MECHANICAL AND ELECTRICAL SYMBOLS AND ABBREVIATIONS

A

ABOVE FINISH FLOOR	AFF
ABOVE FINISH GRADE	AFG
ACRYLONITRILE BUTADIENE STYRENE PIPE	ABS
AIR CONDITIONING	A/C
AIR HANDLING UNIT	AHU
ALTERNATING CURRENT	AC
ALUMINUM	AL
AMERICAN NATIONAL STANDARDS INSTITUTE	ANSI
AMERICAN SOCIETY OF MECHANICAL ENGINEERS	ASME
AMERICAN WIRE GAUGE	AWG
AMERICANS WITH DISABILITIES ACT	ADA
AMPERE	AMP or A
ANALOG INPUT	AI
ANALOG OUTPUT	AO
ARCHITECT or ARCHITECTURAL	ARCH
AUTHORITY HAVING JURISDICTION	AHJ
AUTOMATIC TRANSFORMER SWITCH	ATS

B

BELOW CEILING	BC
BELOW GRADE	BG
BINARY INPUT	BI
BINARY OUTPUT	BO
BOOT WASH	BW
BRITISH THERMAL UNIT	BTU
BTUs PER HOUR	BTUH
BUILDING	BLDG

C

CABLE TELEVISION	CATV
CAPACITY	CAP
CATEGORY	CAT
CEILING MOUNT	CLG
CELSIUS	C
CHILLED WATER	CHW
CHILLED WATER RETURN	CHWR
CHILLED WATER SUPPLY	CHWS
CIRCUIT BREAKER	CB
CLEANOUT	CO
CLOTHES WASHER CONNECTION BOX	CCB
COLD WATER (DOMESTIC)	CW
COMMON	C
CONCRETE	CONC
CONDENSING UNIT	CU
CONDUIT	C
CONDUIT ONLY (WITH PULL STRING)	CO
COPPER	CU
COUNTER TOP	CT
CROSS-LINKED POLYETHYLENE PIPE	PEX
CUBIC FEET PER MINUTE	CFM
CUBIC YARD	CU YD

D

DEPTH or DEEP	D
DIRECT CURRENT	DC
DIRECT DIGITAL CONTROL	DDC
DIRECT EXPANSION	DX
DISCONNECT SWITCH	DS
DISH WASHER	DW
DRINKING FOUNTAIN	DF
DRY BULB	DB

E

ELECTRIC or ELECTRICAL	E or ELEC
ELECTRIC WATER COOLER	EWC
ELECTRIC HEATER	EH
ELECTRICAL CONTRACTOR	EC
ELECTRICAL METALLIC TUBING	EMT
ENTERING AIR TEMPERATURE	EAT
ENTERING WATER TEMPERATURE	EWT
EQUIPMENT	EQUIP
EXHAUST	EXH
EXHAUST AIR	EA
EXHAUST FAN	EF
EXHAUST GRILLE	EG
EXISTING	EXIST
EXISTING TO REMAIN	ETR
EXTERNAL STATIC PRESSURE	ESP

F

FAHRENHEIT	F
FAN COIL UNIT	FCU
FEET	FT
FEET PER MINUTE	FPM
FIBER OPTIC CABEL	FOC
FINISH FLOOR CLEAN OUT	FFCO
FINISH GRADE	FG
FINISH GRADE CLEAN OUT	FGCO
FIRE ALARM	FA
FLEXIBLE METALLIC CONDUIT	FMC
FLOOR DRAIN	FD
FLOOR SINK	FS

G

GALLON	GAL
GALLONS PER FLUSH	GPF
GALLONS PER HOUR	GPH
GALLONS PER MINUTE	GPM
GALVANIZED RIGID STEEL CONDUIT	GRC
GAS	G
GAUGE	GA
GENERAL CONTRACTOR	GC
GLOBAL POSITIONING SYSTEM	GPS
GOVERNMENT FURNISHED/CONTRACTOR INSTALLED	GFCI
GOVERNMENT FURNISHED/GOVERNMENT INSTALLED	GFGI
GROUNDING ELECTRODE CONDUCTOR	GEC
GROUNDING (BONDING) CONDUCTOR	G
GROUND FAULT CIRCUIT INTERRUPTER	GFI
GROUND FAULT PROTECTION FOR EQUIPMENT	GFPE

H

HANDHOLE	HH
HEATING	HTG
HEATING WATER RETURN	HR
HEATING WATER SUPPLY	HS
HIGH DENSITY POLYETHYLENE CONDUIT	HDPE
HORSEPOWER	HP
HOT GAS RE-HEAT	HGRH
HOT WATER (DOMESTIC)	HW
HOT WATER HEATER	HWH
HOT WATER PUMP	HWP
HOT WATER RECIRC. (DOMESTIC)	HWR
HOUR	HR

K

KELVIN	K
KILOWATT	KW

L

LAUNDRY TUB	LT
LAVATORY	LAV
LEAVING AIR TEMPERATURE	LAT
LEAVING WATER TEMPERATURE	LWT
LIGHTING	LTG
LIQUIDTIGHT FLEXIBLE METAL CONDUIT	LFMC

M

KCMIL (THOUSAND CIRCULAR MILLS)	MCM
MAIN CIRCUIT BREAKER	MCB
MAIN LUG ONLY	MLO
MANHOLE	MH
MANUFACTURER	MANUF
MAXIMUM	MAX
MAXIMUM OVERCURRENT PROTECTION	MOCP
MECHANICAL CONTRACTOR	MC
MINIMUM	MIN
MINIMUM CIRCUIT AMPACITY	MCA
NEMA RATED MOTOR STARTER	MS
MOUNTED	MTD
MULTIMODE	MM

N

NATIONAL ELECTRICAL CODE (NFPA 70)	NEC
NATIONAL ELECTRICAL MANUFACTURER'S ASSOC.	NEMA
NATIONAL FIRE PROTECTION ASSOCIATION	NFPA
NATIONALLY RECOGNIZED TESTING LABORATORY	NRTL
NATURAL GAS	G or NAT GAS
NEUTRAL (GROUNDED) CONDUCTOR	N
NOMINAL	NOM
NON FUSED	NF
NORMALLY CLOSED	NC
NORMALLY OPEN	NO
NORTH	N
NOT APPLICABLE	N/A
NOT TO SCALE	NTS

O

ON CENTER	O.C.
OUTDOOR AIR	OA
OUTSIDE DIAMETER	OD
OUTSIDE PLANT CABLE	OSP
OVERHEAD	OH

P

PASSIVE INFRARED	PIR
PHASE	PH OR Ø
POLYVINYL CHLORIDE	PVC
POLYVINYL CHLORIDE CONDUIT	PVC
POUNDS	LBS
POUNDS PER SQUARE INCH	PSI
PRESSURE REDUCING VALVE	PRV
PULL BOX	PB

R

RECEPTACLE	RCPT
REQUIRED	REQ'D
RETURN AIR	RA
RETURN GRILLE	RG
ROOF TOP UNIT	RTU
REVOLUTIONS PER MINUTE	RPM

S

SENSIBLE	SENS
SERVICE ENTRANCE SWITCHBOARD	SES
SERVICE SINK	SS
SHOWER	SH
SINGLE MODE	SM
SINGLE POLE, DOUBLE THROW	SPDT
SPECIFICATIONS	SPEC
SQUARE FEET	SQ FT or SF
STRAND	ST
SUPPLY AIR	SA
SUPPLY DIFFUSER	SD
SURGE PROTECTION DEVICE	SPD

T

TAMPERPROOF ENCLOSURE	TP
TELECOMMUNICATIONS ROOM	TR
TELEPHONE	T
TELEVISION	TV
TEMPERATURE (CHANGE IN)	TEMP (ΔT)
TEMPERATURE/PRESSURE	T/P
TEMPERATURE CONTROL CONTRACTOR	TC
THOUSAND BTUs PER HOUR	MBH
TOTAL	TOT
TRANSIENT VOLTAGE SURGE SUPPRESSION	TVSS
TYPICAL	TYP

U

UNDERGROUND	UG
UNDERWRITERS LABRATORIES	UL
UNINTERRUPTIBLE POWER SUPPLY	UPS
UNLESS NOTED OTHERWISE	UNO
UNSHIELDED TWISTED PAIR	UTP

V

VENT BELOW SLAB	VBS
VENT THROUGH ROOF	VTR
VENTILATION FAN	VF
VOLT-AMPERES	VA
VOLTS	V
VOLTS ALTERNATING CURRENT	VAC

W

WALL HYDRANT	WH
WASH TUB	WT
WATER CLOSET	WC
WATER COLUMN (in inches)	"WC
WATER SERVICE	W
WATT(S)	W
WEATHERPROOF ENCLOSURE	WP
WET BULB	WB
WIRE WAY	WW
WITH	W/

X

TRANSFORMER	XFMR

PLUMBING SYMBOLS

- PIPE TURNING UP
- PIPE TURNING DOWN
- D — CONDENSATE DRAIN LINE
- SANITARY DRAIN BELOW GRADE
- GR — GREASE SANITARY DRAIN BELOW GRADE
- SANITARY DRAIN ABOVE GRADE
- SANITARY VENT
- DOMESTIC COLD WATER
- DOMESTIC HOT WATER
- DOMESTIC HOT WATER RECIRC
- TEMPERED DOMESTIC WATER
- W — WATER SERVICE PIPING
- FP — FIRE PROTECTION PIPING
- G — NATURAL GAS
- UNION
- BALL VALVE
- CHECK VALVE
- GATE VALVE
- BUTTERFLY VALVE
- STRAINER
- THERMOMETER
- GAUGE
- TEST PORT
- FLOW CONTROL VALVE
- GAS COCK
- SOLENOID VALVE
- PRESSURE REDUCING VALVE
- R — NATURAL GAS REGULATOR

SYMBOL MODIFICATION DESIGNATORS/ABBREVIATIONS

OA	OUTDOOR AIR
RA	RETURN AIR
SA	SUPPLY AIR
DDC	DIRECT DIGITAL CONTROL
MC	MECHANICAL CONTRACTOR
TC	TEMPERATURE CONTROL CONTRACTOR
EC	ELECTRICAL CONTRACTOR
GC	GENERAL CONTRACTOR
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
BG	BELOW GRADE
FG	FINISHED GRADE
FFCO	FINISH FLOOR CLEAN OUT
FWCO	FINISH WALL CLEAN OUT
FGCO	FINISH GRADE CLEAN OUT
UNO	UNLESS NOTED OTHERWISE

GENERAL SYMBOLS

- DETAIL REFERENCE
- # — DETAIL NUMBER
- ## — SHEET NUMBER
- ELEVATION REFERENCE
- # — DETAIL NUMBER
- ## — SHEET NUMBER
- SECTION CUT
- # — DETAIL NUMBER
- ## — SHEET NUMBER
- # — KEYED PLAN NOTE
- # — REVISION NOTE
- ELEVATION
- CONNECT TO EXISTING. FIELD VERIFY LOCATION & MATERIAL OF EXISTING

POWER SYMBOLS

- SINGLE RECEPTACLE
- DUPLEX RECEPTACLE
- SPLIT CONTROLLED DUPLEX RECEPTACLE
- DOUBLE DUPLEX RECEPTACLE
- # — SPECIAL RECEPTACLE (# = NEMA CONFIGURATION)
- FLUSH FLOOR DUPLEX RECEPTACLE
- S — SINGLE POLE WALL SWITCH
- S_2 — TWO POLE WALL SWITCH
- S_3 — THREE WAY WALL SWITCH
- S_K — KEYED WALL SWITCH
- S_{DT} — SINGLE POLE, DOUBLE THROW (SPDT) SWITCH (CENTER OFF)
- S_m — MOTOR HP RATED SWITCH WITHOUT OVERLOAD PROTECTION
- S_T — MECHANICAL DIAL TIMER WALL SWITCH
- S_{OS} — LINE VOLTAGE OCCUPANCY SENSING WALL SWITCH
- S_{OS2} — DUAL RELAY LINE VOLTAGE OCCUPANCY SENSING WALL SWITCH
- OS — LOW VOLTAGE OCCUPANCY SENSOR
- PP — POWER PACK FOR LOW VOLTAGE OCCUPANCY SENSORS
- LC — LIGHTING CONTACTOR
- P — EXTERIOR PHOTOCELL
- C — CONTACTOR
- PUSH BUTTON OPERATOR
- TR — CLASS 2 TRANSFORMER POWER SUPPLY
- HS — DOOR ANNUNCIATOR A/V HORN STROBE
- J — JUNCTION BOX
- MOTOR
- M — MOTORIZED DAMPER
- DISCONNECT SWITCH
- BRANCH CIRCUIT PANELBOARD
- SWITCHBOARD

MECHANICAL SYMBOLS

- T — THERMOSTAT
- T — TEMPERATURE SENSOR
- CONTROL CABLE, VERIFY TYPE WITH EQUIPMENT MANUFACTURER
- SQUARE SUPPLY DIFFUSER - TYPE AND AIRFLOW INDICATED
- SQUARE RETURN GRILLE - TYPE INDICATED
- WALL DIFFUSER
- GRILLE/DIFFUSER TAG
  - TOP: DEVICE TAG (SEE SCHEDULE)
  - MIDDLE: NECK SIZE
  - BOTTOM: AIRFLOW
- MANUAL BALANCING DAMPER
- RECTANGULAR RETURN OR RELIEF AIR DUCT UP
- RECTANGULAR RETURN OR RELIEF AIR DUCT UP
- RECTANGULAR SUPPLY AIR DUCT UP
- RECTANGULAR SUPPLY AIR DUCT DOWN
- RECTANGULAR RETURN OR EXHAUST AIR DUCT DOWN
- ROUND DUCT UP
- ROUND DUCT DOWN
- FLEXIBLE DUCTWORK - MAX 5'
- RIGID DUCT RUNOUT
- 90° ELBOW WITH TURNING VANES
- FIRE/SMOKE DAMPER
- FIRE DAMPER

FIRE ALARM DEVICE MOUNTING

1. VISUAL UNIT
   DEVICE BOTTOM 80" ABOVE HIGHEST FLOOR LEVEL OR TOP 6" BELOW CEILING; WHICHEVER IS LOWER (PER ADA)
2. AUDIO UNIT
   DEVICE BOTTOM 80" ABOVE HIGHEST FLOOR LEVEL OR TOP 6" BELOW CEILING; WHICHEVER IS LOWER (PER ADA)

   * TOP OF UNIT NOT LESS THAN 90" ABOVE FLOOR AND NOT LESS THAN 6" BELOW CEILING (NFPA) (BOTTOM AT 88" WITH CMU COURSES). MOUNT AT NFPA HEIGHT ONLY IF REQUIRED BY LOCAL AHJ.
3. AUDIO/VISUAL UNIT
   DEVICE BOTTOM 80" ABOVE HIGHEST FLOOR LEVEL OR TOP 6" BELOW CEILING; WHICHEVER IS LOWER (PER ADA)
4. PULL STATION
   HIGHEST OPERABLE PART SHALL NOT BE MORE THAN 48" ABOVE THE FLOOR (FRONT APPROACH) (PER ADA)

CIRCUIT AND RACEWAY SYMBOLS

- CIRCUIT DESIGNATION:
  - ## — TOP INDICATES PANEL OF CIRCUIT ORIGIN
  - ## — BOTTOM INDICATES CIRCUIT NUMBER
- HOMERUN - WIRING TO PANEL OF CIRCUIT ORIGIN
- PARTIAL HOMERUN - WIRING TO PANEL OF CIRCUIT ORIGIN
- CONDUIT CONCEALED IN WALL OR ABOVE CEILING
- CONDUIT BELOW GRADE OR EMBEDDED IN CONCRETE
- LINE VOLTAGE CIRCUIT CONDUCTORS
  - SHORT = HOT/TRACER/SWITCH LEG CONDUCTOR
  - LONG = NEUTRAL (GROUNDED) CONDUCTOR
  - CURVED = GROUNDING (BONDING) CONDUCTOR
- CONDUIT STUB OUT WITH NYLON END BUSHING
- CONDUIT TURNED UP
- CONDUIT TURNED DOWN
- GROUNDING CONNECTION

LIGHTING SYMBOLS

- STATIC LED TROFFER
- PENDANT OR SURFACE MOUNTED LINEAR LUMINAIRE
- LED STRIP LIGHT
- SURFACE MOUNTED ROUND LIGHT
- RECESSED DOWNLIGHT
- WALL MOUNTED LUMINAIRE
- DECORATIVE PENDANT
- SINGLE FACE EXIT SIGN - WALL AND CEILING MOUNTED WITH DIRECTIONAL ARROWS AS INDICATED ON PLANS
- DOUBLE FACE EXIT SIGN - WALL AND CEILING MOUNTED WITH DIRECTIONAL ARROWS AS INDICATED ON PLANS
- REMOTE EMERGENCY LIGHTING UNIT

SITE ELECTRICAL SYMBOLS

- UNDERGROUND ELECTRICAL SERVICE LATERAL
- E UG — UNDERGROUND ELECTRICAL PRIMARY
- T UG — UNDERGROUND TELEPHONE SERVICE
- TV UG — UNDERGROUND CATV SERVICE
- POLE MOUNTED AREA LIGHT
- GRADE MOUNTED LIGHT
- RECESSED DOWNLIGHT/FLAG UPLIGHT
- POWER COMPANY PAD MOUNTED UTILITY TRANSFORMER
- POWER COMPANY UTILITY POLE

TELECOMMUNICATIONS SYMBOLS

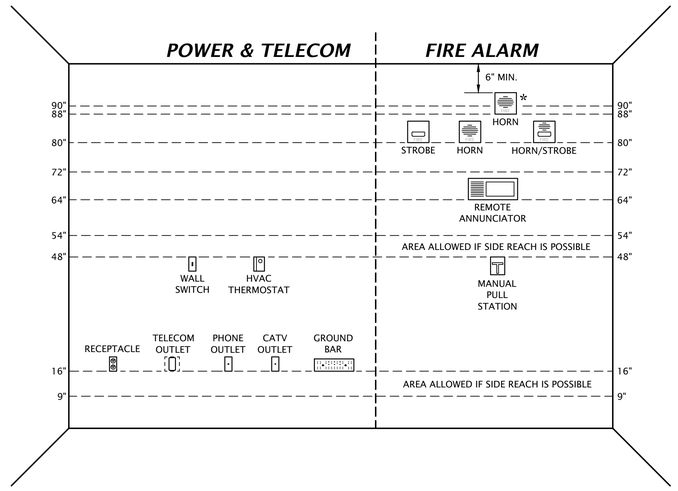
- APARTMENT PHONE OUTLET
- TELECOMMUNICATIONS OUTLET
- APARTMENT CATV OUTLET
- TELEPHONE TERMINAL BOARD

FIRE ALARM SYMBOLS

- FACP — FIRE ALARM CONTROL PANEL
- FAAN — FIRE ALARM REMOTE ANNUNCIATOR PANEL
- P — MANUAL PULL STATION
- HEAT DETECTOR
- SMOKE DETECTOR
- AM — ADDRESSABLE MONITORING MODULE
- NOTIFICATION HORN APPLIANCE
- m — MINIATURE NOTIFICATION HORN APPLIANCE
- LF — LOW FREQUENCY NOTIFICATION HORN APPLIANCE
- NOTIFICATION STROBE APPLIANCE
- NOTIFICATION HORN/STROBE APPLIANCE
- LF — NOTIFICATION LOW FREQUENCY SOUNDER/STROBE APPLIANCE
- R — FIRE ALARM RELAY
- ELECTROMAGNETIC DOOR HOLDER
- SMOKE DAMPER OR COMBINATION FIRE/SMOKE DAMPER
- FIRE SPRINKLER FLOW SWITCH
- FIRE SPRINKLER TAMPER SWITCH
- FIRE SPRINKLER BELL/GONG OR HORN/STROBE
- 120V COMBINATION CO/SMOKE ALARM

SYMBOL MODIFYING DESIGNATORS

CLG	CEILING MOUNTED • FLUSH MOUNTED IN SUSPENDED OR HARD CEILINGS • SURFACE MOUNTED TO STRUCTURE ABOVE IN OPEN CEILINGS
CT	MOUNT BOTTOM OF DEVICE AT 6" ABOVE COUNTERTOP
EM	PROVIDE LUMINAIRE WITH EMERGENCY BATTERY BACKUP
GFI	GROUND FAULT CIRCUIT INTERRUPTING DEVICE
NL	NIGHTLIGHT WIRED TO UNSWITCHED HOT CONDUCTOR
WP	PROVIDE WEATHERPROOF ENCLOSURE FOR DEVICE
XX"	MOUNTING HEIGHT OF DEVICE ABOVE FINISHED FLOOR



1 ELECTRICAL DEVICE MOUNTING HEIGHTS
No Scale

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Project 22062 May 2023

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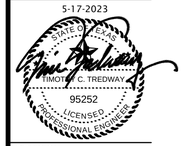
THE RESERVES at MAGNOLIA
NEW APARTMENT COMPLEX
DENTON, TEXAS

