PROJECT DESCRIPTION

MULTI-FAMILY RESIDENTIAL UNITS

PROJECT LOCATION: 12th AVE PHOENIX, AZ 85007

SHEET INDEX

ELECTRICAL COVER SHEET, GENERAL NOTES & SYMBOL LEGEND SITE LIGHTING LAYOUT PLAN

- LIGHTING LAYOUT POWER LAYOUT
- ROOFTOP POWER PLAN LOAD CALCULATION LOAD CALCULATION
- LOAD CALCULATION ONE LINE DIAGRAM & GROUNDING DETAILS LIGHTING COMPLIANCE PHOTOMETRIC PLAN

SCOPE OF WORK

ELECTRICAL DESIGN OF THE NEW (6) UNITS RESIDENTIAL APARTMENTS DEMOLITION OF THE EXISTING 4-UNIT BUILDING ON THE SITE AND BUILD 6 NEW UNITS THE PROJECT WILL BE NEW CONSTRUCTION MULTI-FAMILY RESIDENTIAL RENTAL UNITS WITH A COURTYARD AND SOME DESERT XERISCAPE LANDSCAPING.
NEW CONSTRUCTION OF A (4) ONE-BEDROOM, (1) TWO-BEDROOM (TYPE B), AND (1) ACCESSIBLE TWO-BEDROOM (TYPE A) RENTAL UNITS.

- THIS DESIGN MAY BE USED FOR SECURING PERMITS, BID, PLANNING, THE COMPANY'S REVIEW OR SOME OTHER GOAL. THIS DESIGN DOES NOT GUARANTEE THESE APPROVALS, NOR ARE
- THE FLECTRICAL CONTRACTOR SHALL PAY ALL PERMIT FEES. PLAN REVIEW FEES. LICENSE FEES, INSPECTION AND TAXES APPLICABLE TO THE ELECTRICAL WORK. PROVIDE ALL INSTRUMENTS AND PERFORM ALL TESTS REQUIRED BY THE AHJ. CORRECT ALL FAILURES AND REPLACE ANY DAMAGED PORTIONS OF THE WORK RESULTING FROM TESTS. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE TESTS.
- THIS DESIGN IS NOT A COMPLETE SET OF CONSTRUCTION DRAWING OR SHOP DRAWINGS. THIS DESIGN REPRESENTS DIAGRAMMATIC REPRESENTATION OF INTENDENT SCOPE OF WORK. THE SYMBOLS AND ABBREVIATIONS LIST ON THIS SHEET IS A COMPREHENSIVE STANDARD
- GUIDE INTENDED FOR GENERAL USE ON ALL PROJECTS, THEREFORE, NOT ALL THE SYMBOLS AND ABBREVIATIONS CONTAINED IN THIS LIST ARE NECESSARILY USED ON THIS PARTICULAR PROJECT AND SHOULD BE USED FOR CLARIFICATION ONLY.
- 5. ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE NATIONAL ELECTRICAL CODE, IECC, LIFE SAFETY CODE, LOCAL BUILDING CODE, OSHA REGULATIONS, OCAL, STATI FEDERAL AND AUTHORITY HAVING JURISDICTION CODES APPLICABLE AT THE TIME OF THE
- 6. GENERAL WORK PRACTICES FOR ELECTRICAL CONSTRUCTION SHALL BE IN ACCORDANCE WITH NECA 1 STANDARD FOR GOOD WORKMANSHIP IN ELECTRICAL CONSTRUCTION (ANSI)
- 7. ALL MATERIALS PROVIDED BY THE CONTRACTOR SHALL BE NEW AND FREE OF DEFECTS. ISTED/LABELED FOR THE INTENDED PURPOSE BY UNDERWRITERS (UL) OR OTHER ORGANIZATION THAT IS ACCEPTABLE TO THE AHJ.
- 8. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR SCHEDULING DELIVERY, RECEIVING UNLOADING, STORING, SETTING IN PLACE, AND PROTECTING FROM DAMAGE, VANDALISM, THEFT OR WEATHER DURING CONSTRUCTION FOR ALL NEW EQUIPMENT PROVIDED BY THE ELECTRICAL CONTRACTOR OR PROVIDED BY OTHER PARTIES TO THE ELECTRICAL CONTRACTOR FOR INSTALLATION BY THE ELECTRICAL CONTRACTOR.
- THESE DRAWINGS AND ACCOMPANYING SPECIFICATIONS ARE INTENDED TO DESCRIBE AND ILLUSTRATE SYSTEMS WHICH WILL NOT INTERFERE WITH THE STRUCTURE OF THE BUILDING AND WHICH WILL FIT INTO THE AVAILABLE SPACES. THE CONTRACTOR IS RESPONSIBLE FOR CAREFULLY LAYING OUT ALL WORK TO CONFORM TO NATIONAL ELECTRICAL CODE LEARANCES, ARCHITECTURAL, STRUCTURAL, MECHANICAL AND SITE CONDITIONS, TO AVOID OBSTRUCTIONS AND TO ALLOW THE PROPER INSTALLATION OF EACH ITEM.
- 10. DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT ONLY. COORDINATE RAWINGS OF OTHER TRADES TO FIT THE ACTUAL SPACE CONDITIONS, HEADROOM AND
- 11. THE DRAWINGS ARE TO BE CONSIDERED SCHEMATIC ONLY AND DO NOT NECESSARILY SHOW THE EXACT LOCATION AND DETAILS OF THE WORK TO BE INSTALLED.

SPACE CONDITION TO BE MAINTAINED.

ACCORDANCE WITH THE SPECIFICATIONS

- 12. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF RECEPTACLES, AND LIGHTING
- 13. UPON THE COMPLETION OF THE WORK, THE ENTIRE ELECTRICAL SYSTEM SHALL BE TESTED AND SHALL BE SHOWN TO BE IN PROPER WORKING CONDITION IN ACCORDANCE WITH THE INTENT OF THE SPECIFICATIONS AND DRAWINGS, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL SYSTEM READY FOR OPERATION AND INSPECTION BY AHJ. 14. PREPARE AND FURNISH TO OWNER 'AS-BUILT' PLANS FOR ALL WORK INSTALLED.
- 15. ELECTRICAL CONTRACTOR SHALL FURNISH RECORD SET OF DRAWINGS WITH ANY DEVIATIONS
- 16. TEST AND INSPECT ALL WIRING AND EQUIPMENT INSTALLED UNDER THIS SECTION OF SPECIFICATIONS. ALL WIRING MUST BE FREE OF SHORTS AND BROKEN WIRE. LEAVE ALL MATERIALS AND APPARATUS IN PROPER AND SATISFACTORY WORKING CONDITIONS.
- 17. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR THE CORRECT PHASE SEQUENCE OF ALL HREE-PHASE FEEDERS AND BRANCH CIRCUITS. VERIFY PROPER ROTATION OF ALL MOTORS
- 18. ELECTRICAL CONTRACTOR SHALL VERIFY PHASE LOAD BALANCING ON POWER PANELS UPON COMPLETION OF THE ELECTRICAL INSTALLATION.
- 19. PROVIDE IDENTIFICATION ON ALL PANELBOARDS, SWITCHES, STARTERS, DIMMERS, SWITCHES IN DISTRIBUTION PANELBOARDS AND SWITCHBOARDS 20. CONDUIT RUNS WHEN SHOWN ARE DIAGRAMMATICAL. FINAL LOCATION AND ROUTING SHALL BE ESTABLISHED BY THE CONTRACTOR BASED ON THE INSTALLATION CONDITIONS AND SHALL BE VERIFIED IN THE FIELD. ALL CONDUIT TYPES AND INSTALLATION REQUIREMENTS SHALL BE IN
- 21. CONDUIT RUNS SHALL BE PARALLEL WITH OR AT RIGHT ANGELS TO WALLS AND CEILINGS. CONDUIT SHALL BE SUPPORTED BY APPROVED MEANS. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH A DRAG WIRE.
- 22. ALL SUSPENDED CONDUITS SHALL BE RIGIDLY SUPPORTED FROM THE BUILDING STRUCTURE BY MEANS OF APPROVED CONDUIT FASTENERS, HANGERS, STRAPS, SUPPORTS, CLAMPS, ETC., FIRMLY ANCHORED IN PLACE AND SPACED AT INTERVALS NOT TO EXCEED 10'-0".
- 23. PULLBOXES , JUNCTION BOXES, CONDUIT BODIES, AND EXPANSION JOINTS SHALL BE
- 24. PROVIDE CONDUIT EXPANSION FITTINGS WITH BONDING JUMPERS FOR ALL CONDUITS PASSING ROUGH EXPANSION JOINTS.
- 25. PROVIDE SLEEVES FOR PENETRATIONS THROUGH BLOCK OR CONCRETE WALLS AND FLOORS. 26. THE USE OF FLEXIBLE CONDUIT FROM LIGHTING FIXTURES TO JUNCTION BOX IS PERMITTED ONLY WHEN A SEPARATE GROUND WIRE IS INSTALLED WITH THE CONDUCTORS INSID FLEXIBLE CONDUIT. THE GROUND WIRE MUST BOND THE FIXTURE HOUSING TO THE JUNCTION BOX. MAXIMUM LENGTH SHALL BE 6'-0"
- 27. FLEXIBLE CONDUIT INSTALLED OUT OF DOORS, IN ANY MECHANICAL EQUIPMENT ROOMS, OR IN NORMALLY WET AREAS SHALL BE LIQUID TIGHT FLEX WITH SUITABLE FITTINGS.
- 28. PROVIDE CONDUIT, WIRING, CIRCUITING AND REQUIRED CONNECTIONS TO ALL DEVICES, FIXTURES AND EQUIPMENT. CONNECT TO CIRCUITS AS INDICATED. CIRCUIT NUMBERS ARE FOR INFORMATION PURPOSES ONLY, ACTUAL CIRCUIT NUMBERS SHALL BE DETERMINED IN THE FIELD AND REFLECTED IN THE PANEL SCHEDULE DIRECTORY AND ON THE AS-BUILT
- 29 CONTRACTOR SHALL VERIEY AND COORDINATE ALL MOUNTING HEIGHTS OF ALL DEVICES
- 30. UNLESS SPECIFICALLY DIRECTED OTHERWISE, FURNISH AND INSTALL EACH AND EVERY ITEM CONTAINED IN AND ASSOCIATED WITH, THE WORK INVOLVED AS SHOWN ON THE DRAWINGS AND/OR DESCRIBED IN THE ACCOMPANYING SPECIFICATIONS. TOGETHER WITH ALL APPURTENANCES, COMPONENTS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK CONTRACTOR SHALL PROVIDE CONDUIT, WIRING AND CABLING TO ALL DEVICES, FIXTURES AND ETC. FOR A COMPLETE WORKING SYSTEM BASED ON THE CIRCUITS NOTED.
- 31 PROVIDE INDEPENDENT SUPPORT FOR DISCONNECT SWITCHES, CONTROL STATIONS, BOXES, PANELS, ETC. WHERE NO WALLS OR OTHER STRUCTURAL SURFACE EXISTS
- 32. EQUIPMENT SIZED AND LOCATIONS ARE APPROXIMATE. ACTUAL DIMENSIONS TO BE
- WHERE BRANCH CIRCUIT WIRING IS NOT SHOWN, CONNECT ITEMS TO CIRCUITS INDICATED.
 THE CONTRACTOR SHALL DETERMINE EXACT ROUTING OF CONDUITS AND WIRING. UNLESS INDICATED OTHERWISE, ALL BRANCH CIRCUITS SHALL BE MINIMUM #12 THHN AWG COPPER. 34. PROVIDE JUNCTION BOX FOR ANY DEVICE WITH PIG TAIL SUCH AS SOLENOID VALVES, LIMIT

33. PROVIDE BRANCH CIRCUIT WIRING TO ALL ITEMS REQUIRING ELECTRICAL CONNECTIONS

- SWITCHES, SMOKE DETECTORS AND ETC. FOR PROPER ELECTRICAL CONNECTION. PROVIDE ALL HARDWARE FOR MOUNTING OF JUNCTION BOX. 35. ALL FIRE ALARM SYSTEMS RACEWAY, SWITCHES, AND JUNCTION BOXES SHALL BE PAINTED
- 36. TIGHTEN SCREWS AND BOLTS FOR CONNECTORS AND TERMINALS ACCORDING TO MANUFACTURER'S PUBLISHED TORQUE - TIGHTENING VALUES.

WITH MECHANICAL AND PLUMBING CONTRACTORS.

DISTRIBUTION PANEL BOARD

CONNECTIONS ARE SHOWN ON THE MECHANICAL AND PLUMBING DRAWINGS. COORDINATE

- 38. WHEREVER THE INSTALLATION OF ELECTRICAL EQUIPMENT AS SHOWN ON THE DRAWINGS IS IMPRACTICAL DUE TO LOCAL INTERFERENCE OR LINFORESEEN FIELD CONDITIONS. THE THESE APPROVALS A REQUIREMENT FOR SERVICES OR THE COMPLETION OF THIS WORK. RACTOR SHALL INSTALL THE EQUIPMENT AT NEW LOCATIONS AS DIRECTED BY THE
 - 39. DESIGN IS BASED ON ALL CONDUCTORS TO BE THHN COPPER AND NO MORE THAN 4 CURRENT CARRYING CONDUCTORS IN THE SAME RACEWAY OR CONDUIT, UNLESS OTHERWISE NOTED. 40. WHEN EQUIPMENT IS BEING REMOVED/DEMO FROM THE FIELD, ALL WIRING ASSOCIATED WITH
 - HE LOAD MUST BE REMOVED FROM THE JUNCTION BOX OR THE CIRCUIT BREAKER. DO NOT LEAVE UNUSED CONDUCTORS IN THE FIELD WITH ENDS TAPED WITH TAPE OR WIRE NUTS. 41. SPARE WIRES INSTALLED SHALL BE NEATLY COILED, BOUND AND PLACED IN SPACE AVAILABLE.
 - LEAVE AT A MINIMUM, 8' OF SLACK AT EACH DESTINATION 42. WHERE EXISTING CIRCUIT TO REMAIN ARE INTERRUPTED DUE TO NEW CONSTRUCTION, CONDUIT AND WIRE SHALL BE EXTENDED RE-ENERGIZED.
 - 43. PROVIDE DISCONNECT SWITCHES FOR ELECTRICAL HEATER, HVAC EQUIPMENT AND EXHAUST FANS WITHIN EYE SIGHT OF THE EQUIPMENT.
 - 44. PROVIDE SERVICE RECEPTACLE WITHIN 25 FEET OF EACH HVAC EQUIPMENT. 45. ELECTRICAL CONTRACTOR TO VERIFY ACTUAL INSTALLED EQUIPMENT ELECTRICAL NAME PLATE DATA BEFORE ENERGIZING THE CIRCUIT. CONFIRM ELECTRICAL DESIGN VALUES AND ACTUAL EQUIPMENT BEING INSTALLED ARE IN COMPLIANCE WITH ELECTRICAL CODE AND

MANUFACTURER INSTALLATION REQUIREMENTS.

