

# ELECTRICAL SYMBOL LIST

## LIGHTING SYMBOLS

- LIGHT FIXTURE, RECESSED
- LIGHT FIXTURE, RECESSED - EMERGENCY
- LIGHT FIXTURE, SURFACE MOUNT
- LIGHT FIXTURE, SURFACE MOUNT - EMERGENCY
- LIGHT FIXTURE, STRIP
- LIGHT FIXTURE, STRIP - EMERGENCY
- DOWNLIGHT FIXTURE, RECESSED
- DOWNLIGHT FIXTURE, RECESSED, WALLWASH
- DOWNLIGHT FIXTURE, RECESSED - EMERGENCY
- LIGHT FIXTURE, WALL MOUNT
- LIGHT FIXTURE, CEILING MOUNT
- RECESSED LIGHT FIXTURE, WALL MOUNT
- LIGHT FIXTURE, WALL MOUNT
- LIGHT FIXTURE, WALL SCONCE
- LIGHT FIXTURE, TRACK W/ HEADS AS SHOWN ON PLAN
- EXIT SIGN, UNIVERSAL MOUNT, W/ DIRECTIONAL ARROW
- EXIT SIGN, WALL MOUNT, +8'-0" A.F.F.
- EMERGENCY LIGHT W/ BATTERY PACK, +8'-0" A.F.F.
- FLOOD LIGHT
- AREA LUMINAIRE
- AREA LUMINAIRE W/STANDBY LAMP
- AREA LUMINAIRE, WALL MOUNT
- AREA LUMINAIRE, POLE MOUNT
- AREA LUMINAIRE, POST TOP

## SWITCH SYMBOLS

- SWITCH, SPST +48" A.F.F.
- SWITCH, DPST +48" A.F.F.
- SWITCH, 3-WAY +48" A.F.F.
- SWITCH, 4-WAY +48" A.F.F.
- SWITCH, DIMMER +48" A.F.F.
- SWITCH, SPST, W/PILOT LIGHT +48" A.F.F.
- SWITCH, KEY-OPERATED +48" A.F.F.
- SWITCH, TIMED +48" A.F.F.
- PHOTOCELL CONTROL
- OCCUPANCY SENSOR CONTROL

## SIGNAL SYMBOLS

- TELEPHONE OUTLET +18" A.F.F.
- DATA OUTLET +18" A.F.F.
- DATA/TELEPHONE OUTLET +18" A.F.F.
- CLOCK
- SIGNAL BELL
- VISUAL ALARM SIGNAL (COLOR AS INDICATED ON PLAN)
- P.A. SPEAKER
- CATV OUTLET (LOCATE AS SHOWN ON PLANS)

## FIRE ALARM SYMBOLS

- FIRE ALARM MANUAL PULL STATION, +48" A.F.F.
- MAGNETIC DOOR HOLDER
- SMOKE DETECTOR, W/AUX. CONTACTS
- SMOKE/FIRE DAMPER
- SMOKE DETECTOR, DUCT, IONIZATION TYPE W/SAMPLING TUBE
- SMOKE DETECTOR, IONIZATION TYPE
- SMOKE DETECTOR, PHOTO TYPE
- HEAT DETECTOR, RATE-OF-RISE OR FIXED TEMP.
- FIRE MAIN FLOW DETECTION SWITCH
- FIRE MAIN TAMPER DETECTION SWITCH
- FIRE ALARM BELL, +80" A.F.F.
- FIRE ALARM HORN, +80" A.F.F.
- FIRE ALARM HORN/STROBE, +80" A.F.F.
- FIRE ALARM STROBE, +80" A.F.F.

## POWER SYMBOLS

- RECEPTACLE, DUPLEX +18" A.F.F.
- RECEPTACLE, QUAD +18" A.F.F.
- RECEPTACLE, DUPLEX +6" ABV COUNTER
- RECEPTACLE, DUPLEX +18" A.F.F. (ONE OUTLET SWITCHED)
- RECEPTACLE, DUPLEX +18" A.F.F. (BOTH OUTLETS SWITCHED)
- RECEPTACLE, DUPLEX, PEDESTAL MOUNT
- RECEPTACLE, DUPLEX, FLUSH FLOOR MOUNT
- RECEPTACLE, SPECIAL (COORDINATE WITH EQUIPMENT SERVED)
- RELAY
- TIME CLOCK CONTROL
- PUSHBUTTON STATION
- JUNCTION BOX
- THERMOSTAT
- TRANSFORMER
- DISCONNECT, NON-FUSED
- DISCONNECT, FUSED
- ELECTRICAL CONNECTION
- ELECTRICAL CONNECTION, SINGLE MOTOR
- ELECTRICAL CONNECTION, MULTI-MOTOR
- ELECTRICAL DISTRIBUTION PANEL, RECESSED
- ELECTRICAL DISTRIBUTION PANEL, SURFACE
- MISCELLANEOUS PANEL, RECESSED
- MISCELLANEOUS PANEL, SURFACE
- FLUSH FLOOR BOX (W/ DEVICES AS SHOWN ON PLAN)

## WIRING SYMBOLS

- 2A-9 PANEL & CIRCUIT NUMBER
- HOMERUN TO PANEL
- #10 CONDUCTOR SIZE (IF OTHER THAN #12)
- PHASE CONDUCTOR
- NEUTRAL CONDUCTOR
- GROUND CONDUCTOR
- CONCEALED CONDUIT
- 1-1/4" C CONDUIT SIZE
- CONDUIT (UNDER SLAB OR FLOOR)
- FLEXIBLE CONNECTION
- CONDUIT, STUBBED & CAPPED

## NOTATIONS

- 1 DRAWING NOTE
- 2 E3 DETAIL REFERENCE: TOP=DETAIL NO., BOTTOM=SHEET NO.
- MECHANICAL EQUIPMENT MARK NO. (SEE EQUIPMENT SCHEDULE)
- EQUIPMENT NO. (SEE EQUIPMENT SCHEDULE)

## ONE-LINE DIAGRAM SYMBOLS

- PANEL 'A' ELECTRICAL DISTRIBUTION PANELBOARD (MLO)
- PANEL 'A' ELECTRICAL DISTRIBUTION PANELBOARD (MCB)
- SUB-FEED CIRCUIT BREAKER
- 200/3 CIRCUIT BREAKER (TRIP RATING & POLES AS INDICATED ON PLAN)
- 200A 3P MAIN SWITCH (RATING & POLES AS INDICATED ON PLAN)
- 200A RRT1 FUSE (RATING & CLASS AS INDICATED ON PLAN)
- TRANSFER SWITCH (MANUAL OR AUTOMATIC)
- GEN GENERATOR (RATING AS INDICATED ON PLAN)
- TRANSFORMER (RATING AS INDICATED ON PLAN)
- 200A RRT1 FUSE (RATING & CLASS AS INDICATED ON PLAN)
- GROUND GROUND SYSTEM (SIZE AS INDICATED ON PLAN)
- WATER PIPE GROUND ELECTRODE
- TRANSIENT VOLTAGE SURGE SUPPRESSOR
- (M) UTILITY METER & METER BASE
- C.T. UTILITY METER CURRENT TRANSFORMER
- 1 FEEDER NO. (SEE FEEDER SCHEDULE)

## ABBREVIATIONS

- |        |                                       |          |                                    |
|--------|---------------------------------------|----------|------------------------------------|
| 'A'    | LIGHT FIXTURE TYPE (SEE FIXTURE LIST) | I.G.     | ISOLATED GROUND                    |
| A.F.F. | ABOVE FINISHED FLOOR                  | LCP      | LIGHTING CONTROL PANEL             |
| A.F.G. | ABOVE FINAL GRADE                     | MCB      | MAIN CIRCUIT BREAKER               |
| A.F.I. | ARC FAULT INTERRUPTER                 | MLO      | MAIN LUGS ONLY                     |
| A.T.S. | TRANSFER SWITCH, AUTOMATIC            | N.I.C.   | NOT IN CONTRACT                    |
| C      | CONDUIT                               | N.L.     | NIGHT LIGHT                        |
| C.O.   | CONDUIT ONLY                          | P        | POLE                               |
| CATV   | CABLE TELEVISION                      | PC       | PARTIAL CIRCUIT                    |
| CB     | CIRCUIT BREAKER                       | PH       | PHASE                              |
| CCTV   | CLOSED CIRCUIT TELEVISION             | R.T.U.   | REMOTE TELEMETRY UNIT              |
| C.T.   | CURRENT TRANSFORMER                   | T.V.S.S. | TRANSIENT VOLTAGE SURGE SUPPRESSOR |
| (E)    | EXISTING                              | U.G.     | UNDERGROUND                        |
| FACP   | FIRE ALARM CONTROL PANEL              | U.O.N.   | UNLESS OTHERWISE NOTED             |
| G.F.I. | GROUND FAULT INTERRUPTER              | VFD      | VARIABLE FREQUENCY DRIVE           |
| GND    | GROUND                                | W        | WIRE                               |
| HP     | HORSEPOWER                            | W.G.     | WIRE GUARD                         |
|        |                                       | W.P.     | WEATHERPROOF                       |

NOTE: SOME OF THE SYMBOLS AND ABBREVIATIONS ON THIS LIST MAY NOT APPLY TO THIS PROJECT.

Date: 10-16-2020  
 Proj No: 10088  
 Drawn By: DMT  
 Chkd By: RLC  
 DSGN By: DMT  
 Acad File:

**WILLIS APARTMENTS**  
**RYSTADT**  
**1603 N WILLIS BLVD**  
 PORTLAND OREGON  
**ELECTRICAL SYMBOL LIST**



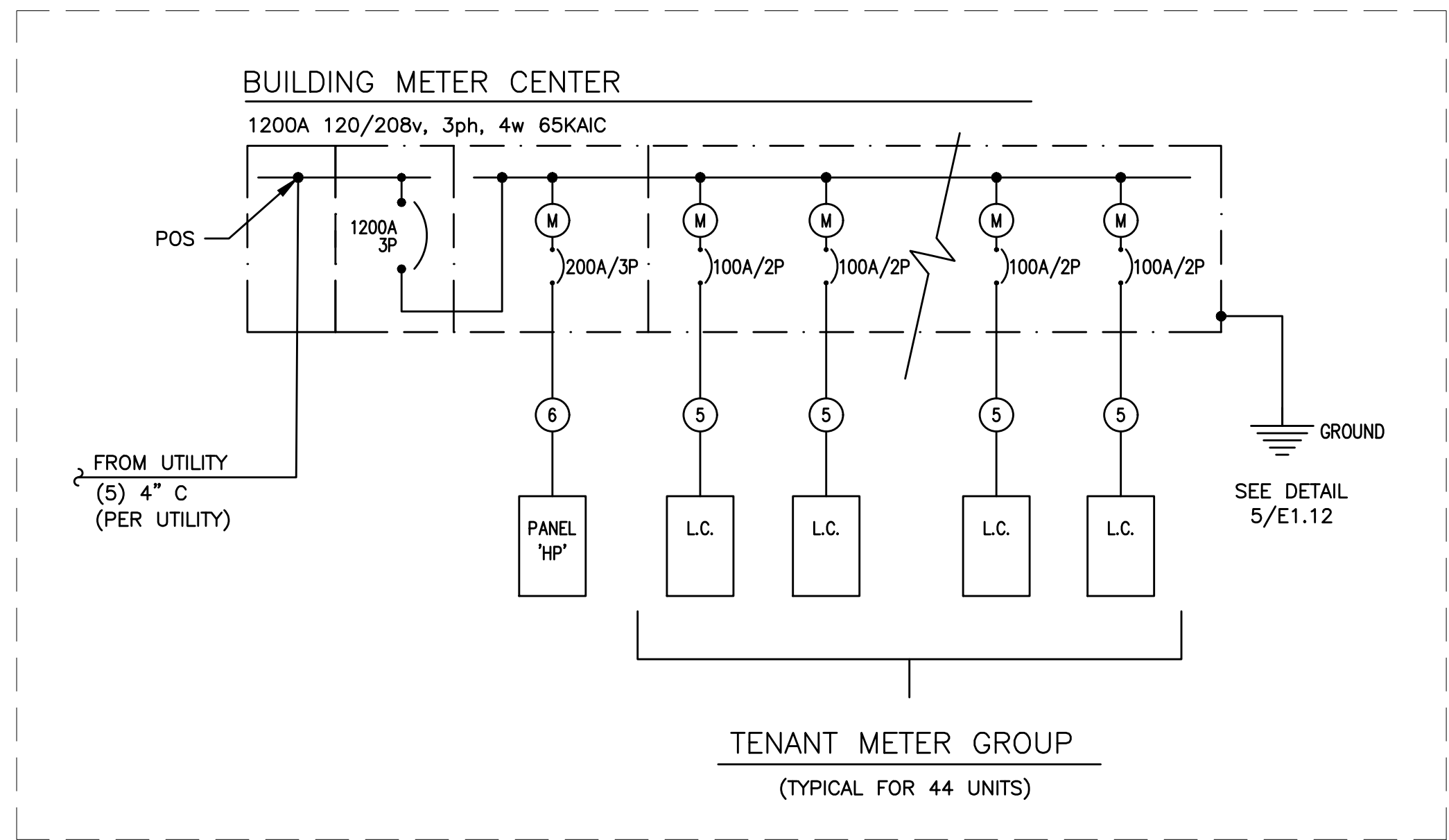
Consulting Engineers  
 2007 S.E. Ash St.  
 Portland, OR 97214  
 PHN: (503) 234-0648  
 FAX: (503) 234-0677  
 WWW.MFIA-ENG.COM