5-17-2023



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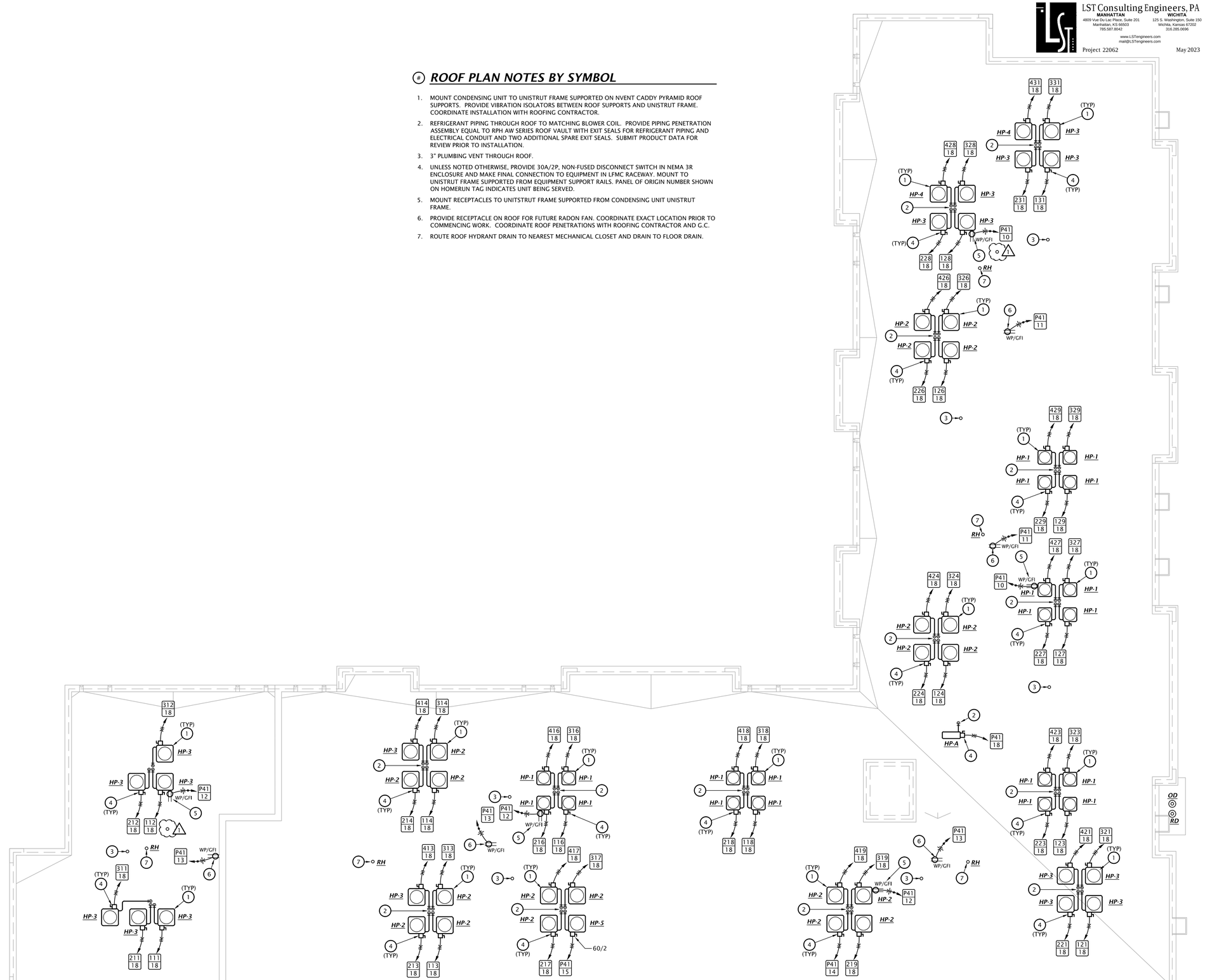
(#) ROOF PLAN NOTES BY SYMBOL

1. MOUNT CONDENSING UNIT TO UNISTRUT FRAME SUPPORTED ON NVENT CADDY PYRAMID ROOF SUPPORTS. PROVIDE VIBRATION ISOLATORS BETWEEN ROOF SUPPORTS AND UNISTRUT FRAME. COORDINATE INSTALLATION WITH ROOFING CONTRACTOR.
2. REFRIGERANT PIPING THROUGH ROOF TO MATCHING BLOWER COIL. PROVIDE PIPING PENETRATION ASSEMBLY EQUAL TO RPH AW SERIES ROOF VAULT WITH EXIT SEALS FOR REFRIGERANT PIPING AND ELECTRICAL CONDUIT AND TWO ADDITIONAL SPARE EXIT SEALS. SUBMIT PRODUCT DATA FOR REVIEW PRIOR TO INSTALLATION.
3. 3" PLUMBING VENT THROUGH ROOF.
4. UNLESS NOTED OTHERWISE, PROVIDE 30A/2P, NON-FUSED DISCONNECT SWITCH IN NEMA 3R ENCLOSURE AND MAKE FINAL CONNECTION TO EQUIPMENT IN LFMC RACEWAY. MOUNT TO UNISTRUT FRAME SUPPORTED FROM EQUIPMENT SUPPORT RAILS. PANEL OF ORIGIN NUMBER SHOWN ON HOMERUN TAG INDICATES UNIT BEING SERVED.
5. MOUNT RECEPTACLES TO UNITSTRUT FRAME SUPPORTED FROM CONDENSING UNIT UNISTRUT FRAME.
6. PROVIDE RECEPTACLE ON ROOF FOR FUTURE RADON FAN. COORDINATE EXACT LOCATION PRIOR TO COMMENCING WORK. COORDINATE ROOF PENETRATIONS WITH ROOFING CONTRACTOR AND G.C.
7. ROUTE ROOF HYDRANT DRAIN TO NEAREST MECHANICAL CLOSET AND DRAIN TO FLOOR DRAIN.



(1) M/E ROOF PLAN
1/8" = 1'-0"

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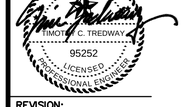

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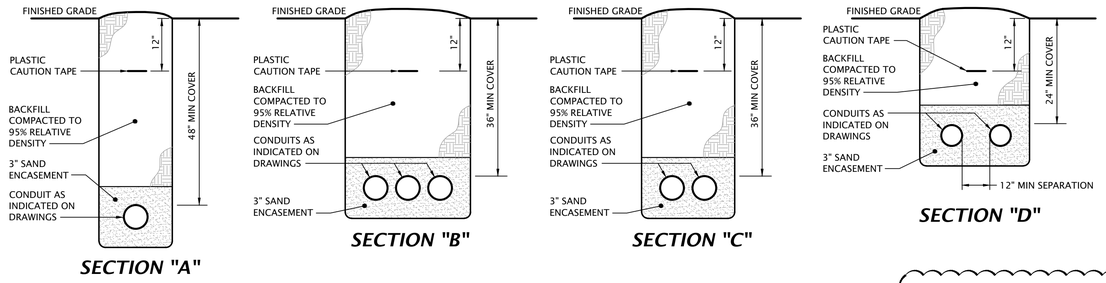
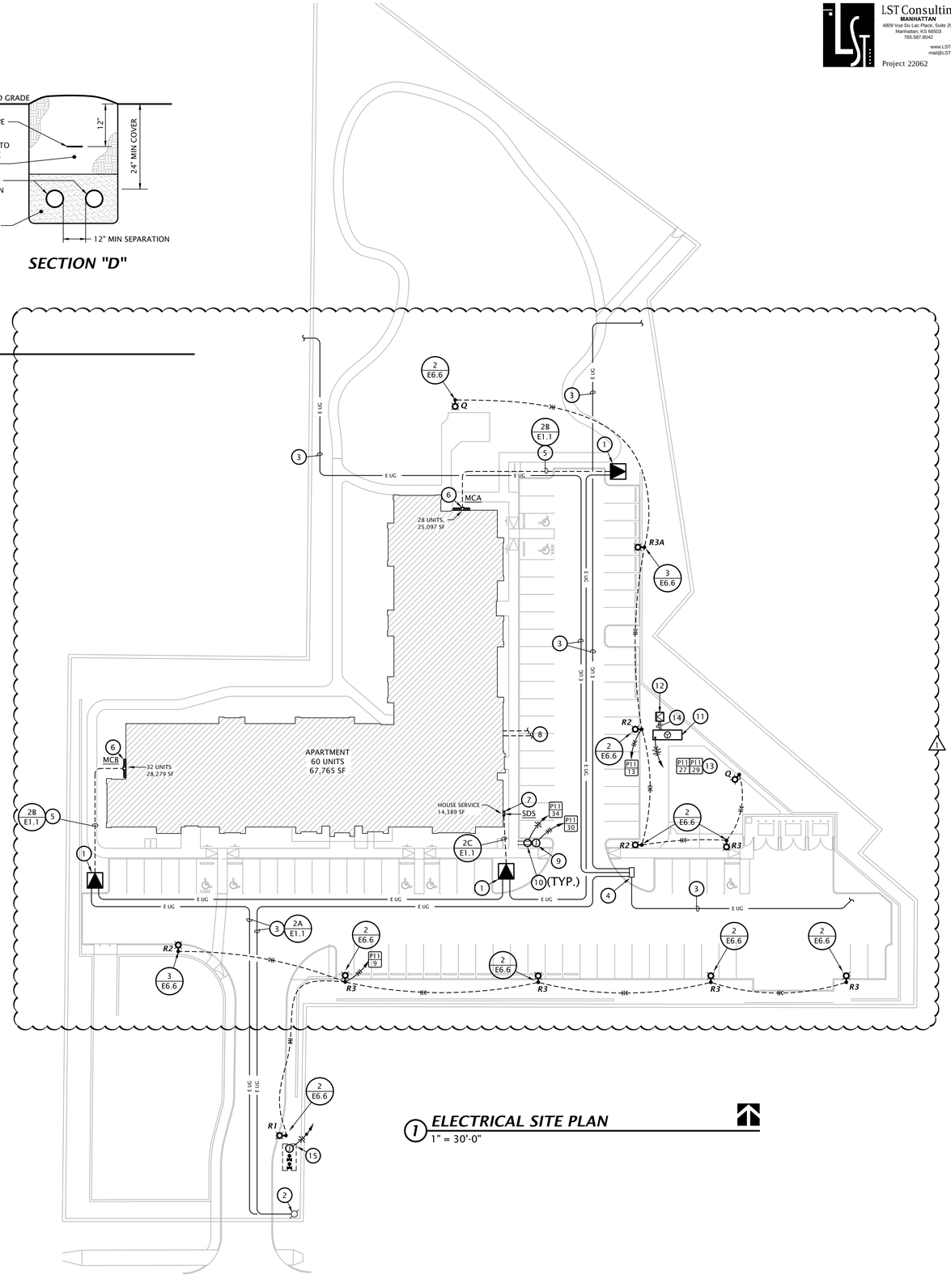


(2) CONDUIT TRENCH DETAILS

No Scale

(#) ELECTRICAL SITE PLAN NOTES BY SYMBOL

1. POWER COMPANY PAD MOUNTED TRANSFORMER. CONCRETE PAD BY GENERAL CONTRACTOR PER LOCAL POWER COMPANY STANDARDS. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH DENTON MUNICIPAL ELECTRIC PRIOR TO COMMENCING WORK.
2. EXISTING UTILITY POLE TO BE UTILIZED FOR NEW 3-PHASE PRIMARY SERVICE DROP. COORDINATE PRIMARY CONDUIT STUB-UP WITH POWER COMPANY.
3. POWER COMPANY UNDERGROUND PRIMARY ELECTRICAL DISTRIBUTION. SEE CIVIL DRAWINGS FOR MORE INFORMATION.
4. 3-PHASE PRIMARY PEDESTAL JUNCTION BOX BY POWER COMPANY. VERIFY EXACT LOCATION WITH DENTON MUNICIPAL ELECTRIC.
5. UNDERGROUND SERVICE LATERAL. PROVIDE CONDUIT AND CONDUCTORS PER 2:E1.1 AND RISER DIAGRAMS ON SHEET E6.2.
6. APARTMENT UNIT METER CENTER. SEE RISER DIAGRAMS ON SHEET E6.2.
7. HOUSE SERVICE METER AND DISCONNECT SWITCH. SEE RISER DIAGRAM ON SHEET E6.2.
8. (2) 3" CONDUITS FOR COMMUNICATIONS SERVICES. PROVIDE PULL STRING IN EACH RACEWAY. VERIFY TERMINATION POINTS AT PROPERTY LINE WITH LOCAL COMMUNICATIONS SERVICE PROVIDERS.
9. MAKE FINAL CONNECTION TO OWNER PROVIDED SINGLE PORT EV CHARGING STATION EQUIPEMNT. VERIFY EXACT REQUIREMENTS WITH MANUFACTURER'S INSTRUCTIONS
10. MOUNT RECEPTACLE ON BOLLARD 18" AFG. COORDINATE EXACT LOCATION REQUIREMENTS WITH G.C.
11. EMERGENCY STANDBY DIESEL GENERATOR. CONCRETE PAD BY GC PER GENERATOR MANUFACTURER'S RECOMMENDATIONS. SEE SPECIFICATIONS AND RISER DIAGRAM, SHEET E6.3.
12. MANUAL TRANSFER SWITCH 'MTS'. CONCRETE PAD BY GC PER EQUIPMENT MANUFACTURER'S RECOMMENDATIONS. SEE SPECIFICATIONS AND RISER DIAGRAM, SHEET E6.3.
13. PROVIDE CIRCUITRY FOR GENSET BATTERY CHARGER AND COOLANT HEATER CONSISTING OF 4#8, #8G, 1"C.
14. UNDERGROUND CONDUITS FOR GENERATOR FEEDER AND CONTROL CABLING. SEE RISER DIAGRAM ON SHEET E6.3.
15. 120V POWER FOR FIRE SPRINKLER TAMPER SWITCHES. SEE CIVIL DRAWING FOR EXACT LOCATION. COORDINATE WORK WITH FIRE SPRINKLER SYSTEMS INSTALLER.



(1) ELECTRICAL SITE PLAN

1" = 30'-0"

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THE RESERVES at MAGNOLIA

NEW APARTMENT COMPLEX

DENTON, TEXAS

5-17-2023

TIMOTHY C. TREDWAY 95252 LICENSED PROFESSIONAL ENGINEER

REVISION:
1 06-26-2023

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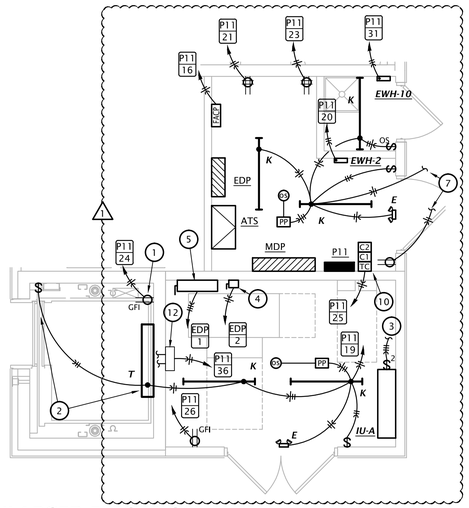
E1.1

ELECTRICAL PLAN NOTES BY SYMBOL

1. INSTALL RECEPTACLE ON WALL OF ELEVATOR PIT. VERIFY EXACT LOCATION WITH ELEVATOR EQUIPMENT INSTALLER.
2. LOCATE LIGHT FIXTURE AND SWITCH IN ELEVATOR PIT. COORDINATE EXACT LOCATION WITH ELEVATOR EQUIPMENT.
3. PROVIDE 2-POLE SNAP SWITCH AND CONNECT POWER AND CONTROL CIRCUITRY TO HEAT PUMP ON ROOF.
4. 30A/2P FUSED DISCONNECT SWITCH WITH SOLID NEUTRAL AND (1) 20A DUAL-ELEMENT, TIME DELAY FUSE IN NEMA 1 ENCLOSURE FOR ELEVATOR CAB LIGHTS AND EXHAUST. SWITCH SHALL BE CAPABLE OF BEING LOCKED "OFF". MOUNT AT 6'-0" AFF TO TOP AND LABEL WITH CIRCUIT NUMBER. COORDINATE EXACT MOUNTING LOCATION AND REQUIREMENTS WITH ELEVATOR EQUIPMENT INSTALLER. PROVIDE FINAL ELECTRICAL CONNECTION TO ELEVATOR CONTROLLER.
5. ELEVATOR POWER MODULE SWITCH: 200A/208V/3PH SWITCH COMPLETE WITH 175A DUAL ELEMENT, TIME DELAY CLASS 'J' FUSES, 120V CONTROL TRANSFORMER, FIRE ALARM SAFETY INTERFACE RELAY, KEY TEST SWITCH, GREEN PILOT LIGHT, AUXILIARY CONTRACTS FOR ELEVATOR RECALL, AND FIRE ALARM VOLTAGE MONITORING RELAY. COOPER BUSSMAN #PS-W-T20-R1-K-G-B-F1 OR EQUAL. COORDINATE EXACT MOUNTING LOCATION AND REQUIREMENTS WITH ELEVATOR EQUIPMENT INSTALLER. PROVIDE FINAL ELECTRICAL CONNECTION TO ELEVATOR CONTROLLER.
6. SEE 2:E2.1 FOR CONTINUATION.
7. SEE 1:E2.1 FOR CONTINUATION.
8. 120V POWER FOR FIRE SPRINKLER FLOW SWITCH(ES) AND BELL. PROVIDE #8 CU BONDING JUMPER FROM CIRCUIT EQUIPMENT GROUNDING CONDUCTOR TO METAL SPRINKLER SYSTEM PIPING AT AN ACCESSIBLE LOCATION PER 250.104(B). COORDINATE WORK WITH FIRE SPRINKLER SYSTEM INSTALLER.
9. HALLWAY RECEPTACLES DO NOT NEED TO BE "WEATHERPROOF WHILE IN USE". TYPICAL.
10. EXTERIOR LIGHTING CONTROLS. SEE 1:E6.6 FOR MORE INFORMATION.
11. PHOTOCELL FOR CONTROL OF EXTERIOR LIGHTS. SEE 1:E6.6 FOR MORE INFORMATION.
12. ELEVATOR SUMP PUMP ALARM PANEL. PROVIDE 120V POWER CONNECTION AND (2) 1" CONDUITS WITH PULL STRINGS FROM PANEL STUBBED INTO LEVATOR PIT FOR POWER AND CONTROL CABLING. COORDINATE ALL WORK WITH P.C.