- 46. DISCONNECT SWITCHES SHALL BE HEAVY-DUTY, QUICK-MADE, QUICK-BREAK TYPE, NEMA 1 ENCLOSURE FOR INDOOR LOCATIONS (NEMA 3R FOR OUTDOOR LOCATIONS). SWITCHES SHALL BE AS MANUFACTURED BY SQUARE 'D', GENERAL ELECTRIC, OR SIEMENS (I.T.E.). PROVIDE TUSES AS MANUFACTURED BY BUSSMAN, GOULD-SHAWMUT, OR LITTLE-TUSE. ALL CONDUCTOR TERMINALS TO BE U.L, LISTED FOR A MAXIMUM OF 75°C. SWITCHES USED AS SERVICE ENTRANCE EQUIPMENT TO BE U.L. LISTED AS "SER" RATED EQUIPMENT.
- 47. PANEL BOARDS SHALL BE MANUFACTURED BY SQUARE-D, EATON, GENERAL ELECTRIC, OR SIMILAR, MEETING U.L. STANDARDS 50 AND 67, WITH U.L. LABEL. PANELS USED AS SERVICE ENTRANCE EQUIPMENT TO BE U.L. LISTED AS "SER" RATED EQUIPMENT.
- 48. ALL SWITCHBOARDS AND PANELBOARDS SHALL BE MARKED WITH IDENTIFYING NAMEPLATES TO INDICATE THE DESIGNATIONS USED ON THESE DRAWINGS. PROVIDE NEW PANELBOARD SCHEDULES, CORRECTLY FILLED OUT FOR EVERY PANELBOARD.
- 49. ALL PANELS, SWITCHES, ETC. SHALL HAVE SUFFICIENT GUTTER SPACE AND LUGS TO
- 50. BREAKERS: THERMAL, MAGNETIC TYPE, QUICK-MAKE, QUICK-BREAK, PLUG-IN TYPE FOR LOAD CENTERS AND BOLT IN TYPE FOR PANEL BOARDS AND SINGLE UNIT CONSTRUCTION. TWO POLE BREAKERS SHALL BE SINGLE UNIT COMMON TRIP TYPE. BREAKERS USED AS SWITCHES FOR 120V LIGHTING CIRCUITS SHALL BE APPROVED FOR THAT USE AND MARKED "SWD". ALL BREAKERS FOR HVAC AND REFRIGERATION EQUIPMENT SHALL BE "HACR" RATED BREAKERS.
- 51. GROUNDING SYSTEM: PERMANENTLY AND EFFECTIVELY GROUND ALL METALLIC CONDUIT, SUPPORTS, CABINETS, PANEL BOARDS AND SYSTEM NEUTRAL CONDUCTORS, MAINTAIN
 CONTINUITY OF EQUIPMENT GROUND THROUGHOUT THE SYSTEM. GROUND CLAMPS SHALL BE
 APPROVED TYPE, SPECIFICALLY DESIGNED FOR GROUNDING. WHERE GROUNDING CONDUCTOR IS ENCLOSED IN CONDUIT, GROUND CLAMP SHALL BE OF A TYPE WHICH GROUNDS BOTH CONDUCTOR AND CONDUIT. ALL CIRCUITS IN FLEXIBLE METAL OR PLASTIC CONDUIT SHALL INCLUDE A GROUND WIRE SIZED AND INSTALLED IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE.
- 52. PROVIDE AND INSULATED GREEN GROUNDING WIRE IN THE SAME CONDUIT AS THE BRANCH CIRCUIT OR FEEDER WIRING AND FOR ALL (3) PHASES AND/OR SINGLE PHASE, BRANCH CIRCUITS AND FOR ALL FEEDERS, SHOWN OR NOT SHOWN.
- 53. ALL WORK SHALL BE PERMANENTLY AND EFFECTUALLY GROUNDED WHETHER OR NOT SUCH INECTIONS ARE SPECIFICALLY SHOWN OR SPECIFIED. GROUND RESISTANCE AT ANY POINT SHALL NOT EXCEED 25 OHMS.
- 55. CONDUIT SHALL BE SIZED TO COMPLY WITH NEC FOR NUMBER AND SIZE OF CONDUCTORS INSTALLED PER NEC. PROVIDE SCHEDULE 40 PVC PLASTIC OR RIGID STEEL CONDUIT BELOW GRADE, MINIMUM 3/4". PROVIDE ELECTRICAL METAL TUBING (EMT) MEETING FS W-C563, FLEXIBLE METAL CONDUIT (IN LENGTHS 6' OR LESS) FOR INTERIOR LOCATIONS. EMT ECTORS AND COUPLING SHALL BE SET-SCREW TYPE. "MC" & "AC" TYPE CABLES MUST BE INSTALLED IN ACCORDANCE WITH N.E.C. AND CAN NOT BE SUPPORTED FROM CEILING
- 56. ELECTRICAL CONTRACTOR SHALL INSTALL SIZE OF CONDUIT SHOWN ON PLANS.
- 57. ALL CONDUIT AND RACEWAY SYSTEMS TO BE INSTALLED WITH SEPARATE GROUND CONDUCTOR. CONDUIT SYSTEM IS NOT TO BE USED AS THE SOLE GROUNDING MEANS.
- 58. CONDUCTORS: INSULATED SOFT ANNEALED 98% PURE COPPER WITH COLOR CODING, B AND S GAGE, #10 AND SMALLER TO BE SOLID, #8 AND LARGER TO BE STRANDED, MINIMUM #12 UNLE OTHERWISE INDICATED. CONDUCTORS MUST BE INSTALLED IN ACCORDANCE WITH NEC AN CANNOT BE SUPPORTED FROM CEILING SUPPORT WIRES. THHN MAY NOT BE USED UNDERGROUND. AT SERVICE ENTRANCE, OUTSIDE, OR IN WET LOCATIONS. ALL INSULAT BE RATED FOR 600 V AND TYPES AS FOLLOWS:

HWN OR THHN

THWN OR THHN

YELLOW

SE-RHW OR USE

#10 AND #12: #8 TO 4/0: SERVICE ENTRANCE: OVER #4/0 ORDINARY SERVICE: OVER #4/0 WET OR HOT SERVICE: WIRE THRU FLUORESCENT FIXTURES OR WHITHIN OF HTG EQUIP.:

54. ALL CONDUITS SHALL BE EMT UNLESS OTHERWISE NOTED.

59. ALL CONDUIT AND RACEWAY SYSTEMS TO BE INSTALLED WITH PAR CONDUCTOR, CONDUIT SYSTEM IS NOT TO BE USED AS THE SOLORY.

60. ALL WIRING TO BE COLOR-CODED AS FOLLOWS 120/208 VOLT SYSTEM

NEUTRAL: WHITE PHASE A OR L1: BLACK PHASE B OR L2: RED PHASE C OR L3: BLUE GROUND: GREEN GROUND: GREEN

- 61 WIRE CONNECTORS SHALL BE FO H LOCK" FOR #8 AWG WIRE AND SMALLER AND EQUAL TO T & B "LOCK TIGHT"
- 62. LIGHT FIXTURES & LAMPS AN FURN HED BY CONTRACTOR EXCEPT AS NOTED ON THE LIGHT FIXTURE SCHEDULE. FIX TREM. ALLATION SHALL BE BY THE ELECTRICAL CONTRACTOR ACCORDING TO LOCAL CO., AU., ORITY. LIC ING. ALL HAVE A MINIMUM OF 90 MIN. BATTERY BACK-UP, OR AS REQUIRED DDE A. HORNY, PROVIDE LOCK-ON CIRCUIT BREAKERS FOR CIRCUITS SERVING
- D EMERGENCY BATTERY PACK FIXTURES LIGHTS SHALL BE CONNECTED AHEAD OF ANY LOCAL SWITCH.
- 65. A EXIT SIG IS SHOWN ARE PER ARCHITECTURAL LAYOUT AND SHALL BE APPROVED BY FIRE TINNT AND BUILDING OFFICIAL.
- 6. A. T BRANCH CIRCUIT WIRING AND ARRANGEMENT OF HOME RUNS FOR MAXIMUM OMY AND EFFICIENCY. INCREASE WIRE SIZE IF 100 FEET OF LENGTH IS EXCEEDED. CONCEAL WIRING SYSTEM ABOVE SUSPENDED CEILINGS OR IN WALL OR FLOOR CONSTRUCTION WHERE POSSIBLE. INSTALL CONDUITS PARALLEL TO BUILDING LINES, AND TO CLEAR ALL OPENING, DEPRESSIONS, PIPES, DUCTS, STRUCTURE, ETC.
- 68. INSTALL CONDUIT CONTINUOUS BETWEEN BOXES AND CABINETS WITH NO MORE THAN FOUR (4) 90 DEGREE BENDS. SECURELY FASTEN IN PLACE WITH STRAPS, HANGERS AND STEEL SUPPORTS AS REQUIRED. DO NOT SUPPORT CONDUIT FROM SUSPENDED CEILING GRID OR SUSPENSION WIRES. REAM CONDUIT ENDS BEFORE INSTALLATION AND THOROUGHLY CLEAN BEFORE INSTALLATION. OPENINGS SHALL BE PLUGGED OR COVERED TO KEEP CONDUIT CLEAN. TERMINALS ON SWITCHES AND OUTLET SHALL NOT BE USED TO "FEED THRU" TO THE NEXT
- 69. PROVIDE SINGLE GANG PLASTER RING AND A 1/8" DIAMETER NYLON PULL ROPE TO ACCESSIBLE CEILING SPACE FROM ALL NEW TELEPHONE AND/OR DATA OUTLETS. 70. FOR ALL WIRING DEVICES, VERIFY FINISH COLOR WITH ARCHITECT.

ABBREVIATIONS

KV KILOVOLT

AMPERE					PT	POTENTIAL TRANSFORMER
ABOVE FINISHED FLOOR		DRAWING	KVA	KILOVOLT AMPERE	PP	POWER PANEL
ABOVE FINISHED GRADE	E.C.	ELECTRICAL CONTRACTOR	KW	KILOWATT	PWR	POWER
ARC FLASH INTERRUPTER	EL	ELEVATION	KWH	KILOWATT HOUR	RECEP	RECEPTACLE
ARC FLASH CIRCUIT INTERRUPTER	ELEC	ELECTRICAL	LCP	LOCAL CONTROL PANEL	REV	REVISION
ASYMMETRICAL	EQUIP	EQUIPMENT	LIS	LOAD INTERRUPTER SWITCH	SHD	SHIELDED CABLE
AUTOMATIC TRANSFER SWITCH		EXISTING	LP	LIGHTING PANEL	SP	SPARE
AMERICAN WIRE GAUGE	` '	FIRE ALARM	LTG	LIGHTING		
		FURNISHED BY OTHER	MAX	MAXIMUM	SS	SURGE SUPRESSION
BREAKER		FEEDER	MCC	MOTOR CONTROL CENTER	SWBD	SWITCHBOARD
CONDUIT		FIXTURE	MCS	MOLDED CASE SWITCH	SWGR	SWITCHGEAR
CIRCUIT BREAKER		FLOOR	MDP	MAIN DISTRIBUTION PANEL	SYM	SYMMETRICAL
CLOSED CIRCUIT TELEVISION			MIN	MINIMUM	TEL	TELEPHONE
CIRCUIT	_	GROUND	MSB	MAIN SWITCHBOARD	TYP	TYPICAL
CENTER LINE	G.C.	GENERAL CONTRACTOR	MSG	MAIN SWITCHGEAR	U/G	UNDERGROUND
CEILING	GEN	GENERATOR	MTS	MANUAL TRANSFER SWITCH	U.O.N.	UNLESS OTHERWISE NOTED
CONTROL	GFCI	GROUND FAULT CIRCUIT INTERRUPTER	NA	NON-AUTOMATIC	V	VOLT OR VOLTAGE
CONTROL POWER TRANSFORMER	GFI	GROUND FAULT INTERRUPTER	NC	NORMALLY CLOSED	VA	VOLT AMPERE
CURRENT TRANSFORMER	H I D	HIGH INTENSITY DISCHARGE	NEC	NATIONAL ELECTRIC CODE	VFD	VARIABLE FREQUENCY DRIVE
COPPER	HOA	HAND-OFF-AUTOMATIC			W	WATTS
DEMOLISH	HP	HORSE POWER	NO	NORMALLY OPEN	WHM	WATT HOUR METER
DIAMETER	IC	INTERRUPTING CAPACITY	NTS	NOT TO SCALE	WP	WEATHERPROOF
DISCONNECT	I/O	INPUT / OUTPUT	Р	POLE	ww	WIREWAY
DOWN	JB	JUNCTION BOX	PH	PHASE	XFMR	TRANSFORMER
			DNI	DANEI		

YMBOL LEGEND DISTRIBUTION EQUIPMENT ELECTRICAL EQUIPMENT TYPICAL FOR ALL RECEPTACLES, OUTLETS, JUNCTION BOXES AND TYPICAL FOR ALL LIGHTING FIXTURES: FOR ALL DISTRIBUTION EQUIPMEN CAPITAL LETTER DENOTES FIXTURE TYPE. SEE LIGHTING FIXTURE SCHEDULE FOR DESCRIPTION, TYPE, AND EQUIPMENT: NUMBER DENOTES PANEL CIRCUIT NUMBER. GROUND FAULT PROTECTION LSIG - LONG TIME, SHORT TIME INSTANTANEOUS AND ARC FAULT CIRCUIT INTERRUPTER 3. NUMBER DENOTES BRANCH CIRCUIT NUMBER AT RESPECTIVE GROUND FAULT INTERRUPTER SURGE SUPPRESSION TYPE GROUND FAULT PROTECTION FUNCTIONS LIGHTING PANELBOARD. LOWER CASE LETTER DENOTES SWITCHED CIRCUIT. 100% RATED EQUIPMENT. ISOLATED GROUND TYPE DUPLEX RECEPTACLE TYPICAL LIGHTING FIXTURE ELECTRIC OPERATED DEVICE SWITCHED DUPLEX RECEPTACLE - ONE OUTLET SINGLE POLE SWITCH ELECTRONIC TRIP TYPE DEVICE SWITCHED LOWER CASE LETTER DENOTES SWITCH CONTROL DOUBLE DUPLEX RECEPTACLE DOUBLE POLE SWITCH CIRCUIT BREAKER SINGLE RECEPTACLE THREE-WAY SWITCH THERMAL MAGNETIC CIRCUIT BREAKER TOP NUMBER DENOTES TRIP AMPERE RATING BOTTOM SPECIAL RECEPTACLE AMPERE AND VOLTAGE NUMBER DENOTES FRAME SIZE AMPERE RATING FOUR-WAY SWITCH #P - DENOTES NUMBER OF POLES SURFACE RACEWAY WITH RECEPTACLES, AS SINGLE POLE KEY SWITCH INDICATED ON DRAWINGS CIRCUIT BREAKER WITH ELECTRONIC TRIP PROGRAMMER. TOP NUMBER INDICATES FRAMI DOUBLE DUPLEX RECEPTACLE - FLOOR MOUNTED THREE WAY KEY SWITCH SIZE SIZE, BOTTOM NUMBER INDICATES SENSO RATING. #P - DENOTES NUMBER OF POLES DUPLEX RECEPTACLE - FLOOR MOUNTED SINGLE POLE SWITCH WITH PILOT LIGHT DRAW-OUT TYPE THERMAL MAGNETIC CIRCUIT SPECIAL RECEPTACLE - FLOOR MOUNTED DIMMING SWITCH BREAKER TOP NUMBER DENOTES TRIP AMPERE RATING BOTTOM NUMBER DENOTES FRAME SIZ AMP RATING #P - DENOTES NUMBER OF POLES CEILING MOUNTED DUPLEX RECEPTACLE OCCUPANCY SENSOR TYPE SWITCH FLOOR JUNCTION BOX THREE WAY DIMMING SWITCH MEDIUM VOLTAGE DRAW-OUT CIRCUIT BREAKER TOP NUMBER DENOTES TRIP SIZE AMPERE MANUAL MOTOR TOGGLE TYPE STARTER WITH RATING BOTTOM NUMBER DENOTES FRAME SIZE WALL MOUNTED JUNCTION BOX AMP RATING #P - DENOTES NUMBER OF POLES JUNCTION BOX. SIZE AND MOUNT AS REQUIRED EMERGENCY LIGHTING DRAW-OUT MCC FVNR CIRCUIT BREAKER COMBINATION STARTER TOP NUMBER DENOTES TRIP SIZE AMPERE RATING MCP DENOTES MOTOR CIRCUIT PROTECTOR SIZE ELECTRICAL OR TELEPHONE MANHOLE EMERGENCY LIGHTING WITH EXIT SIGN N# - DENOTES NEMA STARTER SIZE EXIT ELECTRICAL OR TELEPHONE HANDHOLE EXIT SIGN #P - DENOTES NUMBER OF POLES MOTION SENSOR REQUIREMENTS AND TO ACCOMMODATE ALL TERMINAL BLOCKS. DRAW-OUT FUSED SWITCH TOP NUMBER PULL BOX. SIZE IN ACCORDANCE WITH NEC DENOTES SWITCH AMPERE RATING BOTTOM PHOTOCELL NUMBER DENOTES FUSE AMPERE RATING #P - DENOTES NUMBER OF POLES SURFACE PANELBOARD LETTERS & NUMERALS INDICATE EQUIPMENT TAG RECESSED PANELBOARD LETTERS & NUMERALS ICATE EQUIPMENT TAG FUSED MEDIUM VOLTAGE DRAW OUT STARTER TOP NUMBER DENOTES FUSE AMPERE RATING N# LIGHTING CONTACTOR. DENOTES NEMA STARTER SIZE CAL PANEL LETTERS AND NUMBERS NUMBER DENOTES CONTACTOR IDENTIFICATION #P - DENOTES NUMBER OF POLES INDICATE PANELBOARD IDENTIFICATION TAG TAG. SEE CONTACTOR SCHEDULE FOR NUMBER OF SEE PANEL SCHEDULE FOR DETAILS. POLES AND DETAILS. ANNUNCIATOR UNFUSED DISCONNECT SWITCH. NUMBER DENOTES SWITCH AMPERE RATING #P - DENOTES NUMBER OF POLES IOMERUN CIRCUITS TO PANELBOARD. NUMBER OF ARROWS INDICATES NUMBER OF PADDLE FAN CIRCUIT HOMERUNS. 1 PH 120V GENERATION & GROUNDING FIRST NUMBER DENOTES SWITCH LOCK FOR RESPECTIVE KEY INTERLOCK WITH KEY AMPERE RATING BOTTOM OR SECOND NUMBER DENOTES FEEDER TAG WITH CONDUIT AND WIRE SIZE AND CAPTIVE IN LOCK AMPERE FUSE RATING #P - DENOTES NUMBER OF POLES LOCK FOR RESPECTIVE KEY INTERLOCK INDICATES NEW OR EXISTING EMD ELECTRONIC METERING DEVICE MEDIUM VOLTAGE UNFUSED LOAD INTERRUPTER INDICATES CONCEALED NEW OR EXISTING AMMETER - AMMETER SWITCH #P - DENOTES NUMBER OF POLES INDICATES EXISTING EQUIPMENT/CONDUIT TO BE VOLTMETER - VOLTMETER SWITCH MEDIUM VOLTAGE FUSED LOAD INTERRUPTER SWITCH TOP NUMBER DENOTES SWITCH AMPERE BUSS BAR WATTHOUR METER RATING BOTTOM NUMBER DENOTES FUSE MPERE RATING #P - DENOTES NUMBER OF $\overline{(M)}$ UTILITY COMPANY METER AND METER PAN AS FLEXIBLE CONNECTION MAGNETIC MOTOR STARTER WITH THERMAL CONDUIT TURNING UP FUSE CONDUIT TURNING DOWN SURGE PROTECTOR DEVICE MAGNETIC MOTOR STARTER CONTACTOR N# - DENOTES NEMA STARTER SIZE HARMONIC FILTER OMBINATION MAGNETIC MOTOR STARTER WITH CABLE TRAY (LADDER STYLE) NUMBER DENOTES N# - DENOTES NEMA STARTER SIZE WIDTH IN INCHES PFCC POWER FACTOR CORRECTION CAPACITOR AND SECONDARY CURRENT RATINGS NUMBER IN PARENTHESIS INDICATES QUANTITY ____ LINE REACTOR HAND OFF AUTO SELECTOR SWITCH POTENTIAL TRANSFORMER WITH PRIMARY AND **-**WV-RESISTOR -----}{------SECONDARY FUSES CONTROL STATION ENCLOSED CIRCUIT BREAKER TOP OR FIRST NUMBER DENOTES SWITCH AMPERE RATING BOTTOM OR PUSHBUTTON STATION GENERATOR SECOND NUMBER DENOTES FUSE AMPERE RATING #P - DENOTES NUMBER OF POLES INDICATING LIGHT STATION MEDIUM VOLTAGE CABLE STRESS CONNECTION ENCLOSED CIRCUIT BREAKER/COMBINATION FVNR STARTER TOP NUMBER DENOTES MOTOR CIRCUIT PROTECTOR CONTINUOUS AMPERE DATA SYSTEM SYSTEM OUTLIET BOX, WITH 3/4" 600 VOLT CABLE LIMITER CONNECTION WITH DRAG LINE AND BUSHED ENDS RATING N# DENOTES NEMA STARTER SIZE. #P - DENOTES NUMBER OF POLES TFI FPHONE SYSTEM OUTLET BOX, WITH 3/4" CONDUIT SUB UP ABOVE HUNG CEILING WITH DRAG LINE AND BUSHED ENDS LIGHTNING ARRESTER. NUMBER IN PARENTHESIS COMBINATION TELEPHONE/DATA BOX WITH 1" CONDUIT STUB UP ABOVE HUNG CEILING WITH DRAG LINE AND BUSHED ENDS ENCLOSED CT CABINET DATA OUTLET BOX - FLOOR MOUNTED GROUNDED WYE CONNECTION TELE OUTLET BOX - FLOOR MOUNTED RELAY. NUMBER (S) DENOTE ANSI DEVICE FUNCTION NUMBER. UNGROUNDED WYE CONNECTION COMBINATION TELEPHONE/DATA OUTLET FLOOR MOUNTED OPEN DELTA CONNECTION TELEPHONE POKE THRU AUTOMATIC TRANSFER SWITCH DATA POKE THRU DELTA CONNECTION TELEPHONE / DATA POKE THRU NODE TELEPHONE/DATA TERMINAL BOARD AUTOMATIC TRANSFER SWITCH 3/4" x 4' x 6' PLYWOOD FASTENED TO THE WALL WITH 3/4" CHANNEL. WIRE TERMINAL WITH BYPASS ISOLATION GROUND TEST ELECTRODE **—**● GROUND ROD UNDERGROUND GROUND SYSTEM BARE CABLE. — G — SIZE AS NOTED OR INDICATED TRANSFORMER SIZE AS NOTED WITH PRIMARY AND SECONDARY VOLTAGE AS BUILDING GROUND SYSTEM BARE CABLE G — SIZE AS NOTED OR INDICATED GROUND GRID CABLE CONNECTION