SHEET

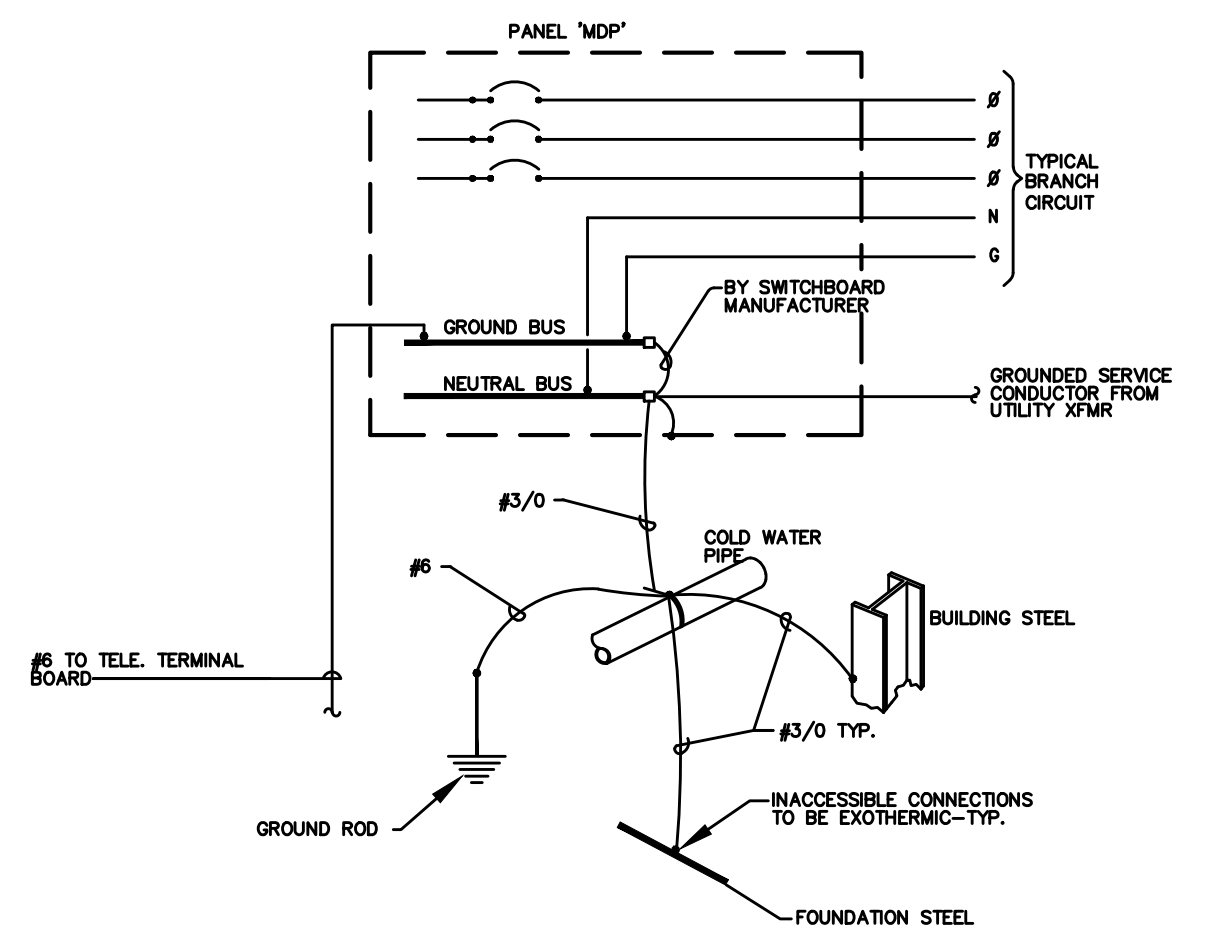
**E1.00**

OF \*\*\*\*

PRELIMINARY  
NOT FOR  
CONSTRUCTION



1 ELECTRIC ONE-LINE DIAGRAM  
E1.11 120/208V, 3P, 4W



2 GROUNDING/BONDING DIAGRAM  
E1.11 208Y/120V, 3Ø, 4 WIRE

Willis Apartments Electrical Service Load							
LOAD:	LIGHTS	RECEPT	HEAT	KITCHEN	EQUIP	MOTORS	LARGEST MOTOR
House Loads (5393sf @ 20w/sf)							107,800
Residential Units (44 units)							265,000
SUBTOTAL	0	0	0	0	0	0	372,800
X-FACTOR	1.25	1 + .5	1	0.65	1	1	0.25
CODE LOAD:	0	0	0	0	0	0	372,800
CONN LOAD:		373 KVA					
VOLTS:		208 3ph					
TOTAL CALC:		373 KVA					
CALC AMPS:		1035 AMPS					

FEEDER SCHEDULE (COPPER)				
NO.	AMPS	CONDUIT	CONDUCTOR	
①	1200	*(5) 4"	BY UTILITY CO.	& (1) GND
②	1200A	*(3) 4"	ea w/ (4) #600kcmil	& (1) #3/0 GND
③	200A	2"	(4) #3/0	& (1) #6 GND
④	100A	1 1/2"	(4) #1	& (1) #8 GND

\* PARALLEL FEEDER

ONE-LINE GENERAL NOTES:

A. COORDINATE ALL WORK ASSOCIATED WITH ELECTRIC SERVICE WITH LOCAL UTILITY. PROVIDE ALL CONDUIT & CONDUCTORS, GROUNDING, TRANSFORMER VAULT/PAD, ETC., IN ACCORDANCE WITH SERVING UTILITY REQUIREMENTS.

B. COORDINATE METERING REQUIREMENTS WITH UTILITY.

C. FOR LOAD CENTER FEEDER LENGTHS GREATER THAN 145'-0" FROM METER CENTER, INCREASE WIRE SIZE ONE SIZE UP FOR VOLTAGE DROP.

9/17/2020

Willis Apartments RESIDENTIAL LOAD SUMMARY																		
UNIT TYPE:	QTY PER FLOOR					TOTAL	AREA (SF)	LTG/RECEPT (3VA / SF)	SM APPL (1500VA X 2)	LAUNDRY (1500VA)	COOKING (CONNECTED)	MICROWAVE (CONNECTED)	DISHWASHER (CONNECTED)	ELECT DRYER (CONNECTED)	WATER HEATER (CONNECTED)	DISPOSAL (CONNECTED)	MOTORS (CONNECTED)	LARGEST OF: AC/HEATING (CONNECTED)
	Lv B	Lv 1	Lv 2	Lv 3	Lv 4													
Typical Studio Unit	6	3	10	10	10	39	283	849	3000	1500	9500	1500	1200	3000	0	1200	0	2500
Typical 3-Bedroom Unit	1	1	1	1	1	5	741	2223	3000	1500	9500	1500	1200	3000	0	1200	0	6500
TOTALS:	7	4	11	11	11	44	14742	44226	132000	66000	418000	66000	52800	132000	0	52800	0	130000

VOLTS: 208 3ph  
 TOTAL CONNECTED: 1094 KVA Based on Total Number of Residential Units = 43 to 47 (See N.E.C. Article: 220.84 )  
 DEMAND FACTOR: 0.27  
 TOTAL CALCULATED: 295 KVA  
 CALCULATED AMPS: 820 AMPS

NOTE:

DWELLING UNIT LOAD CALCULATION

Project: Willis Apartments  
 Unit Type: Studio  
 Area: 250 square feet(average)

Minimum Size Feeder (NEC 220.40):

General lighting load at 3 VA / SF	750 VA
Small Appliance load (2 ckt at 1500VA each)	3,000 VA
Laundry Load (1 ckt at 1500VA)	1,500 VA
Range (GAS)	14,000 VA
Other Cooking Appliance Load (Microwave Oven)	1,500 VA
Dishwasher Load	1,200 VA
Electric Dryer Load	4,000 VA
Electric Water Heater Load	4,500 VA
Disposal load	900 VA
Other motor loads	0 VA
<b>Total "General Loads"</b>	<b>31,350 VA</b>
First 10 kVA of "general loads" at 100%	10,000 VA
Remainder of "general loads" at 40%	8,540 VA
<b>Net "general load"</b>	<b>18,540 VA</b>

Largest of:  
 -or- 2,000 VA of electric space heating (less than 4) at 65% 1,300 VA  
 -or- VA of electric space heating (4 or more) at 40% 0 VA  
 -or- VA of air conditioning/cooling/heat pumps at 100% 0 VA

TOTAL LOAD: 19,840 VA  
 For 120/208-volt, 3-wire, single-phase service or feeder, 19,840 VA / 208 volts = 83 Amps

Therefore, this dwelling unit shall be permitted to be served by a 100 amp service.

DWELLING UNIT LOAD CALCULATION

Project: Willis Artmets  
 Unit Type: 3Bedroom  
 Area: 700 square feet(average)

Minimum Size Feeder (NEC 220.40):

General lighting load at 3 VA / SF	2,100 VA
Small Appliance load (2 ckt at 1500VA each)	3,000 VA
Laundry Load (1 ckt at 1500VA)	1,500 VA
Range	14,000 VA
Other Cooking Appliance Load (Microwave Oven)	1,500 VA
Dishwasher Load	1,200 VA
Electric Dryer Load	4,000 VA
Electric Water Heater Load	4,500 VA
Disposal load	900 VA
Other motor loads	0 VA
<b>Total "General Loads"</b>	<b>32,700 VA</b>
First 10 kVA of "general loads" at 100%	10,000 VA
Remainder of "general loads" at 40%	9,080 VA
<b>Net "general load"</b>	<b>19,080 VA</b>

Largest of:  
 -or- 5,000 VA of electric space heating (less than 4) at 65% 3,250 VA  
 -or- VA of electric space heating (4 or more) at 40% 0 VA  
 -or- VA of air conditioning/cooling/heat pumps at 100% 0 VA

TOTAL LOAD: 22,330 VA  
 For 120/208-volt, 3-wire, single-phase service or feeder, 22,330 VA / 208 volts = 93 Amps

Therefore, this dwelling unit shall be permitted to be served by a 125 amp service.

MFA CIRCUIT DIRECTORY 17-Sep-20													
Loadcenter Name LC-STUDIO (TYPICAL)	mounting RECESSED					location bus & main (SCCR: 22K)							
	voltage	phase	1	no. L1	L2	no. L1	L2	no. L1	L2	no. L1	L2	no. L1	L2
LIGHTS-KITCHEN/LIVING	20/1(A)	1	*	2	20/1(A)	APPLIANCE CIRCUIT							
LTS & RECEPT - BATH	20/1	3	*	4	20/1(A)	APPLIANCE CIRCUIT							
LTS & RECEPT - BEDROOM	20/1(A)	5	*	6	20/1	REFRIGERATOR							
RECEPT - LIVING	20/1(A)	7	*	8	20/1	MICRO/HOOD							
SPARE	20/1(A)	9	*	10	50/2	RANGE							
SPARE	20/1(A)	11	*	12	*								
SPARE	20/1(A)	13	*	14	20/1	DISHWASHER (WHERE USED)							
WASHER	20/1(G)	15	*	16	20/1	DISPOSAL							
DRYER	40/2	17	*	18	20/2	HEAT							
*		19	*	20	*								
SMART PANEL	20/1	21	*	22	20/1	SPARE							
WATER HEATER	20/2	23	*	24	20/1	SPARE							
*		25	*	26	20/1	SPARE							
AC PORT (OPTIONAL)	20/1	27	*	28	----	BLANK							
BLANK	----	29	*	30	----	BLANK							

NOTES:  
 1. (A) DENOTES: ARC-FAULT INTERRUPTER CIRCUIT BREAKER. INSTALL PER NEC 210.12  
 2. LOADS FOR THIS PANEL ARE INDICATED ON THE "DWELLING UNIT LOAD CALCULATION".  
 3. BREAKER & WIRE SHALL BE SIZED FOR EQUIPMENT INSTALLED.  
 4. (G) DENOTES GFCI RATED BREAKER.

MFA CIRCUIT DIRECTORY 17-Sep-20													
Loadcenter Name LC-3BR (TYPICAL)	mounting RECESSED					location bus & main (SCCR: 22K)							
	voltage	phase	1	no. L1	L2	no. L1	L2	no. L1	L2	no. L1	L2	no. L1	L2
LIGHTS-KITCHEN/LIVING	20/1(A)	1	*	2	20/1(A)	APPLIANCE CIRCUIT							
LTS & RECEPT - BATH	20/1	3	*	4	20/1(A)	APPLIANCE CIRCUIT							
LTS & RECEPT - BEDROOM	20/1(A)	5	*	6	20/1	REFRIGERATOR							
RECEPT - LIVING	20/1(A)	7	*	8	20/1	MICRO/HOOD							
LTS & RECEPT - BEDROOM	20/1(A)	9	*	10	50/2	RANGE (GAS)							
LTS & RECEPT - BEDROOM	20/1(A)	11	*	12	*								
SPARE	20/1(A)	13	*	14	20/1	DISHWASHER							
WASHER	20/1(G)	15	*	16	20/1	DISPOSAL							
DRYER	40/2	17	*	18	20/1	GAS FIRE PLACE (OPT)							
*		19	*	20	20/2	HEAT							
SMART PANEL	20/1	21	*	22	*								
WATER HEATER	20/2	23	*	24	20/2	HEAT							
*		25	*	26	*								
AC PORT (OPTIONAL)	20/1	27	*	28	20/2	HEAT							
BLANK	----	29	*	30	*								
BLANK	----	31	*	32	20/2	HEAT							
BLANK	----	33	*	34	*								
BLANK	----	35	*	36	----	BLANK							
BLANK	----	37	*	38	----	BLANK							
BLANK	----	39	*	40	----	BLANK							
BLANK	----	41	*	42	----	BLANK							

NOTES:  
 1. (A) DENOTES: ARC-FAULT INTERRUPTER CIRCUIT BREAKER. INSTALL PER NEC 210.12.  
 2. LOADS FOR THIS PANEL ARE INDICATED ON THE "DWELLING UNIT LOAD CALCULATION".  
 3. BREAKER & WIRE SHALL BE SIZED FOR EQUIPMENT INSTALLED.  
 4. (G) DENOTES GFCI RATED BREAKER.