2 ENLARGED ELECTRICAL PLAN
1/4" = 1'-0"

1 FIRST FLOOR PLAN - ELECTRICAL
1/8" = 1'-0"

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Project 22062 May 2023

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THE RESERVES at MAGNOLIA
NEW APARTMENT COMPLEX
DENTON, TEXAS

5-17-2023
TIMOTHY C. TREDWAY 95252 LICENSED PROFESSIONAL ENGINEER

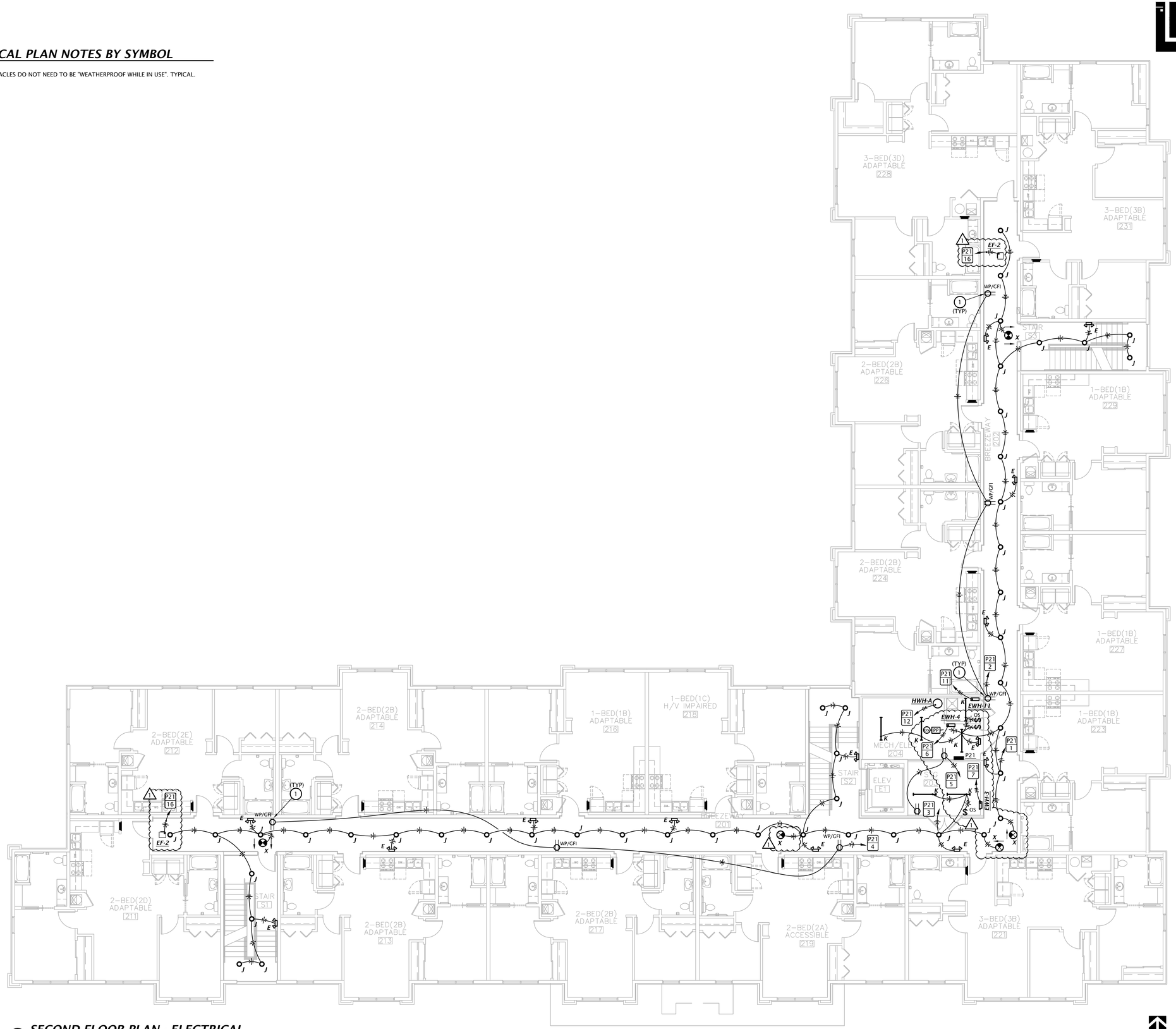
REVISION:
1 06-26-2023

DATE: 06-26-2023
JOB: 21-3205
SHEET NO.:

E2.1

(#) *ELECTRICAL PLAN NOTES BY SYMBOL*

1. HALLWAY RECEPTACLES DO NOT NEED TO BE "WEATHERPROOF WHILE IN USE". TYPICAL.



1 **SECOND FLOOR PLAN - ELECTRICAL**
1/8" = 1'-0"

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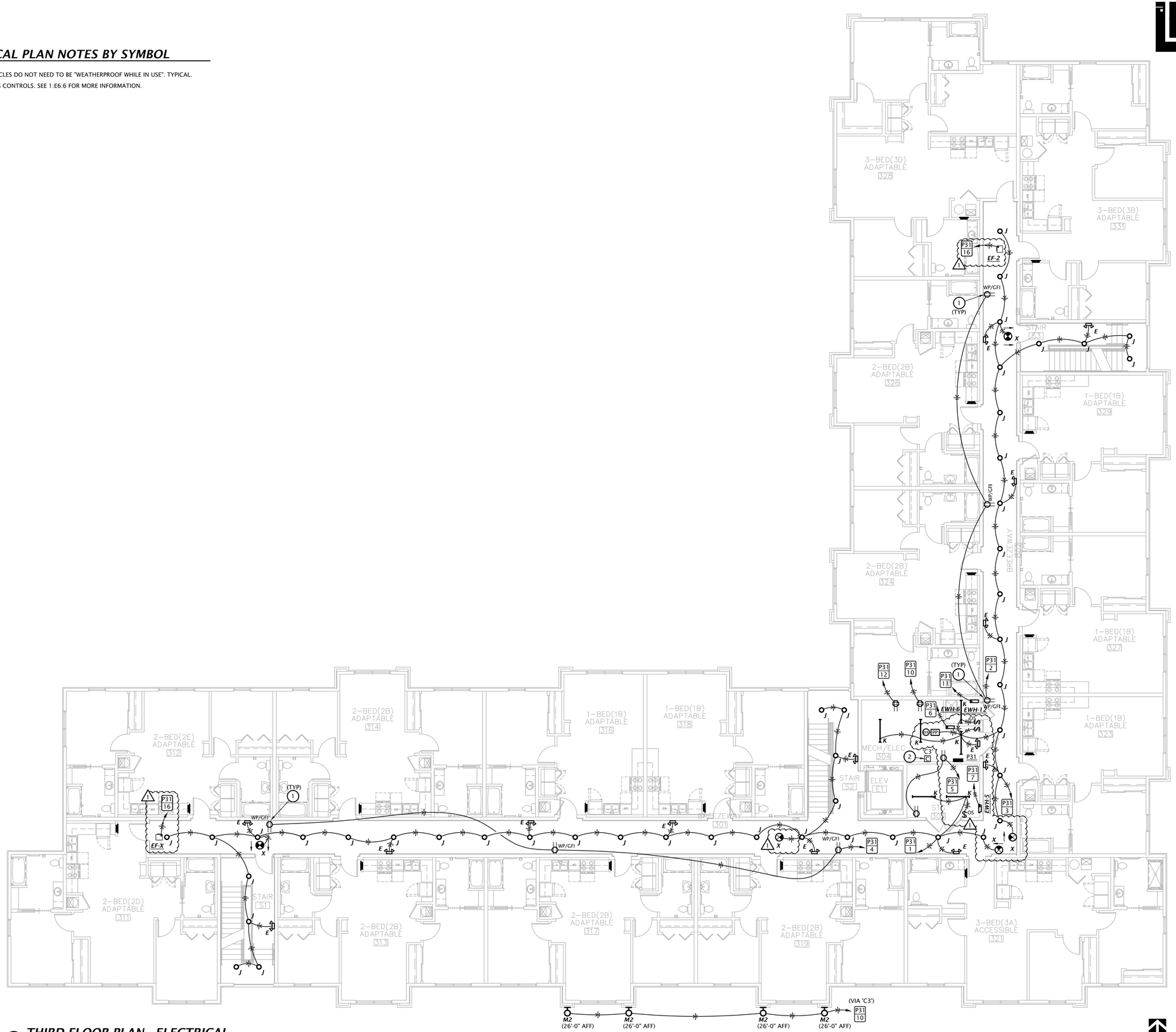
E2.2

(#) *ELECTRICAL PLAN NOTES BY SYMBOL*

1. HALLWAY RECEPTACLES DO NOT NEED TO BE "WEATHERPROOF WHILE IN USE". TYPICAL.
2. EXTERIOR LIGHTING CONTROLS. SEE 1:E6.6 FOR MORE INFORMATION.



(1) *THIRD FLOOR PLAN - ELECTRICAL*

1/8" = 1'-0"

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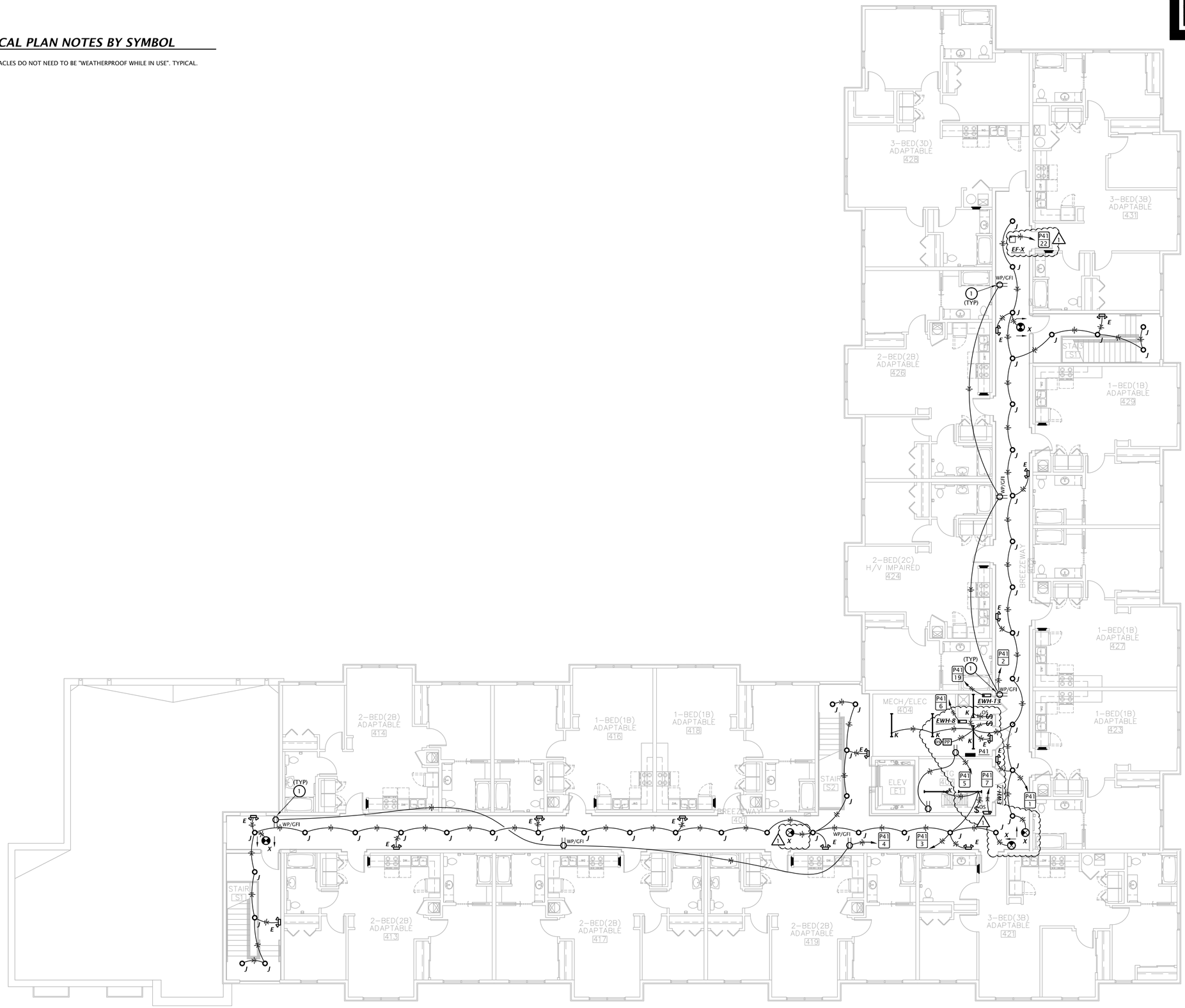
E2.3

(#) *ELECTRICAL PLAN NOTES BY SYMBOL*

1. HALLWAY RECEPTACLES DO NOT NEED TO BE "WEATHERPROOF WHILE IN USE". TYPICAL.



(1) *FOURTH FLOOR PLAN - ELECTRICAL*

1/8" = 1'-0"

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E2.4

TELECOMMUNICATIONS GENERAL NOTES

A. PROVIDE COMPLETE WIRED PHONE AND CATV OUTLETS IN APARTMENT UNITS AS INDICATED ON SHEET E4.1.

B. AT TELECOMMUNICATIONS OUTLETS IN COMMON AREAS, PROVIDE 4" SQUARE x 2-1/8" DEEP BOX WITH 1-GANG DEVICE RING AND (1) 1" CONDUIT STUBBED INTO MECHANICAL ROOM AS FOLLOWS: 1ST AND 2ND FLOORS - ROOM 117; 3RD AND 4TH FLOORS - ROOM 306.

C. PROVIDE NYLON BUSHINGS FOR ALL CONDUIT ENDS NOT CONNECTED TO A BOX OR FITTING TO PROTECT CABLING FROM DAMAGE.

D. PROVIDE BLANK, STAINLESS STEEL COVER PLATES FOR ALL COMMON AREA TELECOM OUTLETS NOT ACTIVATED BY OWNER.

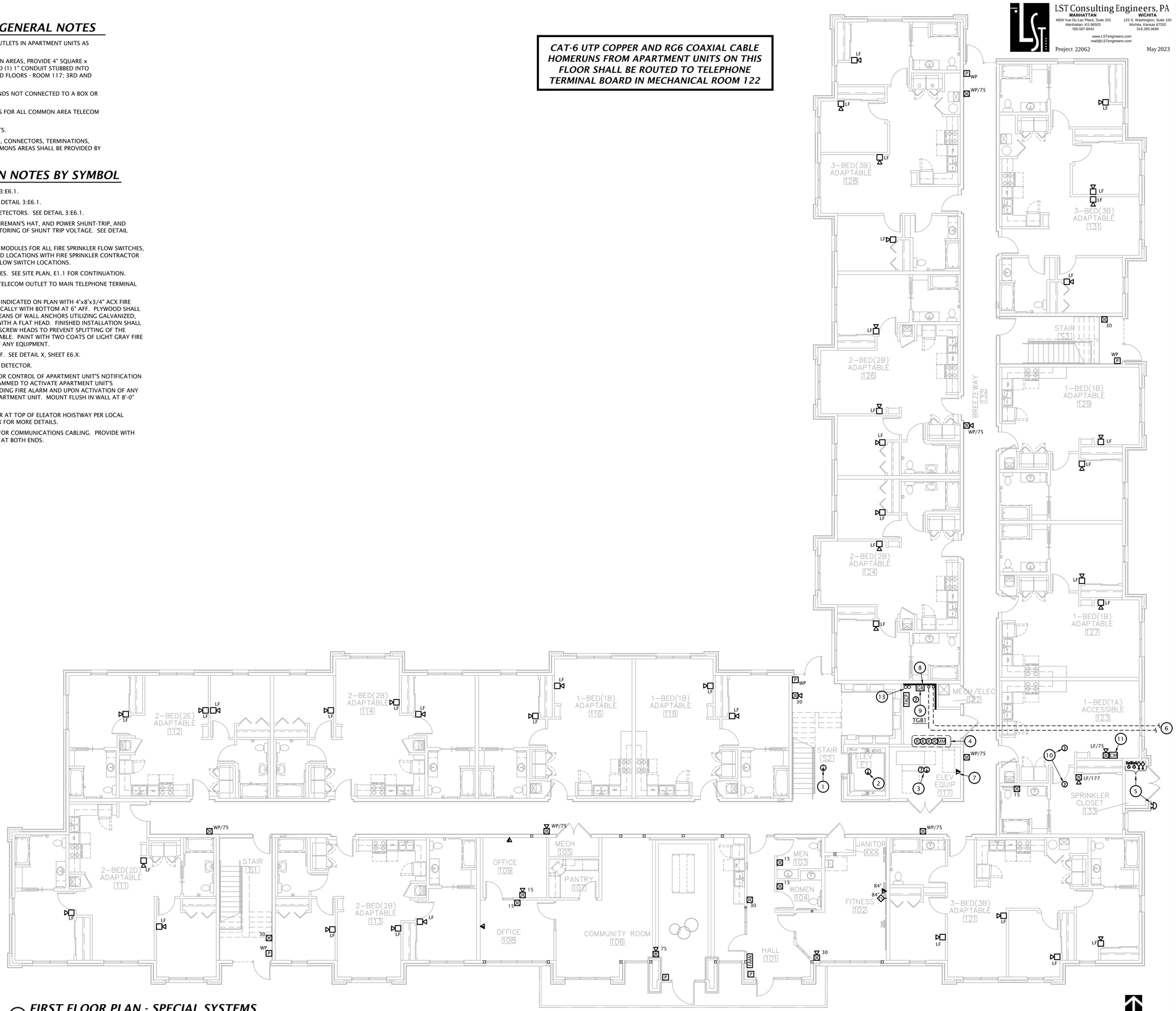
E. PROVIDE SUITABLE PULL STRING IN ALL CONDUITS.

F. ALL TELECOM VOICE AND DATA CABLING, JACKS, CONNECTORS, TERMINATIONS, EQUIPMENT AND TESTING FOR OUTLETS IN COMMONS AREAS SHALL BE PROVIDED BY OWNER.

(#) SPECIAL SYSTEMS PLAN NOTES BY SYMBOL

1. ELEVATOR LOBBY HEAT DETECTOR. SEE DETAIL 3:E6.1.
2. INSTALL HEAT DETECTOR IN ELEVATOR PIT. SEE DETAIL 3:E6.1.
3. ELEVATOR MACHINE ROOM SMOKE AND HEAT DETECTORS. SEE DETAIL 3:E6.1.
4. ADDRESSABLE RELAYS FOR ELEVATOR RECALL, FIREMAN'S HAT, AND POWER SHUNT-TRIP, AND ADDRESSABLE MONITORING MODULE FOR MONITORING OF SHUNT TRIP VOLTAGE. SEE DETAIL 3:E6.1.
5. PROVIDE FIRE ALARM RELAYS AND MONITORING MODULES FOR ALL FIRE SPRINKLER FLOW SWITCHES, AND BELL/GONG. COORDINATE QUANTITIES AND LOCATIONS WITH FIRE SPRINKLER CONTRACTOR PRIOR TO BID. SEE SITE PLAN FOR ADDITIONAL FLOW SWITCH LOCATIONS.
6. (2) 3" CONDUITS FOR COMMUNICATIONS SERVICES. SEE SITE PLAN, E1.1 FOR CONTINUATION.
7. PROVIDE 1" CONDUIT WITH PULL STRING FROM TELECOM OUTLET TO MAIN TELEPHONE TERMINAL BOARD IN MECH 122.
8. TELEPHONE TERMINAL BOARD: COVER WALL AS INDICATED ON PLAN WITH 4'x8'x3/4" ACX FIRE RETARDANT PLYWOOD SHEETS INSTALLED VERTICALLY WITH BOTTOM AT 6" AFF. PLYWOOD SHALL BE PERMANENTLY FASTENED TO THE WALL BY MEANS OF WALL ANCHORS UTILIZING GALVANIZED, ZINC PLATED, OR STAINLESS STEEL HARDWARE WITH A FLAT HEAD. FINISHED INSTALLATION SHALL HAVE FLUSH APPEARANCE WITH COUNTERSUNK SCREW HEADS TO PREVENT SPLITTING OF THE PLYWOOD. DRYWALL SCREWS ARE NOT ACCEPTABLE. PAINT WITH TWO COATS OF LIGHT GRAY FIRE RETARDANT SEALER PRIOR TO INSTALLATION OF ANY EQUIPMENT.
9. TELECOMMUNICATIONS GROUND BAR AT 18" AFF. SEE DETAIL X, SHEET E6.X.
10. FIRE ALARM SYSTEM COMBINATION CO / SMOKE DETECTOR.
11. FIRE ALARM ADDRESSABLE CONTROL MODULE FOR CONTROL OF APARTMENT UNIT'S NOTIFICATION APPLIANCE CIRCUIT. MODULE SHALL BE PROGRAMMED TO ACTIVATE APARTMENT UNIT'S NOTIFICATION APPLIANCES UPON GENERAL BUILDING FIRE ALARM AND UPON ACTIVATION OF ANY SMOKE DETECTOR OR CO DETECTOR WITHIN APARTMENT UNIT. MOUNT FLUSH IN WALL AT 8'-0" AFF.
12. INSTALL SMOKE DETECTOR AND HEAT DETECTOR AT TOP OF ELEATOR HOISTWAY PER LOCAL JURISDICTION REQUIREMENTS. SEE DETAIL X:E6.X FOR MORE DETAILS.
13. (2) 4" EMT CONDUIT SLEEVES THROUGH FLOOR FOR COMMUNICATIONS CABLING. PROVIDE WITH FIRESTOPPING FITTINGS (WIREMOLD #FS4R-RED) AT BOTH ENDS.

CAT-6 UTP COPPER AND RG6 COAXIAL CABLE HOMERUNS FROM APARTMENT UNITS ON THIS FLOOR SHALL BE ROUTED TO TELEPHONE TERMINAL BOARD IN MECHANICAL ROOM 122



1 FIRST FLOOR PLAN - SPECIAL SYSTEMS
1/8" = 1'-0"

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THE RESERVES at MAGNOLIA

NEW APARTMENT COMPLEX

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5-17-2023

TIMOTHY C. TREDWAY 95252 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS

REVISION:

DATE: 06-26-2023
JOB: 21-3205
SHEET NO.:

E2.5

TELECOMMUNICATIONS GENERAL NOTES

A. PROVIDE COMPLETE WIRED PHONE AND CATV OUTLETS IN APARTMENT UNITS AS INDICATED ON SHEET E4.1.

B. AT TELECOMMUNICATIONS OUTLETS IN COMMON AREAS, PROVIDE 4" SQUARE x 2-1/8" DEEP BOX WITH 1-GANG DEVICE RING AND (1) 1" CONDUIT STUBBED INTO MECHANICAL ROOM AS FOLLOWS: 1ST AND 2ND FLOORS - ROOM 117; 3RD AND 4TH FLOORS - ROOM 306.