GROUND CONNECTION

PACKAGED EQUIPMENT WITH DISCONNECT SWITCH AND MOTOR STARTER

PROFESSIONAL ENGINEERING **DURAK EVRIM ERCAN P.** SEAL & SIGNATURE: Durak Evrim Ercan Constant Honor 69583 DURAK EVRIM ERCAN 10/21/2021 DURAK EVRIM ERCAN, P.E. COA#22262-0

> NO ALTERATION PERMITTED EXCEPT AS PROVIDED UNDER DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

0 10/22/2021 ISSUED FOR APPROVAL REV. DATE DESCRIPTION CLIENT: MOMINITORINGS

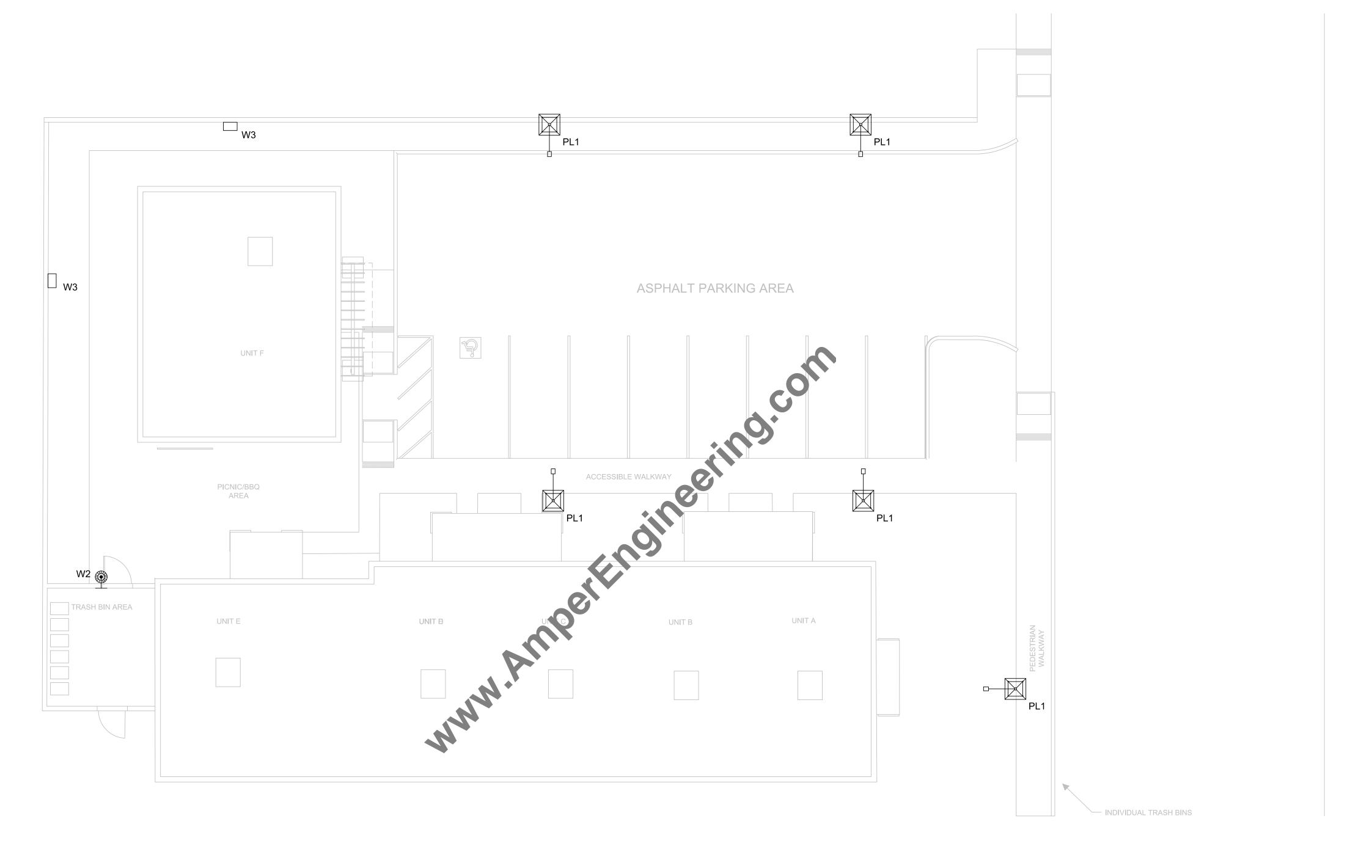
PROJECT: **MULTI-FAMILY** RESIDENTIAL **UNITS**

DEVELOPMENT

ADDRESS: 2th AVE PHOENIX, AZ 85007

PROJECT NUMBER: AE# 1480 SHEET SIZE: DRAWN BY: 24X36 DESIGNED BY: CHECKED BY: DEE

DRAWING TITLE: ELECTRICAL COVER SHEET. GENERAL NOTES & SYMBOL LEGEND



SITE LIGHTING LAYOUT PLAN

NOTES:

- DRAWINGS ARE DIAGRAMMATIC ONLY FOR THE PURPOSE OF SHOWING LIGHTING FIXTURES LOCATIONS. COORDINATE WITH DRAWINGS OF OTHER TRADES TO FIT THE ACTUAL SPACE CONDITIONS.
- 2. THE CONTRACTOR IS RESPONSIBLE FOR CAREFULLY LAYING OUT ALL WORK TO CONFORM TO NEC CLEARANCES, ARCHITECTURAL, STRUCTURAL, MECHANCAL AND SITE CONDITIONS, TO AVOID OBSTRUCTIONS AND TO ALLOW THE PROPER INSTALLATION OF EACH ITEM.
- 3. REFER TO SHEET NO. E600 FOR PHOTOMETRIC PLAN.
- 4. ALL WORKS SHALL BE INSTALLED IN ACCORDANCE WITH NEC 2017 AND LOCAL CODES HAVING JURISDICTION.

SYMBOL LEGEND

W2	MOTION SENSOR SECURITY WALL LIGHT FIXTURE, TBD BY OWNER
W3	MOTION SENSOR SECURITY WALL LIGHT FIXTURE, TBD BY OWNER
PL1	24 FT LIGHT POLE (FULLY SHIELDED). TBD BY OWNER FIXTURE: PHILIPS BGP501 T25 DM11 LED20/- NO

DURAK EVRIM ERCAN P.E

ENGINEERING | CONSULTING | ESTIMATING

201-920-2899 | info@AmperEngineering.com

SEAL & SIGNATURE:

Durak Evrim Ercan

Only Service | Consultive Service Servic

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0 10/22/2021 ISSUED FOR APPROVAL
REV. DATE DESCRIPTION

CLIENT:

MULTI-FAMILY
RESIDENTIAL
UNITS

DEVELOPMENT

ADDRESS:

1 ____ 2th AVE
PHOENIX, AZ

85007

PROJECT NUMBER:

AE# 1480

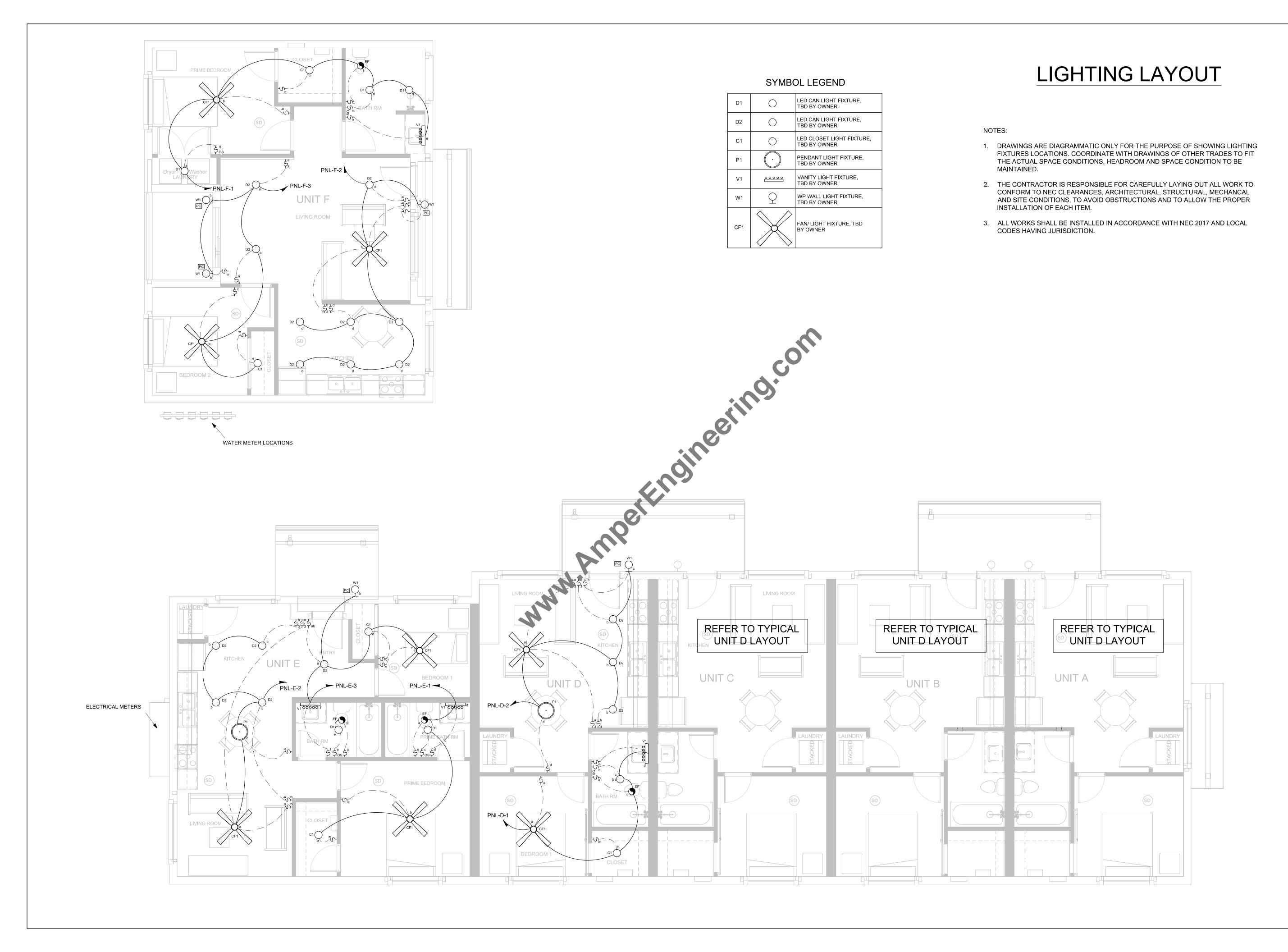
SHEET SIZE: DRAWN BY:

24X36 IB

DESIGNED BY: CHECKED BY:

AC DEE

DRAWING TITLE:
SITE LIGHTING LAYOUT
PLAN





DEVELOPMENT

PROJECT:

MULTI-FAMILY

RESIDENTIAL

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REV. DATE DESCRIPTION

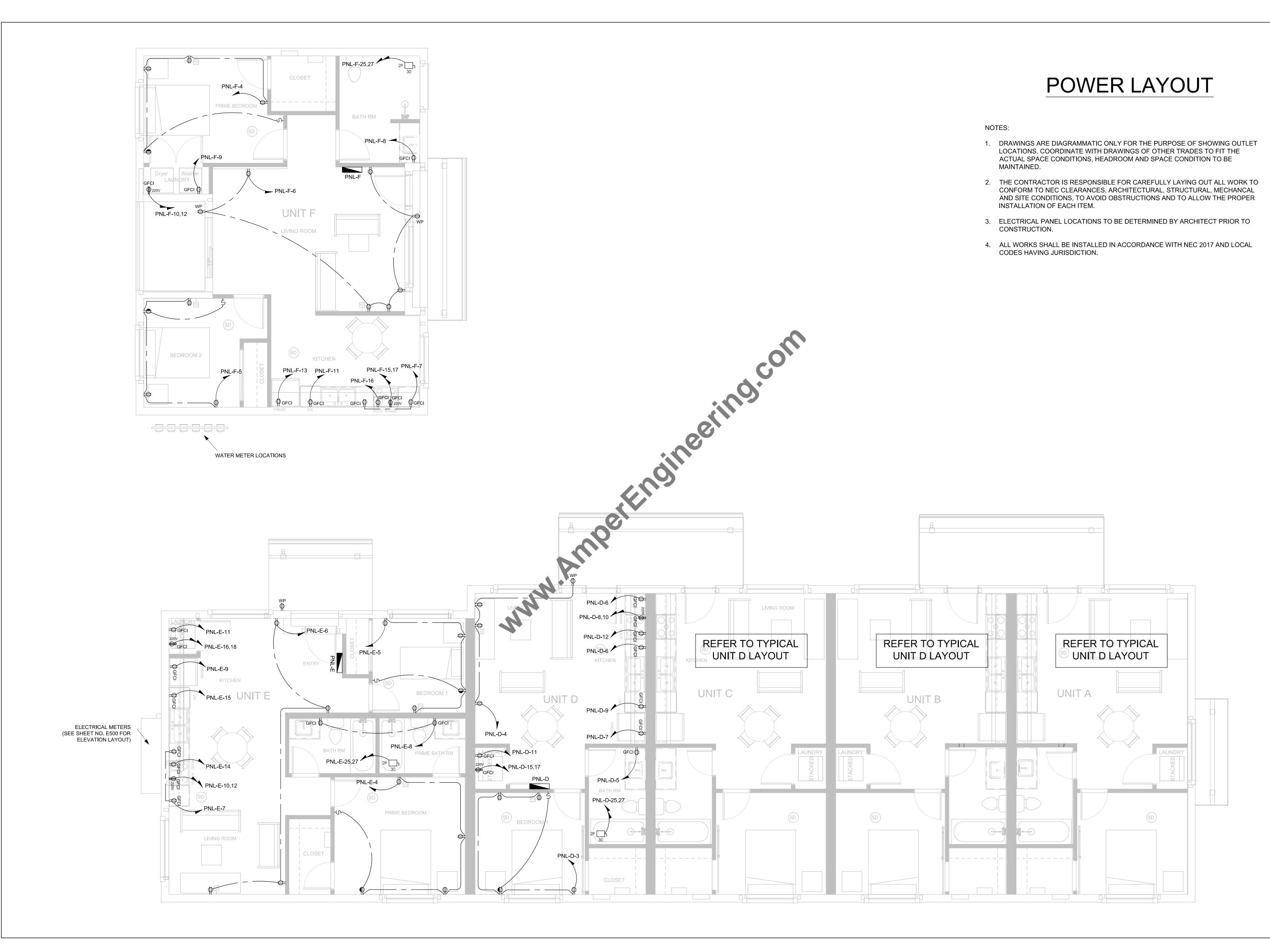
UNITS

PROJECT NUMBER:
AE# 1480
SHEET SIZE: DRAWN BY:
24X36 IB
DESIGNED BY: CHECKED BY:
AC DEE

DRAWING TITLE:

LIGHTING LAYOUT

SHEET NO:



DURAK EVRIM ERCAN P.I.