Date: 10-16-2020  
 Proj No: 10088  
 Drawn By: DMT  
 Chkd By: RLC  
 DSGN By: DMT  
 Acad File:

WILLIS APARTMENTS  
 RYSTADT  
 1603 N WILLIS BLVD  
 PORTLAND OREGON



Consulting Engineers  
 2007 S.E. Ash St  
 Portland, OR 97214  
 PHN: (503) 234-0548  
 FAX: (503) 234-0677  
 WWW.MFA-ENG.COM

SHEET  
**E1.11**  
 OF \*\*\*\*



LIGHTING FIXTURE LIST					
TYPE	LAMP	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	OPTIONS
A1 A1E	LED 3000K 2300LM  20W	NEO RAY LIGHTING (OR APPROVED OTHER)	S124WCS75D SERIES	TYPE :4FT WALL BRACKET MOUNTING :SURFACE (+7"-0" MIN) HOUSING :STEEL LENS/REFL :ACRYLIC VOLTAGE :MVOLT BALLAST :LED DRIVER	FINISH PER ARCHITECT A1E SHALL HAVE BATTERY BACKUP  STAIRWELLS
A2	LED 3000K 3000LM  31W	LITHONIA LIGHTING (OR APPROVED OTHER)	ZL1N-L46 SERIES	TYPE :4FT GENERAL PURPOSE STRIP MOUNTING :SURFACE HOUSING :STEEL LENS/REFL :ACRYLIC VOLTAGE :MVOLT BALLAST :LED DRIVER	STORAGE SPACE
B1 B1E	LED 3000K 2300LM  20W	NEO RAY LIGHTING (OR APPROVED OTHER)	S124DSCS75D SERIES	TYPE :4FT LINEAR DIRECT MOUNTING :SURFACE HOUSING :STEEL LENS/REFL :ACRYLIC VOLTAGE :MVOLT BALLAST :LED DRIVER	FINISH PER ARCHITECT B1E SHALL HAVE BATTERY BACKUP  BIKE & EQUIPMENT ROOMS
C1 C1E	LED 3000K 1075LM  9W	USAI LIGHTING (OR APPROVED OTHER)	P4RDF SERIES	TYPE :4.5" DIA DOWNLIGHT MOUNTING :RECESSED HOUSING :STEEL LENS/REFL :NA VOLTAGE :MVOLT BALLAST :LED DRIVER	FINISH PER ARCHITECT C1E SHALL HAVE BATTERY BACKUP  LOBBY, CORRIDORS
C2 C2E	LED 3000K 1175LM  9W	USAI LIGHTING (OR APPROVED OTHER)	P3RD SERIES	TYPE :3" DIA DOWNLIGHT MOUNTING :RECESSED HOUSING :STEEL LENS/REFL :NA VOLTAGE :MVOLT BALLAST :LED DRIVER	FINISH PER ARCHITECT C2E SHALL HAVE BATTERY BACKUP  LOBBIES
D1	LED 3000K 1790LM  34W	QUOIZEL LIGHTING (OR APPROVED OTHER)	PC0H282401SERIES	TYPE :24" DIA PENDANT MOUNTING :SUSPENDED HOUSING :STEEL LENS/REFL :ACRYLIC VOLTAGE :MVOLT BALLAST :LED DRIVER	FINISH PER ARCHITECT VERIFY MOUNTING HEIGHT  MAIN LOBBY
S1	LED 3000K 1000LM  14W	LIGHTOLIER LIGHTING (OR APPROVED OTHER)	S7R SERIES	TYPE :7" DIA. DOWNLIGHT MOUNTING :SURFACE HOUSING :STEEL LENS/REFL :ACRYLIC VOLTAGE :MVOLT BALLAST :LED DRIVER	FINISH PER ARCHITECT  UL LISTED WET LOCATION BUILDING EXTERIOR
S2	LED 3000K 1000LM  15W	ALCON LIGHTING (OR APPROVED OTHER)	11235 DIR-15 SERIES	TYPE :5" DIA EXTERIOR CYLINDER MOUNTING :SURFACE HOUSING :ALUMINUM LENS/REFL :CLEAR TEMPERED GLASS VOLTAGE :MVOLT BALLAST :LED DRIVER	FINISH PER ARCHITECT 60 DEGREE WIDE FLOOD  UL LISTED WET LOCATION ENTRY CANOPY
S3	LED 3000K 2130LM  20W	STONCO LIGHTING (OR APPROVED OTHER)	LPW16 SERIES	TYPE :EXTERIOR WALL PACK MOUNTING :SURFACE (ABOVE DOOR) HOUSING :ALUMINUM LENS/REFL :ACRYLIC VOLTAGE :MVOLT BALLAST :LED DRIVER	TYPE III DISTRIBUTION  BUILDING SERVICE ENTRANCE
U1	LED 3000K 670LM  12W	HALO LOGHTING (OR APPROVED OTHER)	SLD4059 SERIES	TYPE :4" DIA CEILING LIGHT MOUNTING :SURFACE HOUSING :ALUMINUM LENS/REFL :ACRYLIC VOLTAGE :120V BALLAST :LED DRIVER (0-10 DIMMING)	UL LISTED WET LOCATION UNIT KITCHEN, BATH, HALL
U2	LED 3000K 1600LM  20W	KUZCO LIGHTING (OR APPROVED OTHER)	FM3511 SERIES	TYPE :11" DIA CEILING LIGHT MOUNTING :SURFACE HOUSING :STEEL LENS/REFL :FROSTED GLASS VOLTAGE :120V BALLAST :LED DRIVER (0-10 DIMMING)	FINISH PER ARCHITECT  UNIT BEDROOM
U3	LED 3000K 1600LM  20W	KUZCO LIGHTING (OR APPROVED OTHER)	VL62220 SERIES	TYPE :20" VANITY BAR MOUNTING :SURFACE (=6" ABOVE MIRROR) HOUSING :STEEL LENS/REFL :ACRYLIC VOLTAGE :120V BALLAST :LED DRIVER (0-10 DIMMING)	FINISH PER ARCHITECT  UNIT BATHROOM
U4	LED 3000K 800LM  12W	KUZCO LIGHTING (OR APPROVED OTHER)	EW3105 SERIES	TYPE :EXTERIOR SCONCE MOUNTING :SURFACE (+6.5FT AFF) HOUSING :ALUMINUM LENS/REFL :TEMPERED GLASS VOLTAGE :120V BALLAST :LED DRIVER	FINISH PER ARCHITECT  UNIT ENTRIES, PATIOS
X1 X2	LED (GREEN LETTERS)   (1.5W)	LITHONIA DMF LIGHTING (OR APPROVED OTHER)	LE EL N SERIES DLED500EM-G	TYPE :EXIT SIGN MOUNTING :UNIVERSAL HOUSING :DIE-CAST ALUMINUM LENS/REFL :SINGLE FACE/DUAL FACE VOLTAGE :MVOLT BALLAST :NICKLE CADMIUM BATTERY	X1= SINGLE SIDE X2= DOUBLE SIDE

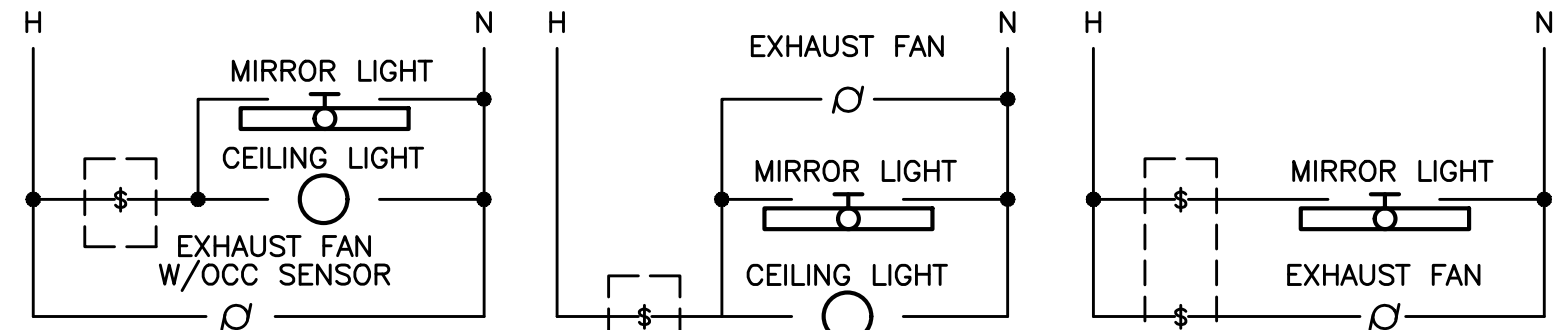
MECHANICAL EQUIPMENT SCHEDULE									
NO.	EQUIPMENT NAME	HP/KW	VOLTS	PH	AMPS	CONDUIT	WIRE	GND	CIRCUIT
EF-1	EXHAUST FAN NO.1	11.0W	120	1		1/2"	#12	#12	SEE TYP. UNITS E3.02
EF-2	EXHAUST FAN NO.2	11.0W	120	1		1/2"	#12	#12	HP-
EF-3	EXHAUST FAN NO.3	11.0W	120	1		1/2"	#12	#12	HP-
SF-1	SUPPLY FAN NO.1	16.0W	120	1		1/2"	#12	#12	SEE POWER PLANS
EH-1	WALL HEATER NO.1	1.5KW	240	1		1/2"	#12	#12	
EH-2	WALL HEATER NO.2	2.0KW	240	1		1/2"	#12	#12	
EH-3	WALL HEATER NO.3	1.5KW	240	1		1/2"	#12	#12	
EH-4	WALL HEATER NO.4	500W	120	1		1/2"	#12	#12	
EH-5	WALL HEATER NO.5	4.0KW	240	1		1/2"	#10	#10	
B-1	BOILER NO.1 (GAS)		120	1		1/2"	#12	#12	
RH-1	RADIATOR NO.1		120	1		1/2"	#12	#12	
RP-1	RECIRC PUMP NO.1		120	1		1/2"	#12	#12	

GENERAL EQUIPMENT NOTES:

- A. CONTRACTOR/DESIGNER SHALL VERIFY ALL MECHANICAL EQUIPMENT CONNECTION LOAD REQUIREMENTS WITH THE MECHANICAL EQUIPMENT PROVIDER PRIOR TO ROUGH IN.
- B. MECHANICAL EQUIPMENT SIZES SHOWN IN THE MECHANICAL SCHEDULE ABOVE ARE FOR REFERENCE ONLY AND MAY NOT REFLECT THE ACTUAL EQUIPMENT TO BE INSTALLED.
- C. INDOOR & OUTDOOR COMPONENTS OF THE MINI-SPLIT SYSTEMS ARE INTERCONNECTED. CONSULT WITH AND COORDINATE THE ELECTRICAL REQUIREMENTS AND EXACT LOCATIONS WITH THE HVAC EQUIPMENT INSTALLER PRIOR TO ROUGH IN.
- D. REFER TO TYPICAL UNIT PLAN LOAD CENTER SCHEDULES ON THIS SHEET FOR CIRCUITING INFORMATION.

GENERAL LIGHTING NOTES:

- A. ALL LIGHT FIXTURES SHALL HAVE ENERGY EFFICIENT LAMPING AND BALLASTS.
- B. LIGHT FIXTURES FOR LIVING UNITS SHALL BE "ENERGY STAR" RATED.
- C. VERIFY ALL FIXTURE FINISHES WITH ARCHITECT PRIOR TO BID.
- D. VERIFY ALL FIXTURE MOUNTING HEIGHTS WITH ARCHITECT PRIOR TO BID.
- E. VERIFY ALL FIXTURE LOCATIONS WITH ARCHITECT PRIOR TO ROUGH IN.
- F. ALL INTERIOR LIGHTING SHALL BE 3000 KELVIN UNLESS OTHERWISE NOTED.
- G. ALL PRODUCT SUBSTITUTIONS AND VALUE ENGINEERING SHALL BE SUBMITTED DURING BID PHASE, SHALL MEET DESIGN INTENT AND IS SUBJECT TO OWNER APPROVAL.
- H. EGRESS LIGHTING SHALL BE PROVIDED TO MEET MINIMUM LIGHT LEVELS AS DESCRIBED PER OREGON STRUCTURAL SPECIALTY CODE 1006.3.
- I. BUILDING EXTERIOR & SITE LIGHTING SHALL BE CONTROLLED VIA PHOTOCELL, EITHER INTEGRAL OR REMOTE, OR BY TIME CLOCK FOR DUSK-TILL-DAWN OPERATION.
- J. LIGHTING FIXTURES DESIGNATED AS NIGHT LIGHTS (N.L.) AND STAIRWELL LIGHTS SHALL BE ON 24/7.
- K. STAIRWELL LIGHTS SHALL BE PROVIDED WITH OCCUPANCY SENSOR(S), EITHER INTEGRAL OR REMOTE, TO PROVIDE 50% LIGHT REDUCTION DURING PERIODS OF INACTIVITY. ONCE ACTIVATED, LIGHTS ARE TO REMAIN AT 100% OUTPUT FOR A MINIMUM OF 20 MINUTES.
- L. DESIGN INTENT FOR CORRIDOR LIGHTING SHALL BE SUCH THAT LIGHTS INDICATED AS NIGHT LIGHTS (N.L.), SHALL BE ON 24/7. ALL OTHER LIGHT FIXTURES TO BE CIRCUITED VIA TIME CLOCK TO REDUCE CORRIDOR LIGHTING BY 50% DURING PERIODS OF LOW ACTIVITY (IE. 12AM - 4AM OR AS DIRECTED BY OWNER).



