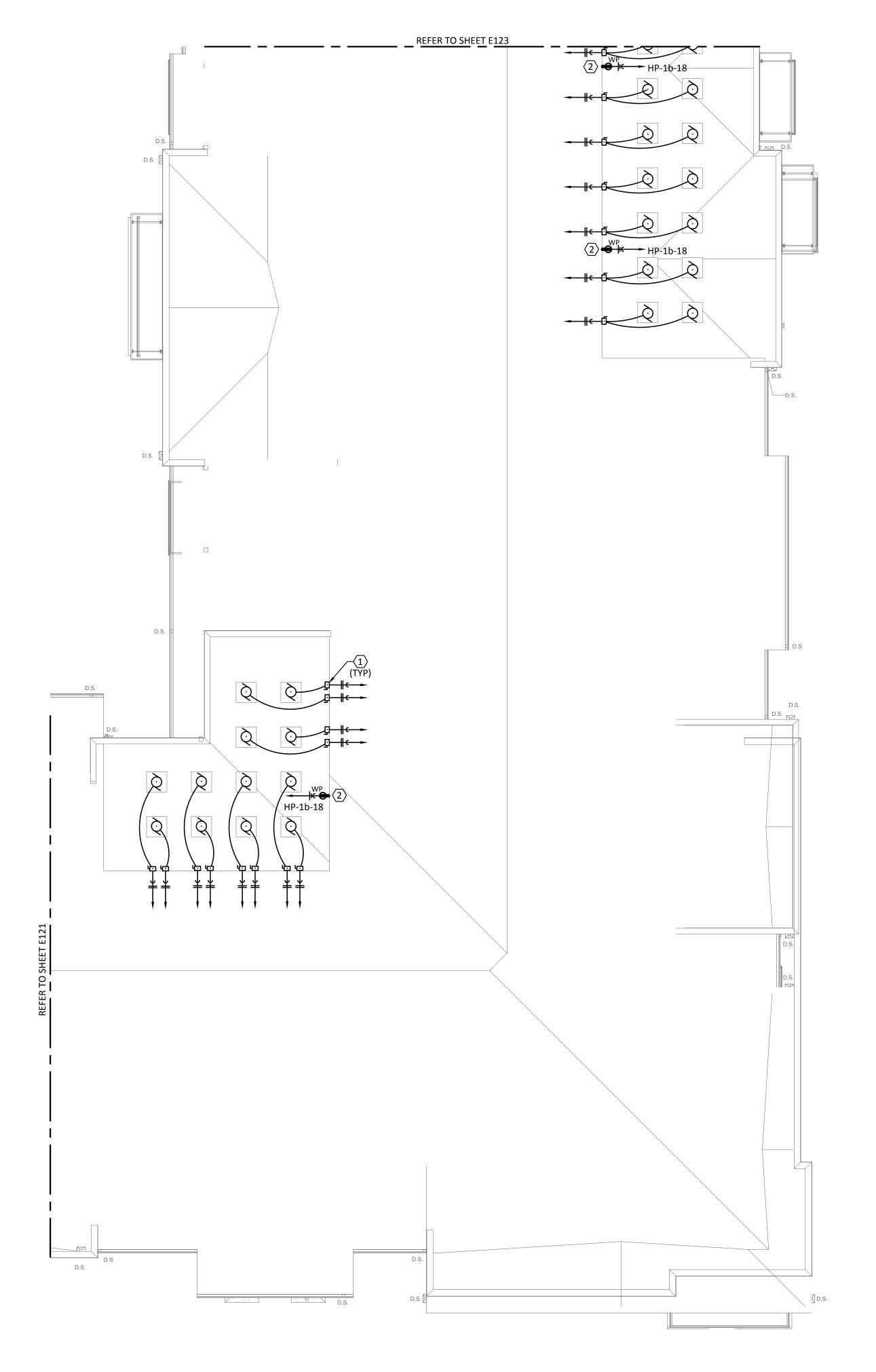
a multifamily project for NRP Group

West Cevallos
San Antonio, Texas

ELECTRICAL BUILDING 1a ROOF

Project Number	18054
Date	01/14/2018
Drawn By	TLR
Checked By	EEC

E121



ELECTRICAL - BUILDING 1b - ROOF
SCALE: 1/8"=1'-0"



GENERAL NOTES:

A. REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.

KEYED NOTES:

- PROVIDE 240V, 30A/2P/NF/N3R DISCONNECT FOR EACH DWELLING UNIT CONDENSING UNIT. MOUNT DISCONNECTS SPACED VERTICALLY IN ROWS OF 2 OR 3 ON PARAPET WALL. CIRCUIT TO RESPECTIVE DWELLING UNIT LOAD CENTER. MAINTAIN A MINIMUM OF 3'-0" CLEAR WORKING SPACE IN FRONT OF ALL ELECTRICAL EQUIPMENT. REFER TO DETAIL 5/E501. CIRCUIT TO RESPECTIVE DWELLING UNIT LOAD CENTER. REFER TO E401 FOR UNIT CALCULATIONS. ROUTE CONDUIT ON 4"X4", WOLMANIZED, PRESSURE-TREATED WOOD ROOF SUPPORTS BETWEEN CONDENSING UNIT AND DISCONNECT SWITCH.
- PROVIDE WEATHERPROOF DUPLEX RECEPTACLE WITHIN 25' OF FARTHEST CONDENSING UNIT. CIRCUIT TO THIS BUILDING HOUSE PANEL.



Structural Engineer:

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MEP Engineer:

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Civil Engineer:

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Landscape Architect:

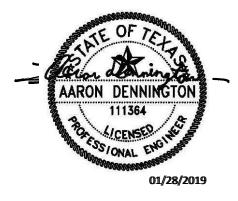
LEE & Associates, Inc. 9020 N Capital of Texas Hwy, Austin, TX. 78759 Amber Rothwell

Interior Designer:

512.345.8477

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ISSUANCES		
01	SCHEMATIC DESIGN	09.10.18
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a multifamily project for NRP Group

West Cevallos San Antonio, Texas

ELECTRICAL BUILDING 1b ROOF

Project Number	18054
Date	01/14/2018
Drawn By	TLR
Checked By	EEC

E122



KEY PLAN
N.T.S.



1 ELECTRICAL - BUILDING 1c - ROOF
SCALE: 1/8"=1'-0"



GENERAL NOTES:

KEYED NOTES:

A. REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.

BETWEEN CONDENSING UNIT AND DISCONNECT SWITCH.

CONDENSING UNIT. CIRCUIT TO THIS BUILDING HOUSE PANEL.

PROVIDE 240V, 30A/2P/NF/N3R DISCONNECT FOR EACH DWELLING UNIT

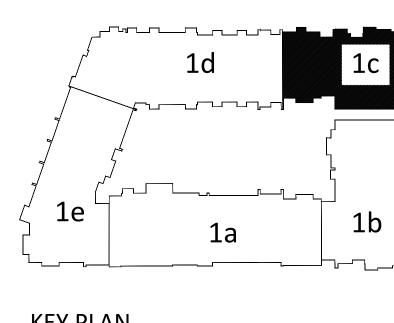
MAINTAIN A MINIMUM OF 3'-0" CLEAR WORKING SPACE IN FRONT OF ALL ELECTRICAL EQUIPMENT. REFER TO DETAIL 5/E501. CIRCUIT TO RESPECTIVE

PROVIDE WEATHERPROOF DUPLEX RECEPTACLE WITHIN 25' OF FARTHEST

CONDENSING UNIT. MOUNT DISCONNECTS SPACED VERTICALLY IN ROWS OF 2 OR 3 ON PARAPET WALL. CIRCUIT TO RESPECTIVE DWELLING UNIT LOAD CENTER.

DWELLING UNIT LOAD CENTER. REFER TO E401 FOR UNIT CALCULATIONS. ROUTE

CONDUIT ON 4"X4", WOLMANIZED, PRESSURE-TREATED WOOD ROOF SUPPORTS







COLLABORATIVE 3607 S Lamar Blvd, Suite 103 Austin, Texas 78704 512.852.4310

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MBC & Associates, Inc 1035 Central Pkwy N, San Antonio, TX 78732 David Allen

Landscape Architect:

LEE & Associates, Inc. 9020 N Capital of Texas Hwy, Austin, TX. 78759 Amber Rothwell

Interior Designer:

512.345.8477

SJL Design Group 921 N. Riverfront Blvd. Suite 100, Dallas, TX 75207 Cassie Farley 214.443.9090

ISSUANCES		
01	SCHEMATIC DESIGN	09.10.18
02	DEVELOPMENT DESIGN	11.09.18
03	PERMIT SET	01.28.19



a multifamily project for NRP Group

West Cevallos San Antonio, Texas

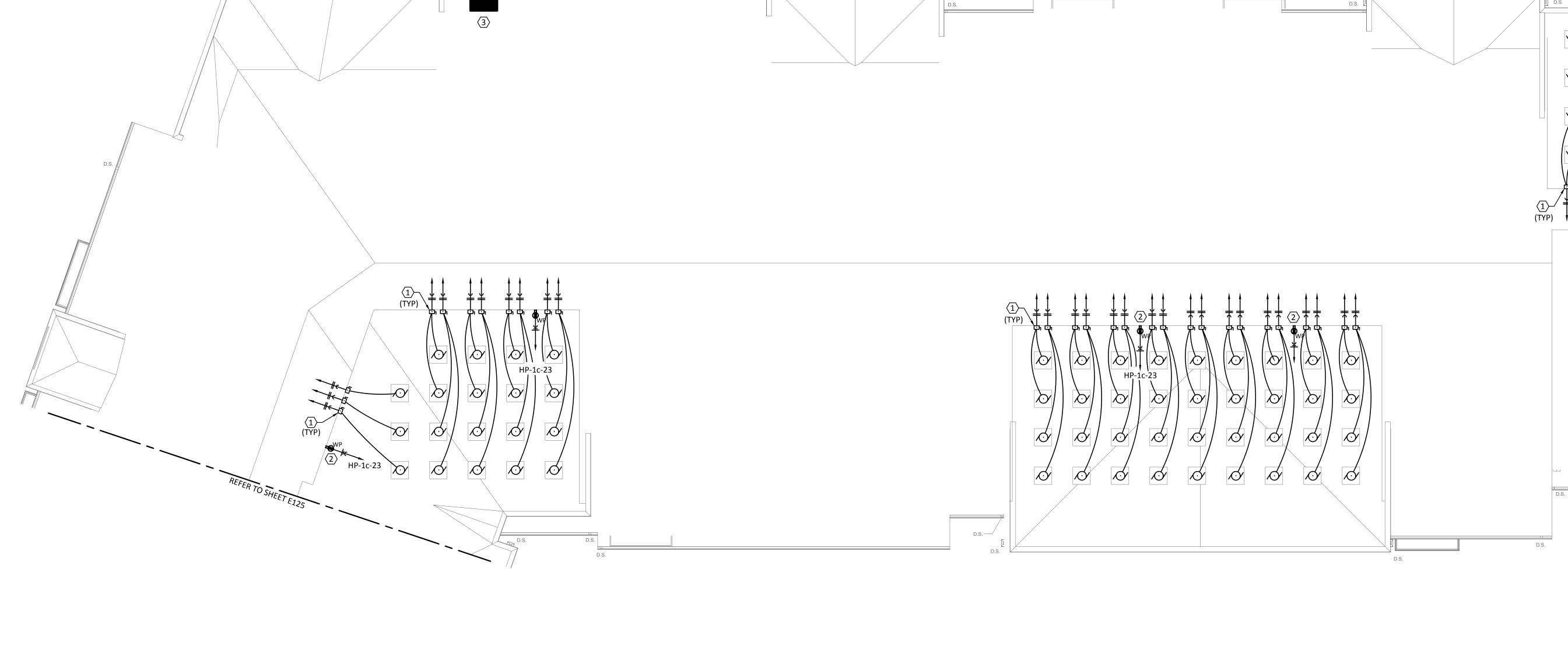
ELECTRICAL BUILDING 1c ROOF

Project Number	18054
Date	01/14/2018
Drawn By	TLR
Checked By	EEC

A. REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.

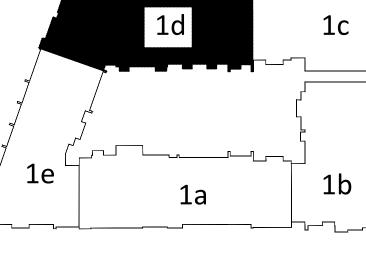
KEYED NOTES:

- PROVIDE 240V, 30A/2P/NF/N3R DISCONNECT FOR EACH DWELLING UNIT CONDENSING UNIT. MOUNT DISCONNECTS SPACED VERTICALLY IN ROWS OF 2 OR 3 ON PARAPET WALL. CIRCUIT TO RESPECTIVE DWELLING UNIT LOAD CENTER. MAINTAIN A MINIMUM OF 3'-0" CLEAR WORKING SPACE IN FRONT OF ALL ELECTRICAL EQUIPMENT. REFER TO DETAIL 5/E501. CIRCUIT TO RESPECTIVE DWELLING UNIT LOAD CENTER. REFER TO E401 FOR UNIT CALCULATIONS. ROUTE CONDUIT ON 4"X4", WOLMANIZED, PRESSURE-TREATED WOOD ROOF SUPPORTS BETWEEN CONDENSING UNIT AND DISCONNECT SWITCH.
- 2. PROVIDE WEATHERPROOF DUPLEX RECEPTACLE WITHIN 25' OF FARTHEST CONDENSING UNIT. CIRCUIT TO THIS BUILDING HOUSE PANEL.
- INSTALL PHOTOCELL ON ROOF ON NORTH-FACING SIDE OF BUILDING. ALL EXTERIOR LIGHTS SHALL BE CIRCUITED THRU TIME CLOCK AND PHOTOCELL. REFER TO DETAIL 6/E501.



ELECTRICAL - BUILDING 1d - ROOF

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



KEY PLAN
N.T.S.





Structural Engineer:

VIEWTECH INC. 4205 Beltway Dr. Addison, TX 75001 Victor Lisiak III 972.661.8187

MEP Engineer:

ENCOTECH 8500 Bluffstone Cove, Austin, TX. 78759 Tessa Roberts 512.338.1101

Civil Engineer:

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Landscape Architect:

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ISSUANCES		
01	SCHEMATIC DESIGN	09.10.18
02	DEVELOPMENT DESIGN	11.09.18
03	PERMIT SET	01.28.19

REVISIONS



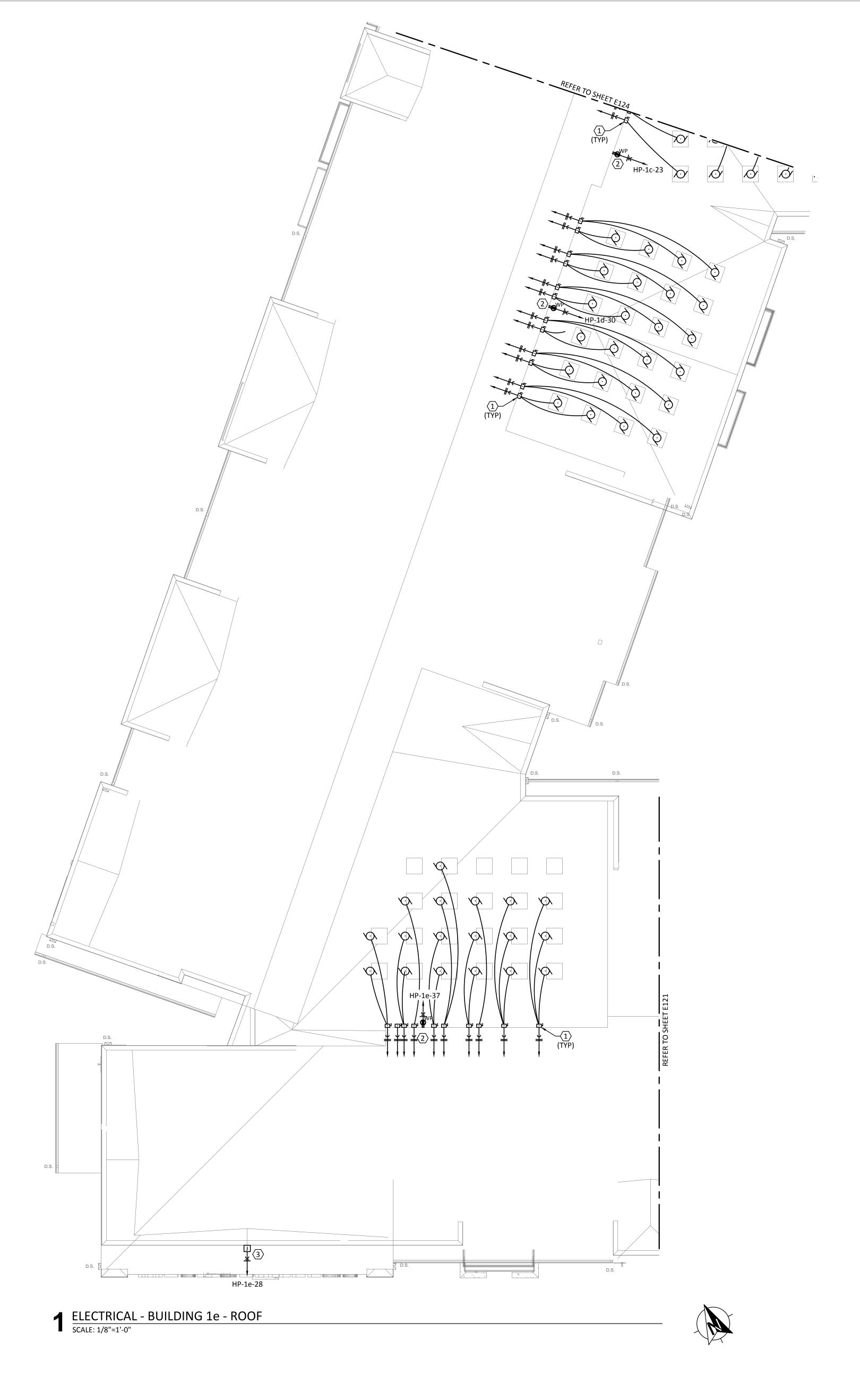
a multifamily project for NRP Group

West Cevallos
San Antonio, Texas

ELECTRICAL BUILDING Id ROOF

Project Number	18054
Date	01/14/2018
Drawn By	TLR
Checked By	EEC

E124



REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.

KEYED NOTES:

- PROVIDE 240V, 30A/2P/NF/N3R DISCONNECT FOR EACH DWELLING UNIT CONDENSING UNIT. MOUNT DISCONNECTS SPACED VERTICALLY IN ROWS OF 2 OR 3 ON PARAPET WALL. CIRCUIT TO RESPECTIVE DWELLING UNIT LOAD CENTER. MAINTAIN A MINIMUM OF 3'-0" CLEAR WORKING SPACE IN FRONT OF ALL ELECTRICAL EQUIPMENT. REFER TO DETAIL 5/E501. CIRCUIT TO RESPECTIVE DWELLING UNIT LOAD CENTER. REFER TO E401 FOR UNIT CALCULATIONS. ROUTE CONDUIT ON 4"X4", WOLMANIZED, PRESSURE-TREATED WOOD ROOF SUPPORTS BETWEEN CONDENSING UNIT AND DISCONNECT SWITCH.
- PROVIDE WEATHERPROOF DUPLEX RECEPTACLE WITHIN 25' OF FARTHEST CONDENSING UNIT. CIRCUIT TO THIS BUILDING HOUSE PANEL.
- PROVIDE JUNCTION BOX FOR ROOF SIGNAGE.



Structural Engineer:

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MEP Engineer:

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Civil Engineer:

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Landscape Architect:

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Interior Designer:

SJL Design Group 921 N. Riverfront Blvd. Suite 100, Dallas, TX 75207 Cassie Farley 214.443.9090

ISSUANCES		
01	SCHEMATIC DESIGN	09.10.18
02	DEVELOPMENT DESIGN	11.09.18
03	PERMIT SET	01.28.19



a multifamily project for NRP Group

West Cevallos San Antonio, Texas

ELECTRICAL BUILDING 1e ROOF

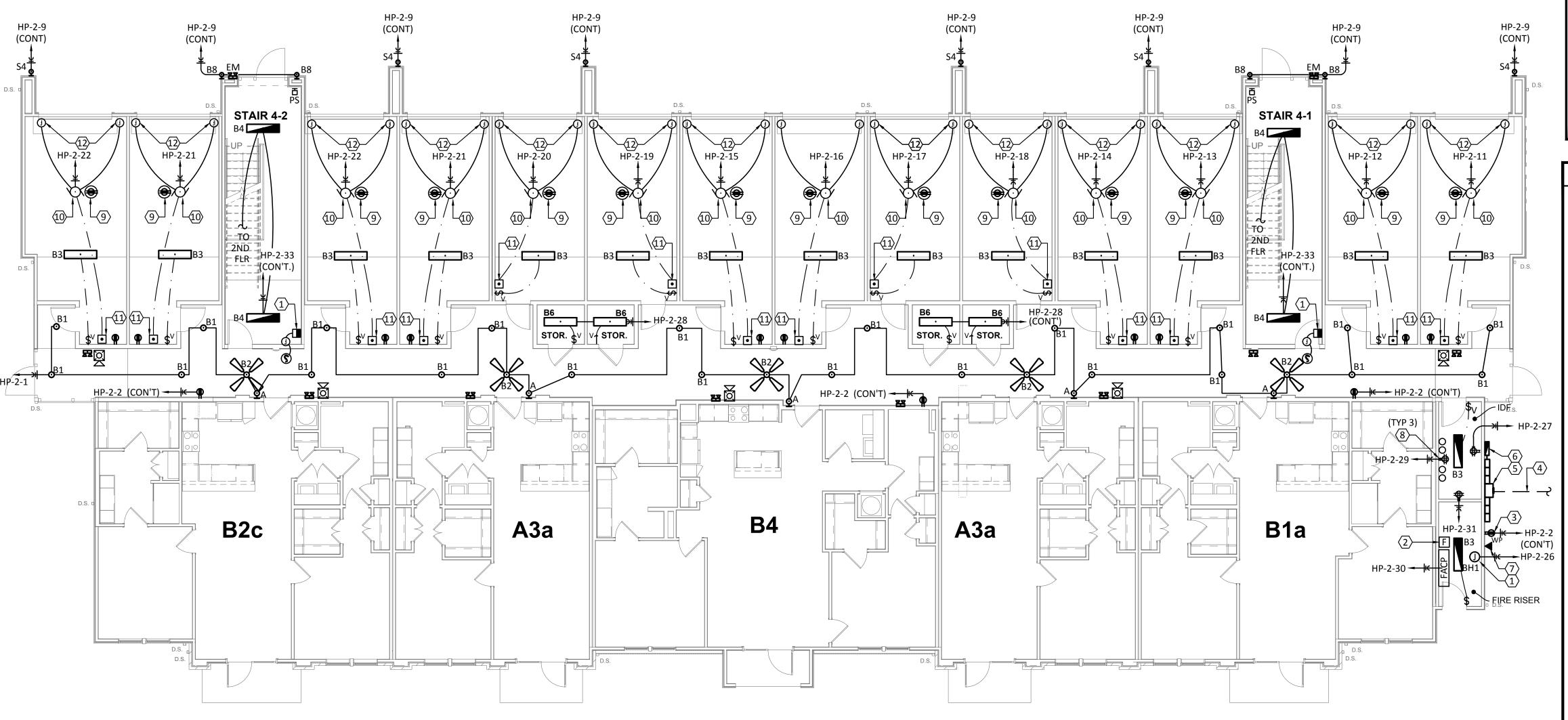
Project Number	18054
Date	01/14/2018
Drawn By	TLR
Checked By	EEC

E125

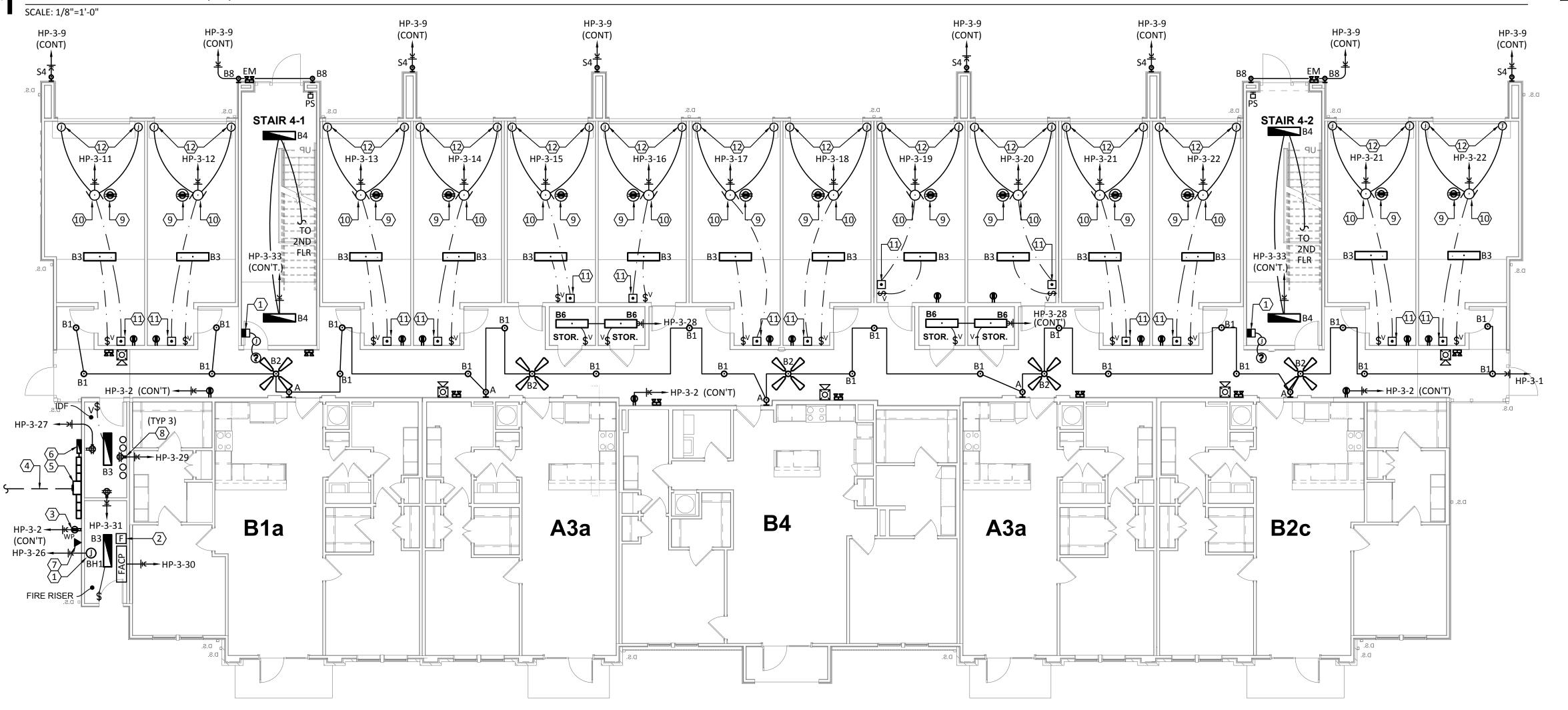
ENCOTECH ENGINEERING CONSULTANTS TBPE Firm | 8500 Bluffstone Cove, Suite B-103 1141 | Austin, Texas 78759 | 512.338.1101 Project No.: 18054.MS.AUS



KEY PLAN

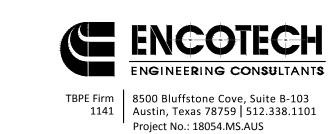






2 ELECTRICAL - BUILDING II (#3) - LEVEL 1

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



GENERAL NOTES:

A. REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.

- . REFER TO SHEETS E404 THRU E407, ELECTRICAL CALCULATIONS
- AND RISER DIAGRAMS FOR ADDITIONAL INFORMATION.
- ALL CORRIDOR, UNIT ENTRY AND STAIRWELL LIGHTING SHALL BE UNSWITCHED AND CONTROLLED AT THE CIRCUIT BREAKER IN HOUSE PANEL.
- ALL EMERGENCY LIGHTS AND EXIT SIGNS SHALL BE CIRCUITED TO DEDICATED BREAKER ON HOUSE PANEL, CIRCUIT #HP-7.
- REFER TO ELECTRICAL SITE PLAN FOR EXACT LOCATION OF ELECTRICAL METER SERVICE LOCATION.
- ALL EXTERIOR LIGHTING SHALL BE CIRCUITED THRU TIME CLOCK TO PHOTOCELL. TIME CLOCK SHALL BE CIRCUITED TO HOUSE

KEYED NOTES:

- 1. PROVIDE AND INSTALL ELECTRIC BASEBOARD HEATER IN SPRINKLER CLOSET. FINAL CONNECTION SHALL BE PERFORMED BY ELECTRICIAN. 120V, 1 PHASE, 20 AMP-6-20 CORD SET. THERMOSTAT WILL BE PROVIDED WITH HEATER AND SHALL BE SET TO OPERATE WHEN BELOW 40 DEGREES FAHRENHEIT.
- 2. PROVIDE PULL STATION IN FIRE RISER ROOM ADJACENT TO FIRE ALARM CONTROL PANEL.
- . PROVIDE WEATHERPROOF DUPLEX RECEPTACLE WITHIN 50' OF ELECTRICAL EQUIPMENT PER N.E.C. REQUIREMENTS. CIRCUIT TO NEAREST HOUSE PANEL.
- ROUTE SECONDARY LATERALS TO TO 120/240 V. 1Ø PAD MOUNT TRANSFORMER (PROVIDED BY CPS ENERGY). ALL LATERALS SHALL BE SIZED BY CPS ENERGY. REFER TO SHEET E003.
- . MODULAR METERING SYSTEM. MOUNT ON EXTERIOR WALL IN NEMA 3R ENCLOSURE. REFER TO CPS ENERGY DESIGN CRITERIA MANUAL FOR MAXIMUM/MINIMUM MOUNTING HEIGHT LIMITS TO CENTER OF THE METER. REFER TO RISER ON SHEET E407.
- 6. 120/240 V., 1Ø 200 AMP LOAD CENTER MOUNTED ON ON EXTERIOR WALL IN NEMA 3R ENCLOSURE. MAINTAIN A MINIMUM OF 6" BETWEEN MODULAR METERING SYSTEM AND LOAD CENTER.
- 7. ALL MODULAR METER AREAS REQUIRE A FUNCTIONAL TELEPHONE LINE TO BE INSTALLED ADJACENT TO METERING EQUIPMENT TO PROVIDE DIAL IN/OUT SERVICE PER CPS ENERGY DESIGN CRITERIA MANUAL, SECTION 1810.1.
- PROVIDE DEDICATED QUADRUPLEX RECEPTACLES FOR TELECOMMUNICATIONS EQUIPMENT. INSTALL 4-4" EMPTY CONDUITS. PROVIDE GROUNDING EQUIPMENT PER N.E.C. REQUIREMENTS.
- PROVIDE DUPLEX OUTLET AT CEILING OF GARAGE ADJACENT TO GARAGE DOOR OPENER.
- 10. PROVIDE AND INSTALL 120V, 1 PHASE, 20 AMP GARAGE DOOR OPENER. INSTALL PER MANUFACTURER'S INSTRUCTIONS. CIRCUIT TO LOAD CENTER.
- 11. PROVIDE GARAGE DOOR OPENER BUTTON AT GARAGE ENTRY DOOR. MOUNT AT 33" A.F.F.
- INSTALL JUNCTION BOX AT BASE OF GARAGE DOOR RAILING.
- PROVIDE MAGNETIC DOOR-OPEN HOLDERS WITH JUNCTION BOX INTERLOCKED WITH SMOKE DETECTOR.



Structural Engineer:

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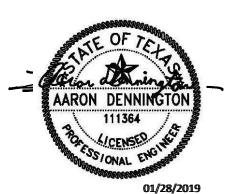
09.10.18

11.09.18

01.28.19

O1 SCHEMATIC DESIGN O2 DEVELOPMENT DESIGN

REVISIONS



a multifamily project for NRP Group

West Cevallos
San Antonio, Texas

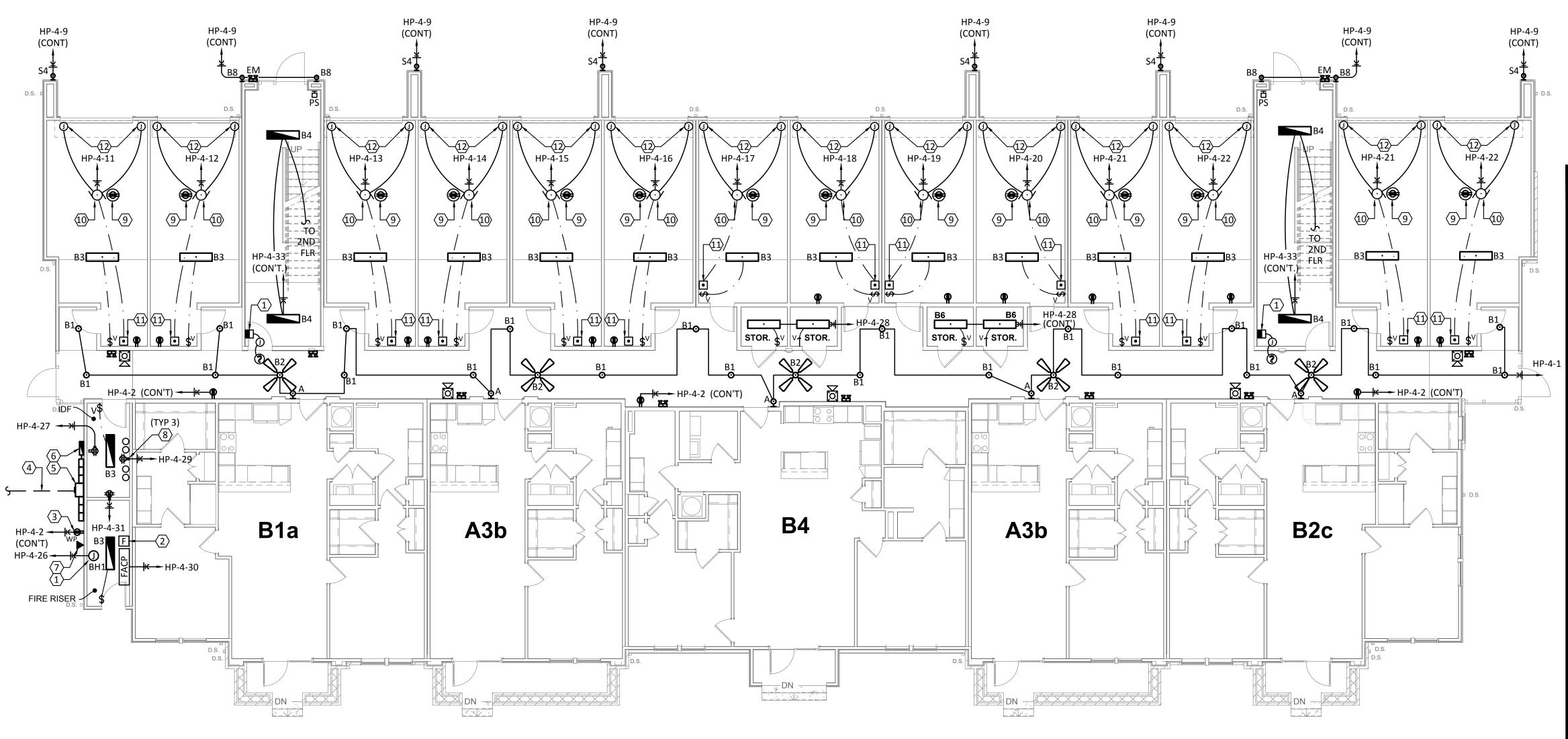
ELECTRICAL BUILDING II (#2 & #3) LEVEL 1

Project Number 18054

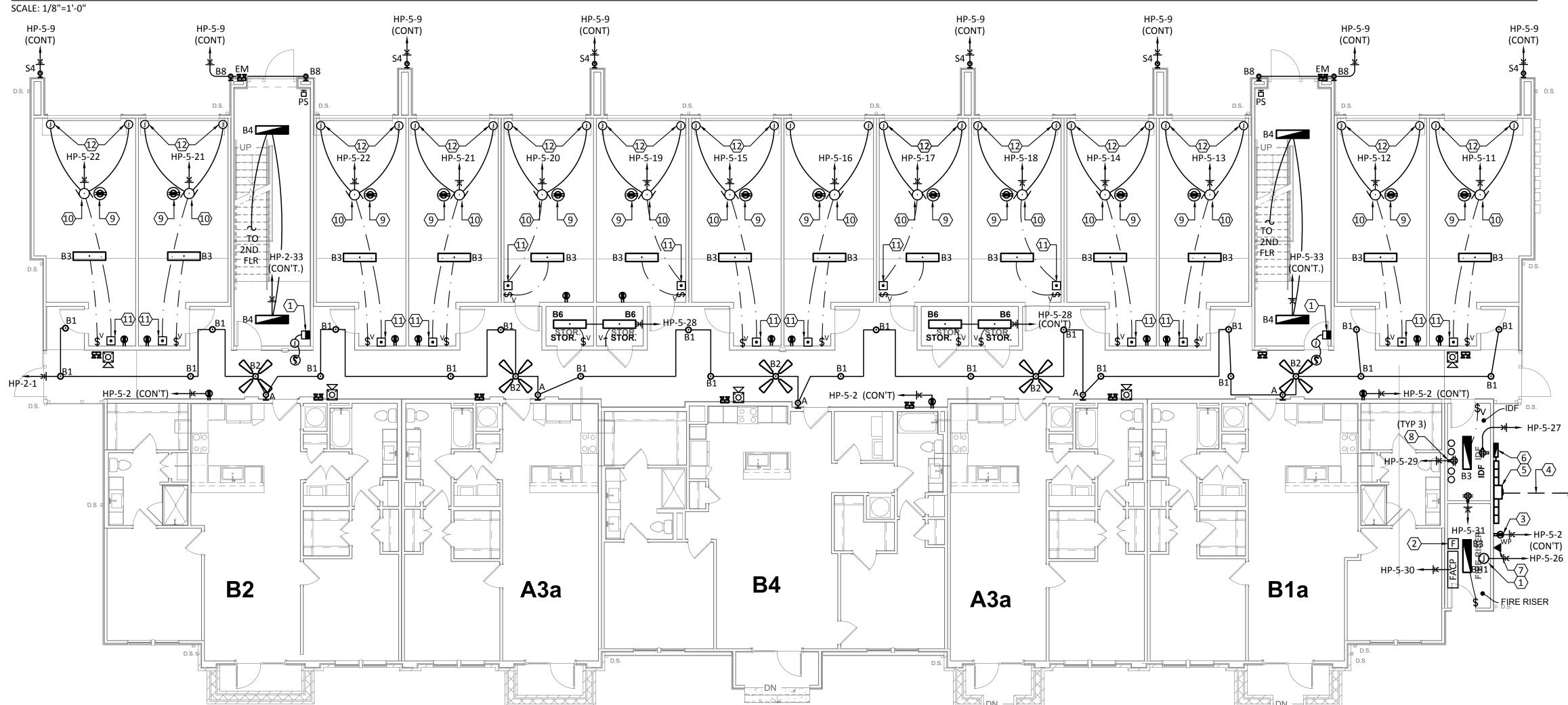
Date 01/14/2018

Drawn By TLR

Checked By EEC



■ ELECTRICAL - BUILDING II (#4) - LEVEL 1



ELECTRICAL - BUILDING II (#5) - LEVEL 1

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



GENERAL NOTES:

. REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.

- REFER TO SHEETS E404 THRU E407, ELECTRICAL CALCULATIONS
- AND RISER DIAGRAMS FOR ADDITIONAL INFORMATION.
- ALL CORRIDOR, UNIT ENTRY AND STAIRWELL LIGHTING SHALL BE UNSWITCHED AND CONTROLLED AT THE CIRCUIT BREAKER IN
- ALL EMERGENCY LIGHTS AND EXIT SIGNS SHALL BE CIRCUITED TO DEDICATED BREAKER ON HOUSE PANEL, CIRCUIT #HP-7.
- REFER TO ELECTRICAL SITE PLAN FOR EXACT LOCATION OF ELECTRICAL METER SERVICE LOCATION.
- ALL EXTERIOR LIGHTING SHALL BE CIRCUITED THRU TIME CLOCK TO PHOTOCELL. TIME CLOCK SHALL BE CIRCUITED TO HOUSE

KEYED NOTES:

LOAD CENTER.

- PROVIDE AND INSTALL ELECTRIC BASEBOARD HEATER IN SPRINKLER CLOSET. FINAL CONNECTION SHALL BE PERFORMED BY ELECTRICIAN. 120V, 1 PHASE, 20 AMP-6-20 CORD SET. THERMOSTAT WILL BE PROVIDED WITH HEATER AND SHALL BE SET TO OPERATE WHEN BELOW 40 DEGREES FAHRENHEIT.
- PROVIDE PULL STATION IN FIRE RISER ROOM ADJACENT TO FIRE ALARM CONTROL PANEL.
- PROVIDE WEATHERPROOF DUPLEX RECEPTACLE WITHIN 50' OF ELECTRICAL EQUIPMENT PER N.E.C. REQUIREMENTS. CIRCUIT TO NEAREST HOUSE PANEL.
- ROUTE SECONDARY LATERALS TO TO 120/240 V. 1Ø PAD MOUNT TRANSFORMER (PROVIDED BY CPS ENERGY). ALL LATERALS SHALL BE SIZED BY CPS ENERGY. REFER TO SHEET E003.
- MODULAR METERING SYSTEM. MOUNT ON EXTERIOR WALL IN NEMA 3R ENCLOSURE. REFER TO CPS ENERGY DESIGN CRITERIA MANUAL FOR MAXIMUM/MINIMUM MOUNTING HEIGHT LIMITS

TO CENTER OF THE METER. REFER TO RISER ON SHEET E407.

- 120/240 V., 1Ø 200 AMP LOAD CENTER MOUNTED ON ON EXTERIOR WALL IN NEMA 3R ENCLOSURE. MAINTAIN A MINIMUM OF 6" BETWEEN MODULAR METERING SYSTEM AND
- ALL MODULAR METER AREAS REQUIRE A FUNCTIONAL TELEPHONE LINE TO BE INSTALLED ADJACENT TO METERING EQUIPMENT TO PROVIDE DIAL IN/OUT SERVICE PER CPS ENERGY DESIGN CRITERIA MANUAL, SECTION 1810.1.
- PROVIDE DEDICATED QUADRUPLEX RECEPTACLES FOR TELECOMMUNICATIONS EQUIPMENT. INSTALL 4-4" EMPTY CONDUITS. PROVIDE GROUNDING EQUIPMENT PER N.E.C. REQUIREMENTS.
- PROVIDE DUPLEX OUTLET AT CEILING OF GARAGE ADJACENT TO GARAGE DOOR OPENER.
- PROVIDE AND INSTALL 120V, 1 PHASE, 20 AMP GARAGE DOOR TO LOAD CENTER.
- . PROVIDE GARAGE DOOR OPENER BUTTON AT GARAGE ENTRY DOOR. MOUNT AT 33" A.F.F.
- PROVIDE MAGNETIC DOOR-OPEN HOLDERS WITH JUNCTION BOX INTERLOCKED WITH SMOKE DETECTOR.



Structural Engineer:

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MEP Engineer:

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ENCOTECH 8500 Bluffstone Cove, Austin, TX. 78759 Tessa Roberts 512.338.1101

Civil Engineer:

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Landscape Architect:

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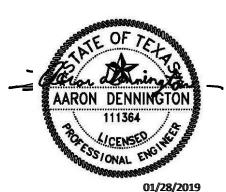
Interior Designer:

512.345.8477

SJL Design Group 921 N. Riverfront Blvd. Suite 100, Dallas, TX 75207 Cassie Farley 214.443.9090

ISSUANCES

01	SCHEMATIC DESIGN	09.10.18
02	DEVELOPMENT DESIGN	11.09.18
03	PERMIT SET	01.28.19

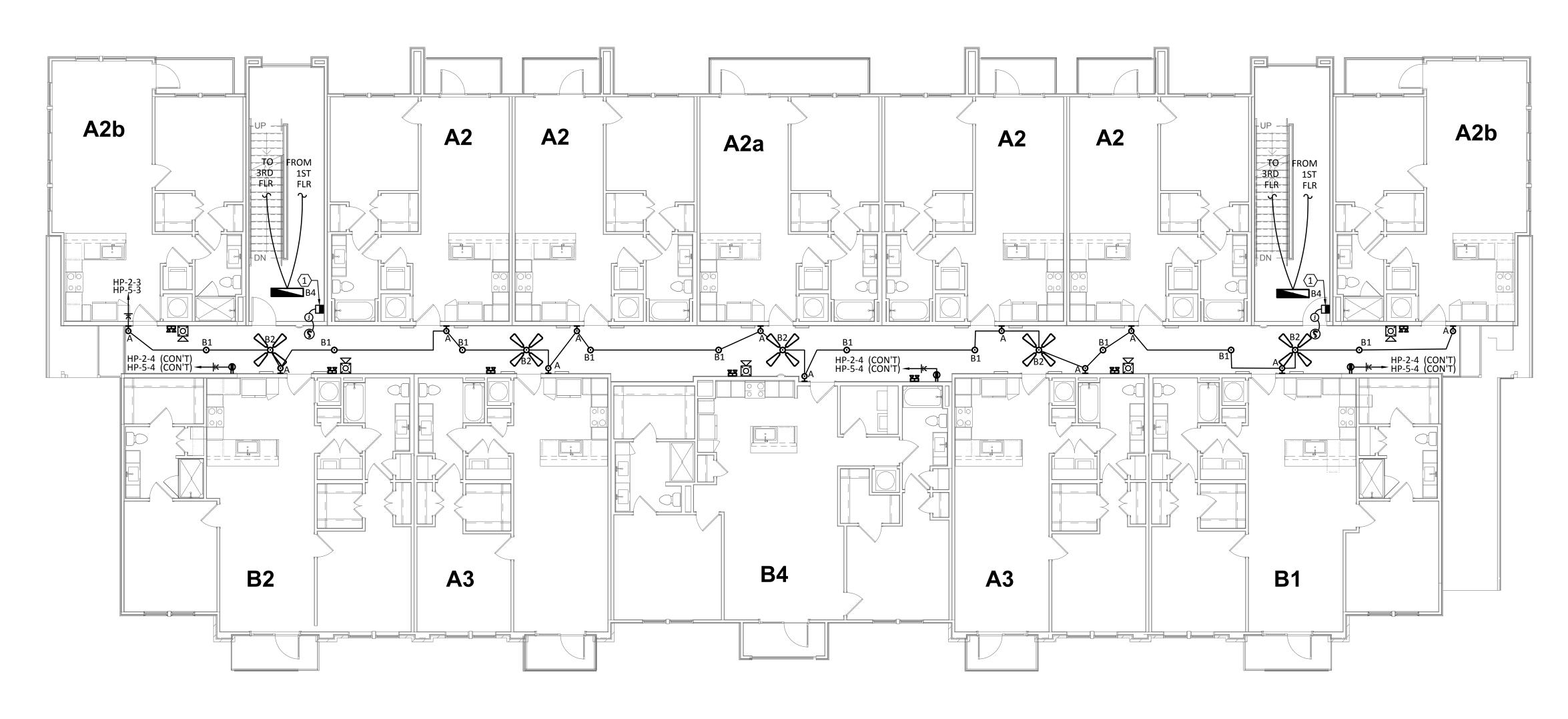


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West Cevallos San Antonio, Texas

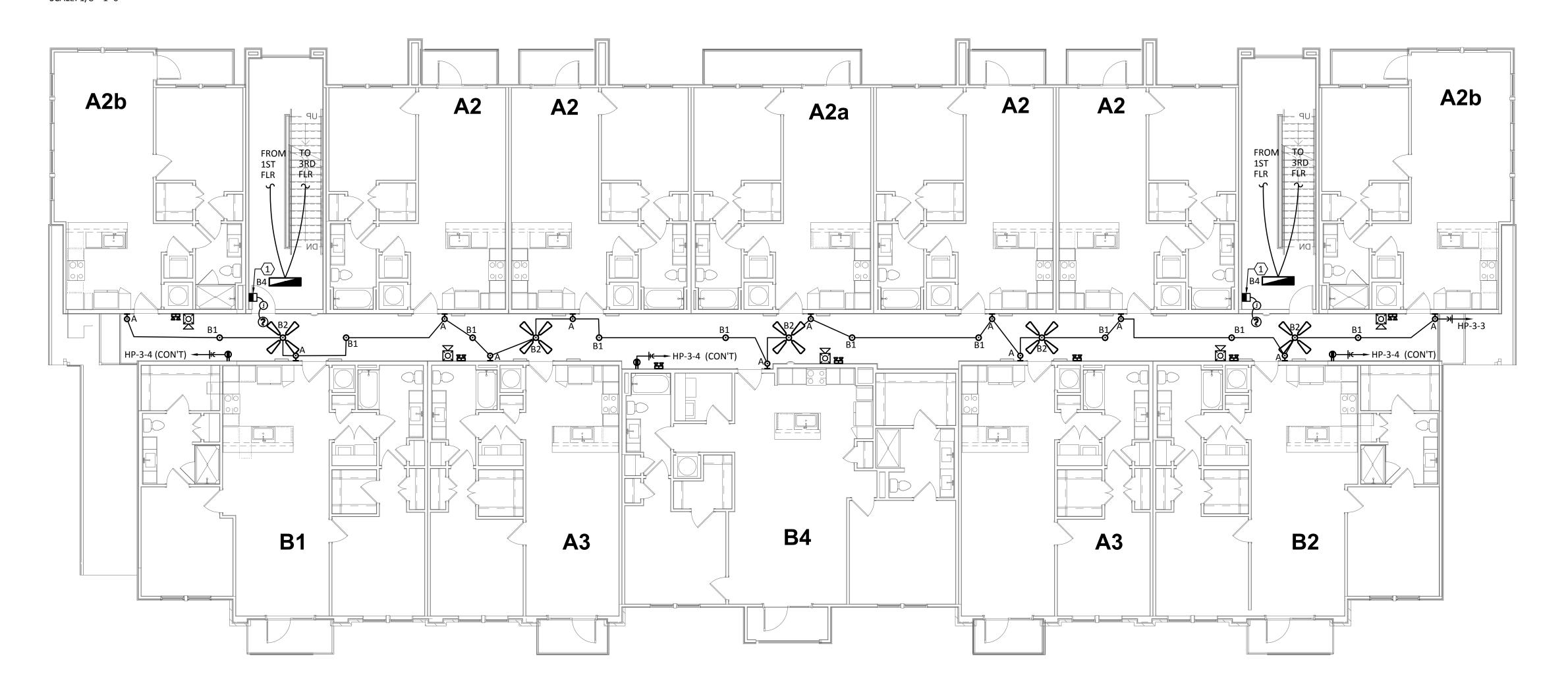
ELECTRICAL BUILDING II (#4 & #5) LEVEL 1

18054 Project Number 01/14/2018 TLR Drawn By Checked By EEC



ELECTRICAL - BUILDING II (#2 & #5) - LEVEL 2

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



2 ELECTRICAL - BUILDING II (#3) - LEVEL 2

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

GENERAL NOTES:

- REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.
- REFER TO SHEETS E404 THRU E407, ELECTRICAL CALCULATIONS AND RISER DIAGRAMS FOR ADDITIONAL INFORMATION.
- ALL CORRIDOR, UNIT ENTRY AND STAIRWELL LIGHTING SHALL BE UNSWITCHED AND CONTROLLED AT THE CIRCUIT BREAKER IN HOUSE PANEL.
- ALL EMERGENCY LIGHTS AND EXIT SIGNS SHALL BE CIRCUITED TO DEDICATED BREAKER ON HOUSE PANEL, CIRCUIT #HP-7.
- REFER TO ELECTRICAL SITE PLAN FOR EXACT LOCATION OF ELECTRICAL METER SERVICE LOCATION.
- ALL EXTERIOR LIGHTING SHALL BE CIRCUITED THRU TIME CLOCK TO PHOTOCELL. TIME CLOCK SHALL BE CIRCUITED TO HOUSE

KEYED NOTES:

MAGNETIC DOOR HOLD OPENER INTERLOCKED WITH SMOKE DETECTORS.