ENGINEERING | CONSULTING | ESTIMATING

SEAL & SIGNATURE:

Durak Evrim Ercan

SEAL & SIGNATURE:

DURAK EVRIM ERCAN P.I.

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DEVELOPMENT

PROJECT:

MULTI-FAMILY

RESIDENTIAL

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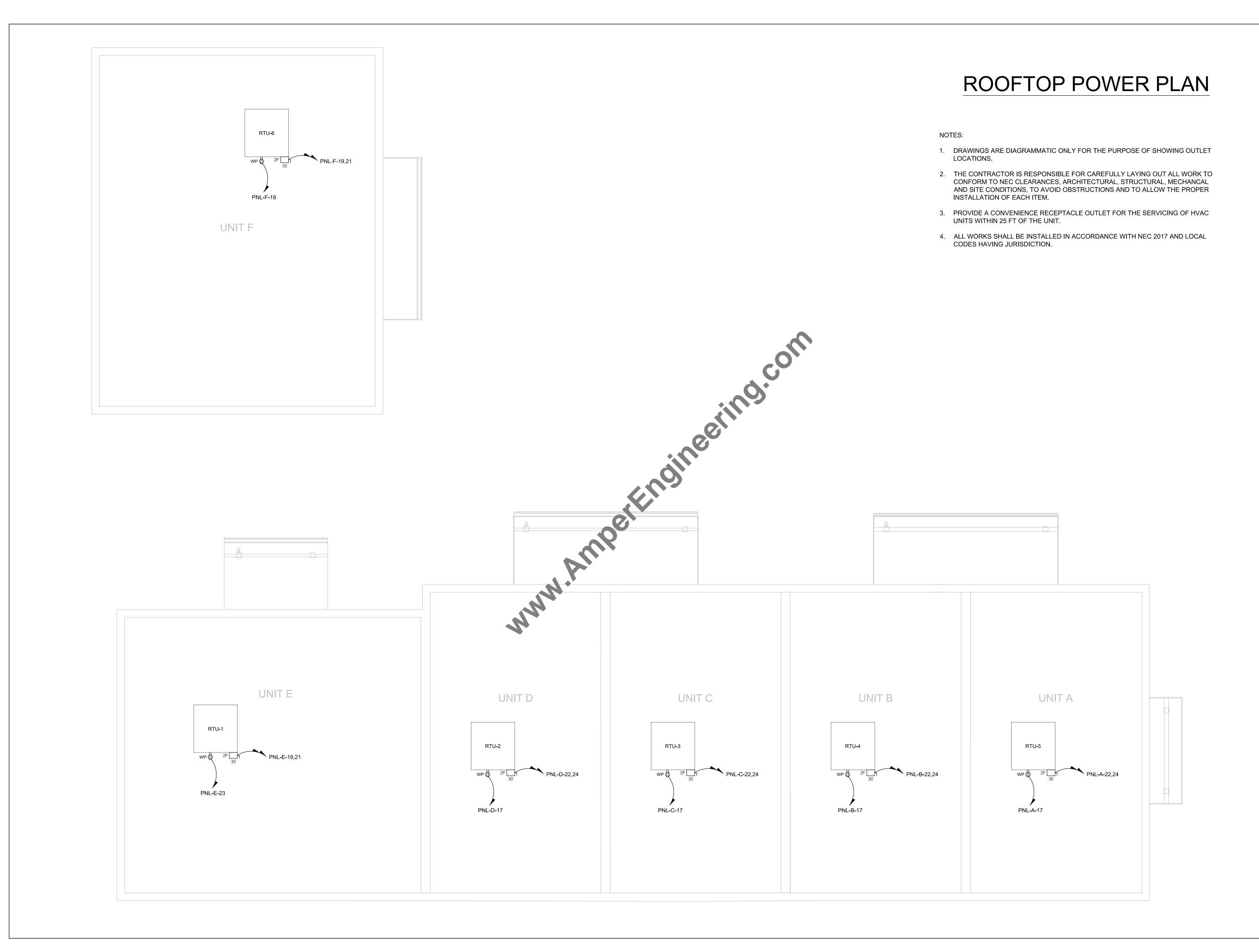
REV. DATE DESCRIPTION

UNITS

PROJECT NUMBER:
AE# 1480
SHEET SIZE: DRAWN BY:
24X36 IB
DESIGNED BY: CHECKED BY:
AC DEE

DRAWING TITLE:
POWER LAYOUT

SHEET NO





DURAK EVRIM ERCAN, P.E. COA#22262-0

0 10/22/2021 ISSUED FOR APPROVAL
REV. DATE DESCRIPTION

CLIENT:

JEVELOPMENT

PROJECT:

MULTI-FAMILY

RESIDENTIAL

UNITS

ADDRESS:

1 ___ 2th AVE
PHOENIX, AZ

85007

PROJECT NUMBER:	
AE# 1480	
SHEET SIZE:	DRAWN BY:
24X36	IB
DESIGNED BY:	CHECKED BY:
AC	DEE

DRAWING TITLE:
ROOFTOP POWER PLAN

SHEET NO: **E203**

	NEC Optional Method		1		1
roject Name:	1434 S. 12th AVE DEVELOPMENT		Voltage:	120/	208
Total Unit:	6 (Units A, B, C, D, E & F) & HOUSE PANEL Description:		Phase: Quantity	3 VA	VA
STEP 1	General Lighting And Receptacle Load:				
	General Lighting (3VA per sq-ft)	Table 220.84(C)(1)	3	3776	11,328
	Small Appliance Circuits (1500 VA per circuit) (minimum qty= 2)	NEC 220.84(C)(2)	1,500	12	18,000
	Laundry Circuit (1500 VA per circuit)	NEC 220.84(C)(2)	1,500	12	18,000
STEP 2	Fixed Appliance Load:	NEC 220.84(C)(3)(a)			
	Water Pump				0
	Refrigerator (1000VA or nane plate)		6	1000	6,000
	Disposal (600VA or name plate)				0
	Compactor (1000VA or name plate)				0
	Dishwasher (1500VA or name plate)		6	1500	9,000
	Mkrowave (1750VA or name plate)				0
	Range Hood		6	1200	7,200
	Freezer (1500VA or more)				0
	Appliance #1				0
	Appliance #2				0
	Appliance #3				0
	Appliance #4				0
	Cooking Equipment Load:	NEC 220.84(C)(3)(b)			
	Electric Range	13177	6	5200	31,200
	Cooking Equipment #1				0
	Cooking Equipment #2				0
	Cooking Equipment #3				0
	Cooking Equipment #4				0
	Electric Clothes Dryers Load:	NEC 220.84(C)(3)(c)			_
	Dryer name plate value	ILEG LEGIC (LEXC)	6	5000	30,000
STEP 5	Water Heater Load:	NEC 220.84(C)(3)(d)		5000	00,000
0121 0	Water Heater	ILLO LLOSS (COXOXO)	6	4500	27,000
STEP 6	Permanent Motor Name Plates Load:	NEC 220.84(C)(4)		1000	27,000
	Motor#1	110.0 220.0 1(0)(1)			0
	Motor#2				0
	Largest of Heating or HVAC Load:	NEC 220.84(C)(5)			
	Air-conditioning unit @100%	NLC 220.64(C)(5)	6	4007	24.040
	Heating System @100%		-	1007	0
					24,040
	TOTAL STEP 7: TOTAL GENERAL LOADS (STEP 1,2,3,4,5 & 6,7):				
		• •	_	0.44	181,768
	Total Number of Dwelling Unit and demand factor		5	0.44	79,978
	Total Service Load Volt-Amperes (VA)				
	Service Load Amperes (A)				222
	HOUSE PANEL (A)				21
	Service Load Amperes (A)				243
	+25% Future(A)		1		76
	Total Service Load Amperes (A)				319

	NEC Optional Method				
Organizat Managar	1434 S. 12th AVE DEVELOPMENT		Voltage:	120/	208
-				1	200
Unit/Apt:	Description:		Phase: Quantity	VA	V.
STEP 1	General Lighting And Receptacie Load:				
31671	General Lighting (3VA per sq-ft)	Table 220.82(B)(1)	3	516	1,5
	Small Appliance Circuits (1500 VA per circuit) (minimum qty= 2)	NEC 220.82(B)(2)	1,500	2	3,0
	Laundry Circuit (1500 VA per circuit)	NEC 220.52(B)(2)	1,500	2	3,0
STEP 2	Fixed Appliance Load:	NEC 220.82(B)(3)(a)	1,500		
	Water Pump	INCO ZZOJOZ(DĄSĄG)			
	Refrigerator (1000VA or nane plate)		1	1000	1.0
	Disposal (600VA or name plate)		-	1000	,\
	Compactor (1000VA or name plate)				
	Dishwasher (1500VA or name plate)		1	1500	1,5
	Microwave (1750VA or name plate)		-	2000	1,~
	Range Hood		1	1200	1,2
	Freezer (1500VA or more)		-		1,2
	Appliance #1				
	Appliance #2				Ì
	Appliance #3				
	Appliance #4				Ì
STEP 3	Cooking Equipment Load:	NEC 220.82(B)(3)(b)			
<u> </u>	Electric Range	INCO EZONOZ(BIXO)	1	5200	5,2
	Cooking Equipment #1		-	3200	1
	Cooking Equipment #2				
	Cooking Equipment #3				Ì
	Cooking Equipment #4				
STEP 4	Electric Clothes Dryers Load:	NEC 220.82(B)(3)(c)			
<u> </u>	Dryer name plate value	INCO ZZOJOZ(DĄC)	1	5000	5,0
STEP 5	Water Heater Load:	NEC 220.82(B)(3)(d)	-	5000	
<u> </u>	Water Heater	INCO EZUIDE(DADAGO)	1	4500	4,5
STEP 6	Permanent Motor Name Plates Load:	NEC 220.82(B)(4)	-	1300	- '/-
<u> </u>	Motor#1	INCO ELONOL(DX 17			
	Motor#2				
	Sub-Total General Loads				25,
	First 10,000 VA of General Loads		10,000	1.00	10,
	Remaining General Load @ 40%		15,948	0.40	6,3
	TOTAL GENERAL LOADS (STEP 1,2,3,4,5&6):				16,3
STEP 7	Largest of Heating or HVAC Load:				
	Air-conditioning unit @100%	NEC 220.82(C)(1)	1.00	3760	3,7
	Heating System @100%, %65, %40	NEC 220.82(C)(3)			1
	TOTAL STEP 7:				3,7
	Total Service Load Volt-Amperes (VA)				20,:
	Total Service Load Amperes (A)				9
	Service OCPD (A)		1		

	Service OCPD (A)				125
	Single Family Dwelling Feeder C	alculation			
	NEC Optional Method				
oject Name:	1434 S. 12th AVE DEVELOPMENT		Voltage:	120/	208
Unit/Apt:			Phase:	1	
	Description:		Quantity	VA	VA
STEP 1	General Lighting And Receptacle Load:				
	General Lighting (3VA per sq-ft)	Table 220.82(B)(1)	3	116	1,548
	Small Appliance Circuits (1500 VA per circuit) (minimum qty= 2)	NEC 220.82(B)(2)	1,5		3,000
	Laundry Circuit (1500 VA per circuit)	NEC 220.52(B)(2)	1,500	2	3,000
STEP 2	Fixed Appliance Load:	NEC 220.82(B)(3)(a)	1,500	_	3,000
JILF L	Water Pump	NEC 220.02(B)(3)(a)			0
			1	1000	1,000
	Refrigerator (1000VA or name plate)	10	1	1000	0
	Disposal (600VA or name plate)	1			
	Compactor (1000VA or name plate)		4	4500	1 500
	Dishwasher (1500VA or name plate)		1	1500	1,500
	Microwave (1750VA or name plate)			420-	1 222
	Range Hood		1	1200	1,200
	Freezer (1500VA or more)				0
	Appliance #1				0
	Appliance #2				0
	Appliance #3				0
	Appliance #4				0
STEP 3	Cooking Equipment Load:	NEC 220.82(B)(3)(b)			
	Electric Range		1	5200	5,200
	Cooking Equipment #1			İ	0
	Cooking Equipment #2				0
	Cooking Equipment #3				0
	Cooking Equipment #4				0
STEP 4	Electric Clothes Dryers Load:	NEC 220.82(B)(3)(c)			
	Dryer name plate value		1	5000	5,000
STEP 5	Water Heater Load:	NEC 220.82(B)(3)(d)			
	Water Heater		1	4500	4,500
STEP 6	Permanent Motor Name Plates Load:	NEC 220.82(B)(4)			
	Motor#1				0
	Motor#2				0
	Sub-Total General Loads				25,948
	First 10,000 VA of General Loads		10,000	1.00	10,000
	Remaining General Load @ 40%		15,948	0.40	6,379
	TOTAL GENERAL LOADS (STEP 1,2,3,4,5&6):	NEC 220.82(B)			16,379
STEP 7	Largest of Heating or HVAC Load:				
	Air-conditioning unit @100%	NEC 220.82(C)(1)	1.00	3760	3,760
	Heating System @100%, %65, %40	NEC 220.82(C)(3)			0
	TOTAL STEP 7:				3,760
	Total Service Load Volt-Amperes (VA)				20,139
	Total Service Load Amperes (A)				97

	Single Family Dwelling Feeder C				
	NEC Optional Method		1 1		
Project Name:	1434 S. 12th AVE DEVELOPMENT		Voltage:	120/	208
Unit/Apt:			Phase:	1	
	Description:		Quantity	VA	VA
STEP 1	General Lighting And Receptacle Load:				
	General Lighting (3VA per sq-ft)	Table 220.82(B)(1)	3	516	1,548
	Small Appliance Circuits (1500 VA per circuit) (minimum qty= 2)	NEC 220.82(B)(2)	1,500	2	3,000
	Laundry Circuit (1500 VA per circuit)	NEC 220.52(B)(2)	1,500	2	3,000
STEP 2	Fixed Appliance Load:	NEC 220.82(B)(3)(a)			
	Water Pump				0
	Refrigerator (1000VA or nane plate)		1	1000	1,000
	Disposal (600VA or name plate)				0
	Compactor (1000YA or name plate)				0
	Dishwasher (1500VA or name plate)		1	1500	1,500
	Microwave (1750VA or name plate)				0
	Range Hood		1	1200	1,200
	Freezer (1500VA or more)				0
	Appliance #1				0
	Appliance #2				0
	Appliance #3				0
	Appliance #4				0
STEP 3	Cooking Equipment Load:	NEC 220.82(B)(3)(b)			
	Electric Range		1	5200	5,200
	Cooking Equipment #1				0
	Cooking Equipment #2				0
	Cooking Equipment #3				0
	Cooking Equipment #4				0
STEP 4	Electric Clothes Dryers Load:	NEC 220.82(B)(3)(c)			
	Dryer name plate value	, , , , ,	1	5000	5,000
STEP 5	Water Heater Load:	NEC 220.82(B)(3)(d)			
	Water Heater	,,,,,	1	4500	4,500
STEP 6	Permanent Motor Name Plates Load:	NEC 220.82(B)(4)			
	Motor#1	1.1.00.05_(1)/(1)			0
	Motor#2				0
	5 b-Total General Loads				25,948
	First 10,000 VA of General Loads		10,000	1.00	10,000
	maining General Load @ 40%		15,948	0.40	6,379
	10. 'U. GEN ^{ET} AL LOADS (STEP 1,2,3,4,5 2 6):			-110	16,379
STEP 7	Largest of Harring HVAC Load:				0/2/:
VIEF/	Air-condit. Ing unit. 2100%	NEC 220.82(C)(1)	1.00	3760	3,760
	Her no , sten. @100%, %65, %40	NEC 220.82(C)(1)	1.55	U1 UU	0
	TOTAL STEP 7:				3,760
	Total Service Load Volt-Amperes (VA)				•
					20,139
	Total Service Load Amperes (A)		1		97