BATHROOM SWITCHING WITH EXHAUST FAN    BATHROOM SWITCHING WITH EXHAUST FAN    BATHROOM SWITCHING WITH EXHAUST FAN

1 BATHROOM SWITCHING DIAGRAM - TYPICAL  
E1.12 NO SCALE

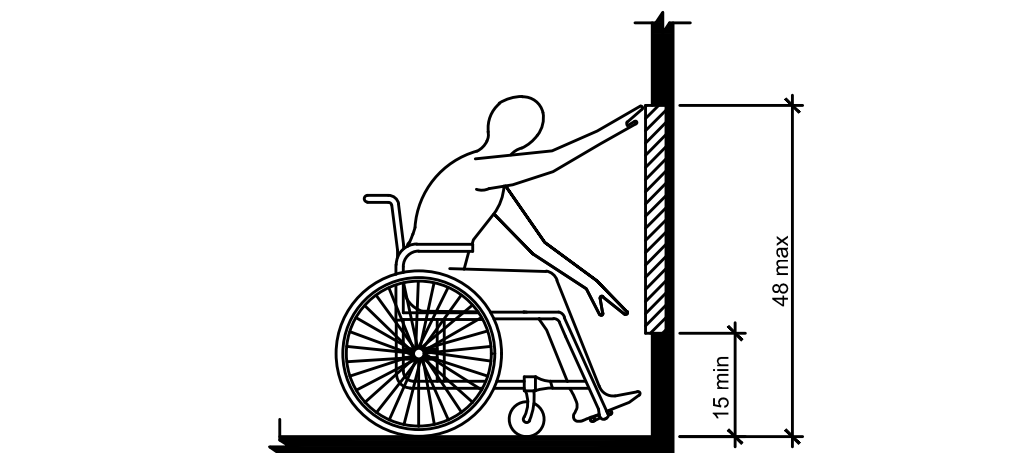


Figure 308.2.1  
Unobstructed Forward Reach

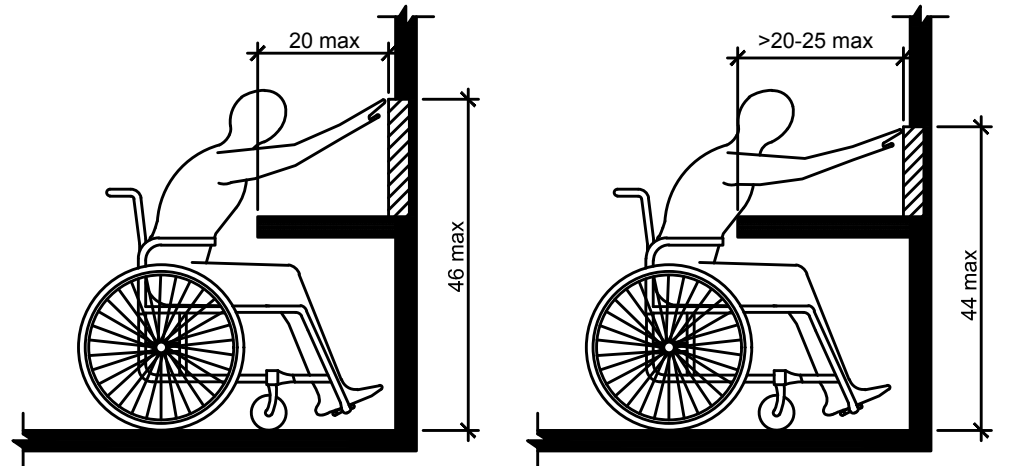


Figure 308.2.2  
Obstructed High Forward Reach

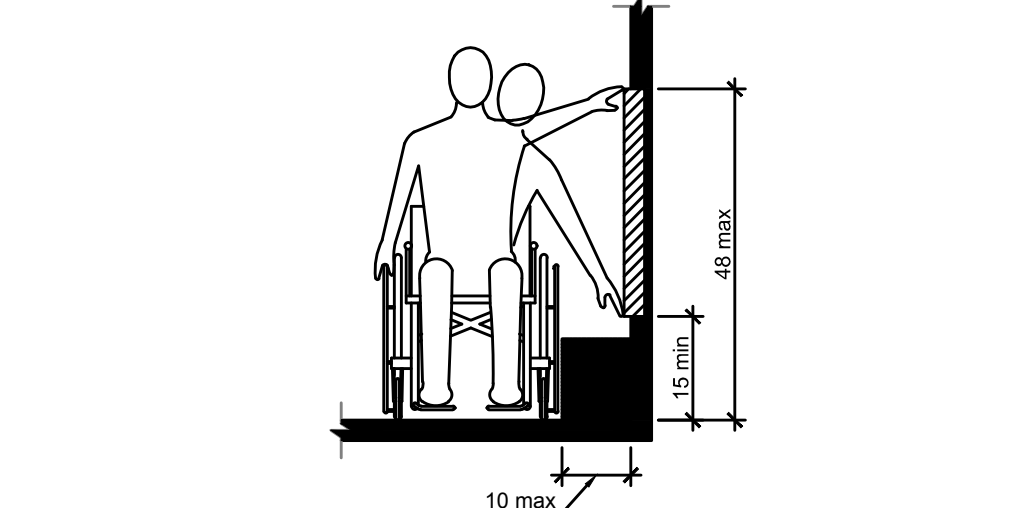


Figure 308.3.1  
Unobstructed Side Reach

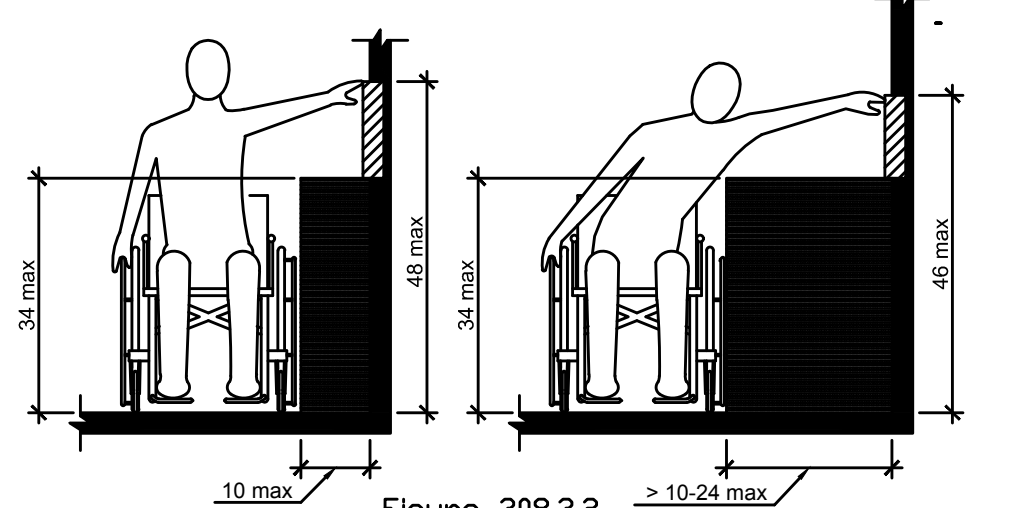


Figure 308.3.2  
Obstructed High Side Reach

2 ADA REACH REQUIREMENTS  
E1.12 N.T.S.

308.2 Forward Reach.

308.2.1 Unobstructed. Where a forward reach is unobstructed, the high forward reach shall be 48" maximum and the low forward reach shall be 15" minimum above the floor or ground.

308.2.2 Obstructed High Reach. Where a high forward reach is over an obstruction, the clear floor or ground space shall extend beneath the element for a distance not less than the required reach depth over the obstruction. The high forward reach shall be 48" maximum where the reach depth is 20" maximum. Where the reach depth exceeds 20", the high forward reach shall be 44" maximum and the reach depth shall be 25" maximum.

308.3 Side Reach.

308.3.1 Unobstructed. Where a clear floor or ground space allows a parallel approach to an element and the side reach is unobstructed, the high side reach shall be 48" maximum and the low side reach shall be 15" minimum above the floor or ground.

Exception: Existing elements shall be permitted at 54" maximum above the floor or ground.

308.3.2 Obstructed High Reach. Where a clear floor or ground space allows a parallel approach to an object and the high side reach is over an obstruction, the height of the obstruction shall be 34" maximum and the depth of the obstruction shall 24" maximum. The high side reach shall be 48" maximum for a reach depth of 10" maximum. Where the reach depth exceeds 10", the high side reach shall be 46" maximum for a reach depth of 24" maximum.


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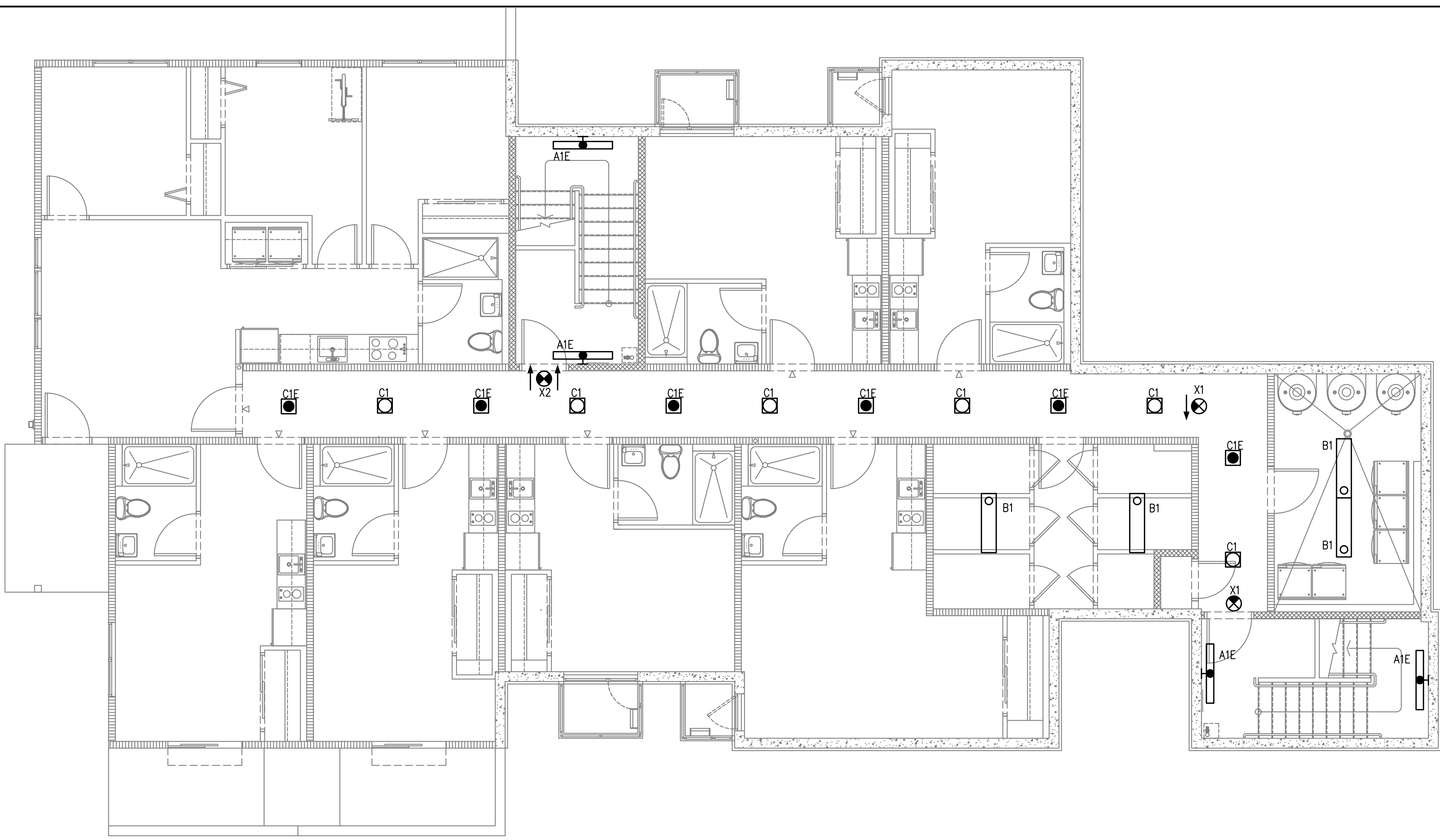


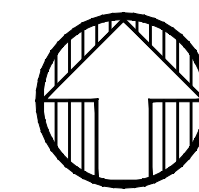
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Portland, OR 97214  
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FAX: (503) 234-0677  
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 **1** BASEMENT LEVEL LIGHTING PLAN  
E2.00 SCALE: 1/8" = 1'-0"

**GENERAL NOTES:**

- A. ELECTRICAL DRAWINGS ARE DIAGRAMMATICAL AND MAY NOT ACCURATELY REFLECT ACTUAL CONSTRUCTION CONDITIONS. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE INSTALLATION OF ALL ELECTRICAL EQUIPMENT, WITH ALL TRADES PRIOR TO AND DURING CONSTRUCTION.
- B. THE ELECTRICAL CONTRACTOR SHALL REFER TO THE ARCHITECTURAL DRAWINGS FOR ALL MOUNTING HEIGHTS AND FINISHES OF DEVICES AND FIXTURES.
- C. REFER TO SHEET E1.3 FOR TYPICAL UNIT LOAD CENTER DIRECTORIES.
- D. ALL LIGHT SWITCHES SHALL BE ROCKER STYLE, SUCH AS LEVITON DECORA, OR APPROVED EQUAL.
- E. REFER TO E3 SERIES SHEETS FOR TYPICAL UNIT POWER PLANS.
- F. THE ELECTRICAL CONTRACTOR SHALL REFER TO THE MECHANICAL PLAN SHEETS AND COORDINATE WITH THE MECHANICAL INSTALLER TO AVOID CONFLICTS BETWEEN HVAC EQUIPMENT AND LIGHT FIXTURES WITHIN THE APARTMENT UNITS.