Structural Engineer:

VIEWTECH INC. 4205 Beltway Dr. Addison, TX 75001 Victor Lisiak III 972.661.8187

MEP Engineer:

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Civil Engineer:

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Landscape Architect:

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Interior Designer:

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ISSUANCES SCHEMATIC DESIGN

09.10.18 DEVELOPMENT DESIGN 11.09.18 PERMIT SET 01.28.19



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West Cevallos San Antonio, Texas

ELECTRICAL BUILDING II (#2, #3 & #5) LEVEL 2

18054 Project Number 01/14/2018 TLR Drawn By EEC Checked By



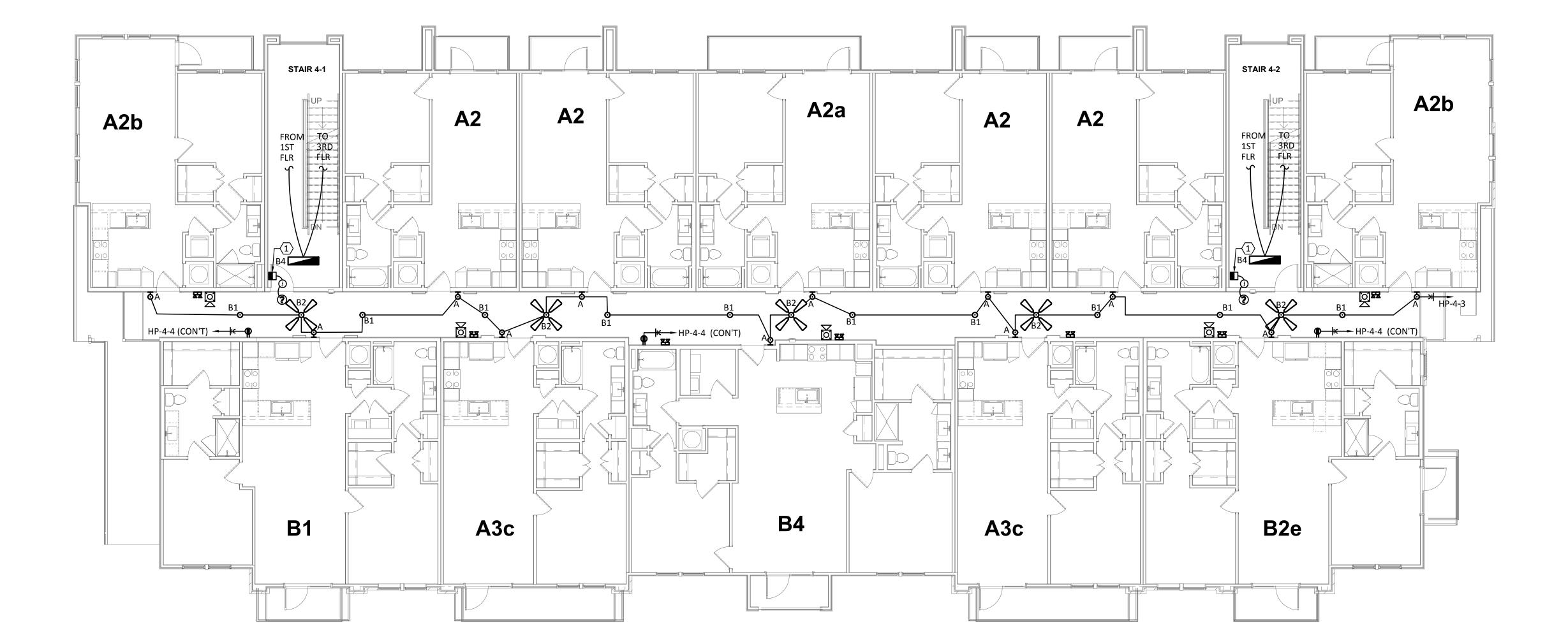
AND RISER DIAGRAMS FOR ADDITIONAL INFORMATION.

GENERAL NOTES:

- . REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.
- REFER TO SHEETS E404 THRU E407, ELECTRICAL CALCULATIONS
- ALL CORRIDOR, UNIT ENTRY AND STAIRWELL LIGHTING SHALL BE UNSWITCHED AND CONTROLLED AT THE CIRCUIT BREAKER IN HOUSE PANEL.
- ALL EMERGENCY LIGHTS AND EXIT SIGNS SHALL BE CIRCUITED TO DEDICATED BREAKER ON HOUSE PANEL, CIRCUIT #HP-7.
- REFER TO ELECTRICAL SITE PLAN FOR EXACT LOCATION OF ELECTRICAL METER SERVICE LOCATION.
- ALL EXTERIOR LIGHTING SHALL BE CIRCUITED THRU TIME CLOCK TO PHOTOCELL. TIME CLOCK SHALL BE CIRCUITED TO HOUSE

KEYED NOTES:

MAGNETIC DOOR HOLD OPENER INTERLOCKED WITH SMOKE DETECTORS.



2 ELECTRICAL - BUILDING II (#4) - LEVEL 2

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

ENCOTECH ENGINEERING CONSULTANTS TBPE Firm | 8500 Bluffstone Cove, Suite B-103 1141 | Austin, Texas 78759 | 512.338.1101 Project No.: 18054.MS.AUS



Structural Engineer:

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MEP Engineer:

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Civil Engineer:

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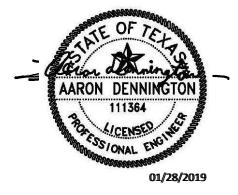
Landscape Architect:

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Interior Designer:

SJL Design Group 921 N. Riverfront Blvd. Suite 100, Dallas, TX 75207 Cassie Farley 214.443.9090

ISSUANCES		
01	SCHEMATIC DESIGN	09.10.18
02	DEVELOPMENT DESIGN	11.09.18
03	PERMIT SET	01.28.19

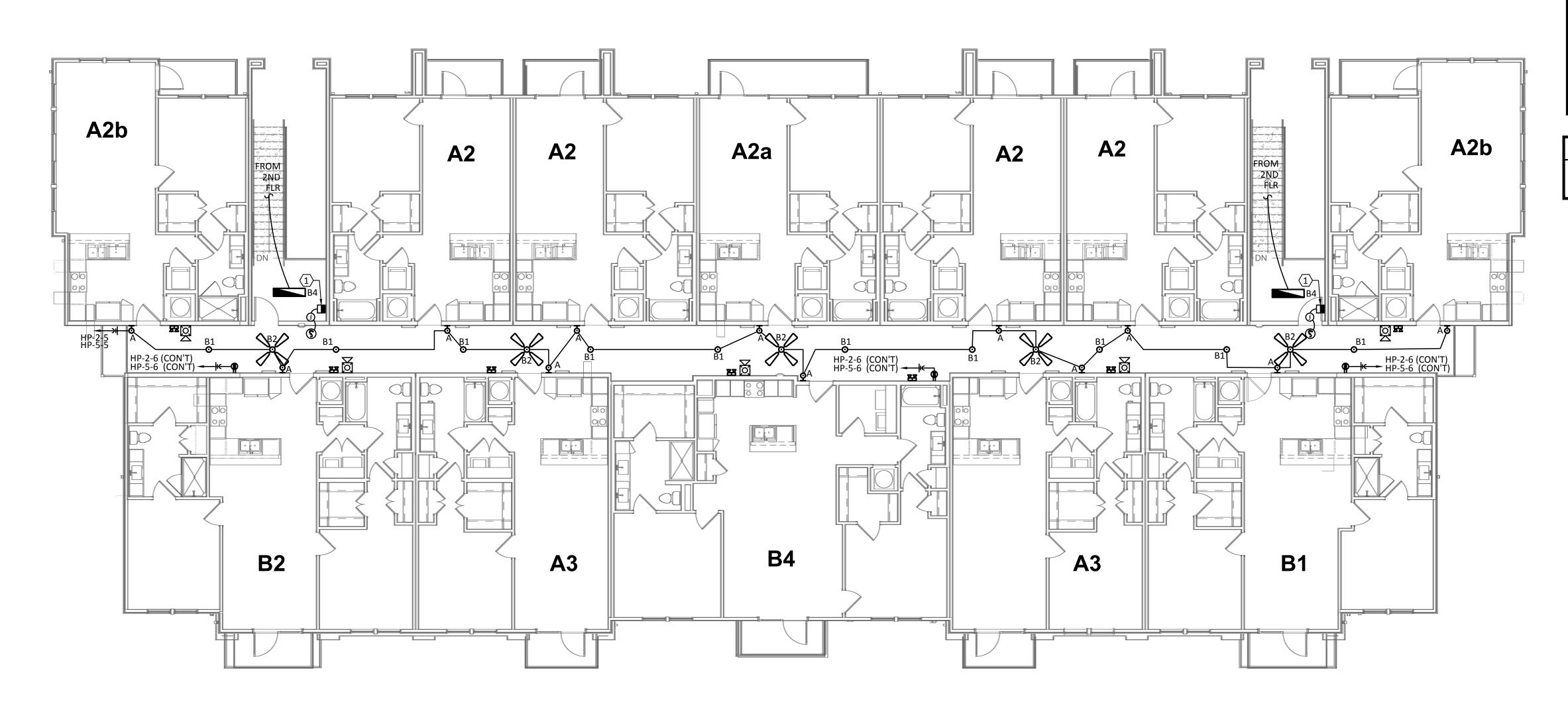


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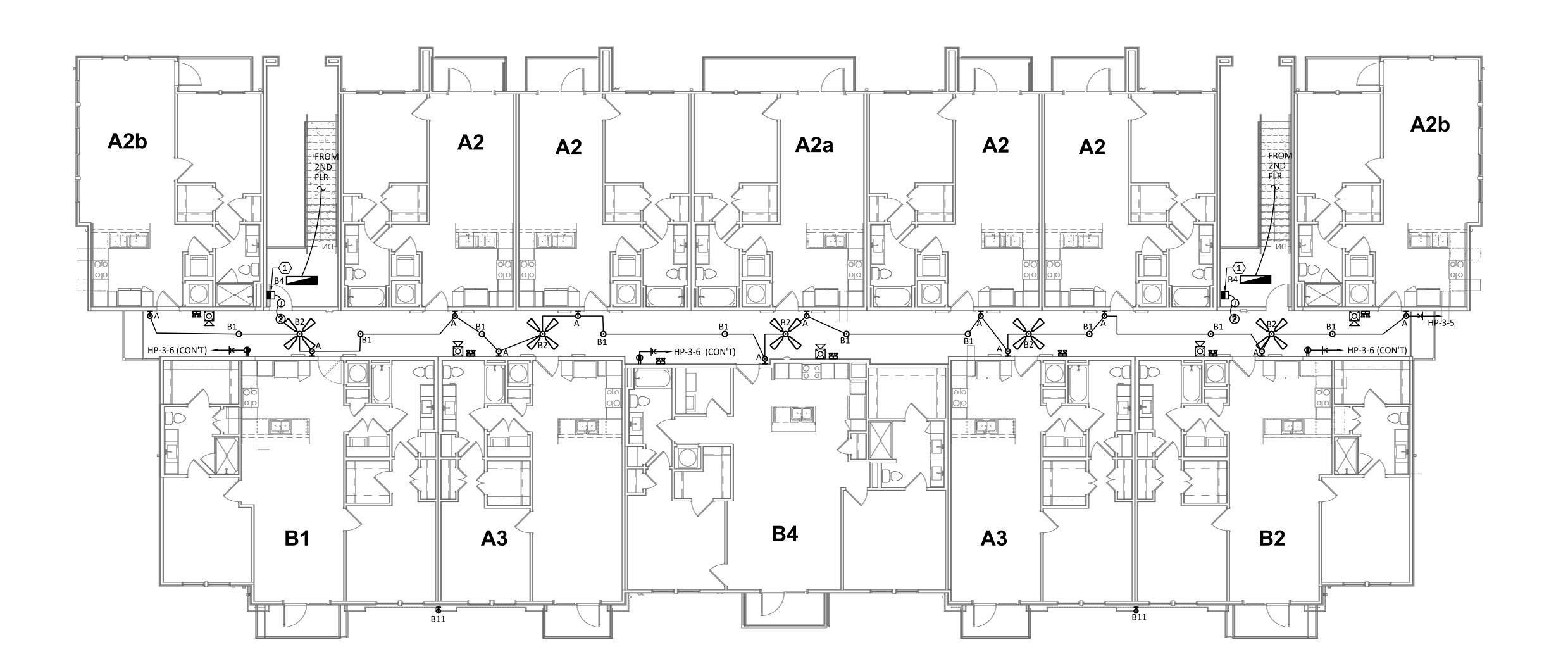
West Cevallos San Antonio, Texas

ELECTRICAL BUILDING II (#4) LEVEL 2

v	
Project Number	18054
Date	01/14/2018
Drawn By	TLF
Checked By	EEC



ELECTRICAL - BUILDING II (#2 & #5) - LEVEL 3 SCALE: 1/8"=1'-0"



ENCOTECH ENGINEERING CONSULTANTS TBPE Firm 8500 Bluffstone Cove, Suite B-103 1141 Austin, Texas 78759 512.338.1101 Project No.: 18054.MS.AUS

GENERAL NOTES:

- . REFER TO SHEET E000 FOR ADDITIONAL INFORMATION. REFER TO SHEETS E404 THRU E407, ELECTRICAL CALCULATIONS
- AND RISER DIAGRAMS FOR ADDITIONAL INFORMATION.
- ALL CORRIDOR, UNIT ENTRY AND STAIRWELL LIGHTING SHALL BE UNSWITCHED AND CONTROLLED AT THE CIRCUIT BREAKER IN
- ALL EMERGENCY LIGHTS AND EXIT SIGNS SHALL BE CIRCUITED TO DEDICATED BREAKER ON HOUSE PANEL, CIRCUIT #HP-7.
- REFER TO ELECTRICAL SITE PLAN FOR EXACT LOCATION OF ELECTRICAL METER SERVICE LOCATION.
- ALL EXTERIOR LIGHTING SHALL BE CIRCUITED THRU TIME CLOCK TO PHOTOCELL. TIME CLOCK SHALL BE CIRCUITED TO HOUSE PANEL, CIRCUIT #HP-11.

KEYED NOTES:

MAGNETIC DOOR HOLD OPENER INTERLOCKED WITH SMOKE DETECTORS.



Structural Engineer:

VIEWTECH INC. 4205 Beltway Dr. Addison, TX 75001 Victor Lisiak III

MEP Engineer:

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Interior Designer:

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ISSUANCES SCHEMATIC DESIGN 09.10.18 DEVELOPMENT DESIGN 11.09.18 PERMIT SET 01.28.19

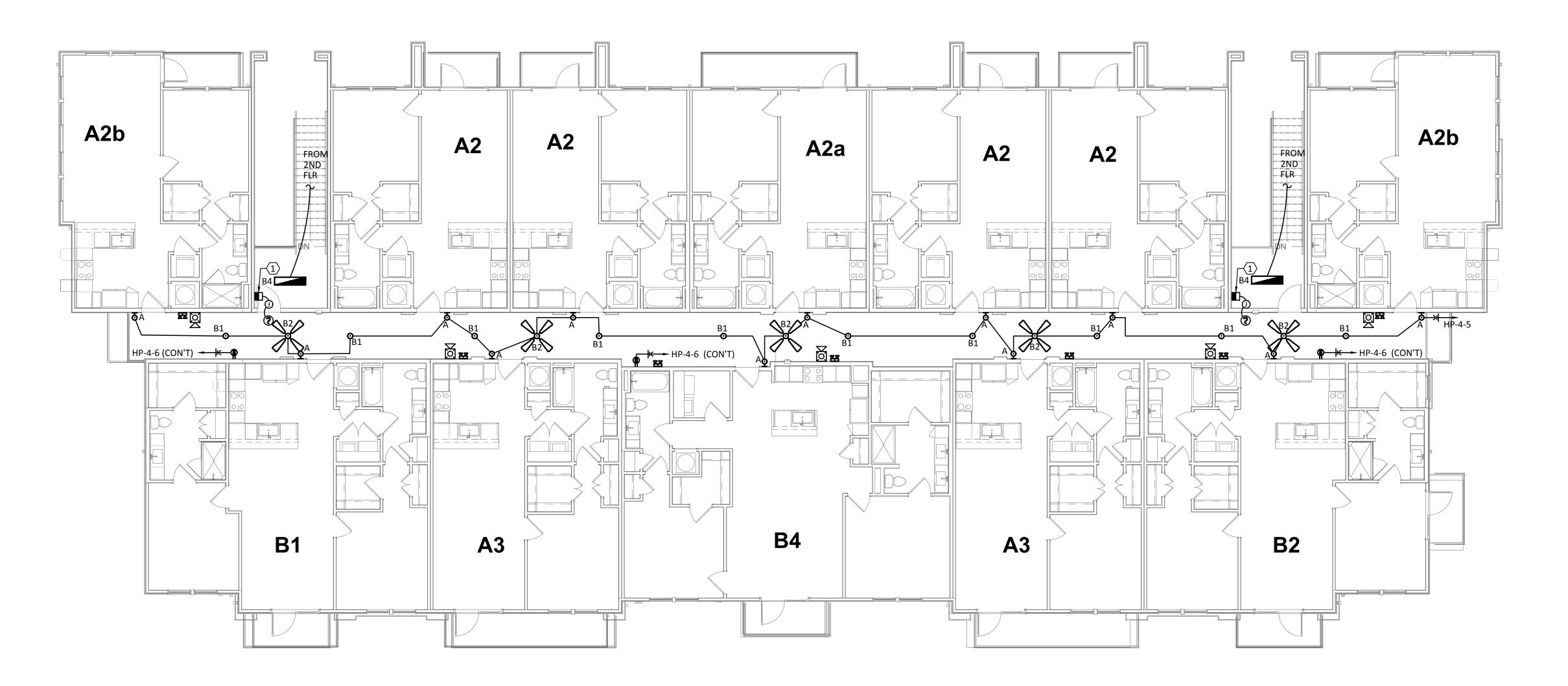


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West Cevallos San Antonio, Texas

ELECTRICAL BUILDING II (#2, #3 & #5) LEVEL 3

18054 Project Number 01/14/2018 TLR Drawn By EEC Checked By



ELECTRICAL - BUILDING II (#4) - LEVEL 3

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



GENERAL NOTES:

- A. REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.
- REFER TO SHEETS E404 THRU E407, ELECTRICAL CALCULATIONS AND RISER DIAGRAMS FOR ADDITIONAL INFORMATION.
- ALL CORRIDOR, UNIT ENTRY AND STAIRWELL LIGHTING SHALL BE UNSWITCHED AND CONTROLLED AT THE CIRCUIT BREAKER IN
- HOUSE PANEL. ALL EMERGENCY LIGHTS AND EXIT SIGNS SHALL BE CIRCUITED TO
- DEDICATED BREAKER ON HOUSE PANEL, CIRCUIT #HP-7.
- REFER TO ELECTRICAL SITE PLAN FOR EXACT LOCATION OF ELECTRICAL METER SERVICE LOCATION.
- ALL EXTERIOR LIGHTING SHALL BE CIRCUITED THRU TIME CLOCK TO PHOTOCELL. TIME CLOCK SHALL BE CIRCUITED TO HOUSE PANEL, CIRCUIT #HP-11.

KEYED NOTES:

MAGNETIC DOOR HOLD OPENER INTERLOCKED WITH SMOKE DETECTORS.



Structural Engineer:

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MEP Engineer:

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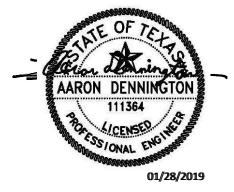
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ISSUANCES		
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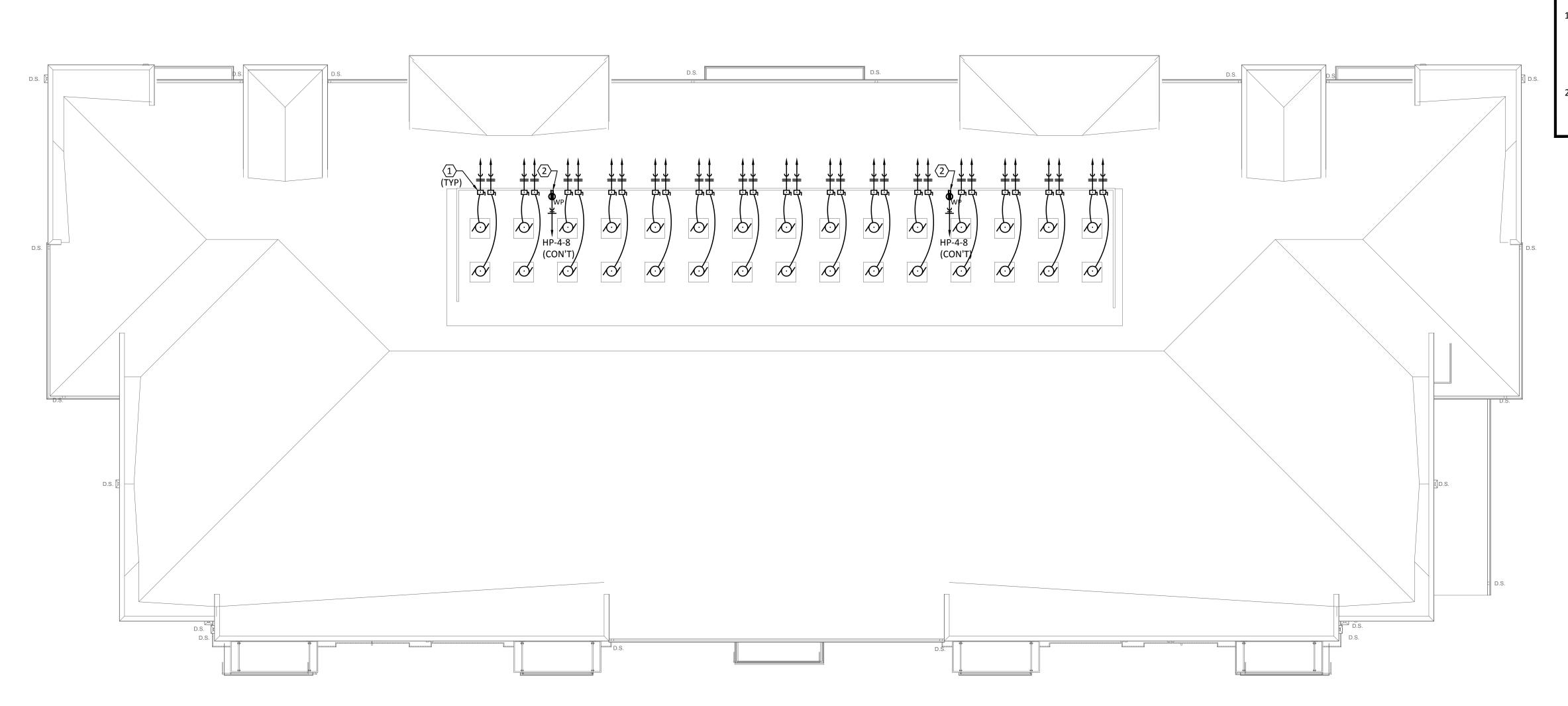
a multifamily project for NRP Group

West Cevallos San Antonio, Texas

ELECTRICAL BUILDING II (#4) LEVEL 3

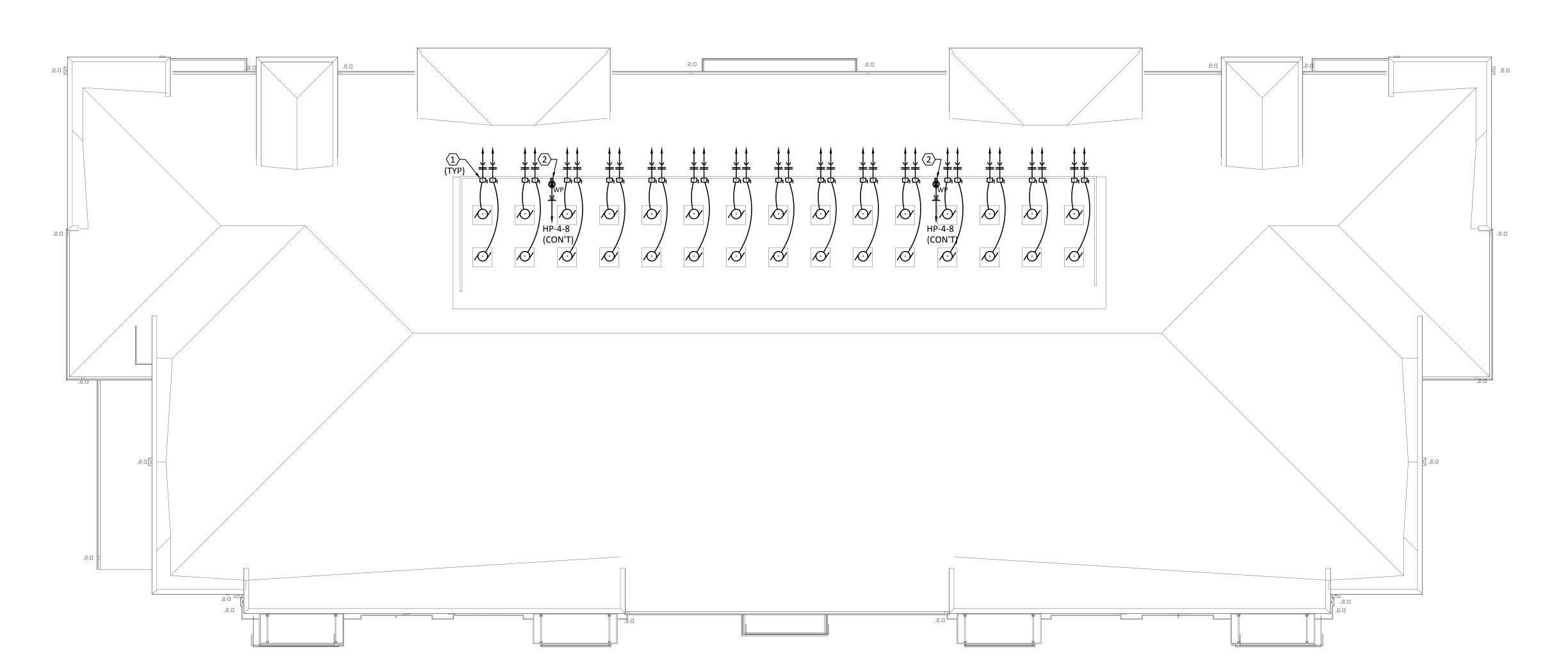
Project Number	18054
Date	01/14/2018
Drawn By	TLR
Checked By	EEC

E131



ELECTRICAL - BUILDING II (#2 & #5) - ROOF

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



2 ELECTRICAL - BUILDING II (#3) - ROOF

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

GENERAL NOTES:

REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.

KEYED NOTES:

- PROVIDE 30A/2P/NF/3R DISCONNECT FOR EACH CONDENSING UNIT. DISCONNECTS SHALL BE SPACED VERTICALLY (2 ROWS). MAINTAIN 3'-0" CLEARANCE IN FRONT OF ALL DISCONNECTS. REFER TO DETAIL 5/E501. CIRCUIT EACH CONDENSING UNIT TO RESPECTIVE DWELLING UNIT LOAD CENTER. REFER TO E401 & E402 FOR UNIT CALCULATIONS.
- PROVIDE WEATHERPROOF DUPLEX RECEPTACLE WITHIN 25' OF EACH FARTHEST CONDENSING UNIT PER 2014 N.E.C. REQUIREMENTS. CIRCUIT TO NEAREST HOUSE PANEL, #HP-A-1-13.



Structural Engineer:

VIEWTECH INC. 4205 Beltway Dr. Addison, TX 75001 Victor Lisiak III 972.661.8187

MEP Engineer:

ENCOTECH 8500 Bluffstone Cove, Austin, TX. 78759 Tessa Roberts 512.338.1101

Civil Engineer:

MBC & Associates, Inc 1035 Central Pkwy N, San Antonio, TX 78732 David Allen 210.545.1122

Landscape Architect:

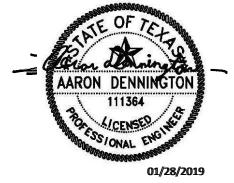
LEE & Associates, Inc. 9020 N Capital of Texas Hwy, Austin, TX. 78759 Amber Rothwell 512.345.8477

Interior Designer:

SJL Design Group 921 N. Riverfront Blvd. Suite 100, Dallas, TX 75207 Cassie Farley 214.443.9090

ISSUANCES

01	SCHEMATIC DESIGN	09.10.18
02	DEVELOPMENT DESIGN	11.09.18
03	PERMIT SET	01.28.19



a multifamily project for NRP Group

West Cevallos San Antonio, Texas

ELECTRICAL BUILDING II (#2, #3 &

18054 Project Number 01/14/2018 TLR Drawn By Checked By EEC

E132

TBPE Firm | 8500 Bluffstone Cove, Suite B-103 1141 | Austin, Texas 78759 | 512.338.1101 Project No.: 18054.MS.AUS 2018 Copyright The Davies Collaborative. All Rights Reserved

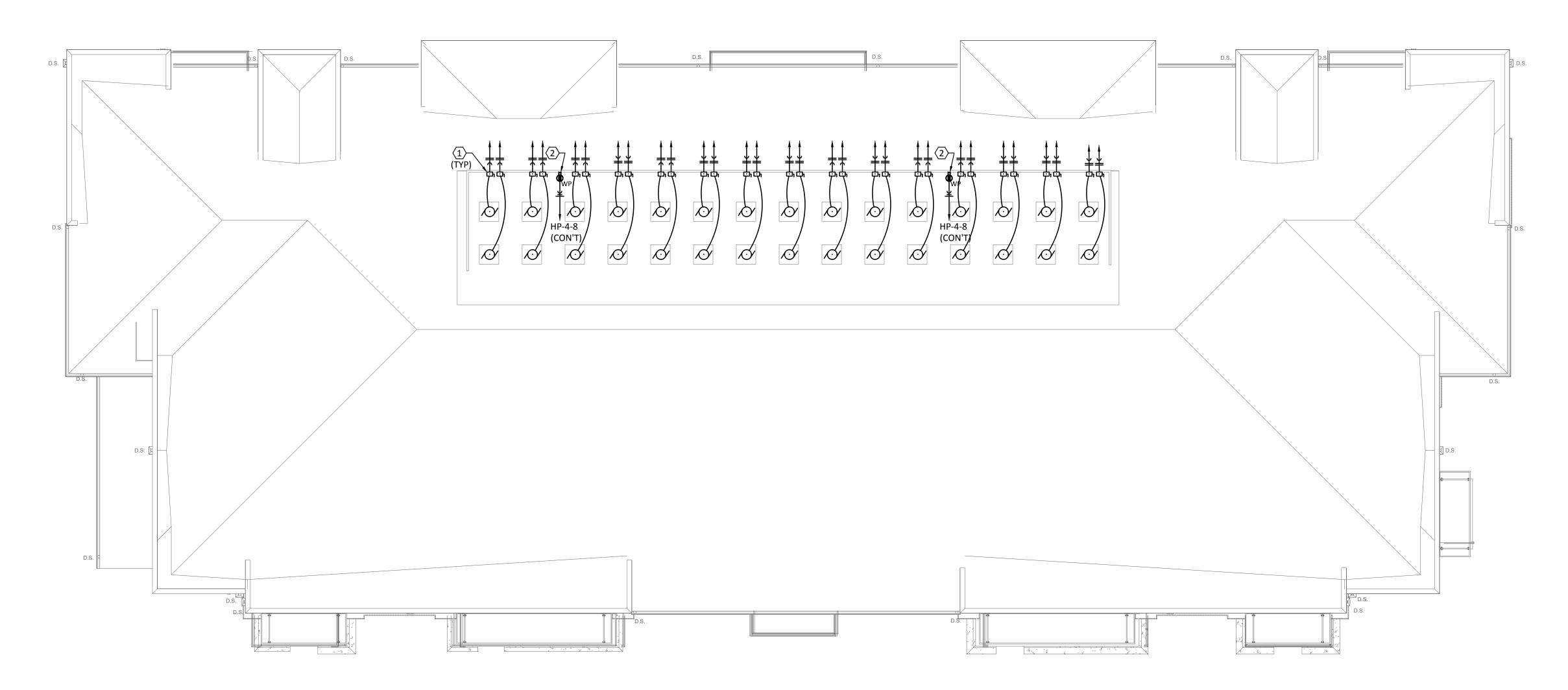
ENCOTECH ENCINE POLICE PARTIES

ENGINEERING CONSULTANTS

REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.

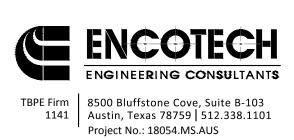
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- PROVIDE 30A/2P/NF/3R DISCONNECT FOR EACH CONDENSING UNIT. DISCONNECTS SHALL BE SPACED VERTICALLY (2 ROWS). MAINTAIN 3'-0" CLEARANCE IN FRONT OF ALL DISCONNECTS. REFER TO DETAIL 5/E501. CIRCUIT EACH CONDENSING UNIT TO RESPECTIVE DWELLING UNIT LOAD CENTER. REFER TO E401 & E402 FOR UNIT CALCULATIONS.
- PROVIDE WEATHERPROOF DUPLEX RECEPTACLE WITHIN 25' OF EACH FARTHEST CONDENSING UNIT PER 2014 N.E.C. REQUIREMENTS. CIRCUIT TO NEAREST HOUSE PANEL, #HP-A-1-13.



ELECTRICAL - BUILDING II (#4) - ROOF

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



COLLABORATIVE 3607 S Lamar Blvd, Suite 103 Austin, Texas 78704 512.852.4310

Structural Engineer:

VIEWTECH INC. 4205 Beltway Dr. Addison, TX 75001 Victor Lisiak III 972.661.8187

MEP Engineer:

ENCOTECH 8500 Bluffstone Cove, Austin, TX. 78759 Tessa Roberts 512.338.1101

Civil Engineer:

MBC & Associates, Inc 1035 Central Pkwy N, San Antonio, TX 78732 David Allen 210.545.1122

Landscape Architect:

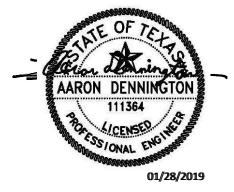
LEE & Associates, Inc. 9020 N Capital of Texas Hwy, Austin, TX. 78759 Amber Rothwell

Interior Designer:

512.345.8477

SJL Design Group 921 N. Riverfront Blvd. Suite 100, Dallas, TX 75207 Cassie Farley 214.443.9090

ISSUANCES		
01	SCHEMATIC DESIGN	09.10.18
02	DEVELOPMENT DESIGN	11.09.18
03	PERMIT SET	01.28.19



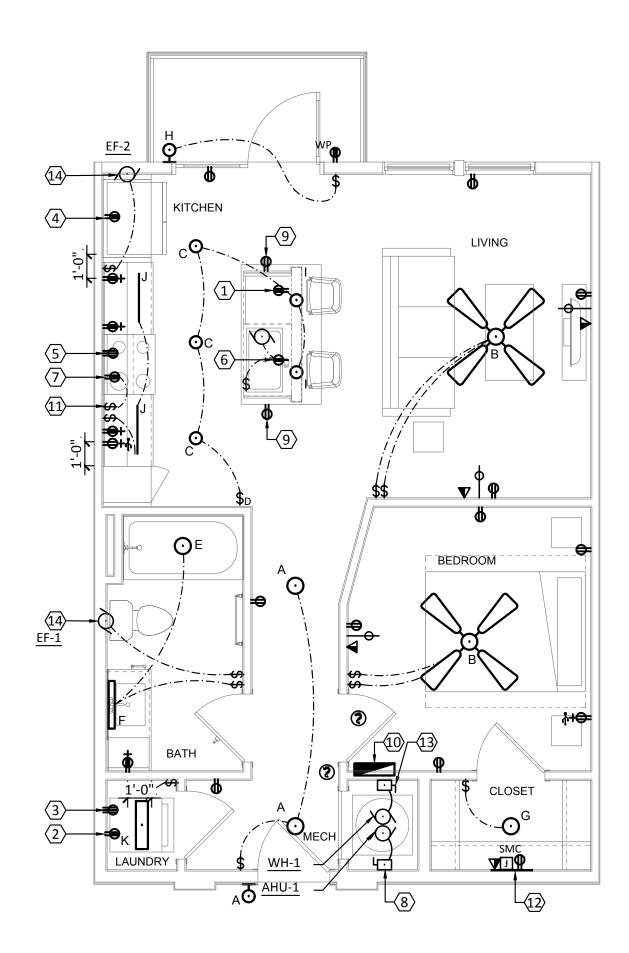
a multifamily project for NRP Group

West Cevallos San Antonio, Texas

ELECTRICAL BUILDING II (#4) ROOF

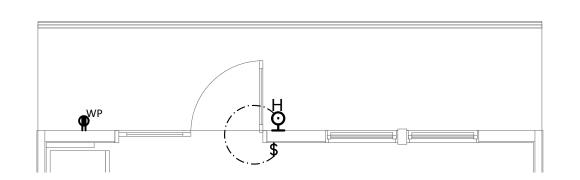
Project Number	18054
Date	01/14/2018
Drawn By	TLR
Checked By	EEC

E133

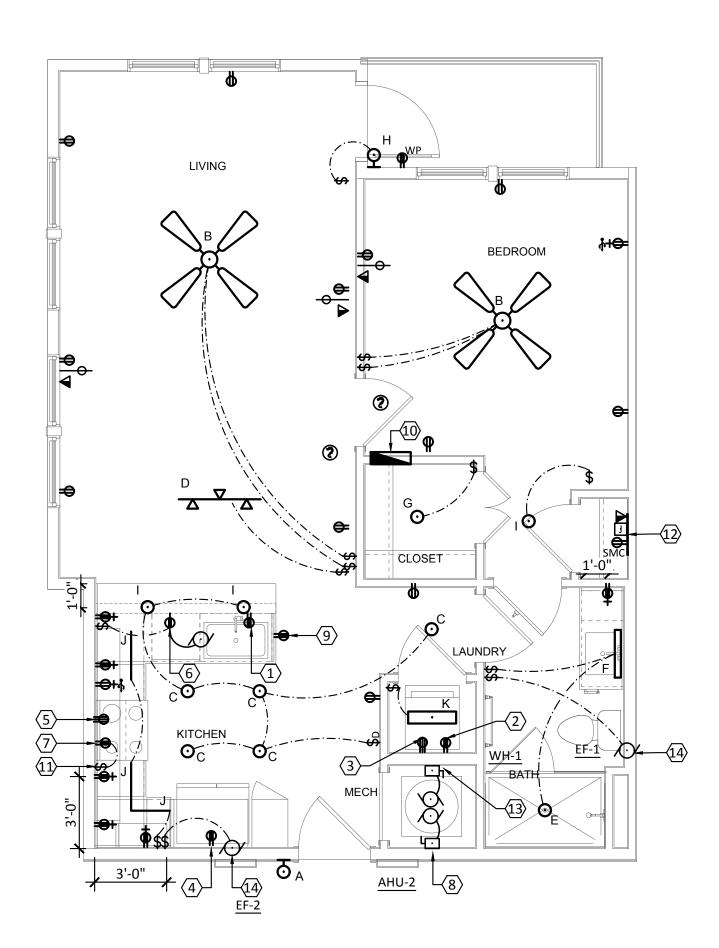


ELECTRICAL - UNIT TYPE A1

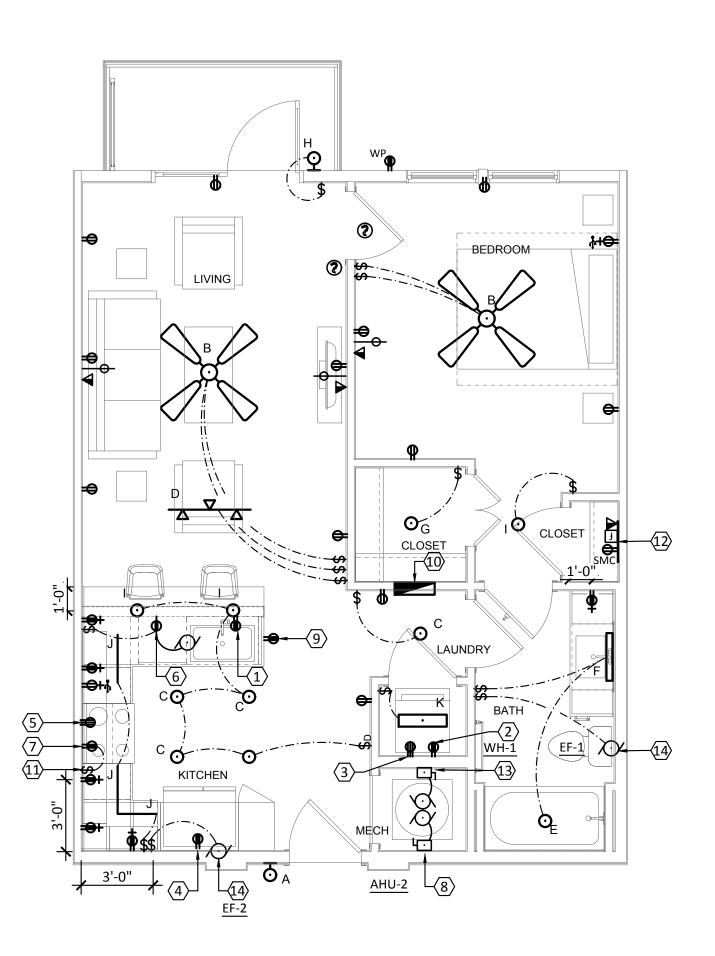
SCALE: 1/4"=1'-0"



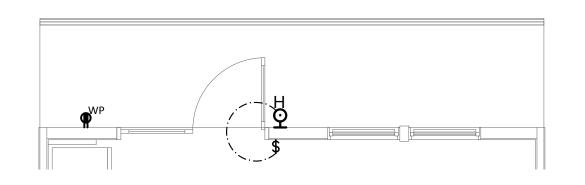
3 ELECTRICAL - UNIT TYPE A1a SCALE: 1/4"=1'-0"



5 ELECTRICAL - UNIT TYPE A2b
SCALE: 1/4"=1'-0"

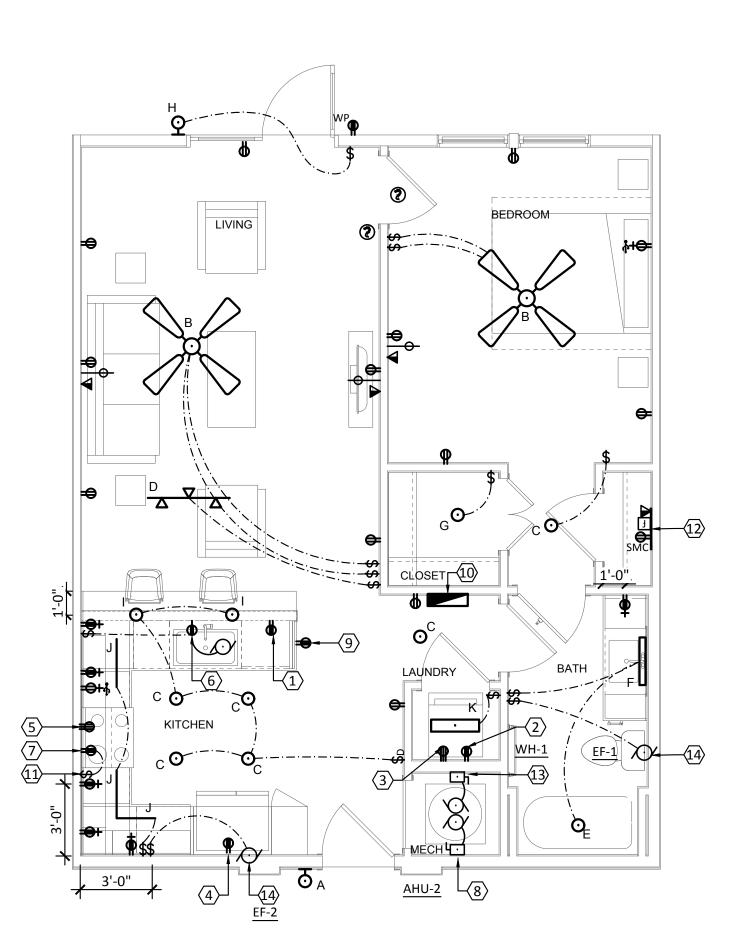


2 ELECTRICAL - UNIT TYPE A2
SCALE: 1/4"=1'-0"



4 ELECTRICAL - UNIT TYPE A2a

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



 $\mathbf{6} \, \frac{\mathsf{ELECTRICAL} - \mathsf{UNIT} \, \mathsf{TYPE} \, \mathsf{A2c}, \, \mathsf{A2d}, \, \mathsf{A2e} \, \& \, \mathsf{A2f}}{\mathsf{SCALE} \colon 1/4"=1'-0"}$

GENERAL NOTES:

A. REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.

ALL UNIT ENTRY LIGHTS ("A") SHALL BE CIRCUITED WITH CORRIDOR LIGHT AND SHALL BE SWITCHED AT HOUSE PANEL CIRCUIT BREAKER.

REFER TO ARCHITECTURAL PLANS FOR MOUNTING HEIGHT AND LOCATION FOR BALCONY LIGHTS.

REFER TO DETAIL 1/E501 FOR ALL KITCHEN AND BATHROOM COUNTERTOP RECEPTACLES HEIGHTS.

ALL RECEPTACLES THAT ARE NOT ACCESSIBLE MUST BE GFCI PROTECTED AT CIRCUIT BREAKER.

DO NOT ROUTE ANY DUCT OR PIPING ABOVE ELECTRICAL PANELS.

ALL CONDUIT SHALL BE CONCEALED IN WALL OR ABOVE CEILING.

UNDER-CABINET LIGHTING ("J") SHALL BE CENTERED IN CABINETRY.

SHOWN IN LOCATION FOR CLARITY ONLY.

PROVIDE AND INSTALL COMBINATION SMOKE AND CARBON

MONOXIDE DETECTORS ONLY IN 2ND FLOOR DWELLING UNITS LOCATED DIRECTLY ABOVE A GARAGE.

KEYED NOTES:

20A GFCI RECEPTACLE BELOW COUNTERTOP FOR DISHWASHER. PROTECT WITH GFCI-TYPE CIRCUIT BREAKER.

. 120 V. GFCI RECEPTACLE FOR WASHER. PROTECTED WITH GFCI-TYPE CIRCUIT BREAKER

30A RECEPTACLE FOR DRYER.

4. 20A RECEPTACLE FOR REFRIGERATOR.

50A RECEPTACLE FOR RANGE.

PROVIDE AND CONNECT 120 V. 20A/1P SWITCHED GFCI RECEPTACLE FOR KITCHEN SINK GARBAGE DISPOSAL. FOR ISLAND KITCHEN SINKS, SWITCH WILL BE INSTALLED UNDER KITCHEN SINK IN CABINET.

20A RECEPTACLE FOR MICROWAVE.

 PROVIDE AND INSTALL 60A/2P/NF/N1 DISCONNECT FOR VERTICAL AIR HANDLER UNIT. COORDINATE WITH MECHANICAL CONTRACTOR.

PROVIDE AND INSTALL 20A GFCI RECEPTACLE AT 6" BELOW COUNTERTOP.

10. 120/240V, 1Ø, 100A, NEMA 1, MLO LOAD CENTER MOUNTED RECESSED IN THE WALL.

11. PROVIDE SWITCH FOR VENT HOOD AT 42" A.F.F. IN ADA UNITS ONLY.

12. PROVIDE J-BOX FOR 21" STRUCTURED MEDIA CENTER (SMC) TO BE LOCATED 52" TO THE TOP OF THE PANEL IN THE CLOSET WITH POWER OUTLET AND DATA INSIDE AT BOTTOM. ADA/ANSI UNIT DISTRIBUTION PANELS NEED TO BE MOUNTED AT 44" TO TOP OF PANEL. SYSTEM DESIGNED BY OTHERS.

3. PROVIDE AND INSTALL 30A/2P/NF/N1 DISCONNECT FOR WATER HEATER. COORDINATE WITH PLUMBING CONTRACTOR.

14. PROVIDE JUNCTION BOX FOR CEILING MOUNTED EXHAUST FAN. MOUNT SWITCH TO STRUCTURE.

SPECIAL NOTES:

BUILDING FIRE SYSTEM.

RECEPTACLES IN DWELLING UNITS ARE REQUIRED TO BE TAMPER-RESISTANT. REFERENCE NEC, ARTICLE 406.12.

ALL 120V, SINGLE PHASE, 15- AND 20- AMPERE BRANCH CIRCUITS SUPPLYING OUTLETS OR DEVICES INSTALLED IN DWELLING FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, KITCHEN, LAUNDRY AREAS OR SIMILAR ROOMS SHALL PROTECTED BY A LISTED ARC FAULT CIRCUIT INTERRUPTER; PER NE 210 12(A)- IN THE APARTMENT LOAD CENTER

ELECTRICAL CONTRACTOR SHALL REFER TO ARCHITECT FOR EXACT LOCATION OF HANDICAPPED UNITS. CONTRACTOR SHALL FURNISH AND INSTALL ALL HANDICAP DEVICES PER NATIONAL AND LOCAL CODES.

d. ALL RECEPTACLES MOUNTED IN BACKSPLASH AND KITCHEN ISLANDS OR PENINSULA ARE TO BE MOUNTED VERTICAL. MATCH RECEPTACLES TO TILE LAYOUT.

e. ALL RECEPTACLES MOUNTED OVER COUNTERTOPS SHALL COMPLY WITH FHA GUIDELINES.

f. ALL APARTMENT SMOKE ALARMS SHALL BE HARD-WIRED, AND

INTERCONNECTED WITH BATTERY BACKUP, NOT CONNECTED TO

g. ALL COMBINATION TELEPHONE/DATA OUTLETS SHALL BE WIRED SUCH THAT TWO INDEPENDENT NETWORKS ARE PROVIDED AND

TERMINATED AT LOCATIONS DESIGNATED ON PLANS.

NO BATH GFI RECEPTACLES SHALL BE LOCATED IN MIRROR. SEE INTERIOR DESIGN DRAWINGS FOR RECEPTACLE LOCATIONS.

SINGLE LAVATORY LIGHTS TO BE COORDINATED WITH PLUMBING

CONTRACTOR FOR VENT PIPING LOCATION. ALL LIGHTS SHALL BE CENTERED OVER CABINET (NOT NECESSARILY THE LAVATORY).

PROVIDE WALL SWITCH CONTROLS FOR ALL CEILING FANS AND LIGHT KITS IN HANDICAP DWELLING UNITS.

ALL BRANCH CIRCUITS TO BE TYPE NM COPPER CABLE (ROMEX) #12

INSTALL TELEPHONE OUTLET IN EACH UNIT FOR SUBMETERING.
PROVIDE GANGED SWITCHES WHERE 2 OR 3 SWITCHES ARE

LOCATED ADJACENT TO EACH OTHER.
ALL CABLING SHALL BE A MINIMUM OF CAT6.

GAUGE MINIMUM, UNLESS OTHERWISE NOTED.

ALL TV LOCATIONS SHOULD BE BOXED AT 58" TO THE CENTER OF

BEDROOMS SHALL HAVE 1-CAT6, 1-RG6 OUTLET ON ONE WALL OPPOSITE THE BED AT STANDARD OUTLET HEIGHT IN SAME BOX.
 EACH BEDROOM TO HAVE ONE USB AT NIGHT STAND LOCATED

CLOSEST TO THE BEDROOM DOOR.

LIVING ROOMS TO HAVE 1-CAT6 ON TV WALL AND 1-CAT6 ON OPPOSITE WALL.