	Pla_1_ PIL- B Bla _ P	alaniatie			
	Single Family Dwelling Feeder C NEC Optional Method	aicu iati on			
Onclart Name:	1434 S. 12th AVE DEVELOPMENT		Voltage:	120/	208
Unit/Apt:			Phase:	1	200
omi/Apr:	Description:		Quantity	VA	VA
STEP 1	General Lighting And Receptacle Load:				
JILF 1	General Lighting (3VA per sq-ft)	Table 220.82(B)(1)	3	841	2,523
	Small Appliance Circuits (1500 VA per circuit) (minimum qty= 2)	NEC 220.82(B)(2)	1,500	2	3,000
		NEC 220.52(B)(2)	1,500	2	3,000
STEP 2	· · · · ·	NEC 220.82(B)(3)(a)	1,500		3,000
JILF 2	Water Pump	MEC 22002(D)(3)(a)			0
	Refrigerator (1000VA or nane plate)		1	1000	1,000
	Disposal (600VA or name plate)		-	1000	0
	Compactor (1000VA or name plate)				0
	Dishwasher (1500VA or name plate)		1	1500	1,500
	Microwave (1750VA or name plate)		1	1300	0
	Range Hood		1	1200	1,200
	Freezer (1500VA or more)		-	1200	0
	Appliance #1				0
	Appliance #2				0
	Appliance #3				0
	Appliance #4				0
STEP 3		NEC 220.82(B)(3)(b)			-
SIEFS	Electric Range	MEC 220.02(D)(D)(D)	1	5200	5,200
	Cooking Equipment #1		1	J200	3,200
	Cooking Equipment #2				0
	Cooking Equipment #2 Cooking Equipment #3				
					0
	Cooking Equipment #4	NIEC 220 02/03/23/-3			U
STEP 4	Electric Clothes Dryers Load: Dryer name plate value	NEC 220.82(B)(3)(c)	.	5000	5,000
	•	NEC 220 02/07/27/27	1	3000	5,000
STEP 5		NEC 220.82(B)(3)(d)		4F00	4 500
	Water Heater	LIFO 300 00/DV/43	1	4500	4,500
STEP 6	Permanent Motor Name Plates Load:	NEC 220.82(B)(4)			
	Motor#1				0
	Motor#2				
	Sub-Total General Loads		10,000	4.00	26,923
	First 10,000 VA of General Loads			1.00	10,000
	Remaining General Load @ 40%		16,923	0.40	6,769
	TOTAL GENERAL LOADS (STEP 1,2,3,4,5&6):	NEC 220.82(B)			16,769
	Largest of Heating or HVAC Load:	NEC 330 83/6V/+1	1.00	AEAA	4 500
		NEC 220.82(C)(1)	1.00	4500	4,500
		NEC 220.82(C)(3)	+ +		0
	TOTAL STEP 7:				4,500
	Total Service Load Volt-Amperes (VA)				21,269
	Total Service Load Amperes (A)				102

	NEC Optional Method				
Onice Name	1434 S. 12th AVE DEVELOPMENT		Voltage:	120/	20B
Unit/Apt:			Phase:	1	200
unityApt	Description:		Quantity	VA	V/
STEP 1	General Lighting And Receptacle Load:				
	General Lighting (3VA per sq-ft)	Table 220.82(B)(1)	3	516	1,54
	Small Appliance Circuits (1500 VA per circuit) (minimum qty= 2)	NEC 220.82(B)(2)	1,500	2	3,00
	Laundry Circuit (1500 VA per circuit)	NEC 220.52(B)(2)	1,500	2	3,00
STEP 2	Fixed Appliance Load:	NEC 220.82(B)(3)(a)			
	Water Pump				0
	Refrigerator (1000VA or nane plate)		1	1000	1,00
	Disposal (600VA or name plate)				0
	Compactor (1000VA or name plate)				0
	Dishwasher (1500VA or name plate)		1	1500	1,50
	Microwave (1750VA or name plate)				0
	Range Hood		1	1200	1,20
	Freezer (1500VA or more)				0
	Appliance #1				0
	Appliance #2				0
	Appliance #3				0
	Appliance #4				0
STEP 3	Cooking Equipment Load:	NEC 220.82(B)(3)(b)			
	Electric Range		1	5200	5,20
	Cooking Equipment #1				0
	Cooking Equipment #2				0
	Cooking Equipment #3				0
	Cooking Equipment #4				0
STEP 4	Electric Clothes Dryers Load:	NEC 220.82(B)(3)(c)			
	Dryer name plate value		1	5000	5,00
STEP 5	Water Heater Load:	NEC 220.82(B)(3)(d)			
	Water Heater		1	4500	4,50
STEP 6	Permanent Motor Name Plates Load:	NEC 220.82(B)(4)			
	Motor#1				0
	Motor#2				0
	Sub-Total General Loads				25,9
	First 10,000 VA of General Loads		10,000	1.00	10,0
	Remaining General Load @ 40%		15,948	0.40	6,37
	TOTAL GENERAL LOADS (STEP 1,2,3,4,5&6):	NEC 220.82(B)			16,3
STEP 7	Largest of Heating or HVAC Load:				
	Air-conditioning unit @100%	NEC 220.82(C)(1)	1.00	3760	3,70
	Heating System @100%, %65, %40	NEC 220.82(C)(3)			0
	TOTAL STEP 7:				3,70
	Total Service Load Volt-Amperes (VA)				20,1
	Total Service Load Amperes (A)				97

	Single Family Dwelling Feeder C	 Calculation			
NEC Optional Method					
Project Name:	1434 S. 12th AVE DEVELOPMENT		Voltage:	120/	208
Unit/Apt:	UNIT F		Phase:	1	
	Description:		Quantity	VA	VA
STEP 1	General Lighting And Receptacle Load:				
	General Lighting (3VA per sq-ft)	Table 220.82(B)(1)	3	871	2,613
	Small Appliance Circuits (1500 VA per circuit) (minimum qty= 2)	NEC 220.82(B)(2)	1,500	2	3,000
	Laundry Circuit (1500 VA per circuit)	NEC 220.52(B)(2)	1,500	2	3,000
STEP 2	Fixed Appliance Load:	NEC 220.82(B)(3)(a)			
	Water Pump				0
	Refrigerator (1000VA or nane plate)		1	1000	1,000
	Disposal (600YA or name plate)				0
	Compactor (1000VA or name plate)				0
	Dishwasher (1500VA or name plate)		1	1500	1,500
	Microwave (1750VA or name plate)				0
	Range Hood		1	1200	1,200
	Freezer (1500VA or more)				0
	Appliance #1				0
	Appliance #2				0
	Appliance #3				0
	Appliance #4				0
STEP 3	Cooking Equipment Load:	NEC 220.82(B)(3)(b)			
	Electric Range		1	5200	5,200
	Cooking Equipment #1				0
	Cooking Equipment #2				0
	Cooking Equipment #3				0
	Cooking Equipment #4				0
STEP 4	Electric Clothes Dryers Load:	NEC 220.82(B)(3)(c)			
	Dryer name plate value		1	5000	5,000
STEP 5	Water Heater Load:	NEC 220.82(B)(3)(d)			
	Water Heater		1	4500	4,500
STEP 6	Permanent Motor Name Plates Load:	NEC 220.82(B)(4)			
	Motor#1				0
	Motor#2				0
	Sub-Total General Loads	3			27,01
	First 10,000 VA of General Loads	1	10,000	1.00	10,00
	Remaining General Load @ 40%	•	17,013	0.40	6,805
	TOTAL GENERAL LOADS (STEP 1,2,3,4,5&6):	NEC 220.82(B)			16,80
STEP 7	Largest of Heating or HVAC Load:				
	Air-conditioning unit @100%	NEC 220.82(C)(1)	1.00	4500	4,500
	Heating System @100%, %65, %40	NEC 220.82(C)(3)			0
	TOTAL STEP 7:				4,50
	Total Service Load Volt-Amperes (VA)				21,30
	Total Service Load Amperes (A)	.]			102

DURAK EVRIM ERCAN ENGINEERING CONSULTING ESTIMATING 201-920-2899 info@AmperEngineering.co SEAL & SIGNATURE: Durak Evrim Ercan Revolute from from - E-st-off-front-frogreening.com Hercold in accordance from from of the string of the	
SEAL & SIGNATURE: Durak Evrim Ercan Consider the form form of the form of th	PROFESSIONAL ENGINEERING:
SEAL & SIGNATURE: Durak Evrim Ercan Durak Evrim Ercan Recoil an accordance from from a first from the first	DURAK EVRIM ERCAN PROPERTY OF THE PROPERTY OF
Durak Evrim Ercan Begille good to beat four Exam Derivation of the Control of t	\$\square\$201-920-2899 \square\$info@AmperEngineering.co
	Durak Evrim Ercan Balledopore by Druse line Higher Profiles and Territor Benedicipreering can. Dourak Evrim Ercan Balledopore by Druse line Higher Balledopore by Druse and Higher Balledopore by Druse Balledopore by Druse and Higher Balledopore by Druse and

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0	10/22/2021	ISSUED FOR APPROVAL
REV.	DATE	DESCRIPTION

TATO MATIOT DINGS

DEVELOPMENT

PROJECT:
MULTI-FAMILY
RESIDENTIAL
UNITS

ADDRESS:

1 _ _ _ 2th AVE

PHOENIX, AZ

85007

/		
(PROJECT NUMBER:	
	AE# 1480	
	SHEET SIZE:	DRAWN BY:
	24X36	IB
	DESIGNED BY:	CHECKED BY:
	AC	DEE

DRAWING TITLE:

LOAD CALCULATION

SHEET NO:

E300

										PANI	EL HP										
	VOLTAGE:	120/	208		AMPS:	100	MLO							MOU	NTING:	SURFA	ACE				
	1 PHASE, 3	WIRE		TOTAL	LOAD:	4.4	KVA							FEEDE	R SIZE	#1 AV	VG CU				
No	CIRCUIT DESCRIPTION			LOAD	(KVA)			BREA	AKER	PH.	ASE	BRE	AKER			LOAD	(KVA)			CIDCUIT DESCRIPTION	No.
No.	CIRCUIT DESCRIPTION	CONT	RCPT	MTR	A/C	KITCH	MISC	TRIP	POLE	Α	В	POLE	TRIP	MISC	KITCH	A/C	MTR	RCPT	CONT	CIRCUIT DESCRIPTION	NO.
1	POLE LIGHTING	0.06						30	1	1.86	\searrow	1	20						1.80	SECURITY LIGHTING	G 2
3	POLE LIGHTING	0.04						30	1		1.54	1	20				1.50			IRRIGATION	N 4
5	SPARE							20	1	0.18		1	20					0.18		GENERAL RECEPTACLE	E 6
7	SPARE							20	1		0.00	1	20							SPARE	E 8
9	SPARE							20	1	0.00		1	20							SPARE	E 10
11	SPARE							20	1		0.00	1	20							SPARE	E 12
13	SPARE							20	1	0.00	><	1	20							SPARE	E 14
15	SPACE										0.00									SPACE	E 16
17	SPACE									0.00										SPACE	E 18
19	SPACE										0.00									SPACE	E 20
21	SPACE									0.00										SPACE	E 22
23	SPACE										0.00									SPACE	E 24
25	SPACE									0.00										SPACE	E 26
27	SPACE										0.00									SPACE	E 28
29	SPACE									0.00	$\geq <$									SPACE	E 30
31	SPACE										0.00									SPACE	E 32
33	SPACE									0.00	$\geq <$									SPACE	E 34
35	SPACE										0.00									SPACE	E 36
37	SPACE									0.00										SPACE	E 38
39	SPACE										0.00									SPACE	E 40
41	SPACE									0.00	$\geq <$									SPACE	E 42
		LOADS	W/ NEC	220 DI	EMAND F	ACTOR	S (KVA)	TO	TAI	2.04	1.54			0.00	0.00	0.00	1.50	0.18	1.90	CONNECTED KVA 3.58	
		CONT	RCPT	MTR	A/C	KITCH	MISC	10	IAL	2.04	1.54										
	A PHASE	2.33	0.18	0.00	0.00	0.00	0.00	2.	51		NEC 220	DEMAN	ND FAC	TORS						PANEL NOTES	
	B PHASE	0.05	0.00	1.88	0.00	0.00	0.00	1.9	93	CONT	INUOUS:	125%	LOAD			1	BREAKE	R FRAM	E SHALL	BE AS REQUIRED PER PANEL AIC RATING.	
	C PHASE							0.0	00	RECEI	PTACLES:	100% 1	lst 10KV	N + 50%	6 RMNG	2	SHA∐ I	BE FULL	/ RATED	- SERIES RATINGS NOT ALLOWED.	
	DEMAND PER LOAD TYPE (KVA)	2.38	0.18	1.88	0.00	0.00	0.00	4.4	43		MOTORS:	125% LA	RGEST MC	TOR + 50	% RMNG	3	ALL BUS	SSING, I	NCL GNI	O AND NEUTRAL, SHALL BE COPPER.	
			CONNE	DTED LO	AD LARG	EST PHAS	Œ (KVA)	2.	51] ЦСНТІМ	IG LOAD:	100%	LOAD			4	ALL INC	OMING	PANEL 8	BRKR LUGS SHALL MATCH FEEDERS.	
			CONNEC	CTED LO	AD LARGI	ST PHAS	E (AMP)	7	7	1						5	PROVID	E HINGE	D DOOR	-IN-DOOR WITH OUTER DOOR LOCK.	
			TOTAL	L DEMAN	D LOAD I	OR PANE	EL (KVA)	4.4	43	1						6	PROVID	E METAL	_ DIRECT	ORY FRAME.	
V:	30/09/2021		TOTAL	DEMAN	D LOAD F	OR PANE	L (AMP)	2	1	MIN	FEEDER AMI	PACITY S	ЕЦЕСТІО	N (AMP)	21						

										PAN	EL B										
	VOLTAGE:	120/	208		AMPS:	125	MLO							MOU	NTING:	SURFA	\CE				
	1 PHASE, 3	WIRE		TOTAL	LOAD:	25.4	KVA							FEEDE	R SIZE	#1 AV	VG CU				
NI -	CIDCUIT DECCRIPTION			LOAD	(KVA)			BRE	AKER	PH.	ASE	BRE	AKER			LOAD	(KVA)			CIRCUIT DECCRIPTION	T.,
No.	CIRCUIT DESCRIPTION	CONT	RCPT	MTR	A/C	KITCH	MISC	TRIP	POLE	В	С	POLE	TRIP	MISC	KITCH	A/C	MTR	RCPT	CONT	CIRCUIT DESCRIPTION	No
1	BEDROOM 1/BATH LIGHTING	0.50						20	1	1.10		1	20						0.60	KITCHEN/LIVING LIGHTING	G 2
3	BEDROOM 1 RECEPTACLES		0.72					20	1		1.44	1	20					0.72		LIVING ROOM RECEPTACLES	S 1
5	BATHROOM OUTLET		0.18					20	1	0.54		1	20		0.36					KITCHEN OUTLE	:T
7	FRIDGE	1.00						20	1	><	3.60	2	30		2.60					RANG	iE \
9	DISWASHER					1.50		20	1	4.10		х	Х		2.60						X) 1
11	WASHER		1.15					20	1	><	2.35	1	20		1.20					RANGE ****	
13	DRYER		2.50					30	2	2.50		1	20							SPA	E 1
15	x		2.50					Х	Х		2.50	1	20							S. 1R	E 1
17	ROOF WP OUTLET	0.18						20	1	0.18		1	20							SPAR	Έ 1
19	SPARE							20	1	><	0.00	1	20							SPAR	E 2
21	SPARE							20	1	1.88	\sim	2	30			1.88				RTU-	-4 2
23	SPARE							20	1	$\overline{}$	1.88	Х	Х			1.88					X 2
25	WATER HEATER	2.25						30	2	2.25		1	20							SPAR	RE 2
27	X	2.25						Х	Х	><	2.25	1	20							SPAR	E 2
29	SPACE									0.00										SPAC	Œ 3
31	SPACE									><	0.00									SPAC	Œ 3
33	SPACE									0.00	><								<u> </u>	SPAC	Œ 3
35	SPACE										0.00									SPAC	Œ 3
37	SPACE									0.00										SPAC	Œ 3
39	SPACE										0.00									SPAC	Œ 4
41	SPACE									0.00	\searrow									SPAC	E 4
		LOADS	W/ NEC	220 DE	MAND F	ACTOR	(KVA)	TO	TAL	12.55	14.02			0.00	8.26	3.76	0.00	7.77	6.78	CONNECTED KVA 26.57	
		CONT	RCPT	MTR	A/C	KITCH	MISC	10	IAL	12.33	14.02										
	A PHASE							0.	00		NEC 220	DEMA	ND FAC	CTORS						PANEL NOTES	
	B PHASE	4.41	2.68	0.00	1.88	2.90	0.00	11	.87	CONT	INUOUS:	125%	LOAD			1	BREAKE	R FRAME	SHALL	BE AS REQUIRED PER PANEL AIC RATING.	
	C PHASE	4.06	5.09	0.00	1.88	2.47	0.00	13	.50	RECEI	PTACLES:	100%	1st 10K\	N + 50%	6 RMNG	2	SHALL I	BE FULLY	RATED	- SERIES RATINGS NOT ALLOWED.	
	DEMAND PER LOAD TYPE (KVA)	8.48	7.77	0.00	3.76	5.37	0.00	25	.37]	MOTORS:	125% L	ARGEST MO	OTOR + 50	% RMNG	3	ALL BUS	SSING, I	NCL GNI	D AND NEUTRAL, SHALL BE COPPER.	
			CONNEL	DTED LO	AD LARG	EST PHAS	¥ (KVA)	13	.50	A/C	or HEAT	100%	LOAD			4	ALL INC	OMING F	PANEL 8	BRKR LUGS SHALL MATCH FEEDERS.	
			CONNEC	TED LO	AD LARGI	EST PHAS	E (AMP)	3	37		(ITCHEN:	65% I	.OAD			5	PROVID	E HINGE	D DOOR	R-IN-DOOR WITH OUTER DOOR LOCK.	
			TOTAL	L DEMAN	D LOAD I	OR PANE	L (KVA)	25	.37		MISC:	100%	LOAD			6	PROVID	E METAL	DIRECT	TORY FRAME.	
v3	30/09/2021		TOTAL	. DEMANI	D LOAD F	OR PANE	L (AMP)	1.	22	MIN I	FEEDER AMI	PACITY S	SELECTIO	N (AMP)	122						