**KEYED NOTES:**

- 1. REFER TO E1.21 FOR TYPICAL BATHROOM SWITCHING DIAGRAM.
- 2. PROVIDE BLOCKING ABOVE CEILING TO SUPPORT A MINIMUM OF 35LBS. FOR FUTURE CEILING FAN. CONSULT OWNER TO DETERMINE IF A J-BOX WITH BLANK PLATE IS TO BE PROVIDED IN LIEU OF A CEILING LIGHT.

**WILLIS APARTMENTS**  
RYSTADT  
1603 N WILLIS BLVD  
PORTLAND OREGON  
**BASEMENT LEVEL LIGHTING PLAN**



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**E2.00**  
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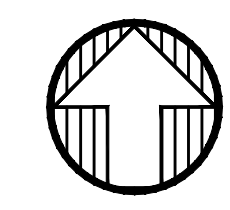
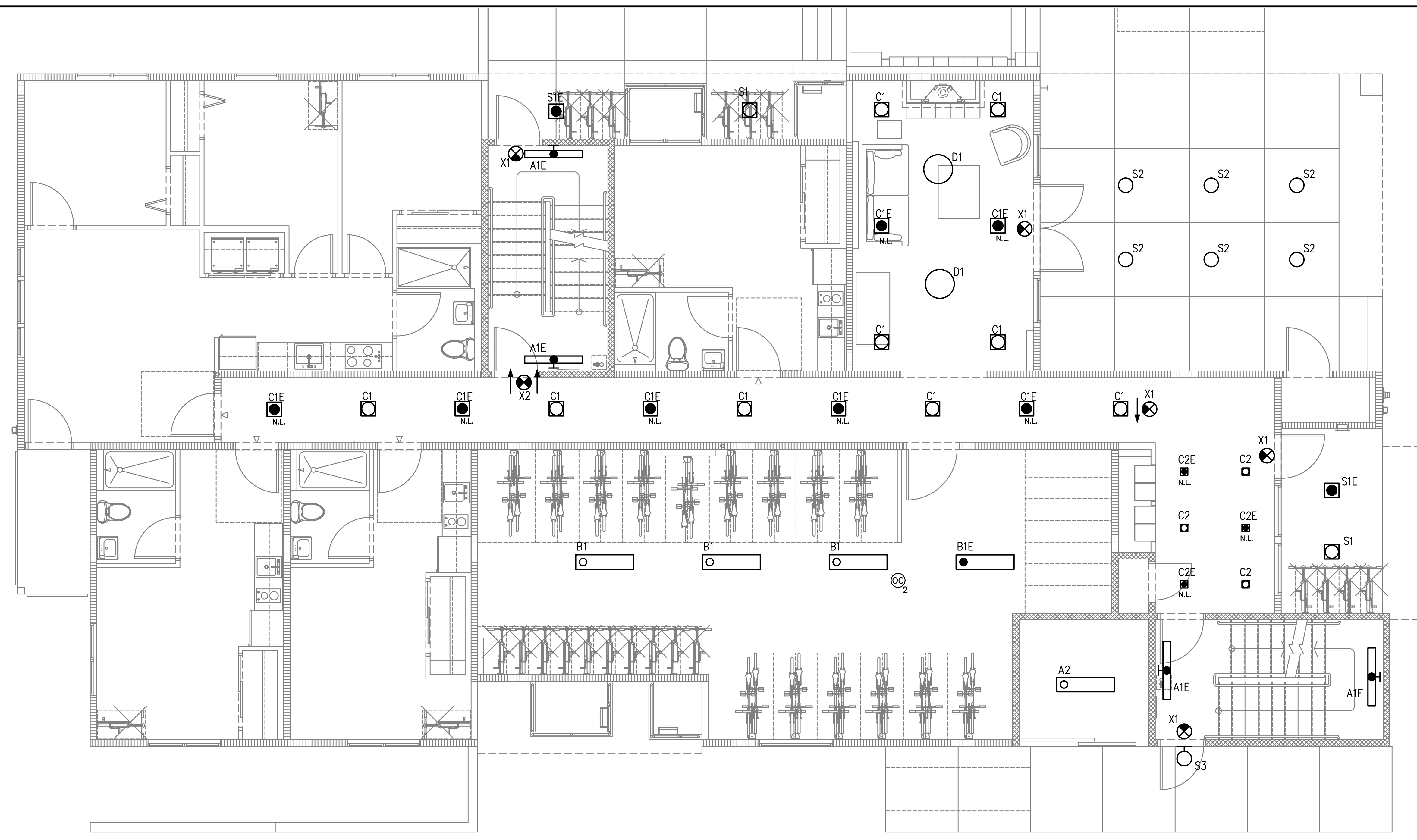
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**WILLIS APARTMENTS**  
RYSTADT  
1603 N WILLIS BLVD  
PORTLAND OREGON  
FIRST FLOOR LIGHTINGPLAN



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**E2.01**  
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**1** FIRST FLOOR LIGHTING PLAN  
E2.01 SCALE: 1/8" = 1'-0"

**GENERAL NOTES:**

- A. ELECTRICAL DRAWINGS ARE DIAGRAMMATICAL AND MAY NOT ACCURATELY REFLECT ACTUAL CONSTRUCTION CONDITIONS. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE INSTALLATION OF ALL ELECTRICAL EQUIPMENT, WITH ALL TRADES PRIOR TO AND DURING CONSTRUCTION.
- B. THE ELECTRICAL CONTRACTOR SHALL REFER TO THE ARCHITECTURAL DRAWINGS FOR ALL MOUNTING HEIGHTS AND FINISHES OF DEVICES AND FIXTURES.
- C. REFER TO SHEET E1.3 FOR TYPICAL UNIT LOAD CENTER DIRECTORIES.
- D. ALL LIGHT SWITCHES SHALL BE ROCKER STYLE, SUCH AS LEVITON DECORA, OR APPROVED EQUAL.
- E. REFER TO E3 SERIES SHEETS FOR TYPICAL UNIT POWER PLANS.
- F. THE ELECTRICAL CONTRACTOR SHALL REFER TO THE MECHANICAL PLAN SHEETS AND COORDINATE WITH THE MECHANICAL INSTALLER TO AVOID CONFLICTS BETWEEN HVAC EQUIPMENT AND LIGHT FIXTURES WITHIN THE APARTMENT UNITS.

**KEYED NOTES:**

- 1. REFER TO E1.21 FOR TYPICAL BATHROOM SWITCHING DIAGRAM.
- 2. PROVIDE BLOCKING ABOVE CEILING TO SUPPORT A MINIMUM OF 35LBS. FOR FUTURE CEILING FAN. CONSULT OWNER TO DETERMINE IF A J-BOX WITH BLANK PLATE IS TO BE PROVIDED IN LIEU OF A CEILING LIGHT.



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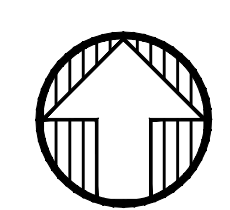
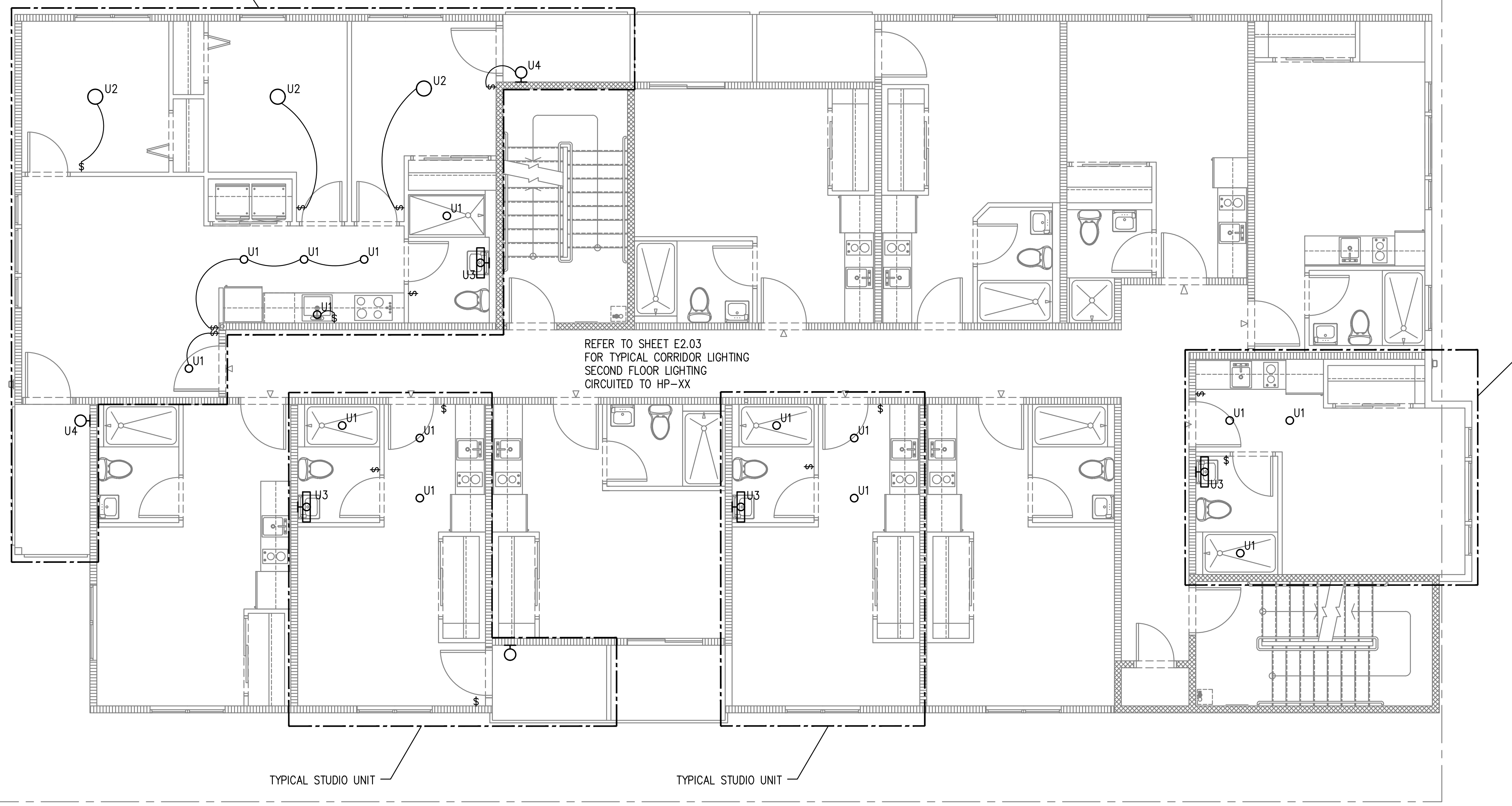
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**WILLIS APARTMENTS**  
RYSTADT  
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SECOND FLOOR LIGHTING PLAN



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**1** SECOND FLOOR LIGHTING PLAN  
E2.02 SCALE: 1/8" = 1'-0"

**GENERAL NOTES:**

- A. ELECTRICAL DRAWINGS ARE DIAGRAMMATICAL AND MAY NOT ACCURATELY REFLECT ACTUAL CONSTRUCTION CONDITIONS. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE INSTALLATION OF ALL ELECTRICAL EQUIPMENT, WITH ALL TRADES PRIOR TO AND DURING CONSTRUCTION.
- B. THE ELECTRICAL CONTRACTOR SHALL REFER TO THE ARCHITECTURAL DRAWINGS FOR ALL MOUNTING HEIGHTS AND FINISHES OF DEVICES AND FIXTURES.
- C. REFER TO SHEET E1.3 FOR TYPICAL UNIT LOAD CENTER DIRECTORIES.
- D. ALL LIGHT SWITCHES SHALL BE ROCKER STYLE, SUCH AS LEVITON DECORA, OR APPROVED EQUAL.
- E. REFER TO E3 SERIES SHEETS FOR TYPICAL UNIT POWER PLANS.
- F. THE ELECTRICAL CONTRACTOR SHALL REFER TO THE MECHANICAL PLAN SHEETS AND COORDINATE WITH THE MECHANICAL INSTALLER TO AVOID CONFLICTS BETWEEN HVAC EQUIPMENT AND LIGHT FIXTURES WITHIN THE APARTMENT UNITS.