ENCOTECH ENGINEERING CONSULTANTS

TBPE Firm | 8500 Bluffstone Cove, Suite B-103 1141 | Austin, Texas 78759 | 512.338.1101 Project No.: 18054.MS.AUS



Structural Engineer:

VIEWTECH INC. 4205 Beltway Dr. Addison, TX 75001 Victor Lisiak III 972.661.8187

MEP Engineer:

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Interior Designer:

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ISSUANCES

ISSUANCES		
01	SCHEMATIC DESIGN	09.10.18
02	DEVELOPMENT DESIGN	11.09.18
03	PERMIT SET	01.28.19

REVISIONS



a multifamily project for NRP Group

West Cevallos
San Antonio, Texas

ELECTRICAL UNIT A1 & A2

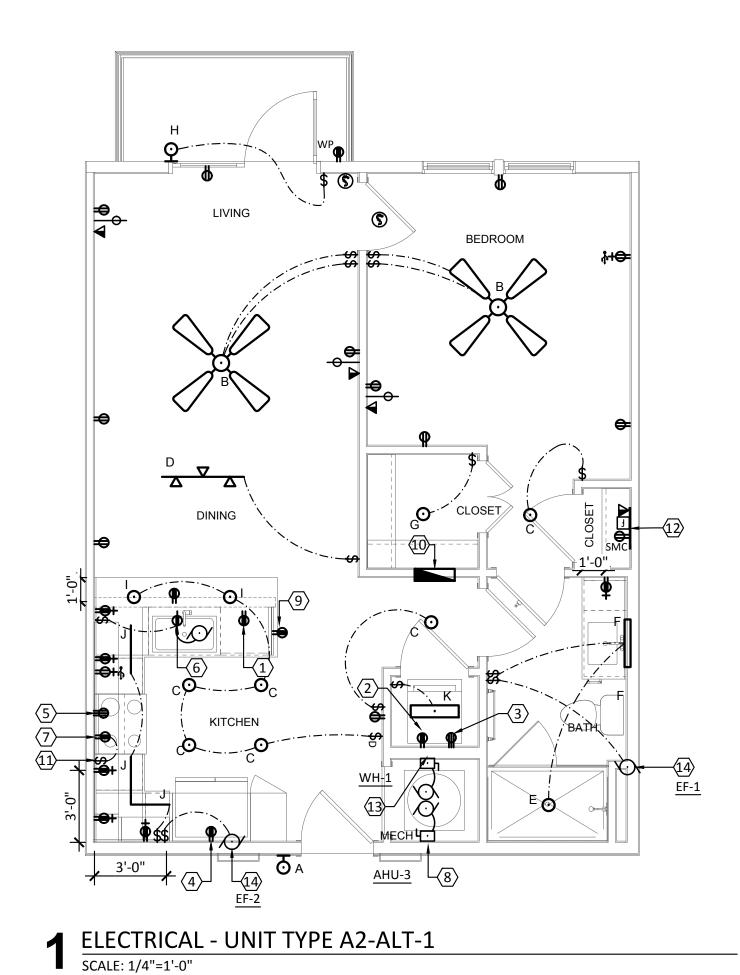
Project Number 18054

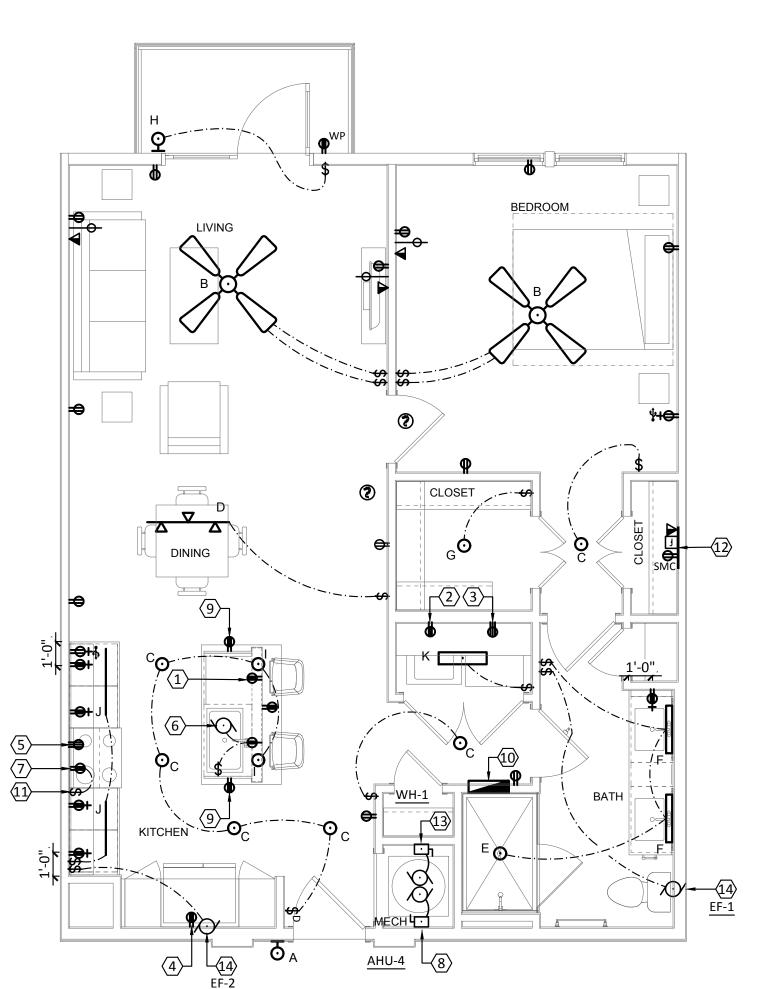
Date 01/14/2018

Drawn By TLR

Checked By EEC

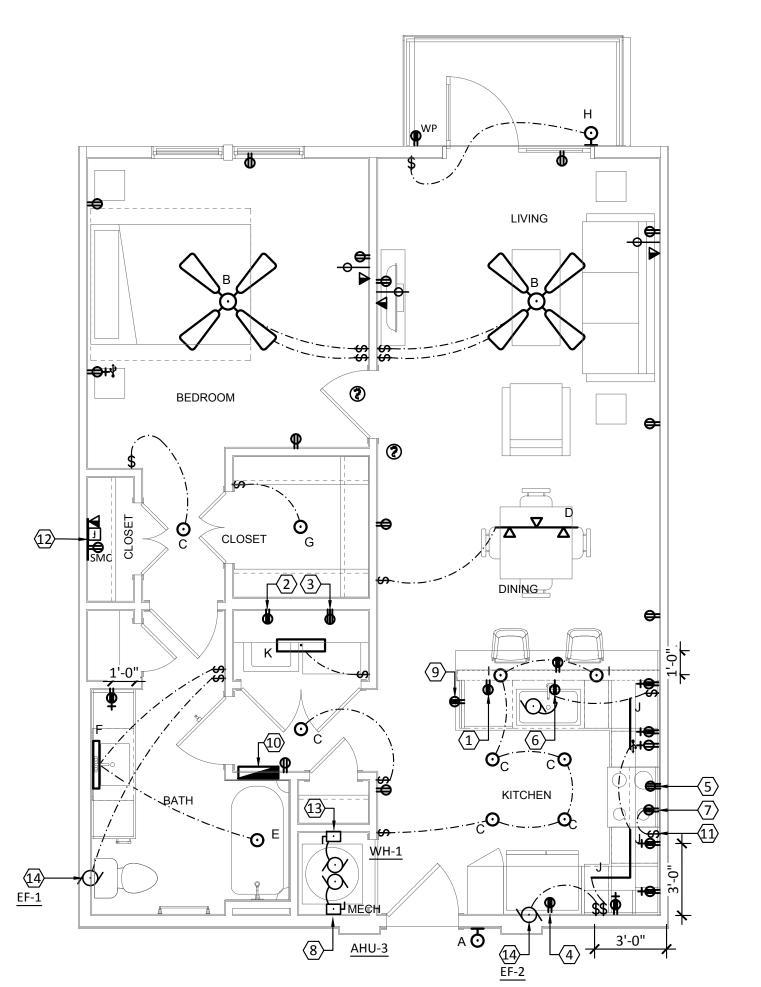
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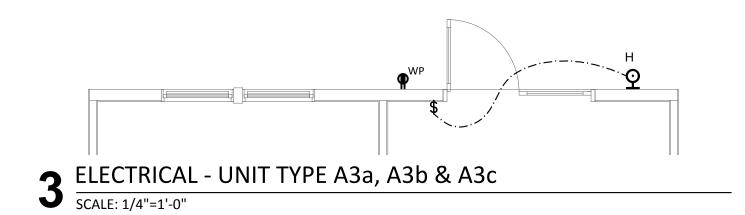


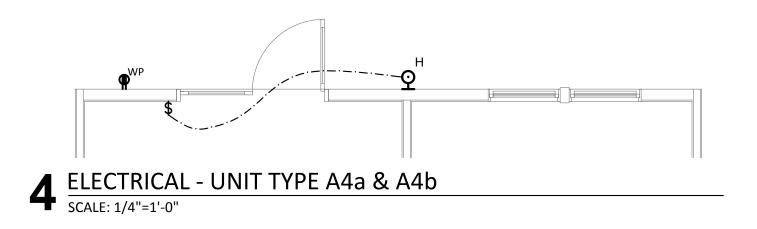
5 ELECTRICAL - UNIT TYPE A4

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



2 ELECTRICAL - UNIT TYPE A3 SCALE: 1/4"=1'-0"





- REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.
- ALL UNIT ENTRY LIGHTS ("A") SHALL BE CIRCUITED WITH CORRIDOR LIGHT AND SHALL BE SWITCHED AT HOUSE PANEL CIRCUIT BREAKER.
- REFER TO ARCHITECTURAL PLANS FOR MOUNTING HEIGHT AND LOCATION FOR BALCONY LIGHTS.
- REFER TO DETAIL 1/E501 FOR ALL KITCHEN AND BATHROOM COUNTERTOP RECEPTACLES HEIGHTS.
- ALL RECEPTACLES THAT ARE NOT ACCESSIBLE MUST BE GFCI
- PROTECTED AT CIRCUIT BREAKER.
- DO NOT ROUTE ANY DUCT OR PIPING ABOVE ELECTRICAL PANELS.
- ALL CONDUIT SHALL BE CONCEALED IN WALL OR ABOVE CEILING. UNDER-CABINET LIGHTING ("J") SHALL BE CENTERED IN CABINETRY.
- PROVIDE AND INSTALL COMBINATION SMOKE AND CARBON MONOXIDE DETECTORS ONLY IN 2ND FLOOR DWELLING UNITS LOCATED DIRECTLY ABOVE A GARAGE.

SHOWN IN LOCATION FOR CLARITY ONLY.

KEYED NOTES:

- 20A GFCI RECEPTACLE BELOW COUNTERTOP FOR DISHWASHER. PROTECT WITH GFCI-TYPE CIRCUIT BREAKER.
- 120 V. GFCI RECEPTACLE FOR WASHER. PROTECTED WITH GFCI-TYPE CIRCUIT BREAKER
- 30A RECEPTACLE FOR DRYER.
- 20A RECEPTACLE FOR REFRIGERATOR.
- 50A RECEPTACLE FOR RANGE.
- PROVIDE AND CONNECT 120 V. 20A/1P SWITCHED GFCI RECEPTACLE FOR KITCHEN SINK GARBAGE DISPOSAL. FOR ISLAND KITCHEN SINKS, SWITCH WILL BE INSTALLED UNDER KITCHEN SINK IN CABINET.
- 20A RECEPTACLE FOR MICROWAVE.
- PROVIDE AND INSTALL 60A/2P/NF/N1 DISCONNECT FOR VERTICAL AIR HANDLER UNIT. COORDINATE WITH MECHANICAL CONTRACTOR.
- PROVIDE AND INSTALL 20A GFCI RECEPTACLE AT 6" BELOW COUNTERTOP.
- 10. 120/240V, 1Ø, 100A, NEMA 1, MLO LOAD CENTER MOUNTED RECESSED IN THE WALL.
- 11. PROVIDE SWITCH FOR VENT HOOD AT 42" A.F.F. IN ADA UNITS ONLY.
- LOCATED 52" TO THE TOP OF THE PANEL IN THE CLOSET WITH POWER OUTLET AND DATA INSIDE AT BOTTOM. ADA/ANSI UNIT DISTRIBUTION PANELS NEED TO BE MOUNTED AT 44" TO TOP OF PANEL. SYSTEM DESIGNED BY OTHERS.

12. PROVIDE J-BOX FOR 21" STRUCTURED MEDIA CENTER (SMC) TO BE

- PROVIDE AND INSTALL 30A/2P/NF/N1 DISCONNECT FOR WATER HEATER. COORDINATE WITH PLUMBING CONTRACTOR.
- . PROVIDE JUNCTION BOX FOR CEILING MOUNTED EXHAUST FAN. MOUNT SWITCH TO STRUCTURE.

SPECIAL NOTES:

BUILDING FIRE SYSTEM.

OPPOSITE WALL.

- RECEPTACLES IN DWELLING UNITS ARE REQUIRED TO BE TAMPER-RESISTANT. REFERENCE NEC, ARTICLE 406.12.
- HALLWAYS, KITCHEN, LAUNDRY AREAS OR SIMILAR ROOMS SHALL F PROTECTED BY A LISTED ARC FAULT CIRCUIT INTERRUPTER; PER NEC 210.12(A)- IN THE APARTMENT LOAD CENTER.
- ELECTRICAL CONTRACTOR SHALL REFER TO ARCHITECT FOR EXACT LOCATION OF HANDICAPPED UNITS. CONTRACTOR SHALL FURNISH AND INSTALL ALL HANDICAP DEVICES PER NATIONAL AND LOCAL
- ALL RECEPTACLES MOUNTED IN BACKSPLASH AND KITCHEN ISLANDS OR PENINSULA ARE TO BE MOUNTED VERTICAL. MATCH RECEPTACLES TO TILE LAYOUT.
- ALL RECEPTACLES MOUNTED OVER COUNTERTOPS SHALL COMPLY WITH FHA GUIDELINES. ALL APARTMENT SMOKE ALARMS SHALL BE HARD-WIRED, AND INTERCONNECTED WITH BATTERY BACKUP, NOT CONNECTED TO
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- SINGLE LAVATORY LIGHTS TO BE COORDINATED WITH PLUMBING CONTRACTOR FOR VENT PIPING LOCATION. ALL LIGHTS SHALL BE CENTERED OVER CABINET (NOT NECESSARILY THE LAVATORY). PROVIDE WALL SWITCH CONTROLS FOR ALL CEILING FANS AND LIGHT KITS IN HANDICAP DWELLING UNITS.
- ALL BRANCH CIRCUITS TO BE TYPE NM COPPER CABLE (ROMEX) #12 GAUGE MINIMUM, UNLESS OTHERWISE NOTED. INSTALL TELEPHONE OUTLET IN EACH UNIT FOR SUBMETERING.
- PROVIDE GANGED SWITCHES WHERE 2 OR 3 SWITCHES ARE
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- EACH BEDROOM TO HAVE ONE USB AT NIGHT STAND LOCATED CLOSEST TO THE BEDROOM DOOR. LIVING ROOMS TO HAVE 1-CAT6 ON TV WALL AND 1-CAT6 ON

ENCOTECH

TBPE Firm | 8500 Bluffstone Cove, Suite B-103 1141 | Austin, Texas 78759 | 512.338.1101 Project No.: 18054.MS.AUS



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ISSUANCES		
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REVISIONS



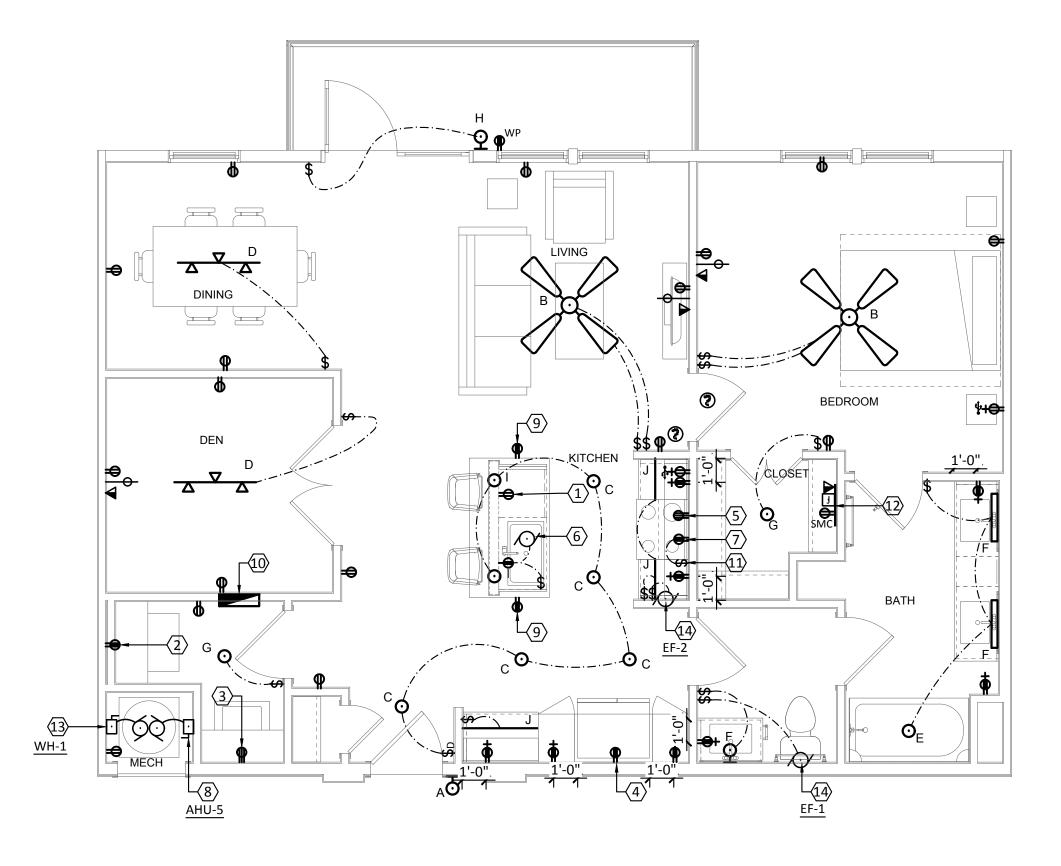
a multifamily project for NRP Group

West Cevallos

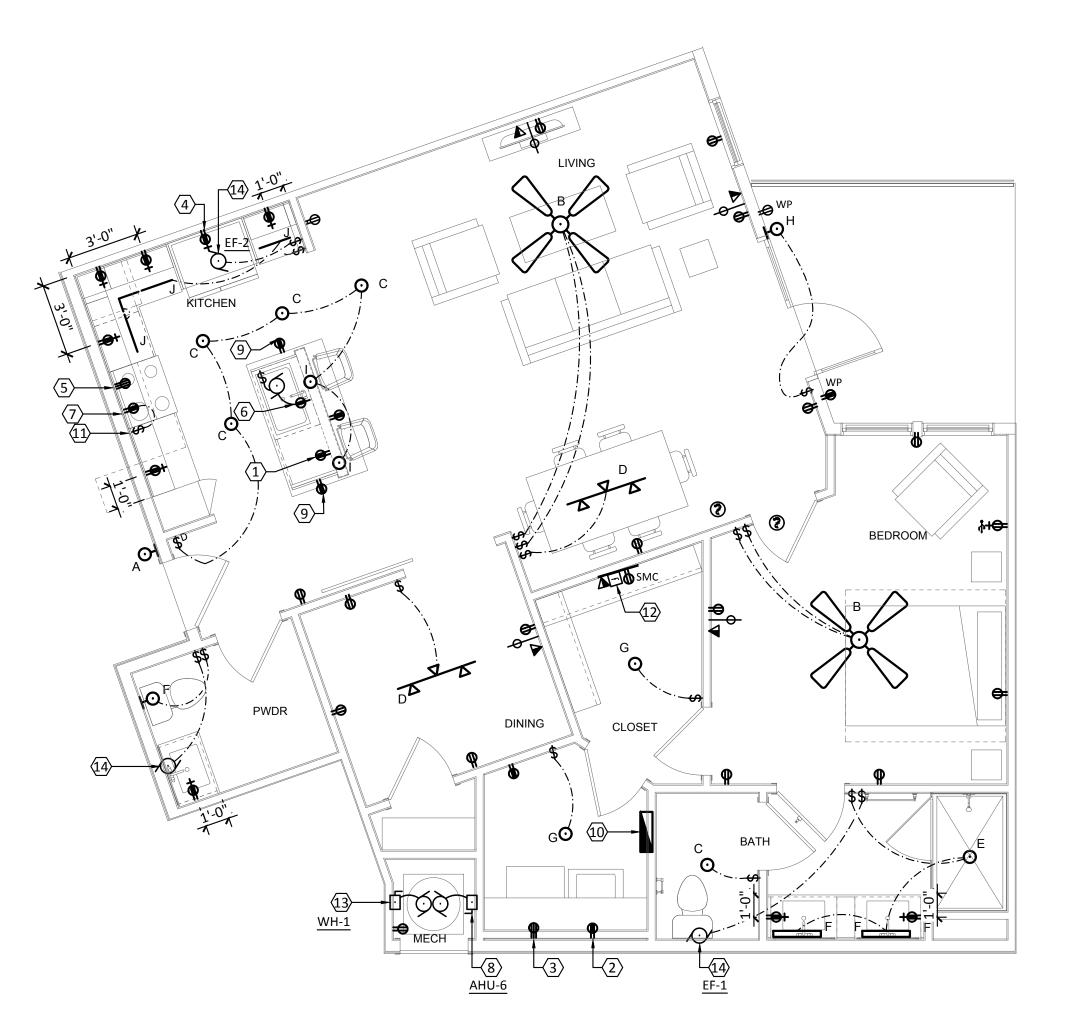
San Antonio, Texas

ELECTRICAL UNIT A2-ALT-1, A3 & A4

18054 Project Number 01/14/2018 TLR Drawn By EEC Checked By



1 ELECTRICAL - UNIT TYPE A5
SCALE: 1/4"=1'-0"



1 ELECTRICAL - UNIT TYPE A6
SCALE: 1/4"=1'-0"

GENERAL NOTES:

- A. REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.
- ALL UNIT ENTRY LIGHTS ("A") SHALL BE CIRCUITED WITH CORRIDOR LIGHT AND SHALL BE SWITCHED AT HOUSE PANEL CIRCUIT BREAKER.
- REFER TO ARCHITECTURAL PLANS FOR MOUNTING HEIGHT AND LOCATION FOR BALCONY LIGHTS.
- REFER TO DETAIL 1/E501 FOR ALL KITCHEN AND BATHROOM COUNTERTOP RECEPTACLES HEIGHTS.
- ALL RECEPTACLES THAT ARE NOT ACCESSIBLE MUST BE GFCI PROTECTED AT CIRCUIT BREAKER.
- DO NOT ROUTE ANY DUCT OR PIPING ABOVE ELECTRICAL PANELS.
- ALL CONDUIT SHALL BE CONCEALED IN WALL OR ABOVE CEILING.
- UNDER-CABINET LIGHTING ("J") SHALL BE CENTERED IN CABINETRY. SHOWN IN LOCATION FOR CLARITY ONLY.
- PROVIDE AND INSTALL COMBINATION SMOKE AND CARBON MONOXIDE DETECTORS ONLY IN 2ND FLOOR DWELLING UNITS LOCATED DIRECTLY ABOVE A GARAGE.

KEYED NOTES:

- 20A GFCI RECEPTACLE BELOW COUNTERTOP FOR DISHWASHER. PROTECT WITH GFCI-TYPE CIRCUIT BREAKER.
- 120 V. GFCI RECEPTACLE FOR WASHER. PROTECTED WITH GFCI-TYPE CIRCUIT BREAKER
- 30A RECEPTACLE FOR DRYER.
- 20A RECEPTACLE FOR REFRIGERATOR.
- 50A RECEPTACLE FOR RANGE.
- PROVIDE AND CONNECT 120 V. 20A/1P SWITCHED GFCI RECEPTACLE FOR KITCHEN SINK GARBAGE DISPOSAL. FOR ISLAND KITCHEN SINKS, SWITCH WILL BE INSTALLED UNDER KITCHEN SINK IN CABINET.
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- PROVIDE AND INSTALL 60A/2P/NF/N1 DISCONNECT FOR VERTICAL AIR HANDLER UNIT. COORDINATE WITH MECHANICAL CONTRACTOR.
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- . PROVIDE JUNCTION BOX FOR CEILING MOUNTED EXHAUST FAN. MOUNT SWITCH TO STRUCTURE.

SPECIAL NOTES:

- RECEPTACLES IN DWELLING UNITS ARE REQUIRED TO BE TAMPER-RESISTANT. REFERENCE NEC, ARTICLE 406.12.
- DENS, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS HALLWAYS, KITCHEN, LAUNDRY AREAS OR SIMILAR ROOMS SHALL B PROTECTED BY A LISTED ARC FAULT CIRCUIT INTERRUPTER; PER NEC 210.12(A)- IN THE APARTMENT LOAD CENTER.
- ELECTRICAL CONTRACTOR SHALL REFER TO ARCHITECT FOR EXACT LOCATION OF HANDICAPPED UNITS. CONTRACTOR SHALL FURNISH AND INSTALL ALL HANDICAP DEVICES PER NATIONAL AND LOCAL
- ALL RECEPTACLES MOUNTED IN BACKSPLASH AND KITCHEN ISLANDS OR PENINSULA ARE TO BE MOUNTED VERTICAL. MATCH RECEPTACLES TO TILE LAYOUT.
- ALL RECEPTACLES MOUNTED OVER COUNTERTOPS SHALL COMPLY WITH FHA GUIDELINES. ALL APARTMENT SMOKE ALARMS SHALL BE HARD-WIRED, AND INTERCONNECTED WITH BATTERY BACKUP, NOT CONNECTED TO
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BUILDING FIRE SYSTEM.

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Interior Designer:

512.345.8477

SJL Design Group 921 N. Riverfront Blvd. Suite 100, Dallas, TX 75207 Cassie Farley 214.443.9090

ISSUANCES		
01	SCHEMATIC DESIGN	09.10.18
02	DEVELOPMENT DESIGN	11.09.18
03	PERMIT SET	01.28.19

REVISIONS



a multifamily project for NRP Group

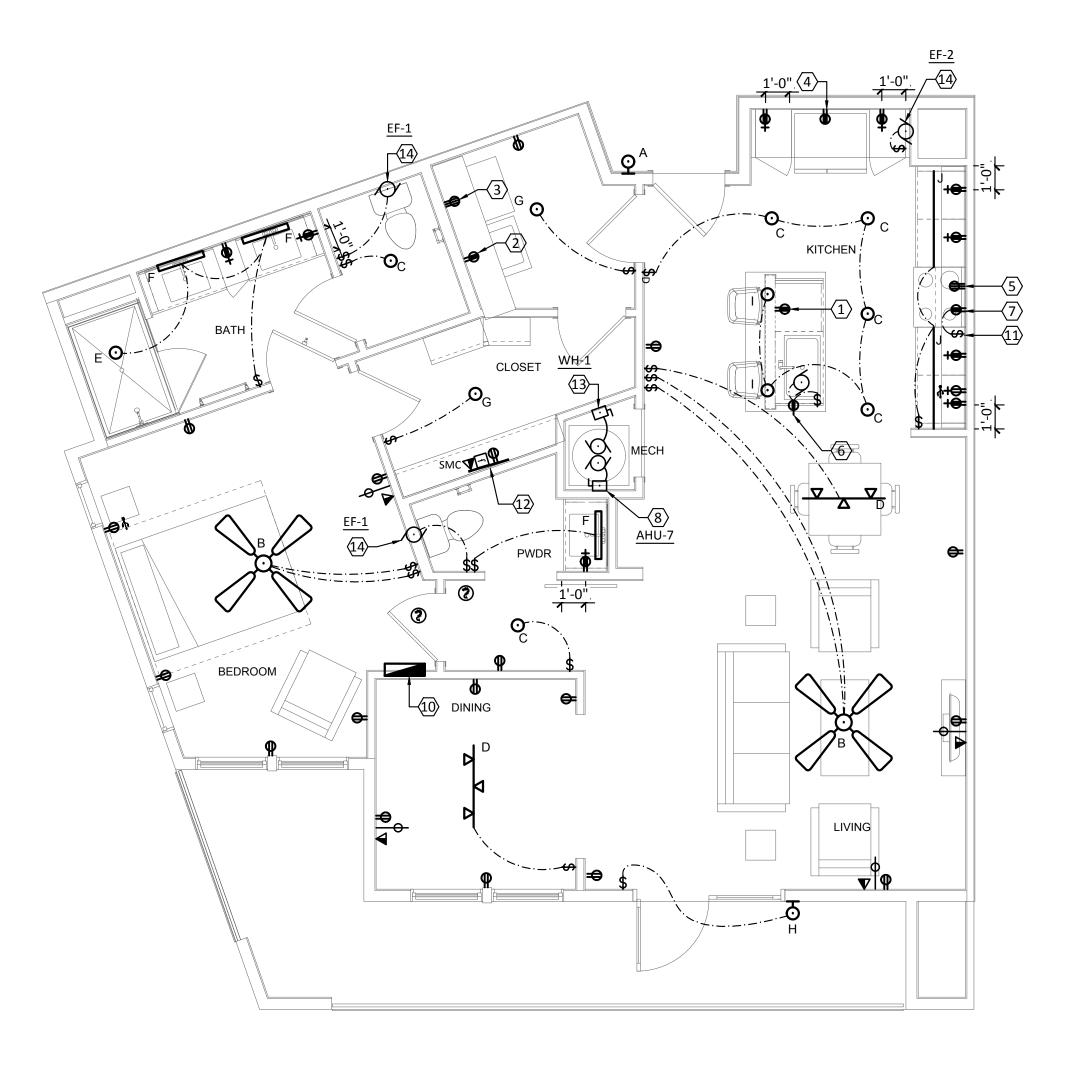
West Cevallos

San Antonio, Texas

ELECTRICAL UNIT A5 & A6

18054 Project Number 01/14/2018 TLR Drawn By EEC Checked By





■ ELECTRICAL - UNIT TYPE A7 SCALE: 1/4"=1'-0"

GENERAL NOTES:

- A. REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.
- ALL UNIT ENTRY LIGHTS ("A") SHALL BE CIRCUITED WITH CORRIDOR LIGHT AND SHALL BE SWITCHED AT HOUSE PANEL CIRCUIT BREAKER.
- REFER TO ARCHITECTURAL PLANS FOR MOUNTING HEIGHT AND LOCATION FOR BALCONY LIGHTS.
- REFER TO DETAIL 1/E501 FOR ALL KITCHEN AND BATHROOM COUNTERTOP RECEPTACLES HEIGHTS.
- ALL RECEPTACLES THAT ARE NOT ACCESSIBLE MUST BE GFCI PROTECTED AT CIRCUIT BREAKER.
- DO NOT ROUTE ANY DUCT OR PIPING ABOVE ELECTRICAL PANELS.
- ALL CONDUIT SHALL BE CONCEALED IN WALL OR ABOVE CEILING.
- UNDER-CABINET LIGHTING ("J") SHALL BE CENTERED IN CABINETRY.
- SHOWN IN LOCATION FOR CLARITY ONLY. PROVIDE AND INSTALL COMBINATION SMOKE AND CARBON
- MONOXIDE DETECTORS ONLY IN 2ND FLOOR DWELLING UNITS LOCATED DIRECTLY ABOVE A GARAGE.

KEYED NOTES:

- 20A GFCI RECEPTACLE BELOW COUNTERTOP FOR DISHWASHER. PROTECT WITH GFCI-TYPE CIRCUIT BREAKER.
- 120 V. GFCI RECEPTACLE FOR WASHER. PROTECTED WITH GFCI-TYPE CIRCUIT BREAKER
- 30A RECEPTACLE FOR DRYER.
- 20A RECEPTACLE FOR REFRIGERATOR.
- 50A RECEPTACLE FOR RANGE.
- PROVIDE AND CONNECT 120 V. 20A/1P SWITCHED GFCI RECEPTACLE FOR KITCHEN SINK GARBAGE DISPOSAL. FOR ISLAND KITCHEN SINKS, SWITCH WILL BE INSTALLED UNDER KITCHEN SINK IN CABINET.
- 20A RECEPTACLE FOR MICROWAVE.
- PROVIDE AND INSTALL 60A/2P/NF/N1 DISCONNECT FOR VERTICAL AIR HANDLER UNIT. COORDINATE WITH MECHANICAL CONTRACTOR.
- PROVIDE AND INSTALL 20A GFCI RECEPTACLE AT 6" BELOW COUNTERTOP.
- 10. 120/240V, 1Ø, 100A, NEMA 1, MLO LOAD CENTER MOUNTED RECESSED IN THE WALL.
- 11. PROVIDE SWITCH FOR VENT HOOD AT 42" A.F.F. IN ADA UNITS ONLY.

12. PROVIDE J-BOX FOR 21" STRUCTURED MEDIA CENTER (SMC) TO BE

- LOCATED 52" TO THE TOP OF THE PANEL IN THE CLOSET WITH POWER OUTLET AND DATA INSIDE AT BOTTOM. ADA/ANSI UNIT DISTRIBUTION PANELS NEED TO BE MOUNTED AT 44" TO TOP OF PANEL. SYSTEM DESIGNED BY OTHERS.
- 3. PROVIDE AND INSTALL 30A/2P/NF/N1 DISCONNECT FOR WATER HEATER. COORDINATE WITH PLUMBING CONTRACTOR.
- 4. PROVIDE JUNCTION BOX FOR CEILING MOUNTED EXHAUST FAN. MOUNT SWITCH TO STRUCTURE.

SPECIAL NOTES:

- RECEPTACLES IN DWELLING UNITS ARE REQUIRED TO BE TAMPER-RESISTANT. REFERENCE NEC, ARTICLE 406.12.
- ALL 120V, SINGLE PHASE, 15- AND 20- AMPERE BRANCH CIRCUITS SUPPLYING OUTLETS OR DEVICES INSTALLED IN DWELLING FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, KITCHEN, LAUNDRY AREAS OR SIMILAR ROOMS SHALL BE PROTECTED BY A LISTED ARC FAULT CIRCUIT INTERRUPTER; PER NEC 210.12(A)- IN THE APARTMENT LOAD CENTER.
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- ALL RECEPTACLES MOUNTED IN BACKSPLASH AND KITCHEN ISLANDS OR PENINSULA ARE TO BE MOUNTED VERTICAL. MATCH RECEPTACLES TO TILE LAYOUT.
- ALL RECEPTACLES MOUNTED OVER COUNTERTOPS SHALL COMPLY WITH FHA GUIDELINES. ALL APARTMENT SMOKE ALARMS SHALL BE HARD-WIRED, AND INTERCONNECTED WITH BATTERY BACKUP, NOT CONNECTED TO
- ALL COMBINATION TELEPHONE/DATA OUTLETS SHALL BE WIRED SUCH THAT TWO INDEPENDENT NETWORKS ARE PROVIDED AND TERMINATED AT LOCATIONS DESIGNATED ON PLANS.
- NO BATH GFI RECEPTACLES SHALL BE LOCATED IN MIRROR. SEE INTERIOR DESIGN DRAWINGS FOR RECEPTACLE LOCATIONS. SINGLE LAVATORY LIGHTS TO BE COORDINATED WITH PLUMBING CONTRACTOR FOR VENT PIPING LOCATION. ALL LIGHTS SHALL BE CENTERED OVER CABINET (NOT NECESSARILY THE LAVATORY).
- PROVIDE WALL SWITCH CONTROLS FOR ALL CEILING FANS AND LIGHT KITS IN HANDICAP DWELLING UNITS. ALL BRANCH CIRCUITS TO BE TYPE NM COPPER CABLE (ROMEX) #12 GAUGE MINIMUM, UNLESS OTHERWISE NOTED.
- INSTALL TELEPHONE OUTLET IN EACH UNIT FOR SUBMETERING. PROVIDE GANGED SWITCHES WHERE 2 OR 3 SWITCHES ARE
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BUILDING FIRE SYSTEM.

OPPOSITE WALL.

- ALL CABLING SHALL BE A MINIMUM OF CAT6. ALL TV LOCATIONS SHOULD BE BOXED AT 58" TO THE CENTER OF
- BEDROOMS SHALL HAVE 1-CAT6, 1-RG6 OUTLET ON ONE WALL
- OPPOSITE THE BED AT STANDARD OUTLET HEIGHT IN SAME BOX. EACH BEDROOM TO HAVE ONE USB AT NIGHT STAND LOCATED CLOSEST TO THE BEDROOM DOOR.
- LIVING ROOMS TO HAVE 1-CAT6 ON TV WALL AND 1-CAT6 ON

ENCOTECH

TBPE Firm | 8500 Bluffstone Cove, Suite B-103 1141 | Austin, Texas 78759 | 512.338.1101 Project No.: 18054.MS.AUS



Victor Lisiak III 972.661.8187

MEP Engineer:

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REVISIONS



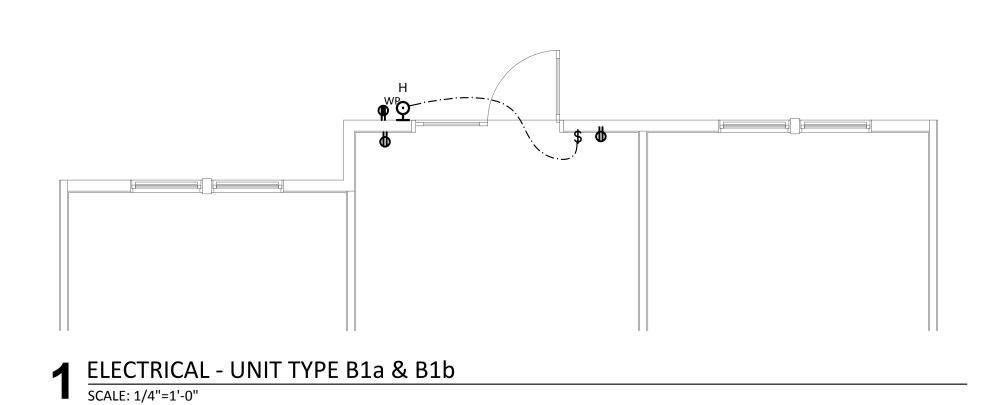
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San Antonio, Texas

ELECTRICAL **UNIT A7**

18054 Project Number 01/14/2018 TLR Drawn By EEC Checked By



CLOSET

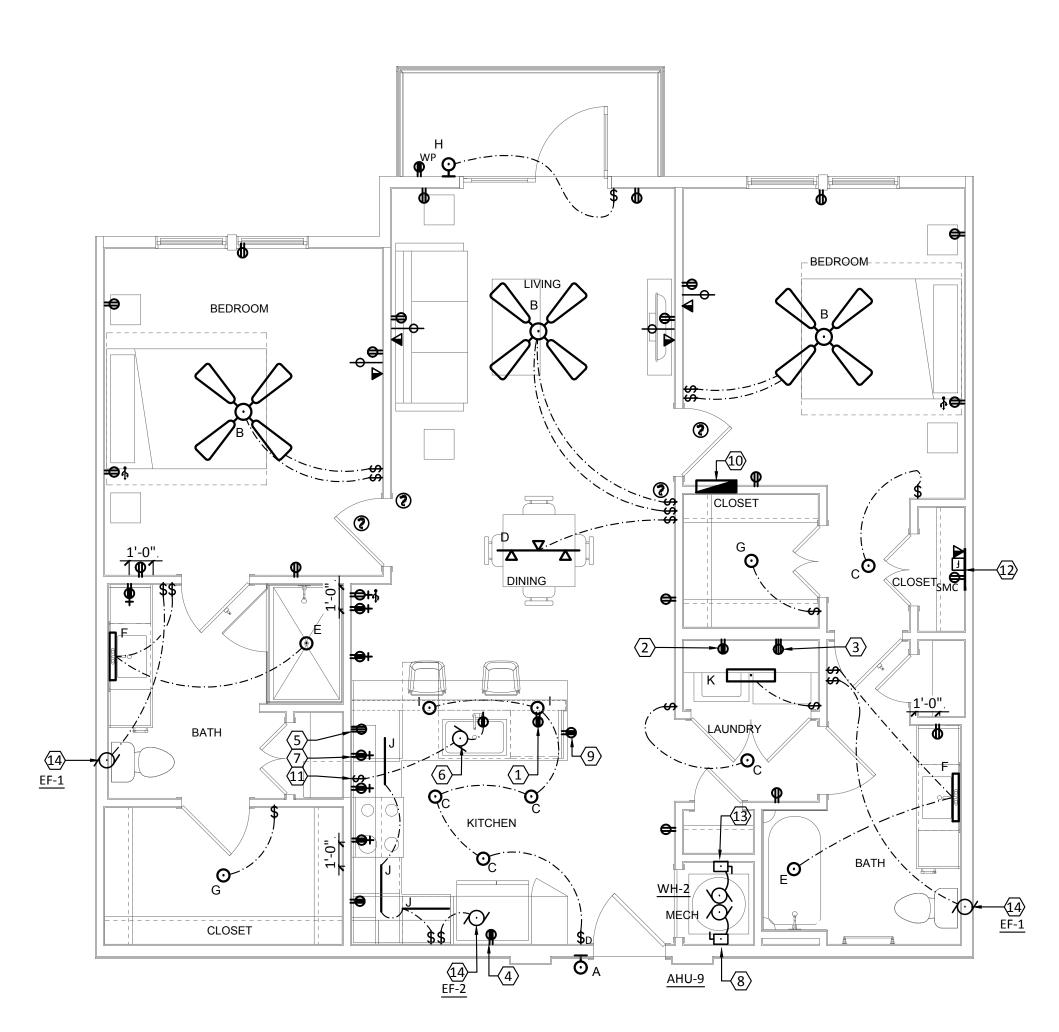
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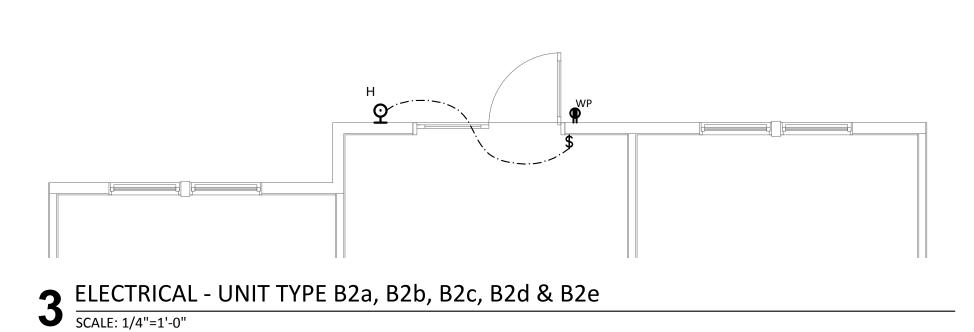
3'-0'

2 ELECTRICAL - UNIT TYPE B1

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

BEDROOM





4 ELECTRICAL - UNIT TYPE B2

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

GENERAL NOTES:

- A. REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.
- 3. ALL UNIT ENTRY LIGHTS ("A") SHALL BE CIRCUITED WITH CORRIDOR LIGHT AND SHALL BE SWITCHED AT HOUSE PANEL CIRCUIT BREAKER.
- REFER TO ARCHITECTURAL PLANS FOR MOUNTING HEIGHT AND LOCATION FOR BALCONY LIGHTS.
- REFER TO DETAIL 1/E501 FOR ALL KITCHEN AND BATHROOM COUNTERTOP RECEPTACLES HEIGHTS.
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- PROTECTED AT CIRCUIT BREAKER.
- DO NOT ROUTE ANY DUCT OR PIPING ABOVE ELECTRICAL PANELS.

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- UNDER-CABINET LIGHTING ("J") SHALL BE CENTERED IN CABINETRY.
- PROVIDE AND INSTALL COMBINATION SMOKE AND CARBON MONOXIDE DETECTORS ONLY IN 2ND FLOOR DWELLING UNITS LOCATED DIRECTLY ABOVE A GARAGE.

SHOWN IN LOCATION FOR CLARITY ONLY.

KEYED NOTES:

_BEDROOM-

- 1. 20A GFCI RECEPTACLE BELOW COUNTERTOP FOR DISHWASHER. PROTECT WITH GFCI-TYPE CIRCUIT BREAKER.
- 120 V. GFCI RECEPTACLE FOR WASHER. PROTECTED WITH GFCI-TYPE CIRCUIT BREAKER
- 3. 30A RECEPTACLE FOR DRYER.
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- 50A RECEPTACLE FOR RANGE.
- PROVIDE AND CONNECT 120 V. 20A/1P SWITCHED GFCI RECEPTACLE FOR KITCHEN SINK GARBAGE DISPOSAL. FOR ISLAND KITCHEN SINKS, SWITCH WILL BE INSTALLED UNDER KITCHEN SINK IN CABINET.
- 20A RECEPTACLE FOR MICROWAVE.

PANEL. SYSTEM DESIGNED BY OTHERS.

- 8. PROVIDE AND INSTALL 60A/2P/NF/N1 DISCONNECT FOR VERTICAL AIR HANDLER UNIT. COORDINATE WITH MECHANICAL CONTRACTOR.
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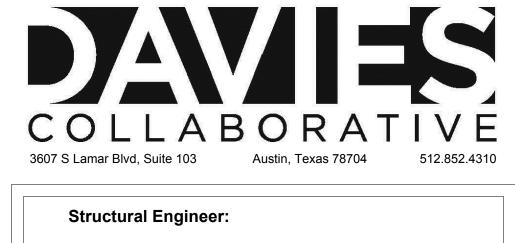
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 LIVING ROOMS TO HAVE 1-CAT6 ON TV WALL AND 1-CAT6 ON

ENCOTECH

TBPE Firm | 8500 Bluffstone Cove, Suite B-103 1141 | Austin, Texas 78759 | 512.338.1101 Project No.: 18054.MS.AUS



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ISSUANCE

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a multifamily project for NRP Group

West Cevallos
San Antonio, Texas

ELECTRICAL UNIT B1 & B2

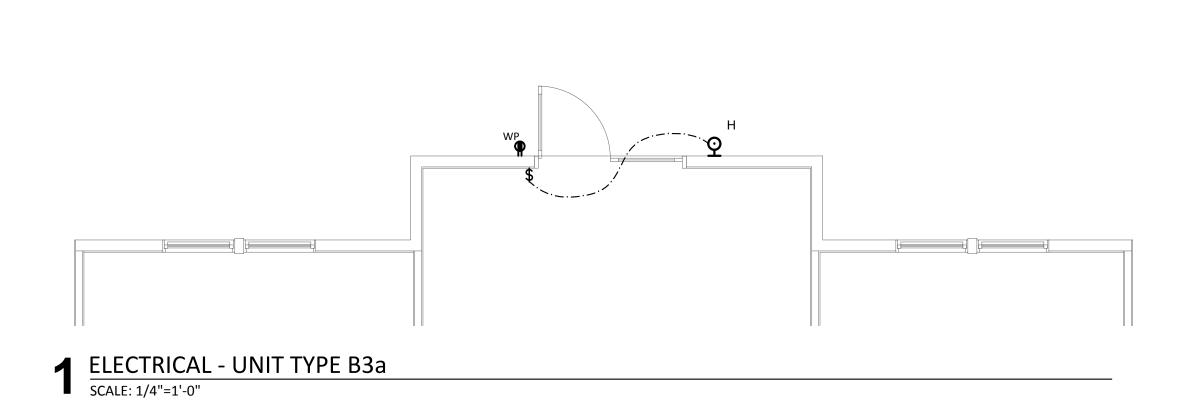
Project Number 18054

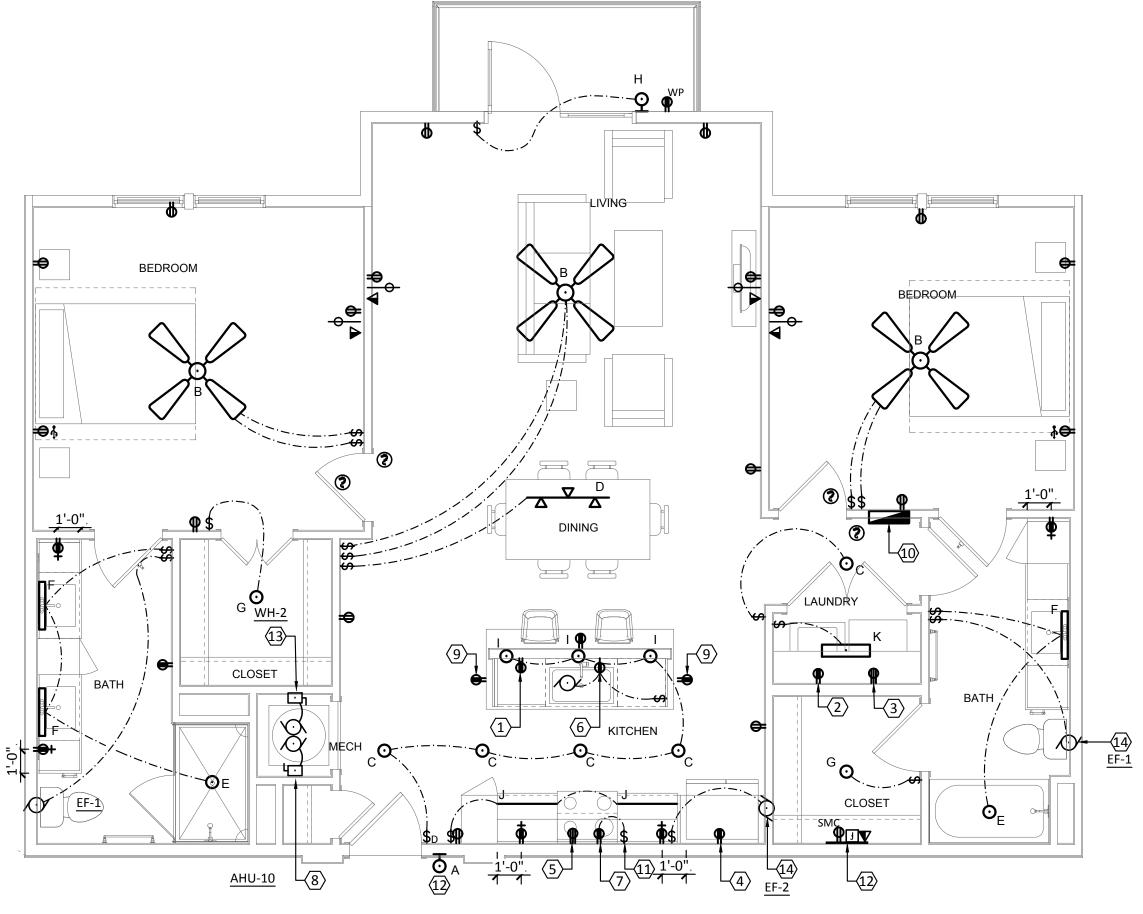
Date 01/14/2018

Drawn By TLR

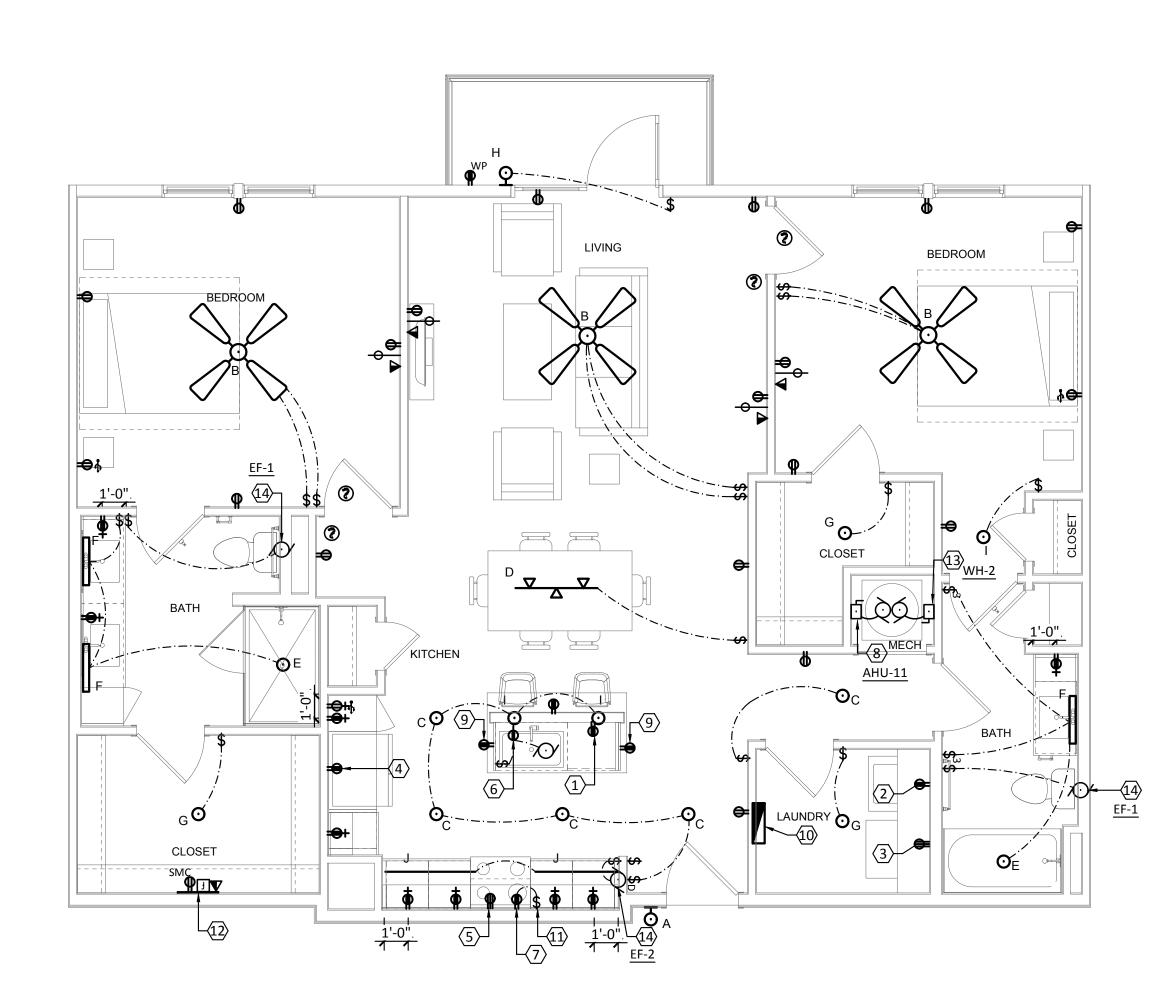
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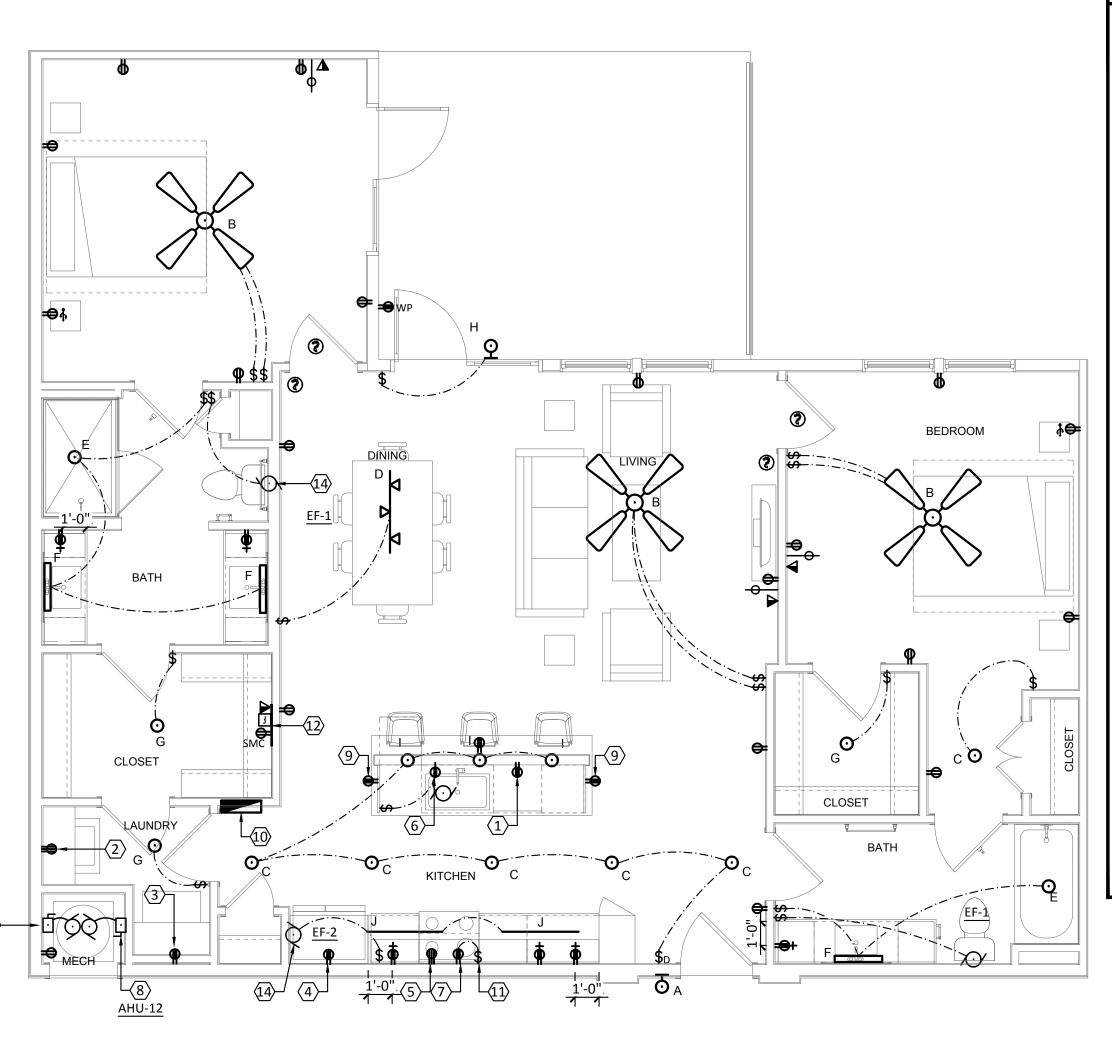




2 ELECTRICAL - UNIT TYPE B3
SCALE: 1/4"=1'-0"



3 ELECTRICAL - UNIT TYPE B4
SCALE: 1/4"=1'-0"



4 ELECTRICAL - UNIT TYPE B5
SCALE: 1/4"=1'-0"

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 PROVIDE AND INSTALL COMBINATION SMOKE AND CARBON
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KEYED NOTES:

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- 30A RECEPTACLE FOR DRYER.
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CLOSEST TO THE BEDROOM DOOR.