										PAN	EL A									
	VOLTAGE:	120/	208		AMPS:	125	MLO							MOUN	NTING:	SURF	ACE			
	1 PHASE, 3	WIRE		TOTAL	LOAD:	25.4	KVA							FEEDE	R SIZE	#1 AV	VG CU			
Na	CIDCUIT DECCRIPTION			LOAD	(KVA)			BREA	AKER	PHA	ASE	BRE	4KER			LOAD	(KVA)		CIDCUIT DECCRIPTION	Ria
No.	CIRCUIT DESCRIPTION	CONT	RCPT	MTR	A/C	KITCH	MISC	TRIP	POLE	Α	В	POLE	TRIP	MISC	KITCH	A/C	MTR	RCPT CONT	CIRCUIT DESCRIPTION	No.
1	BEDROOM 1/BATH LIGHTING	0.50						20	1	1.10		1	20					0.60	KITCHEN/LIVING LIGHTING	G 2
3	BEDROOM 1 RECEPTACLES		0.72					20	1		1.44	1	20					0.72	LIVING ROOM RECEPTACLE	S 4
5	BATHROOM OUTLET		0.18					20	1	0.54		1	20		0.36				KITCHEN OUTLE	ET 6
7	FRIDGE	1.00						20	1		3.60	2	30		2.60				RANG	iE 8
9	DISWASHER					1.50		20	1	4.10	\geq	X	Х		2.60					X 10
11	WASHER		1.15	Ī				20	1		2.35	1	20		1.20				RANGE HOO	D 12
13	DRYER		2.50					30	2	2.50	\sim	1	20						SPAR	RE 14
15	x		2.50					Х	X	\searrow	2.50	1	20						SPAR	RE 16
17	ROOF WP OUTLET	0.18						20	1	0.18	$\geq <$	1	20						SPAR	RE 18
19	SPARE							20	1		0.00	1	20						SPAR	RE 20
21	SPARE							20	1	1.88	><	2	30			1.88			RTU-	-5 22
23	SPARE							20	1	><	1.88	Х	Х			1.88				X 24
25	WATER HEATER	2.25						30	2	2.25	><	1	20						SPAR	RE 26
27	x	2.25						Х	Х	><	2.25	1	20						SPAR	RE 28
29	SPACE									0.00	><								SPAC	E 30
31	SPACE									><	0.00								SPAC	Œ 32
33	SPACE									0.00	><								SPAC	Œ 34
35	SPACE									><	0.00								SPAC	Œ 36
37	SPACE									0.00	><								SPAC	E 38
39	SPACE									><	0.00								SPAC	E 40
41	SPACE									0.00	><								SPAC	E 42
		LOAL	W/ AEC	220 D	EMAND F	ACTORS	(KVA)	TO:		42 55	14.00			0.00	8.26	3.76	0.00	7.77 6.78	CONNECTED KVA 26.57	
		COLT	RCPT	MTR	A/C	KITCH	MISC	TO	IAL	12.55	14.02									
	A PHASE		2.68	0.00	1.88	2.90	0.00	11.	.87	r	NEC 220	DEMAN	ND FAC	TORS					PANEL NOTES	
	B PI \SE	4.06	5.09	0.00	1.88	2.47	0.00	13.	.50	CONT	INUOUS:	125%	LOAD			1	BREAKE	R FRAME SHAL	L BE AS REQUIRED PER PANEL AIC RATING	
	C PHASE							0.4	00	RECER	TACLES:	100%	lst 10KV	V + 50%	6 RMNG	2	SHALL	BE FULLY RATE	D - SERIES RATINGS NOT ALLOWED.	
	DEMAND PER LOAD TH (KVA)	8.48	7.77	0.00	3.76	5.37	0.00	25	.37] [MOTORS:	125% LA	RGEST MC	TOR + 50	% RMNG	3	ALL BUS	SSING, INCL GI	ND AND NEUTRAL, SHALL BE COPPER.	
		_	COMME	DTED LO	AD LARGI	EST PHAS	E (KVA)	13.	.50	A/C	or HEAT	100%	LOAD			4	ALL INC	OMING PANEL	& BRKR LUGS SHALL MATCH FEEDERS.	
			COMME	CTED LO.	AD LARGE	ST PHAS	E (AMP)	3	7] к	ITCHEN:	65% L	QA D			5	PROVID	E HINGED DOO	R-IN-DOOR WITH OUTER DOOR LOCK.	
			TOTAL	L DEMAN	ID LOAD F	OR PANE	L (KVA)	25	.37		MISC:	100%	LOAD			6	PROVID	E METAL DIREC	CTORY FRAME.	
v3	30/09/2021		TOTAL	. DEMAN	D LOAD F	OR PANE	L (AMP)	12	22	MIN F	EEDER AMI	ACITY S	ELECTIO	N (AMP)	122					

										PAN	EL C										
	VOLTAGE:	120/	208		AMPS:	125	MLO							MOUN	TING:	SURFA	CE				
	1 PHASE, 3	WIRE		TOTAL	LOAD:	25.4	KVA							FEEDER	R SIZE	#1 AW	G CU				
	CIRCUIT DESCRIPTION			LOAD	<u> </u>			BREA		PH.	NSE	BRE	AKER			LOAD (·			CIRCUIT DESCRIPTION	No.
	CIRCOIT DESCRIPTION	CONT	RCPT	MTR	A/C	KITCH	MISC	TRIP	POLE	Α	С	POLE	TRIP	MISC	KITCH	A/C	MTR	RCPT	CONT	CIRCUIT DESCRIPTION	140.
1	BEDROOM 1/BATH LIGHTING	0.50						20	1	1.10	$\geq \leq$	1	20						0.60	KITCHEN/LIVING LIGHTING	
3	BEDROOM 1 RECEPTACLES		0.72					20	1	$\nearrow <$	1.44	1	20					0.72		LIVING ROOM RECEPTACLES	
5	BATHROOM OUTLET		0.18					20	1	0.54	\mathcal{N}	1	20		0.36					KITCHEN OUTLET	
7	FRIDGE	1.00						20	1	\rightarrow	3.60	2	30		2.60					RANGE	_
9	DISWASHER					1.50		20	1	4.10	\mathcal{N}	Х	Х		2.60						10
11			1.15					20	1	><	2.35	1	20		1.20					RANGE HOOD	
13			2.50					30	2	2.50	\mathcal{N}	1	20							SPARE	
15			2.50					Х	Х	><	2.50	1	20							SPARE	
17		0.18						20	1	0.18	\searrow	1	20							SPARE	
19								20	1	><	0.00	1	20							SPARE	
21								20	1	1.88	\setminus	2	30			1.88				RTU-3	
23								20	1	><	1.88	Х	Х			1.88				Х	_
25		2.25						30	2	2.25	$\setminus $	1	20							SPARE	
27		2.25						Х	Х	><	2.25	1	20							SPARE	
29										0.00	\mathbf{R}									SPACE	
31										><	0.00									SPACE	
33										0.00	\searrow									SPACE	
35										><	0.00									SPACE	
37										0.00	\mathcal{N}									SPACE	
39											0.00									SPACE	
41	SPACE									0.00	$\geq \leq$									SPACE	42
					MAND F			TOT	ΓAL	12.55	14.02			0.00	8.26	3.76	0.00	7.77	6.78	CONNECTED KVA 26.57	
					A/C																
	A PHASE		2.68	0.00	1.88	2.90	0.00	11.			IEC 220			TORS						PANEL NOTES	
	B PHASE							0.0			INUOUS:									BE AS REQUIRED PER PANEL AIC RATING.	
	C PHASE						0.00	13.			TACLES:									- SERIES RATINGS NOT ALLOWED.	
	DEMAND PER LOAD TYPE (KVA)	8.48			3.76			25.			MOTORS:			TOR + 50%	6 RMNG			=		D AND NEUTRAL, SHALL BE COPPER.	
					AD LARGI			13.		•	or HEAT					4				BRKR LUGS SHALL MATCH FEEDERS.	
					W LARGE			3		l K	ITCHEN:					5				R-IN-DOOR WITH OUTER DOOR LOCK.	
					D LOAD F			25.				100%				6	PROVID	E METAL	_ DIRECT	TORY FRAME.	
	³ 30/09/2021		TOTAL	. DEMAN	D LOAD P	OR PANE	L (AMP)	12	22	MINF	EEDER AMF	PACITY S	ELECTIO	N (AMP)	122						



0 10/22/2021 ISSUED FOR APPROVAL REV. DATE DESCRIPTION I MARKET DINGS

MULTI-FAMILY RESIDENTIAL UNITS

DEVELOPMENT

ADDRESS: PHOENIX, AZ 85007

PROJECT NUMBER: AE# 1480 DRAWN BY: CHECKED BY: DESIGNED BY: DEE

DRAWING TITLE: LOAD CALCULATION

										PAN	EL D										
	VOLTAGE:	120/	208		AMPS:	125	MLO							MOUI	NTING:	SURFA	CE				
	1 PHASE, 3			TOTAL	LOAD:	25.4	KVA							FEEDE	R SIZE	#1 AW	/G CU				
				LOAD				BRE	AKER	PH/	ASE	BREA	AKER			LOAD					
No.	CIRCUIT DESCRIPTION	CONT	RCPT	MTR	A/C	KITCH	MISC	TRIP	POLE	Α	В	POLE	TRIP	MISC	кітсн	A/C	MTR	RCPT	CONT	CIRCUIT DESCRIPTION	No.
1	BEDROOM 1/BATH LIGHTING	0.50						20	1	1.10	\sim	1	20			-			0.60	KITCHEN/LIVING LIGHTI	NG 2
3	BEDROOM 1 RECEPTACLES		0.72				Î	20	1		1.44	1	20					0.72		LIVING ROOM RECEPTACE	LES 4
5	BATHROOM OUTLET		0.18					20	1	0.54	\searrow	1	20		0.36					KITCHEN OUT	LET 6
7	FRIDGE	1.00						20	1		3.60	2	30		2.60					RAN	IGE 8
9	DISWASHER					1.50		20	1	4.10		Х	Х		2.60						X 10
11	WASHER		1.15					20	1	\nearrow	2.35	1	20		1.20					RANGE HO	OD 12
13	DRYER		2.50					30	2	2.50	\geq	1	20							SPA	ARE 14
15	x		2.50					X	Х	><	2.50	1	20							SP#	ARE 16
17	ROOF WP OUTLET	0.18						20	1	0.18		1	20								ARE 18
19	SPARE							20	1	><	0.00	1	20							SPA	ARE 20
21	SPARE							20	1	1.88		2	30			1.88				RT	U-2 22
23	SPARE							20	1	><	1.88	Х	Х			1.88					X 24
25	WATER HEATER	2.25						30	2	2.25		1	20							SPA	ARE 26
27	х	2.25						X	Х	><	2.25	1	20							SPA	ARE 28
29	SPACE									0.00											ACE 30
31	SPACE									$\geq \leq$	0.00									SPA	ACE 32
33	SPACE									0.00											ACE 34
35	SPACE									><	0.00									SPA	ACE 36
37	SPACE									0.00	><									SPA	ACE 38
39	SPACE									$\geq \leq$	0.00										ACE 40
41	SPACE									0.00	><										ACE 42
					EMAND F			TO	TAL	12.55	14.02			0.00	8.26	3.76	0.00	7.77	6.78	CONNECTED KVA 26.57	
			RCPT			KITCH															
	A PHASE				1.88				.87		NEC 220			TORS						PANEL NOTES	
	B PHASE		5.09	0.00	1.88	2.47	0.00		.50	4	INUOUS:					1	BREAKE	R FRAM	E SHALL	. BE AS REQUIRED PER PANEL AIC RATIN	IG.
	C PHASE								00	4	TACLES:					2	SHALL	BE FULL	Y RATED	- SERIES RATINGS NOT ALLOWED.	
	DEMAND PER LOAD TYPE (KVA)	8.48					•		.37	4	MOTORS:			TOR + 50	% RMNG					D AND NEUTRAL, SHALL BE COPPER.	
					AD LARG				.50	1 -	or HEAT					4	ALL INC	OMING	PANEL 8	& BRKR LUGS SHALL MATCH FEEDERS.	
					AD LARGI				37	ļ K	ITCHEN:					5				R-IN-DOOR WITH OUTER DOOR LOCK.	
					D LOAD I				.37			100%				6	PROVID	E METAI	L DIRECT	TORY FRAME.	
v3	30/09/2021		TOTAL	L DEMAN	D <i>LOAD F</i>	OR PANE	EL (AMP)	1	22	MIN F	EEDER AM	ACITY S	ELECTIO	N (AMP)	122						

										PAN	EL F								
	VOLTAGE:	120/	208		AMPS:	150	MLO							MOUN	NTING:	SURFA	ACE		
	1 PHASE, 3			TOTAL	LOAD:	29.1	KVA										AWG CI	U	
	CIDCUIT DESCRIPTION			LOAD	(KVA)			BRE	AKER	PH.	ASE	BRE.	AKER			LOAD	(KVA)		OTD GUIT DEGGDIPTION
No.	CIRCUIT DESCRIPTION	CONT	RCPT	MTR	A/C	KITCH	MISC	TRIP	POLE	Α	С	POLE	TRIP	MISC	КІТСН	I A/C	MTR	RCPT	CONT CIRCUIT DESCRIPTION No.
1	PRIME BED/BATH LIGHTING	0.70						20	1	1.60		1	20						0.90 KITCHEN/LIVING LIGHTING 2
3	BEDROOM 2/HALLWAY LIGHTING	0.60						20	1	$\bigg / \bigg /$	1.32	1	20					0.72	PRIME BED RECEPTACLES
5	BEDROOM 2 RECEPTACLES		0.72					20	1	1.98] 1	20					1.26	LIVING ROOM RECEPTACLES
7	KITCHEN OUTLET					1.00		20	1	$\bigg) \bigg/ \bigg($	1.18	1	20					0.18	BATH RECEPTAC € P
9	WASHER		1.15					20	1	3.65	\mathcal{N}	2	30					2.50	P 5 0
11	DISHWASHER					1.50		20	1		4.00	Х	Х					2.50	(12
13	FRIDGE	1.00						20	1	1.00		1	20						Si RE 14
15	RANGE					2.60		30	2	\sim	3.80	1	20		1.20				A. GE HOUD 16
17	X					2.60		Х	X	2.78		1	20					0.18	ROC WY OUTLET 18
19	RTU-6				2.25			35	2	\sim	2.25	1	20						SPARE 20
21	X				2.25			Х	X	2.25		1	20						SPARE 22
23	SPARE							20	1	$\geq \leq$	0.00	1	20						SPARE 24
25	WATER HEATER	2.25						30	2	2.25	><								SPACE 26
27	X	2.25						Х	Х	$\geq \leq$	2.25								SPACE 28
29	SPACE									0.00									SPACE 30
31	SPACE									><	0.00								SPACE 32
33	SPACE									0.00									SPACE 34
35	SPACE									$\geq \leq$	0.00								SPACE 36
37	SPACE									0.00									SPACE 38
39	SPACE									\sim	0.00								SPACE 40
41	SPACE									0.00	><								SPACE 42
							S (KVA)	TO	TAL	15.51	14.80			0.00	8.90	4.50	0.00	9.21	7.70 CONNECTED KVA 30.31
			RCPT			KITCH													
	A PHASE		5.81	0.00	2.25	1.69	0.00		.81		NEC 220			TORS					PANEL NOTES
	B PHASE								00		INUOUS:					1	BREAK	ER FRAM	E SHALL BE AS REQUIRED PER PANEL AIC RATING.
	C PHASE								.31		TACLES:								Y RATED - SERIES RATINGS NOT ALLOWED.
	DEMAND PER LOAD TYPE (KVA)	9.63			4.50				.12		MOTORS:			TOR + 50	% RMNG	3	ALL BU	SSING, I	NCL GND AND NEUTRAL, SHALL BE COPPER.
							SE (KVA)		.81	·=	or HEAT					4			PANEL & BRKR LUGS SHALL MATCH FEEDERS.
				CTED LO					4	K	ITCHEN:					5			ED DOOR-IN-DOOR WITH OUTER DOOR LOCK.
							EL (KVA)		.12			100%				6	PROVIE	DE METAI	L DIRECTORY FRAME.
v:	3 30/09/2021		TOTAL	L DEMAN	D LOAD F	FOR PAN	EL (AMP)	14	40	MINI	EEDERAM	PACITY S	ELECTIO	N (AMP)	140	I			