C. PROVIDE NYLON BUSHINGS FOR ALL CONDUIT ENDS NOT CONNECTED TO A BOX OR FITTING TO PROTECT CABLING FROM DAMAGE.

D. PROVIDE BLANK, STAINLESS STEEL COVER PLATES FOR ALL COMMON AREA TELECOM OUTLETS NOT ACTIVATED BY OWNER.

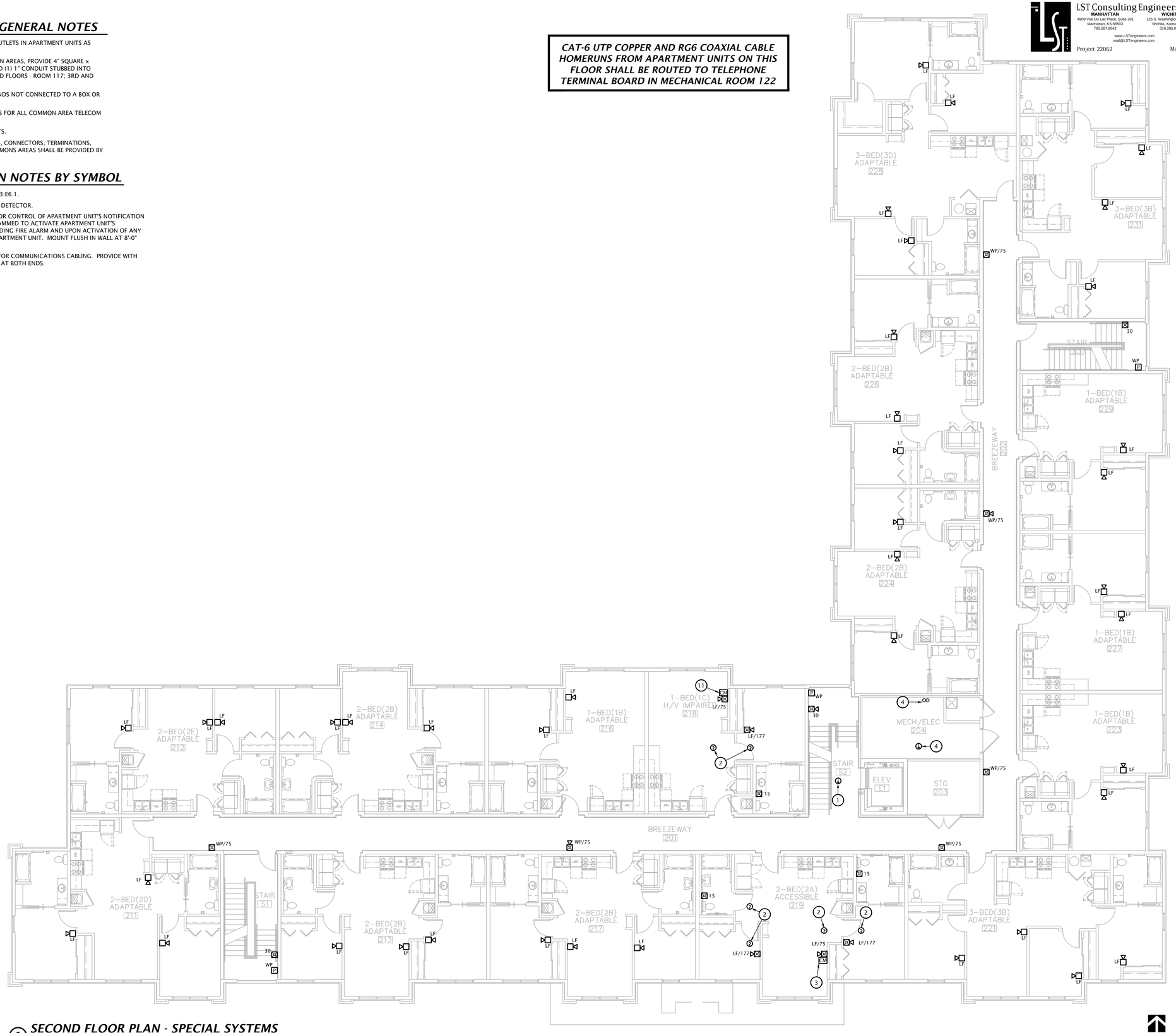
E. PROVIDE SUITABLE PULL STRING IN ALL CONDUITS.

F. ALL TELECOM VOICE AND DATA CABLING, JACKS, CONNECTORS, TERMINATIONS, EQUIPMENT AND TESTING FOR OUTLETS IN COMMONS AREAS SHALL BE PROVIDED BY OWNER.

(#) SPECIAL SYSTEMS PLAN NOTES BY SYMBOL

1. ELEVATOR LOBBY HEAT DETECTOR. SEE DETAIL 3:E6.1.
2. FIRE ALARM SYSTEM COMBINATION CO / SMOKE DETECTOR.
3. FIRE ALARM ADDRESSABLE CONTROL MODULE FOR CONTROL OF APARTMENT UNIT'S NOTIFICATION APPLIANCE CIRCUIT. MODULE SHALL BE PROGRAMMED TO ACTIVATE APARTMENT UNIT'S NOTIFICATION APPLIANCES UPON GENERAL BUILDING FIRE ALARM AND UPON ACTIVATION OF ANY SMOKE DETECTOR OR CO DETECTOR WITHIN APARTMENT UNIT. MOUNT FLUSH IN WALL AT 8'-0" AFF.
4. (2) 4" EMT CONDUIT SLEEVES THROUGH FLOOR FOR COMMUNICATIONS CABLING. PROVIDE WITH FIRESTOPPING FITTINGS (WIREMOLD #FS4R-RED) AT BOTH ENDS.
5. MECHANICAL ROOM HEAT DETECTOR.

CAT-6 UTP COPPER AND RG6 COAXIAL CABLE HOMERUNS FROM APARTMENT UNITS ON THIS FLOOR SHALL BE ROUTED TO TELEPHONE TERMINAL BOARD IN MECHANICAL ROOM 122



1 **SECOND FLOOR PLAN - SPECIAL SYSTEMS**
1/8" = 1'-0"

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THE RESERVES at MAGNOLIA

NEW APARTMENT COMPLEX

DENTON, TEXAS

5-17-2023

STATE OF KANSAS
TIMOTHY C. TREDWAY
95252
LICENSED PROFESSIONAL ENGINEER

REVISION:

DATE: 06-26-2023
JOB: 21-3205
SHEET NO.:

E2.6

TELECOMMUNICATIONS GENERAL NOTES

A. PROVIDE COMPLETE WIRED PHONE AND CATV OUTLETS IN APARTMENT UNITS AS INDICATED ON SHEET E4.1.

B. AT TELECOMMUNICATIONS OUTLETS IN COMMON AREAS, PROVIDE 4" SQUARE x 2-1/8" DEEP BOX WITH 1-GANG DEVICE RING AND (1) 1" CONDUIT STUBBED INTO MECHANICAL ROOM AS FOLLOWS: 1ST AND 2ND FLOORS - ROOM 117; 3RD AND 4TH FLOORS - ROOM 306.

C. PROVIDE NYLON BUSHINGS FOR ALL CONDUIT ENDS NOT CONNECTED TO A BOX OR FITTING TO PROTECT CABLING FROM DAMAGE.

D. PROVIDE BLANK, STAINLESS STEEL COVER PLATES FOR ALL COMMON AREA TELECOM OUTLETS NOT ACTIVATED BY OWNER.

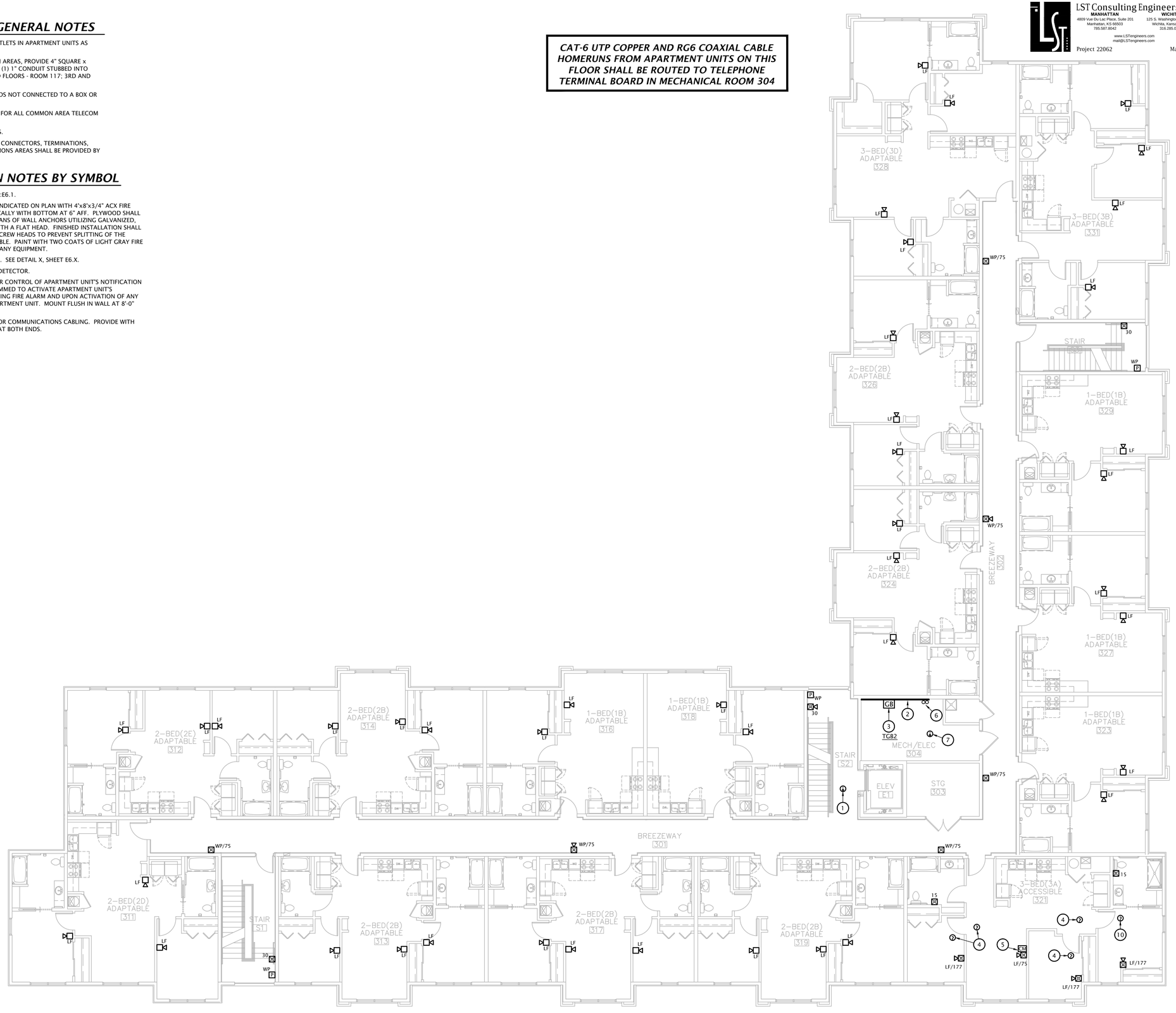
E. PROVIDE SUITABLE PULL STRING IN ALL CONDUITS.

F. ALL TELECOM VOICE AND DATA CABLING, JACKS, CONNECTORS, TERMINATIONS, EQUIPMENT AND TESTING FOR OUTLETS IN COMMONS AREAS SHALL BE PROVIDED BY OWNER.

(#) SPECIAL SYSTEMS PLAN NOTES BY SYMBOL

1. ELEVATOR LOBBY HEAT DETECTOR. SEE DETAIL 3:E6.1.
2. TELEPHONE TERMINAL BOARD: COVER WALL AS INDICATED ON PLAN WITH 4'x8'x3/4" ACX FIRE RETARDANT PLYWOOD SHEETS INSTALLED VERTICALLY WITH BOTTOM AT 6" AFF. PLYWOOD SHALL BE PERMANENTLY FASTENED TO THE WALL BY MEANS OF WALL ANCHORS UTILIZING GALVANIZED, ZINC PLATED, OR STAINLESS STEEL HARDWARE WITH A FLAT HEAD. FINISHED INSTALLATION SHALL HAVE FLUSH APPEARANCE WITH COUNTERSUNK SCREW HEADS TO PREVENT SPLITTING OF THE PLYWOOD. DRYWALL SCREWS ARE NOT ACCEPTABLE. PAINT WITH TWO COATS OF LIGHT GRAY FIRE RETARDANT SEALER PRIOR TO INSTALLATION OF ANY EQUIPMENT.
3. TELECOMMUNICATIONS GROUND BAR AT 18" AFF. SEE DETAIL X, SHEET E6.X.
4. FIRE ALARM SYSTEM COMBINATION CO / SMOKE DETECTOR.
5. FIRE ALARM ADDRESSABLE CONTROL MODULE FOR CONTROL OF APARTMENT UNIT'S NOTIFICATION APPLIANCE CIRCUIT. MODULE SHALL BE PROGRAMMED TO ACTIVATE APARTMENT UNIT'S NOTIFICATION APPLIANCES UPON GENERAL BUILDING FIRE ALARM AND UPON ACTIVATION OF ANY SMOKE DETECTOR OR CO DETECTOR WITHIN APARTMENT UNIT. MOUNT FLUSH IN WALL AT 8'-0" AFF.
6. (2) 4" EMT CONDUIT SLEEVES THROUGH FLOOR FOR COMMUNICATIONS CABLING. PROVIDE WITH FIRESTOPPING FITTINGS (WIREMOLD #FS4R-RED) AT BOTH ENDS.
7. MECHANICAL ROOM HEAT DETEECTOR.

CAT-6 UTP COPPER AND RG6 COAXIAL CABLE HOMERUNS FROM APARTMENT UNITS ON THIS FLOOR SHALL BE ROUTED TO TELEPHONE TERMINAL BOARD IN MECHANICAL ROOM 304



1 THIRD FLOOR PLAN - SPECIAL SYSTEMS
1/8" = 1'-0"

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E2.7

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D. PROVIDE BLANK, STAINLESS STEEL COVER PLATES FOR ALL COMMON AREA TELECOM OUTLETS NOT ACTIVATED BY OWNER.

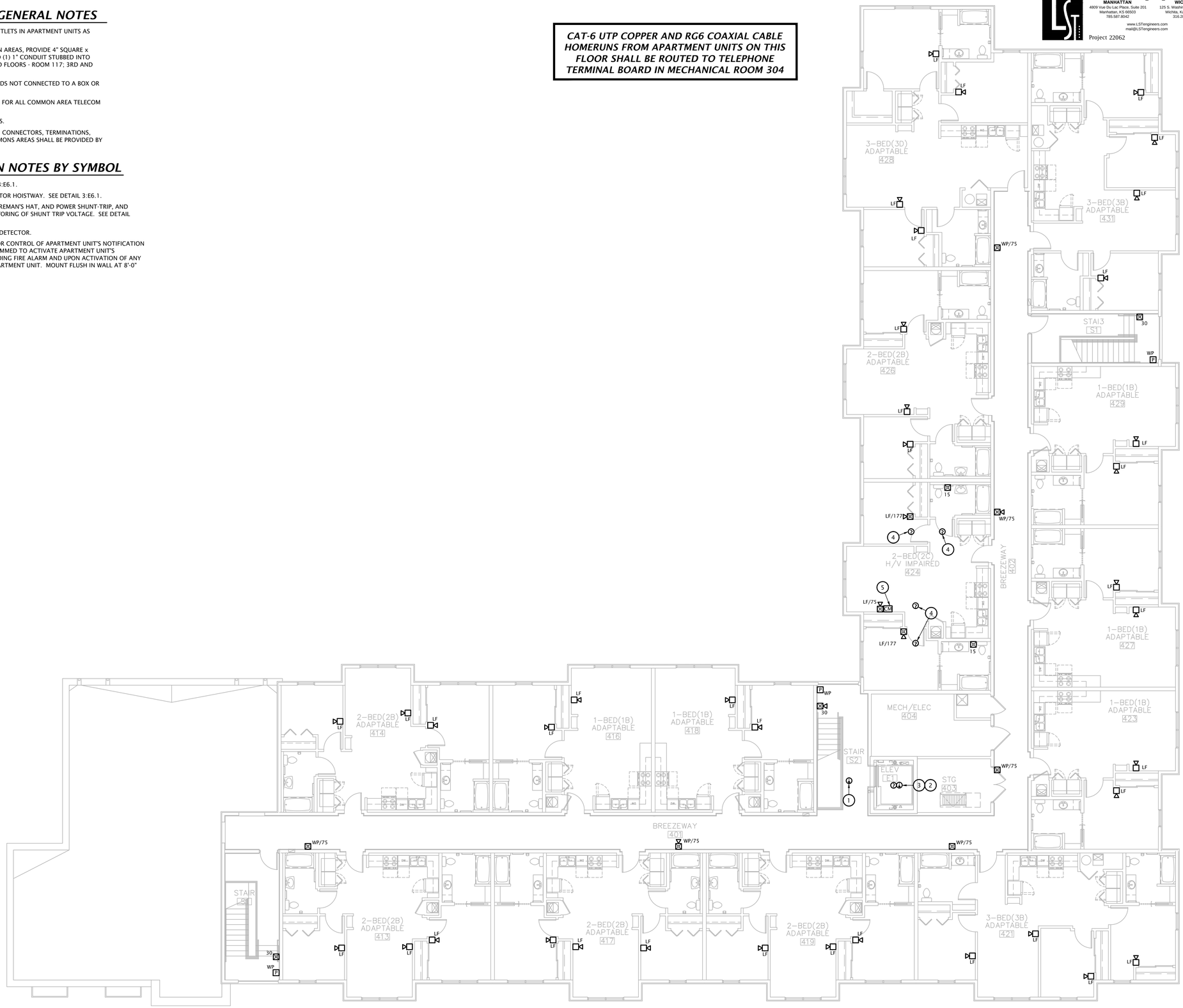
E. PROVIDE SUITABLE PULL STRING IN ALL CONDUITS.

F. ALL TELECOM VOICE AND DATA CABLING, JACKS, CONNECTORS, TERMINATIONS, EQUIPMENT AND TESTING FOR OUTLETS IN COMMONS AREAS SHALL BE PROVIDED BY OWNER.

(#) SPECIAL SYSTEMS PLAN NOTES BY SYMBOL

1. ELEVATOR LOBBY HEAT DETECTOR. SEE DETAIL 3:E6.1.
2. INSTALL SMOKE AND HEAT DETECTORS IN ELEVATOR HOISTWAY. SEE DETAIL 3:E6.1.
3. ADDRESSABLE RELAYS FOR ELEVATOR RECALL, FIREMAN'S HAT, AND POWER SHUNT-TRIP, AND ADDRESSABLE MONITORING MODULE FOR MONITORING OF SHUNT TRIP VOLTAGE. SEE DETAIL 3:E6.1.
4. FIRE ALARM SYSTEM COMBINATION CO / SMOKE DETECTOR.
5. FIRE ALARM ADDRESSABLE CONTROL MODULE FOR CONTROL OF APARTMENT UNIT'S NOTIFICATION APPLIANCE CIRCUIT. MODULE SHALL BE PROGRAMMED TO ACTIVATE APARTMENT UNIT'S NOTIFICATION APPLIANCES UPON GENERAL BUILDING FIRE ALARM AND UPON ACTIVATION OF ANY SMOKE DETECTOR OR CO DETECTOR WITHIN APARTMENT UNIT. MOUNT FLUSH IN WALL AT 8'-0" AFF.