ALL TV LOCATIONS SHOULD BE BOXED AT 58" TO THE CENTER OF THE TV.

BEDROOMS SHALL HAVE 1-CAT6, 1-RG6 OUTLET ON ONE WALL

OPPOSITE THE BED AT STANDARD OUTLET HEIGHT IN SAME BOX.

EACH BEDROOM TO HAVE ONE USB AT NIGHT STAND LOCATED

ENCOTECH ENGINEERING CONSULTANTS

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LIVING ROOMS TO HAVE 1-CAT6 ON TV WALL AND 1-CAT6 ON OPPOSITE WALL.



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REVISIONS



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ELECTRICAL UNIT B3, B4 & B5

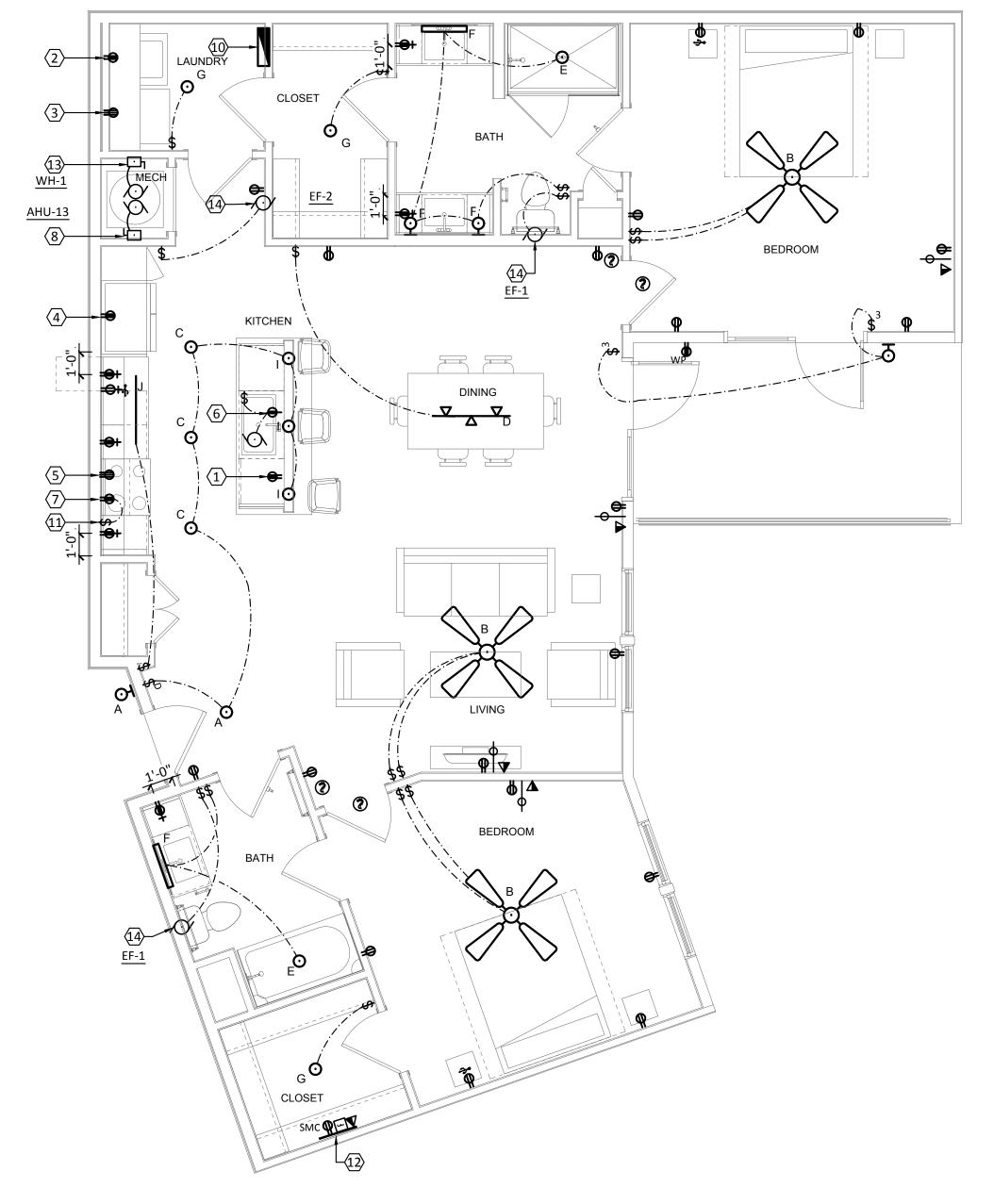
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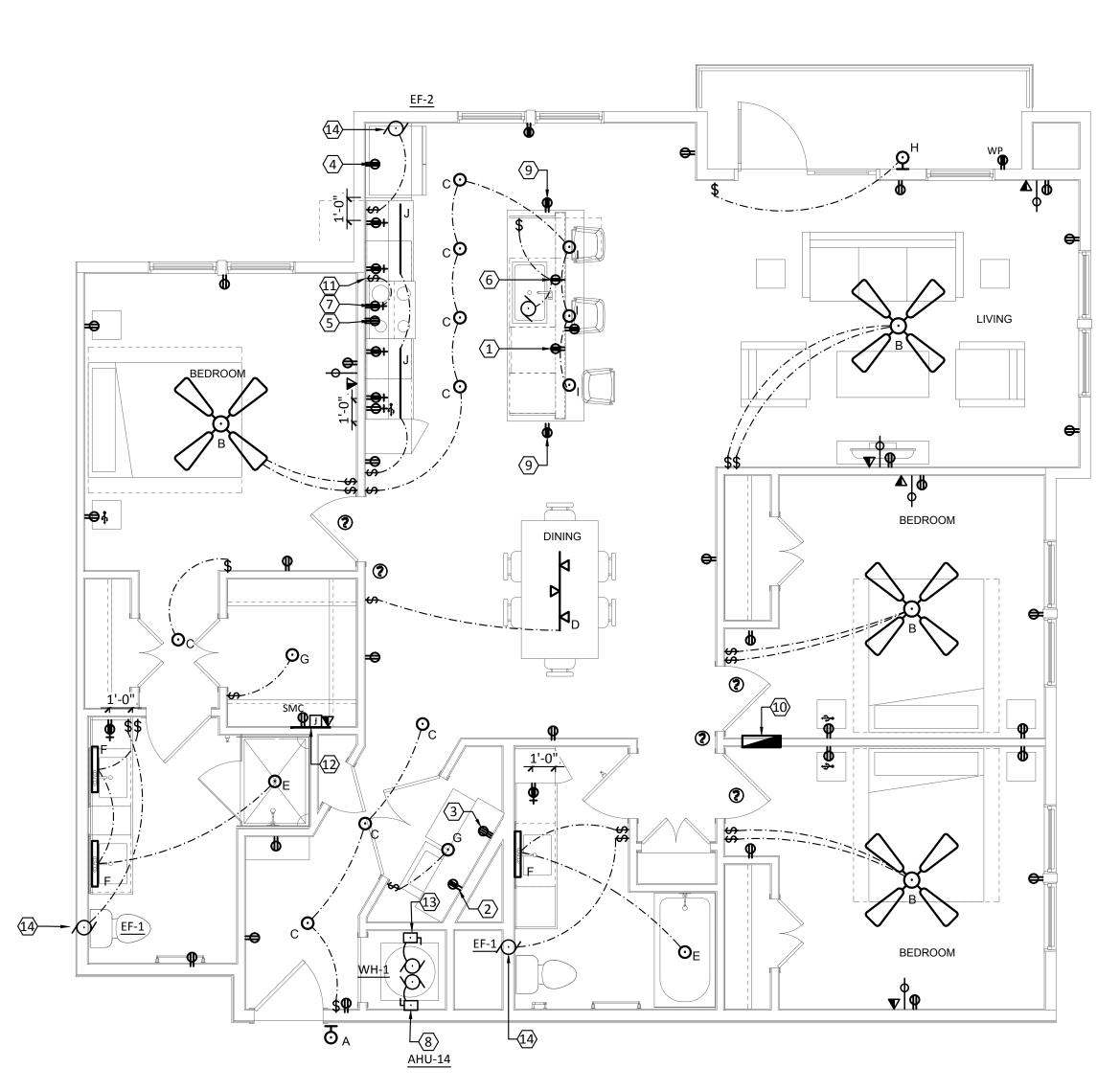
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E206



ELECTRICAL - UNIT TYPE B6

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



2 ELECTRICAL - UNIT TYPE C1
SCALE: 1/4"=1'-0"

GENERAL NOTES:

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RECEPTACLES IN DWELLING UNITS ARE REQUIRED TO BE

TAMPER-RESISTANT. REFERENCE NEC, ARTICLE 406.12. ALL 120V, SINGLE PHASE, 15- AND 20- AMPERE BRANCH CIRCUITS SUPPLYING OUTLETS OR DEVICES INSTALLED IN DWELLING FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, KITCHEN, LAUNDRY AREAS OR SIMILAR ROOMS SHALL B PROTECTED BY A LISTED ARC FAULT CIRCUIT INTERRUPTER; PER NEC

210.12(A)- IN THE APARTMENT LOAD CENTER. ELECTRICAL CONTRACTOR SHALL REFER TO ARCHITECT FOR EXACT LOCATION OF HANDICAPPED UNITS. CONTRACTOR SHALL FURNISH AND INSTALL ALL HANDICAP DEVICES PER NATIONAL AND LOCAL

ALL RECEPTACLES MOUNTED IN BACKSPLASH AND KITCHEN ISLANDS OR PENINSULA ARE TO BE MOUNTED VERTICAL. MATCH

RECEPTACLES TO TILE LAYOUT. ALL RECEPTACLES MOUNTED OVER COUNTERTOPS SHALL COMPLY WITH FHA GUIDELINES.

BUILDING FIRE SYSTEM. ALL COMBINATION TELEPHONE/DATA OUTLETS SHALL BE WIRED

SUCH THAT TWO INDEPENDENT NETWORKS ARE PROVIDED AND TERMINATED AT LOCATIONS DESIGNATED ON PLANS.

ALL APARTMENT SMOKE ALARMS SHALL BE HARD-WIRED, AND INTERCONNECTED WITH BATTERY BACKUP, NOT CONNECTED TO

NO BATH GFI RECEPTACLES SHALL BE LOCATED IN MIRROR. SEE INTERIOR DESIGN DRAWINGS FOR RECEPTACLE LOCATIONS. SINGLE LAVATORY LIGHTS TO BE COORDINATED WITH PLUMBING CONTRACTOR FOR VENT PIPING LOCATION. ALL LIGHTS SHALL BE CENTERED OVER CABINET (NOT NECESSARILY THE LAVATORY).

LIGHT KITS IN HANDICAP DWELLING UNITS. ALL BRANCH CIRCUITS TO BE TYPE NM COPPER CABLE (ROMEX) #12 GAUGE MINIMUM, UNLESS OTHERWISE NOTED. INSTALL TELEPHONE OUTLET IN EACH UNIT FOR SUBMETERING.

PROVIDE WALL SWITCH CONTROLS FOR ALL CEILING FANS AND

PROVIDE GANGED SWITCHES WHERE 2 OR 3 SWITCHES ARE

LOCATED ADJACENT TO EACH OTHER. ALL CABLING SHALL BE A MINIMUM OF CAT6.

ALL TV LOCATIONS SHOULD BE BOXED AT 58" TO THE CENTER OF

BEDROOMS SHALL HAVE 1-CAT6, 1-RG6 OUTLET ON ONE WALL OPPOSITE THE BED AT STANDARD OUTLET HEIGHT IN SAME BOX. EACH BEDROOM TO HAVE ONE USB AT NIGHT STAND LOCATED

CLOSEST TO THE BEDROOM DOOR. LIVING ROOMS TO HAVE 1-CAT6 ON TV WALL AND 1-CAT6 ON OPPOSITE WALL.



Structural Engineer:

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MEP Engineer:

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Civil Engineer:

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Landscape Architect:

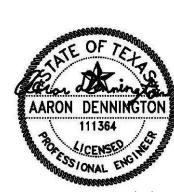
LEE & Associates, Inc. 9020 N Capital of Texas Hwy, Austin, TX. 78759 Amber Rothwell 512.345.8477

Interior Designer:

SJL Design Group 921 N. Riverfront Blvd. Suite 100, Dallas, TX 75207 Cassie Farley 214.443.9090

	ISSUANCES		
	01	SCHEMATIC DESIGN	09.10.18
	02	DEVELOPMENT DESIGN	11.09.18
	03	PERMIT SET	01.28.19
l			

REVISIONS



a multifamily project for NRP Group

West Cevallos

San Antonio, Texas

ELECTRICAL UNIT B6 & C1

18054 Project Number 01/14/2018 TLR Drawn By Checked By

E207

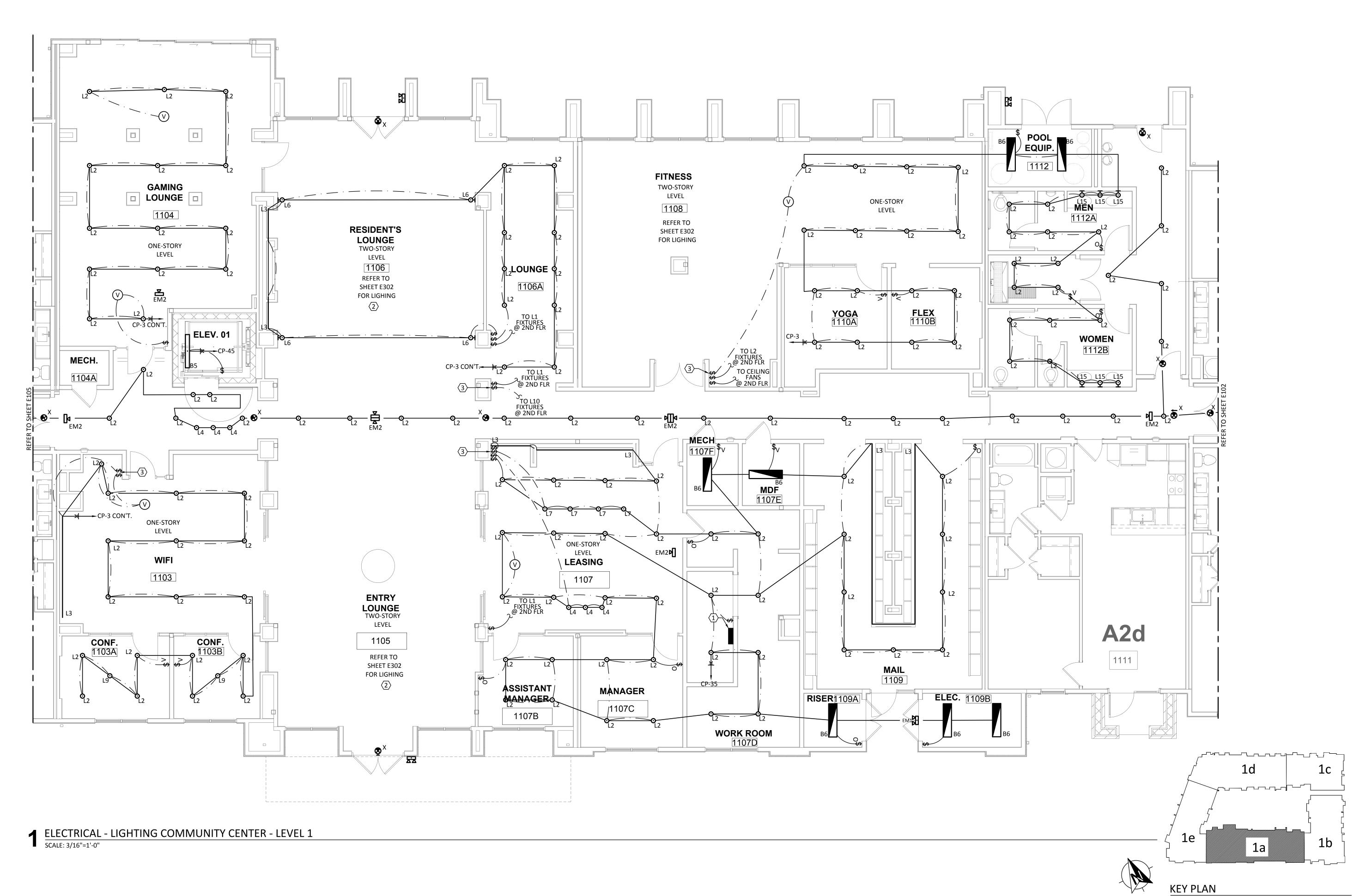
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- . REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.
- ALL CORRIDOR AND STAIRWELL LIGHTING SHALL BE UNSWITCHED AND CONTROLLED AT THE CIRCUIT BREAKER IN HOUSE PANEL.
- ALL EMERGENCY LIGHTS IN AMENITY AREA SHALL BE DROP-DOWN TYPE "EM2" LIGHT FIXTURE. REFER TO LIGHT FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.

KEYED NOTES:

- PROVIDE EXITRONIX #TUCM-300-120-120-90 MINI INVERTER. CONNECT TO ALL EMERGENCY LIGHTS. REFER TO MANUFACTURER REQUIREMENTS FOR ADDITIONAL
- PROVIDE CEILING MOUNTED DAYLIGHT ZONE CONTROLS. CONTROLS SHALL BE SET TO DIM LIGHTS IN DAYLIGHT ZONE CONTINUOUSLY FROM FULL LIGHT OUTPUT TO 15 PERCENT OF FULL LIGHT OUTPUT OR LOWER.
- PROVIDE LEVITON #5634W DECORA COMBINATION, DOUBLE ROCKER, 15 AMP, 120V, SINGLE POLE LIGHT SWITCH. INSTALL ALL LIGHT SWITCHES WITH APPROPRIATE GANG PLATE SIZE.
- PROVIDE DIMMER PANEL.



ENCOTECH ENGINEERING CONSULTANTS TBPE Firm | 8500 Bluffstone Cove, Suite B-103 1141 | Austin, Texas 78759 | 512.338.1101 Project No.: 18054.MS.AUS

KEY PLAN
N.T.S.



Structural Engineer:

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Landscape Architect:

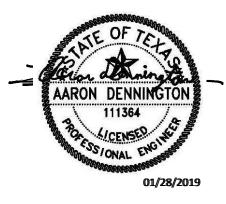
LEE & Associates, Inc. 9020 N Capital of Texas Hwy, Austin, TX. 78759 Amber Rothwell 512.345.8477

Interior Designer:

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ISSUANCES

	01	SCHEMATIC DESIGN	09.10.18
	02	DEVELOPMENT DESIGN	11.09.18
	03	PERMIT SET	01.28.19



a multifamily project for NRP Group

West Cevallos San Antonio, Texas

ELECTRICAL LIGHTING COMMUNITY CENTER LEVEL 1

Project Number	18054
Date	01/14/201
Drawn By	TLI
Checked By	EE

E301

A. REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.

ALL CORRIDOR AND STAIRWELL LIGHTING SHALL BE UNSWITCHED AND CONTROLLED AT THE CIRCUIT BREAKER IN HOUSE PANEL.

KEYED NOTES:

PROVIDE JUNCTION BOX FOR BUILDING SIGNAGE. CIRCUIT THRU TIME CLOCK. REFER TO SIGNAGE MANUFACTURER FOR ADDITIONAL INFORMATION.



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MEP Engineer:

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512.345.8477

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	ISSUANCES		
	01	SCHEMATIC DESIGN	09.10.18
	02	DEVELOPMENT DESIGN	11.09.18
	03	PERMIT SET	01.28.19
			1

REVISIONS



a multifamily project for NRP Group

West Cevallos San Antonio, Texas

ELECTRICAL LIGHTING COMMUNITY CENTER LEVEL 2

Project Number	18054
Date	01/14/2018
Drawn By	TLR
Checked By	EEC

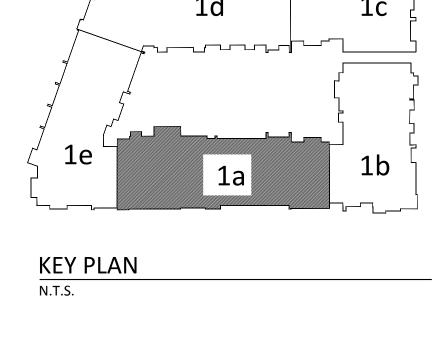
E302

A4b 1204 → TO 1ST FLOOR 11 00000 TYP 20 0000 TO 0000 MECHANICAL AT TOP OF SHAFT ELEV. 01 STORAGE **A4** A2f **A2** 1203 1207 TO 1ST FLOOR · (D)

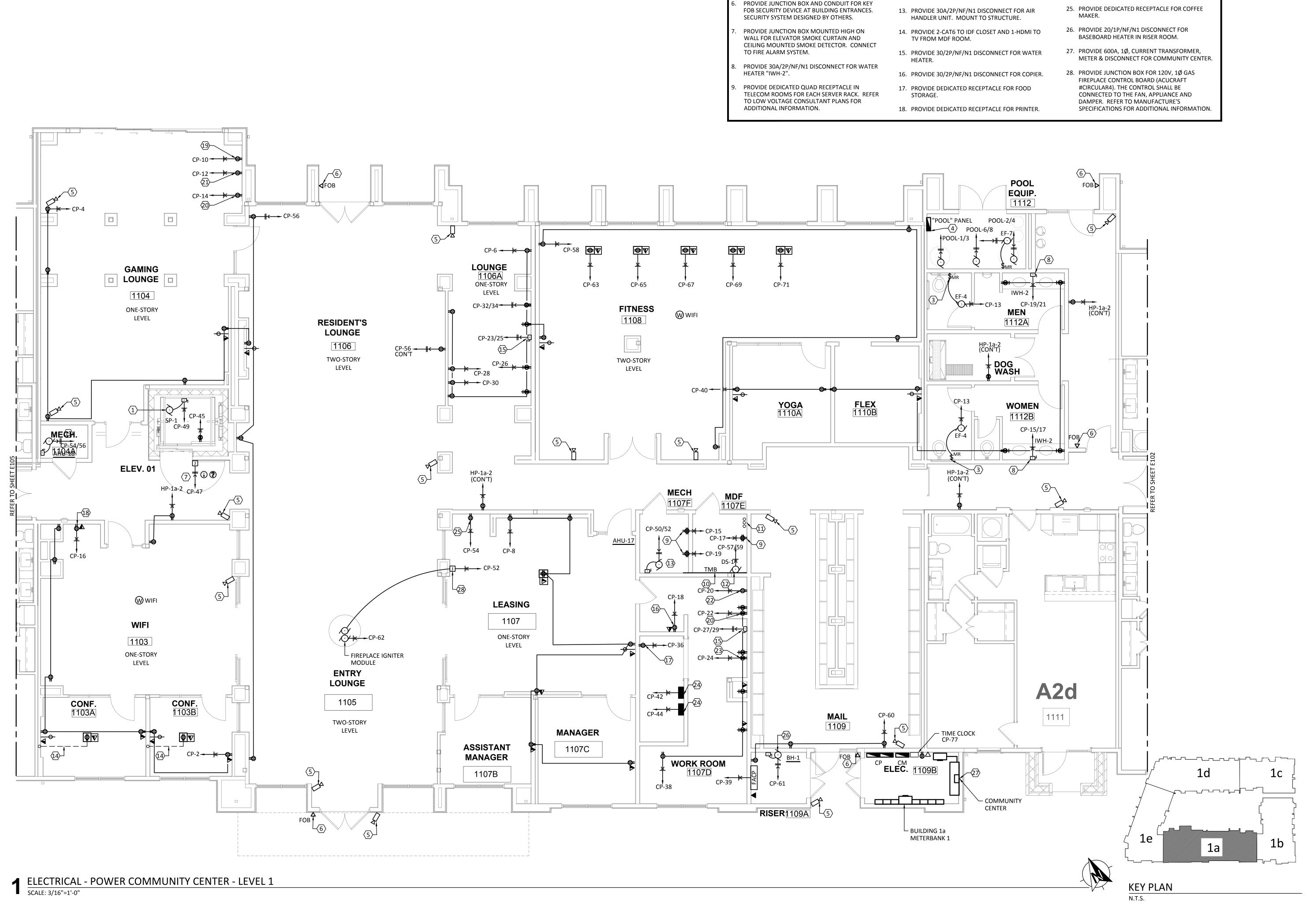
1 ELECTRICAL - LIGHTING COMMUNITY CENTER - 2ND FLOOR 12@50=600

SCALE: 3/16"=1'-0"









KEYED NOTES:

STRUCTURE.

ELEVATOR SUMP PUMP.

DUCTLESS SPLIT SYSTEM.

FUTURE POOL EQUIPMENT.

DESIGNED BY OTHERS.

PROVIDE 30A/2P/NF/N1 DISCONNECT FOR

PROVIDE 30A/NF/2P/N1 DISCONNECT FOR

PROVIDE MOTOR-RATED SWITCH FOR CEILING

PROVIDE 120/240V, 1Ø, 100A LOAD CENTER FOR

PROVIDE JUNCTION BOX AND CONDUIT WITH PULL STRING TO ABOVE NEAREST ACCESSIBLE CEILING

FOR SECURITY CAMERA. SECURITY SYSTEM

MOUNTED EXHAUST FAN MOUNTED TO

GENERAL NOTES:

. REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.

RISERDIAGRAMS FOR ADDITIONAL INFORMATION.

REFER TO SHEETS E404 THRU E407, ELECTRICAL CALCULATIONS AND



Structural Engineer:

19. PROVIDE DEDICATED RECEPTACLE FOR

UNDERCOUNTER REFRIGERATOR.

20. PROVIDE DEDICATED RECEPTACLE FOR

21. PROVIDE DEDICATED RECEPTACLE FOR

UNDERCOUNTER ICE MACHINE.

22. PROVIDE DEDICATED RECEPTACLE FOR

23. PROVIDE DEDICATED RECEPTACLE FOR

24. PROVIDE EXITRONIX #TUCM-300-120-120-90 MINI

REQUIREMENTS FOR ADDITIONAL INFORMATION.

INVERTER. REFER TO MANUFACTURER

REFRIGERATOR

DISHWASHER.

UNDERCOUNTER MICROWAVE.

10. PROVIDE 3/4" X 4' X 8' PLYWOOD TELEPHONE

REQUIREMENTS.

STRUCTURE.

DEDICATED DUPLEX CONVENIENCE OUTLET.

FURNISH ACCORDING TO SERVICE PROVIDER

11. PROVIDE 3-4" EMPTY CONDUIT WITH PULL STRING

PROVIDE (2) CAT6 CABLING FROM MDF TO EACH

IDF ROOM. REFER TO SERVICE PROVIDER FOR

ADDITIONAL INFORMATION. PROVIDE #6 AWG GROUNDING CONDUCTOR WIRE FROM IDF ROOM

CONNECTED TO SERVICE ENTRANCE GROUND FOR

IN MDF ROOM FROM SERVICE PROVIDER.

TELECOM EQUIPMENT GROUNDING.

12. PROVIDE 30A/2P/NF/N1 DISCONNECT FOR

DUCTLESS SYSTEM "DS-1" MOUNTED ON

MOUNTING BOARD WITH #6 (Cu) GROUND AND

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MEP Engineer:

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Landscape Architect:

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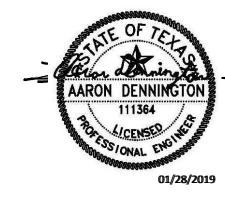
Interior Designer:

512.345.8477

SJL Design Group 921 N. Riverfront Blvd. Suite 100, Dallas, TX 75207 Cassie Farley 214.443.9090

ISSUANCES		
01	SCHEMATIC DESIGN	09.10.1
02	DEVELOPMENT DESIGN	11.09.18
03	PERMIT SET	01.28.1

REVISION



a multifamily project for NRP Group

West Cevallos
San Antonio, Texas

ELECTRICAL POWER COMMUNITY CENTER LEVEL 1

Project Number	18054
Date	01/14/2018
Drawn By	TLI
Checked By	EE

E303

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ENCOTECH

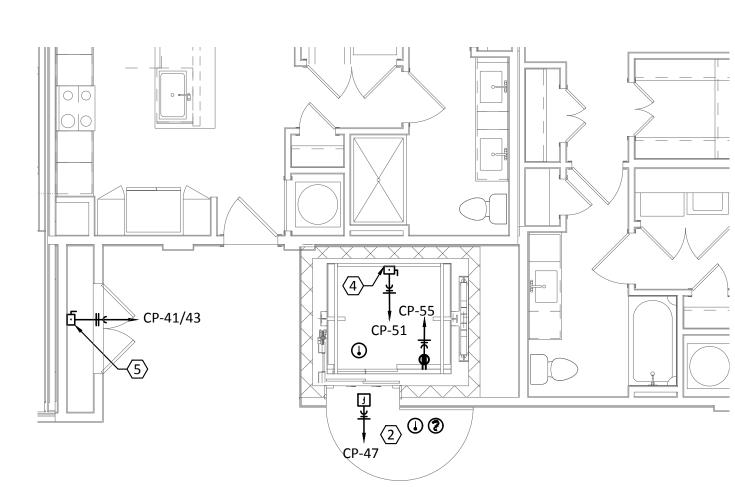
TBPE Firm | 8500 Bluffstone Cove, Suite B-103 1141 | Austin, Texas 78759 | 512.338.1101 Project No.: 18054.MS.AUS

- . REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.
- B. REFER TO SHEETS E404 THRU E407, ELECTRICAL CALCULATIONS AND RISER DIAGRAMS FOR ADDITIONAL INFORMATION.
- ALL CORRIDOR, UNIT ENTRY AND STAIRWELL LIGHTING SHALL BE UNSWITCHED AND CONTROLLED AT THE CIRCUIT BREAKER IN HOUSE PANEL.

KEYED NOTES:

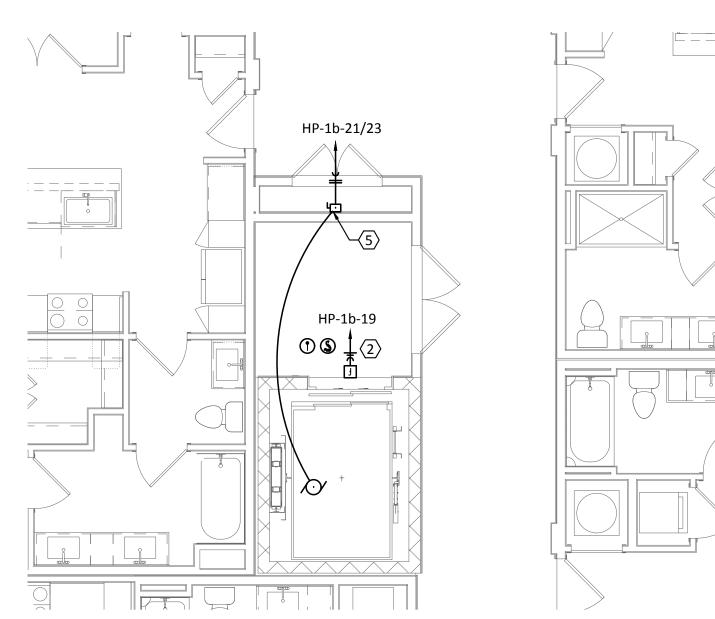
"CP" LOAD CENTER.

- 1. PROVIDE 30A/2P/NF/N1 DISCONNECT FOR AIR HANDLER.
- PROVIDE JUNCTION BOX MOUNTED HIGH ON WALL FOR ELEVATOR SMOKE CURTAIN AND CEILING MOUNTED SMOKE DETECTOR. CONNECT TO FIRE ALARM SYSTEM.
 PROVIDE JUNCTION BOX FOR BUILDING SIGNAGE AT CANOPY. ROUTE CONDUIT TO
- PROVIDE 30A/2P/NF/N1 LOCKABLE DISCONNECT FOR ELEVATOR CAB AND LIGHT. MOUNT IN TOP OF ELEVATOR SHAFT.
- 100A/F(100A)/3P/N1 LOCKABLE DISCONNECT FOR ELEVATOR #1 & #2. CONNECT TO ELEVATOR MOTOR LOCATED AT TOP OF HOISTWAY.

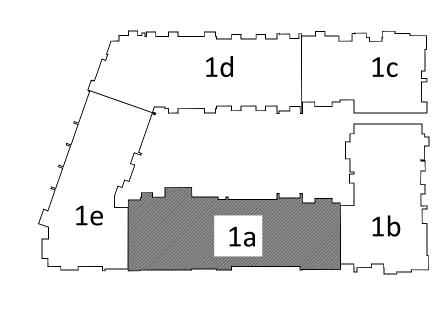


2 ELECTRICAL ELEVATOR (SECTION 1a) - LEVEL 4

SCALE: 3/16"=1'-0"



3 ELECTRICAL ELEVATOR (SECTION 1b) - LEVEL 4
SCALE: 3/16"=1'-0"



KEY PLAN



Structural Engineer:

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09.10.18

11.09.18 01.28.19

1SSUANCES 01 SCHEMATIC DESIGN 02 DEVELOPMENT DESIGN

REVISIONS



a multifamily project for NRP Group

West Cevallos
San Antonio, Texas

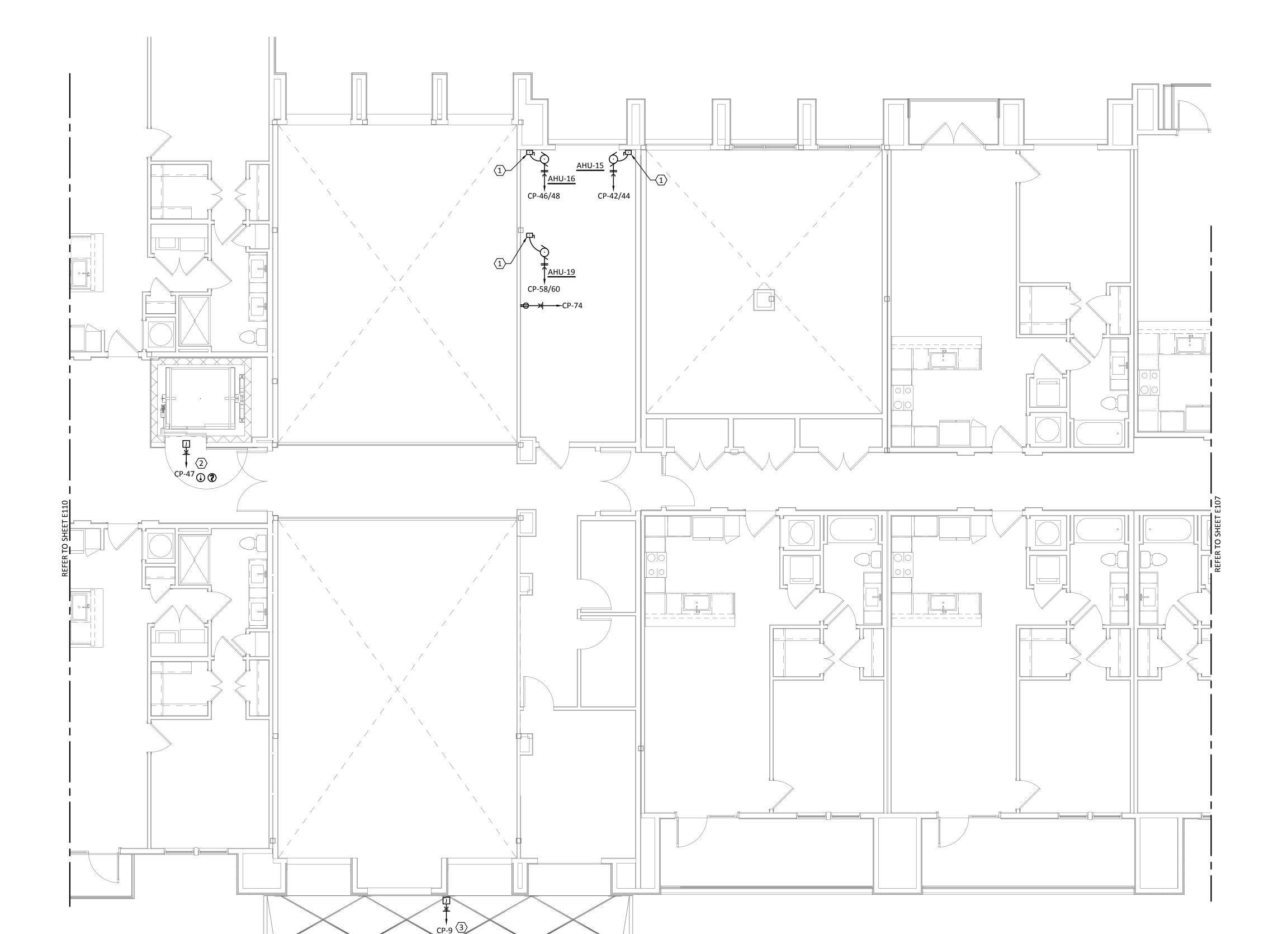
ELECTRICAL POWER COMMUNITY CENTER LEVEL 2

Project Number	18054
Date	01/14/2018
Drawn By	TLR
Checked By	EEC

E304

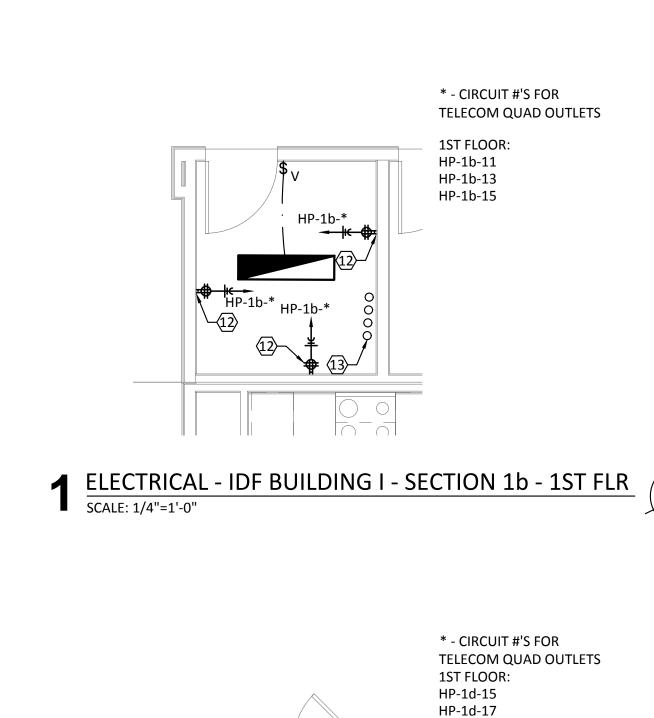
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1 ELECTRICAL - POWER COMMUNITY CENTER - LEVEL 2

SCALE: 3/16"=1'-0"



■ ELECTRICAL - IDF BUILDING I - SECTION 1d

HP-1d-19

HP-1d-21

HP-1d-22 HP-1d-24

HP-1d-14

HP-1d-16

HP-1d-18

HP-1d-20

HP-1d-22

HP-1d-24

HP-1b-29

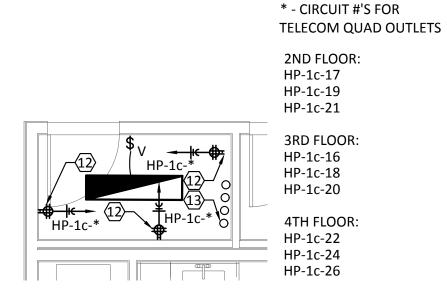
HP-1b-27 HP-1b-20/22

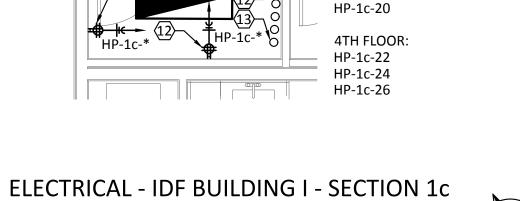
6 ELECTRICAL - POOL RESTROOM
SCALE: 1/4"=1'-0"

4TH FLOOR:

2ND FLOOR:

3RD FLOOR:





* - CIRCUIT #'S FOR

1ST FLOOR: HP-1e-2-41

HP-1e-2-43

HP-1e-2-45

2ND FLOOR:

HP-1e-2-47

HP-1e-2-49

HP-1e-2-51

3RD FLOOR: HP-1e-2-42

HP-1e-2-44

HP-1e-2-46

4TH FLOOR:

HP-1e-2-48

HP-1e-2-50

HP-1e-2-52

HP-1b-31

HP-1b-33 HP-1b-24/26

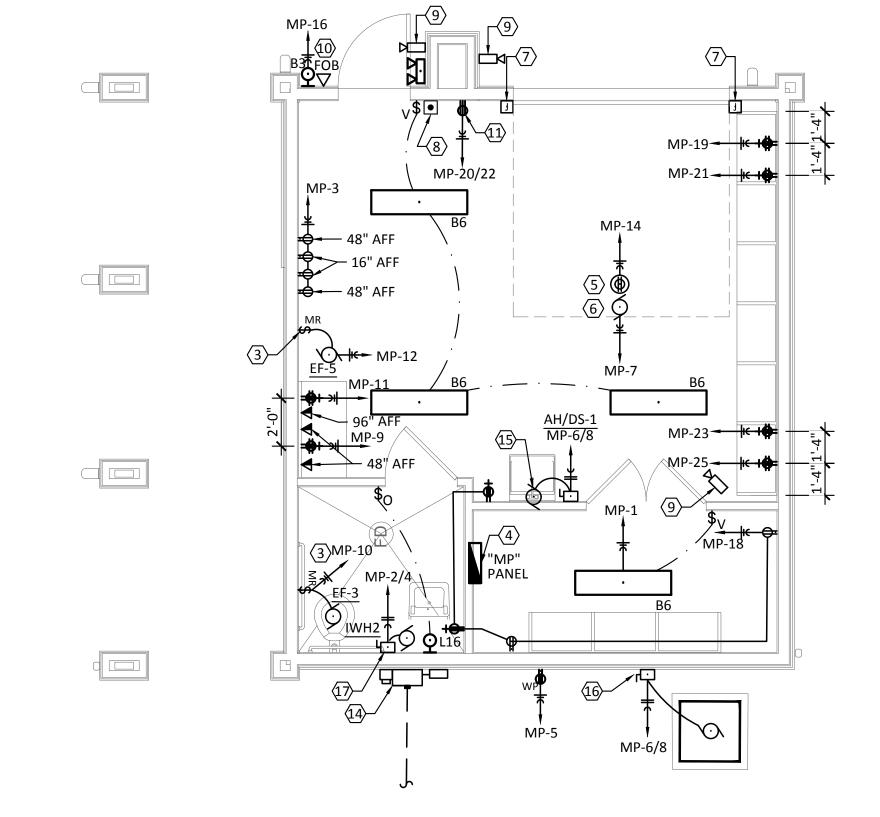
MEN HP-1b-27

4 ELECTRICAL - IDF BUILDING I - SECTION 1e
SCALE: 1/4"=1'-0"

TELECOM QUAD OUTLETS

2ND THRU 4TH FLR

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

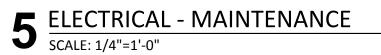


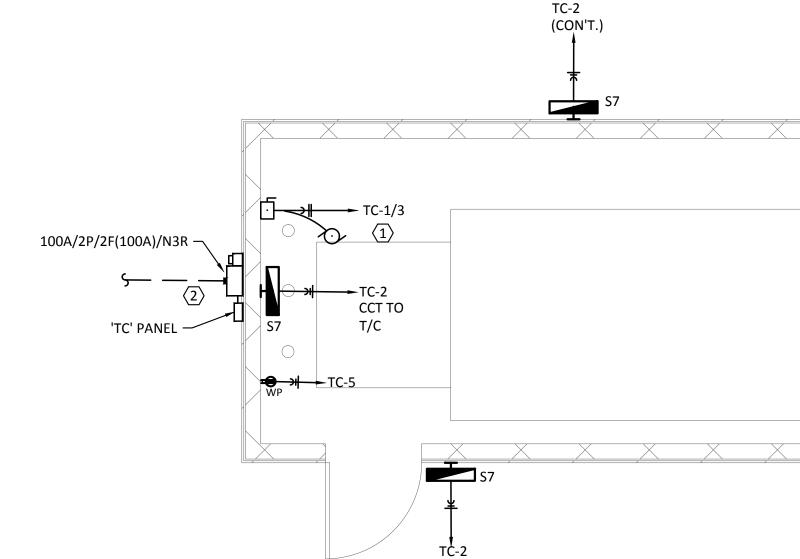
GENERAL NOTES:

REFER TO SHEET E000 FOR ADDITIONAL INFORMATION.

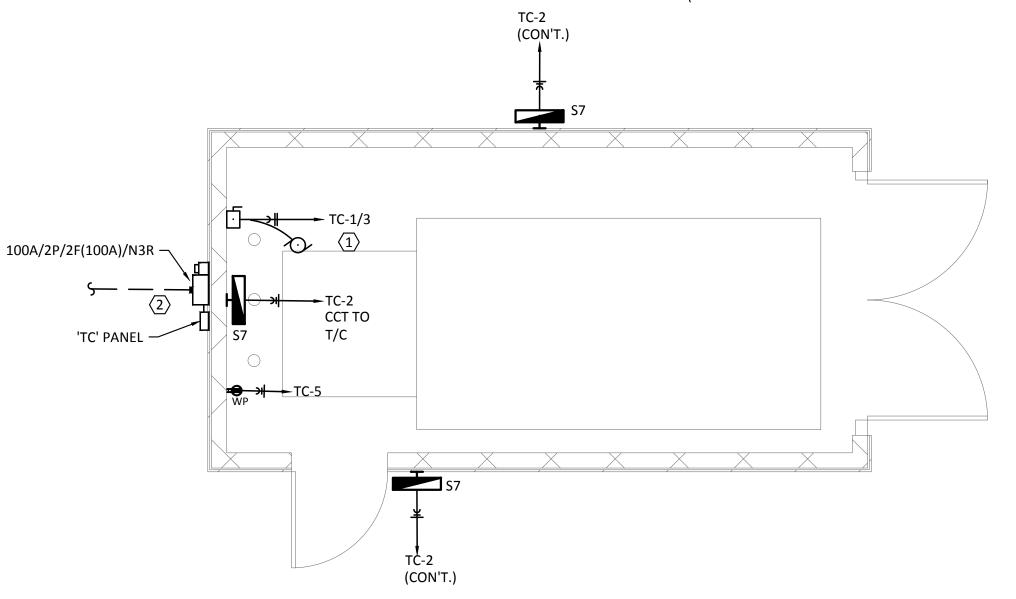
KEYED NOTES:

- 208V, 1Ø, "MARATHON" #RJ-250-SC, 34 YARD CAPACITY, SELF-CONTAINED TRASH COMPACTOR. PROVIDE 100A, 10 HP/1Ø DISCONNECT IN NEMA 3R ENCLOSURE. COORDINATE WITH MANUFACTURERS REQUIREMENTS FOR SIZE AND ADDITIONAL REQUIREMENTS.
- 120/240V, 1Ø, 100A, MLO LOAD CENTER, UTILITY METER, AND DISCONNECT IN NEMA 3R ENCLOSURE FOR TRASH COMPACTOR.
- MOTOR RATED SWITCH FOR CEILING MOUNTED EXHAUST FAN. INSTALL ABOVE CEILING WITH ACCESS PANEL. MOUNT SWITCH TO
- 120/240V, 1Ø, 200 A, MLO MAINTENANCE LOAD CENTER IN NEMA
- INSTALL CEILING MOUNTED RECEPTACLE ADJACENT TO GARAGE DOOR OPENER.
- PROVIDE AND INSTALL 120V, 1Ø, 20A GARAGE DOOR OPENER. INSTALL PER MANUFACTURER REQUIREMENTS.
- PROVIDE JUNCTION BOX AT BASE OF GARAGE DOOR RAILING FOR LOW VOLTAGE WIRING TO GARAGE DOOR OPENER AND MUST BE "WEATHER-TITE" TYPE.
- INSTALL GARAGE DOOR OPENER ON LEFT SIDE OF DOOR AT 44"
- PROVIDE JUNCTION BOX AND CONDUIT WITH PULL STRING ON WALL FOR SECURITY CAMERA. SECURITY SYSTEM DESIGNED BY
- O. PROVIDE JUNCTION BOX AND CONDUIT WITH PULL STRING TO CEILING FOR KEY FOB SECURITY DEVICE AT BUILDING ENTRANCE. SECURITY SYSTEM DESIGNED BY OTHERS.
- 1. PROVIDE RECEPTACLE FOR GOLF CART CHARGER.
- PROVIDE DEDICATED QUAD RECEPTACLE IN TELECOM ROOMS FOR EACH SERVER RACK. REFER TO LOW VOLTAGE CONSULTANT PLANS FOR ADDITIONAL INFORMATION.
- PROVIDE 4-4" EMPTY CONDUIT WITH PULL STRING IN MDF ROOM FROM SERVICE PROVIDER. PROVIDE (2) CAT6 CABLING FROM MDF TO EACH IDF ROOM. REFER TO SERVICE PROVIDER FOR ADDITIONAL INFORMATION. PROVIDE #6 AWG GROUNDING CONDUCTOR WIRE FROM IDF ROOM CONNECTED TO SERVICE ENTRANCE GROUND FOR TELECOM EQUIPMENT GROUNDING.
- . PROVIDE 120/240V, 1Ø, CURRENT TRANSFORMER, METER AND 200A DISCONNECT FOR MAINTENANCE BUILDING.
- PROVIDE 30A/2P/NF/N1 DISCONNECT FOR DUCTLESS AIR HANDLER.