**KEYED NOTES:**

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CONSTRUCTION

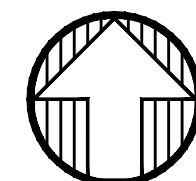
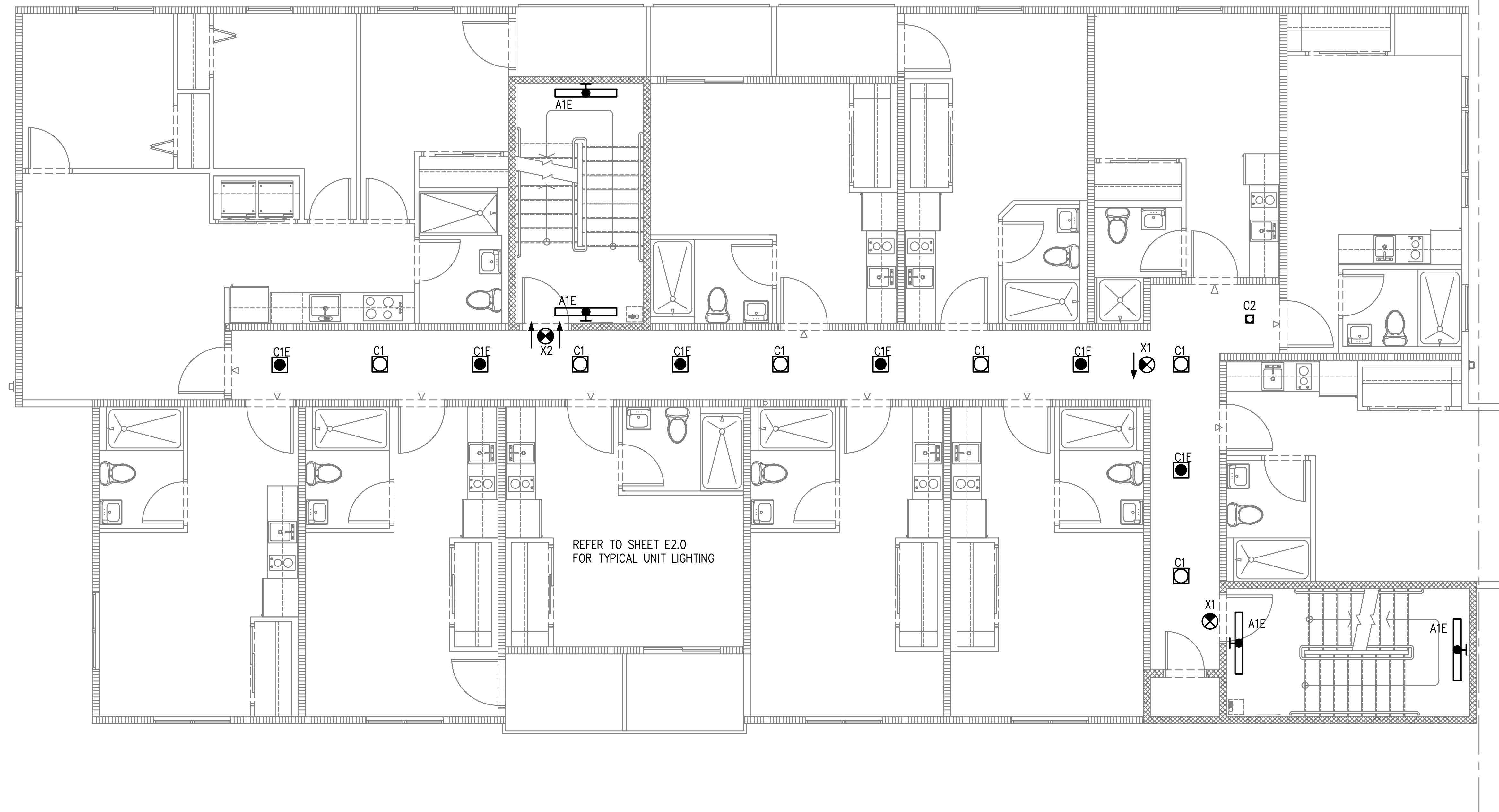
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**WILLIS APARTMENTS**  
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THIRD FLOOR LIGHTING PLAN



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**1** THIRD FLOOR LIGHTING PLAN  
E2.03 SCALE: 1/8" = 1'-0"

**GENERAL NOTES:**

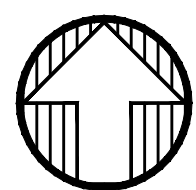
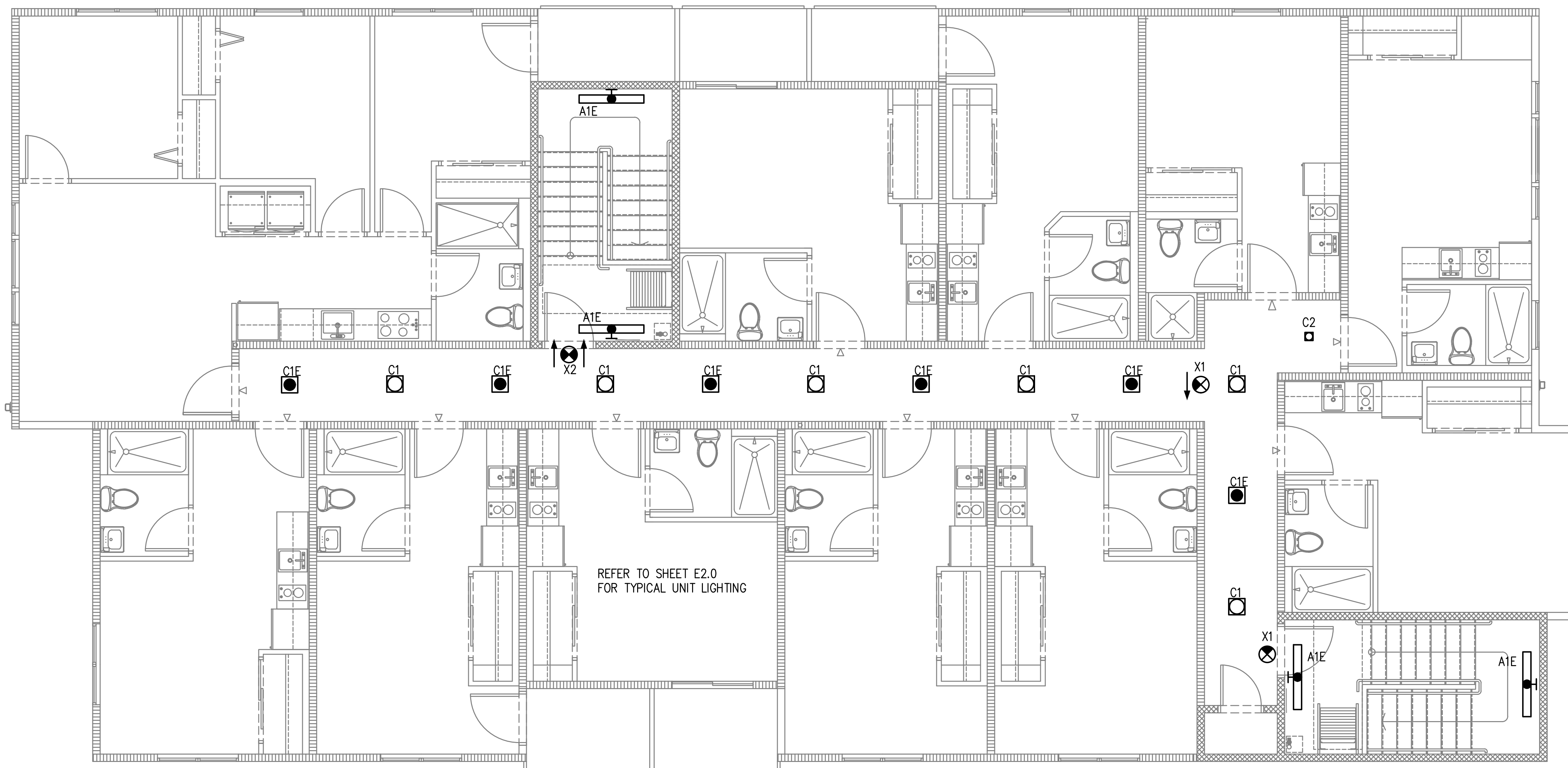
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- B. THE ELECTRICAL CONTRACTOR SHALL REFER TO THE ARCHITECTURAL DRAWINGS FOR ALL MOUNTING HEIGHTS AND FINISHES OF DEVICES AND FIXTURES.
- C. REFER TO SHEET E1.3 FOR TYPICAL UNIT LOAD CENTER DIRECTORIES.
- D. ALL LIGHT SWITCHES SHALL BE ROCKER STYLE, SUCH AS LEVITON DECORA, OR APPROVED EQUAL.
- E. REFER TO E3 SERIES SHEETS FOR TYPICAL UNIT POWER PLANS.
- F. THE ELECTRICAL CONTRACTOR SHALL REFER TO THE MECHANICAL PLAN SHEETS AND COORDINATE WITH THE MECHANICAL INSTALLER TO AVOID CONFLICTS BETWEEN HVAC EQUIPMENT AND LIGHT FIXTURES WITHIN THE APARTMENT UNITS.

**KEYED NOTES:**

- 1. REFER TO E1.21 FOR TYPICAL BATHROOM SWITCHING DIAGRAM.
- 2. PROVIDE BLOCKING ABOVE CEILING TO SUPPORT A MINIMUM OF 35LBS. FOR FUTURE CEILING FAN. CONSULT OWNER TO DETERMINE IF A J-BOX WITH BLANK PLATE IS TO BE PROVIDED IN LIEU OF A CEILING LIGHT.



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1 FOURTH FLOOR LIGHTING PLAN  
E2.04 SCALE: 1/8" = 1'-0"

**GENERAL NOTES:**

- ELECTRICAL DRAWINGS ARE DIAGRAMMATICAL AND MAY NOT ACCURATELY REFLECT ACTUAL CONSTRUCTION CONDITIONS. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE INSTALLATION OF ALL ELECTRICAL EQUIPMENT, WITH ALL TRADES PRIOR TO AND DURING CONSTRUCTION.
- THE ELECTRICAL CONTRACTOR SHALL REFER TO THE ARCHITECTURAL DRAWINGS FOR ALL MOUNTING HEIGHTS AND FINISHES OF DEVICES AND FIXTURES.
- REFER TO SHEET E1.3 FOR TYPICAL UNIT LOAD CENTER DIRECTORIES.
- ALL LIGHT SWITCHES SHALL BE ROCKER STYLE, SUCH AS LEVITON DECORA, OR APPROVED EQUAL.
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- THE ELECTRICAL CONTRACTOR SHALL REFER TO THE MECHANICAL PLAN SHEETS AND COORDINATE WITH THE MECHANICAL INSTALLER TO AVOID CONFLICTS BETWEEN HVAC EQUIPMENT AND LIGHT FIXTURES WITHIN THE APARTMENT UNITS.

**KEYED NOTES:**

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- PROVIDE BLOCKING ABOVE CEILING TO SUPPORT A MINIMUM OF 35LBS. FOR FUTURE CEILING FAN. CONSULT OWNER TO DETERMINE IF A J-BOX WITH BLANK PLATE IS TO BE PROVIDED IN LIEU OF A CEILING LIGHT.