CAT-6 UTP COPPER AND RG6 COAXIAL CABLE HOMERUNS FROM APARTMENT UNITS ON THIS FLOOR SHALL BE ROUTED TO TELEPHONE TERMINAL BOARD IN MECHANICAL ROOM 304



1 **FOURTH FLOOR PLAN - SPECIAL SYSTEMS**
1/8" = 1'-0"

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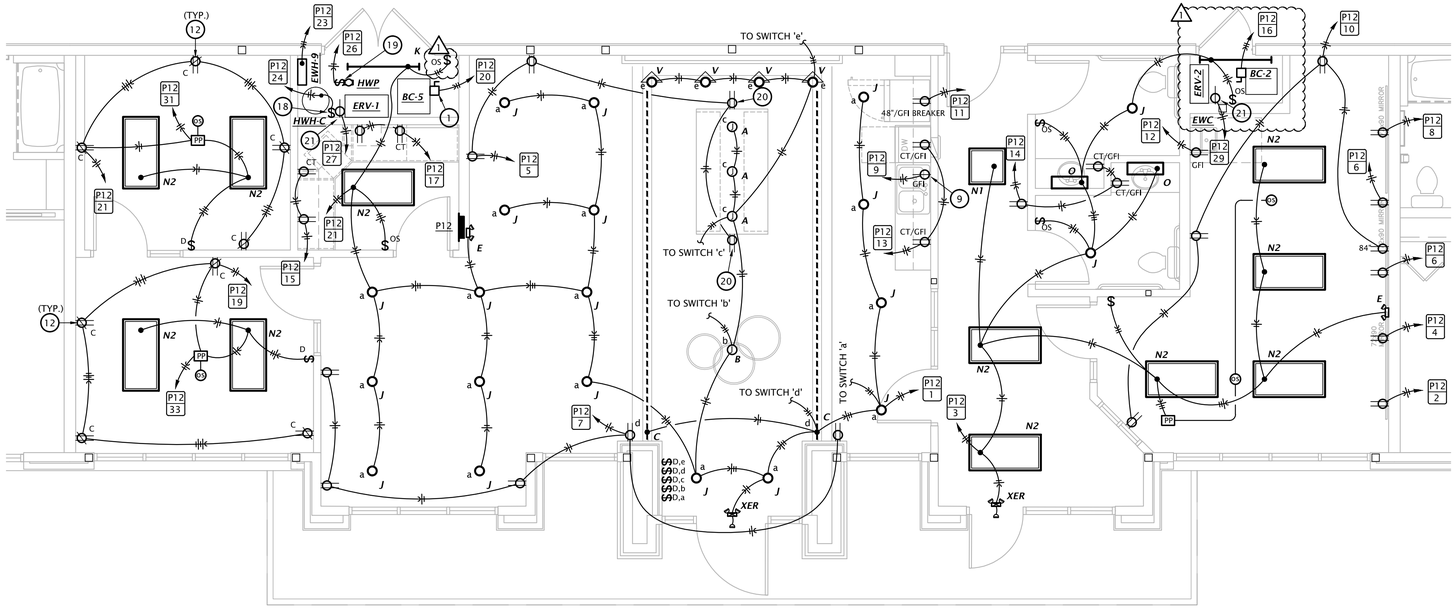


3 ENLARGED COMMUNITY SPACE ELECTRICAL PLAN

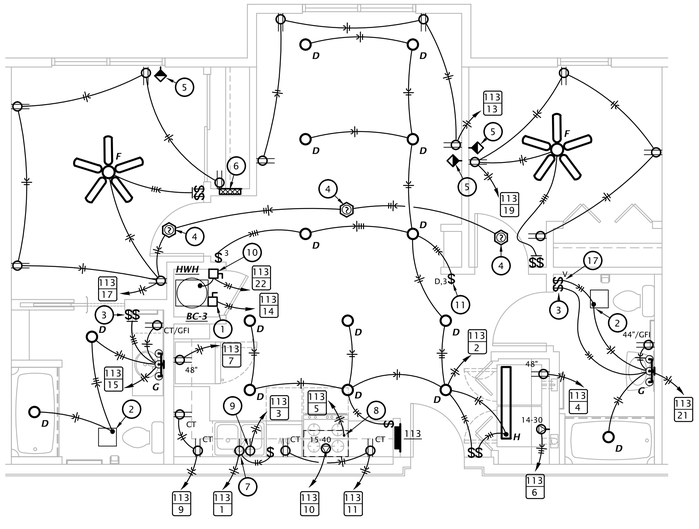
1/4" = 1'-0"

ELECTRICAL PLAN NOTES BY SYMBOL

GENERAL NOTE:

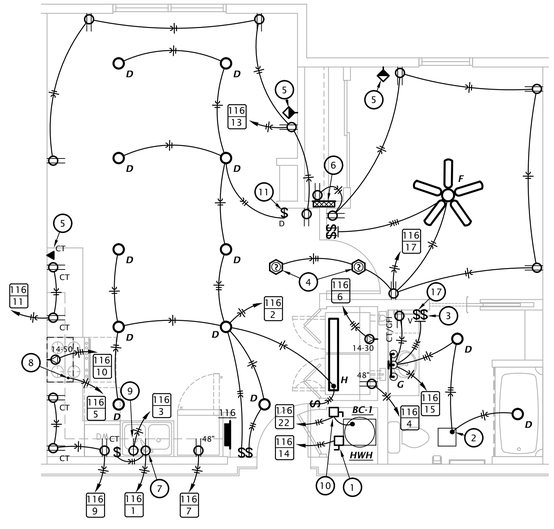
PROVIDE TAMPER PROOF RECEPTACLES IN DWELLING UNITS PER NEC REQUIREMENTS.

1. PROVIDE DISCONNECT SWITCH AND CONNECT BLOWER COIL WITH ELECTRIC HEAT. COORDINATE REQUIREMENTS WITH EQUIPMENT PROVIDER. DISCONNECT SHALL BE SIZED AS FOLLOWS: BC-1:30A/2P, BC-2,3,4,5:60A/2P.
2. CONNECT EXHAUST FAN PROVIDED BY MECHANICAL CONTRACTOR.
3. SWITCH CLOSEST TO THE DOOR SHALL CONTROL ALL LIGHTS IN BATHROOM, AND THE OTHER SWITCH SHALL CONTROL THE EXHAUST FAN.
4. CEILING MOUNTED SMOKE ALARM IN APARTMENTS TO BE 120VAC WITH 9V BATTERY BACKUP, INTERCONNECTED TO OTHERS IN SAME APARTMENT. DEVICE SHALL HAVE CARBON MONOXIDE DETECTOR AND PHOTOELECTRIC TYPE SMOKE DETECTOR WITH SOUNDER HORN HAVING AN 85dB OUTPUT AT 10', SHALL HAVE A SINGLE BUTTON FOR TEST/SILENCE AND LED INDICATOR LIGHTS, AND SHALL BE UL 217 LISTED. BRK #SC7010B OR EQUAL. SEE SPECIAL SYSTEMS SHEETS FOR MORE INFORMATION.
5. COORDINATE FINAL LOCATIONS OF ALL CATV AND PHONE OUTLETS WITH OWNER. SEE 1:E6.1 FOR OUTLET DETAILS.
6. TELECOM DISTRIBUTION DEVICE APPROXIMATELY 4'-0" AFF. SEE DETAIL 1:E6.1.
7. SWITCHED RECEPTACLE BELOW COUNTER FOR GARBAGE DISPOSAL.
8. PROVIDE 120V CONNECTION TO RANGE HOOD/MICROWAVE. STANDARD AND ADAPTABLE UNITS WILL HAVE MICROWAVE ABOVE RANGE. ACCESSIBLE UNITS WILL HAVE RANGE HOOD. COORDINATE EXACT ELECTRICAL ROUGH-IN REQUIREMENTS WITH EQUIPMENT PROVIDED. IF EQUIPMENT IS CORD AND PLUG, PROVIDE RECEPTACLE INSIDE CABINET ABOVE RANGE.
9. PROVIDE RECEPTACLE BELOW COUNTER FOR CORD AND PLUG CONNECTION OF DISHWASHER. PROVIDE CORD AND GROUNDING PLUG AS REQUIRED. RECEPTACLE SHALL BE LOCATED IN BASE CABINET ADJACENT TO DISHWASHER TO ALLOW ACCESS TO PLUG.
10. PROVIDE 30A/2P DISCONNECT SWITCH AND CONNECT WATER HEATER.
11. PROVIDE PRESET SLIDE DIMMER COMPATIBLE WITH ASSOCIATED LIGHT FIXTURES.
12. PROVIDE SPLIT CONTROLLED RECEPTACLES PER 2021 IECC REQUIREMENTS. DEVICES SHALL BE IN ACCORDANCE WITH NEC 406.3(E).
13. PROVIDE DOOR ANNUNCIATOR SYSTEM A/V HORN/STROBE DEVICE AND LOW VOLTAGE TRANSFORMER AT ALL ACCESSIBLE APARTMENTS AND ALSO AT APARTMENTS DESIGNATED FOR HEARING-IMPAIRED GUESTS. REFER TO ARCH DRAWINGS FOR APPLICABLE ROOMS. INSTALL HORN/STROBE APPLIANCE AT 80" AFF PER ADA. INSTALL TRANSFORMER IN DOUBLE GANG JUNCTION BOX ABOVE HORN/STROBE WITH BLANK COVER PLATE AND PROVIDE LOW VOLTAGE CONTROL WIRING. REFER TO DETAIL 2, SHEET E6.1. PROVIDE ENGRAVED SIGN AT THE HORN/STROBE DEVICE TO READ "DOOR".
14. PROVIDE PUSH BUTTON AT 48" AFF FOR ANNUNCIATOR SYSTEM AT ALL ACCESSIBLE APARTMENTS AND ALSO AT APARTMENTS DESIGNATED FOR HEARING-IMPAIRED. REFER TO ARCH DRAWINGS FOR APPLICABLE ROOMS. REFER TO DETAIL 2, SHEET E6.1.
15. PROVIDE SWITCH IN ACCESSIBLE UNITS FOR CONTROL OF RANGE HOOD.
16. IN ACCESSIBLE UNITS, INSTALL COUNTERTOP RECEPTACLES A MINIMUM 36" AWAY FROM CORNER PER FAIR HOUSING ACT DESIGN MANUAL CHAPTER 5 'SIDE REACH OVER AN OBSTRUCTION' REQUIREMENTS. WHERE AN OBSTRUCTION PREVENTS 36" DISTANCE REQUIREMENT, INSTALL RECEPTACLE AS FAR FROM CORNER AS POSSIBLE.PROVIDE ADDITIONAL OUTLETS WITHIN 36" OF CORNER TO ENSURE COMPLIANCE WITH NEC SPACING REQUIREMENTS.
17. INSTALL TIMER SWITCH EQUAL TO AIR CYCLER 'FAN CONNECT' FOR CONTROL OF EXHAUST FAN. COORDINATE REQUIREMENTS WITH EQUIPMENT PROVIDED BY E.C.
18. PROVIDE 30A/1P SNAP SWITCH AND MAKE FINAL CONNECTION TO WATER HEATER.
19. ROUTE 120V CIRCUIT FROM HOT WATER RECIRCULATION PUMP 'HWP' THROUGH ADJACENT AQUASTAT AND MAKE FINAL FLEXIBLE CONNECTION. COORDINATE WITH PLUMBING CONTRACTOR.
20. MOUNT RECEPTACLE IN FACE OF ISLAND BELOW COUNTER TOP.
21. PROVIDE SIMPLEX RECEPTACLE FOR CORD AND PLUG CONNECTION OF EQUIPMENT. COORDINATE EXACT REQUIREMENTS WITH EQUIPMENT PROVIDED.



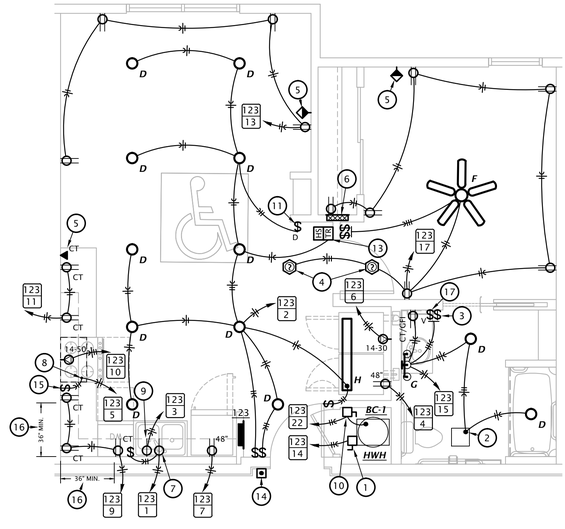
4 2 BEDROOM ELECTRICAL PLAN (APT. 413, & 414)

1/4" = 1'-0"



2 1 BEDROOM ELECTRICAL PLAN (TYPE B)

1/4" = 1'-0"



1 1 BEDROOM ACCESSIBLE ELECTRICAL PLAN (TYPES A, AND C)

1/4" = 1'-0"

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THE RESERVES at MAGNOLIA

NEW APARTMENT COMPLEX

DENTON, TEXAS

5-17-2023

REVISION:

1 06-26-2023

DATE: 06-26-2023
JOB: 21-3205
SHEET NO.:

E4.1

ELECTRICAL PLAN NOTES BY SYMBOL

GENERAL NOTE:

PROVIDE TAMPER PROOF RECEPTACLES IN DWELLING UNITS PER NEC REQUIREMENTS.

1. PROVIDE DISCONNECT SWITCH AND CONNECT BLOWER COIL WITH ELECTRIC HEAT. COORDINATE REQUIREMENTS WITH EQUIPMENT PROVIDER. DISCONNECTS SHALL BE SIZED AS FOLLOWS: BC-1:30A/2P, BC-2,3,4,5:60A/2P.
2. CONNECT EXHAUST FAN PROVIDED BY MECHANICAL CONTRACTOR.
3. SWITCH CLOSEST TO THE DOOR SHALL CONTROL ALL LIGHTS IN BATHROOM, AND THE OTHER SWITCH SHALL CONTROL THE EXHAUST FAN.
4. CEILING MOUNTED SMOKE ALARM IN APARTMENTS TO BE 120VAC WITH 9V BATTERY BACKUP, INTERCONNECTED TO OTHERS IN SAME APARTMENT. DEVICE SHALL HAVE CARBON MONOXIDE DETECTOR AND PHOTOELECTRIC TYPE SMOKE DETECTOR WITH SOUNDER HORN HAVING AN 85dB OUTPUT AT 10', SHALL HAVE A SINGLE BUTTON FOR TEST/SILENCE AND LED INDICATOR LIGHTS, AND SHALL BE UL 217 LISTED. BRK #SC7010B OR EQUAL. SEE SPECIAL SYSTEMS SHEETS FOR MORE INFORMATION.
5. COORDINATE FINAL LOCATIONS OF ALL CATV AND PHONE OUTLETS WITH OWNER. SEE 1:E6.1 FOR OUTLET DETAILS.
6. TELECOM DISTRIBUTION DEVICE APPROXIMATELY 4'-0" AFF. SEE DETAIL 1:E6.1.
7. SWITCHED RECEPTACLE BELOW COUNTER FOR GARBAGE DISPOSAL.
8. PROVIDE 120V CONNECTION TO RANGE HOOD/MICROWAVE. STANDARD AND ADAPTABLE UNITS WILL HAVE MICROWAVE ABOVE RANGE. ACCESSIBLE UNITS WILL HAVE RANGE HOOD. COORDINATE EXACT ELECTRICAL ROUGH-IN REQUIREMENTS WITH EQUIPMENT PROVIDED. IF EQUIPMENT IS CORD AND PLUG, PROVIDE RECEPTACLE INSIDE CABINET ABOVE RANGE.
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14. PROVIDE PUSH BUTTON AT 48" AFF FOR ANNUNCIATOR SYSTEM AT ALL ACCESSIBLE APARTMENTS AND ALSO AT APARTMENTS DESIGNATED FOR HEARING-IMPAIRED. REFER TO ARCH DRAWINGS FOR APPLICABLE ROOMS. REFER TO DETAIL 2, SHEET E6.1 .
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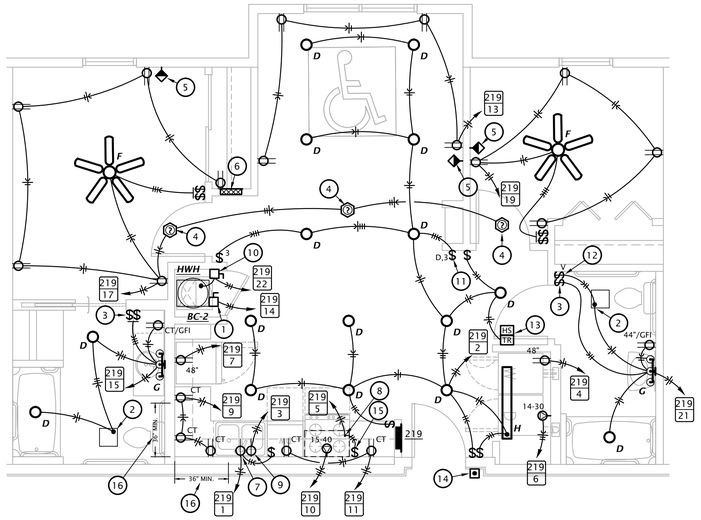
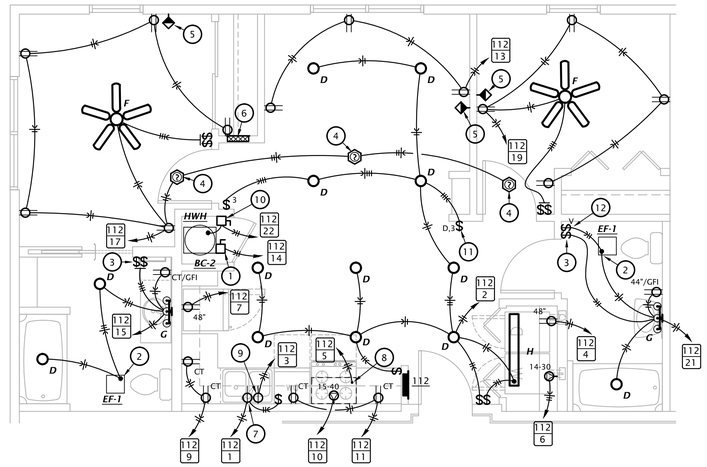
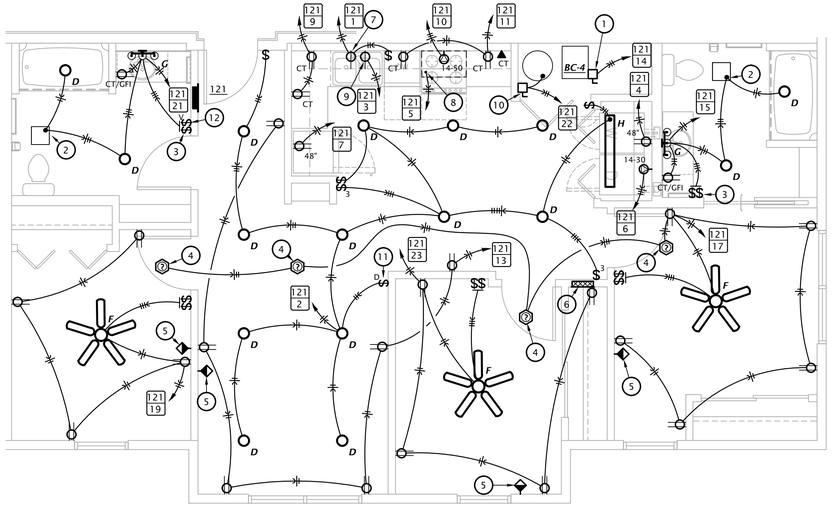
16. IN ACCESSIBLE UNITS, INSTALL COUNTERTOP RECEPTACLES A MINIMUM 36" AWAY FROM CORNER PER FAIR HOUSING ACT DESIGN MANUAL CHAPTER 5 'SIDE REACH OVER AN OBSTRUCTION' REQUIREMENTS. WHERE AN OBSTRUCTION PREVENTS 36" DISTANCE REQUIREMENT, INSTALL RECEPTACLE AS FAR FROM CORNER AS POSSIBLE.PROVIDE ADDITIONAL OUTLETS WITHIN 36" OF CORNER TO ENSURE COMPLIANCE WITH NEC SPACING REQUIREMENTS.



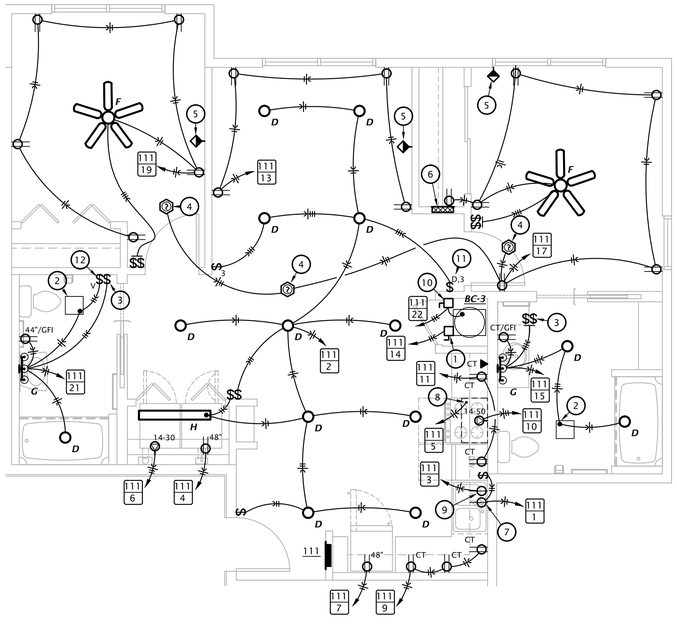
4 2 BEDROOM ACCESSIBLE ELECTRICAL PLAN (TYPES A, AND C)
1/4" = 1'-0"



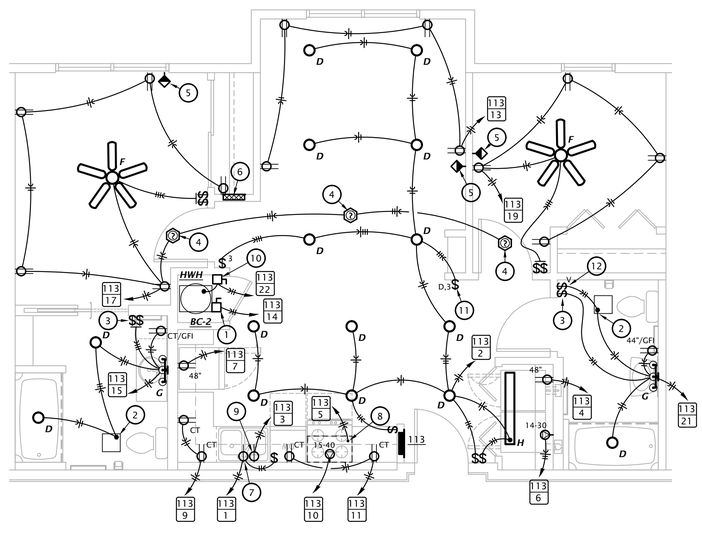
3 2 BEDROOM ELECTRICAL PLAN (TYPE E)
1/4" = 1'-0"



5 3 BEDROOM ELECTRICAL PLAN (APT. 431)
1/4" = 1'-0"



2 2 BEDROOM ELECTRICAL PLAN (TYPE D)
1/4" = 1'-0"



1 2 BEDROOM ELECTRICAL PLAN (TYPE B)
1/4" = 1'-0"

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Project 22062 May 2023

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THE RESERVES at MAGNOLIA
NEW APARTMENT COMPLEX
DENTON, TEXAS

5-17-2023

STATE OF TEXAS
TIMOTHY C. TREDWAY
95252
LICENSED
PROFESSIONAL ENGINEER

REVISION:

DATE: 06-26-2023
JOB: 21-3205
SHEET NO.:

E4.2

(#) ELECTRICAL PLAN NOTES BY SYMBOL

GENERAL NOTE:

PROVIDE TAMPER PROOF RECEPTACLES IN DWELLING UNITS PER NEC REQUIREMENTS.