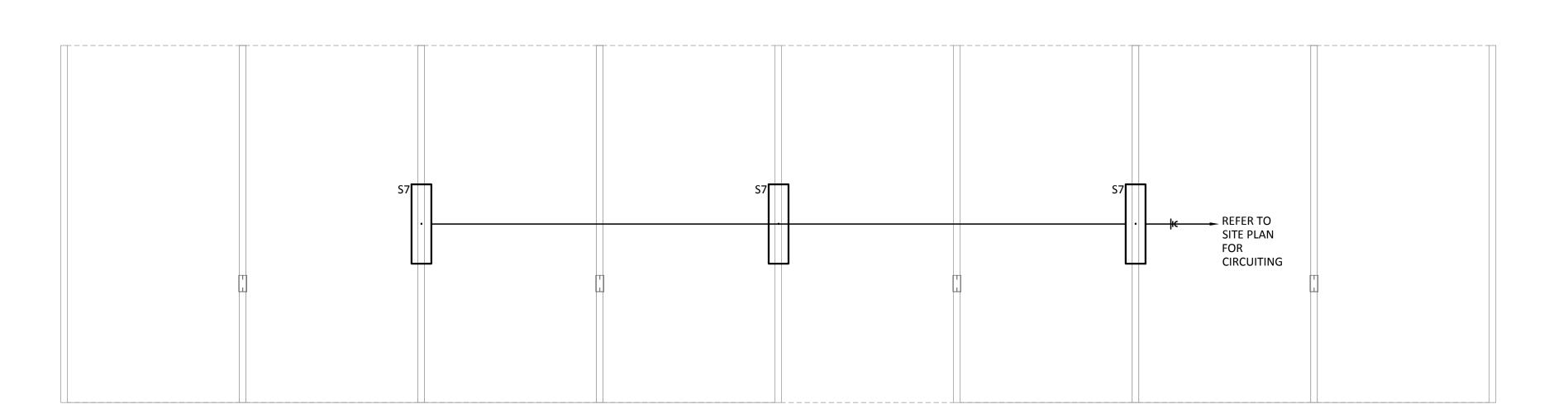












ENCOTECH ENGINEERING CONSULTANTS TBPE Firm 8500 Bluffstone Cove, Suite B-103 1141 Austin, Texas 78759 512.338.1101 Project No.: 18054.MS.AUS



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09.10.18

11.09.18

01.28.19

ISSUANCES SCHEMATIC DESIGN DEVELOPMENT DESIGN



a multifamily project for NRP Group

West Cevallos San Antonio, Texas

ELECTRICAL IDF, MAINT, POOL RR, TRASH, CARPORT

Project Number 01/14/2018 TLR Drawn By Checked By EEC

E305

8 ELECTRICAL - CARPORT
SCALE: 1/4"=1'-0"

		N.E.C OPT	ION SECTION	220-82				WATTS	WATTS	AMPS	
Р											
0		A/C	1 X	1460	+		219				
W		HEAT	0.65 X	5000	+	1 X	219		3392		
E											
R	0	GENERAL	LIGHTING 3 X	630		SQ FT		1890			
	Т	SMALL AP	PLIANCES - 2	CCTS				3000			
С	Н	DISHWASI	HER					1500			
Α	E	DISPOSAL	., 1/3 HP, 115V					830			
L	R	REFRIGER						1500			
С		RANGE (O'	VEN & SURFA	CE)	Г			8000			
U	L	WASHER/I		,				6500			
L	0	WATER HE	EATER		Г			4500			
Α	Α	MICROWA	VE/HOOD					1500			
Т	D		L OTHER LOA	DS				29220			
I	S	ALL OTHER	R LOADS @ 10	00%	Г				10000		
0		40% OF RE							7688		
N		TOTAL CA	LCULATED PO	OWER LO	Α	D			21080	87.8	
JNI.	T FEEDER	:	COMPLY WIT	H LOCAL	OF	RDINANC	ES				
	3 - #4	(THW) CU.	OR	3 - #2		(THW) A	L. SERVIC	CE FEEDER			
JNI.	T PANEL	100	AMP, MLO, 1-	PHASE, 3	٧-	VIRE, 120	0/240 V.				
								В	REAKER		
				WATTS	1	VOLTS	AMPS	QTY	SIZE	POLE	WIRE
	RANGE			8000	1	240	33.3	1	50	2	50-3
		SING UNIT (ALL)	1460			6.1	1	20	2	20-2
		VVENIENCE				115	1.6	1	20	1	
	EXHAUST	FAN				115	3.5	1	20	1	
_	FAN COIL			5219			21.7	1	30	2	40-2
	REFRIGE			1500	-		13.0	1	20	1	
		LIGHTING		1890		-	16.4	4	20	1	
-		PPLIANCES		3000			26.1	2	20	1	
	DISHWAS			1500			13.0	1	20 **	1	
	DISPOSA			200000000000000000000000000000000000000		115	7.2	1	20	1	
	WASHER			1500			13.0	1	20	1	
	DRYER			5000			20.8	1	30	2	20-3
		EATER		4500			18.8	1	30	2	30-2
	VVAICK										

		N.E.C OPT	ION SECTION	220-82				WATTS	WATTS	AMPS	
Р											
0		A/C	1 X	1460	+		219				
W		HEAT	0.65 X	5000	+	1 X	219		3392		
Е											
R	0	GENERAL	LIGHTING 3 X	663		SQ FT		1989			
	Т	SMALL AP	PLIANCES - 2	CCTS				3000			
С	Н	DISHWASI	HER					1500			
Α	Е	DISPOSAL	, 1/3 HP, 115V					830			
L	R	REFRIGER	,					1500			
С		RANGE (O'	VEN & SURFA	CE)				8000			
U	L	WASHER/I		,				6500			
L	0	WATER HE	EATER					4500			
Α	Α	MICROWA	VE/HOOD					1500			
Т	D	TOTAL ALI	L OTHER LOA	DS				29319			
1	S	ALL OTHER	R LOADS @ 10	00%					10000		
0		40% OF RE	EMAINDER						7727.6		
N		TOTAL CA	LCULATED PO	OWER LO	A	D			21120	88.0	
JNI.	T FEEDER	l :	COMPLY WIT	H LOCAL	Ol	RDINANC	ES				
	3 - #4	(THW) CU.	OR	3 - #2		(THW) A	L. SERVI	CE FEEDER			
JNľ	T PANEL	100	AMP, MLO, 1-	PHASE, 3	-V	VIRE, 120)/240V.				
								В	REAKER		
				WATTS	1	VOLTS	AMPS	QTY	SIZE	POLE	WII
	RANGE			8000	1	240	33.3	1	50	2	50
	CONDENS	SING UNIT (ALL)	1460	1	240	6.1	1	20	2	20-
	BATH COI	NVENIENCE	OUTLET	180	1	115	1.6	1	20	1	
	EXHAUST	FAN		400	1	115	3.5	1	20	1	
	FAN COIL	(ALL)		5219	1	240	21.7	1	30	2	40
	REFRIGE	RATOR		1500	1	115	13.0	1	20	1	
	GENERAL	LIGHTING		1989	1	115	17.3	4	20	1	
	SMALL AF	PPLIANCES		3000	1	115	26.1	2	20	1	
	DISHWAS	SHER		1500	1	115	13.0	1	20 **	1	
	DISPOSA	Ĺ		830	1	115	7.2	1	20	1	
	WASHER			1500	1	115	13.0	1	20	1	
	DRYER			5000	/	240	20.8	1	30	2	30-
	WATER H	EATER		4500	1	240	18.8	1	30	2	30-
	MICDOM	AVE/HOOD		1500	1	115	13.0	1	20	1	

		N.E.C OPT	ION SECTION:	220-82				WATTS	WATTS	AMPS	
Р											
0		A/C	1 X	1460	+		219				
W		HEAT	0.65 X	5000	+	1 X	219		3392		
Е											
R	0	GENERAL	LIGHTING 3 X	796		SQ FT		2388			
	Т	SMALL AP	PLIANCES - 2	CCTS				3000			
С	Н	DISHWASI	HER					1500			
Α	Е	DISPOSAL	, 1/3 HP, 115V					830			
L	R	REFRIGER	ATOR					1500			
С		RANGE (O'	VEN & SURFA	CE)				8000			
U	L	WASHER/I						6500			
L	0	WATER HE						4500			
Α	Α	MICROWA						1500			
Т	D		L OTHER LOAD	DS				29718			
1	S	ALL OTHER	R LOADS @ 10	0%					10000		
0		40% OF RE	EMAINDER						7887.2		
Ν		TOTAL CA	LCULATED PO	OWER LO	ÒΑ	D			21280	88.7	
UNI	T FEEDER	₹:	COMPLY WITH	H LOCAL	OF	RDINANC	ES				
	3 - #4	(THW) CU.	OR	3 - #2		(THW) A	L. SERVI	CE FEEDER			
UNI	T PANEL	San Alexander	THE RESERVE AND ADDRESS OF								
	IPANEL	100	AMP, MLO, 1-I	PHASE, 3	-V	VIRE, 120	0/240 V.				
	IFANEL	100	AMP, MLO, 1-I	PHASE, 3	- V	VIRE, 120	0/240 V.	В	REAKER		
	I PANEL	100	AMP, MLO, 1-I	PHASE, 3 WATTS		•	0/240 V. AMPS	B QTY	REAKER SIZE	POLE	WIF
	RANGE	100	AMP, MLO, 1-I		/	VOLTS				POLE 2	WIF 50-
	RANGE			WATTS	1	VOLTS 240	AMPS	QTY	SIZE		
	RANGE CONDEN	100 SING UNIT (ALL)	WATTS 8000 1460	/	VOLTS 240	AMPS 33.3	QTY 1	SIZE 50	2	50-
	RANGE CONDEN	SING UNIT (ALL)	WATTS 8000 1460 180	/ / /	VOLTS 240 240	AMPS 33.3 6.1	QTY 1 1	SIZE 50 20	2 2	50-
	RANGE CONDENS BATH CO EXHAUST	SING UNIT (NVENIENCE FAN	ALL)	WATTS 8000 1460 180	/ / /	VOLTS 240 240 115 115	AMPS 33.3 6.1 1.6	QTY 1 1 1	50 20 20	2 2 1	50- 20-
	RANGE CONDEN: BATH CO	SING UNIT (NVENIENCE FAN . (ALL)	ALL)	WATTS 8000 1460 180 400	/ / / / /	VOLTS 240 240 115 115 240	AMPS 33.3 6.1 1.6 3.5	QTY 1 1 1 1	SIZE 50 20 20 20	2 2 1 1	50- 20-
	RANGE CONDENS BATH CO EXHAUST FAN COIL REFRIGE	SING UNIT (NVENIENCE FAN . (ALL)	ALL)	WATTS 8000 1460 180 400 5219	/ / / / /	VOLTS 240 240 115 115 240 115	AMPS 33.3 6.1 1.6 3.5 21.7	QTY 1 1 1 1 1 1	SIZE 50 20 20 20 20 30	2 2 1 1 2	50- 20-
	RANGE CONDENS BATH CO EXHAUST FAN COIL REFRIGE GENERAL	SING UNIT (NVENIENCE FAN . (ALL) RATOR	ALL) E OUTLET	WATTS 8000 1460 180 400 5219 1500	/ / / / / /	VOLTS 240 240 115 115 240 115 115	AMPS 33.3 6.1 1.6 3.5 21.7 13.0	QTY 1 1 1 1 1 1 1	SIZE 50 20 20 20 20 30 20	2 2 1 1 2 1	50- 20-
	RANGE CONDENS BATH CO EXHAUST FAN COIL REFRIGE GENERAL SMALL AI	SING UNIT (NVENIENCE FAN (ALL) RATOR LIGHTING PPLIANCES	ALL) E OUTLET	WATTS 8000 1460 180 400 5219 1500 2388	/ / / / / /	VOLTS 240 240 115 115 240 115 115 115	AMPS 33.3 6.1 1.6 3.5 21.7 13.0 20.8 26.1	QTY 1 1 1 1 1 1 1 4	SIZE 50 20 20 20 30 20 20	2 2 1 1 2 1	50-
	RANGE CONDENS BATH CO EXHAUST FAN COIL REFRIGE GENERAL	SING UNIT (NVENIENCE FAN (ALL) RATOR LIGHTING PPLIANCES	ALL) E OUTLET	WATTS 8000 1460 180 400 5219 1500 2388 3000 1500	/ / / / / / / /	VOLTS 240 240 115 115 240 115 115 115 115	AMPS 33.3 6.1 1.6 3.5 21.7 13.0 20.8	QTY 1 1 1 1 1 1 1 4 2	SIZE 50 20 20 20 30 20 20 20 20 20	2 2 1 1 2 1 1	50- 20-
	RANGE CONDENS BATH CO EXHAUST FAN COIL REFRIGE GENERAL SMALL AI DISHWAS DISPOSA	SING UNIT (NVENIENCE FAN (ALL) RATOR LIGHTING PPLIANCES SHER	ALL) E OUTLET	WATTS 8000 1460 180 400 5219 1500 2388 3000 1500 830	/ / / / / / / /	VOLTS 240 240 115 115 240 115 115 115 115 115	AMPS 33.3 6.1 1.6 3.5 21.7 13.0 20.8 26.1 13.0 7.2	QTY 1 1 1 1 1 1 4 2 1	SIZE 50 20 20 20 30 20 20 20 20 20 20 20 20 20 20 20	2 2 1 1 2 1 1 1	50- 20-
	RANGE CONDENS BATH CO EXHAUST FAN COIL REFRIGE GENERAL SMALL AI DISHWAS DISPOSA WASHER	SING UNIT (NVENIENCE FAN (ALL) RATOR LIGHTING PPLIANCES SHER	ALL) E OUTLET	WATTS 8000 1460 180 400 5219 1500 2388 3000 1500 830 1500	/ / / / / / / / / /	VOLTS 240 240 115 115 240 115 115 115 115 115 115	AMPS 33.3 6.1 1.6 3.5 21.7 13.0 20.8 26.1 13.0 7.2 13.0	QTY 1 1 1 1 1 1 4 2 1 1 1	SIZE 50 20 20 20 30 20 20 20 20 20 20 20 20 20 20 20 20 20	2 1 1 2 1 1 1 1 1 1	50- 20- 40-
	RANGE CONDENS BATH CO EXHAUST FAN COIL REFRIGE GENERAL SMALL AI DISHWAS DISPOSA	SING UNIT (NVENIENCE FAN (ALL) RATOR LIGHTING PPLIANCES SHER	ALL) E OUTLET	WATTS 8000 1460 180 400 5219 1500 2388 3000 1500 830	/ / / / / / / / / / / /	VOLTS 240 240 115 115 240 115 115 115 115 115 115 115 115 115 11	AMPS 33.3 6.1 1.6 3.5 21.7 13.0 20.8 26.1 13.0 7.2	QTY 1 1 1 1 1 1 4 2 1 1	SIZE 50 20 20 20 30 20 20 20 20 20 20 20 20 20 20 20	2 2 1 1 2 1 1 1 1 1	50- 20-

		N.E.C OPT	TON SECTION	220-82				WATTS	WATTS	AMPS	
Р											
0		A/C	1 X	1460	+		219				
W		HEAT	0.65 X	5000	+	1 X	219		3392		
Е											
R	0	GENERAL	LIGHTING 3 X	852		SQ FT		2556			
	Т	SMALL AP	PLIANCES - 2	CCTS				3000			
С	Н	DISHWAS	HER					1500			
Α	Е	DISPOSAL	, 1/3 HP, 115V					830			
L	R	REFRIGER	RATOR					1500			
С		RANGE (O	VEN & SURFA	CE)				8000			
U	L	WASHER	DRYER	,				6500			
L	0	WATER HE	EATER					4500			
Α	Α	MICROWA	VE/HOOD					1500			
Т	D	TOTAL AL	L OTHER LOAD	DS				29886			
1	S	ALL OTHER	R LOADS @ 10	00%					10000		
0		40% OF R	EMAINDER						7954.4		
Ν		TOTAL CA	LCULATED PO	OWER LC	Α	D			21347	88.9	
JNI	T FEEDER	₹:	COMPLY WITH	H LOCAL	Ol	RDINANC	ES				
	0 "4				L						
			OD	2 110		/TIBA/\ A	I OFFINA	OF FEEDED			
	3 - #4	(THW) CU.		3 - #2				CE FEEDER			
UNI	T PANEL	(THW) CU.	OR AMP, MLO, 1-I		-V				DEALKED		
UNI				PHASE, 3		VIRE, 120	0/240 V.	В	REAKER	DOLE.	MUDE
UNI	T PANEL			PHASE, 3 WATTS	/	VIRE, 120	0/240 V. AMPS	B QTY	SIZE	POLE	
UNI	T PANEL RANGE	100	AMP, MLO, 1-I	PHASE, 3 WATTS 8000	/	VIRE, 120 VOLTS 240	0/240 V. AMPS 33.3	B QTY 1	SIZE 50	2	50-3
UNI	RANGE CONDENS	100 SING UNIT (AMP, MLO, 1-I	WATTS 8000 1460	/	VOLTS 240 240	AMPS 33.3 6.1	B QTY 1 1	SIZE 50 20	2 2	50-3
UNI	RANGE CONDENS BATH COI	100 SING UNIT (NVENIENCE	AMP, MLO, 1-I	WATTS 8000 1460 180	/ / /	VIRE, 120 VOLTS 240 240 115	AMPS 33.3 6.1 1.6	B QTY 1 1	50 20 20	2 2 1	WIRE 50-3 20-2
UNI	RANGE CONDENS BATH COI	100 SING UNIT (NVENIENCE	AMP, MLO, 1-I	WATTS 8000 1460 180 400	/ / /	VOLTS 240 240 115 115	AMPS 33.3 6.1 1.6 3.5	B QTY 1 1 1	SIZE 50 20 20 20	2 2 1 1	50-3 20-2
UNI	RANGE CONDENS BATH COI EXHAUST FAN COIL	100 SING UNIT (NVENIENCE FAN . (ALL)	AMP, MLO, 1-I	WATTS 8000 1460 180 400 5219	/ / / / /	VOLTS 240 240 115 115 240	AMPS 33.3 6.1 1.6 3.5 21.7	B QTY 1 1 1 1 1 1 1 1	SIZE 50 20 20 20 20 30	2 2 1 1 2	50-3 20-2
UNI	RANGE CONDENS BATH COI EXHAUST FAN COIL REFRIGE	100 SING UNIT (NVENIENCE FAN . (ALL) RATOR	AMP, MLO, 1-I	WATTS 8000 1460 180 400 5219 1500	/ / / / / /	VOLTS 240 240 115 115 240 115	AMPS 33.3 6.1 1.6 3.5 21.7 13.0	B QTY 1 1 1 1 1	SIZE 50 20 20 20 20 30 20	2 2 1 1 2 1	50-3 20-2
UNI	RANGE CONDENS BATH COI EXHAUST FAN COIL REFRIGEI GENERAL	100 SING UNIT (NVENIENCE FAN . (ALL) RATOR . LIGHTING	AMP, MLO, 1-I	WATTS 8000 1460 180 400 5219 1500 2556	/ / / / / /	VOLTS 240 240 115 115 240 115 115	AMPS 33.3 6.1 1.6 3.5 21.7 13.0 22.2	B QTY 1 1 1 1 1 1 1	SIZE 50 20 20 20 30 20 20	2 2 1 1 2 1	50-3 20-2
UNI	RANGE CONDENS BATH COI EXHAUST FAN COIL REFRIGEI GENERAL SMALL AF	100 SING UNIT (NVENIENCE FAN . (ALL) RATOR . LIGHTING PPLIANCES	AMP, MLO, 1-I	WATTS 8000 1460 180 400 5219 1500 2556 3000	/ / / / / / /	VOLTS 240 240 115 115 240 115 115 115	AMPS 33.3 6.1 1.6 3.5 21.7 13.0 22.2 26.1	B QTY 1 1 1 1 1 1 1 4 2	SIZE 50 20 20 20 30 20 20 20 20	2 2 1 1 2 1 1 1	50-3 20-2
UNI	RANGE CONDENS BATH COI EXHAUST FAN COIL REFRIGEI GENERAL SMALL AF	100 SING UNIT (NVENIENCE FAN . (ALL) RATOR . LIGHTING PPLIANCES	AMP, MLO, 1-I	PHASE, 3 WATTS 8000 1460 180 400 5219 1500 2556 3000 1500	/ / / / / / /	VOLTS 240 240 115 115 240 115 115 115 115	AMPS 33.3 6.1 1.6 3.5 21.7 13.0 22.2 26.1 13.0	B QTY 1 1 1 1 1 1 1	SIZE 50 20 20 20 30 20 20 20 20 20 20 20 20 20 20 20 20 20	2 2 1 1 2 1 1 1 1	50-3 20-2
UNI	RANGE CONDENS BATH COI EXHAUST FAN COIL REFRIGEI GENERAL SMALL AF DISHWAS DISPOSA	100 SING UNIT (NVENIENCE FAN . (ALL) RATOR . LIGHTING PPLIANCES SHER L	AMP, MLO, 1-I	PHASE, 3 WATTS 8000 1460 180 400 5219 1500 2556 3000 1500 830	/ / / / / / / / /	VOLTS 240 240 115 115 240 115 115 115 115 115	AMPS 33.3 6.1 1.6 3.5 21.7 13.0 22.2 26.1 13.0 7.2	B QTY 1 1 1 1 1 1 1 4 2	SIZE 50 20 20 20 30 20 20 20 20 20 20 20 20 20 20 20 20 20	2 2 1 1 2 1 1 1 1 1	50-3
UNI	RANGE CONDENS BATH COI EXHAUST FAN COIL REFRIGEI GENERAL SMALL AF DISHWAS DISPOSA WASHER	100 SING UNIT (NVENIENCE FAN . (ALL) RATOR . LIGHTING PPLIANCES SHER L	AMP, MLO, 1-I	PHASE, 3 WATTS 8000 1460 180 400 5219 1500 2556 3000 1500 830 1500	/ / / / / / / / /	VIRE, 120 VOLTS 240 115 115 115 115 115 115 115 1	AMPS 33.3 6.1 1.6 3.5 21.7 13.0 22.2 26.1 13.0 7.2 13.0	B QTY 1 1 1 1 1 1 4 2 1 1 1	SIZE 50 20 20 20 30 20 20 20 20 20 20 20 20 20 20 20 20 20	2 2 1 1 2 1 1 1 1 1 1	50-3 20-2 30-2
UNI	RANGE CONDENS BATH COI EXHAUST FAN COIL REFRIGEI GENERAL SMALL AF DISHWAS DISPOSA WASHER DRYER	100 SING UNIT (NVENIENCE FAN . (ALL) RATOR . LIGHTING PPLIANCES SHER L	AMP, MLO, 1-I	PHASE, 3 WATTS 8000 1460 180 400 5219 1500 2556 3000 1500 830 1500 5000	/ / / / / / / / / /	VIRE, 120 VOLTS 240 240 115 115 115 115 115 115 115 1	AMPS 33.3 6.1 1.6 3.5 21.7 13.0 22.2 26.1 13.0 7.2 13.0 20.8	B QTY 1 1 1 1 1 1 1 4 2	SIZE 50 20 20 20 30 20 20 20 20 20 20 20 30 30 30 30 30 30	2 2 1 1 2 1 1 1 1 1 1 1 2	50-3 20-2 30-2
UNI	RANGE CONDENS BATH COI EXHAUST FAN COIL REFRIGEI GENERAL SMALL AF DISHWAS DISPOSA WASHER DRYER WATER H	100 SING UNIT (NVENIENCE FAN . (ALL) RATOR . LIGHTING PPLIANCES SHER L	AMP, MLO, 1-I	PHASE, 3 WATTS 8000 1460 180 400 5219 1500 2556 3000 1500 830 1500	/ / / / / / / / / / / /	VIRE, 120 VOLTS 240 240 115 115 115 115 115 115 115 1	AMPS 33.3 6.1 1.6 3.5 21.7 13.0 22.2 26.1 13.0 7.2 13.0	B QTY 1 1 1 1 1 1 4 2 1 1 1	SIZE 50 20 20 20 30 20 20 20 20 20 20 20 20 20 20 20 20 20	2 2 1 1 2 1 1 1 1 1 1	50-3 20-2 30-2

		N.E.C OPT	ION SECTION:	220-82				WATTS	WATTS	AMPS	
Р										do describer and	
0		A/C	1 X	1460	+		219				
W		HEAT	0.65 X		-	1 X	219		3392		
E			0.00 / (2.0		3332		
R	0	GENERAL	LIGHTING 3 X	988	5	SQFT		2964			
	T		PLIANCES - 2					3000			
С	Н	DISHWAS	HER					1500			
Α	E		., 1/3 HP, 115V					830			
L	R	REFRIGER						1500			
С			VEN & SURFAC	CE)				8000			
U	L	WASHER		,				6500			
L	0	WATER HE	EATER					4500			
Α	Α	MICROWA	VE/HOOD					1500			
Т	D	TOTAL AL	L OTHER LOAD	DS				30294			
1	S	ALL OTHER	R LOADS @ 10	0%					10000		
0		40% OF RI	EMAINDER						8117.6		
N		TOTAL CA	LCULATED PO	OWER LC	AD)			21510	89.6	
UN	IT FEEDER	₹:	COMPLY WITH	H LOCAL	ORI	DINANC	ES				
	3 - #4	(THW) CU.	OR	3 - #2	(THW) A	L. SERVI	CE FEEDER			
UN	IT PANEL	100	AMP, MLO, 1-I	PHASE, 3	-WI	IRE, 120)/240 V.				
								В	REAKER		
				WATTS	/\	/OLTS	AMPS	QTY	SIZE	POLE	WIRE
	RANGE			8000	1 2	240	33.3	1	50	2	50-3
	CONDENS	SING UNIT (ALL)	1460	1 2	240	6.1	1	20	2	20-2
	BATH CO	NVENIENCE	OUTLET	180	/ 1	115	1.6	1	20	1	
	EXHAUST	FAN		400	/ 1	115	3.5	1	20	1	
		(ALL)		5219	1 2	240	21.7	1	30	2	30-2
	FAN COIL			4500	/ 1	115	13.0	1	20	1	
	FAN COIL REFRIGE	RATOR		1500	/			_	20	1	
	REFRIGE	RATOR LIGHTING		1500 2964	-	115	25.8	5	20		
	REFRIGE GENERAL				/ 1		25.8 26.1	2	20	1	
	REFRIGE GENERAL	LIGHTING PPLIANCES	3	2964	/ 1 / 1	115					
	REFRIGE GENERAL SMALL AF	LIGHTING PPLIANCES SHER		2964 3000	/ 1 / 1 / 1	115 115	26.1	2	20	1	
	REFRIGEI GENERAL SMALL AF DISHWAS	LIGHTING PPLIANCES SHER L		2964 3000 1500	/ 1 / 1 / 1 / 1	115 115 115	26.1 13.0	2	20 20 **	1 1	
	REFRIGEI GENERAL SMALL AF DISHWAS DISPOSA	LIGHTING PPLIANCES SHER L		2964 3000 1500 830	/ 1 / 1 / 1 / 1 / 1	115 115 115 115	26.1 13.0 7.2	2 1 1	20 20 ** 20	1 1 1	30-3
	REFRIGE GENERAL SMALL AF DISHWAS DISPOSA WASHER	LIGHTING PPLIANCES SHER L		2964 3000 1500 830 1500	/ 1 / 1 / 1 / 1 / 1 / 2	115 115 115 115 115 240	26.1 13.0 7.2 13.0	2 1 1	20 20 ** 20 20	1 1 1 1	30-3 30-2

			ILATIONS -				WATTS	WATTS	AMPS	
Р		N.E.C OPT	ION SECTION	220-02			WAIIS	WAIIS	AIVIPS	
		A/O	4 \	4.400		040				
0		A/C	1 X		_	219		0000		
W		HEAT	0.65 X	5000	+ 1 X	219		3392		
E	0	OFNEDAL	LIGHTING	4050	00.55		2474			
R	0		LIGHTING 3 X		SQ FT		3174			
С	T		PLIANCES - 2	CCIS			3000 1500			
	Н	DISHWAS	5. //s==00 N	,			10.00.000			
A	E		_, 1/3 HP, 115V				830			
L	R	REFRIGER		OF\			1500			
С			VEN & SURFA	∪ ⊏)			8000			
U	L 0	WASHER/					6500 4500			
L	_	WATER H								
A T	A	MICROWA	L OTHER LOA	DS			1500			
1	D S						30504	10000		
0	3		R LOADS @ 10 EMAINDER	JU 70				8201.6		
N			LCULATED PO	OWEDIO	AD.			21594	90.0	
	T FEEDER		COMPLY WIT)EC		21094	90.0	
ואוט	I FEEDER	(.	COMPLY WITH	H LOCAL (DRUINAING)E3				
	3 - #4	(THW) CU	OR	3 - #2	(TH\\\\) \	AL SERVI	CE FEEDER			
INI	T PANEL	100	AMP, MLO, 1-				OLILLBLIX			
OIVI	IIANLL	100	AIVII , IVILO, 1-	I TIAOL, 0	VVIIXE, 12	0/240 V.	BREAKER			
				MATTS	/ VOLTS	AMPS	QTY	SIZE	POLE	WIRE
	RANGE				/ 240	33.3	1	50	2	50-3
		SING UNIT (ΔΙΙ)		/ 240	6.1	1	20	2	20-2
		NVENIENCE			/ 115	1.6	1	20	1	20 2
	EXHAUST		LOGILLI		/ 115	3.5	1	20	1	
	FAN COIL				/ 240	21.7	1	30	2	30-2
	REFRIGE				/ 115	13.0	1	20	1	00 2
		LIGHTING			/ 115	28.0	5	20	1	
		PPLIANCES			/ 115	26.1	2	20	1	
	DISHWAS				/ 115	13.0	1	20 **	1	
	DISPOSA				/ 115	7.2	1	20	1	
	WASHER	1			/ 115	13.0	1	20	1	
	DRYER				/ 240	20.8	1	30	2	30-3
	WATER	IEATER			/ 240	18.8	1	30	2	30-2
				1000					_	

LOAD CENTERS:

A. UNIT LOAD CENTERS SHALL BE INSTALLED AT 57" TO TOP OF BOX.





Structural Engineer:

VIEWTECH INC. 4205 Beltway Dr. Addison, TX 75001 Victor Lisiak III 972.661.8187

MEP Engineer:

ENCOTECH 8500 Bluffstone Cove, Austin, TX. 78759 Tessa Roberts 512.338.1101

Civil Engineer:

MBC & Associates, Inc 1035 Central Pkwy N, San Antonio, TX 78732 David Allen 210.545.1122

Landscape Architect:

LEE & Associates, Inc. 9020 N Capital of Texas Hwy, Austin, TX. 78759 Amber Rothwell 512.345.8477

Interior Designer:

SJL Design Group 921 N. Riverfront Blvd. Suite 100, Dallas, TX 75207 Cassie Farley 214.443.9090

ISSUANCES		
01	SCHEMATIC DESIGN	09.10.18
02	DEVELOPMENT DESIGN	11.09.18
03	PERMIT SET	01.28.19

REVISIONS



a multifamily project for NRP Group

West Cevallos
San Antonio, Texas

ELECTRICAL UNIT CALCULATIONS

Project Number 18054

Date 01/14/2018

Drawn By TLR

Checked By EEC

F401

		N.E.C OPT	ION SECTION	220-82				WATTS	WATTS	AMPS	
Р											
0		A/C	1 X	1460	+		219				
N		HEAT	0.65 X	5000	+	1 X	219		3392		
E											
R	0	GENERAL	LIGHTING 3 X	1073		SQ FT		3219			
	T	SMALL AP	PLIANCES - 2	CCTS				3000			
С	Н	DISHWASI	HER					1500			
A	E	DISPOSAL	, 1/3 HP, 115V					830			
L	R	REFRIGER	ATOR					1500			
С		RANGE (O'	VEN & SURFA	CE)				8000			
U	L	WASHER/I	DRYER					6500			
L	0	WATER HE	EATER					4500			
Α	Α	MICROWA	VE/HOOD					1500			
T	D	TOTAL ALI	L OTHER LOA	DS				30549			
1	S	ALL OTHER	R LOADS @ 10	00%					10000		
0		40% OF RE	EMAINDER						8219.6		
N		TOTAL CA	LCULATED PO	OWER LO	Α	D			21612	90.0	
ΙΝΙΤ	FEEDER	:	COMPLY WIT	H LOCAL	Ol	RDINANC	ES				
	3 - #4	(THW) CU.	OR	3 - #2		(THW) A	L. SERVI	CE FEEDER			
ΙΝΙ	PANEL	100	AMP, MLO, 1-	PHASE, 3	-V	VIRE, 120)/240 V.				
								В	REAKER		
				WATTS	1	VOLTS	AMPS	QTY	SIZE	POLE	WIRE
	RANGE			8000	1	240	33.3	1	50	2	50-3
	CONDENS	SING UNIT (ALL)	1460	1	240	6.1	1	20	2	20-2
	BATH CO	NVENIENCE	OUTLET	180	1	115	1.6	1	20	1	
	EXHAUST	FAN		400	/	115	3.5	1	20	1	
	FAN COIL	(ALL)		5219	1	240	21.7	1	30	2	30-2
_		RATOR		1500	1	115	13.0	1	20	1	
	REFRIGE									1	
		LIGHTING		3219	1	115	28.0	5	20		
	GENERAL				-		28.0 26.1	5 2	20	1	
	GENERAL	. LIGHTING PPLIANCES		3219	1	115					
	GENERAL SMALL AF	LIGHTING PPLIANCES SHER		3219 3000 1500	1	115	26.1	2	20	1	
	GENERAL SMALL AF DISHWAS	. LIGHTING PPLIANCES SHER L		3219 3000 1500	1	115 115 115	26.1 13.0	2	20 20 **	1 1	
	GENERAL SMALL AF DISHWAS DISPOSA	. LIGHTING PPLIANCES SHER L		3219 3000 1500 830	111	115 115 115 115	26.1 13.0 7.2	2 1 1	20 20 ** 20	1 1 1	30-3
	GENERAL SMALL AF DISHWAS DISPOSA WASHER	LIGHTING PPLIANCES SHER L		3219 3000 1500 830 1500	1 1 1 1	115 115 115 115 240	26.1 13.0 7.2 13.0	2 1 1 1	20 20 ** 20 20	1 1 1 1	30-3 30-2

		N.E.C OPT	TON SECTION	220-82				WATTS	WATTS	AMPS	
Р											
O		A/C	1 X	1460	+		219				
W		HEAT	0.65 X	5000	+	1 X	219		3392		
Е											
R	0	GENERAL	LIGHTING 3 X	1073		SQ FT		3219			
	T	SMALL AP	PLIANCES - 2	CCTS				3000			
C	Н	DISHWAS	HER					1500			
Α	E	DISPOSAL	., 1/3 HP, 115V					830			
L	R	REFRIGER	PATOR					1500			
C		RANGE (O	VEN & SURFA	CE)				8000			
U	L	WASHER	DRYER					6500			
L	0	WATER HE	EATER					4500			
Α	Α	MICROWA						1500			
T	D		L OTHER LOA					30549			
I	S	ALL OTHE	R LOADS @ 10	00%					10000		
0		40% OF R	EMAINDER						8219.6		
N		TOTAL CA	LCULATED P	OWER LO	Α	D			21612	90.0	
UNI	T FEEDER	:	COMPLY WIT	H LOCAL (OF	RDINANC	ES				
	3 - #4	(THW) CU.	OR	3 - #2		(THW) A	L. SERVI	CE FEEDER			
UNI	T PANEL	100	AMP, MLO, 1-	PHASE, 3-	١٨	VIRE, 120	0/208 V.				
								В	REAKER		
				WATTS	/	VOLTS	AMPS	QTY	SIZE	POLE	WIRE
	RANGE			8000	/	240	33.3	1	50	2	50-3
	CONDENS	SING UNIT (ALL)	1460	/	240	6.1	1	20	2	20-2
	BATH CO	NVENIENCE	OUTLET	180	/	115	1.6	1	20	1	
	EXHAUST	FAN		400	/	115	3.5	1	20	1	
	FAN COIL	(ALL)		5219	1	240	21.7	1	30	2	30-2
	REFRIGE	RATOR		1500	1	115	13.0	1	20	1	
	GENERAL	LIGHTING		3219	1	115	28.0	5	20	1	
		PPLIANCES	1	3000	1	115	26.1	2	20	1	
	SMALL AF			1500	/	115	13.0	1	20 **	1	
	SMALL AF	SHER				445	7.2	1	20	1	
				830	/	115					
	DISHWAS	L					13.0	1	20	1	
	DISHWAS DISPOSA	L		830	/	115		1			30-3
	DISHWAS DISPOSA WASHER	L		830 1500	/ /	115 240	13.0	-	20	1	30-3 30-2

		N.E.C OPT	ION SECTION	220-82				WATTS	WATTS	AMPS	
Р											
0		A/C	1 X	2043	+		345				
W		HEAT	0.65 X	8000	+	1 X	345		5424		
Е											
R	O	GENERAL	LIGHTING 3 X	1157		SQ FT		3471			
	T	SMALL AP	PLIANCES - 2	CCTS				3000			
C	Н	DISHWAS	HER					1500			
Α	E	DISPOSAL	., 1/3 HP, 115V					830			
L	R	REFRIGER	RATOR					1500			
C		RANGE (O	VEN & SURFA	CE)				8000			
U	L	WASHER/	DRYER					6500			
L	0	WATER HE	EATER					4500			
Α	Α	MICROWA	VE/HOOD					1500			
Т	D	TOTAL AL	L OTHER LOA	DS				30801			
1	S	ALL OTHE	R LOADS @ 10	0%					10000		
0		40% OF RI	EMAINDER						8320.4		
N		TOTAL CA	LCULATED PO	OWER LO	A	D			23745	98.9	
UNI	T FEEDER	:	COMPLY WITH	H LOCAL	OF	RDINANC	ES				
	3 - #4	(THW) CU	OR	3 - #2		(THW) A	L. SERVI	CE FEEDER			
UNI	T PANEL	100	AMP, MLO, 1-I	PHASE, 3-	٧-	VIRE, 120	0/208 V.				
								В	REAKER		
				WATTS	/	VOLTS	AMPS	QTY	SIZE	POLE	WIF
	RANGE			8000	1	240	33.3	1	50	2	50-
	CONDENS	SING UNIT (ALL)	2043	1	240	8.5	1	20	2	20-
	BATH COI	NVENIENCE	OUTLET	360	1	115	3.1	1	20	1	
	EXHAUST	FAN		800	1	115	7.0	1	20	1	
	FAN COIL	(ALL)		8345	1	240	34.8	1	50	2	50-
	REFRIGE	RATOR		1500	1	115	13.0	1	20	1	
	GENERAL	LIGHTING		3471	1	115	30.2	5	20	1	
	SMALL AF	PPLIANCES	1	3000	1	115	26.1	2	20	1	
	DISHWAS	SHER		1500	1	115	13.0	1	20 **	1	
	DICDOCA	L		830	1	115	7.2	1	20	1	
	DISPOSA			4500	1	115	13.0	1	20	1	
	WASHER			1500							
				5000		1	20.8	1	30	2	30-3
	WASHER				1	240	20.8 18.8	1	30 30	2	30-3 30-2

		N.E.C OPT	ION SECTION	220-82				WATTS	WATTS	AMPS	
Р											
0		A/C	1 X	2043	+		345				
W		HEAT	0.65 X	8000	+	1 X	345		5424		
Е											
R	0	GENERAL	LIGHTING 3 X	1157		SQ FT		3471			
	Т	SMALL AP	PLIANCES - 2	CCTS				3000			
С	Н	DISHWAS	HER					1500			
Α	Е	DISPOSAL	., 1/3 HP, 115V					830			
L	R	REFRIGER	RATOR					1500			
С		RANGE (O	VEN & SURFA	CE)				8000			
U	L	WASHER		·				6500			
L	0	WATER HE	EATER					4500			
Α	Α	MICROWA	VE/HOOD					1500			
Т	D	TOTAL AL	L OTHER LOA	DS				30801			
I	S	ALL OTHE	R LOADS @ 10	0%					10000		
0		40% OF RI	EMAINDER						8320.4		
Ν		TOTAL CA	LCULATED PO	OWER LO	A	D			23745	98.9	
JNI.	T FEEDER	₹:	COMPLY WITH	H LOCAL	OF	RDINANC	ES				
	3 - #4	(THW) CU	OR	3 - #2		(THW) A	L. SERVI	CE FEEDER			
JNI.	T PANEL	100	AMP, MLO, 1-	PHASE, 3	- V	/IRE, 120	/240 V.				
								В	REAKER		
				WATTS	/	VOLTS	AMPS	QTY	SIZE	POLE	WIR
	RANGE			8000	/	240	33.3	1	50	2	50-3
						0.10			00	_	20-2
_	CONDENS	SING UNIT (ALL)	2043	1	240	8.5	1	20	2	20-2
		SING UNIT (NVENIENCE				115	8.5 3.1	1	20	1	20-2
		NVENIENCE		360	1			•			20-2
	BATH CO	NVENIENCE FAN		360	/ /	115 115	3.1	1	20	1	
	BATH CO EXHAUST	nvenience Fan (all)		360 800	/ /	115 115 240	3.1 7.0	1 1	20 20	1	
	BATH CO EXHAUST FAN COIL REFRIGE	nvenience Fan (all)		360 800 8345	/ / /	115 115 240 115	3.1 7.0 34.8	1 1 1 1 1 5	20 20 50	1 1 2	
	BATH CO EXHAUST FAN COIL REFRIGE GENERAL	NVENIENCE FAN . (ALL) RATOR	OUTLET	360 800 8345 1500	/ / / /	115 115 240 115 115	3.1 7.0 34.8 13.0	1 1 1 1	20 20 50 20	1 1 2 1	
	BATH CO EXHAUST FAN COIL REFRIGE GENERAL	NVENIENCE FAN . (ALL) RATOR . LIGHTING PPLIANCES	OUTLET	360 800 8345 1500 3471	/ / / /	115 115 240 115 115 115	3.1 7.0 34.8 13.0 30.2	1 1 1 1 1 5	20 20 50 20 20	1 1 2 1	
	BATH CO EXHAUST FAN COIL REFRIGE GENERAL SMALL AI	NVENIENCE FAN (ALL) RATOR LIGHTING PPLIANCES	OUTLET	360 800 8345 1500 3471 3000 1500	/ / / / / /	115 115 240 115 115 115	3.1 7.0 34.8 13.0 30.2 26.1	1 1 1 1 1 5	20 20 50 20 20 20	1 1 2 1 1	
	BATH CO EXHAUST FAN COIL REFRIGE GENERAL SMALL AI DISHWAS	NVENIENCE FAN . (ALL) RATOR . LIGHTING PPLIANCES SHER L	OUTLET	360 800 8345 1500 3471 3000 1500	/ / / / / /	115 115 240 115 115 115 115 115 115	3.1 7.0 34.8 13.0 30.2 26.1 13.0	1 1 1 1 1 5	20 20 50 20 20 20 20 20 **	1 1 2 1 1	50-2
	BATH CO EXHAUST FAN COIL REFRIGE GENERAL SMALL AI DISHWAS DISPOSA	NVENIENCE FAN . (ALL) RATOR . LIGHTING PPLIANCES SHER L	OUTLET	360 800 8345 1500 3471 3000 1500 830	/ / / / / / /	115 115 240 115 115 115 115 115 115 115	3.1 7.0 34.8 13.0 30.2 26.1 13.0 7.2	1 1 1 1 5 2 1	20 20 50 20 20 20 20 20 **	1 1 2 1 1 1 1 1	50-2
	BATH CO EXHAUST FAN COIL REFRIGE GENERAL SMALL AI DISHWAS DISPOSA WASHER	NVENIENCE FAN . (ALL) RATOR . LIGHTING PPLIANCES SHER L	OUTLET	360 800 8345 1500 3471 3000 1500 830	/ / / / / / / /	115 115 240 115 115 115 115 115 115 115 115 240	3.1 7.0 34.8 13.0 30.2 26.1 13.0 7.2 13.0	1 1 1 1 5 2 1 1	20 20 50 20 20 20 20 ** 20 20 20 20	1 1 2 1 1 1 1 1 1	

		N.E.C OPT	ION SECTION	220-82				WATTS	WATTS	AMPS	
Р											
0		A/C	1 X	2043	+		345				
W		HEAT	0.65 X	8000	+	1 X	345		5424		
E											
R	0	GENERAL	LIGHTING 3 X	1270		SQ FT		3810			
	T	SMALL AP	PLIANCES - 2	CCTS				3000			
C	Н	DISHWAS	HER					1500			
Α	E	DISPOSAL	., 1/3 HP, 115V					830			
L	R	REFRIGER	ATOR					1500			
C		RANGE (O	VEN & SURFA	CE)				8000			
U	L	WASHER/I	DRYER					6500			
L	0	WATER HE	EATER					4500			
Α	A	MICROWA	VE/HOOD					1500			
Т	D	TOTAL AL	L OTHER LOA	DS				31140			
1	S	ALL OTHER	R LOADS @ 10	00%					10000		
0		40% OF RE	EMAINDER						8456		
Ν		TOTAL CA	LCULATED PO	OWER LO	A	D			23880	99.5	
UN	3 - #4 IT PANEL	(THW) CU. 100	OR AMP, MLO, 1-	3 - #2 PHASE, 3	- V			CE FEEDER			
•		100	74411 , 14120, 1	11102,0		, 120	3/200 V.				
					_			В	RFAKER		
				WATTS	/	VOLTS	AMPS		REAKER SIZE	POLE	
	RANGE			WATTS 8000			AMPS 33.3	QTY 1	REAKER SIZE 50	POLE 2	
		SING UNIT (ALL)		/	240		QTY	SIZE		
	CONDENS	SING UNIT (•	8000 2043	/ /	240	33.3	QTY 1	SIZE 50	2	
	CONDENS	NVENIENCE	•	8000 2043 360	/ / /	240 240	33.3 8.5	QTY 1 1	SIZE 50 20	2 2	
	CONDENS BATH CO	NVENIENCE FAN	•	8000 2043 360	/ / /	240 240 115 115	33.3 8.5 3.1	QTY 1 1 1	50 20 20	2 2 1	
	CONDENS BATH CO EXHAUST	NVENIENCE FAN (ALL)	•	8000 2043 360 800	/ / / /	240 240 115 115 240	33.3 8.5 3.1 7.0	QTY 1 1 1 1	SIZE 50 20 20 20	2 2 1 1	
	CONDENS BATH COI EXHAUST FAN COIL REFRIGE	NVENIENCE FAN (ALL)	•	8000 2043 360 800 8345	/ / / /	240 240 115 115 240 115	33.3 8.5 3.1 7.0 34.8	QTY 1 1 1 1 1	SIZE 50 20 20 20 20 50	2 2 1 1 2	
	CONDENS BATH COI EXHAUST FAN COIL REFRIGEI GENERAL	NVENIENCE FAN (ALL) RATOR	OUTLET	8000 2043 360 800 8345 1500	/ / / / / /	240 240 115 115 240 115 115	33.3 8.5 3.1 7.0 34.8 13.0	QTY 1 1 1 1 1 1 1	SIZE 50 20 20 20 20 50	2 2 1 1 2 1	
	CONDENS BATH COI EXHAUST FAN COIL REFRIGEI GENERAL	NVENIENCE FAN - (ALL) RATOR - LIGHTING PPLIANCES	OUTLET	8000 2043 360 800 8345 1500 3810	/ / / / / / / /	240 240 115 115 240 115 115 115	33.3 8.5 3.1 7.0 34.8 13.0 33.1	QTY 1 1 1 1 1 1 1 5	SIZE 50 20 20 20 50 20 20 20	2 2 1 1 2 1	
	CONDENS BATH COI EXHAUST FAN COIL REFRIGE GENERAL SMALL AR	NVENIENCE FAN (ALL) RATOR LIGHTING PPLIANCES SHER	OUTLET	8000 2043 360 800 8345 1500 3810 3000 1500	/ / / / / / /	240 240 115 115 240 115 115 115	33.3 8.5 3.1 7.0 34.8 13.0 33.1 26.1	QTY 1 1 1 1 1 1 5 2	SIZE 50 20 20 20 50 20 20 20 20 20 20 20	2 2 1 1 2 1 1	
	CONDENS BATH COI EXHAUST FAN COIL REFRIGE GENERAL SMALL AF DISHWAS	NVENIENCE FAN (ALL) RATOR LIGHTING PPLIANCES SHER L	OUTLET	8000 2043 360 800 8345 1500 3810 3000 1500	/ / / / / / / / /	240 240 115 115 240 115 115 115 115 115	33.3 8.5 3.1 7.0 34.8 13.0 33.1 26.1 13.0	QTY 1 1 1 1 1 1 5 2 1	SIZE 50 20 20 20 50 20 20 20 20 20 20 20 20 20 20 **	2 2 1 1 2 1 1 1	
	CONDENS BATH COI EXHAUST FAN COIL REFRIGEI GENERAL SMALL AF DISHWAS DISPOSA	NVENIENCE FAN (ALL) RATOR LIGHTING PPLIANCES SHER L	OUTLET	8000 2043 360 800 8345 1500 3810 3000 1500 830	/ / / / / / / / /	240 240 115 115 240 115 115 115 115 115 115	33.3 8.5 3.1 7.0 34.8 13.0 33.1 26.1 13.0 7.2	QTY 1 1 1 1 1 1 5 2 1	SIZE 50 20 20 20 50 20 20 20 20 20 20 20 20 20 20 20	2 2 1 1 2 1 1 1 1	
	CONDENS BATH COI EXHAUST FAN COIL REFRIGE GENERAL SMALL AF DISHWAS DISPOSA WASHER	NVENIENCE FAN (ALL) RATOR LIGHTING PPLIANCES SHER	OUTLET	8000 2043 360 800 8345 1500 3810 3000 1500 830 1500	/ / / / / / / / / / / / / / / /	240 240 115 115 240 115 115 115 115 115 115 115	33.3 8.5 3.1 7.0 34.8 13.0 33.1 26.1 13.0 7.2 13.0	QTY 1 1 1 1 1 1 5 2 1 1 1	SIZE 50 20 20 20 50 20 20 20 20 20 20 20 20 20 20 20 20 20	2 2 1 1 2 1 1 1 1 1	
	CONDENS BATH COI EXHAUST FAN COIL REFRIGEI GENERAL SMALL AF DISHWAS DISPOSA WASHER DRYER WATER H	NVENIENCE FAN (ALL) RATOR LIGHTING PPLIANCES SHER	OUTLET	8000 2043 360 800 8345 1500 3810 3000 1500 830 1500 5000	/ / / / / / / / / / /	240 240 115 115 240 115 115 115 115 115 115 115 240 240	33.3 8.5 3.1 7.0 34.8 13.0 33.1 26.1 13.0 7.2 13.0 20.8	QTY 1 1 1 1 1 1 5 2 1 1 1 1	SIZE 50 20 20 20 50 20 20 20 20 20 20 20 20 30	2 2 1 1 2 1 1 1 1 1 1 1	

		N.E.C OPT	TON SECTION	220-82			WATTS	WATTS	AMPS	
Р										
O		A/C	1 X	2043 -	-	345				
W		HEAT	0.65 X	8000 -	1 X	345		5424		
Е										
R	0	GENERAL	LIGHTING 3 X	1270	SQ FT		3810			
	Т	SMALL AP	PLIANCES - 2	CCTS			3000			
С	Н	DISHWAS	HER				1500			
Α	Е	DISPOSAL	., 1/3 HP, 115V				830			
L	R	REFRIGER	RATOR				1500			
С		RANGE (O	VEN & SURFA	CE)			8000			
U	L	WASHER					6500			
L	0	WATER HE	EATER				4500			
Α	Α	MICROWA	VE/HOOD				1500			
Т	D	TOTAL AL	L OTHER LOA	DS			31140			
1	S	ALL OTHE	R LOADS @ 10	00%				10000		
0			EMAINDER					8456		
N		TOTAL CA	LCULATED P	OWER LOA	AD.			23880	99.5	
UN	IT FEEDER	? :	COMPLY WIT	H LOCAL C	RDINAN	CES				
	3 - #4	(THW) CU	OR	3 - #2	(THW)	AL SERVIO	CE FEEDER			
LINI	T PANEL	100	AMP, MLO, 1-				OL I LLBLIX			
011	TIANEL	100	7 dvii , iviEO, i	I TVOL, ON	/ VIII (C., 12	.0/Z+0 V.	В	REAKER		
				WATTS /	VOLTS	AMPS	QTY	SIZE	POLE	WIF
	RANGE			8000 /		33.3	1	50	2	50-
		SING UNIT (ALL)	2043 /		8.5	1	20	2	20-
		NVENIENCE		360 /		3.1	1	20	1	
	EXHAUST			800 /		7.0	1	20	1	
	FAN COIL			8345 /		34.8	1	50	2	50-
	REFRIGE			1500 /		13.0	1	20	1	
		LIGHTING		3810 /		33.1	5	20	1	
		PPLIANCES	S	3000 /		26.1	2	20	1	
	DISHWAS			1500 /		13.0	1	20 **	1	
				830 /		7.2	1	20	1	
		L				13.0	1	20	1	
	DISPOSA	1		1500 /	115	13.0				
	DISPOSA WASHER	1		1500 / 5000 /			1			30-
	DISPOSA			1500 / 5000 / 4500 /	240	20.8		30 30	2 2	30- 30-

LOAD CENTERS:
A. UNIT LOAD CENTERS SHALL BE INSTALLED AT 57" TO TOP OF BOX.