									PAN	ELE										
	VOLTAGE:	120/	208		AMPS:	150 MLO							MOUN	NTING:	SURFA	CE				
	1 PHASE, 3	WIRE		TOTAL	LOAD:	28.3 KVA							FEEDE	R SIZE	#1/0 A	WG CL	J			
N.	CID CHIT DECEDITION			LOAD	(KVA)		BREA	AKER	PHA	ASE	BREA	KER			LOAD ((KVA)			CIDCUIT DECCRIPTION	NI-
No.	CIRCUIT DESCRIPTION	CONT	RCPT	MTR	A/C	KITCH MISC	TRIP	POLE	В	С	POLE	TRIP	MISC	KITCH	A/C	MTR	RCPT	CONT	CIRCUIT DESCRIPTION	No.
1	PRIME BED/BATH LIGHTING	0.50					20	1	1.10		1	20						0.60	KITCHEN/LIVING LIGHTING	2
3	BEDRUOM 1/ENTRY/BATH	0.70					20	1		1.42	1	20					0.72		PRIME BED RECEPTACLES	4
5	BEDROOM 1 RECEPTACLES		0.72				20	1	1.44		1	20					0.72		LIVING ROOM/ENTRY RECEPTACLES	6
7	KITCHEN OUTLET					1.00	20	1	><	1.36	1	20					0.36		BATH RECEPTACLE	8
9	FRIDGE	1.00					20	1	3.60		2	30		2.60					RANGE	10
11	WASHER		1.15				20	1		3.75	Х	Х		2.60					X	12
13	SPARE						20	1	1.20		1	20		1.20					RANGE HOOD	14
15	DISHWASHER					1.50	20	1		4.00	2	30					2.50		DRYER	16
17	SPARE						20	1	2.50		Х	Х					2.50		x	18
19	RTU-1				2.25		35	2		2.25	1	20							SPARE	20
21	X				2.25		Х	Х	2.25		1	20							SPARE	22
23	ROOF WP OUTLET		0.18				20	1		0.18	1	20							SPARE	24
25	WATER HEATER	2.25					30	2	2.25		1	20							SPARE	26
27	x	2.25					Х	Х		2.25	1	20							SPARE	28
29	SPACE								0.00										SPACE	30
31	SPACE									0.00									SPACE	32
33	SPACE								0.00										SPACE	34
35	SPACE									0.00									SPACE	36
37	SPACE								0.00										SPACE	38
39	SPACE									0.00									SPACE	40
41	SPACE								0.00										SPACE	42
		LOA.	W/ NEC	220 DI	EMAND F	ACTORS (KVA)	тот	TAI	14.34	15.21			0.00	8.90	4.50	0.00	8.85	7.30	CONNECTED KVA 29.55	
		Cc VT	RCPT	MTR	A/C	KITCH MISC	10	IAL	14.54	13.21										
	A PH1SL						0.0	00	P	NEC 220	DEMAN	ID FAC	TORS						PANEL NOTES	
	B F (AS	5.44	3.94	0.00	2.25	2.47 0.00	14	.10	CONT	INUOUS:	125%	LOAD			1	BREAKE	R FRAME	SHALL	BE AS REQUIRED PER PANEL AIC RATING.	
	C PHASE	3.69	4.91	0.00	2.25	3.32 0.00	14	.16	RECER	PTACLES:	100% 1	st 10KV	V + 50%	RMNG	2	SHALL E	BE FULLY	RATED	- SERIES RATINGS NOT ALLOWED.	
	DEMAND PER LOAF TY F (KVA)	9.13	8.85	0.00	4.50	5.79 0.00	28	.26] 1	MOTORS:	125% LA	RGEST MC	TOR + 50	% RMNG	3	ALL BUS	SSING, II	NCL GNI	O AND NEUTRAL, SHALL BE COPPER.	
			CONNE	DTED LO.	AD LARG	EST PHASE (KVA)	14	.16		or HEAT	100%	LOAD			4	ALL INC	OMING I	PANEL &	BRKR LUGS SHALL MATCH FEEDERS.	
						EST PHASE (AMP)	3] k	CITCHEN:	65% L	DAD			5	PROVID	E HINGE	D DOOR	-IN-DOOR WITH OUTER DOOR LOCK.	
			TOTAL	L DEMAN	D LOAD I	FOR PANEL (KVA)	28	.26		MISC:	100%	LOAD			6	PROVID	E METAL	. DIRECT	ORY FRAME.	
v:	30/09/2021		TOTAL	. DEMAN	D LOAD F	OR PANEL (AMP)	13	36	MIN F	EEDER AM	PACITY S	ELECTIO	N (AMP)	136						

\$201-920-2899 ☐info@AmperEngineering.com SEAL & SIGNATURE: Durak Evrim Ercan

Dusak Evrim Ercan

Dusak Evrim Ercan DURAK EVRIM ERCAN 010/21/2021 DURAK EVRIM ERCAN, P.E. COA#22262-0

NO ALTERATION PERMITTED EXCEPT AS PROVIDED UNDER DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

0 10/22/2021 ISSUED FOR APPROVAL REV. DATE DESCRIPTION

DEVELOPMENT

MULTI-FAMILY RESIDENTIAL UNITS

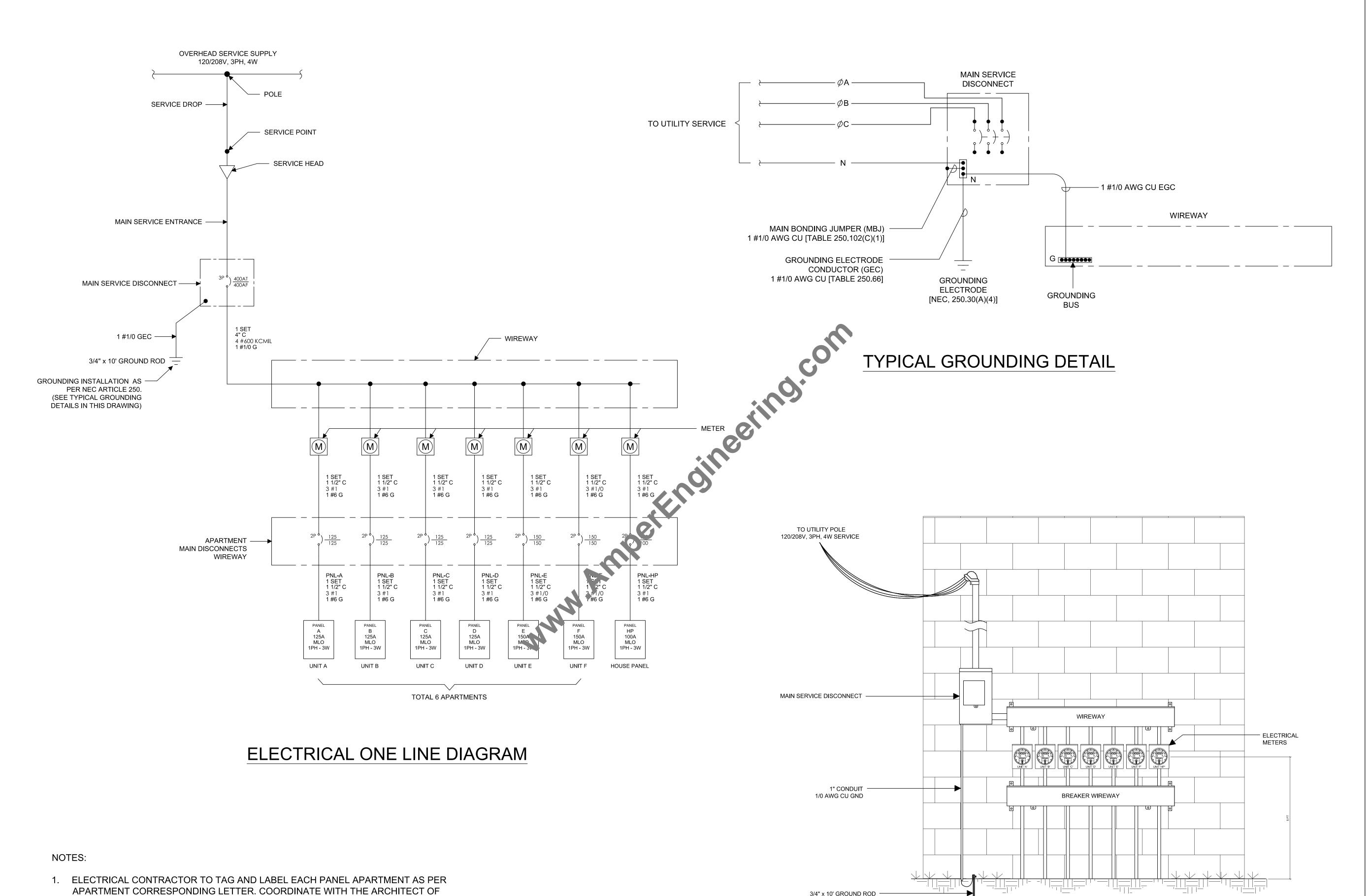
ADDRESS: PHOENIX, AZ 85007

PROJECT NUMBER: AE# 1480 DRAWN BY: 24X36 DESIGNED BY: CHECKED BY: DEE

DRAWING TITLE:

LOAD CALCULATION

SHEET NO: **E302**



2. LABEL ALL APARTMENT DISCONNECTS AND THEIR RESPECTIVE PANELS WITH

CORRESPONDING LETTERS.

3/4" x 10' GROUND ROD -

INCOMING SERVICE & ELECTRICAL APARTMENT METERS

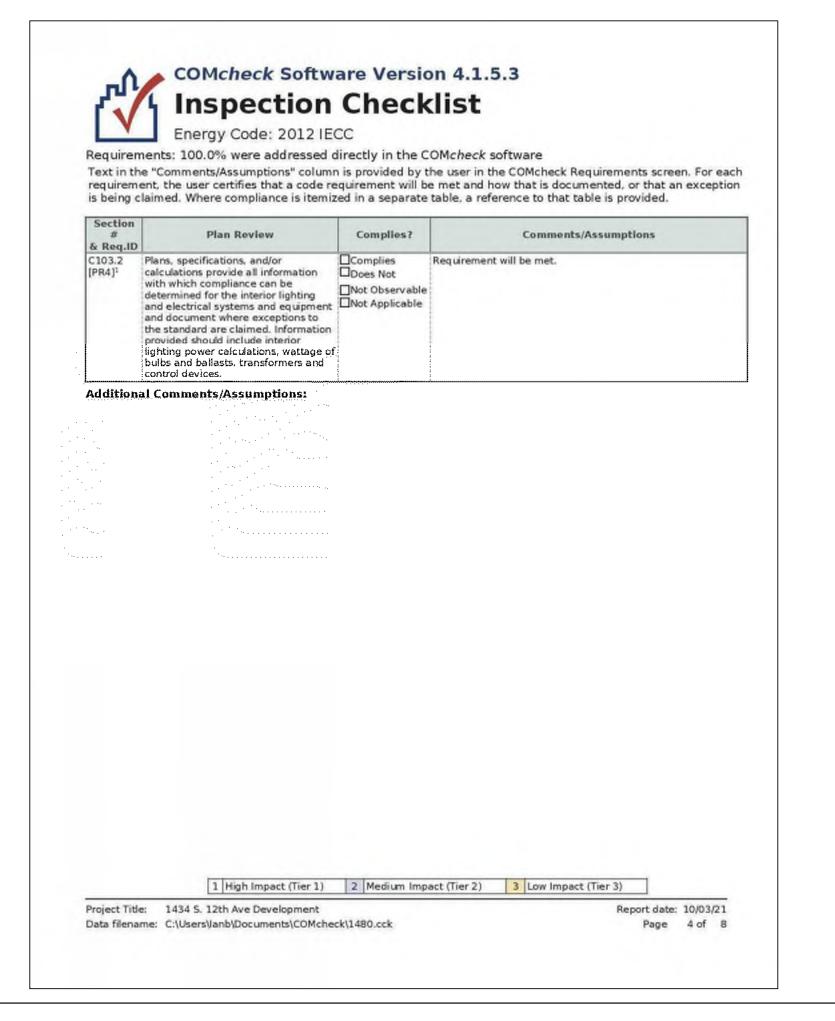
\$\square\$201-920-2899 \square info@AmperEngineering.com SEAL & SIGNATURE: Durak Evrim Ercan

Durak evrimesen a reference on the street of the stre DURAK EVRIM ERCAN 010/21/2021 DURAK EVRIM ERCAN, P.E. NO ALTERATION PERMITTED EXCEPT AS PROVIDED UNDER DIRECTION OF A LICENSED PROFESSIONAL ENGINEER. 0 10/22/2021 ISSUED FOR APPROVAL REV. DATE DESCRIPTION NONTIONIGS **DEVELOPMENT MULTI-FAMILY** RESIDENTIAL UNITS 1 2th AVE PHOENIX, AZ 85007 PROJECT NUMBER: AE# 1480 DRAWN BY: CHECKED BY: DEE DRAWING TITLE: ONE LINE DIAGRAM & GROUNDING DETAILS

E400

PROFESSIONAL ENGINEERING:





Inter	rior Lighting Com _l	oliance C	ertific	ate
Y				
Project Information				
Energy Code: Project Title: Project Type:	2012 IECC 1434 S. 12th Ave Development New Construction			
Construction Site: 1434 S. 12th Ave Phoenix, AZ 85007	Owner/Agent:	Durak Ev PO Box 3	vrim Ercan vrim Ercan, PE 35	
Additional Efficiency Pa	ckage(s)	Livingsto	on, NJ 07039	
Credits: 1.0 Required 0.0 Proj	905ed	. —		
Allowed Interior Lightin				
	A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts (B X C)
1-UNIT A (Multifamily)		516	70_0	361
2-UNIT B (Multifamily)		516	0,70	361
3-UNIT C (Multifamily)		516 516	0.70 0.70	361
A-UNIT D (Multifamily)		841	0.70	361 589
. 5-UNIT E (Multifamily) . 6-UNIT F (Multifamily)		871	0.70	610
. O Oren's (woundstary)	The state of the s		tal Allowed Watts	
Dunum and tuendan bilates	nu Bautan			*********
Proposed Interior Lighti	ng rower	8	c	D E
Fixture ID : Des	cription / Lamp / Wattage Per Lamp / Ballas	Lamps/ Fixture	#of Fi	xture (C X D) Vatt.
1-UNIT A (Multifamily)				·.
LED 1: D1: Downlight: LED M LED 2: D2: Downlight: LED N		1	1 3	10 10 10 30
	np: LED Other Fixture Unit 25W:	1	1	25 25
LED 4: V1: Vanity Light: LED	•	5 .	. 1	12 12
LED 5: C1: Closet Light: LED	MR 10W:	1941 Table 1941		10 10
LED 6: P1: Pendant Light: LE	D Other Fixture Unit 25W		1	20 20
2-UNIT B (Multifamily)	. · ·			
LED 1: D1: Downlight: LED I		1 .	1	10 10
LED 2: D2: Downlight: LED N		1 .	3	10 25
LED 3: VVI: Extenor Wall Lan LED 4: V1: Vanity Light: LED	np: LED Other Fixture Unit 25W:	5	1	12 12
LED 5: C1: Closet Light: LED		1	1	10 10
LED 6: P1: Pendant Light: LE		3	1	20 20
3-UNIT C (Multifamily)				
LED 1: D1: Downlight: LED N LED 2: D2: Downlight: LED N		1 1		10 30

Section # & Req.ID	Rough-In Electrical Inspection	on plies?		Comments/Assumptions
C405.2.2. 1 [EL22] ²	Automatic controls to shut off all building lighting installed in all buildings.	Does Not Not Observable Not Applicable	Requirement	will be met.
C405.2.1. 1 [EL23] ²	Independent lighting con als estalled per approved light slans, and all manual controls red discessible and visible to occupant.	□Complies □Does Not	Requirement	will be met.
C405.2.1. 2 [EL15] ¹	Lighting controls installed to uniformly reduce the coning load by at least 50%		Requirement	will be met.
C405.2.2 3 [EL16]	gnt zones provided with includual controls that control the ights independent of general area ghting.	□Complies □Does Not □Not Observable □Not Applicable		equirement does not apply.
C405.2.3 [EL17] ³	Sleeping units have at least one master switch at the main entry door that controls wired luminaires and switched receptacles.	□Complies □Does Not □Not Observable □Not Applicable	Requirement	will be met.
C405.2.2. 2 [EL18] ¹	Occupancy sensors installed in required spaces.	□Complies □Does Not □Not Observable □Not Applicable	Requirement	will be met.
C405.2.2. 3 [EL20] ¹	Primary sidelighted areas are equipped with required lighting controls.	□Complies □Does Not □Not Observable □Not Applicable	Exception: R	equirement does not apply.
C405.2.2. 3 [EL21] ¹	Enclosed spaces with daylight area under skylights and rooftop monitors are equipped with required lighting controls.	□Complies □Does Not □Not Observable □Not Applicable		equirement does not apply.
C405.2.3 [EL4] ¹	Separate lighting control devices for specific uses installed per approved lighting plans.	□Complies □Does Not □Not Observable □Not Applicable	Requirement	will be met.
C405.3 [EL19] ³	Fluorescent luminaires with odd numbered lamp configurations that are within 10 feet center to center (if recess mounted) or are within 1 foot edge to edge (if pendant or surface mounted) shall be tandem wired.	□Complies □Does Not □Not Observable □Not Applicable	Exception: R	equirement does not apply.
C405.4 [EL6] ¹	Exit signs do not exceed 5 watts per face.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable		equirement does not apply.
C405.2.3 [EL8] ¹	Additional interior lighting power allowed for special functions per the approved lighting plans and is automatically controlled and separated from general lighting.	□Complies □Does Not □Not Observable □Not Applicable	Requirement	will be met.
Addition	al Comments/Assumptions:			
	1 High Impact (Tier 1)	2 Medium Imp	act (Tier 2)	3 Low Impact (Tier 3)