1. PROVIDE DISCONNECT SWITCH AND CONNECT BLOWER COIL WITH ELECTRIC HEAT. COORDINATE REQUIREMENTS WITH EQUIPMENT PROVIDER. DISCONNECTS SHALL BE SIZED AS FOLLOWS: BC-1:30A/2P, BC-2,3,4,5:60A/2P
2. CONNECT EXHAUST FAN PROVIDED BY MECHANICAL CONTRACTOR.
3. SWITCH CLOSEST TO THE DOOR SHALL CONTROL ALL LIGHTS IN BATHROOM, AND THE OTHER SWITCH SHALL CONTROL THE EXHAUST FAN.
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5. COORDINATE FINAL LOCATIONS OF ALL CATV AND PHONE OUTLETS WITH OWNER. SEE 1:E6.1 FOR OUTLET DETAILS.
6. TELECOM DISTRIBUTION DEVICE APPROXIMATELY 4'-0" AFF. SEE DETAIL 1:E6.1.
7. SWITCHED RECEPTACLE BELOW COUNTER FOR GARBAGE DISPOSAL.
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10. PROVIDE 30A/2P DISCONNECT SWITCH AND CONNECT WATER HEATER.
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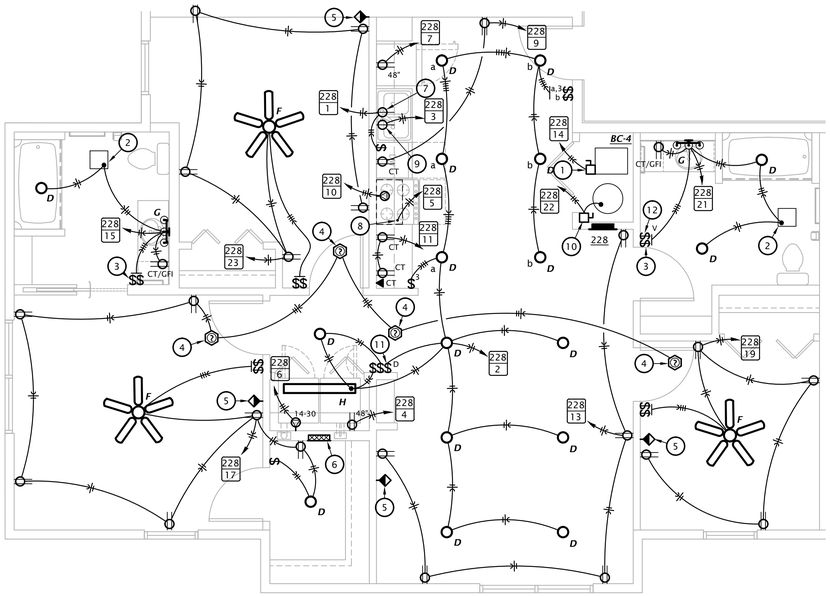
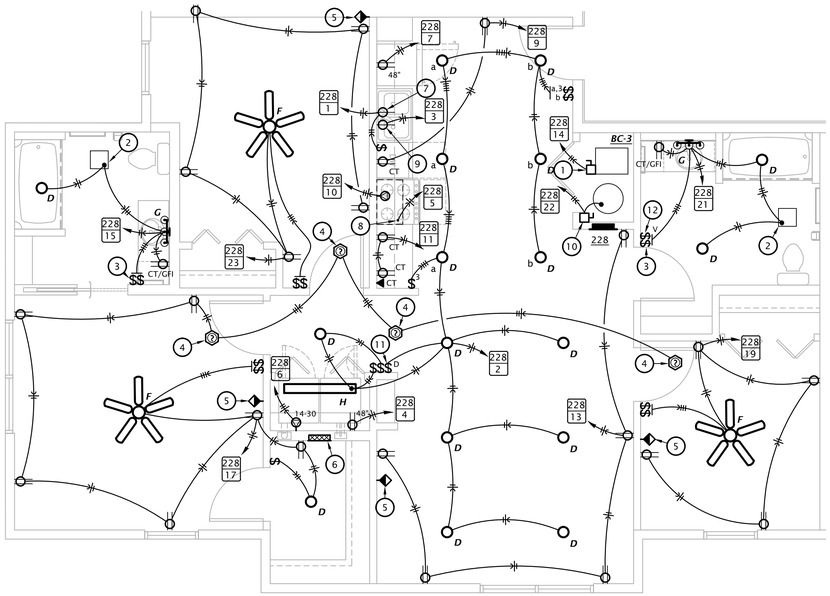
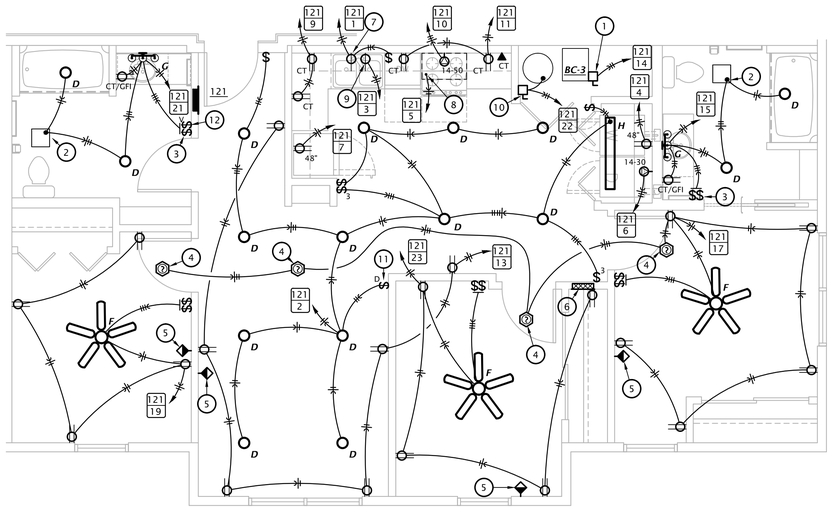


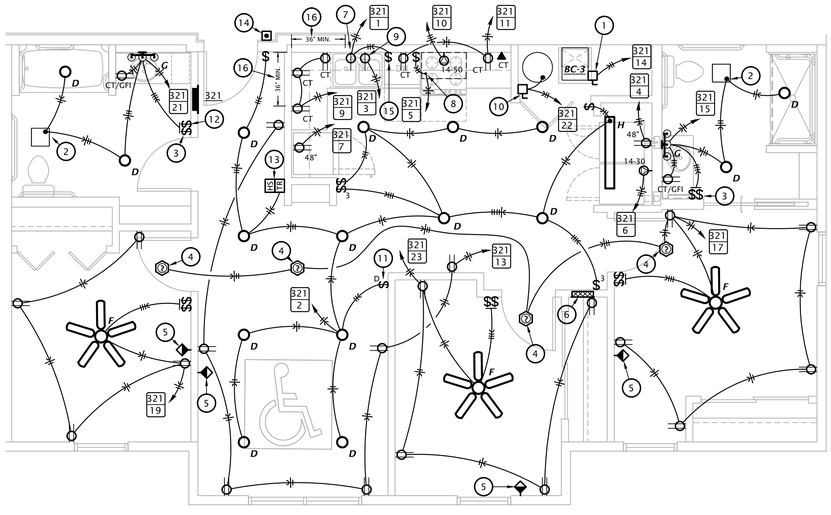
(4) 3 BEDROOM ELECTRICAL PLAN (APT. 428)
1/4" = 1'-0"



(3) 3 BEDROOM ELECTRICAL PLAN (TYPE D)
1/4" = 1'-0"



(2) 3 BEDROOM ELECTRICAL PLAN (TYPES B, AND E)
1/4" = 1'-0"



(1) 3 BEDROOM ACCESSIBLE ELECTRICAL PLAN (TYPE A)
1/4" = 1'-0"

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THE RESERVES at MAGNOLIA
NEW APARTMENT COMPLEX
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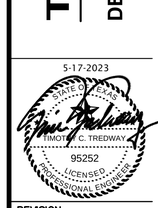

REVISION:

DATE: 06-26-2023
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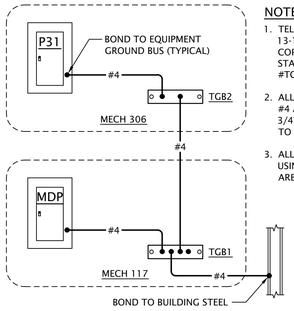
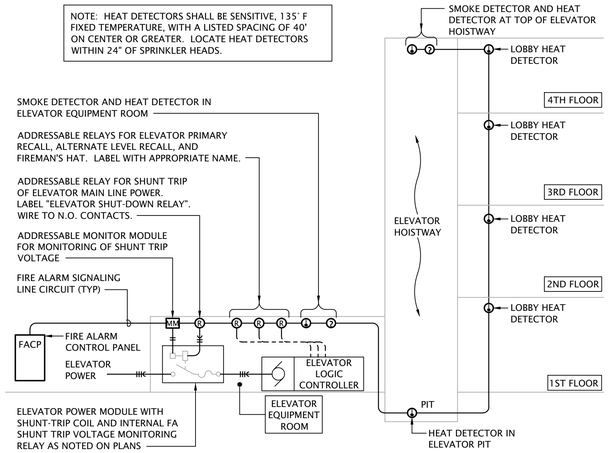


NOTES:

1. TELECOMMUNICATIONS GROUND BARS SHALL BE 13-1/4"W x 2"H x 1/4" THICK ELECTRO-TIN PLATED COPPER BUS BAR, COMPLETE WITH INSULATED STAND-OFFS AND STAINLESS STEEL BRACKETS, ERICO #TGBA14L06PT OR EQUAL.
2. ALL GROUNDING / BONDING CONDUCTORS SHALL BE #4 AWG INSULATED STRANDED COPPER. INSTALL IN 3/4" CONDUIT WHERE EXPOSED AND WHERE SUBJECT TO PHYSICAL DAMAGE.
3. ALL CONNECTIONS TO GROUND BAR SHALL BE MADE USING COMPRESSION TYPE LUGS (MECHANICAL LUGS ARE NOT ACCEPTABLE).

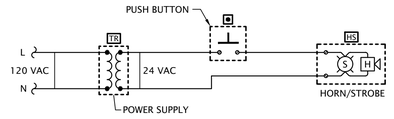
4 TELECOM GROUNDING & BONDING DIAGRAM
No Scale



ELEVATOR SEQUENCE OF OPERATION: (DURING SMOKE/HEAT ALARM)

1. UPON SENSING SMOKE FROM ONE OR MORE LOBBY, ELEVATOR HOISTWAY OR ELEVATOR EQUIPMENT ROOM, THE SMOKE DETECTOR SHALL SIGNAL THE FACP, WHICH WILL FORWARD THE SIGNAL TO THE ELEVATOR LOGIC CONTROLLER TO RECALL ELEVATOR CAB TO THE DESIGNATED MAIN FLOOR. IF DESIGNATED FLOOR'S LOBBY SMOKE DETECTOR SENSES SMOKE AT THAT FLOOR, THE ELEVATOR CONTROLLER WILL SEND THE ELEVATOR CAB TO THE NEXT FLOOR CLEAR OF SMOKE. ONCE THE ELEVATOR CAB HAS REACHED THE DESIGNATED FLOOR, THE ELEVATOR CAB DOORS WILL OPEN AND THE CONTROLLER WILL LOCK THE ELEVATOR CAB AT THAT FLOOR, DISABLING THE ELEVATOR CAB CONTROLS, UNLESS A FIREMAN'S KEY IS USED TO OVERRIDE AUTOMATIC CONTROLS.
2. ALL SMOKE DETECTORS (LOBBIES, HOISTWAY, MACHINE ROOM) SHALL TRANSMIT A SEPARATE AND DISTINCT VISIBLE ANNUNCIATION AT THE FACP AND ANNUNCIATOR PANEL.
3. HEAT DETECTORS IN THE ELEVATOR HOISTWAY AND ELEVATOR EQUIPMENT ROOM WILL SEND A SIGNAL TO THE SHUNT-TRIP SWITCH POWERING THE ELEVATOR SO AS TO SHUT DOWN POWER TO THAT CIRCUIT. (THIS IS A NON-AUTO RESET SWITCH). WHEN THE SPRINKLER HEAD HAS REACHED ITS CRITICAL TEMPERATURE OF 165° F., THE HEAD WILL BEGIN DISCHARGE OF WATER.

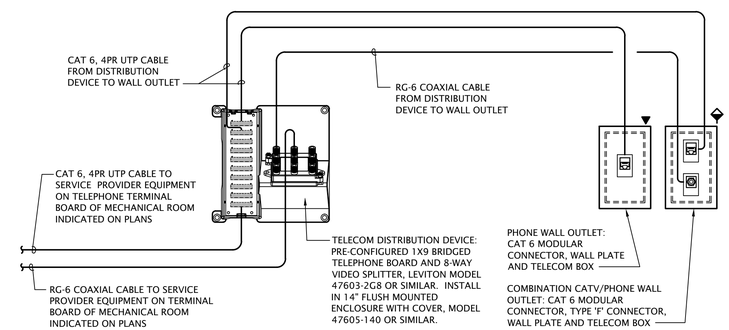
3 ELEVATOR INTERLOCK WITH FIRE ALARM
No Scale



DOOR ALARM BUZZER SYSTEM NOTES

1. PROVIDE DOOR ANNUNCIATOR SYSTEM COMPLETE WITH PUSH BUTTON, HORN/STROBE(S), POWER SUPPLIES AND ALL WIRING REQUIRED. HORN/STROBE SHALL ACTIVATE WHEN PUSH BUTTON IS DEPRESSED.
2. HORN/STROBE SHALL OPERATE AT 24VAC, HAVE A CLEAR LENS WITH 50cd STROBE AND HORN WITH 82dB AT 10', UL 1638 LISTED, EDWARDS #6536-G5. FLUSH MOUNT IN WALL AT 6'-8" AFF.
3. PUSH BUTTON SHALL BE WHITE WITH CHROME RIM, NON-ILLUMINATED, WITH N.O. MOMENTARY CONTACTS, RATED FOR 0.67 AMPS AT 24VAC, EDWARDS #620. PROVIDE WITH STAINLESS STEEL COVER PLATE, EDWARDS #147-10. MOUNT AT 48" AFF.
4. POWER SUPPLY SHALL BE A LOW VOLTAGE CLASS 2 TRANSFORMER WITH 120VAC PRIMARY AND 24VAC SECONDARY, 20VA, EDWARDS #598. FLUSH MOUNT IN 2-GANG WALL BOX WITH BLANK COVER PLATE, DIRECTLY ABOVE HORN/STROBE.
5. LOW VOLTAGE CLASS 2 CABLING SHALL BE MINIMUM 18 AWG UNSHIELDED.

2 APARTMENT DOORBELL WIRING SCHEMATIC
No Scale



1 APARTMENT TELECOM WIRING SCHEMATIC
NO SCALE

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Project 22062 May 2023

Dwelling Unit Meter Center 'MCA' Load Calculation

Area: 28,279 SF (Dwelling Units Only)
32 Dwelling Units

				Connected Load (VA)	Demand Load (VA)
Feeder & Service Loads per NEC 220.84 Part IV					
C1	General Loads (220.84 (C)(1))				
a	Lighting & Receptacles	3 VA/SF	28279 SF	84,837	
C2	Required Circuits (220.84 (C)(2))				
a	Laundry Circuit	1,500 VA/Circuit	32 Circuit	48,000	
b	Kitchen Circuits	1,500 VA/Circuit	64 Circuit	96,000	
C3	Nameplate Ratings of Equipment (220.84 (C)(3))				
a1	Microwave	1,000 VA/Circuit	32 ea	32,000	
a2	Dishwasher	840 VA/Circuit	32 ea	26,880	
a3	Disposal	1175 VA/Circuit	32 ea	37,600	
a4	Refrigerator	1200 VA/Circuit	32 ea	38,400	
b	Electric Range	8,000 VA/Circuit	32 ea	256,000	
c	Electric Clothes Dryer	5,000 VA/Circuit	32 ea	160,000	
C4	Nameplate Ratings of Motors (220.84 (C)(4))				
	Blower Fan #1	956 VA/Circuit	12 ea	11,472	
	Blower Fan #2	956 VA/Circuit	8 ea	7,648	
	Blower Fan #3	900 VA/Circuit	12 ea	10,800	
C5	Larger of Heating and A/C load (220.84 (C)(5))				
	Electric Heat (5 kW)	3,900 VA/Circuit	12 ea	46,800	
	Electric Heat (8 kW)	5,200 VA/Circuit	8 ea	41,600	
	Electric Heat (9.6 kW)	6,900 VA/Circuit	12 ea	82,800	
			Connected Load Total	980,837	
		Dwelling Unit Demand Load from Table 220.84 = 31%			**304,059**
			Meter Center NEC Demand Load (VA) Sub-Total		**304,059**
			Spare Capacity	**10%**	**30,406**
			Total Meter Center Demand Load (VA)		**334,465**
			Total Meter Center Demand Load (Amperes) @ 208Y/120V-3Ph, 4W		**929**

Provide 1000A Meter Center

APARTMENT FEEDER SCHEDULE

Apartment #	Feeder Size
111, 112, 113, 114, 128, 131, 211, 212, 213, 214, 226, 228, 231, 311, 312, 313, 314, 328, 331, 428, 431	COPPER (BASE BID): (3)#3, #6G IN 1-1/4" C OR MC-CABLE ALUMINUM (ALTERNATE BID): (3)#1, #4G IN 1-1/4" C OR MC-CABLE
116, 124, 126, 129, 216, 217, 224, 229, 316, 326, 329, 413, 414, 426, 429	COPPER (BASE BID): (3)#2, #6G IN 1-1/4" C OR MC-CABLE ALUMINUM (ALTERNATE BID): (3)#1/0, #4G IN 1-1/4" C OR MC-CABLE
118, 127, 218, 227, 317, 324, 416, 417, 424	COPPER (BASE BID): (3)#1, #4G IN 1-1/4" C OR MC-CABLE ALUMINUM (ALTERNATE BID): (3)#2/0, #2G IN 1-1/2" C OR MC-CABLE
121, 123, 219, 221, 223, 318, 319, 323, 327, 418, 419, 423, 427	COPPER (BASE BID): (3)#1/0, #3G IN 1-1/2" C OR MC-CABLE ALUMINUM (ALTERNATE BID): (3)#3/0, #1G IN 2" C OR MC-CABLE
321, 421	COPPER (BASE BID): (3)#2/0, #2G IN 1-1/2" C OR MC-CABLE ALUMINUM (ALTERNATE BID): (3)#4/0, #1G IN 2" C OR MC-CABLE

NOTES:

1. Voltage drop has been accounted for in sizes indicated, further up-sizing of feeders is not necessary
2. Ensure panel lugs are adequately sized to handle up-sized feeders.