VIEWTECH INC. 4205 Beltway Dr. Addison, TX 75001 Victor Lisiak III 972.661.8187

MEP Engineer:

ENCOTECH 8500 Bluffstone Cove, Austin, TX. 78759 Tessa Roberts 512.338.1101

Civil Engineer:

MBC & Associates, Inc 1035 Central Pkwy N, San Antonio, TX 78732 David Allen 210.545.1122

Landscape Architect:

LEE & Associates, Inc. 9020 N Capital of Texas Hwy, Austin, TX. 78759 Amber Rothwell

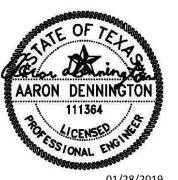
Interior Designer:

512.345.8477

SJL Design Group 921 N. Riverfront Blvd. Suite 100, Dallas, TX 75207 Cassie Farley 214.443.9090

ISSUANCES		
01	SCHEMATIC DESIGN	09.10.18
02	DEVELOPMENT DESIGN	11.09.18
03	PERMIT SET	01.28.19

REVISIONS



a multifamily project for NRP Group

West Cevallos
San Antonio, Texas

ELECTRICAL UNIT CALCULATIONS

Project Number 18054

Date 01/14/2018

Drawn By TLR

Checked By EEC

F402

		N E C ODT	TON SECTION	220 02				WATTS	WATTS	AMPS	
Р		N.E.C OF I	ION SECTION	220-02				WATIS	WAIIS	AIVIFO	
		A /O	4 1/	0040	_		245				
0		A/C	1 X				345		5.40.4		
W		HEAT	0.65 X	8000	+	1 X	345		5424		
E											
R	0		LIGHTING 3 X			SQ FT		3945			
	T		PLIANCES - 2	CCTS				3000			
С	H	DISHWAS	5/1601 22 71					1500			
Α	E		., 1/3 HP, 115V					830			
L	R	REFRIGER						1500			
С			VEN & SURFA	CE)				8000			
U	L	WASHER/	–					6500			
L	0	WATER H	EATER					4500			
Α	Α	MICROWA	VE/HOOD					1500			
Τ	D	TOTAL AL	L OTHER LOAI	DS				31275			
I	S	ALL OTHE	R LOADS @ 10	00%					10000		
0		40% OF R	EMAINDER						8510		
N		TOTAL CA	LCULATED PO	OWER LO	A	D			23934	99.7	
JN	IT FEEDER	?:	COMPLY WITH	H LOCAL	OF	RDINANC	ES				
	3 - #4	(THW) CU	. OR	3 - #2		(THW) A	L. SERVI	CE FEEDER			
JN	IT PANEL	100	AMP, MLO, 1-I	PHASE, 3-	-V	VIRE, 120)/240 V.				
								В	REAKER		
				WATTS	1	VOLTS	AMPS	QTY	SIZE	POLE	WIRE
	RANGE			8000	1	240	33.3	1	50	2	50-3
	CONDENS	SING UNIT (ALL)	2043	1	240	8.5	1	20	2	20-2
		NVENIENCE	•			115	3.1	1	20	1	
	EXHAUST					115	7.0	1	20	1	
	FAN COIL			8345	-		34.8	1	50	2	50-2
	REFRIGE	,		1500			13.0	1	20	1	
		LIGHTING		3945			34.3	5	20	1	
		PPLIANCES		3000			26.1	2	20	1	
	DISHWAS			1500			13.0	1	20 **	1	
	DISPOSA					115	7.2	1	20	1	
	WASHER			1500			13.0	1	20	1	
	DRYER			5000			20.8	1	30	2	30-3
	1 /1 \ 1 1 \				1	LTU	20.0		00	_	00-0
	WATER H	IEΔTED		4500	1	240	18.8	1	30	2	30-2

* UNIT LOAD CENTERS SHALL BE RATED FOR 10,000 AIC

** PROVIDE GFCI-TYPE BREAKER

		N.E.C OPT	ION SECTION	220-82				WATTS	WATTS	AMPS	
Р											
0		A/C	1 X	2043	+		345				
N		HEAT	0.65 X	8000	+	1 X	345		5424		
Ε											
R	0	GENERAL	LIGHTING 3 X	1318		SQ FT		3954			
	Т	SMALL AP	PLIANCES - 2	CCTS				3000			
C	Н	DISHWASH	HER					1500			
Α	E	DISPOSAL	, 1/3 HP, 115V					830			
L	R	REFRIGER	ATOR					1500			
C		RANGE (O'	VEN & SURFA	CE)				8000			
U	L	WASHER/I	DRYER					6500			
L	0	WATER HE	ATER					4500			
Α	Α	MICROWA	VE/HOOD					1500			
Т	D	TOTAL ALI	L OTHER LOA	DS				31284			
1	S	ALL OTHER	R LOADS @ 10	00%					10000		
0		40% OF RE	EMAINDER						8513.6		
N		TOTAL CA	LCULATED PO	OWER LO	A	D			23938	99.7	
JN	IT FEEDER	:	COMPLY WIT	H LOCAL	O	RDINANC	ES				
	3 - #4	(THW) CU.	OR	3 - #2		(THW) A	L. SERVIC	CE FEEDER			
JN	IT PANEL	100	AMP, MLO, 1-	PHASE, 3	-۷	VIRE, 120)/240 V.				
			,	,				В	REAKER		
				WATTS	1	VOLTS	AMPS	QTY	SIZE	POLE	WIRE
	RANGE			8000	1	240	33.3	1	50	2	50-3
	CONDENS	SINIC LINIT (0.40	0.5		00	2	20-02
			ALL)	2043	/	240	8.5	1	20	_	
		VVENIENCE	,		-	115	3.1	1	20	1	
		VVENIENCE	,	360	1			1 1 1			
	BATH COI EXHAUST	VENIENCE FAN	,	360	/ /	115 115	3.1	1 1 1 1	20		50-2
	BATH COI EXHAUST FAN COIL	NVENIENCE FAN (ALL)	,	360 800 8345	/ /	115 115 240	3.1 7.0 34.8	1 1 1 1	20 20	1	50-2
	BATH COI EXHAUST FAN COIL REFRIGER	NVENIENCE FAN (ALL) RATOR	,	360 800	/ / /	115 115 240 115	3.1 7.0 34.8 13.0	1 1 1 1 1 5	20 20 50	1	50-2
	BATH COI EXHAUST FAN COIL REFRIGER GENERAL	NVENIENCE FAN (ALL)	OUTLET	360 800 8345 1500 3954	/ / / /	115 115 240 115 115	3.1 7.0 34.8 13.0 34.4	1 1 1 1 1 5	20 20 50 20	1	50-2
	BATH COI EXHAUST FAN COIL REFRIGER GENERAL SMALL AF	NVENIENCE FAN (ALL) RATOR LIGHTING PPLIANCES	OUTLET	360 800 8345 1500 3954 3000	/ / / / /	115 115 240 115 115 115	3.1 7.0 34.8 13.0 34.4 26.1	1 1 1 1	20 20 50 20 20 20	1	50-2
	BATH COI EXHAUST FAN COIL REFRIGER GENERAL SMALL AF DISHWAS	NVENIENCE FAN (ALL) RATOR LIGHTING PPLIANCES SHER	OUTLET	360 800 8345 1500 3954 3000 1500	/ / / / /	115 115 240 115 115 115 115	3.1 7.0 34.8 13.0 34.4 26.1 13.0	1 1 1 1 1 5	20 20 50 20 20 20 20 20 **	1	50-2
	BATH COI EXHAUST FAN COIL REFRIGER GENERAL SMALL AF DISHWAS DISPOSA	NVENIENCE FAN (ALL) RATOR LIGHTING PPLIANCES SHER L	OUTLET	360 800 8345 1500 3954 3000 1500 830	/ / / / / /	115 115 240 115 115 115 115 115 115	3.1 7.0 34.8 13.0 34.4 26.1 13.0 7.2	1 1 1 1 1 5	20 20 50 20 20 20 20 20 ** 20	1	50-2
	BATH COI EXHAUST FAN COIL REFRIGER GENERAL SMALL AF DISHWAS DISPOSA WASHER	NVENIENCE FAN (ALL) RATOR LIGHTING PPLIANCES SHER L	OUTLET	360 800 8345 1500 3954 3000 1500 830 1500	/ / / / / / /	115 115 240 115 115 115 115 115 115 115	3.1 7.0 34.8 13.0 34.4 26.1 13.0 7.2 13.0	1 1 1 1 1 5	20 20 50 20 20 20 20 ** 20 20 *20	1 1 2 1 1 1 1 1	
	BATH COI EXHAUST FAN COIL REFRIGER GENERAL SMALL AF DISHWAS DISPOSA	NVENIENCE FAN (ALL) RATOR LIGHTING PPLIANCES SHER L	OUTLET	360 800 8345 1500 3954 3000 1500 830	/ / / / / / /	115 115 240 115 115 115 115 115 115 115 240	3.1 7.0 34.8 13.0 34.4 26.1 13.0 7.2	1 1 1 1 1 5	20 20 50 20 20 20 20 20 ** 20	1	50-2 30-3 30-2

** PROVIDE GFCI-TYPE BREAKER

		N.E.C OPT	TON SECTION	220-82				WATTS	WATTS	AMPS	
Р											
0		A/C	1 X	2591	+		414				
W		HEAT	0.65 X	8000	+	1 X	414		5469		
Е											
R	0	GENERAL	LIGHTING 3 X	1507		SQ FT		4521			
	T	SMALL AP	PLIANCES - 2	CCTS				3000			
C	Н	DISHWAS	HER					1500			
Α	E	DISPOSAL	., 1/3 HP, 115V					830			
L	R	REFRIGER	RATOR					1500			
С		RANGE (O	VEN & SURFA	CE)				8000			
U	L	WASHER/I	DRYER					6500			
L	0	WATER HE	EATER					4500			
Α	Α	MICROWA	VE/HOOD					1500			
Т	D	TOTAL AL	L OTHER LOA	DS				31851			
1	S	ALL OTHE	R LOADS @ 10	00%					10000		
0		40% OF R	EMAINDER						8740.4		
N		TOTAL CA	LCULATED P	OWER LO	A	D			24210	100.9	
UN	IT FEEDER	₹:	COMPLY WIT	H LOCAL	OF	RDINANC	ES				
	3 - #2	(THW) CU.	OR	3 - #1		(THW) A	L. SERVI	CE FEEDER			
UN	IT PANEL	125	AMP, MLO, 1-	PHASE, 3	-\/	/IRE, 120)/240 V.				
								В	REAKER		
				WATTS	1	VOLTS	AMPS	QTY	SIZE	POLE	WIR
	RANGE			8000	1	240	33.3	1	50	2	50-
	CONDENS	SING UNIT (ALL)	2591	1	240	10.8	1	20	2	20-2
	BATH CO	NVENIENCE	OUTLET	360	1	115	3.1	1	20	1	
	EXHAUST	FAN		800	1	115	7.0	1	20	1	
	FAN COIL	(ALL)		8414	1	240	35.1	1	50	2	50-2
	REFRIGE	RATOR		1500	1	115	13.0	1	20	1	
	GENERAL	LIGHTING		4521	1	115	39.3	6	20	1	
	SMALL AF	PPLIANCES		3000	1	115	26.1	2	20	1	
	DISHWAS	SHER		1500	1	115	13.0	1	20 **	1	
	DISPOSA	L		830	1	115	7.2	1	20	1	
	WASHER			1500	1	115	13.0	1	20	1	
	DRYER			5000	1	240	20.8	1	30	2	30-
		IEATED		4500	1	240	18.8	1	30	2	30-
	WATER H			1000	,						

LOAD CENTERS:	
A. UNIT LOAD CENTERS SHALL B	INSTALLED AT 57" TO TOP OF BOX.



Structural Engineer:

VIEWTECH INC. 4205 Beltway Dr. Addison, TX 75001 Victor Lisiak III 972.661.8187

MEP Engineer:

ENCOTECH 8500 Bluffstone Cove, Austin, TX. 78759 Tessa Roberts 512.338.1101

Civil Engineer:

MBC & Associates, Inc 1035 Central Pkwy N, San Antonio, TX 78732 David Allen 210.545.1122

Landscape Architect:

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Interior Designer:

SJL Design Group 921 N. Riverfront Blvd. Suite 100, Dallas, TX 75207 Cassie Farley 214.443.9090

ISSUANCES		
01	SCHEMATIC DESIGN	09.10.18
02	DEVELOPMENT DESIGN	11.09.18
03	PERMIT SET	01.28.19

REVISIONS



a multifamily project for NRP Group

West Cevallos
San Antonio, Texas

ELECTRICAL UNIT CALCULATIONS

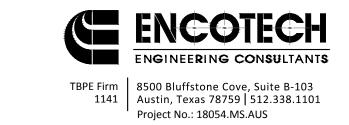
Project Number 18054

Date 01/14/2018

Drawn By TLR

Checked By EEC

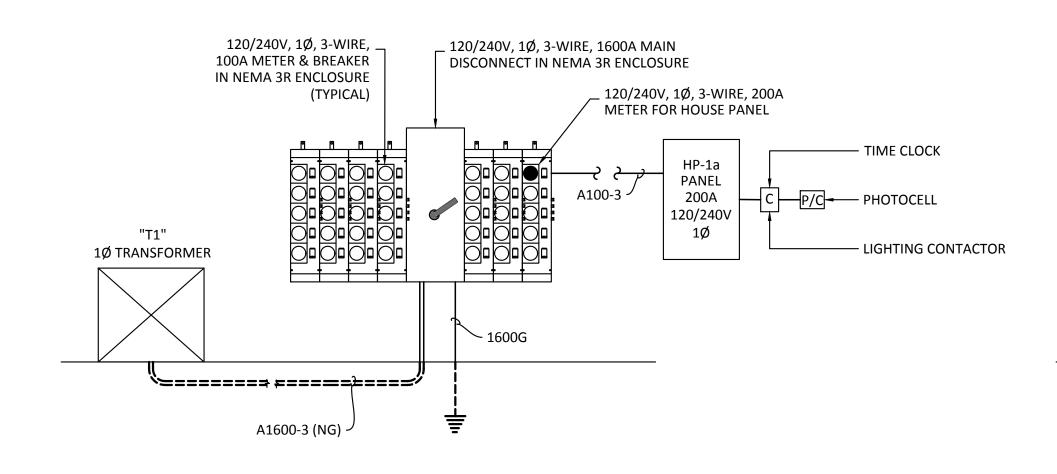
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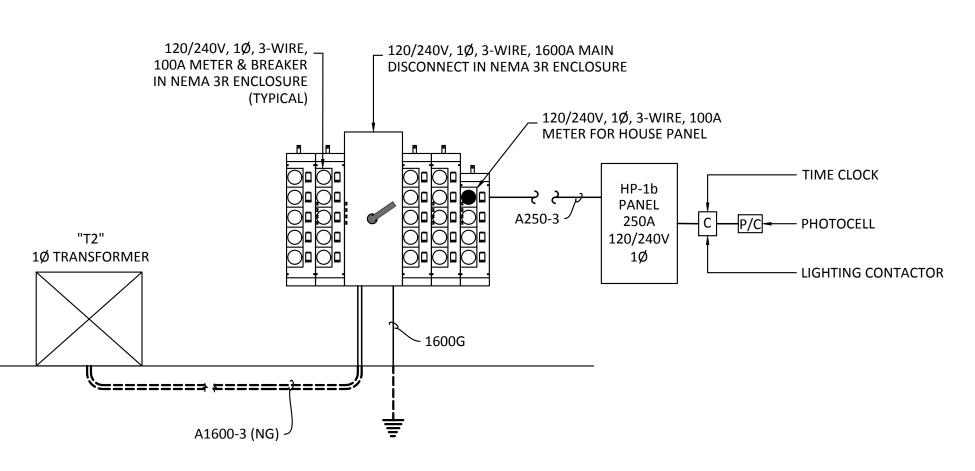


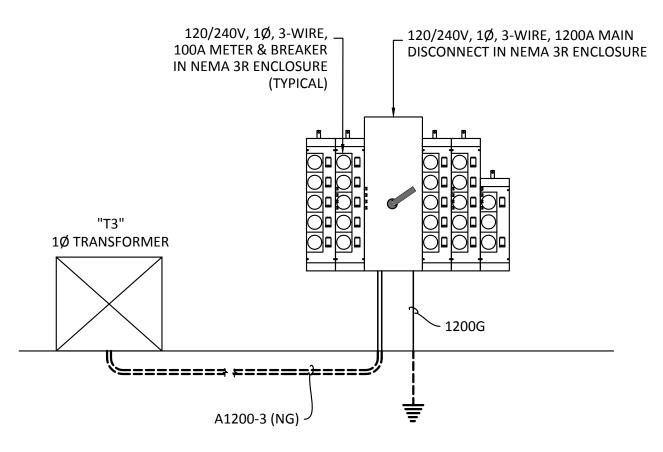
ELECTRICAL CALCULATION F	OK BUILDINGS			
BUILDING TYPE Ia				
UNIT TABULATION				
UNIT TYPE	QUANTITY			
A2	16			
A4	10			
B1	6			
B2	2			
Total Unit Count	34			
Service Voltage/Phase	240 V., 1¢)		
MAIN POWER CALCULATION (PER NEC 220.84)	A2	A4	B1	B2
GENERAL LIGHTING	31824	25560	20826	6942
MICRO/HOOD	24000	15000	9000	3000
SM APPL, D/W, DISP, REF	109280	68300	40980	13660
RANGE	128000	80000	48000	16000
WASHER	24000	15000	9000	300
DRYER	80000	50000	30000	1000
WATER HEATER	72000	45000	27000	900
HEATING LOAD	54272	33920	32544	1084
TOTAL CONNECTED WATTAGE	523376	332780	217350	7245
DEMAND FACTOR	0.3	0.3	0.3	0.3
DEMAND WATTAGE	157013	99834	65205	2173
ADDITIONAL HOUSE WATTAGE	0	0	0	1891
TOTAL DEMAND WATTAGE	157013	99834	65205	4064
TOTAL DEMAND AMPS (PER UNIT TYPE)	654.2	416.0	271.7	169.
TOTAL DEMAND AMPS (PER BUILDING TYPE)				1511.
POWER CENTER (AMP)				160
QUANTITY PER BUILDING				

ELECTRICAL CALCULATION F	OR BUILDINGS	3				
BUILDING TYPE Ib (METERBANK 1)						
UNIT TABULATION						
UNIT TYPE	QUANTITY					
A1	7					
A2	4					
A4	4					
A5	4					
В3	2					
B5	2					
Total Unit Count	23					
Service Voltage/Phase	240 V., 14)				
MAIN POWER CALCULATION (PER NEC 220.84)	A1	A2	A4	A5	В3	В5
GENERAL LIGHTING	13230	7956	10224	11856	7620	790
MICRO/HOOD	10500	6000	6000	6000	3000	300
SM APPL, D/W, DISP, REF	47810	27320	27320	27320	13660	1366
RANGE	56000	32000	32000	32000	16000	1600
WASHER	10500	6000	6000	6000	3000	300
DRYER	35000	20000	20000	20000	10000	1000
WATER HEATER	31500	18000	18000	18000	9000	900
HEATING LOAD	23744	13568	13568	13568	10848	1084
TOTAL CONNECTED WATTAGE	228284	130844	133112	134744	73128	7341
DEMAND FACTOR	0.36	0.36	0.36	0.36	0.36	0.3
DEMAND WATTAGE	82182	47104	47920	48508	26326	2643
ADDITIONAL HOUSE WATTAGE	0	0	0	0	0	2849
TOTAL DEMAND WATTAGE	82182	47104	47920	48508	26326	5492
TOTAL DEMAND AMPS (PER UNIT TYPE)	342.4	196.3	199.7	202.1	109.7	228.
TOTAL DEMAND AMPS (PER BUILDING TYPE)						1279.
POWER CENTER (AMP)						160
QUANTITY PER BUILDING						

BUILDING TYPE Ib (METERBANK 2)						
UNIT TABULATION						
UNIT TYPE	QUANTITY					
A1	7					
A2	4					
A4	4					
A5	4					
B3	2					
B5	2					
Total Unit Count	23					
Service Voltage/Phase	240 V., 10	Ď				
MAIN POWER CALCULATION (PER NEC 220.84)	A1	A2	A4	A5	В3	В5
GENERAL LIGHTING	13230	7956	10224	11856	7620	7
MICRO/HOOD	10500	6000	6000	6000	3000	30
SM APPL, D/W, DISP, REF	47810	27320	27320	27320	13660	136
RANGE	56000	32000	32000	32000	16000	160
WASHER	10500	6000	6000	6000	3000	30
DRYER	35000	20000	20000	20000	10000	10
WATER HEATER	31500	18000	18000	18000	9000	90
HEATING LOAD	23744	13568	13568	13568	10848	108
TOTAL CONNECTED WATTAGE	228284	130844	133112	134744	73128	734
DEMAND FACTOR	0.36	0.36	0.36	0.36	0.36	0
DEMAND WATTAGE	82182	47104	47920	48508	26326	264
ADDITIONAL HOUSE WATTAGE	0	0	0	0	0	
TOTAL DEMAND WATTAGE	82182	47104	47920	48508	26326	26
TOTAL DEMAND AMPS (PER UNIT TYPE)	342.4	196.3	199.7	202.1	109.7	11
TOTAL DEMAND AMPS (PER BUILDING TYPE)						116
POWER CENTER (AMP)						1:
QUANTITY PER BUILDING						







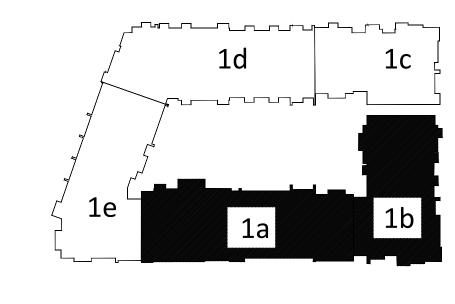
 $1 \frac{\text{BUILDING TYPE 1a}}{\text{N.T.S.}}$ (34+1)

2 BUILDING TYPE 1b (METERBANK 1)
N.T.S.

3 BUILDING TYPE 1b (METERBANK 2)
N.T.S.

(23+1)

(23)



KEY PLAN

SF	PECIAL NOTE
A.	REFER TO SHEET E411 FOR GROUNDING ELECTRODE CONDUCTOR WIRE SIZE TABLE AND FEEDER WIRE SIZING TABLES.

SF	PECIAL NOTE
Α.	PROVIDE A PLACARD AT EACH DISCONNECT STATING THERE ARE MULTIPLE DISCONNECTS FOR EACH FIREWALL SECTION.





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ISSUANCES		
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02	DEVELOPMENT DESIGN	11.09.18
03	PERMIT SET	01.28.19

REVISIONS



a multifamily project for NRP Group

West Cevallos
San Antonio, Texas

ELECTRICAL CALCULATIONS BUILDING 1a & 1b

Project Number 18054

Date 01/14/2018

Drawn By TLR

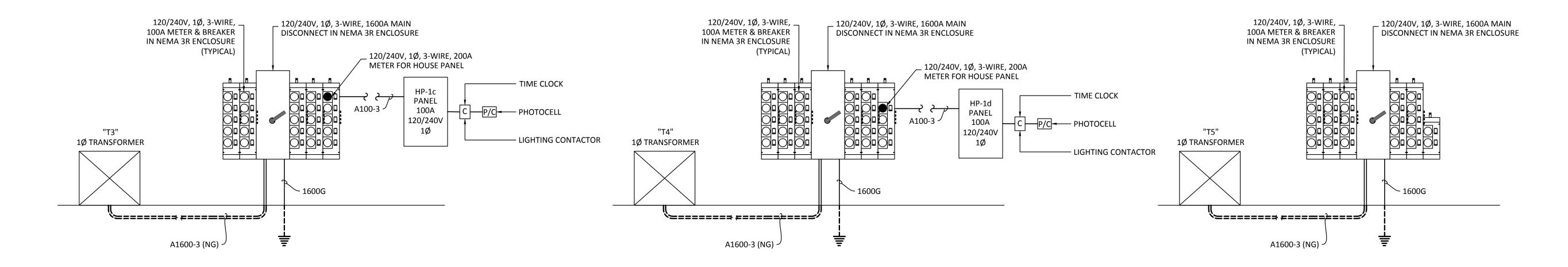
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E404

ELECTRICAL CALCULATION F	OR BUILDINGS	S				
BUILDING TYPE Ic						
UNIT TABULATION						
UNIT TYPE	QUANTITY					
A1	4					
A4	4					
A6	4					
B3	4					
B5	4					
C1	4					
Total Unit Count	24					
Service Voltage/Phase	240 V., 10	Ď				
MAIN POWER CALCULATION (PER NEC 220.84)	A1	A4	A6	В3	В5	C1
GENERAL LIGHTING	7560	10224	12696	13884	15780	18084
MICRO/HOOD	6000	6000	6000	6000	6000	6000
SM APPL, D/W, DISP, REF	27320	27320	27320	27320	27320	27320
RANGE	32000	32000	32000	32000	32000	32000
WASHER	6000	6000	6000	6000	6000	6000
DRYER	20000	20000	20000	20000	20000	20000
WATER HEATER	18000	18000	18000	18000	18000	18000
HEATING LOAD	13568	13568	13568	21696	21696	21876
TOTAL CONNECTED WATTAGE	130448	133112	135584	144900	146796	149280
DEMAND FACTOR	0.35	0.35	0.35	0.35	0.35	0.35
DEMAND WATTAGE	45657	46589	47454	50715	51379	52248
ADDITIONAL HOUSE WATTAGE	0	0	0	0	0	19618
TOTAL DEMAND WATTAGE	45657	46589	47454	50715	51379	71866
TOTAL DEMAND AMPS (PER UNIT TYPE)	190.2	194.1	197.7	211.3	214.1	299.4
TOTAL DEMAND AMPS (PER BUILDING TYPE)						1306.9
POWER CENTER (AMP)						1600
QUANTITY PER BUILDING						12

ELECTRICAL CALCULATION	OK BUILDINGS						
BUILDING TYPE Id (METERBANK 1)							
UNIT TABULATION							
UNIT TYPE	QUANTITY						
A1	2						
A2	2						
A4	14						
A5	4						
A7	2						
B1	2						
B2	2						
Total Unit Count	28						
Service Voltage/Phase	240 V., 1Φ						
MAIN POWER CALCULATION	A1	A2	A4	A5	A7	B1	B2
GENERAL LIGHTING	3780	3978	35784	11856	6438	6942	6942
MICRO/HOOD	3000	3000	21000	6000	3000	3000	3000
SM APPL, D/W, DISP, REF	13660	13660	95620	27320	13660	13660	13660
RANGE	16000	16000	112000	32000	16000	16000	16000
WASHER	3000	3000	21000	6000	3000	3000	3000
DRYER	10000	10000	70000	20000	10000	10000	10000
WATER HEATER	9000	9000	63000	18000	9000	9000	9000
HEATING LOAD	6784	6784	47488	13568	6784	10848	10848
TOTAL CONNECTED WATTAGE	65224	65422	465892	134744	67882	72450	72450
DEMAND FACTOR	0.33	0.33	0.33	0.33	0.33	0.33	0.33
DEMAND WATTAGE	21524	21589	153744	44466	22401	23909	23909
ADDITIONAL HOUSE WATTAGE	0	0	0	0	0	0	15680
TOTAL DEMAND WATTAGE	21524	21589	153744	44466	22401	23909	39589
TOTAL DEMAND AMPS (PER UNIT TYPE)	89.7	90.0	640.6	185.3	93.3	99.6	165.0
TOTAL DEMAND AMPS (PER BUILDING TYPE)							1363.4
POWER CENTER (AMP)							1600
QUANTITY PER BUILDING							1

QUANTITY						
2						
2						
13						
4						
2						
2						
2						
27						
240 V., 1Φ)					
A1	A2	A4	A5	A7	B1	B2
3780	3978	33228	11856	6438	6942	6942
3000	3000	19500	6000	3000	3000	3000
13660	13660	88790	27320	13660	13660	13660
16000	16000	104000	32000	16000	16000	16000
3000	3000	19500	6000	3000	3000	3000
10000	10000	65000	20000	10000	10000	10000
9000	9000	58500	18000	9000	9000	9000
6784	6784	44096	13568	6784	10848	10848
65224	65422	432614	134744	67882	72450	72450
0.34	0.34	0.34	0.34	0.34	0.34	0.34
22176	22243	147089	45813	23080	24633	24633
0	0	0	0	0	0	15000
22476	22243	147089	45813	23080	24633	39633
22176	10					
92.4	92.7	612.9	190.9	96.2	102.6	165.1
		50 50 E 5	190.9	96.2	102.6	165.1 1352.8
	2 2 13 4 2 2 2 2 2 27 240 V., 1 Ф A1 3780 3000 13660 16000 3000 10000 9000 6784 65224 0.34 22176	2 2 13 4 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 3780 3978 3000 3000 13660 13660 16000 16000 3000 3000 10000 10000 9000 9000 6784 6784 65224 65422 0.34 0.34 22176 22243	2 13 4 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2 13 4 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2 2 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	2 2 13 4 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2



 $1 \frac{\text{BUILDING TYPE 1c}}{\text{N.T.S.}}$ (24+1)

2 BUILDING TYPE 1d (METERBANK 1)
N.T.S.

3 BUILDING TYPE 1d (METERBANK 2)
N.T.S.

(28+1)

1d 1c

1e 1a 1b

KEY PLAN

N.T.S.

(27)

A. REFER TO SHEET E411 FOR GROUNDING ELECTRODE CONDUCTOR WIRE SIZE TABLE AND FEEDER WIRE SIZING TABLES.

A. PROVIDE A PLACARD AT EACH DISCONNECT STATING THERE ARE MULTIPLE DISCONNECTS FOR EACH FIREWALL SECTION.





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03	PERMIT SET	01.28.19

REVISIONS



a multifamily project for NRP Group

West Cevallos
San Antonio, Texas

ELECTRICAL CALCULATIONS BUILDING 1c & 1d

Project Number 18054

Date 01/14/2018

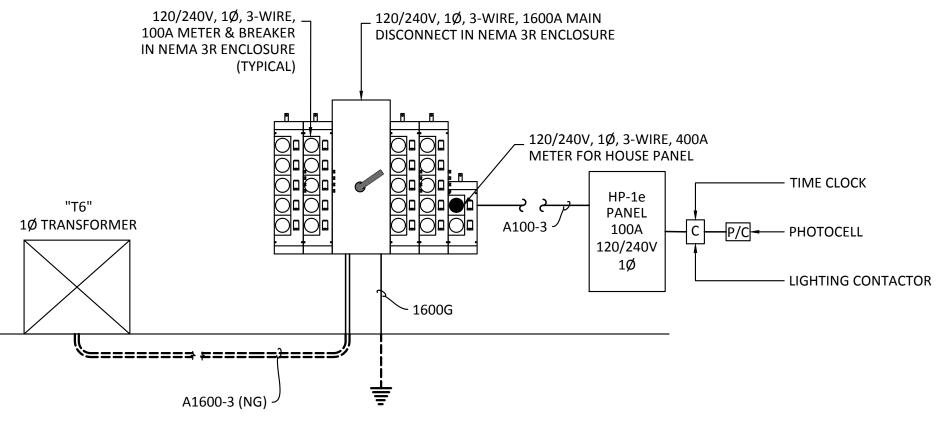
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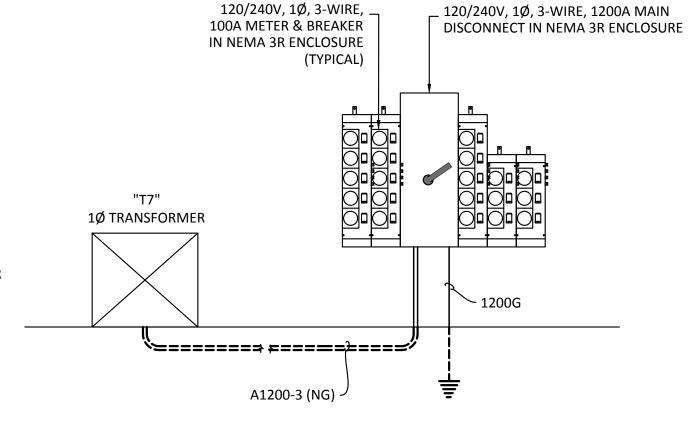
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BUILDING TYPE Ie (METERBANK 1)						
,						
UNIT TABULATION	OLIANITITY					
UNIT TYPE	QUANTITY					
A1	4					
A2	9					
A5	2					
B2	2					
B3	2					
B6	2					
Total Unit Count	21					
Service Voltage/Phase	240 V., 10	Þ				
MAIN POWER CALCULATION (PER NEC 220.84)	A1	A2	A5	B2	В3	В6
GENERAL LIGHTING	7560	23004	5928	6942	7620	7908
MICRO/HOOD	6000	13500	3000	3000	3000	3000
SM APPL, D/W, DISP, REF	27320	61470	13660	13660	13660	13660
RANGE	32000	72000	16000	16000	16000	16000
WASHER	6000	13500	3000	3000	3000	3000
DRYER	20000	45000	10000	10000	10000	10000
WATER HEATER	18000	40500	9000	9000	9000	9000
HEATING LOAD	13568	30528	6784	10848	10848	10938
TOTAL CONNECTED WATTAGE	130448	299502	67372	72450	73128	73506
DEMAND FACTOR	0.37	0.37	0.37	0.37	0.37	0.37
DEMAND WATTAGE	48266	110816	24928	26807	27057	27197
ADDITIONAL HOUSE WATTAGE	0	0	0	0	0	33732
TOTAL DEMAND WATTAGE	48266	110816	24928	26807	27057	60929
TOTAL DEMAND AMPS (PER UNIT TYPE)	201.1	461.7	103.9	111.7	112.7	253.9
TOTAL DEMAND AMPS (PER BUILDING TYPE)						1245.0
POWER CENTER (AMP)						1600
QUANTITY PER BUILDING						1

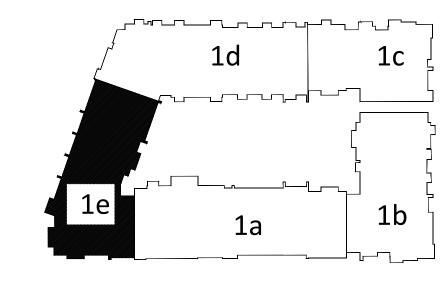
IG TYPE le (METERBANK 2)						
BULATION						
E QUAI	NTITY					
A1	4					
A2	9					
A5	2					
B2	2					
B3	2					
B6	2					
Total Unit Count	21					
Service Voltage/Phase 240	V., 14)				
WER CALCULATION (PER NEC 220.84)	A1	A2	A5	B2	В3	В6
LIGHTING	7560	23004	5928	6942	7620	7908
OOD	6000	13500	3000	3000	3000	3000
, D/W, DISP, REF	27320	61470	13660	13660	13660	13660
	32000	72000	16000	16000	16000	16000
	6000	13500	3000	3000	3000	3000
	20000	45000	10000	10000	10000	10000
EATER	18000	40500	9000	9000	9000	9000
LOAD	13568	30528	6784	10848	10848	10938
ONNECTED WATTAGE 1	30448	299502	67372	72450	73128	73506
FACTOR	0.37	0.37	0.37	0.37	0.37	0.37
WATTAGE	48266	110816	24928	26807	27057	27197
VAL HOUSE WATTAGE	0	0	0	0	0	6000
EMAND WATTAGE	48266	110816	24928	26807	27057	33197
EMAND AMPS (PER UNIT TYPE)	201.1	461.7	103.9	111.7	112.7	138.3
EMAND AMPS (PER BUILDING TYPE)						1129.5
CENTER (AMP)						1200
CENTER (AMP) Y PER BUILDING						—





BUILDING TYPE 1e (METERBANK 1) (21+1)
N.T.S.

 $2 \frac{\text{BUILDING TYPE 1e (METER BANK 2)}}{\text{N.T.S.}}$ (21)



KEY PLAN
N.T.S.

SF	PECIAL NOTE
A.	REFER TO SHEET E411 FOR GROUNDING ELECTRODE CONDUCTOR WIRE SIZE TABLE AND FEEDER WIRE SIZING TABLES.

SF	PECIAL NOTE
A.	PROVIDE A PLACARD AT EACH DISCONNECT STATING THERE ARE MULTIPLE DISCONNECTS FOR EACH FIREWALL SECTION.





Structural Engineer:

VIEWTECH INC. 4205 Beltway Dr. Addison, TX 75001 Victor Lisiak III 972.661.8187

MEP Engineer:

ENCOTECH 8500 Bluffstone Cove, Austin, TX. 78759 Tessa Roberts 512.338.1101

Civil Engineer:

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Landscape Architect:

LEE & Associates, Inc. 9020 N Capital of Texas Hwy, Austin, TX. 78759 Amber Rothwell 512.345.8477

Interior Designer:

SJL Design Group 921 N. Riverfront Blvd. Suite 100, Dallas, TX 75207 Cassie Farley 214.443.9090

ISSUANCES		
01	SCHEMATIC DESIGN	09.10.18
02	DEVELOPMENT DESIGN	11.09.18
03	PERMIT SET	01.28.19

REVISIONS



a multifamily project for NRP Group

West Cevallos

San Antonio, Texas

ELECTRICAL CALCULATIONS BUILDING 1e

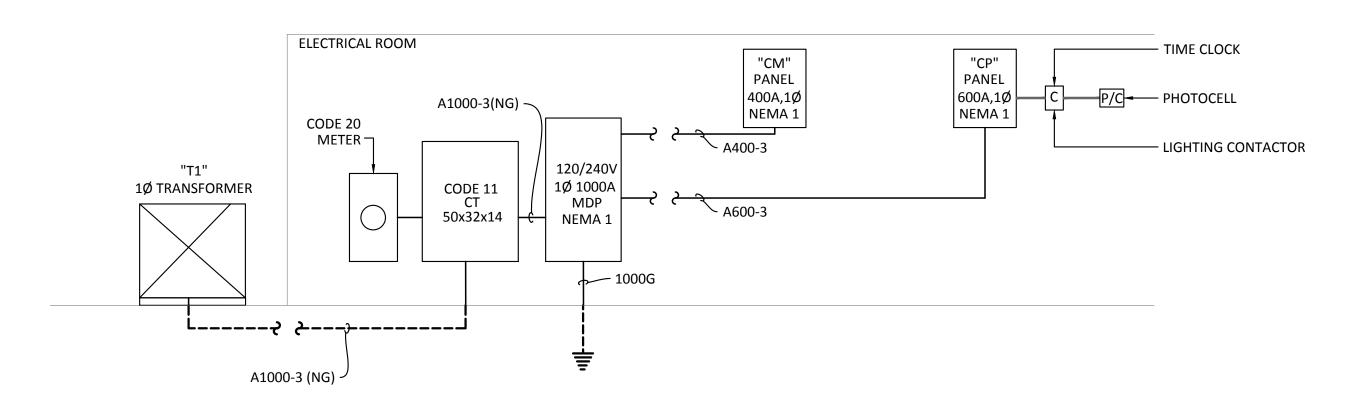
Project Number 18054

Date 01/14/2018

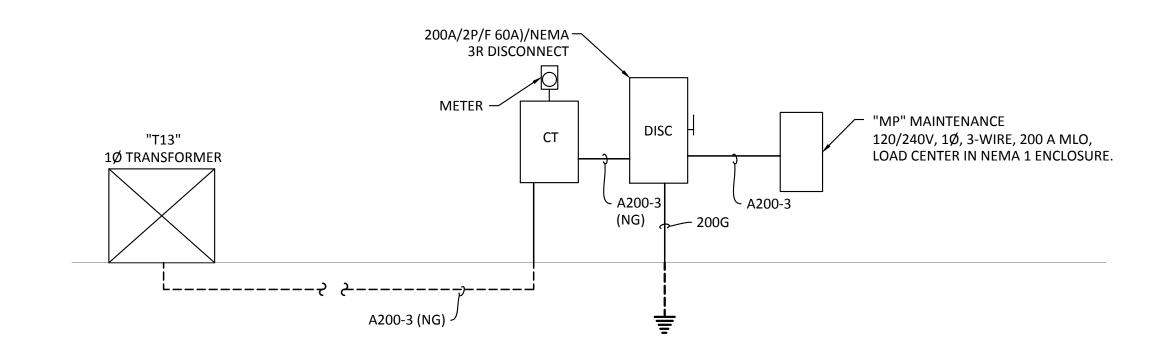
Drawn By TLR

Checked By EEC

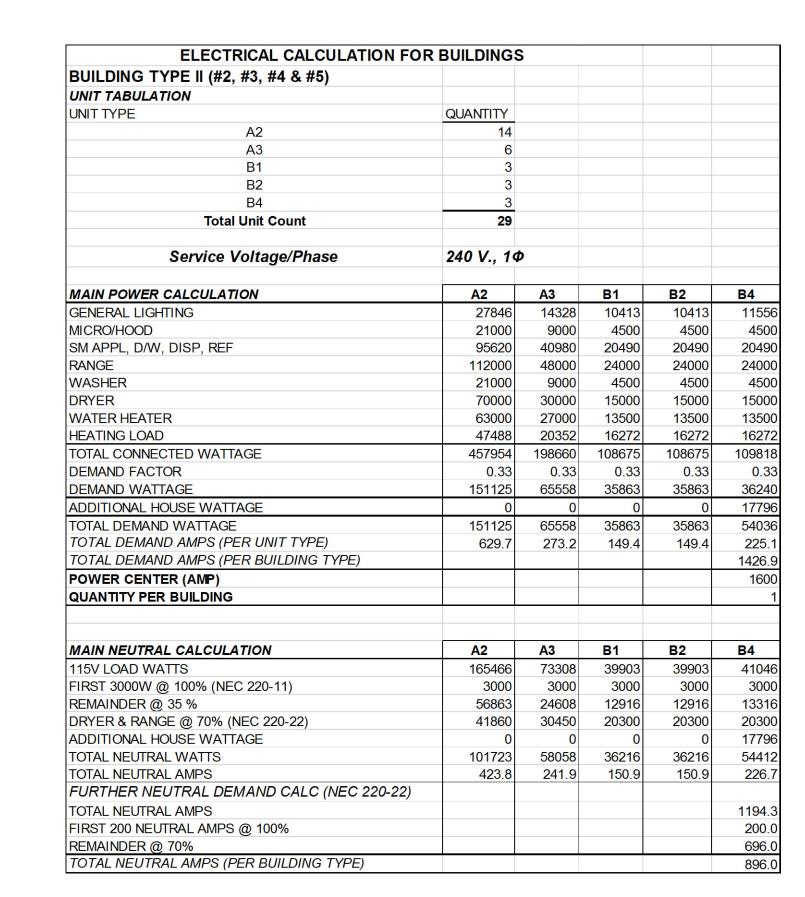
E406

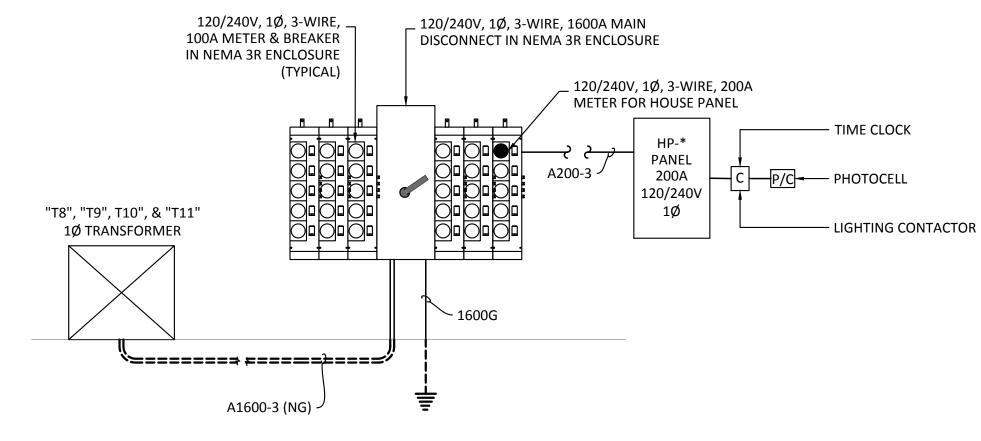


$\begin{array}{c} \text{CLUBHOUSE} \\ \text{N.T.S.} \end{array}$

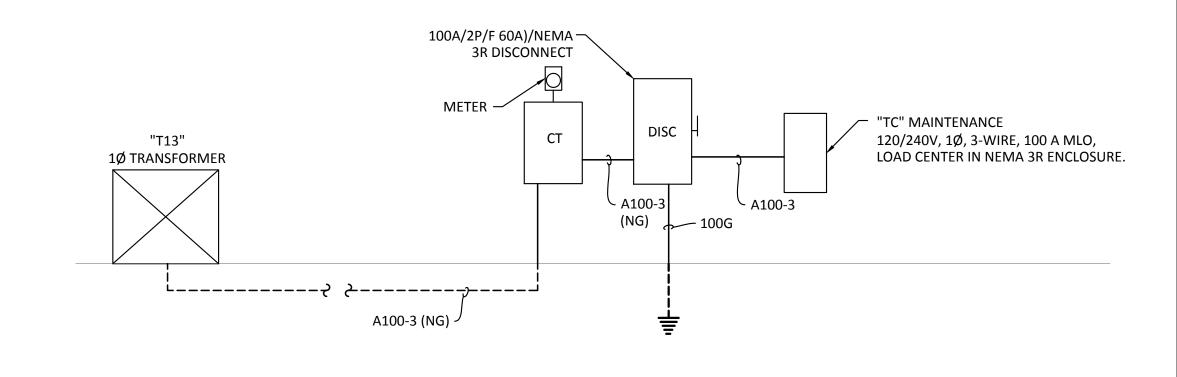


$\frac{\text{MAINTENANCE}}{\text{N.T.S.}}$









2 TRASH COMPACTOR N.T.S.

SF	PECIAL NOTE
A.	REFER TO SHEET E411 FOR GROUNDING ELECTRODE CONDUCTOR WIRE SIZE TABLE AND FEEDER WIRE SIZING TABLES.





Structural Engineer:

VIEWTECH INC. 4205 Beltway Dr. Addison, TX 75001 Victor Lisiak III 972.661.8187

MEP Engineer:

ENCOTECH 8500 Bluffstone Cove, Austin, TX. 78759 Tessa Roberts 512.338.1101

Civil Engineer:

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Interior Designer:

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ISSUANCES		
01	SCHEMATIC DESIGN	09.10.18
02	DEVELOPMENT DESIGN	11.09.18
03	PERMIT SET	01.28.19

REVISIONS



a multifamily project for NRP Group

West Cevallos San Antonio, Texas

ELECTRICAL CALCULATIONS BUILDING TYPE II

Project Number	18054
Date	01/14/2018
Drawn By	TLR
Checked By	EEC

E407

_OAD (CENT	ER SCHEDULE					<u>HP-1a</u>				LOCATION: C.B. RATING:	BUILDING 1, SECTION a 22 K.A.I.C.		
WIRE	T	VOLTAGE	PHASE	WIR	E		MOUNTING			SIZE	LUG	TYPE	T	Ī
SIZE	Y P	240/120V	1	3			SURFACE			200	MLO	NEMA 1	Υ P	WII SIZ
JIZL	Е	USE and/or AREA SEF	RVED	C/B POLE	CIR	ØΑ	LOAD	ØB	CIR	C/B POLE	USE and/	or AREA SERVED	Е	
	(5)	CORRIDOR LIGHTING	LVL 1	20/1	1	291 540			2	20/1	CORRIDO	R RECEPT. LVL 1		
	(5)	CORRIDOR LIGHTING	LVL 2	20/1	3			330 540	4	20/1	CORRIDO	R RECEPT. LVL 2		
	(5)	CORRIDOR LIGHTING	LVL 3	20/1	5	330 720			6	20/1	CORRIDO	R RECEPT. LVL 3		
	(5)	CORRIDOR LIGHTING	LVL 4	20/1	7			384 540	8	20/1	CORRIDO	OR RECPT. LVL 4		
		BUILDING EXTERIOR LIC	GHTING	20/1	9	500 828			10	20/1	SITE	LIGHTING		
		TELECOM QUAD OUT	TLETS	20/1	11		_	720 1000	12	20/1	SITE	LIGHTING		
		TELECOM QUAD OUT	TLETS	20/1	13	720 1008			14	20/1	STAIRW	/ELL LIGHTING	(5)	
		TELECOM QUAD OUT	TLETS	20/1	15		_	1000 1000	16	20/1	EMERGEN	CY & EXIT LIGHTS		
		ENTRY GATE		20/1	17	1000 360			18	20/1	RECE	PTACLE ROOF		
		ENTRY GATE		20/1	19		_	1000 1500	20	20/1	РО	OL LIGHTS		
		POOL COURTYARD LIG	HTING	20/1	21	1000 1000			22	20/1		FACP		
		FOUNTAIN PUMI	D	20/2	23		_	300 1000	24	20/1	TIT	ME CLOCK		
		FOONTAIN FOINI	<u> </u>	20/2	25	300 1000			26	20/1		SPARE		
		POOL PUMP (1.5 H	1D/	20/2	27			1380 1000	28	20/1		SPARE		
		1002101011 (1.51	'' <i>'</i>	20/2	29	1380 1000			30	20/1		SPARE		
		POOL PUMP (1.5 H	1D/	20/2	31			1380 1000	32	20/1		SPARE		
		1002101111 (1.51	,	20,2	33	1380 1000			34	20/1		SPARE		
		DUAL CAR CHARG	FR	40/2	35		1	3840	36					
		DOAL CAN CHANG	LIX	40/2	37	3840			38					
		SPARE		20/1	39		_	1000	40					
		TOTAL LOAD PE	R PHASE			18197		18914			18914 VA / 1	20 V = 158 A		
(① GFC	I ② AFCI ③ AFCI/GFC	CI (4) S	HUNT TRIP	(5)	SWD 6 H.	ACR ⑦ LOC	KABLE	(OPTIONS:	NONE - REFER	TO SPECIFICATIONS		
	FEE	DER OCPD AND CON	DUCTO	R CALC	ULA	TION								
	LOAD	DESCRIPTION		CONNEC	CTED	DEMAND	DEMAND	AMPACITY	F	EEDER	NOTES			
	(LOAD	IN KVA)		LOAI)	FACTOR	LOAD	FACTOR	AΝ	1PACITY	NOTES			
		RIOR LIGHTING		3.34		1.00	3.34	1.25		4.18				
		RIOR LIGHTING		4.83		1.00	4.83	1.25		6.04				
		PTACLES		5.14		*	5.14	1.00		5.14	*FIRST 10 kV/	A AT 100%, REST AT !	50%	
	HVAC			0.00		1.00	0.00	1.00		0.00				
		PMENT		17.8		1.00	17.80	1.00		.7.80				
		HEN EQUIPMENT		0.00)	1.00	0.00	1.00		0.00				
		EST MOTOR	1.5 HP	-		-	-	0.25		0.59				
	SPAR			6.00		1.00	6.00	1.00	+	6.00				
		AL KVA		37.1		-	37.11	-		9.75				
	TOTA	AL AMPS		155	Α	-	155 A	-	1	.66 A	1			

LOAD	CEN	TER SCHEDULE				<u>HP-1b</u>				LOCATION: C.B. RATING:	BUILDING 1, SECTION b 22 K.A.I.C.		
	Т	VOLTAGE PHASE	WIR	E		MOUNTING			SIZE	LUG	TYPE	Т	
WIRE SIZE	Y P	240/120V 1	3			SURFACE			400	MLO	NEMA 3R	Y	WIRE SIZE
SIZE	E	USE and/or AREA SERVED	C/B POLE	CIR	ØΑ	LOAD	ØВ	CIR	C/B POLE	USE and/	or AREA SERVED	E	SIZE
	(5)	CORRIDOR LIGHTING LVL 1	20/1	11	636 540			2	20/1	CORRIDO	R RECEPT. LVL 1		
	(5)	CORRIDOR LIGHTING LVL 2	20/1	3			636 540	4	20/1	CORRIDO	R RECEPT. LVL 2		
	(5)	CORRIDOR LIGHTING LVL 3	20/1	5	636 540			6	20/1	CORRIDO	R RECEPT. LVL 3		
	(5)	CORRIDOR LIGHTING LVL 4	20/1	7		-	636 540	8	20/1	CORRIDO	OR RECPT. LVL 4		
		BUILDING EXTERIOR LIGHTING	20/1	9	500 768			10	20/1	SITE	LIGHTING		
		TELECOM QUAD OUTLETS	20/1	11		1	720 500	12	20/1	SITE	LIGHTING		
		TELECOM QUAD OUTLETS	20/1	13	720 1008]		14	20/1	STAIRW	/ELL LIGHTING	(5)	
		TELECOM QUAD OUTLETS	20/1	15	1000	1	1000 1000	16	20/1	EMERGENC	Y & EXIT LIGHTING		
		TIME CLOCK	20/1	17	1000 900]	1000	18	20/1	RECEF	PTACLE ROOF		
		ELEVATOR SMOKE CURTAIN	20/1	19	300	J	300 650	20					
				21	16620 650]		22	20/2	WATER	HEATER - MEN		
A200-2	4	ELEVATOR (30 HP)	200/2	23	050	J	16620 1000	24	_				
		LIGHT/RECEPTACLE TOP OF SHAF	20/1	25	244 1000]	1000	26	20/2	WATER HI	EATER - WOMEN		
		POOL RESTROOM EXHUAST FAN	20/1	27	1000	1	830 1000	28	20/1		SPARE		
		POOL RESTROOM BASEBOARD HT	20/1	29	600 1000]	1000	30	20/1		SPARE		
		POOL RESTROOM BASEBOARD HT	20/1	31	1000	1	600 1000	32	20/1		SPARE		
		POOL RESTROOM LIGHT/RECEPT	20/1	33	500 1000]	1000	34	20/1		SPARE		
		SPARE	20/1	35	1000	1	1000 1000	36	20/1		SPARE		
				37]	1000	38					
				39		J		40					
		TOTAL LOAD PER PHASE			28862		29572	40		29572 VA / 12	20 V = 246 A		
(① GFO	CI ② AFCI ③ AFCI/GFCI ④ S	HUNT TRIP	(5)	SWD 6 H.	ACR ⑦ LOC			OPTIONS:	NONE - REFER	TO SPECIFICATIONS		
	FEE	DER OCPD AND CONDUCTO	R CALC	ULA	ΓΙΟΝ			<u>I</u>					
		DESCRIPTION DIN KVA)	CONNEC		DEMAND FACTOR	DEMAND LOAD	AMPACITY FACTOR		EEDER MPACITY	NOTES			
	INTE	RIOR LIGHTING	4.55	5	1.00	4.55	1.25		5.69				
	EXTE	RIOR LIGHTING	1.77	7	1.00	1.77	1.25		2.21				
	RECE	EPTACLES	6.24	1	*	6.24	1.00		6.24	*FIRST 10 kV	A AT 100%, REST AT 5	50%	
	HVA		2.03		1.00	2.03	1.00		2.03				
		IPMENT	37.8		1.00	37.84	1.00		37.84				
		HEN EQUIPMENT	0.00)	1.00	0.00	1.00		0.00				
	SPAF	GEST MOTOR 30 HP	6.00	,	- 1.00	6.00	0.25 1.00		7.92 6.00				
		AL KVA	58.4		-	58.43	-	+	67.93				
		AL AMPS	243		_	243 A	_		283 A				