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**WILLIS APARTMENTS**  
RYSTADT  
1603 N WILLIS BLVD  
PORTLAND OREGON  
FOURTH FLOOR LIGHTING PLAN



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PORTLAND OREGON  
BASEMENT LEVEL POWER PLAN

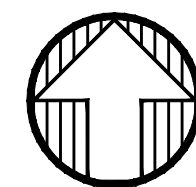
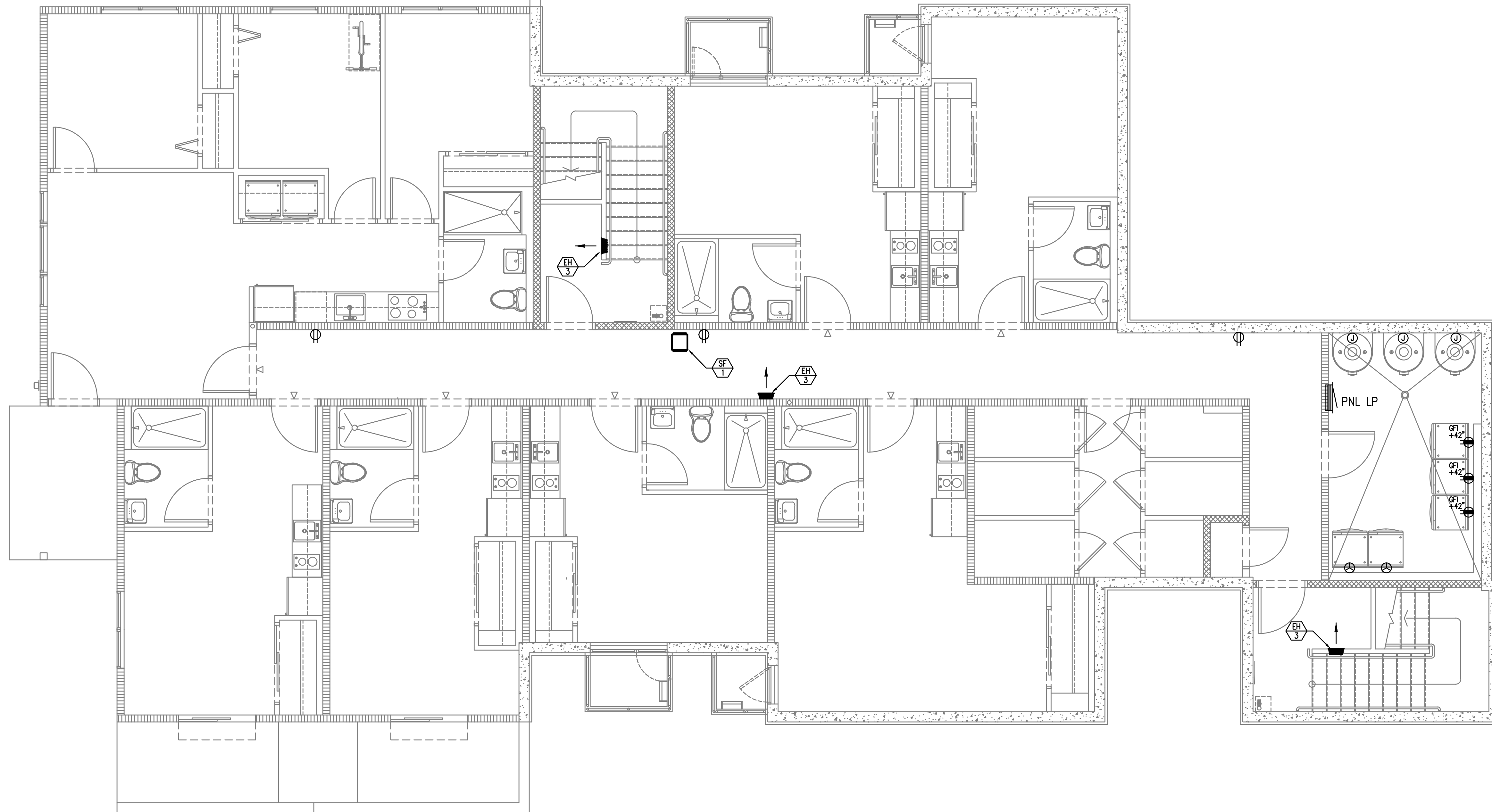


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E3.00

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1 BASEMENT LEVEL POWER PLAN  
E3.00 SCALE: 1/8" = 1'-0"

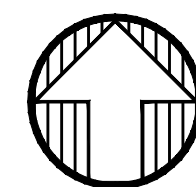
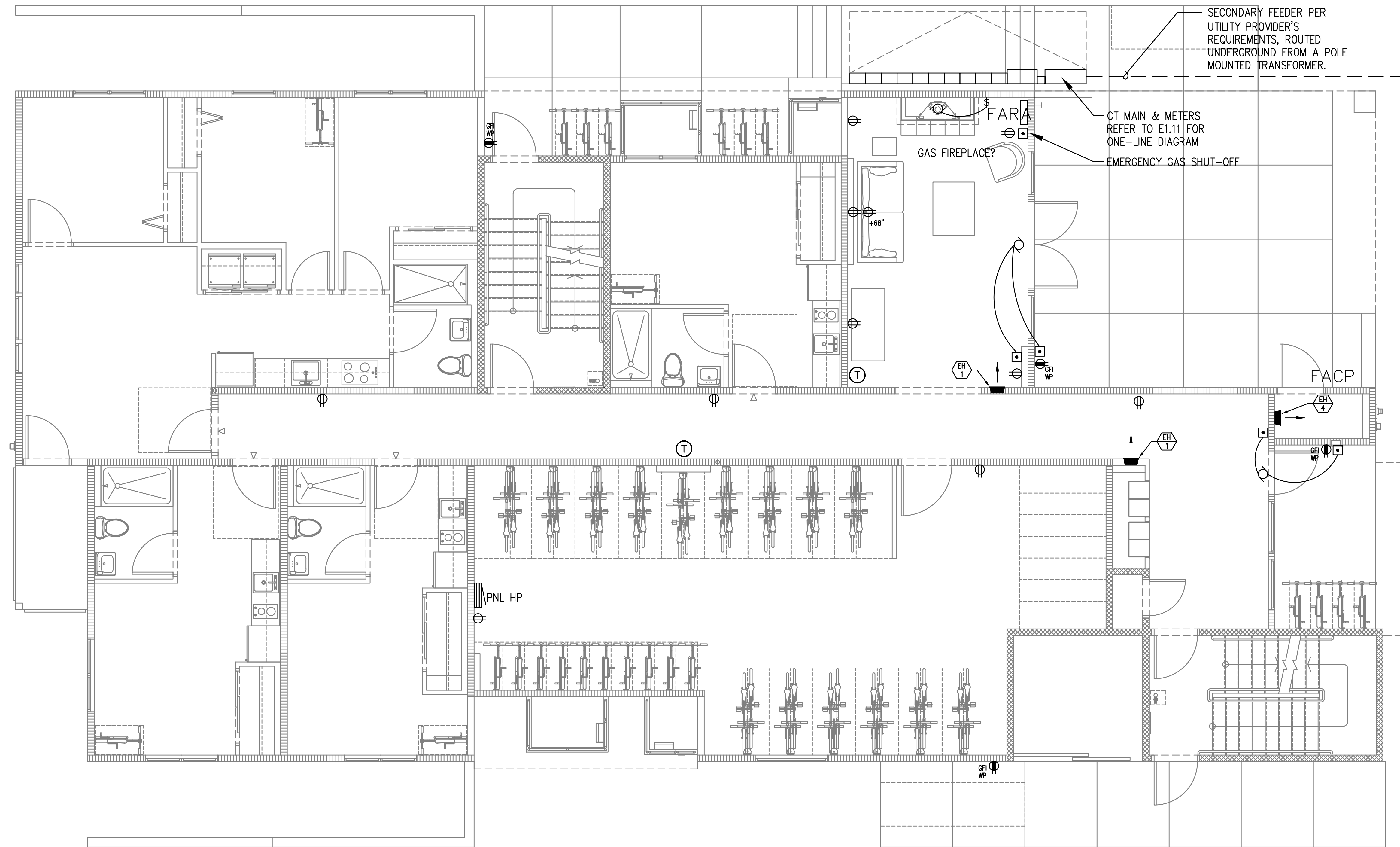
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- B. WORK SHALL BE IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND NATIONAL CODES.
- C. ELECTRICAL CONTRACTOR TO PROVIDE THERMOSTATS NOT SUPPLIED BY MECHANICAL CONTRACTOR, AS REQUIRED. CONSULT MECHANICAL PLANS FOR ADDITIONAL INFORMATION.
- D. ELECTRICAL CONTRACTOR SHALL PROVIDE INSTALLATION AND FINAL CONNECTION OF THERMOSTATS AS REQUIRED. CONSULT MECHANICAL CONTRACTOR FOR EXACT REQUIREMENTS PRIOR TO ROUGH IN.
- E. THE ELECTRICAL CONTRACTOR SHALL REFER TO THE ARCHITECTURAL DRAWINGS FOR ALL MOUNTING HEIGHTS AND FINISHES OF DEVICES AND FIXTURES.

- F. ELECTRICAL PANELS LOCATED IN PUBLIC OR UNSECURED SPACES SHALL BE PROVIDED WITH A LOCKABLE DOOR PANEL.
- G. COORDINATE WITH DIVISION 23 FOR EXACT LOCATION AND POWER REQUIREMENTS OF ALL MECHANICAL EQUIPMENT PRIOR TO ROUGH IN. REFER TO SHEET E1.12 FOR MECHANICAL EQUIPMENT SCHEDULE.
- H. SERVICE ENTRANCE AND METERING EQUIPMENT SHOWN TO APPROXIMATE SCALE, BASED ON SIEMENS PRODUCTS. CONTRACTOR SHALL BE RESPONSIBLE FOR ENDURING THAT INSTALLED EQUIPMENT FITS THE SPACE PROVIDED AND THAT ALL REQUIRED WORKING CLEARANCES ARE PROVIDED.
- I. FIRE ALARM & DETECTION SYSTEMS ARE TO BE DESIGNED AND INSTALLED BY OTHERS. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE FIRE ALARM SYSTEM DESIGNER FOR EXACT LOCATIONS AND PROVIDE ROUGH IN ONLY.
- J. ANY LOW VOLTAGE TELECOM DEVICES SHOWN ARE STRICTLY DIAGRAMMATICAL AND SHOWN FOR REFERENCE ONLY. LOW VOLTAGE SYSTEMS ARE TO BE DESIGNED AND INSTALLED BY OTHERS. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE SERVICE PROVIDER FOR EXACT LOCATIONS AND PROVIDE ROUGH IN ONLY.

KEYED NOTES:

- 1. BATHROOM EXHAUST FAN CONTROLLED VIA LIGHT SWITCHES. REFER TO TYPICAL UNIT LIGHTING PLANS ON E2 SERIES SHEETS.
- 2. PROVIDE POWER CONNECTION FOR THERMOSTAT. COORDINATE INSTALLATION WITH MECHANICAL EQUIPMENT INSTALLER.
- 3. PROVIDE ONE 15A, 120V DUPLEX RECEPTACLE, MOUNTED UNDER KITCHEN SINK FOR FUTURE GARBAGE DISPOSAL BY OWNER. CIRCUIT AS INDICATED.
- 4. 'SMART PANEL' PER UTILITY REQUIREMENTS, NON-METALLIC, 42"H x 14"W, WITH POWER OUTLET.
- 5. POWER CONNECTION FOR TOE KICK HEATER. COORDINATE INSTALLATION REQUIREMENTS WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH IN.



**1** FIRST FLOOR POWER PLAN  
 E3.01 SCALE: 1/8" = 1'-0"

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- 3. PROVIDE ONE 15A, 120V DUPLEX RECEPTACLE, MOUNTED UNDER KITCHEN SINK FOR FUTURE GARBAGE DISPOSAL BY OWNER. CIRCUIT AS INDICATED.
- 4. 'SMART PANEL' PER UTILITY REQUIREMENTS, NON-METALLIC, 42"H x 14"W, WITH POWER OUTLET.
- 5. POWER CONNECTION FOR TOE KICK HEATER. COORDINATE INSTALLATION REQUIREMENTS WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH IN.

PRELIMINARY  
 NOT FOR  
 CONSTRUCTION

Date:	10-16-2020
Proj No:	10088
Drawn By:	DMT
Chkd By:	RLC
DSGN By:	DMT
Acad File:	

**WILLIS APARTMENTS**  
 RYSTADT  
 1603 N WILLIS BLVD  
 PORTLAND OREGON  
 FIRST FLOOR POWER PLAN



Consulting Engineers  
 2007 S.E. Ash St.  
 Portland, OR 97214  
 PHN: (503) 234-0548  
 FAX: (503) 234-0677  
 WWW.MFA-ENG.COM

SHEET  
**E3.01**  
 OF \*\*\*\*



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CONSTRUCTION

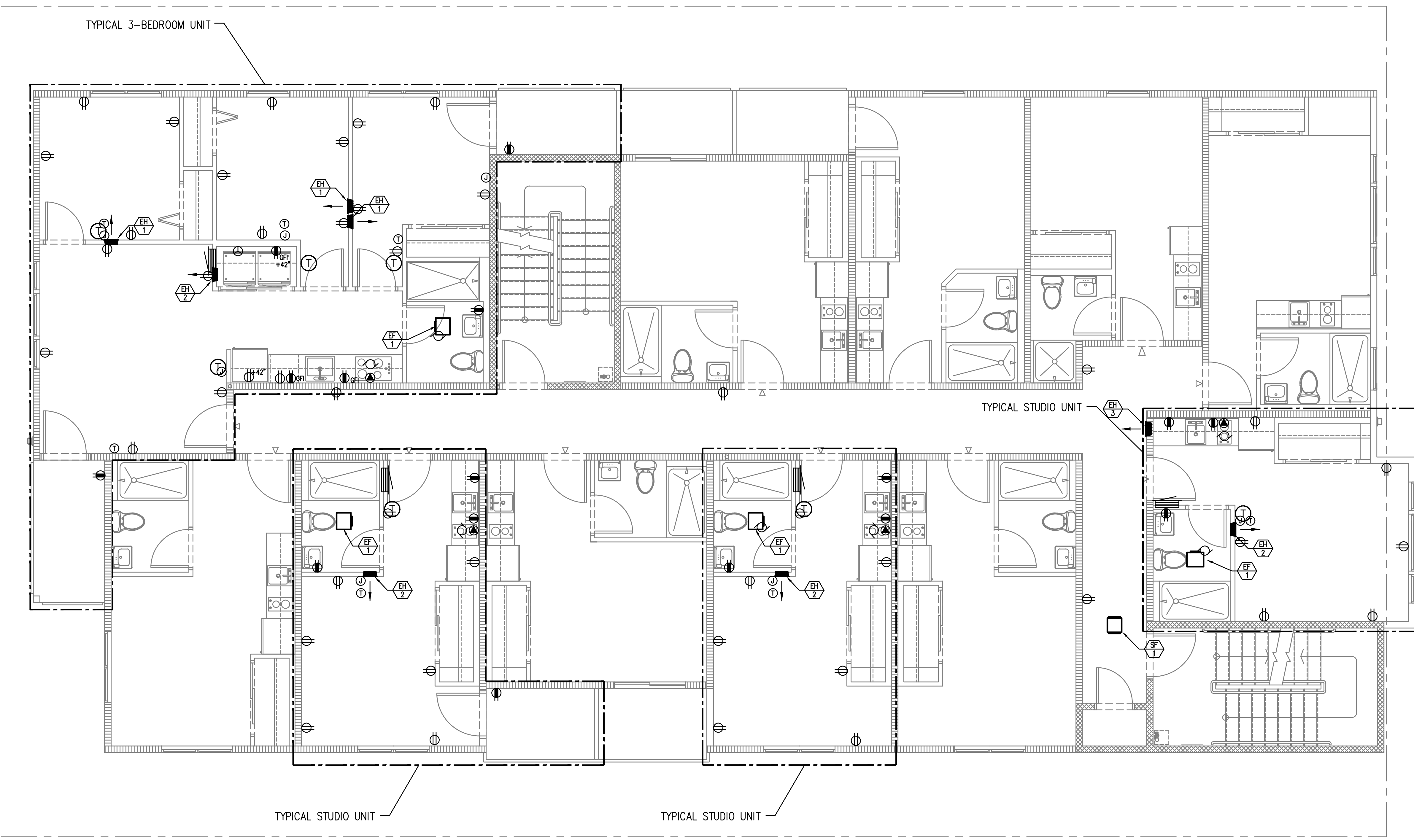
Date: 10-16-2020  
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WILLIS APARTMENTS  
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SHEET  
**E3.02**  
 OF \*\*\*\*