NOTES:

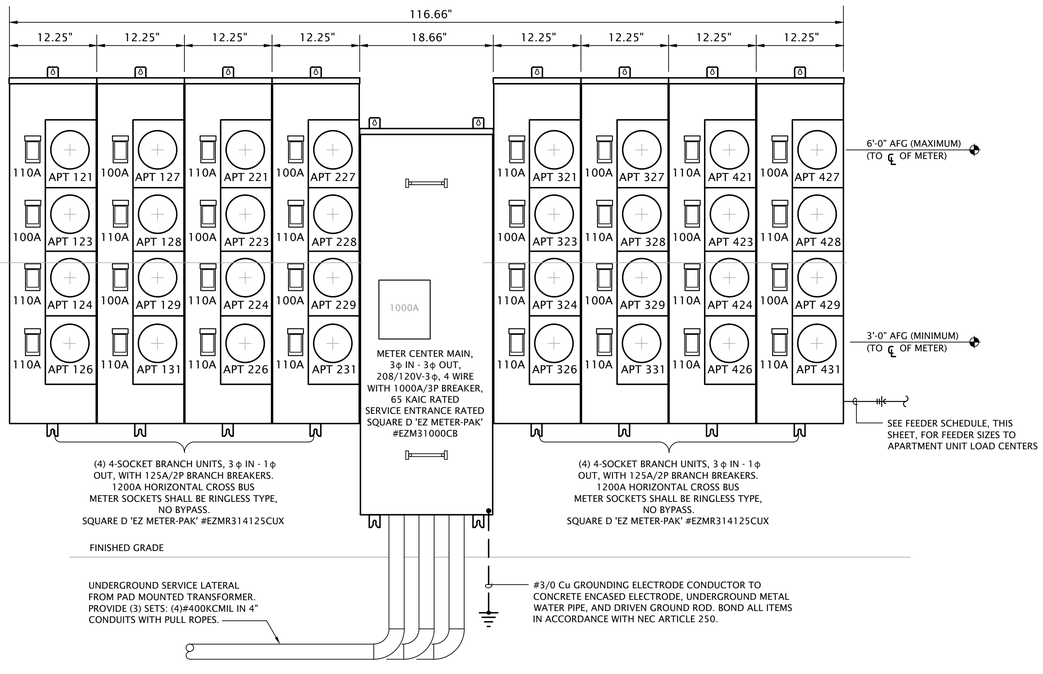
- Meter Center main circuit breakers shall be 65 kAIC fully rated. Feeder breakers may be series rated with main breaker for a 65 kAIC rating.
- All conductor sizes are based on copper, U.N.O.
- Entire installation shall comply with NEC.
- Coordinate all responsibilities and requirements with power utility company and pay associated fees. Contact Information:
  Denton Municipal Electric
  Daniel Howington
  Line Designer
  (940) 349-7168
  daniel.howington@cityofdenton.com
- Coordinate final location of meter assemblies with utility company. Provide shop drawings of proposed equipment whether as specified or substituted to utility company for approval.
- All meter center components shall be NEMA 3R.
- All dimensions based on Square D equipment. It is the contractor's responsibility to verify the dimensions of substitute equipment.
- For each meter, provide a permanent brass, copper or aluminum tag identifying the apartment served. Tags shall be securely fastened to the meter base and be stamped with 1/8" letters, minimum.

Dwelling Unit Meter Center 'MCB' Load Calculation

Area: 25,097 SF (Dwelling Units Only)
28 Dwelling Units

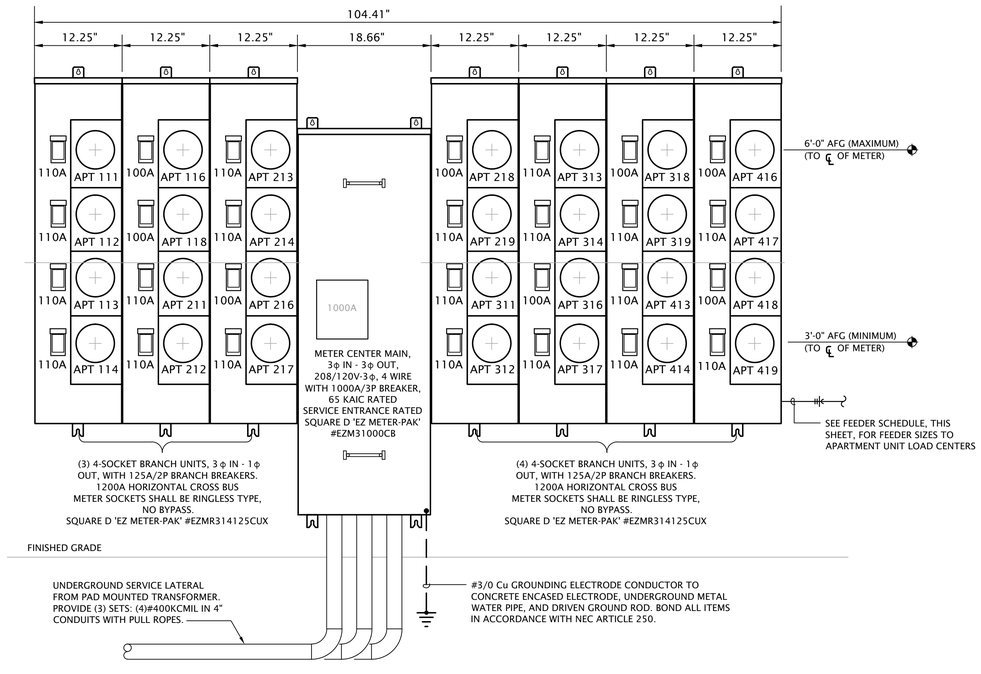
				Connected Load (VA)	Demand Load (VA)
Feeder & Service Loads per NEC 220.84 Part IV					
C1	General Loads (220.84 (C)(1))				
a	Lighting & Receptacles	3 VA/SF	25097 SF	75,291	
C2	Required Circuits (220.84 (C)(2))				
a	Laundry Circuit	1,500 VA/Circuit	28 Circuit	42,000	
b	Kitchen Circuits	1,500 VA/Circuit	56 Circuit	84,000	
C3	Nameplate Ratings of Equipment (220.84 (C)(3))				
a1	Microwave	1,000 VA/Circuit	28 ea	28,000	
a2	Dishwasher	840 VA/Circuit	28 ea	23,520	
a3	Disposal	1175 VA/Circuit	28 ea	32,900	
a4	Refrigerator	1200 VA/Circuit	28 ea	33,600	
b	Electric Range	8,000 VA/Circuit	28 ea	224,000	
c	Electric Clothes Dryer	5,000 VA/Circuit	28 ea	140,000	
C4	Nameplate Ratings of Motors (220.84 (C)(4))				
	Blower Fan #1	956 VA/Circuit	8 ea	7,648	
	Blower Fan #2	956 VA/Circuit	18 ea	17,208	
	Blower Fan #3	900 VA/Circuit	4 ea	3,600	
C5	Larger of Heating and A/C load (220.84 (C)(5))				
	Electric Heat (5 kW)	3,900 VA/Circuit	8 ea	31,200	
	Electric Heat (8 kW)	5,200 VA/Circuit	18 ea	93,600	
	Electric Heat (9.6 kW)	6,900 VA/Circuit	4 ea	27,600	
			Connected Load Total	864,167	
		Dwelling Unit Demand Load from Table 220.84 = 33%			**285,175**
			Meter Center NEC Demand Load (VA) Sub-Total		**285,175**
			Spare Capacity	**10%**	**28,518**
			Total Meter Center Demand Load (VA)		**313,693**
			Total Meter Center Demand Load (Amperes) @ 208Y/120V-3Ph, 4W		**871**

Provide 1000A Meter Center



② ELECTRICAL RISER DIAGRAM 'MCA'

No Scale



① ELECTRICAL RISER DIAGRAM 'MCB'

No Scale

JonesGillamRenz
730 N. Ninth 1881 Main Street, Suite 301
Salina, KS 67401 Kansas City, MO 64108
785.827.0386 jgr@jgrarchitects.com

THE RESERVES at MAGNOLIA

NEW APARTMENT COMPLEX

DENTON, TEXAS

5-17-2023

REVISION:

DATE: 06-26-2023
JOB: 21-3205
SHEET NO.:

E6.2

LST Consulting Engineers, PA
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WICHITA
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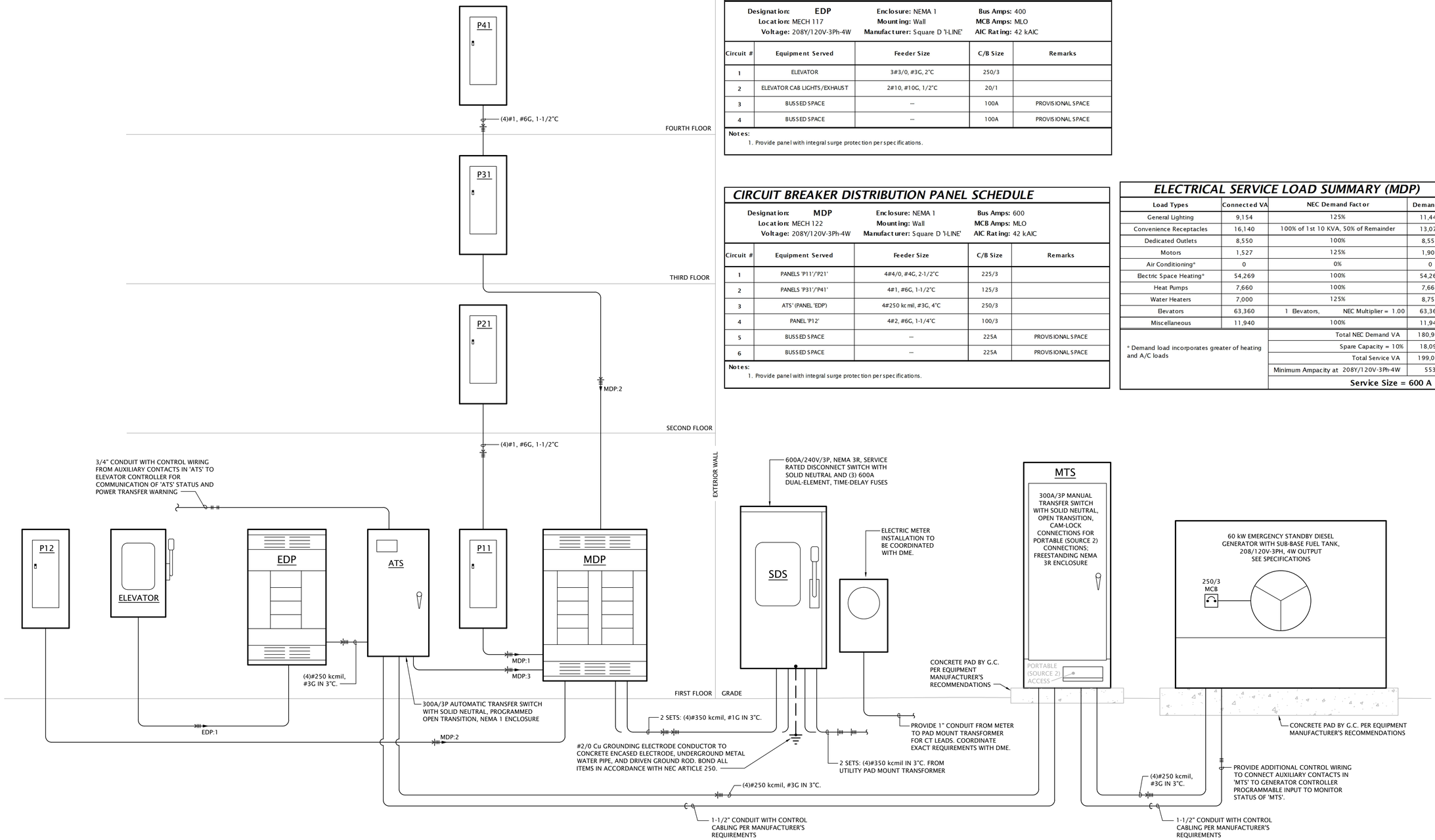
316.285.0696
www.LSTengineers.com
mail@LSTengineers.com

Project 22062 May 2023



CIRCUIT BREAKER DISTRIBUTION PANEL SCHEDULE

Designation: EDP **Enclosure:** NEMA 1 **Bus Amps:** 400
Location: MECH 117 **Mounting:** Wall **MCB Amps:** MLO
Voltage: 208Y/120V-3Ph-4W **Manufacturer:** Square D 'I-LINE' **AIC Rating:** 42 kAIC

Circuit #	Equipment Served	Feeder Size	C/B Size	Remarks
1	ELEVATOR	3#3/0, #3G, 2"C	250/3	
2	ELEVATOR CAB LIGHTS/EXHAUST	2#10, #10G, 1/2"C	20/1	
3	BUSSED SPACE	---	100A	PROVISIONAL SPACE
4	BUSSED SPACE	---	100A	PROVISIONAL SPACE

Notes:
1. Provide panel with integral surge protection per specifications.

CIRCUIT BREAKER DISTRIBUTION PANEL SCHEDULE

Designation: MDP **Enclosure:** NEMA 1 **Bus Amps:** 600
Location: MECH 122 **Mounting:** Wall **MCB Amps:** MLO
Voltage: 208Y/120V-3Ph-4W **Manufacturer:** Square D 'I-LINE' **AIC Rating:** 42 kAIC

Circuit #	Equipment Served	Feeder Size	C/B Size	Remarks
1	PANELS 'P11'/'P21'	4#4/0, #4G, 2-1/2"C	225/3	
2	PANELS 'P31'/'P41'	4#1, #6G, 1-1/2"C	125/3	
3	ATS' (PANEL 'EDP')	4#250 kcmil, #3G, 4"C	250/3	
4	PANEL 'P12'	4#2, #6G, 1-1/4"C	100/3	
5	BUSSED SPACE	---	225A	PROVISIONAL SPACE
6	BUSSED SPACE	---	225A	PROVISIONAL SPACE

Notes:
1. Provide panel with integral surge protection per specifications.

ELECTRICAL SERVICE LOAD SUMMARY (MDP)

Load Types	Connected VA	NEC Demand Factor	Demand VA
General Lighting	9,154	125%	11,443
Convenience Receptacles	16,140	100% of 1st 10 KVA, 50% of Remainder	13,070
Dedicated Outlets	8,550	100%	8,550
Motors	1,527	125%	1,909
Air Conditioning*	0	0%	0
Electric Space Heating*	54,269	100%	54,269
Heat Pumps	7,660	100%	7,660
Water Heaters	7,000	125%	8,750
Elevators	63,360	1 Elevators, NEC Multiplier = 1.00	63,360
Miscellaneous	11,940	100%	11,940
		Total NEC Demand VA	180,950
		Spare Capacity = 10%	18,095
		Total Service VA	199,045
		Minimum Ampacity at 208Y/120V-3Ph-4W	553
		Service Size = 600 A	

* Demand load incorporates greater of heating and A/C loads

1 ELECTRICAL RISER DIAGRAM - HOUSE SERVICE

No Scale

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THE RESERVES at MAGNOLIA

NEW APARTMENT COMPLEX

DENTON, TEXAS

5-17-2023

STATE OF TEXAS
TIMOTHY C. TREDWAY
95252
LICENSED
PROFESSIONAL ENGINEER

REVISION:

DATE: 06-26-2023
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SHEET NO.:

E6.3

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Wichita, Kansas 67202
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mail@LSTengineers.com

Project 22062 May 2023

PANEL 'P12' LOAD SUMMARY

Load Types	Connected VA	NEC Demand Factor	Demand VA
General Lighting	2,030	125%	2,538
Convenience Receptacles	5,400	100% of 1st 10 KVA, 50% of Remainder	5,400
Dedicated Outlets	4,150	100%	4,150
Motors	827	125%	1,034
Electric Space Heating*	15,269	100%	15,269
Water Heaters	2,500	125%	3,125
		Total NEC Demand VA	31,515
* Demand load incorporates greater of heating and A/C loads		Spare Capacity = 10%	3,151
		Total Service VA	34,666
		Minimum Ampacity at 208Y/120V-3Ph-4W	96
		Minimum Panel Size = 100 A	

Designation: P12 **Manufacturer:** Square D 'NQ'
Location: Pantry 107 **Bus Amps:** 100
Voltage: 208Y/120V-3Ph-4W **MCB Amps:** MLO
Enclosure: NEMA 1 **AIC Rating:** 22 kAIC
Mounting: Recessed **Other:**

Circuit #	Load Description	Conductors	C/B Size	C/B Size	Conductors	Load Description	Circuit #
1	LTG - CLUBHOUSE	2#12, #12G, 1/2"C	20 / 1	20 / 1	2#12, #12G, 1/2"C	RECEPT - FITNESS 102	2
3	LTG - FITNESS, HALL	2#12, #12G, 1/2"C	20 / 1	20 / 1	2#12, #12G, 1/2"C	RECEPT - FITNESS 102	4
5	RECEPT - COMMUNITY 106	2#12, #12G, 1/2"C	20 / 1	20 / 1	2#12, #12G, 1/2"C	RECEPT - FITNESS 102	6
7	RECEPT - COMMUNITY 106	2#12, #12G, 1/2"C	20 / 1	20 / 1	2#12, #12G, 1/2"C	RECEPT - FITNESS 102	8
9	DISHWASHER COMMUNITY 106	2#12, #12G, 1/2"C	20 / 1	20 / 1	2#12, #12G, 1/2"C	RECEPTS - FITNESS 102	10
11	REFRIG.COMMUNITY 106	2#12, #12G, 1/2"C	20 / 1	20 / 1	2#12, #12G, 1/2"C	RECEPT - FITNESS 102 'EWC'	12
13	COUNTERTOP RECEPTS COMMUNITY 106	2#12, #12G, 1/2"C	20 / 1	20 / 1	2#12, #12G, 1/2"C	RECEPT - HALL 101, MEN 103, WOMEN 104	14
15	RECEPT - PANTRY 107	2#12, #12G, 1/2"C	20 / 1	35 / 2	2#8,#10G,3/4"C	BLOWER COIL 'BC-2' FITNESS/HALL	16
17	RECEPT - PANTRY 107	2#12, #12G, 1/2"C	20 / 1				18
19	RECEPT - OFFICE 108	2#12, #12G, 1/2"C	20 / 1	50 / 2	2#6,#10G,3/4"C	BLOWER COIL 'BC-4' COMMUNITY/OFFICE	20
21	RECEPT - OFFICE 109	2#12, #12G, 1/2"C	20 / 1				22
23	ELECTRIC WALL HEATER 'EWH' - MECH 105	2#10,#10G, 3/4"C	30 / 2	30 / 1	2#10,#10G, 3/4"C	WATER HEATER 'HWH'	24
25				15 / 1	2#12, #12G, 1/2"C	HOT WATER RECIRC PUMP 'HWP'	26
27	RECEPT: 'ERV-1'	2#12, #12G, 1/2"C	15 / 1	20 / 1	---	SPARE BREAKER	28
29	RECEPT: 'ERV-2'	2#12, #12G, 1/2"C	15 / 1	20 / 1	---	SPARE BREAKER	30
31	OFFICE 108 LTG/CONTROLLED RCPTS	2#12, #12G, 1/2"C	20 / 1	20 / 1	---	SPARE BREAKER	32
33	OFFICE 109 LTG/CONTROLLED RCPTS	2#12, #12G, 1/2"C	20 / 1	20 / 1	---	SPARE BREAKER	34
35	SPACE ONLY	---	---	---	---	SPACE ONLY	36
37	SPACE ONLY	---	---	---	---	SPACE ONLY	38
39	SPACE ONLY	---	---	---	---	SPACE ONLY	40
41	SPACE ONLY	---	---	---	---	SPACE ONLY	42

PANEL 'P31'/'P41' LOAD SUMMARY

Load Types	Connected VA	NEC Demand Factor	Demand VA
General Lighting	2,416	125%	3,020
Convenience Receptacles	5,040	100% of 1st 10 KVA, 50% of Remainder	5,040
Dedicated Outlets	1,600	100%	1,600
Motors	700	125%	875
Electric Space Heating*	18,000	100%	18,000
		Total NEC Demand VA	36,195
* Demand load incorporates greater of heating and A/C loads		Spare Capacity = 10%	3,620
		Total Service VA	39,815
		Minimum Ampacity at 208Y/120V-3Ph-4W	111
		Minimum Panel Size = 125 A	

Designation: P41 **Manufacturer:** Square D 'NQ'
Location: MECH 416 **Bus Amps:** 225
Voltage: 208Y/120V-3Ph-4W **MCB Amps:** MLO
Enclosure: NEMA 1 **AIC Rating:** 18 kAIC
Mounting: Surface **Other:**

Circuit #	Load Description	Conductors	C/B Size	C/B Size	Conductors	Load Description	Circuit #	
1	LTG - STG 409, MECH 411, BREEZEWAY 402	2#12, #12G, 1/2"C	20 / 1	20 / 1	2#12, #12G, 1/2"C	RECEPT - BREEZEWAY 402	2	
3	LTG - BREEZEWAY 401	2#12, #12G, 1/2"C	20 / 1	20 / 1	2#12, #12G, 1/2"C	RECEPT - BREEZEWAY 401	4	
5	RECEPT - MECH 404, STG 403	2#12, #12G, 1/2"C	20 / 1	30 / 2	2#10, #10G, 3/4"C	ELECTRIC WALL HEATER 'EWH-8' - MECH 411	6	
7	ELECTRIC WALL HEATER 'EWH-7' - STG 403	2#12, #12G, 1/2"C	20 / 2				8	
9				20 / 1	2#12, #12G, 1/2"C	ROOF RECEPTACLES	10	
11	RECEPTS - RADON FANS	2#12, #12G, 1/2"C	20 / 1	20 / 1	2#12, #12G, 1/2"C	ROOF RECEPTACLES	12	
13	RECEPTS - RADON FANS	2#12, #12G, 1/2"C	20 / 1	25 / 2	2#10, #10G, 3/4"C	HEAT PUMP 'HP-2' HALL/FITNESS	14	2
15	HEAT PUMP 'HP-4' COMMUNITY/OFFICE	2#8, #10G, 3/4"C	35 / 2				16	2
17				25 / 2	2#10, #10G, 3/4"C	HEAT PUMP 'HP-A' ELEVATOR EQUIPMENT	18	2
19	ELECTRIC WALL HEATER 'EWH-13' - JANITOR	2#12, #12G, 1/2"C	20 / 2				20	
21				20 / 1	2#12, #12G, 1/2"C	BREEZEWAY EXHUAST	22	1
23	SPACE ONLY	---	---	---	---	SPACE ONLY	24	
25	SPACE ONLY	---	---	---	---	SPACE ONLY	26	
27	SPACE ONLY	---	---	---	---	SPACE ONLY	28	
29	SPACE ONLY	---	---	---	---	SPACE ONLY	30	