4D (CENT	ER SCHEDULE					<u>HP-1d</u>				LOCATION: C.B. RATING:	BUILDING 1, SECTION of 22 K.A.I.C.		
	Т	VOLTAGE	PHASE	WIR	Ε		MOUNTING			SIZE	LUG	TYPE	Т	
IRE	Y P	240/120V	1	3					200	MLO	NEMA 3R	Υp	WIRE SIZE	
IZE	E	USE and/or AREA SE	RVED	C/B POLE	CIR	ØA	LOAD	ØВ	CIR	C/B POLE	USE and/	or AREA SERVED] F	SIZE
	(5)	CORRIDOR LIGHTING	S LVL 1	20/1	1	636 540			2	20/1	CORRIDO	R RECEPT. LVL 1		
	(5)	CORRIDOR LIGHTING	6 LVL 2	20/1	3	3 10	1	636 540	4	20/1	CORRIDO	OR RECEPT. LVL 2		
	(5)	CORRIDOR LIGHTING	S LVL 3	20/1	5	636 540			6	20/1	CORRIDO	OR RECEPT. LVL 3		
	(5)	CORRIDOR LIGHTING	6 LVL 4	20/1	7		1	636 540	8	20/1	CORRIDO	OR RECPT. LVL 4		
		BUILDING EXTERIOR LI	IGHTING	20/1	9	500 552		3.0	10	20/1	SITE	E LIGHTING		
		GARAGE DOOR OPE	ENER	20/1	11	332	1	1008 1000	12	20/1	SITE	E LIGHTING		
		GARAGE DOOR OPE	ENER	20/1	13	1008 720			14	20/1	TELECO	M - 3RD FLOOR		
		TELECOM - 1ST FLO	OOR	20/1	15	720	1	720 720	16	20/1	TELECO	M - 3RD FLOOR		
		TELECOM - 1ST FLO	OOR	20/1	17	720 720		720	18	20/1	TELECO	M - 3RD FLOOR		
		TELECOM - 1ST FLO	OOR	20/1	19	720	I	720 720	20	20/1	TELECO	M - 4TH FLOOR		
		TELECOM - 2ND FL	OOR	20/1	21	720 720		720	22	20/1	TELECO	M - 4TH FLOOR		
		TELECOM - 2ND FL	OOR	20/1	23	720	1	720 720	24	20/1	TELECO	M - 4TH FLOOR		
		TELECOM - 2ND FL	OOR	20/1	25	720 750		720	26	20/1	BASEB	OARD HEATER		
	(5)	STAIRWELL LIGHT	ING	20/1	27	730	I	720 920	28	20/1	SUBMERS	IBLE SUMP PUMP		
		GARAGE RECEPT./L	IGHT	20/1	29	848 1000		320	30	20/1	RECEI	PTACLE ROOF		
		TIME CLOCK		20/1	31	1000	I	1000 360	32	20/1		SPARE		
		SPARE		20/1	33	1000 1000		300	34	20/1		SPARE		
		EMERGENCY & EXIT LI	GHITNG	20/1	35	1000	I	1000 1000	36	20/1		SPARE		
		SPARE		20/1	37	1000 1000			38	20/1		SPARE		
		SPARE		20/1	39	2000	1	1000 1000	40	20/1		SPARE		
		TOTAL LOAD PI	ER PHASE	•		15330		15680			15680 VA / 120 V = 131 A			
(① GFC	I ② AFCI ③ AFCI/GF	CI ④ SI	HUNT TRIP	(5)	SWD 6 H	ACR ⑦ LOC	KABLE	(OPTIONS:	NONE - REFER	TO SPECIFICATIONS		
	FEE	DER OCPD AND CON	IDUCTO	R CALC	ULAT	TON								
		DESCRIPTION		CONNE		DEMAND	DEMAND	AMPACITY	I	EEDER	NOTES			
	•	IN KVA)		LOA		FACTOR	LOAD	FACTOR		1PACITY				
		RIOR LIGHTING RIOR LIGHTING		4.2 2.0		1.00 1.00	4.26 2.05	1.25 1.25	l	5.33 2.57				
		PTACLES		12.0		*	11.00	1.00		2.57 L1.00	*FIRST 10 kV/	A AT 100%, REST AT	50%	
	HVAC		1.6		1.00	1.67	1.00		1.67	111101 10 KV/	1711 10070, 11231 711	3070		
		PMENT	3.0		1.00	3.02	1.00		3.02					
	-	HEN EQUIPMENT	0.0		1.00	0.00	1.00		0.00					
	LARGEST MOTOR NONE					-	-	0.25		0.00				
	SPARE				o	1.00	8.00	1.00		8.00				
	TOTA	IL KVA		31.0)1	-	30.01	-	3	31.59				
	TOTA	L AMPS		129	, I	-	125 A	_	l 1	32 A				

LOAD (CENT	ER SCHEDULE					<u>HP-1e-1</u>				LOCATION: C.B. RATING:	UNKNOWN 22 K.A.I.C.		
MUDE	Т	VOLTAGE	PHASE	WIR	E		MOUNTING			SIZE	LUG	TYPE	Т	
WIRE SIZE	Y P	240/120V	1	3			SURFACE			400	MLO	NEMA 1	T Y P	WIRE SIZE
SIZE	E	USE and/or AREA S	ERVED	C/B POLE	CIR	ØΑ	LOAD	ØВ	CIR	C/B POLE	USE and/	or AREA SERVED	E	SIZE
	(5)	CORRIDOR LIGHTING	G LVL 1	20/1	1	651 540			2	20/1	CORRIDO	R RECEPT. LVL 1		
	(5)	CORRIDOR LIGHTING	G LVL 2	20/1	3		•	651 540	4	20/1	CORRIDO	R RECEPT. LVL 2		
	(5)	CORRIDOR LIGHTING	G LVL 3	20/1	5	651 540]		6	20/1	CORRIDO	R RECEPT. LVL 3		
	(5)	CORRIDOR LIGHTING	G LVL 4	20/1	7		,	651 540	8	20/1	CORRIDO	R RECEPT. LVL 4		
		BUILDING EXTERIOR L	IGHTING	20/1	9	1080]		10	20/1	SITE	LIGHTING		
		GARAGE DOOR OP	ENER	20/1	11		,	1008	12	20/1	SITE	LIGHTING		
		GARAGE DOOR OP	ENER	20/1	13	1008 1008] '		14	20/1	GARAGE	DOOR OPENER		
		GARAGE DOOR OP	ENER	20/1	15	1000	,	1008 1008	16	20/1	GARAGE	DOOR OPENER		
		GARAGE DOOR OP	ENER	20/1	17	1008 1008] '	1008	18	20/1	GARAGE	DOOR OPENER		
		GARAGE DOOR OP	ENER	20/1	19	1008	J.	1008 1008	20	20/1	GARAGE	DOOR OPENER		
		GARAGE DOOR OP	ENER	20/1	21	1008 750] '	1008	22	20/1	BUILD	ING SIGNAGE		
		GARAGE DOOR OP	ENER	20/1	23	750	,	1008 720	24	20/1	RECEP	TACLE ROOF		
		GARAGE DOOR OP	ENER	20/1	25	1008 1696] '	720	26	20/1	GARAGE	RECEPT/LIGHT		
		TELECOM QUAD OL	JTLETS	20/1	27	1090	J	720 1696	28	20/1	GARAGE	RECEPT/LIGHT		
		TELECOM QUAD OL	JTLETS	20/1	29	720 1696] '	1030	30	20/1	GARAGE	RECEPT/LIGHT		
		TELECOM QUAD OL	JTLETS	20/1	31	1090	,	720 3840	32	_				
	(5)	STAIRWELL LIGHT	ING	20/1	33	1000 3840] '	3840	34	40/2	DUAL (CAR CHARGER		
		EMERGENCY & EXIT	LIGHTS	20/1	35	3040	J	1000 3840						
		ROOF RECEPTAC		20/1	37	360 3840] '	3640	36	40/2	DUAL (CAR CHARGER		
		TIME CLOCK		20/1	39	30 4 U		1000 1000	40	20/1		SPARE		
						SEE SECTIO	N 2 FOR LOAI		40					
(1) GFCI	② AFCI ③ AFCI/GI	FCI ④ SI	HUNT TRIP	(5)	SWD 6 H.	ACR ⑦ LOCI	KABLE	(OPTIONS:	NONE - REFER	TO SPECIFICATIONS		

WIRE SIZE	т I			1							C.B. RATING:	<u>22 K.A.I.C.</u>	_	
	Ÿ	VOLTAGE	PHASE	WIR	E		MOUNTING		-	SIZE	LUG	TYPE	T Y	WIF
JIZL I	Р	240/120V	1	3			LOAD			200	MLO	NEMA 3R	, P	SIZE
	E	USE and/or AREA SI		C/B POLE	CIR	ØA 390	LOAD	ØВ	CIR	C/B POLE	,	or AREA SERVED	Е	
\longrightarrow	(5)	CORRIDOR LIGHTING	G LVL 1	20/1	1	540		200	2	20/1	CORRIDO	R RECEPT. LVL 1		
	(5)	CORRIDOR LIGHTING	G LVL 2	20/1	3		1	390 540	4	20/1	CORRIDO	R RECEPT. LVL 2		
	(5)	CORRIDOR LIGHTING	G LVL 3	20/1	5	390 540			6	20/1	CORRIDO	R RECEPT. LVL 3		
	(5)	CORRIDOR LIGHTING	G LVL 4	20/1	7		1	390 540	8	20/1	CORRIDO	OR RECPT. LVL 4		
		BUILDING EXTERIOR L	IGHTING	20/1	9	500 690			10	20/1	SITE	LIGHTING		
		TELECOM - 1ST FL	.OOR	20/1	11			720 156	12	20/1	SITE	LIGHTING		
		TELECOM - 1ST FL	.OOR	20/1	13	720 1008			14	20/1	STAIRW	ELL LIGHTING	(5)	
		TELECOM - 1ST FL	.OOR	20/1	15			1000 1000	16	20/1	TELECO	M - 3RD FLOOR		
		TELECOM - 2ND FL	_OOR	20/1	17	1000 1000			18	20/1	TELECO	M - 3RD FLOOR		
		TELECOM - 2ND FL	_OOR	20/1	19		•	1000 1000	20	20/1	TELECO	M - 3RD FLOOR		
		TELECOM - 2ND FL	_OOR	20/1	21	1000 1000			22	20/1	TELECON	Л - 4TH FRLOOR		
		RECEPTACLE RO	OF	20/1	23		ı	540 1000	24	20/1	TELECOI	M - 4TH FLOOR		
		D. 141 O.D. O. 14D.	055	10/0	25	3840 1000		1000	26	20/1	TELECO	M -4TH FLOOR		
		DUAL CAR CHAR	GER	40/2	27	1000	ı	3840 1000	28	20/1	EMERGENC'	Y & EXIT LIGHTING		
		TIME CLOCK		20/1		1000 1000				20/1		SPARE		
		SPARE		20/1				1000 1000		20/1		SPARE		
		SPARE		20/1		1000 1000				20/1		SPARE		
		SPARE		20/1				1000 1000		20/1		SPARE		
		SPARE		20/1		1000 1000				20/1		SPARE		
		SPARE		20/1				1000 1000		20/1		SPARE		
		TOTAL LOAD P	ER PHASE			19618		19116			19618 VA / 12	20 V = 163 A		
(Î) GFCI	② AFCI ③ AFCI/GI	FCI ④ SI	HUNT TRIP	(5)) SWD 6 H.	ACR ⑦ LOC	KABLE	(OPTIONS:	NONE - REFER	TO SPECIFICATIONS		
	FEEC	DER OCPD AND COM	NDUCTO	R CALC	ULA	ΓΙΟΝ								
		DESCRIPTION IN KVA)		CONNEC		DEMAND	DEMAND	AMPACITY	I	EEDER 1PACITY	NOTES			
		RIOR LIGHTING		3.57		FACTOR 1.00	10AD 3.57	FACTOR 1.25	-	4.46				
		RIOR LIGHTING		1.35		1.00	1.35	1.25	l	1.68				
		PTACLES		14.1		*	12.07	1.00	l	12.07	*FIRST 10 kVA	A AT 100%, REST AT 5	50%	
	HVAC			0.00		1.00	0.00	1.00	l	0.00				
I	EQUI	PMENT		8.68	3	1.00	8.68	1.00		8.68				
ſ	KITCH	IEN EQUIPMENT		0.00		1.00	0.00	1.00		0.00				
		EST MOTOR	NONE	-		-	-	0.25	l	0.00				
	SPARI			11.0		1.00	11.00	1.00	_	11.00				
		L KVA L AMPS		38.7 161		-	36.66 153 A	-	l	37.89 158 A				

	T = 1	ER SCHEDULE		1 ,,,,,,	_ 1		HP-1e-2				C.B. RATING:	22 K.A.I.C.	T =	
VIRE	¦	VOLTAGE	PHASE	WIR	Ė		MOUNTING			ZE	LUG	TYPE	- ¦	WIRE
SIZE	P	240/120V	1	3	0.5		LOAD		+		MLO	NEMA 1	P	SIZE
	E	USE and/or AREA		C/B POLE	CIR 41	ØA 720	20715	ØВ	CIR C	/B POLE		or AREA SERVED	E	
		TELECOM - 1ST F		20/1		720		720	42	20/1		M - 3RD FLOOR		
		TELECOM - 1ST F	LOOR	20/1	43		1	720 720	44	20/1	TELECO	M - 3RD FLOOR		
		TELECOM - 1ST F	LOOR	20/1	45	720 720			46	20/1	TELECO	M - 3RD FLOOR		
		TELECOM - 2ND I	LOOR	20/1	47			720 720	48	20/1	TELECO	M - 4TH FLOOR		
		TELECOM - 2ND I	LOOR	20/1	49	720 720			50	20/1	TELECO	M - 4TH FLOOR		
		TELECOM - 2ND I	LOOR	20/1	51		•	720 720	52	20/1	TELECO	M - 4TH FLOOR		
		SPARE		20/1	53	1000 1000			54	20/1		SPARE		
		SPARE		20/1	55	1000	I	1000 1000	56	20/1		SPARE		
		SPARE		20/1	57	1000 1000		T000	58	20/1		SPARE		
	1 1	SPARE		20/1	59	1000	I	1000		20/1		SPARE		
		SPARE		20/1	61	1000		1000	60	20/1		SPARE		
		-			63	1000		-	62			-		
				_	65	-		-	64					
					67	-		-	66					
		-		-	69	-	1	-	68	-		-		
		-		-	71	-		_	70	-		-		
		-		-	73		1	-	72	-		-		
		-		-		-			74	-		-		
		-		-	75		1	-	76	-		-		
		-		-	77	-			78	-		-		
		-		-	79			-	80	-		-		
		TOTAL LOAD	PER PHASE			33732		31286			33732 VA / 1	20 V = 281 A		
(① GFCI	② AFCI ③ AFCI/	GFCI 4 S	HUNT TRIP	(5)	SWD 6 H	ACR ⑦ LOC	KABLE	OF	PTIONS:	NONE - REFER	TO SPECIFICATIONS		
	FEEC	DER OCPD AND CO	NDUCTO	R CALC	JLAT	TION			<u> </u>					
		DESCRIPTION		CONNEC		DEMAND	DEMAND	AMPACITY		EDER	NOTES			
		IN KVA)		LOA		FACTOR	LOAD	FACTOR		ACITY				
		RIOR LIGHTING		4.60		1.00	4.60	1.25		76				
		RIOR LIGHTING		1.08		1.00 *	1.08	1.25		35	*CIDCT 10 la/	A AT 1000/ DEST AT	F00/	
	HVAC	PTACLES		19.1 0.00		1.00	14.56 0.00	1.00 1.00		.56 00	LIV21 TO KAY	A AT 100%, REST AT	JU%	
		PMENT		29.2		1.00	29.21	1.00		.21				
		IEN EQUIPMENT		0.00		1.00	0.00	1.00		00				
		EST MOTOR	NONE	- 3.50		-	-	0.25		00				
	SPARE			11.0	0	1.00	11.00	1.00		.00				
	TOTA	L KVA		65.0	2	-	60.45	-	61	.88				
		L AMPS		271	, I	_	252 A	_	ا م	8 A				





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ISSUANCES 01 SCHEMATIC DESIGN 09.10.18 02 DEVELOPMENT DESIGN 11.09.18 03 PERMIT SET 01.28.19

REVISIONS



a multifamily project for NRP Group

West Cevallos
San Antonio, Texas

ELECTRICAL HOUSE PANELS

Project Number 18054

Date 01/14/2018

Drawn By TLR

Checked By EEC

F408

OAD	CENT	ER SCHEDULE					<u>HP-2</u>				LOCATION: C.B. RATING:	BUILDING 2 22 K.A.I.C.		
	Т	VOLTAGE	PHASE	WIR	E		MOUNTING			SIZE	LUG	TYPE	Т	
WIRE	Y P	240/120V	1	3			SURFACE			200	MLO	NEMA 3R	Τ Y P	WIRE SIZE
SIZE	E	USE and/or AREA S	ERVED	C/B POLE	CIR	ØΑ	LOAD	ØВ	CIR	C/B POLE	USE and/	or AREA SERVED	E	SIZE
	(5)	CORRIDOR LIGHTIN	G LVL 1	20/1	1	1496 540			2	20/1	CORRIDO	R RECEPT. LVL 1		
	(5)	CORRIDOR LIGHTIN	G LVL 2	20/1	3		•	330 360	4	20/1	CORRIDO	R RECEPT. LVL 2		
	(5)	CORRIDOR LIGHTIN	G LVL 3	20/1	5	330 360			6	20/1	CORRIDO	R RECEPT. LVL 3		
		EMERGENCY & EXIT	LIGHTS	20/1	7		I	384 360	8	20/1	RECEI	PTACLE ROOF		
		BUILDING EXTERIOR L	IGHTING	20/1	9	500 1044		300	10	20/1	SITI	ELIGHTING		
		GARAGE DOOR OP	ENER	20/1	11	1011	I	1008 1000	12	20/1	SITI	ELIGHTING		
		GARAGE DOOR OP	ENER	20/1	13	1008 1008		1000	14	20/1	GARAGE	DOOR OPENER		
		GARAGE DOOR OP	ENER	20/1	15	1008		1008		20/1	GARAGE	DOOR OPENER		
		GARAGE DOOR OP		20/1	17	1008		1008	16	20/1		DOOR OPENER	1	
		GARAGE DOOR OP		20/1	19	1008	I	1008	18	20/1		DOOR OPENER		
		GARAGE DOOR OP		20/1	21	1008		-	20	20/1		DOOR OPENER		
		GARAGE DOOR OP		20/1	23	1008		1008	22	20/1		DOOR OPENER		
		GARAGE DOOR OP		20/1	25	1008		1008	24	20/1		OARD HEATER		
				20/1	27	750		720	26	20/1		AGE LIGHTING		
		TELECOM QUAD OL		<u> </u>	29	720		256	28	-	310KA			
		TELECOM QUAD OL		20/1	31	1000		720	30	20/1	T.11	FACP		
		TELECOM QUAD OL		20/1	33	1000]	1000	32	20/1	111	ME CLOCK	-	
	5	STAIRWELL LIGHT	IING	20/1	35	1000		1000	34	20/1		SPARE		
		SPARE		20/1	37	1000	1	1000	36	20/1		SPARE	4	
		SPARE		20/1		1000		1000	38	20/1		SPARE	_	
		SPARE		20/1	39			1000	40	20/1		SPARE		
		TOTAL LOAD P	ER PHASE			17796		15178			17796 VA / 1	20 V = 148 A		
(① GFCI	2 AFCI 3 AFCI/G	FCI 4 S	HUNT TRIP	(5)) SWD 6 H	ACR ⑦ LOC	KABLE	(OPTIONS:	NONE - REFER	TO SPECIFICATIONS		
	FEE	DER OCPD AND CO	NDUCTO	R CALC	ULA ⁻	ΓΙΟΝ			•					
		DESCRIPTION IN KVA)		CONNEC		DEMAND FACTOR	DEMAND LOAD	AMPACITY FACTOR		EEDER 1PACITY	NOTES			
		RIOR LIGHTING		3.54		1.00	3.54	1.25		4.43				
		RIOR LIGHTING		2.80		1.00	2.80	1.25		3.50				
		PTACLES		3.78		*	3.78	1.00		3.78	*FIRST 10 kV/	A AT 100%, REST AT	50%	
	HVAC			0.75	5	1.00	0.75	1.00	(0.75				
		PMENT		15.1		1.00	15.10	1.00		15.10				
		HEN EQUIPMENT		0.00)	1.00	0.00	1.00		0.00				
		EST MOTOR	NONE	-	,	1.00	7.00	0.25		0.00				
	SPARI	L KVA		7.00 32.9		1.00	7.00 32.97	1.00	_	7.00 34.56				
		L AMPS		137		- -	137 A	<u>-</u>		.44 A				
					-									

) DAC	CENT	ER SCHEDULE					<u>HP-4</u>				LOCATION: C.B. RATING:	BUILDING 4 22 K.A.I.C.		
	Т	VOLTAGE	PHASE	WIR	E		MOUNTING			SIZE	LUG	TYPE	Т	
VIRE SIZE	Y P	240/120V	1	3			SURFACE			200	MLO	NEMA 3R	Y	WIF SIZ
SIZE	E	USE and/or AREA S	ERVED	C/B POLE	CIR	ØΑ	LOAD	ØВ	CIR	C/B POLE	USE and	or AREA SERVED	E	312
	(5)	CORRIDOR LIGHTIN	IG LVL 1	20/1	1	1496 540			2	20/1	CORRIDO	OR RECEPT. LVL 1		
	(5)	CORRIDOR LIGHTIN	IG LVL 2	20/1	3		•	330 360	4	20/1	CORRIDO	OR RECEPT. LVL 2		
	(5)	CORRIDOR LIGHTIN	IG LVL 3	20/1	5	330 360			6	20/1	CORRIDO	OR RECEPT. LVL 3		
		EMERGENCY & EXIT	LIGHTS	20/1	7	300	ı	384 360	8	20/1	RECE	PTACLE ROOF		
		BUILDING EXTERIOR	LIGHTING	20/1	9	500 414		300	10	20/1	SIT	E LIGHTING		
		GARAGE DOOR OF	PENER	20/1	11	414	J	1008 1000	12	20/1	SIT	E LIGHTING		
		GARAGE DOOR OF	PENER	20/1	13	1008 1008]	1000	14	20/1	GARAGE	DOOR OPENER		
		GARAGE DOOR OF	PENER	20/1	15	1008	l	1008		20/1	GARAGE	DOOR OPENER		
		GARAGE DOOR OF		20/1	17	1008]	1008	16	20/1		DOOR OPENER		
		GARAGE DOOR OF		20/1	19	1008	I	1008	18	20/1		E DOOR OPENER		
		GARAGE DOOR OF		20/1	21	1008]	-	20	20/1		E DOOR OPENER		
		GARAGE DOOR OF		20/1	23	1008		1008	22	20/1		E DOOR OPENER		
		GARAGE DOOR OF		20/1	25	1008]	1008	24	20/1		OARD HEATER		
		TELECOM QUAD O		20/1	27	750		720	26	20/1		AGE LIGHTING		
				-	29	720]	256	28		3106/			
		TELECOM QUAD O		20/1	31	1000		720	30	20/1		FACP		
		TELECOM QUAD O		20/1	33	1000	1	1000	32	20/1	11	ME CLOCK		
	5	STAIRWELL LIGH	IING	20/1	35	1000]	1000	34	20/1		SPARE		
		SPARE		20/1	37	1000	1	1000	36	20/1		SPARE	-	
		SPARE		20/1	39	1000		1000	38	20/1		SPARE		
		SPARE		20/1	39		T	1000	40	20/1		SPARE		
		TOTAL LOAD F	PER PHASE			17166		15178			17166 VA / 1	20 V = 143 A		
(① GFC	I ② AFCI ③ AFCI/G	GFCI 4 SI	HUNT TRIP	(5)	SWD 6 H	ACR ⑦ LOC	KABLE	(OPTIONS:	NONE - REFER	TO SPECIFICATIONS		
	FEE	DER OCPD AND CO	NDUCTO	R CALC	JLAT	ΓΙΟΝ								
		DESCRIPTION		CONNEC		DEMAND	DEMAND	AMPACITY		EEDER	NOTES			
		IN KVA)		LOA		FACTOR	LOAD	FACTOR		1PACITY	NOTES			
		RIOR LIGHTING		3.80		1.00	3.80	1.25		4.75				
		RIOR LIGHTING		1.91		1.00 *	1.91	1.25		2.39	*FIDST 10 la/	A AT 1000/ DEST AT I	- 0 0/	
	HVAC	PTACLES		3.78 0.75		1.00	3.78 0.75	1.00 1.00		3.78 0.75	LIVOI TO KA	A AT 100%, REST AT !	JU%	
		, PMENT		15.1		1.00	15.10	1.00		L5.10				
		HEN EQUIPMENT		0.00		1.00	0.00	1.00		0.00				
	LARG	EST MOTOR	NONE	-		-	-	0.25		0.00				
	SPAR			7.00		1.00	7.00	1.00		7.00				
		L KVA		32.3		-	32.34	-		33.77				
	TOTA	L AMPS		135	A	-	135 A	-	1	.41 A				

OAD (CENT	ER SCHEDULE					<u>HP-3</u>				LOCATION: C.B. RATING:	BUILDING 3 22 K.A.I.C.		
	Т	VOLTAGE	PHASE	WIR	E		MOUNTING			SIZE	LUG	TYPE	Т	
NIRE	Y	240/120V	1	3			SURFACE			200	MLO	NEMA 3R	Υ P	WIR SIZ
SIZE	E	USE and/or AREA S	SERVED	C/B POLE	CIR	ØΑ	LOAD	ØВ	CIR	C/B POLE	USE and/	or AREA SERVED	E	312
	(5)	CORRIDOR LIGHTIN	IG LVL 1	20/1	1	1496 540			2	20/1	CORRIDO	OR RECEPT. LVL 1		
	(5)	CORRIDOR LIGHTIN	IG LVL 2	20/1	3		•	330 360	4	20/1	CORRIDO	OR RECEPT. LVL 2		
	(5)	CORRIDOR LIGHTIN	IG LVL 3	20/1	5	330 360			6	20/1	CORRIDO	OR RECEPT. LVL 3		
		EMERGENCY & EXIT	LIGHTS	20/1	7			384 360	8	20/1	RECEI	PTACLE ROOF		
		BUILDING EXTERIOR	LIGHTING	20/1	9	500 966			10	20/1	SITI	E LIGHTING		
		GARAGE DOOR O	PENER	20/1	11		_	1008 1000	12	20/1	SITI	E LIGHTING		
		GARAGE DOOR O	PENER	20/1	13	1008 1008			14	20/1	GARAGE	DOOR OPENER		
		GARAGE DOOR O	PENER	20/1	15			1008 1008	16	20/1	GARAGE	DOOR OPENER		
		GARAGE DOOR O	PENER	20/1	17	1008 1008			18	20/1	GARAGE	DOOR OPENER		
		GARAGE DOOR O	PENER	20/1	19			1008	20	20/1	GARAGE	DOOR OPENER		
		GARAGE DOOR O	PENER	20/1	21	1008 1008			22	20/1	GARAGE	DOOR OPENER		
		GARAGE DOOR O	PENER	20/1	23		_	1008 1008	24	20/1	GARAGE	DOOR OPENER		
		GARAGE DOOR O	PENER	20/1	25	1008 750			26	20/1	BASEB	OARD HEATER		
		GARAGE DOOR OPENER TELECOM QUAD OUTLETS		20/1	27		_	720 256	28	20/1	STORA	AGE LIGHTING		
		TELECOM QUAD O	UTLETS	20/1	29	720 1000			30	20/1		FACP		
		TELECOM QUAD O	UTLETS	20/1	31		_	720 1000	32	20/1	TII	ME CLOCK		
	(5)	STAIRWELL LIGH	ITING	20/1	33	1000 1000			34	20/1		SPARE		
		SPARE		20/1	35		,	1000 1000	36	20/1		SPARE		
		SPARE		20/1	37	1000 1000			38	20/1		SPARE		
		SPARE		20/1	39			1000 1000	40	20/1		SPARE		
		TOTAL LOAD I	PER PHASE			17718		15178			17718 VA / 1	20 V = 148 A		
(① GFCI	② AFCI ③ AFCI/O	GFCI 4 SI	HUNT TRIP	(5)	SWD 6 H.	ACR ⑦ LOC	KABLE		OPTIONS:	NONE - REFER	TO SPECIFICATIONS		
	FEEC	DER OCPD AND CO	NDUCTO	R CALC	ULA ⁻	ΓΙΟΝ								
		DESCRIPTION IN KVA)		CONNEC		DEMAND FACTOR	DEMAND LOAD	AMPACITY FACTOR		EEDER MPACITY	NOTES			
	INTER	RIOR LIGHTING		3.80)	1.00	3.80	1.25		4.75				
	EXTER	RIOR LIGHTING		2.47	7	1.00	2.47	1.25		3.08				
		PTACLES		3.78		*	3.78	1.00	1	3.78	*FIRST 10 kV/	A AT 100%, REST AT	50%	
	HVAC			0.75		1.00	0.75	1.00	1	0.75				
	•	PMENT		15.1		1.00	15.10	1.00	1	15.10				
		IEN EQUIPMENT	NONE	0.00)	1.00	0.00	1.00		0.00				
	SPARE	EST MOTOR =	NONE	7.00	۱ ا	- 1.00	- 7.00	0.25 1.00	1	0.00 7.00				
		<u> </u>		32.9		-	32.90	1.00	 	34.46				
		L AMPS		137		_	137 A	<u>-</u>	1	144 A				

LOAD (CENT	ER SCHEDULE					<u>HP-5</u>				LOCATION: C.B. RATING:	BUILDING 5 22 K.A.I.C.		
WIRE	T Y	VOLTAGE	PHASE	WIR	E		MOUNTING	i	-	SIZE	LUG	TYPE	T Y	WIRE
SIZE	P	240/120V	1	3			SURFACE			200	MLO	NEMA 3R	_	SIZE
JIZL	E	USE and/or AREA S	ERVED	C/B POLE	CIR	ØΑ	LOAD	ØВ	CIR	C/B POLE	USE and/	or AREA SERVED	E	3121
	(5)	CORRIDOR LIGHTIN	G LVL 1	20/1	1	1496 540			2	20/1	CORRIDO	R RECEPT. LVL 1		
	(5)	CORRIDOR LIGHTIN	G LVL 2	20/1	3		1	330 360	4	20/1	CORRIDO	R RECEPT. LVL 2		
	(5)	CORRIDOR LIGHTIN	G LVL 3	20/1	5	330 360			6	20/1	CORRIDO	R RECEPT. LVL 3		
		EMERGENCY & EXIT	LIGHTS	20/1	7			384 360	8	20/1	RECEP	PTACLE ROOF		
		BUILDING EXTERIOR I	LIGHTING	20/1	9	500 -			10	20/1	SITE	LIGHTING		
		GARAGE DOOR OP	PENER	20/1	11			1008	12	20/1	SITE	LIGHTING		
		GARAGE DOOR OP	PENER	20/1	13	1008 1008			14	20/1	GARAGE	DOOR OPENER		
		GARAGE DOOR OP	PENER	20/1	15			1008 1008	16	20/1	GARAGE	DOOR OPENER		
		GARAGE DOOR OP	PENER	20/1	17	1008 1008			18	20/1	GARAGE	DOOR OPENER		
		GARAGE DOOR OP	PENER	20/1	19			1008	20	20/1	GARAGE	DOOR OPENER		
		GARAGE DOOR OF	PENER	20/1	21	1008 1008			22	20/1	GARAGE	DOOR OPENER		
		GARAGE DOOR OF	PENER	20/1	23			1008 1008	24	20/1	GARAGE	DOOR OPENER		
		GARAGE DOOR OF	PENER	20/1	25	1008 750			26	20/1	BASEBO	DARD HEATER		
		TELECOM QUAD O	JTLETS	20/1	27			720 256	28	20/1	STORA	GE LIGHTING		
		TELECOM QUAD O	JTLETS	20/1	29	720 1000			30	20/1		FACP		
		TELECOM QUAD O	JTLETS	20/1	31			720 1000	32	20/1	TIN	ME CLOCK		
	(5)	STAIRWELL LIGH	TING	20/1	33	1000 1000			34	20/1		SPARE		
		SPARE		20/1	35			1000 1000	36	20/1		SPARE		
		SPARE		20/1	37	1000 1000			38	20/1		SPARE		
		SPARE		20/1	39			1000 1000	40	20/1		SPARE		
		TOTAL LOAD P	ER PHASE			16752		14178			16752 VA / 12	20 V = 140 A		
(1) GFCI	OER OCPD AND COI		HUNT TRIP		SWD 6 HA	ACR ⑦ LOC	CKABLE	(OPTIONS:	NONE - REFER	TO SPECIFICATIONS		
	LOAD	DESCRIPTION		CONNEC	CTED	DEMAND	DEMAND	AMPACITY	F	EEDER	NOTES			
	(LOAD	IN KVA)		LOAI)	FACTOR	LOAD	FACTOR	ΑN	1PACITY	NOTES			
		RIOR LIGHTING		3.80		1.00	3.80	1.25	ı	4.75				
		RIOR LIGHTING		0.50		1.00 *	0.50	1.25	l	0.63	*CIDCT 40 L\/A	AT 4000/ DECT AT	F00/	
		PTACLES		3.78			3.78	1.00	ı	3.78	*FIRST 10 KV#	A AT 100%, REST AT	50%	
	HVAC			0.75		1.00	0.75	1.00		0.75				
		PMENT		15.1		1.00	15.10	1.00	ı	5.10				
		IEN EQUIPMENT EST MOTOR	NONE	0.00	,	1.00	0.00	1.00 0.25		0.00 0.00				
	SPARI		IAOINE	7.00)	1.00	7.00	1.00	l	7.00				
		L KVA		30.9		-	30.93	-	-	2.00				
		L AMPS		129		_	129 A	_	ı	.33 A				



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Interior Designer:

SJL Design Group 921 N. Riverfront Blvd. Suite 100, Dallas, TX 75207 Cassie Farley 214.443.9090

ISSUANCES		
01	SCHEMATIC DESIGN	09.10.18
02	DEVELOPMENT DESIGN	11.09.18
03	PERMIT SET	01.28.19

REVISIONS



a multifamily project for NRP Group

West Cevallos
San Antonio, Texas

ELECTRICAL HOUSE PANELS

Project Number 18054

Date 01/14/2018

Drawn By TLR

Checked By EEC

F409



		ER SCHEDULE				ı	<u>MP</u>				C.B. RATING:	22 K.A.I.C.		
WIRE	Y	VOLTAGE	PHASE	WIR	E		MOUNTING		1	SIZE	LUG	TYPE	T Y	WIRE
SIZE	P	240/120V	1 1	3			LOAD		 	200	MLO 1/	NEMA 1	Р	SIZE
	Е	USE and/or AREA		C/B POLE	CIR 1	ØA 128		ØВ	CIR	C/B POLE	USE and/	or AREA SERVED	E	
		LIGHTING		20/1	3	1500]	1080	2	20/2	WAT	ER HEATER		20-2
		RECEPTACL		20/1		180	1	1500	4					
		SERVICE RECEPT	ACLES	20/1	5	2400		1000	6	25/2	AIR HANDLER	CONDENSING UNIT	(4)	30-2
		GARAGE DOOR C	PENER	20/1	7	262	1	1800 2400	8		,	,		
		RECEPTACL	ES	20/1	9	360 500			10	20/1	EF-3	RESTROOM		
		RECEPTACL	ES	20/1	11		-	360 1000	12	20/1	EF-5 MAIN	TENANCE ROOM		
		SITE LIGHTII	NG	20/1	13	308 180			14	20/1	GARAGE D	OOR RECEPTACLE		
		SPARE		20/1	15			1000 690	16	20/1	SITE	LIGHTING		
		SPARE		20/1	17	1000 720]		18	20/1	REC	CEPTACLES		
		RECEPTACL	ES	20/1	19		-	720 1000	20	20/2	00155	ADT CHARGES		
		RECEPTACL	ES	20/1	21	720 1000			22	20/2	GOLF C	ART CHARGER		
		RECEPTACL	ES	20/1	23	1000	J	720 1000	24	20/1		SPARE		
		RECEPTACL	ES	20/1	25	720 1000]		26	20/1		SPARE		
		SPARE		20/1	27	1000	J	1000 1000	28	20/1		SPARE		
		SPARE		20/1	29	1000]	1000		20/1		SPARE		
		SPARE		20/1	31	1000	J	1000	30	,				
		SPARE		20/1	33	1000]	-	32					
		017.1112		20, 2	35	-			34					
					37]		36					
					39]		38					
		TOTAL LOAD	DED DUACE			12716		16370	40		16270 \/ \/ / 1	20 V = 126 A		
		TOTAL LOAD	PER PHASE			13716		16270			16270 VA / 12	20 V = 136 A		
(1) GFCI	② AFCI ③ AFCI	/GFCI ④ S	HUNT TRIP	(5) SWD 6 H.	ACR ⑦ LOC	CKABLE	(OPTIONS:	NONE - REFER	TO SPECIFICATIONS		
	FEED	DER OCPD AND CO	ONDUCTO	R CALC	JLA ⁻	TION								
		DESCRIPTION IN KVA)		CONNEC		DEMAND FACTOR	DEMAND LOAD	AMPACITY FACTOR	1	EEDER 1PACITY	NOTES			
		RIOR LIGHTING		0.13		1.00	0.13	1.25	-	0.16				
		RIOR LIGHTING		1.00		1.00	1.00	1.25		1.25				
	RECEI	PTACLES		5.58	3	*	5.58	1.00		5.58	*FIRST 10 kVA	A AT 100%, REST AT 50	0%	
	HVAC			5.30)	1.00	5.30	1.00		5.30				
		PMENT		6.98		1.00	6.98	1.00		6.98				
		IEN EQUIPMENT		0.00)	1.00	0.00	1.00		0.00				
	LARG SPARI	EST MOTOR -	1/2 HP	11 0	Ω	1.00	11.00	0.25 1.00		0.22 L1.00				
		E L KVA		11.0 29.9		1.00	11.00 29.99	1.00	-	30.48				
		L AMPS		125]	125 A		Ι ,					

OAD	CENT	ER SCHEDULE					<u>TC</u>				LOCATION: C.B. RATING:	TRASH COMPACTOR 22 K.A.I.C.		
MUDE	Т	VOLTAGE	PHASE	WIRI	E		MOUNTING			SIZE	LUG	TYPE	T	
WIRE SIZE	P 240/120V 1 E USE and/or AREA SERVED	1	3			SURFACE			100	MLO	NEMA 3R	Υp	WIRE SIZE	
SIZE	1 '	USE and/or AREA SEI	RVED	C/B POLE	CIR	ØΑ	LOAD	ØВ	CIR	C/B POLE	USE and/o	or AREA SERVED	E	3126
		TRACIL CONTRACTOR /	40.110\	20/2	_ 1	6000 250			2	20/1	LI	GHTING		
20-2		TRASH COMPACTOR (10 HP)	20/2	3		1	6000 1000	4	20/1		SPARE		
		SERVICE RECEPATA	CLE	20/1	5	180 1000		1000	6	20/1		SPARE		
					7	1000		-		-				
		SPACE		20/2	9	-		-	8			SPACE		
		3r ACL		20/2	11	-		-	10			JI ACL		
		TOTAL LOAD PE				7430		7000	12		7430 VA / 12			
											-			
	① GFC	I ② AFCI ③ AFCI/GFO	CI (4) SI	HUNT TRIP	(5)	SWD 6 H.	ACR ⑦ LOC	KABLE	(OPTIONS:	NONE - REFER	TO SPECIFICATIONS		
	FEE	DER OCPD AND CON	DUCTO	R CALCI	JLA	ΓΙΟΝ								
		DESCRIPTION		CONNEC		DEMAND	DEMAND	AMPACITY		EEDER	NOTES			
	(LOAD	IN KVA)		LOAD)	FACTOR	LOAD	FACTOR	ΑN	IPACITY	NOTES			
	INTE	RIOR LIGHTING		0.00		1.00	0.00	1.25	'	0.00				
		RIOR LIGHTING		0.25		1.00	0.25	1.25	1	0.31				
		PTACLES		0.18		*	0.18	1.00	1	0.18	*FIRST 10 kVA	AT 100%, REST AT	50%	
	HVAC			0.00		1.00	0.00	1.00	1	0.00				
	-	PMENT		12.0		1.00	12.00	1.00	1	.2.00				
		HEN EQUIPMENT		0.00)	1.00	0.00	1.00	1	0.00				
		EST MOTOR	10 HP	-		-	-	0.25	1	2.77				
	SPAR			2.00		1.00	2.00	1.00	+	2.00				
		AL KVA		14.4		-	14.43 60 A	-	1	.7.26 72 A				
	$T \cap T \wedge$	AL AMPS		60 A										

OAD (CENT	ER SCHEDULE					<u>CM</u>				LOCATION: C.B. RATING:	BUILDING 1a ELECTRIC. 22 K.A.I.C.	<u> </u>	-
	Т	VOLTAGE	PHASE	WIR	E		MOUNTING			SIZE	LUG	TYPE	Т	
WIRE	Y P	240/120V	1	3			SURFACE			400	MLO	NEMA 1	Y P	WIRE SIZE
SIZE	E	USE and/or AREA S	SERVED	C/B POLE	CIR	ØΑ	LOAD	ØВ	CIR	C/B POLE	USE and/	or AREA SERVED] [3120
					1	7080 3552		, ,	2	_				
60-2		AHU-15 FITNE	ESS	60/2	3	3332	ı	7080		50/2	CU-	15 FITNESS	6	50/
					5	5760]	3552	4					
50-2		AHU-16 RESIDENTS	LOUNGE	50/2	7	2796		5760	6	40/2	CU-16 RES	IDENTS LOUNGE	6	40-2
					9	5760	1	2796	8					
50-2		AHU-17 OFFIC	CE	50/2	11	2868]	5760	10	40/2	CU-	17 OFFICE	6	40-2
							1	2868	12					
50-2		AHU-18 GAMII	NG	50/2	13	5760 2796			14	40/2	CII-1	.8 GAMING	6	40-1
30-2		AITO-18 GAIVIII	NO	30/2	15			5760 2796	16	40/2	[- 0-1	.6 CAMINO		40
					17	5760 2796]		18					
50-2		AHU-19 LOBE	BY	50/2	19	2/30	ı	5760		40/2	CU-	19 LOBBY	6	40-2
		_		_	21	-]	2796	20	_		_		
				_	23	-		-	22					-
		-			25	-	1	-	24	-		<u>-</u>		-
		-		-	27	-	j		26	-		-		<u> </u>
		-		-			1	-	28	-		-		
		-		-	29	-			30	-		-		
		-		-	31			-	32	-		-		
		-		-	33	-			34	-		-		
		-		-	35		J	-	36	-		-		
		-		-	37	-]	_	38	_		-		
		-		_	39	-	J	-	40	_		-		
		TOTAL LOAD I	PER PHASE		<u> </u>	44928		44928	40		44928 VA / 12	20 V = 374 A		
						ı					-			
(① GFC	I ② AFCI ③ AFCI/G	SFCI (4) S	HUNT TRIP	(5	SWD 6 H	ACR ⑦ LOC	KABLE	(OPTIONS:	NONE - REFER	TO SPECIFICATIONS		
	FEE	DER OCPD AND CO	NDUCTO	R CALC	ULA ⁻	TION								
	LOAD	DESCRIPTION		CONNEC	CTED	DEMAND	DEMAND	AMPACITY	F	EEDER	NOTES			
	(LOAD	IN KVA)		LOAI)	FACTOR	LOAD	FACTOR	A۱	1PACITY	NOTES			
		RIOR LIGHTING		0.00		1.00	0.00	1.25		0.00				
	INTE	WOW EIGHTING				1.00	0.00	1.25		0.00				
	EXTE	RIOR LIGHTING		0.00		l			1					
	EXTE RECE	RIOR LIGHTING PTACLES		0.00)	*	0.00	1.00		0.00	*FIRST 10 kVA	AT 100%, REST AT	50%	
	EXTE RECE HVAC	RIOR LIGHTING PTACLES		0.00 89.8) 6	* 1.00	0.00 89.86	1.00 1.00	8	0.00 39.86	*FIRST 10 kVA	AT 100%, REST AT	50%	
	EXTER RECE HVAC EQUI	RIOR LIGHTING PTACLES C PMENT		0.00 89.8 0.00) 66)	* 1.00 1.00	0.00 89.86 0.00	1.00 1.00 1.00	8	0.00 39.86 0.00	*FIRST 10 kVA	AT 100%, REST AT	50%	
	EXTER RECE HVAC EQUI KITCH	RIOR LIGHTING PTACLES PMENT HEN EQUIPMENT	1 UD	0.00 89.8 0.00 0.00) 66)	* 1.00 1.00 1.00	0.00 89.86 0.00 0.00	1.00 1.00 1.00 1.00	8	0.00 39.86 0.00 0.00	*FIRST 10 kVA	AT 100%, REST AT	50%	
	EXTER RECE HVAC EQUI KITCH LARG	RIOR LIGHTING PTACLES PMENT HEN EQUIPMENT EST MOTOR	1 HP	0.00 89.8 0.00 0.00) 66))	* 1.00 1.00 1.00	0.00 89.86 0.00 0.00	1.00 1.00 1.00 1.00 0.25	8	0.00 39.86 0.00 0.00 0.41	*FIRST 10 kVA	AT 100%, REST AT	50%	
	EXTER RECE HVAC EQUI KITCH LARG SPAR	RIOR LIGHTING PTACLES PMENT HEN EQUIPMENT EST MOTOR	1 HP	0.00 89.8 0.00 0.00) 66))	* 1.00 1.00 1.00	0.00 89.86 0.00 0.00	1.00 1.00 1.00 1.00	\$	0.00 39.86 0.00 0.00	*FIRST 10 kVA	AT 100%, REST AT	50%	

	Т	VOLTAGE P	PHASE	WIR	Ε		MOUNTING			SIZE	LUG	TYPE	Т	
WIRE	Y P	240/120V 1 USE and/or AREA SERVED	1	3			SURFACE			600	MLO	NEMA 1	Y P	WIRE SIZE
SIZE	E	USE and/or AREA SERV	/ED	C/B POLE	CIR	ØA	LOAD	ØВ	CIR	C/B POLE	USE and/	or AREA SERVED	E	SIZE
		LIGHTING - RESIDENT LO	UNGE	20/1	1	1150 1260			2	20/1	REC	CEPTACLES		
		LIGHTING - 1ST FLOO)R	20/1	3	1200		1747 1080	4	20/1	REC	CEPTACLES		
		LIGHTING - ENTRY LOU	NGE	20/1	5	1212 1080		1000	6	20/1	REC	CEPTACLES		
		BUILDING SIGNAGE (RC	DOF)	20/1	7	1000		1000 1440	8	20/1	REC	CEPTACLES		
		BUILDING SIGNAGE (ROOF) 20/1 BUILDING SIGNAGE (CANOPY) 20/1				1000 1000		1440	10	20/1	UC REFRIGE	ERATOR (GAMING)		
		MONUMENT SIGNAG	6E	20/1	11	1000		1000 1000	12	20/1	UC IC	E (GAMING)		
		RESTROOM EXHAUST F	FAN	20/1	13	1660 1000		1000	14	20/1	UC MICRO	WAVE (GAMING)		
				,	15	1000		1500 1000	16	20/1	PRIN	ITER (WIFI)		
		RR WATER HEATER "IW	H-2"	20/2	17	1500 1000		1000	18	20/1	FLOOR CO	PIER (WORK RM)		
					19	1000		1500 1000	20	20/1	REFRIGERA	ATOR (WORK RM)		
		RR WATER HEATER "IW	'H-2"	20/2	21	1500 1000		1000	22	20/1	MICROW	AVE (WORK RM)		
					23	1000		1500 1000	24	20/1	DISHWAS	HER (WORK RM)		
		LOUNGE WATER HEATER "	'IWH-2"	20/2	25	1500 1000		1000	26	20/1	DISHWAS	SHER (LOUNGE)		
					27	1000		1500 1000	28	20/1	UC REFRIGE	ERATOR (LOUNGE)		
		RR WATER HEATER "IW	H-2"	20/2	29	1500 1000		1000	30	20/1	UC IC	E (LOUNGE)		
		LIGHTING - CORRIDO)R	20/1	31	1000		1500 4000	32					
		LIGHTING - FITNESS	5	20/1	33	668 4000		1000	34		WALL O	VEN (LOUNGE)		
		LIGHTING - LEASING/WOF	RK RM	20/1	35	4000		600 1000	36	20/1	FOOD STORA	GE REF (WORK RM)		
		LIGHTING - RESIDENT LO	UNGE	20/1	37	1000 900		1000	38	20/1	REC	CEPTACLES		
		FACP		20/1	39	300		1000 1440	40	20/1	REC	CEPTACLES		
		•				SEE SECTIO	N 2 FOR LOA		1 -10					

LOAD (CENT	ER SCHEDULE			<u>CF</u>	(SECTION	l <u>2)</u>			LOCATION: C.B. RATING:	BUILDING 1a ELECTRICA 22 K.A.I.C.	L ROON	<u>/</u>
	Т	VOLTAGE PHA	SE WI	RE		MOUNTING	I	Π	SIZE	LUG	TYPE	Т	
WIRE	Υ	240/120V 1				SURFACE			600	MLO	NEMA 1	Y	WIRE
SIZE	P E	USE and/or AREA SERVED	C/B POL	E CIR	ØA	LOAD	l ØB	CIR	C/B POLE	USE and/	or AREA SERVED	P E	SIZE
				41	16620 300		1 20	42	20/1	MIN	I INVERTER		
A200-2	4	ELEVATOR (MODEL 4500 (30)	HP) 200/2	43	- 300	J	16620 300	44	20/1	MIN	I INVERTER		
		LIGHT/RECEPTACLE (PIT)	20/1	45	500 300]		46	20/1	MIN	I INVERTER		
		SMOKE CURTAIN	20/1	47		-	300 1000	48	20/1	LIGHTING	G - VIP LOUNGE		
		ELEVATOR SUMP PUMP	20/1	49	1500 640			50	20/1	SH	UNT TRIP		
		CAB LIGHT/RECEPTACLE	20/1	51		-	500 1000	52	20/1	FIREPLACE	CONTROL PANEL		
		BASEBOARD HEATER "BH3	" 20/1	53	1750 1000			54	20/1	COF	FEE MAKER		
		IGHT/RECEPTACLE (TOP OF SH	HAFT 20/1	55		•	500 720	56	20/1	LOBBY/LOU	NGE RECEPTACLES		
A20-2		DUCTLESS SYSTEM "DS-1"	20/2	57	1860 720			58	20/1	FITNESS	RECEPATCLES		
A20-2		DOCILESS SYSTEM DS-1	20/2	59		-	1860 720	60	20/1	MAIL/RISI	ER RECEPTACLES		
		BASEBOARD HEATER "BH1"	" 20/1	61	1750 1000			62	20/1	FIREPL	ACE IGNITER		
		FITNESS EQUIPMENT	20/1	63		-	1000 1000	64	20/1		SPARE		
		FITNESS EQUIPMENT	20/1	65	1000 1000			66	20/1		SPARE		
		FITNESS EQUIPMENT	20/1	67		_	1000 1000	68	20/1		SPARE		
		FITNESS EQUIPMENT	20/1	69	1000 1000			70	20/1		SPARE		
		FITNESS EQUIPMENT	20/1	71		_	1000 1000	72	20/1		SPARE		
		FITNESS EQUIPMENT	20/1	73	1000 1000			74	20/1		SPARE		
		MECH ROOM LIGHT/RECEPTA	CLE 20/1	75		-	576 1000	76	20/1		SPARE		
		TIME CLOCK	20/1	77	250 1000]		78	20/1		SPARE		
		SPARE	20/1	79			1000 1000	80	20/1		SPARE		
		TOTAL LOAD PER PH	ASE		61120	С	59903			61120 VA / 12	20 V = 509 A		
C.	1) GFC	I ② AFCI ③ AFCI/GFCI	4 SHUNT TRI	• (5	SWD 6 H	ACR ⑦ LOC	CKABLE		OPTIONS:	NONE - REFER	TO SPECIFICATIONS		
	FEE	DER OCPD AND CONDUC	TOR CAL	CULA	TION								
		DESCRIPTION	CONN		DEMAND	DEMAND	AMPACITY	1	EEDER	NOTES			
	-	IN KVA)	LO		FACTOR	LOAD	FACTOR	+	1PACITY				
		RIOR LIGHTING	10. 3.0		1.00 1.00	10.35 3.00	1.25 1.25	1	L2.94 3.75				
		EXTERIOR LIGHTING			*	20.18	1.00	1	20.18	*FIRST 10 kV <i>A</i>	A AT 100%, REST AT 5	0%	
		RECEPTACLES 30.3 HVAC 8.88			1.00	8.88	1.00	1	8.88		.,,,		
	EQUI	PMENT	57.	83	1.00	57.83	1.00	5	57.83				
		HEN EQUIPMENT	0.0	00	1.00	0.00	1.00	1	0.00				
		EST MOTOR 30 H		.	- 1.00	10.60	0.25	1	7.92				
	SPAR	E AL KVA	10.		1.00	10.60 110.84	1.00	+	10.60 22.10				
		AL AMPS	504		_	462 A	_	1	22.10 509 A				