**1** SECOND FLOOR POWER PLAN  
 E3.02 SCALE: 1/8" = 1'-0"

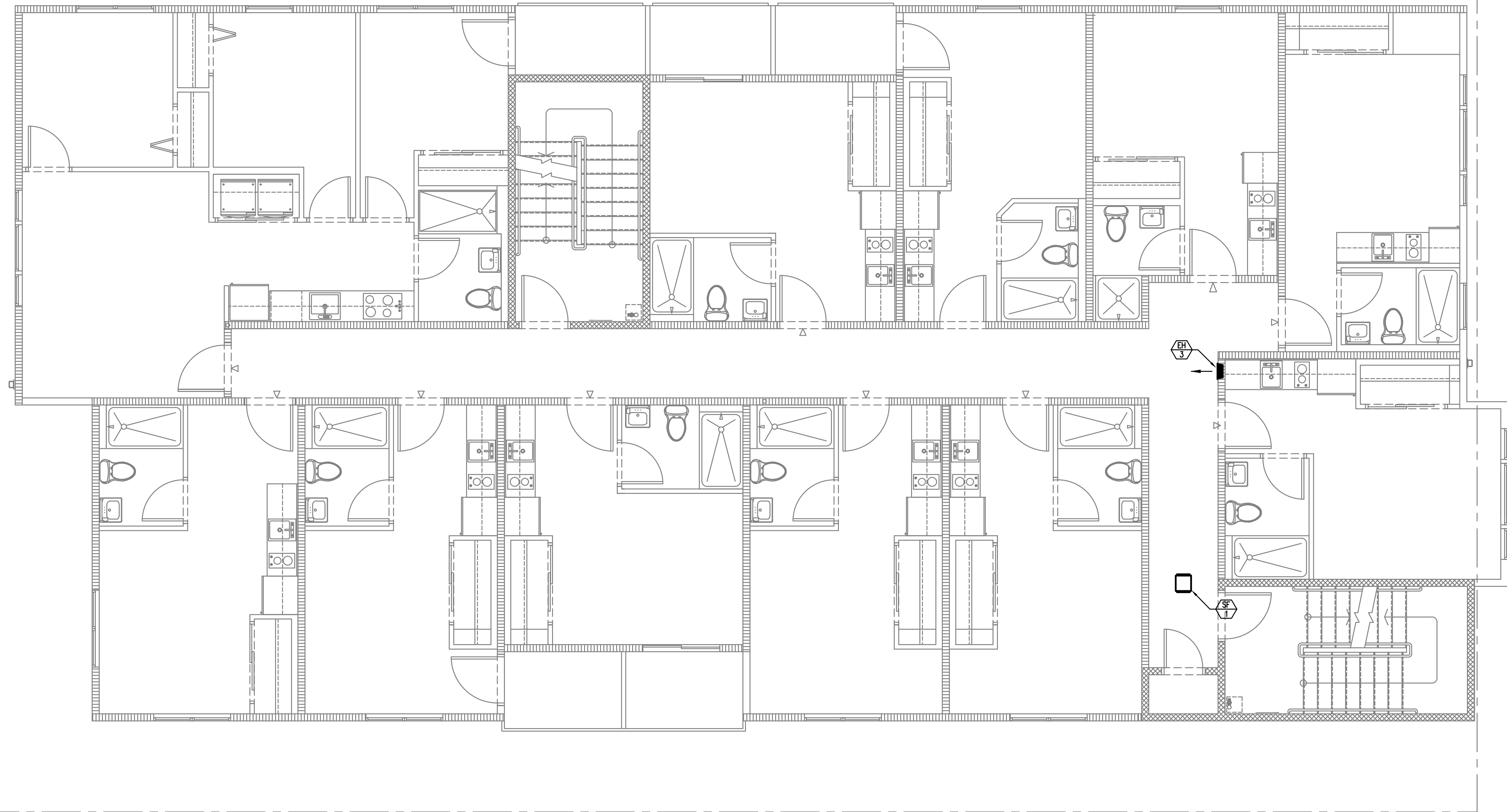
**GENERAL NOTES:**

- A. ELECTRICAL DRAWINGS ARE DIAGRAMMATICAL AND MAY NOT ACCURATELY REFLECT ACTUAL CONSTRUCTION CONDITIONS. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE INSTALLATION OF ALL ELECTRICAL EQUIPMENT, WITH ALL TRADES PRIOR TO AND DURING CONSTRUCTION.
- B. WORK SHALL BE IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND NATIONAL CODES.
- C. ELECTRICAL CONTRACTOR TO PROVIDE THERMOSTATS NOT SUPPLIED BY MECHANICAL CONTRACTOR, AS REQUIRED. CONSULT MECHANICAL PLANS FOR ADDITIONAL INFORMATION.
- D. ELECTRICAL CONTRACTOR SHALL PROVIDE INSTALLATION AND FINAL CONNECTION OF THERMOSTATS AS REQUIRED. CONSULT MECHANICAL CONTRACTOR FOR EXACT REQUIREMENTS PRIOR TO ROUGH IN.
- E. THE ELECTRICAL CONTRACTOR SHALL REFER TO THE ARCHITECTURAL DRAWINGS FOR ALL MOUNTING HEIGHTS AND FINISHES OF DEVICES AND FIXTURES.
- F. ELECTRICAL PANELS LOCATED IN PUBLIC OR UNSECURED SPACES SHALL BE PROVIDED WITH A LOCKABLE DOOR PANEL.
- G. COORDINATE WITH DIVISION 23 FOR EXACT LOCATION AND POWER REQUIREMENTS OF ALL MECHANICAL EQUIPMENT PRIOR TO ROUGH IN. REFER TO SHEET E1.12 FOR MECHANICAL EQUIPMENT SCHEDULE.
- H. SERVICE ENTRANCE AND METERING EQUIPMENT SHOWN TO APPROXIMATE SCALE, BASED ON SIEMENS PRODUCTS. CONTRACTOR SHALL BE RESPONSIBLE FOR ENDURING THAT INSTALLED EQUIPMENT FITS THE SPACE PROVIDED AND THAT ALL REQUIRED WORKING CLEARANCES ARE PROVIDED.
- I. FIRE ALARM & DETECTION SYSTEMS ARE TO BE DESIGNED AND INSTALLED BY OTHERS. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE FIRE ALARM SYSTEM DESIGNER FOR EXACT LOCATIONS AND PROVIDE ROUGH IN ONLY.
- J. ANY LOW VOLTAGE TELECOM DEVICES SHOWN ARE STRICTLY DIAGRAMMATIC AND SHOWN FOR REFERENCE ONLY. LOW VOLTAGE SYSTEMS ARE TO BE DESIGNED AND INSTALLED BY OTHERS. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE SERVICE PROVIDER FOR EXACT LOCATIONS AND PROVIDE ROUGH IN ONLY.

**KEYED NOTES:**

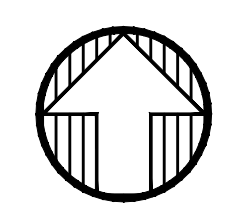
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**WILLIS APARTMENTS**  
RYSTADT  
1603 N WILLIS BLVD  
PORTLAND OREGON  
THIRD FLOOR POWER PLAN



**1** THIRD FLOOR POWER PLAN  
E3.03 SCALE: 1/8" = 1'-0"

**GENERAL NOTES:**

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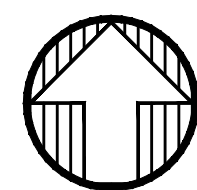
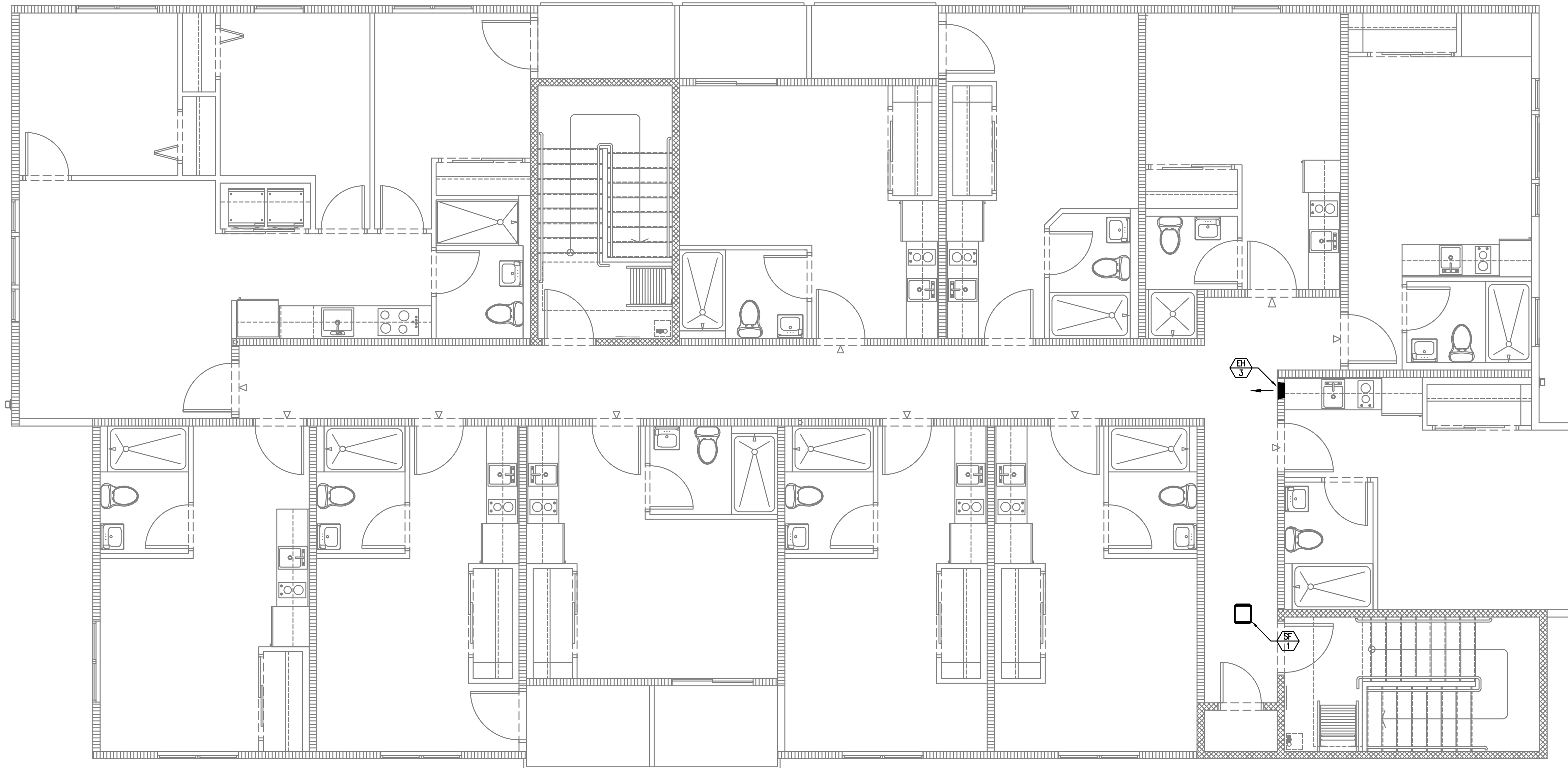
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Consulting Engineers  
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Portland, OR 97214  
PHN: (503) 234-0548  
FAX: (503) 234-0677  
WWW.MFIA-ENG.COM

SHEET  
**E3.03**  
OF \*\*\*\*





1 FOURTH FLOOR POWER PLAN  
 E3.04 SCALE: 1/8" = 1'-0"

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**WILLIS APARTMENTS**  
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 FOURTH FLOOR POWER PLAN



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 Portland, OR 97214  
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