Fixture II	A D : Description / Lamp / Wattage	Per Lamp / Ballast	Lamps		Fixture	(C X
· · · · <u>· · · · · · · · · · · · · · · </u>			Fixture	Fixtures		
	Wall Lamp: LED Other Fixture Unit 25\	N .	1	1	25	
	ht; LED A Lamp 12W;			1	12	. 1.1
LED 5: C1: Closet Lig			<u> </u>	. 1	10	
LED 6; P1: Pendant	Light: LED Other Fixture Unit 25W:	a Mergalesa et a calculation	3	1	20	
4-UNIT D (Multifamily	<u>v</u>					1. 1. 11.
LED 1: D1: Downligh	t: LED MR 10W:		1	1	10	
LED 2: D2: Downligh	t: LED MR 10W:		-1	3	10	
	Wall Lamp: LED Other Fixture Unit 25\	V :	.1	1	25	
	jht: LED A Lamp 12W:		5	1	12	
LED 5: C1: Closet Lig		and the second of the second o	1	1 11	10	
LED.6; P1; Pendant	Light: LED Other Fixture Unit 25W: 🕟	•	3.	1	.20	. ".
5-UNIT E (Multifamil)	Δ.					
LED 1: D1: Downligh	t: LED,MR,10W;		1	2	10	
LED 2: D2: Downligh	t: LED MR 10W:		1	5	10	
LED 3: W1; Exterior 1	Walt Lamp: LED Other Fixture Unit 25\	N:	1	1	25	
	ght: LED A Lamp 12W:		5	2	12	
LED 5: C1: Closet His			1	2	10	
LED 6: P1: Pendant	Light: LED Other Fixture Unit 25W:		3	1	20	
6-UNIT F (Multifamily	2					
LED 1: D1: Downligh	t: LED MR 10W:		1	2	10	
LED 2: D2: Downligh			1	9	10	
	Wall Lamp: LED Other Fixture Unit 25/	N:	1	3	25	
LED 4: V1: Vanity Lic	ght: LED A Lamp 12W:		5	1	12	
			1	2	10	
Interior Lighting F Interior Lighting Compliance Stateme	PASSES: Design 70% better t Compliance Statement wit: The proposed interior lighting	design represented in this			th the bui	lding (
Interior Lighting F Interior Lighting Compliance Stateme specifications, and of designed to meet the	PASSES: Design 70% better t	design represented in this one permit application. The p	proposed inte	onsistent wi	th the bui	lding p
Interior Lighting F Interior Lighting Compliance Stateme specifications, and of designed to meet the	PASSES: Design 70% better to Compliance Statement wit: The proposed interior lighting ther calculations submitted with the 2012 IECC requirements in COM in the Inspection Checklist.	design represented in this one permit application. The p	proposed inte	onsistent wi	th the bui systems h ble manda	lding ave b
Interior Lighting F Interior Lighting C Compliance Statemes specifications, and of designed to meet the requirements listed in	PASSES: Design 70% better to Compliance Statement wit: The proposed interior lighting ther calculations submitted with the 2012 IECC requirements in COM in the Inspection Checklist.	design represented in this on the permit application. The permit application to the permit and to the ck Version 4.1.5.3 and to	proposed inte	onsistent wi rior lighting s any applical	th the bui systems h ble manda	lding p
Interior Lighting F Interior Lighting C Compliance Stateme specifications, and of designed to meet the requirements listed in Name - Title	PASSES: Design 70% better to Compliance Statement wit: The proposed interior lighting ther calculations submitted with the 2012 IECC requirements in COM in the Inspection Checklist.	design represented in this on the permit application. The permit application to the permit and to the ck Version 4.1.5.3 and to	proposed inte	onsistent wi rior lighting s any applical	th the bui systems h ble manda	lding p
Interior Lighting F Interior Lighting C Compliance Stateme specifications, and of designed to meet the requirements listed in Name - Title	PASSES: Design 70% better to Compliance Statement wit: The proposed interior lighting ther calculations submitted with the 2012 IECC requirements in COM in the Inspection Checklist.	design represented in this on the permit application. The permit application to the permit and to the ck Version 4.1.5.3 and to	proposed inte	onsistent wi rior lighting s any applical	th the bui systems h ble manda	lding paye be
Interior Lighting F Interior Lighting C Compliance Stateme specifications, and of designed to meet the requirements listed in Name - Title	PASSES: Design 70% better to Compliance Statement wit: The proposed interior lighting ther calculations submitted with the 2012 IECC requirements in COM in the Inspection Checklist.	design represented in this on the permit application. The permit application to the permit and to the ck Version 4.1.5.3 and to	proposed inte	onsistent wi rior lighting s any applical	th the bui systems h ble manda	lding paye be
Interior Lighting F Interior Lighting C Compliance Stateme specifications, and of designed to meet the requirements listed in Name - Title	PASSES: Design 70% better to Compliance Statement wit: The proposed interior lighting ther calculations submitted with the 2012 IECC requirements in COM in the Inspection Checklist.	design represented in this on the permit application. The permit application to the permit and to the ck Version 4.1.5.3 and to	proposed inte	onsistent wi rior lighting s any applical	th the bui systems h ble manda	lding paye be
Interior Lighting F Interior Lighting C Compliance Stateme specifications, and of designed to meet the requirements listed in Name - Title	PASSES: Design 70% better to Compliance Statement wit: The proposed interior lighting ther calculations submitted with the 2012 IECC requirements in COM in the Inspection Checklist.	design represented in this on the permit application. The permit application to the permit and to the ck Version 4.1.5.3 and to	proposed inte	onsistent wi rior lighting s any applical	th the bui systems h ble manda	lding paye be
Interior Lighting F Interior Lighting C Compliance Stateme specifications, and of designed to meet the requirements listed in Name - Title	PASSES: Design 70% better to Compliance Statement wit: The proposed interior lighting ther calculations submitted with the 2012 IECC requirements in COM in the Inspection Checklist.	design represented in this on the permit application. The permit application to the permit and to the ck Version 4.1.5.3 and to	proposed inte	onsistent wi rior lighting s any applical	th the bui systems h ble manda	lding p
Interior Lighting F Interior Lighting C Compliance Stateme specifications, and of designed to meet the requirements listed in Name - Title	PASSES: Design 70% better to Compliance Statement wit: The proposed interior lighting ther calculations submitted with the 2012 IECC requirements in COM in the Inspection Checklist.	design represented in this on the permit application. The permit application to the permit and to the ck Version 4.1.5.3 and to	proposed inte	onsistent wi rior lighting s any applical	th the bui systems h ble manda	lding p
Interior Lighting F Interior Lighting C Compliance Stateme specifications, and of designed to meet the requirements listed in Name - Title	PASSES: Design 70% better to Compliance Statement wit: The proposed interior lighting ther calculations submitted with the 2012 IECC requirements in COM in the Inspection Checklist.	design represented in this on the permit application. The permit application to the permit and to the ck Version 4.1.5.3 and to	proposed inte	onsistent wi rior lighting s any applical	th the bui systems h ble manda	lding p
Interior Lighting F Interior Lighting C Compliance Stateme specifications, and of designed to meet the requirements listed in Name - Title	PASSES: Design 70% better to Compliance Statement wit: The proposed interior lighting ther calculations submitted with the 2012 IECC requirements in COM in the Inspection Checklist.	design represented in this on the permit application. The permit application to the permit and to the ck Version 4.1.5.3 and to	proposed inte	onsistent wi rior lighting s any applical	th the bui systems h ble manda	lding p
Interior Lighting F Interior Lighting C Compliance Stateme specifications, and of designed to meet the requirements listed in Name - Title	PASSES: Design 70% better to Compliance Statement wit: The proposed interior lighting ther calculations submitted with the 2012 IECC requirements in COM in the Inspection Checklist.	design represented in this on the permit application. The permit application to the permit and to the ck Version 4.1.5.3 and to	proposed inte	onsistent wi rior lighting s any applical	th the bui systems h ble manda	lding p
Interior Lighting F Interior Lighting C Compliance Stateme specifications, and of designed to meet the requirements listed in Name - Title	PASSES: Design 70% better to Compliance Statement wit: The proposed interior lighting ther calculations submitted with the 2012 IECC requirements in COM in the Inspection Checklist.	design represented in this on the permit application. The permit application to the permit and to the ck Version 4.1.5.3 and to	proposed inte	onsistent wi rior lighting s any applical	th the bui systems h ble manda	lding p
Interior Lighting F Interior Lighting C Compliance Stateme specifications, and of designed to meet the requirements listed in Name - Title	PASSES: Design 70% better to Compliance Statement wit: The proposed interior lighting ther calculations submitted with the 2012 IECC requirements in COM in the Inspection Checklist.	design represented in this on the permit application. The permit application to the permit and to the ck Version 4.1.5.3 and to	proposed inte	onsistent wi rior lighting s any applical	th the bui systems h ble manda	lding p
Interior Lighting Compliance Stateme specifications, and of designed to meet the requirements listed in Name - Title	PASSES: Design 70% better to Compliance Statement wit: The proposed interior lighting ther calculations submitted with the 2012 IECC requirements in COM in the Inspection Checklist.	design represented in this on the permit application. The permit application to the permit and to the ck Version 4.1.5.3 and to	proposed inte	consistent wi rior lighting s any applical Date	th the bui systems h ble manda	liding pave be
Interior Lighting C Compliance Stateme specifications, and of designed to meet the requirements listed in Name - Title Project Title: 1434	PASSES: Design 70% better to Compliance Statement wit: The proposed interior lighting ther calculations submitted with the 2012 IECC requirements in COM in the Inspection Checklist.	design represented in this on the permit application. The perheck Version 4.1.5.3 and to signature	proposed inte	consistent wi rior lighting s any applical Date	th the bui systems h ble manda	liding pave be story

Section			
& Req.ID	Final Inspection	Complies?	Comments/Assumptions
	Furnished as-built drawings for electric power systems within 30 days of system acceptance.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
C303.3, C408.2.5, 2 [FI17] ³	Furnished O&M instructions for systems and equipment to the building owner or designated representative.	Complies Does Not Not Observable Not Applicable	Requirement will be met.
C405.5.2 [FI18] ¹	Interior installed lamp and fixture lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	See the Interior Lighting fixture schedule for values.
C408.3 [FI33] ¹	Lighting systems have been tested to ensure proper calibration, adjustment, programming, and operation.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
Additiona	al Comments/Assumptions:		
·			
	·•····································		



0 10/22/2021 ISSUED FOR APPROVAL
REV. DATE DESCRIPTION

CLIENT:

M. O. M. LIOT DINGS

PROJECT:

MULTI-FAMILY

RESIDENTIAL

UNITS

DEVELOPMENT

ADDRESS:

1 ____ 2th AVE
PHOENIX, AZ

85007

PROJECT NUMBER:

AE# 1480

SHEET SIZE: DRAWN BY:

24X36 IB

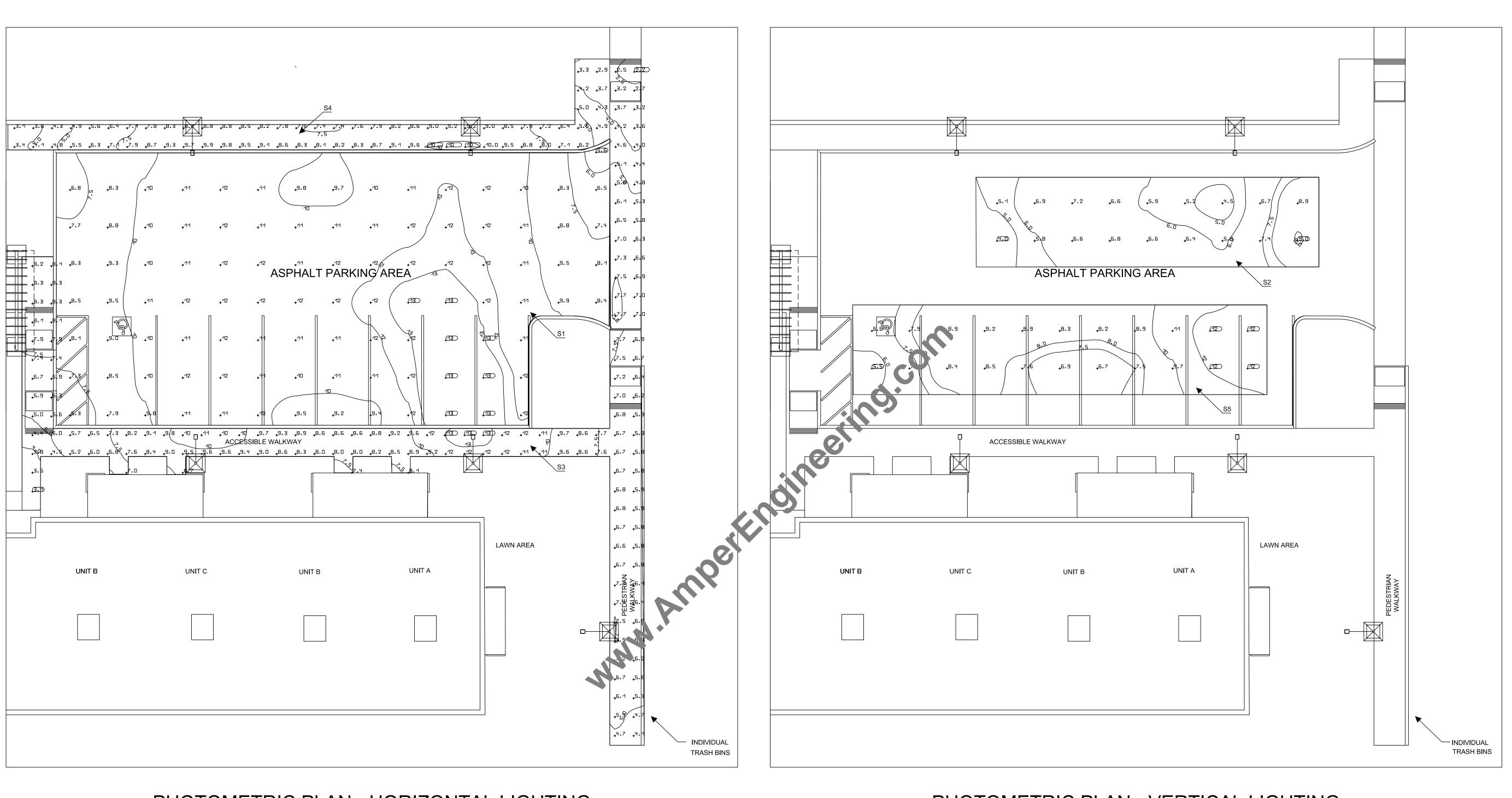
DESIGNED BY: CHECKED BY:

AC DEE

DRAWING TITLE:

LIGHTING COMPLIANCE

SHEET NO:



PHOTOMETRIC PLAN - HORIZONTAL LIGHTING

PHOTOMETRIC PLAN - VERTICAL LIGHTING

NOTES:

1. AN LLF OF 0.9 WAS CONSIDERED.

Properties	Ē	Emin	Emax	Ē/Emin	E _{maxx} /E _{min}	Index
PARKING AREA Perpendicular illuminance Height: 0.000 ft	10.6 lx	5.56 lx	13.3 lx	1.91	2.39	S1
Vertical 2 Vertical illuminance Rotation: 180.0°, Height: 5.000 ft	6,43 lx	4.04 lx	9.03 lx	1.59	2.24	52
WALKWAY 1 Perpendicular illuminance Height: 0.000 ft	7.77 lx	3.09 lx	12.8 lx	2.51	4.14	53
WALKWAY 2 Perpendicular illuminance Height: 0.000 ft	6,80 lx	2.18 lx	10.2 lx	3.12	4.68	54
Vertical 1 Vertical illuminance Rotation: -90.0°, Height: 5.000 ft	8.87 lx	5.53 lx	12.4 lx	1.60	2.24	SS

SYMBOL LEGEND

PL1

24 FT LIGHT POLE (FULLY SHIELDED). TBD BY OWNER FIXTURE: PHILIPS BGP501 T25 DM11 LED20/- NO

DURAK EVRIM ERCAN PLE
ENGINEERING | CONSULTING | ESTIMATING

201-920-2899 | info@AmperEngineering.com

SEAL & SIGNATURE:

Durak Evrim Ercan

On the state of the

NO ALTERATION PERMITTED EXCEPT AS PROVIDED UNDER DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

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