	CLIVI	ER SCHEDULE					<u>POOL</u>				LOCATION: C.B. RATING:	TRASH COMPACTOR 22 K.A.I.C.		
	Т	VOLTAGE	PHASE	WIRE	=		MOUNTING			SIZE	LUG	TYPE	Т	
WIRE	Y	240/120V	1	3			SURFACE			60	MLO	NEMA 1	T Y	WIRE SIZE
SIZE	E USE and/or AREA SERVED C/B POLE C FILTER POOL PUMP 1.5 HP 20/2					ØΑ	LOAD	ØВ	CIR	C/B POLE	USE and/	or AREA SERVED	E	SIZE
	FILTER POOL PUMP 1.5 HP FILTER POOL PUMP 1.5 HP 20/2 3 7					1380 300		300 1380	2	20/2		ITAIN PUMP .75 HP		
	1.5 HP 20/2 FILTER POOL PUMP 1.5 HP 20/2 SPARE 20/1 SPARE 20/1				5 7	1380 2000		1380 750	6	20/1 20/1		OL LIGHTS SPARE		
	FILTER POOL PUMP 1.5 HP SPARE 20/2 SPARE 20/1 SPARE 20/1					1000 1000		7.50	10	20/1		SPARE		
		SPARE		20/1	11		•	1000 1000	12	20/1		SPARE		
		TOTAL LOAD P	ER PHASE			7060		5810			7060 VA / 12	20 V = 59 A		
	① GFCI	② AFCI ③ AFCI/G	FCI (4) 31	HUNT TRIP	<u> </u>	SWD 6 H	ACR ⑦ LOC	KABLE		JPTIONS:	NONE - REFER	TO SPECIFICATIONS		
		DER OCPD AND CON					ACR (7) LOC	KABLE		DETIONS:	NONE - REFER	TO SPECIFICATIONS		
	FEEC LOAD [JLAT		DEMAND LOAD	AMPACITY FACTOR	FE	EEDEP	NOTES	TO SPECIFICATIONS		
	FEED LOAD D	DER OCPD AND CON		R CALCU	JLAT	TION DEMAND	DEMAND	AMPACITY	FE AM	EEDER		TO SPECIFICATIONS		
	FEED LOAD D (LOAD	DER OCPD AND COMP DESCRIPTION IN KVA)		R CALCU	JLAT	TION DEMAND FACTOR	DEMAND LOAD	AMPACITY FACTOR	FE AM	EEDER IPACITY		TO SPECIFICATIONS		
	FEED LOAD D (LOAD INTER	DER OCPD AND CONDESCRIPTION IN KVA) RIOR LIGHTING		CONNECT LOAD	JLAT	DEMAND FACTOR 1.00	DEMAND LOAD 4.44	AMPACITY FACTOR 1.25	FE AM	EEDER IPACITY 5.55 2.50	NOTES	A AT 100%, REST AT	50%	
	FEED LOAD D (LOAD INTER	DER OCPD AND COMPESCRIPTION IN KVA) RIOR LIGHTING RIOR LIGHTING PTACLES		CONNECT LOAD 4.44 2.00	JLAT	DEMAND FACTOR 1.00 1.00	DEMAND LOAD 4.44 2.00	AMPACITY FACTOR 1.25 1.25	FFF AM	EEDER IPACITY 5.55 2.50	NOTES		50%	
	LOAD C (LOAD C INTER EXTER RECEI HVAC	DER OCPD AND COMPESCRIPTION IN KVA) RIOR LIGHTING RIOR LIGHTING PTACLES		CONNEC LOAD 4.44 2.00 3.68	JLAT	DEMAND FACTOR 1.00 1.00 *	DEMAND LOAD 4.44 2.00 3.68	AMPACITY FACTOR 1.25 1.25 1.00	FE AM	EEDER IPACITY 5.55 2.50 3.68	NOTES		50%	
	LOAD E (LOAD E (LOAD INTER EXTER RECEI HVAC EQUII KITCH	DER OCPD AND CONDESCRIPTION IN KVA) RIOR LIGHTING RIOR LIGHTING PTACLES PMENT HEN EQUIPMENT	NDUCTO	CONNECT LOAD 4.44 2.00 3.68 0.00	JLA TED	DEMAND FACTOR 1.00 1.00 * 1.00	DEMAND LOAD 4.44 2.00 3.68 0.00	AMPACITY FACTOR 1.25 1.25 1.00 1.00 1.00	FF AM	EEDER IPACITY 5.55 2.50 3.68 0.00 0.00 0.00	NOTES		50%	
	LOAD E (LOAD E (LOAD INTER EXTER RECEI HVAC EQUII KITCH LARG	DER OCPD AND COMPESCRIPTION IN KVA) RIOR LIGHTING RIOR LIGHTING PTACLES PMENT HEN EQUIPMENT EST MOTOR		CONNECT LOAD 4.44 2.00 3.68 0.00 0.00 0.00 -	JLAT	DEMAND FACTOR 1.00 1.00 * 1.00 1.00 1.00 -	DEMAND LOAD 4.44 2.00 3.68 0.00 0.00 0.00	AMPACITY FACTOR 1.25 1.25 1.00 1.00 1.00 1.00 0.25	FE AM 5 2 3 3 () () () () 2 2	EEDER IPACITY 5.55 2.50 3.68 0.00 0.00 0.00 2.77	NOTES		50%	
	LOAD E (LOAD E INTER EXTER RECEI HVAC EQUII KITCH LARG SPARE	DER OCPD AND CONDESCRIPTION IN KVA) RIOR LIGHTING PTACLES PMENT IEN EQUIPMENT EST MOTOR	NDUCTO	CONNECT LOAD 4.44 2.00 3.68 0.00 0.00 - 2.75	JLAT	DEMAND FACTOR 1.00 1.00 * 1.00 1.00 1.00	DEMAND LOAD 4.44 2.00 3.68 0.00 0.00 0.00 - 2.75	AMPACITY FACTOR 1.25 1.25 1.00 1.00 1.00	FF AM 2 3 () () 2 2	EEDER IPACITY 5.55 2.50 3.68 0.00 0.00 0.00 2.77 2.75	NOTES		50%	
	LOAD E (LOAD E (LOAD E INTER EXTER RECEI HVAC EQUII KITCH LARG SPARE	DER OCPD AND COMPESCRIPTION IN KVA) RIOR LIGHTING RIOR LIGHTING PTACLES PMENT HEN EQUIPMENT EST MOTOR	NDUCTO	CONNECT LOAD 4.44 2.00 3.68 0.00 0.00 0.00 -	JLATTED	DEMAND FACTOR 1.00 1.00 * 1.00 1.00 1.00 -	DEMAND LOAD 4.44 2.00 3.68 0.00 0.00 0.00	AMPACITY FACTOR 1.25 1.25 1.00 1.00 1.00 1.00 0.25	FF AM 5 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	EEDER IPACITY 5.55 2.50 3.68 0.00 0.00 0.00 2.77	NOTES		50%	





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Interior Designer:

SJL Design Group 921 N. Riverfront Blvd. Suite 100, Dallas, TX 75207 Cassie Farley 214.443.9090

ISSUANCES		
01	SCHEMATIC DESIGN	09.10.18
02	DEVELOPMENT DESIGN	11.09.18
03	PERMIT SET	01.28.19

REVISIONS



a multifamily project for NRP Group

West Cevallos
San Antonio, Texas

ELECTRICAL COMMUNITY CENTER & MAINTENANCE PANELS

Project Number 18054

Date 01/14/2018

Drawn By TLR

Checked By EEC

F410

				ВІ	RANCH CIRCUI	T SCHEDULE	
MARK	# OF SETS	PHASE & NEU. CONDUCTORS (CU)	EQUIP. GRND CONDUCTOR (CU)	3PH / 4W CONDUIT SIZE	1 OR 3PH / 3W CONDUIT SIZE	1PH / 2W CONDUIT SIZE	NOTES:
20	1	#12	#12	3/4"	3/4"	3/4"	A. BRANCH CIRCUIT SCHEDULE IS BASED ON NEC TABLE 310.15(B)(16) AND TABLE 250.122.
25	1	#10	#10	3/4"	3/4"	3/4"	, ,, ,
30	1	#10	#10	3/4"	3/4"	3/4"	B. ALL NEUTRAL CONDUCTORS SHALL MATCH THE SIZE OF THE PHASE CONDUCTORS UNLESS OTHERWISE NOTED.
35	1	#8	#10	3/4"	3/4"	3/4"	
40	1	#8	#10	1"	3/4"	3/4"	C. BRANCH CIRCUIT MARK LEGEND
45	1	#8	#10	1"	1"	3/4"	100 - 4 (NG, IF SHOWN = NO GND)
50	1	#8	#10	1"	1"	3/4"	CIRCUIT MARK J L NUMBER OF PHASE
55	1	#6	#10	1-1/2"	1-1/2"	1"	SEE BRANCH CIRCUIT CONDUCTORS
60	1	#6	#10	1-1/2"	1-1/2"	1"	SCHEDULE FOR 4 = 3 PH / 4 WIRE CONDUCTOR AND 3 = 1 OR 3 PH / 3 WIRE
70	1	#4	#8	1-1/2"	1-1/2"	1"	CONDUIT SIZE 2 = 1 PH / 2 WIRE
80	1	#4	#8	1-1/2"	1-1/2"	1"	
90	1	#3	#8	1-1/2"	1-1/2"	1"	
100	1	#3	#8	2"	1-1/2"	1-1/2"	
125	1	#1	#6	1-1/2"	1-1/2"	1-1/2"	
150	1	#1/0	#6	2"	1-1/2"	N/A	
175	1	#2/0	#6	2"	2"	N/A	
200	1	#3/0	#6	2-1/2"	2"	N/A	
225	1	#4/0	#4	2-1/2"	2"	N/A	
250	1	250 KCMIL	#4	3"	2-1/2"	N/A	

		GROUNDING ELECTROD	E CONDUCTOR CU WIRE SIZE FOR:							
DESIGNATION										
RANGE (ID)	GROUND ROD	CONCRETE-ENCASED ELECTRODE	STRUCTURAL STEEL AND METAL WATER PIPING (IF ANY)							
20G-100G	#8	#8	#8							
125G-150G	#6	#6	#6							
175G-200G	#6	#4	#4							
225G-300G	#6	#4	#2							
350G-500G	#6	#4	#1/0							
600G-800G	#6	#4	#2/0							
1000G+	#6	#4	#3/0							
NOTES:	1. DESIGNATIONS REFER TO AMPERAGE FOLLOWED BY A "G." FOR EXAMPLE, 30G WOULD FALL WITHIN THE 20G-100G RANGE. 2. CONNECTION TO FIRST ELECTRODE IN SYSTEM SHALL BE FULL-SIZED AND SIZED ACCORDING TO NEC									
	TABLE 250.66.									
	3. GROUNDING	G ELECTRODE SYSTEMS SHALL CON	ISIST OF ALL AVAILABLE GROUNDING ELECTRODES.							
	4. THIS TABLE	IS BASED ON ARTICLE 250.66 OF TH	HE NEC.							

		.20		PHASE:	1		WIRE MA	ATERIAL:		Αl			į							
C/B #12	L2 #	‡10	#8	#6	#4	#3	#2	#1	#1/0	#2/0	#3/0	#4/0	250 MCM	300 MCM	350 MCM	400 MCM	500 MCM	600 MCM	700 MCM	750 MCM
15 62	2	98	156	248	394	496	627	791	995	1258	1587	2000	2361	2829	3077	3781	4717	5666	6601	7092
20 46	6	74	117	186	295	372	470	593	746	943	1190	1500	1771	2122	2308	2836	3538	4249	4950	5319
25 -		59	94	149	236	298	376	474	597	755	952	1200	1417	1697	1846	2268	2830	3399	3960	4255
30 -	- .	49	78	124	197	248	313	395	498	629	794	1000	1181	1414	1538	1890	2358	2833	3300	3546
40 -	-	-	59	93	148	186	235	296	373	472	595	750	885	1061	1154	1418	1769	2125	2475	2660
50 -	-	-	-	74	118	149	188	237	299	377	476	600	708	849	923	1134	1415	1700	1980	2128
60 -	-	-	-	-	98	124	157	198	249	314	397	500	590	707	769	945	1179	1416	1650	1773
75 -	.	-	-	-	-	99	125	158	199	252	317	400	472	566	615	756	943	1133	1320	1418
100 -	.	-	-	-	-	-	-	119	149	189	238	300	354	424	462	567	708	850	990	1064
125 -	.	-	-	-	-	-	-	-	-	151	190	240	283	339	369	454	566	680	792	851
150 -	.	-	-	-	-	-	-	-	-	-	159	200	236	283	308	378	472	567	660	709

OLTAGE:		120		PHASE:	1		WIRE M.	ATERIAL:		Cu										
C/B	#12	#10	#8	#6	#4	#3	#2	#1	#1/0	#2/0	#3/0	#4/0	250 MCM	300 MCM	350 MCM	400 MCM	500 MCM	600 MCM	700 MCM	750 MCN
15	101	161	257	407	649	816	1031	1299	1639	2068	2611	3289	3883	4662	5450	6231	7752	9346	10870	11696
20	76	121	193	305	487	612	773	974	1230	1551	1958	2467	2913	3497	4087	4673	5814	7009	8152	8772
25	61	97	154	244	390	490	619	779	984	1241	1567	1974	2330	2797	3270	3738	4651	5607	6522	7018
30	-	81	129	204	325	408	515	649	820	1034	1305	1645	1942	2331	2725	3115	3876	4673	5435	5848
40	-	-	96	153	244	306	387	487	615	776	979	1234	1456	1748	2044	2336	2907	3505	4076	4386
50	-	-	77	122	195	245	309	390	492	620	783	987	1165	1399	1635	1869	2326	2804	3261	3509
60	-	-	-	102	162	204	258	325	410	517	653	822	971	1166	1362	1558	1938	2336	2717	2924
75	-	-	-	-	130	163	206	260	328	414	522	658	777	932	1090	1246	1550	1869	2174	2339
100	-	-	-	-	-	122	155	195	246	310	392	493	583	699	817	935	1163	1402	1630	1754
125	-	-	-	-	-	-	-	156	197	248	313	395	466	559	654	748	930	1121	1304	1404
150	-	-	_	- 1	-	-	-	-	164	207	261	329	388	466	545	623	775	935	1087	1170

MARK	# OF SETS	PHASE & NEU. CONDUCTORS (CU)	EQUIP. GRND CONDUCTOR (CU)	3PH / 4W CONDUIT SIZE	1 OR 3PH / 3W CONDUIT SIZE	1PH / 2W CONDUIT SIZE	NOTES:
20	1	#12	#12	3/4"	3/4"	3/4"	A. FEEDER AND BRANCH CIRCUIT SCHEDULE IS BASED ON NEC TABLE 310.15(B)(16) AND TABLE 250.122.
25	1	#10	#10	3/4"	3/4"	3/4"	
30	1	#10	#10	3/4"	3/4"	3/4"	B. ALL NEUTRAL CONDUCTORS SHALL MATCH THE SIZE OF THE PHASE CONDUCTORS UNLESS OTHERWISE NOTED.
35	1	#8	#10	3/4"	3/4"	3/4"	
40	1	#8	#10	1"	3/4"	3/4"	C. FEEDER AND BRANCH CIRCUIT SCHEDULE IS NOT TO BE USED FOR SIZING SERVICE FEEDERS BEFORE MAIN
45	1	#8	#10	1"	3/4"	3/4"	OVERCURRENT PROTECTION EQUIPMENT.
50	1	#8	#10	1"	1"	3/4"	D. FEEDER AND BRANCH CIRCUIT MARK LEGEND
55	1	#6	#10	1-1/2"	1-1/2"	1"	
60	1	#6	#10	1-1/2"	1-1/2"	1"	100 - 4 (NG, IF SHOWN = NO GNI
70	1	#4	#8	1-1/2"	1-1/2"	1"	l † †
80	1	#4	#8	1-1/2"	1-1/2"	1"	CIRCUIT MARK I NUMBER OF PHASE
90	1	#3	#8	1-1/2"	1-1/2"	1"	SEE FEEDER AND CONDUCTORS
100	1	#3	#8	2"	1-1/2"	1-1/2"	BRANCH CIRCUIT 4 = 3 PH / 4 WIRE SCHEDULE FOR 3 = 1 OR 3 PH / 3 WIRE
125	1	#1	#6	1-1/2"	1-1/2"	N/A	CONDUCTOR AND 2 = 1 PH / 2 WIRE CONDUIT SIZE
150	1	#1/0	#6	2"	1-1/2"	N/A	CONDOTT SIZE
175	1	#2/0	#6	2"	2"	N/A	
200	1	#3/0	#6	2-1/2"	2"	N/A	
225	1	#4/0	#4	2-1/2"	2"	N/A	
250	1	250 KCMIL	#4	3"	2-1/2"	N/A	1
300	1	350 KCMIL	#4	3"	3"	N/A	
350	2	#2/0	#3	2"	2"	N/A	
400	2	#3/0	#3	2-1/2"	2"	N/A	1
500	2	250 KCMIL	#2	3"	2-1/2"	N/A	1
600	2	350 KCMIL	#1	3"	3"	N/A	1
800	3	300 KCMIL	#1/0	2-1/2"	2-1/2"	N/A	1
1000	3	400 KCMIL	#2/0	4"	3"	N/A	1
1200	4	350 KCMIL	#3/0	3"	3"	N/A	
1600	5	400 KCMIL	#4/0	4"	4"	N/A	
2000	6	400 KCMIL	250 KCMIL	4"	N/A	N/A	
2500	7	500 KCMIL	400 KCMIL	4"	N/A	N/A	
3000	8	500 KCMIL	400 KCMIL	4"	N/A	N/A	
3500	10	500 KCMIL	500 KCMIL	4"	N/A	N/A	
4000	10	600 KCMIL	500 KCMIL	4"	N/A	N/A	

				F	EEDER CIRCUIT	Γ SCHEDULE	
MARK	# OF SETS	PHASE & NEU. CONDUCTORS (AL)	EQUIP. GRND CONDUCTOR (CU)	3PH / 4W CONDUIT SIZE	1 OR 3PH / 3W CONDUIT SIZE	1PH / 2W CONDUIT SIZE	NOTES:
A60	1	#4	#10	1"	1"	1"	A. FEEDER CIRCUIT SCHEDULE IS BASED ON NEC TABLE 310.15(B)(16) AND TABLE 250.122.
A70	1	#3	#8	1-1/2"	1-1/2"	1"	1
A80	1	#2	#8	1-1/2"	1-1/2"	1"	B. ALL NEUTRAL CONDUCTORS SHALL MATCH THE SIZE OF THE PHASE CONDUCTORS UNLESS OTHERWISE NOTED.
A90	1	#2	#8	1-1/2"	1-1/2"	1"	C. FEEDER CIRCUIT SCHEDULE IS NOT TO BE
A100	1	#1	#8	1-1/2"	1-1/2"	1-1/2"	USED FOR SIZING SERVICE FEEDERS BEFORE MAIN
A125	1	#2/0	#6	2"	2"	N/A	OVERCURRENT PROTECTION EQUIPMENT.
A150	1	#3/0	#6	2"	2"	N/A	D. <u>FEEDER CIRCUIT MARK LEGEND</u>
A175	1	#4/0	#6	2"	2"	N/A	
A200	1	250 KCMIL	#6	2-1/2"	2-1/2"	N/A	A100 - 4 (NG, IF SHOWN = NO GND)
A225	1	300 KCMIL	#4	2-1/2"	2-1/2"	N/A	1 1
A250	2	#2/0	#4	2"	2"	N/A	CIRCUIT MARK — NUMBER OF PHASE SEE FEEDER CIRCUIT CONDUCTORS
A300	2	#3/0	#4	2"	2"	N/A	SCHEDULE FOR $4 = 3 \text{ PH} / 4 \text{ WIRE}$
A350	2	#4/0	#3	2"	2"	N/A	CONDUCTOR AND 3 = 1 OR 3 PH / 3 WIRE CONDUIT SIZE 2 = 1 PH / 2 WIRE
A400	2	250 KCMIL	#3	2-1/2"	2-1/2"	N/A	2 - 1111/ 2 WINC
A500	2	350 KCMIL	#2	2-1/2"	2-1/2"	N/A	
A600	2	500 KCMIL	#1	3"	3"	N/A	
A800	3	400 KCMIL	#1/0	2-1/2"	2-1/2"	N/A	
A1000	4	350 KCMIL	#2/0	2-1/2"	2-1/2"	N/A	
A1200	4	500 KCMIL	#3/0	3"	3"	N/A	
A1600	6	400 KCMIL	#4/0	4"	4"	N/A	
A2000	7	500 KCMIL	250 KCMIL	4"	N/A	N/A	
A2500	9	500 KCMIL	400 KCMIL	4"	N/A	N/A	
A3000	10	500 KCMIL	400 KCMIL	4"	N/A	N/A	
A3500	10	750 KCMIL	500 KCMIL	4"	N/A	N/A	
A4000	11	750 KCMIL	500 KCMIL	4"	N/A	N/A	

FAULT CURRENT ANALYSIS (208V)										
AVAILABLE FAULT CURRENT (A.I.C.): 31231										
EQUIPMENT NAME	AVAILABLE FAULT CURRENT (A.I.C)	EQUIPMENT A.I.C. RATING (A.I.C)								
METERBANK 1a	28,423	35,000								
LEASING	26,078	35,000								
METERBANK 1b.1	25,699	35,000								
METERBANK 1b.2	26,481	35,000								
METERBANK 1c	26,249	35,000								
METERBANK 1d.1	30,595	35,000								
METERBANK 1d.2	30,595	35,000								
METERBANK 1e.1	28,972	35,000								
METERBANK 1e.2	28,113	35,000								
METERBANK II-2	29,688	35,000								
METERBANK II-3	29,183	35,000								
METERBANK II-4	29,614	35,000								
METERBANK II-5	30,673	35,000								
MAINT/TC	10,427	22,000								

NOTE:

CONTRACTOR IS TO VERIFY AVAILABLE FAULT CURRENT AT THE UTILITY

TRANSFORMER WITH POWER COMPANY PRIOR TO ORDERING ELECTRICAL

EQUIPMENT. KAIC RATINGS SHOWN ABOVE ARE BASED ON AN AVAILABLE SHORT

CIRCUIT AMPACITY AT THE SECONDARY SIDE OF THE UTILITY TRANSFORMER.

COORDINATE KAIC RATINGS ACCORDINGLY WITH ENGINEER.





Structural Engineer:

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MEP Engineer:

ENCOTECH 8500 Bluffstone Cove, Austin, TX. 78759 Tessa Roberts 512.338.1101

Civil Engineer:

MBC & Associates, Inc 1035 Central Pkwy N, San Antonio, TX 78732 David Allen 210.545.1122

Landscape Architect:

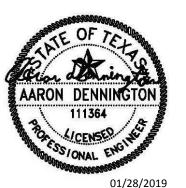
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Interior Designer:

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01	SCHEMATIC DESIGN	09.10.18
02	DEVELOPMENT DESIGN	11.09.18
03	PERMIT SET	01.28.19

REVISIONS



a multifamily project for NRP Group

West Cevallos
San Antonio, Texas

ELECTRICAL GROUNDING FEEDER & BRANCH SIZING TABLES

Project Number 18054

Date 01/14/2018

Drawn By TLR

Checked By EEC

F411

				SITE LIC	GHTING F	IXTURE	SCHEDULE	
MARK	MANUFACTURER	MODEL	VOLT		TVDE	75145	PHYSICAL	DESCRIPTION
S 1	LITHONIA	DSX1-LED-40C-1000-40K-T3S-MVOLT-HS	120	WATTAGE 138	TYPE LED	3000	TYPE POLE	POLE LIGHT @ 15' AFG, FORWARD OPTICS, 40 LEDS FOUR ENGINES, 1000 DRIVE CURRENT, 4000K, TYPE III, MEDIUM, 70 CRI, 12,569 LUMENS, BUG RATING 2/0/2
S2	LITHONIA	DSX1-LED-40C-1000-40K-T5M-MVOLT-HS	120	138	LED	3000	POLE	POLE LIGHT @ 15' AFG, FORWARD OPTICS, 40 LEDS FOUR ENGINES, 1000 DRIVE CURRENT, 4000K, TYPE V, MEDIUM, 70 CRI, 15,845 LUMENS, BUG RATING 3/0/2
S3	LITHONIA	DSXSC-LED-10C-700-40K-T5R-MVOLT	120	26	LED	3000	SURFACE (CARPORT)	CANOPY LIGHT, 1 LIGHT ENGINE, 700 Ma driver, 4000K, TYPE III, MEDIUM, 2,701 LUMENS, CRI 80, BUG RATING 2/0/2
S4	LITHONIA	OLLWD	120	8.6	LED	3000	WALL (GARAGE)	OUTDOOR LED WALL DOWNLIGHT CYLINDER, 4000K, POLYCARBONATE LENS, 263.6 LUMENS, CRI 80, TYPE I, SHORT
S 5	SYNERGY	WLED-HO-96	120	205	LED	4000	GROUND	MONUMENT SIGN LIGHT, GROUND MOUNTED, 96"LENGTH, ALUMINUM IP67 DAMP LOCATION APPROVED, 23,800 LUMENS
S 6	FX LUMINAIRE	MP-20-FB	120	20	LED	3000	UPLIGHT	ALUMINUM LED UPLIGHT IN FLAT BLACK FINISH, 45-DEGREE SHROUD.
S7	FX LUMINAIRE	TMLEDTA-FB-A-12RA	120	20	LED	3000	PATH	ALUMINUM LED PATH LIGHT IN FLAT BLACK FINISH, 12" RISER HEIGHT
S 8	HESS AMERICA	PA935	120	8	LED	3000	BOLLARD	ALUMINUM LED PADUA BOLLARD, 36.8" HEIGHT
S 9	SLV LIGHTING	229110	120	4	LED	3000	WALL	BRICK MESH OUTDOOR RECESSED LED WALL LIGHT, STAINLESS STEEL.
S10	VISTA PROFESSIONAL	FL-4015-B-MR	120	12	LED	3000	COUNTER	GRILL LIGHT MOUNTED TO COUNTER TOP, 12 VOLT, 16 LED
S11	PABLO DESIGNS		120		LED	3000	PENDANT	SWELL WIDE OUTDOOR LED PENDANT IN WHITE, HUNG FROM ARBOR
NOTES: 1. COORD	INATE ALL INSTALLA	TION HEIGHTS WITH ARCHITECT & INTERIO	R DESIGN	IER.				

			CLUBH	OUSE LIGH	HTING FIXTUR	E SCHEDULE		
MARK	MANUFACTURER	MODEL	VOLT	WATTAGE	TEMP	TYPE	LOCATION	DESCRIPTION
L1	ROYAL PACIFIC	8162H-50-3K FRAME 8656WH TRIM	120	50	3000K	LED	HIGHER CEILINGS THROUGHOUT	COMMERCIAL RECESSED LED DOWNLIGHT, AZE REFLECTOR WITH WHITE BAFFLE, 6" DIA., CRI 90, 3468 LUMENS
L1E	ROYAL PACIFIC	8162H-50-3K FRAME 8656WH TRIM	120	50	3000К	LED	HIGHER CEILINGS THROUGHOUT	COMMERCIAL RECESSED LED DOWNLIGHT, AZE REFLECTOR WITH WHITE BAFFLE, 6" DIA., CRI 90, 3468 LUMENS. CONNECT TO MINI INVERTER.
L2	ROYAL PACIFIC	8122H-14-3K FRAME 8651WH TRIM	120	14	3000K	LED	LOWER CEILINGS THROUGHOUT	COMMERCIAL RECESSED LED DOWNLIGHT, AZE REFLECTOR WITH WHITE BAFFLE, 6" DIA., CRI 90, 3468 LUMENS
L2E	ROYAL PACIFIC	8122H-14-3K FRAME 8651WH TRIM	120	14	3000К	LED	LOWER CEILINGS THROUGHOUT	COMMERCIAL RECESSED LED DOWNLIGHT, AZE REFLECTOR WITH WHITE BAFFLE, 6" DIA., CRI 90, 3468 LUMENS. CONNECT TO MINI INVERTER.
L3	LUMILUM	LUM-120505-3000K	120	4/FT	3000	LED	COVE LIGHTING THROUGHOUT	LED STRIP LIGHT, WHITE STRIP, WARM WHITE
L4	COOPER INDUSTRIES	H750T HOUSING RA5606930NFLWH-LED RETROFIT	120	60	3000К	LED	CORRIDOR & LEASING LOUNGE	HALO LED 6"NC NON-IC AIRTITE RECESSED WALL WASHER, WHITE TRIM,
L6	CERNO	03-180-LW-35-P1	120	14	3000К	LED	RM-1105, RM-1106, ENTRY LOUNGE, RESIDENTS LOUNGE	CAPIO WALL SCONCE, WALNUT (CM- 001) WITH FROSTED POLYMER (CM- 024), 28.5"Hx6'Wx4"D, MOUNTED AT 80" AFF., CRI 90, 2000 LUMENS
L7	BESA LIGHTING	1JT-DANOSMNA-LED-BR T1180BR SLEEVE	120	9	3000K	LED	RM-1107 & CONCIERGE	DANO LED MINI PENDANT, SMOKE GLASS SHADE WITH NATURAL INNER WOOD DIFFUSER, BRONZE SLEEVE, 13"H x 8"D, FLAT CANOPY, 5"DIA X 0.625"H, 10' CORD WITH SLEEVE, CRI 90, 800 LUMENS
L8	RESTORATION HARDWARE	1000716 BR	120	14	3000К	LED	CORRIDOR	CANNELE PICTURE LIGHT, BRONZE, UL LISTED DRY, 24"Wx7-1/2"Dx-1/2"H, BACKPLATE 4-1/2"DIA x 3/4"D, HORIZONTAL INSTALLATION,
L9	LIGHTS UP	9444BN-EWD	120	200	3000K	LED	RM-1103A, RM-1103B, CONFERENCE ROOM 1 CONFERENCE ROOM 2	WOODY DRUM PENDANT LIGHT, EBONY OUTER SHADE, 2 - E26 BULB RETROFIT LED, 24" DIAx13"H, CANOPY 5"DIA, CORD 96"L
L10	K.LIGHT	CA-KLCH-001/SM CA-KLCH-002/SM CA-KLCH-004/SM	120	60	3000К	LED	RM-1106A, RESIDENTS LOUNGE	MIX OF GLASS PENDANTS (BELL JAR/LANTERN/CYLINDER), SMOKE/AMBER GLASS PENDANT, 30 CMHx24CM DIA, SHADE X, 10CM DIA BASE
L11	JOHN BLACK STEEL	1JT-JBSL-LTNBS	120	50	3000K	LED	RM-1104 GAMING LOUNGE	LIGHT THREE, 2 POINT HANGING NATURAL BLACK, 48"Lx10"Hx6"D, CANOPY 5"DIA, CABLE 72"L
L13	HAIKU BY BIG ASS FANS	S3150-A2-AB-04-02-C-01-F528	120	-	-	LED	RM-1108 FITNESS CENTER	3-BLADE CEILING FAN, HAIKU-I SERIES, LOW PROFILE MOUNT, 258 BLACK, NO LAMP, 84"DIAx12.3"H
L14	TBD BY INTERIOR DESIGNER	TBD BY INTERIOR DESIGNER	120	-	-	NEON	RM-1108 FITNESS CENTER	NEON LETTER LIGHTS, CUSTOM TEXT WITH OPEN TUBE NEON LIGHTING, WHITE, HARDWIRED
L15	воссі	BOC-14SP-LED-AMB-WET	120	1.5	3000К	LED	RM-1112A/B MEN/WOMENS RESTROOM	STANDARD WALL SCONCE, AMBER GLASS, 4.5"DIAx2"D
L16	MODERN FORMS	WS-3127-BZ	_ 120	38	3000К	LED	UNISEX POOL RESTROOMS	VANITY WALL SCONCE, VOGUE BATH VANITY LIGHT, BRONZE, 3"Lx27"Wx3"D, BACKPLATE 5" H
EM2	I HITHOINIA	VEL-1240-H3512 - DOUBLE DOOR VELS-1250-H3512 - SINGLE DOOR	120	2/40 1/50	HALOGEN	CEILING	EMERGENCY LIGHT	EMERGENCY DEVICE, DOUBLE DOORS -2 MR16 HALOGEN OUTPUT 40W LAMPS, SINGLE DOOR 1-MR16 HALOGEN OUTPUT 50W LAMP, ALL EMERGENCY LIGHTS IN AMENITY AREA SHALL BE CIRCUITED TO MINI INVERTER EXITRONIX "TUCM-300-120-120- ECM120

						PHYSICAL		
1ARK	MANUFACTURER	MODEL	VOLT	WATTAGE	ТҮРЕ	TYPE	LOCATION	DESCRIPTION
		B951LED24-BZ-30K						
Α	BILTMORE	-	120	15	LED	SURFACE	UNIT ENTRY	9" UP/DOWN ENTRY LIGHT, LED - WET LISTED, 600 LUMENS, CRI 90 BRONZE, FROSTED GLASS
В	BILTMORE	C998LED-15-WH-WH-30K	120	33	LED	CEILING FAN	LIVING/BEDROOM	3-BLADE CEILING FAN, WHITE BLADES, WHITE ACRYLIC GLASS, (1) 15 W LED LAMPS, LAMPS INCLUDED
С	BILTMORE	LEDSM55DL-WH-30K	120	10	LED	SURFACE	KITCHEN/HALLWAY	5.5" LOW PROFILE LED PANCAKE, - WET LISTED, WHITE, 660 LUMENS, CRI 82
D	BILTMORE	TH105LED15-WH-30K	120	16	LED	TRACK	DINING ROOM	LED 4-HEAD TRACK LIGHT, 4' L, WHITE, 3000K, (1) FLOATING POWER FEED
E	BILTMORE	LEDSM55DL-WH-30K	120	15	LED	SURFACE	BATH CEILING	5.5" LOW PROFILE LED PANCAKE, - WET LISTED, WHITE, 660 LUMENS, CRI 82
F1	BILTMORE	B77618-15.5LED-BN-30K	120	15.5	LED	VANITY	BATH VANITY	18" OVER MIRROR LINEAR SCONCE, 3000K, 1000 LUMENS, CRI 90, BRUSHED NICKEL, DAMP LOCATION APPROVED
F2	BILTMORE	B77618-20.5LED-BN-30K	120	20.5	LED	VANITY	BATH VANITY	24" OVER MIRROR LINEAR SCONCE, 1000 LUMENS, 3000K, CRI 90, BRUSHED NICKEL
F3	BILTMORE	B77618-30LED-BN-30K	120	30	LED	VANITY	BATH VANITY	36" OVER MIRROR LINEAR SCONCE 3000K, 1000 LUMENS, CRI 90, BRUSHED NICKEL
G	BILTMORE	LEDSM55DL-WH-30K	120	15	LED	SURFACE	CLOSET/STORAGE	5.5" LOW PROFILE LED PANCAKE, - WET LISTED, WHITE, 660 LUMENS, CRI 82
н	BILTMORE	B954LED10-BZ-30K	120	20	LED	WALL	PATIO	EXTERIOR SCONCE, RECTANGULAR, ALUMINUM, CLEAR WITH INSIDE ETCHED GLASS, 3000K, 720 LUMENS, CRI 90, WET LOCATION APPROVED
ı	BILTMORE	B953LED17-BR-30K (STANDARD UNITS) B5741-MB (SIGNATURE UNITS)	120	17	LED	PENDANT	KITCHEN ISALND	CYLINDRICAL PENDANT, BRUSHED ALUMINUM, 3000K, 550 LUMENS, CRI 80, DAMP LOCATION APPROVED
		LED-UC12-WH-30K						HADEBOOMNITES HOUTING (5"
J	BILTMORE		120	7	LED	SURFACE	KITCHEN UNDERCOUTNER	UNDERCOUNTER LIGHTING, 12" W X 3.5" H X 1" EXTENSION, 3000K, WHITE, FROSTED SHADE
К	DEVINE LIGHTING	48055L-WH-117ER-CP	120	32	Т8	CEILING	LAUNDRY	120V, (1) T8-27K, B1-OIN, WHITE

				BUILDI	NG LIGHT	FIXTURE SCHEDULE		
MARK	MANUFACTURER	MODEL	VOLT			PHYSICAL	LOCATION	DESCRIPTION
IVIARK	IVIANUFACTURER	MODEL	VOLI	WATTAGE	TYPE	TYPE	LUCATION	DESCRIPTION
B1	ALL AROUND LIGHTING	SM6-15W-30K-W-D-WHT	120	15	LED	SURFACE MOUNT	CORRIDOR/ ELEVATOR LOBBY	7" PUCK LIGHT, 7.4" ROUND LED DISC LIGHT, WHITE, 3000K, LED 850 LUMENS
В2	ROYAL PACIFIC	1071 (Aldea)	120	-	-	CEILING FAN	CORRIDOR	5-42"-BLADE CEILING FAN BRUSHED PEWTER WET LOCATION LISTED UN-SWITCHED, ON 24 HOURS A DAY
В3	WAC	WP-LED-219-30	120	19	LED	WALL MOUNT	BUILDING ENTRY @ STAIRS	LED WALL SCONCE DAMP LOCATION APPROVED, 3000K, CRI 80, ENERGY STAR RATED
В4	LITHONIA	BLTX4-30L-SDSM-120-LP830 PS750DL LED EMERGENCY BATTERY BACKUP	120	24	LED	SURFACE MOUNT	STAIRWELL/GARAGE	1'X4' LED LINEAR LIGHT, 3000K, 5148 LUMENS, CRI 82, WET LOCATION APPROVED, 90-MINUTE BATTERY BACKUP
В5	LITHONIA	VDS-2-32-120-GEB10IS-EL14DW	120	64	FLUOR	SURFACE MOUNT	ELEVATOR PIT	6"X4' LINEAR WALL MOUNTED LIGHT, (2) 32W T8 LAMPS, UL LISTED FOR WET LOCATION, ELECTRONIC BALLAST, WITH EMERGENCY BACKUP BATTERY
В6	LITHONIA	STL4-48L-D40-LP835-EL7L	120	45.2	LED	SURFACE MOUNT	MAINTENANCE, MDF, POOL, ELECTRICAL, STORAGE	1'X4' LED LINEAR LIGHT, 3500K 4850 LUMENS, CRI 82, WET LOCATION APPROVED, 90- MINUTE BATTERY BACKUP
В7	LITHONIA	ZL2N-L24-3000LM-ZSD-MVOLT-40K- 80CRI-BSL722-WH	120	12	LED	SURFACE MOUNT	RESIDENTIAL STORAGE, IDF CLOSETS	1'X2' LENSED STRIP LIGHT, MOUNT CENTERED ABOVE DOOR, PROVIDE EMERGENCY BACKUP, CRI 80, 2,249 LUMENS
В8	LITHONIA	AL8-T81-32-120	120	32	FLUOR	STRIP	SPRINKLER CLOSET	1'X4' FLUORESCENT STRIP LIGHT,PROVIDE 90- MINUTE BATTERY BACKUP
В9	DEVINE	UD10**-DB-LED40-40K-PC-W	120	40	LED	WALL MOUNT	AMENITY EXTERIOR	CUSTOM EXTERIOR CYLINDRICAL WALL SCONCE, 34" H X 10" WIDE, 4000K, 4,000 LUMENS, CRI 90, CLEAR GLASS LENS, PROVIDE WITH PHOTOCELL, DAMP LOCATION APPROVED.
EM1	EXITRONIX	LED52-WH-G2	120	2	LED	WALL MOUNT	EMERGENCY LIGHT	EMERGENCY DEVICE, HIGH OUTPUT LED, WHITE, WITH 90 MINUTE BATTERY BACKUP-
X NOTES:	EXITRONIX	S900U-WB-SR-RM-BA	120	4.2	LED	WALL & CEILING MOUNT	EXT SIGNS	EXIT LIGHT, ALUMINUM HOUSING, DAMP LOCATION RATED, COORDINATE FINISH AND LETTER COLOR WITH ARCHITECT. CONNECT TO EMERGENCY CIRCUIT.

L. COORDINATE ALL INSTALLATION HEIGHTS WITH ARCHITECT & INTERIOR DESIGNER.
2. SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF ALL FIXTURES.





Structural Engineer:

VIEWTECH INC. 4205 Beltway Dr. Addison, TX 75001 Victor Lisiak III 972.661.8187

MEP Engineer:

ENCOTECH 8500 Bluffstone Cove, Austin, TX. 78759 Tessa Roberts 512.338.1101

Civil Engineer:

MBC & Associates, Inc 1035 Central Pkwy N, San Antonio, TX 78732 David Allen 210.545.1122

Landscape Architect:

LEE & Associates, Inc. 9020 N Capital of Texas Hwy, Austin, TX. 78759 Amber Rothwell 512.345.8477

Interior Designer:

SJL Design Group 921 N. Riverfront Blvd. Suite 100, Dallas, TX 75207 Cassie Farley 214.443.9090

ISSUANCES				
01	SCHEMATIC DESIGN	09.10.18		
02	DEVELOPMENT DESIGN	11.09.18		
03	PERMIT SET	01.28.19		
REVISIONS				



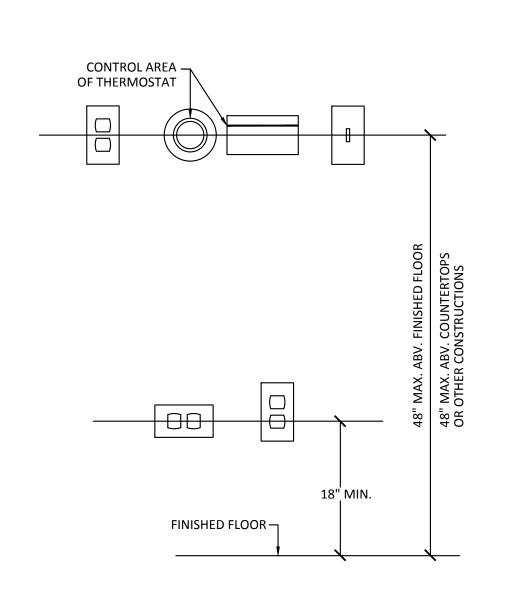
a multifamily project for NRP Group

West Cevallos
San Antonio, Texas

ELECTRICAL UNITS, BUILDING & SITE LIGHT FIXTURE SCHEDULE

Project Number	18054
Date	01/14/2018
Drawn By	TLR
Checked By	EEC

E412



DEVICE LOCATIONS THERMOSTAT: 48" MAXIMUM AFF TO HIGHEST OPERABLE PART. • 48" MAXIMUM AFF TO HIGHEST OPERABLE PART. LIGHT SWITCHES: • 48" MAXIMUM AFF TO HIGHEST OPERABLE PART IN "ON" POSITION. WALL RECEPTACLES: • 15" MINIMUM AFF TO CENTERLINE OF LOWEST RECEPTACLE (OR 18" MINIMUM TO CENTERLINE OF • 48" MAXIMUM AFF TO CENTERLINE OF HIGHEST RECEPTACLE. BATHROOM RECEPTACLES: • 44: MAXIMUM AFF (PREFERRED) TO CENTERLINE OF HIGHEST RECEPTACLE. 12" MINIMUM FROM ANY OBSTRUCTION 12" MAX FROM LEADING EDGE OF VANITY COUNTER IF ON SIDE WALL. RECEPTACLES BEHIND KITCHEN COUNTERS: • 48" MAXIMUM AFF TO CENTER LINE OF HIGHEST 12" MINIMUM FROM ANY OBSTRUCTION (INCLUDING REFRIGERATOR) 36" MINIMUM FROM CORNERS 46" MAXIMUM AFF TO "ON" POSITION OF REDUNDANT CONTROLS FOR RANGE HOOD

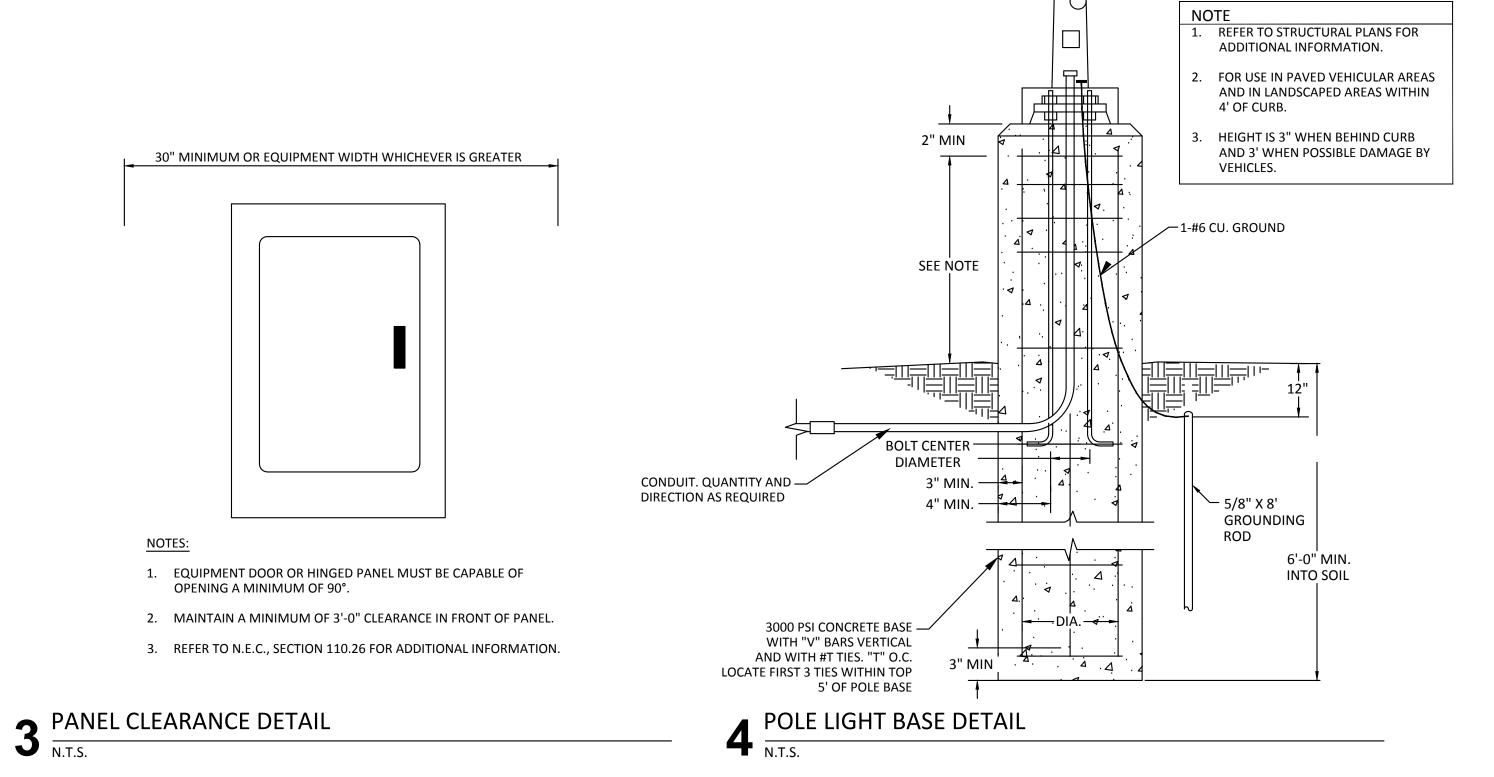
24" MAXIMUM DEPTH BETWEEN LEADING EDGE OF COUNTERTOP AND RECEPTACLES/SWITCHES

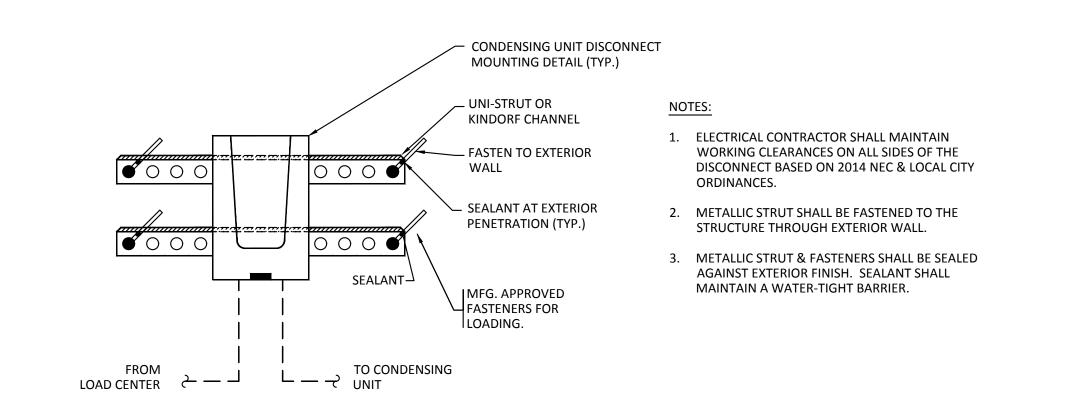
LOCATED ON KITCHEN BACKSPLASH WALL.

TO ELECTRICAL -SERVICE EQUIPMENT REFER TO RISER -CONCRETE FOUNDATION DIAGRAM FOR SIZE IN DIRECT CONTACT WITH THE EARTH NONMETALLIC -PROTECTIVE SLEEVE NO SMALLER THAN #4 — CONNECTION LISTED _ AWG BARE COPPER FOR THE PURPOSE CONDUCTOR 2" MIN.

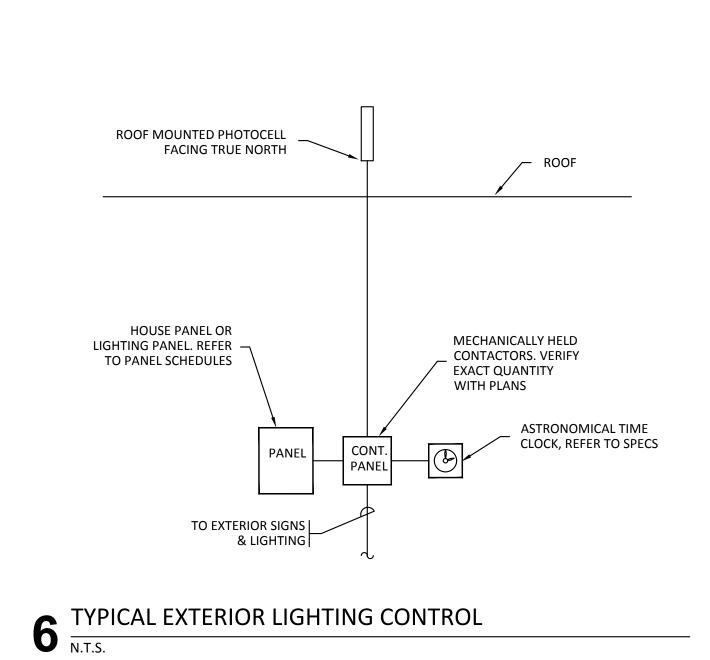
- 1. ALL NEW BUILDINGS SHALL UTILIZE CONCRETE ENCASED ELECTRODES AS A PRIMARY MEANS OF GROUNDING.
- 2. ALL GROUNDING SYSTEMS SHALL COMPLY WITH ARTICLE 250 OF THE NATIONAL ELECTRIC CODE.

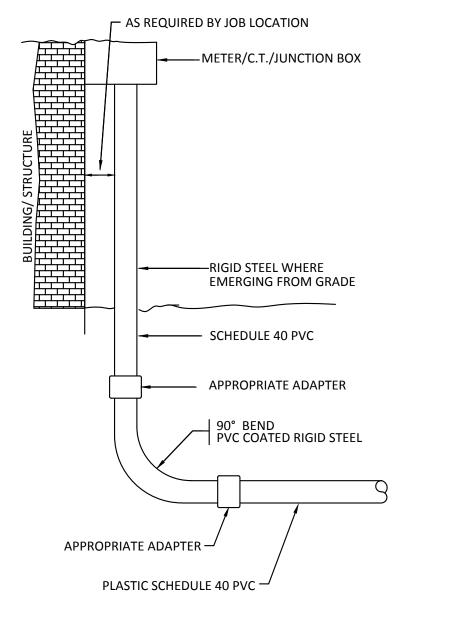
$2^{\frac{\text{CONCRETE ENCASED ELECTRODE}}{\text{N.T.S.}}}$

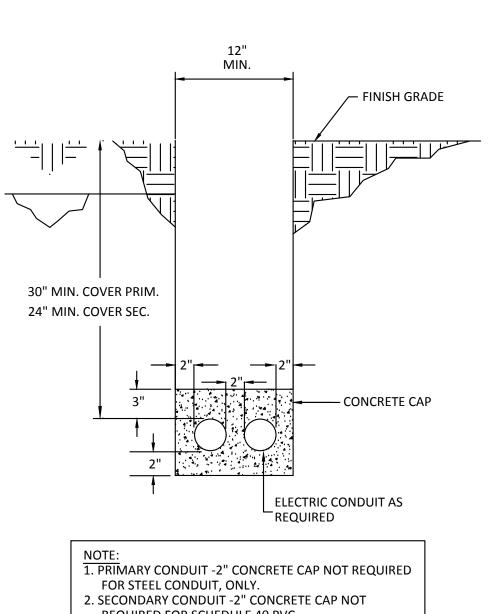




5 CONDENSING UNIT DISCONNECT SWITCH N.T.S.







NOTE:

1. PRIMARY CONDUIT -2" CONCRETE CAP NOT REQUIRED FOR STEEL CONDUIT, ONLY.

2. SECONDARY CONDUIT -2" CONCRETE CAP NOT REQUIRED FOR SCHEDULE 40 PVC.

$7 \frac{\text{BUILDING RISER DETAILS}}{\text{N.T.S.}}$

$8 \frac{\text{TRENCH DETAIL}}{\text{N.T.S.}}$





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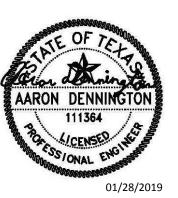
Interior Designer:

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REVISIONS



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ELECTRICAL **DETAILS**

Project Number	18054
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E501