Designation: P31 **Manufacturer:** Square D 'NQ'
Location: MECH 306 **Bus Amps:** 225
Voltage: 208Y/120V-3Ph-4W **MCB Amps:** MLO
Enclosure: NEMA 1 **AIC Rating:** 18 kAIC
Mounting: Surface **Other:** Feed-Through Lugs

Circuit #	Load Description	Conductors	C/B Size	C/B Size	Conductors	Load Description	Circuit #	
1	LTG - STG 312, MECH 313, BREEZEWAY 301	2#12, #12G, 1/2"C	20 / 1	20 / 1	2#12, #12G, 1/2"C	RECEPT - BREEZEWAY 302	2	
3	LTG - BREEZEWAY 302	2#12, #12G, 1/2"C	20 / 1	20 / 1	2#12, #12G, 1/2"C	RECEPT - BREEZEWAY 301	4	
5	RECEPT - MECH 304, STG 303	2#12, #12G, 1/2"C	20 / 1	30 / 2	2#10, #10G, 3/4"C	ELECTRIC WALL HEATER 'EWH-6' - MECH 304	6	
7	ELECTRIC WALL HEATER 'EWH-5' - STG 303	2#12, #12G, 1/2"C	20 / 2				8	
9				20 / 1	2#12, #12G, 1/2"C	RECEPT - TELECOM BACKBOARD	10	1
11	ELECTRIC WALL HEATER 'EWH-12' - JANITOR	2#12, #12G, 1/2"C	20 / 2	20 / 1	2#12, #12G, 1/2"C	RECEPT - TELECOM BACKBOARD	12	1
13				20 / 1	2#12, #12G, 1/2"C	EXT. LTG - FACADE WALL SCONCE	14	
15	SPARE BREAKER	---	20 / 1	20 / 1	2#12, #12G, 1/2"C	BREEZEWAY EXHUAST	16	1
17	SPACE ONLY	---	---	---	---	SPACE ONLY	18	
19	SPACE ONLY	---	---	---	---	SPACE ONLY	20	
21	SPACE ONLY	---	---	---	---	SPACE ONLY	22	
23	SPACE ONLY	---	---	---	---	SPACE ONLY	24	
25	SPACE ONLY	---	---	---	---	SPACE ONLY	26	
27	SPACE ONLY	---	---	---	---	SPACE ONLY	28	
29	SPACE ONLY	---	---	---	---	SPACE ONLY	30	

PANEL 'P11'/'P21' LOAD SUMMARY

Load Types	Connected VA	NEC Demand Factor	Demand VA
General Lighting	4,708	125%	5,885
Convenience Receptacles	5,700	100% of 1st 10 KVA, 50% of Remainder	5,700
Dedicated Outlets	2,800	100%	2,800
Electric Space Heating*	21,000	100%	21,000
Miscellaneous	10,440	100%	10,440
		Total NEC Demand VA	51,450
* Demand load incorporates greater of heating and A/C loads		Spare Capacity = 10%	5,145
		Total Service VA	56,595
		Minimum Ampacity at 208Y/120V-3Ph-4W	157
		Minimum Panel Size = 125 A	

Designation: P21 **Manufacturer:** Square D 'NQ'
Location: MECH 206 **Bus Amps:** 225
Voltage: 208Y/120V-3Ph-4W **MCB Amps:** MLO
Enclosure: NEMA 1 **AIC Rating:** 22 kAIC
Mounting: Surface **Other:**

Circuit #	Load Description	Conductors	C/B Size	C/B Size	Conductors	Load Description	Circuit #	
1	LTG - STG 212, MECH 213, BREEZEWAY 202	2#12, #12G, 1/2"C	20 / 1	20 / 1	2#12, #12G, 1/2"C	RECEPT - BREEZEWAY 202	2	
3	LTG - BREEZEWAY 201	2#12, #12G, 1/2"C	20 / 1	20 / 1	2#12, #12G, 1/2"C	RECEPT - BREEZEWAY 201	4	
5	RECEPT - MECH 204, STG 203	2#12, #12G, 1/2"C	20 / 1	30 / 2	2#10, #10G, 3/4"C	ELECTRIC WALL HEATER 'EWH-4' - MECH 204	6	
7	ELECTRIC WALL HEATER 'EWH-3' - STG 203	2#12, #12G, 1/2"C	20 / 2				8	
9				20 / 1	---	SPARE	10	
11	ELECTRIC WALL HEATER 'EWH-11' - JANITOR	2#12, #12G, 1/2"C	20 / 2	30 / 2	2#10, #10G, 3/4"C	WATER HEATER 'HWH-A'	12	
13							14	
15	SPACE ONLY	---	---	20 / 1	2#12, #12G, 1/2"C	BREEZEWAY EXHUAST	16	1
17	SPACE ONLY	---	---	---	---	SPACE ONLY	18	
19	SPACE ONLY	---	---	---	---	SPACE ONLY	20	
21	SPACE ONLY	---	---	---	---	SPACE ONLY	22	
23	SPACE ONLY	---	---	---	---	SPACE ONLY	24	
25	SPACE ONLY	---	---	---	---	SPACE ONLY	26	
27	SPACE ONLY	---	---	---	---	SPACE ONLY	28	
29	SPACE ONLY	---	---	---	---	SPACE ONLY	30	

Designation: P11 **Manufacturer:** Square D 'NQ'
Location: MECH 117 **Bus Amps:** 225
Voltage: 208Y/120V-3Ph-4W **MCB Amps:** MLO
Enclosure: NEMA 1 **AIC Rating:** 22 kAIC
Mounting: Surface **Other:** Feed-Through Lugs

Circuit #	Load Description	Conductors	C/B Size	C/B Size	Conductors	Load Description	Circuit #	
1	LTG - MECH 122, BREEZEWAY 132	2#12, #12G, 1/2"C	20 / 1	20 / 1	2#12, #12G, 1/2"C	RECEPT - BREEZEWAY 132	2	
3	LTG - BREEZEWAY 110	2#12, #12G, 1/2"C	20 / 1	20 / 1	2#12, #12G, 1/2"C	RECEPT - BREEZEWAY 110	4	
5	EXT. LTG - SOUTH	2#12, #12G, 1/2"C	1	20 / 1	2#12, #12G, 1/2"C	RECEPTS - NE EXTERIOR	6	
7	EXT. LTG - NORTH/WEST WALL PACKS	2#12, #12G, 1/2"C	20 / 1	20 / 1	2#12, #12G, 1/2"C	RECEPTS - SW EXTERIOR	8	
9	PARKING LOT POLE LIGHTS	2#10, #10G, 3/4"C	20 / 2	20 / 1	2#12, #12G, 1/2"C	RECEPT - FIRE SPRINKLER AIR COMPRESSOR	10	
11				30 / 2	2#10, #10G, 1/2"C	ELECTRIC WALL HEATER 'EWH-1' - SPRINKLER 133	12	
13	PARKING LOT POLE LIGHTS	2#10, #10G, 3/4"C	20 / 2				14	
15				20 / 1	2#12, #12G, 1/2"C	FIRE ALARM PANEL	16	1
17	EXT. LTG - FAÇADE WALL SCONCE	2#12, #12G, 1/2"C	20 / 1	20 / 1	2#12, #12G, 1/2"C	FIRE SPRINKLER FLOW/BELL	18	1
19	LTG - ELEV EQUIP/PIT	2#12, #12G, 1/2"C	20 / 1	30 / 2	2#10, #10G, 3/4"C	ELECTRIC WALL HEATER 'EWH-2' - MECH 122	20	
21	RECEPT - TELECOM BACKBOARD	2#12, #12G, 1/2"C	20 / 1				22	
23	RECEPT - TELECOM BACKBOARD	2#12, #12G, 1/2"C	20 / 1	20 / 1	2#12, #12G, 1/2"C	RECEPT - ELEVATOR PIT	24	
25	LIGHTING CONTROLS	2#12, #12G, 1/2"C	20 / 1	20 / 1	2#12, #12G, 1/2"C	RECEPT - ELEVATOR EQUIPMENT	26	
27	GENSET BATTERY CHARGER	SEE SITE PLAN E1.1	20 /	20 / 1	2#12, #12G, 1/2"C	BREEZEWAY EXHAUST	28	1
29	GENSET COOLANT HEATER	SEE SITE PLAN E1.1	20 / 1	40 / 2	2#8,#10G, 3/4"C	EV CHARGING STATION	30	
31	ELECTRIC WALL HEATER - 'EWH-10' - JANITOR	2#12, #12G, 1/2"C	20 / 2				32	
33				20 / 1	2#12, #12G, 1/2"C	RECEPT - EV CHARGING MAINTENANCE	34	
35	SPARE BREAKER	---	20 / 1	20 / 1	---	SPARE BREAKER	36	
37	SPARE BREAKER	---	20 / 1	---	---	SPACE ONLY	38	
39	SPACE ONLY	---	---	---	---	SPACE ONLY	40	
41	SPACE ONLY	---	---	---	---	SPACE ONLY	42	
43	SPACE ONLY	---	---	---	---	SPACE ONLY	44	
45	SPACE ONLY	---	---	---	---	SPACE ONLY	46	
47	SPACE ONLY	---	---	---	---	SPACE ONLY	48	
49	SPACE ONLY	---	---	---	---	SPACE ONLY	50	
51	SPACE ONLY	---	---	---	---	SPACE ONLY	52	
53	SPACE ONLY	---	---	---	---	SPACE ONLY	54	

PANEL SCHEDULE NOTES BY SYMBOL

1. PROVIDE LOCK-ON CLIP FOR BREAKER.
2. HACR RATED BREAKER.

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THE RESERVES at MAGNOLIA
NEW APARTMENT COMPLEX
DENTON, TEXAS

5-17-2023

STATE OF KANSAS
TIMOTHY C. TREDWAY
95252
LICENSED PROFESSIONAL ENGINEER

REVISION:
1 06-26-2023

DATE: 06-26-2023
JOB: 21-3205
SHEET NO.:

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Project 22062 May 2023

PANEL SCHEDULE NOTES BY SYMBOL

1. ARC FAULT CIRCUIT INTERRUPTING (AFCI) TYPE BREAKER.
2. CLASS 'A', 5mA RATED GROUND FAULT CIRCUIT INTERRUPTING (GFCI) TYPE BREAKER.
3. COMBINATION AFCI/GFCI TYPE BREAKER.

Designation: (3BR Apt #) **Manufacturer:** Square D 'NQ'
Location: 3 Bedroom Apt **Bus Amps:** 125
Voltage: 208/120V-1Ph-3W **MCB Amps:** MLO
Enclosure: NEMA 1 **AIC Rating:** 10 kAIC
Mounting: Recessed Flush **Other:**

	Circuit #	Load Description	Conductors	C/B Size	C/B Size	Conductors	Load Description	Circuit #	
3	1	DISPOSAL	2#12,#12G,1/2"C	20 / 1	20 / 1	2#12,#12G,1/2"C	KITCHEN/LIVING/ LAUNDRY LTS	2	1
3	3	DISHWASHER	2#12,#12G,1/2"C	20 / 1	20 / 1	2#12,#12G,1/2"C	CLOTHES WASHER RCPT	4	3
3	5	HOOD/MICROWAVE	2#12,#12G,1/2"C	20 / 1	30 / 2	3#10,#10G,3/4"C	CLOTHES DRYER	6	
3	7	REFRIGERATOR	2#12,#12G,1/2"C	20 / 1				8	2
3	9	KITCHEN RCPTS	2#12,#12G,1/2"C	20 / 1	50 / 2	3#6,#10G,1"C	RANGE	10	
3	11	KITCHEN RCPTS	2#12,#12G,1/2"C	20 / 1				12	2
1	13	LIVING ROOM RCPTS	2#12,#12G,1/2"C	20 / 1	35 / 2	2#8,#10G,3/4"C	BLOWER COIL	14	
	15	MASTER BATHROOM	2#12,#12G,1/2"C	20 / 1				16	
1	17	MASTER BEDROOM	2#12,#12G,1/2"C	20 / 1	30 / 2	2#10,#10G,3/4"C	HEAT PUMP	18	
1	19	2ND BEDROOM	2#12,#12G,1/2"C	20 / 1				20	
	21	2ND BATHROOM	2#12,#12G,1/2"C	20 / 1	30 / 2	2#10,#10G,1/2"C	WATER HEATER 'HWH'	22	
1	23	3RD BEDROOM	2#12,#12G,1/2"C	20 / 1				24	

Designation: (2BR Apt #) **Manufacturer:** Square D 'NQ'
Location: 2 Bedroom Apt **Bus Amps:** 125
Voltage: 208/120V-1Ph-3W **MCB Amps:** MLO
Enclosure: NEMA 1 **AIC Rating:** 10 kAIC
Mounting: Recessed Flush **Other:**

	Circuit #	Load Description	Conductors	C/B Size	C/B Size	Conductors	Load Description	Circuit #	
3	1	DISPOSAL	2#12,#12G,1/2"C	20 / 1	20 / 1	2#12,#12G,1/2"C	KITCHEN/LIVING/ LAUNDRY LTS	2	1
3	3	DISHWASHER	2#12,#12G,1/2"C	20 / 1	20 / 1	2#12,#12G,1/2"C	CLOTHES WASHER RCPT	4	3
3	5	HOOD/MICROWAVE	2#12,#12G,1/2"C	20 / 1	30 / 2	3#10,#10G,3/4"C	CLOTHES DRYER	6	
3	7	REFRIGERATOR	2#12,#12G,1/2"C	20 / 1				8	2
3	9	KITCHEN RCPTS	2#12,#12G,1/2"C	20 / 1	50 / 2	3#6,#10G,1"C	RANGE	10	
3	11	KITCHEN RCPTS	2#12,#12G,1/2"C	20 / 1				12	2
1	13	LIVING ROOM RCPTS	2#12,#12G,1/2"C	20 / 1	25 / 2	2#10,#10G,1/2"C	BLOWER COIL 'BC-2' (SEE NOTE BELOW)	14	
	15	MASTER BATHROOM	2#12,#12G,1/2"C	20 / 1				16	
1	17	MASTER BEDROOM	2#12,#12G,1/2"C	20 / 1	25 / 2	2#10,#10G,3/4"C	HEAT PUMP 'HP-2' (SEE NOTE BELOW)	18	
1	19	2ND BEDROOM	2#12,#12G,1/2"C	20 / 1				20	
	21	2ND BATHROOM	2#12,#12G,1/2"C	20 / 1	30 / 2	2#10,#10G,1/2"C	WATER HEATER 'HWH'	22	
	23	SPACE ONLY	---	---				24	

NOTE: FOR UNITS 111, 112, 211, 212, 311, 312, 413, 414 REPLACE BC-2 WITH BC-3 AND HP-2 WITH HP-3. PROVIDE THE FOLLOWING BREAKERS/CIRCUITRY:
BC-3: 35A/2P BREAKER WITH 2#8,#10G., 3/4"C.
HP-3: 30A/2P BREAKER WITH 2#10,#10G., 3/4"C.

Designation: (1BR Apt #) **Manufacturer:** Square D 'NQ'
Location: 1 Bedroom Apt **Bus Amps:** 125
Voltage: 208/120V-1Ph-3W **MCB Amps:** MLO
Enclosure: NEMA 1 **AIC Rating:** 10 kAIC
Mounting: Recessed Flush **Other:**

	Circuit #	Load Description	Conductors	C/B Size	C/B Size	Conductors	Load Description	Circuit #	
3	1	DISPOSAL	2#12,#12G,1/2"C	20 / 1	20 / 1	2#12,#12G,1/2"C	KITCHEN/LIVING/ LAUNDRY LTS	2	1
3	3	DISHWASHER	2#12,#12G,1/2"C	20 / 1	20 / 1	2#12,#12G,1/2"C	CLOTHES WASHER RCPT	4	3
3	5	HOOD/MICROWAVE	2#12,#12G,1/2"C	20 / 1	30 / 2	3#10,#10G,3/4"C	CLOTHES DRYER	6	
3	7	REFRIGERATOR	2#12,#12G,1/2"C	20 / 1				8	2
3	9	KITCHEN RCPTS	2#12,#12G,1/2"C	20 / 1	50 / 2	3#6,#10G,1"C	RANGE	10	
3	11	KITCHEN RCPTS	2#12,#12G,1/2"C	20 / 1				12	2
1	13	LIVING ROOM RCPTS	2#12,#12G,1/2"C	20 / 1	20 / 2	2#12,#12G,1/2"C	BLOWER COIL	14	
	15	BATHROOM	2#12,#12G,1/2"C	20 / 1				16	
1	17	BEDROOM	2#12,#12G,1/2"C	20 / 1	20 / 2	2#12,#12G,1/2"C	HEAT PUMP	18	
	19	SPACE ONLY	---	---				20	
	21	SPACE ONLY	---	---	30 / 2	2#10,#10G,1/2"C	WATER HEATER 'HWH'	22	
	23	SPACE ONLY	---	---				24	

Units 3A/3B (3 Bed / 2 Bath) Feeder Calculation

Area 1127 SF

				Connected Load (VA)	Demand Load (VA)
Feeder & Service Loads per NEC 220.82 Part IV					
B GENERAL LOADS					
B1 General Lighting & Receptacles (220.82 (B)(1))					
a) Lighting & Receptacles	3 VA/SF	1127 SF		3,381	
B2 Small Appliance & Laundry Branch Circuits (220.82 (B)(2))					
a) Laundry Circuit	1,500 VA/Circuit	1 Circuit		1,500	
b) Kitchen Circuits	1,500 VA/Circuit	2 Circuit		3,000	
B3 Nameplate Ratings of Equipment (220.82 (B)(3))					
a1) Dishwasher	840 VA/Circuit	1 ea		840	
a2) Refrigerator	1,000 VA/Circuit	1 ea		1,000	
a3) Microwave	1,000 VA/Circuit	1 ea		1,000	
a4) Disposal	1,175 VA/Circuit	1 ea		1,175	
b) Electric Range	8,000 VA/Circuit	1 ea		8,000	
c) Clothes Dryer	5,000 VA/Circuit	1 ea		5,000	
d) Water Heater	4,500 VA/Circuit	1 ea		4,500	
B4 Nameplate Ratings of Motors (220.82 (B)(4))					
1) Furnace Blower Fan	900 VA/Circuit	1 ea		900	
			Part (B) Connected Load Total	30,296	
			Part (B) Demand Load Total (100% of 1st 10KVA + 40% of remainder)		18,118
C HEATING AND AIR-CONDITIONING LOAD					
C2 100% Nameplate Ratings of Heat Pump (220.82 (C)(2))					
1) Heat Pump Unit #3	3,744 VA/Circuit	1 ea		3,744	
C4 65% of Total Electric Heat if < 4 Separately Controlled Units (220.82 (C)(4))					
1) kW of Electric Heat	6.90 kW	65%		4,485	
			Part (C) Connected Load Total	8,229	
			Part (C) Demand Load (Largest of C1 - C5)		4,485
			Total Dwelling Unit Demand Load		**22,603**
			Total Amps @ 208/120V-1Ph-3W		**109**

Provide 125A Load Center & Feed with 110A/2P Breaker

Units 2A/2B/2C (2 Bed / 2 Bath) Feeder Calculation

Area 896 SF

				Connected Load (VA)	Demand Load (VA)
Feeder & Service Loads per NEC 220.82 Part IV					
B GENERAL LOADS					
B1 General Lighting & Receptacles (220.82 (B)(1))					
a) Lighting & Receptacles	3 VA/SF	896 SF		2,688	
B2 Small Appliance & Laundry Branch Circuits (220.82 (B)(2))					
a) Laundry Circuit	1,500 VA/Circuit	1 Circuit		1,500	
b) Kitchen Circuits	1,500 VA/Circuit	2 Circuit		3,000	
B3 Nameplate Ratings of Equipment (220.82 (B)(3))					
a1) Dishwasher	840 VA/Circuit	1 ea		840	
a2) Refrigerator	1,000 VA/Circuit	1 ea		1,000	
a3) Microwave	1,000 VA/Circuit	1 ea		1,000	
a4) Disposal	1,175 VA/Circuit	1 ea		1,175	
b) Electric Range	8,000 VA/Circuit	1 ea		8,000	
c) Clothes Dryer	5,000 VA/Circuit	1 ea		5,000	
d) Water Heater	4,500 VA/Circuit	1 ea		4,500	
B4 Nameplate Ratings of Motors (220.82 (B)(4))					
1) Furnace Blower Fan	956 VA/Circuit	1 ea		956	
			Part (B) Connected Load Total	29,659	
			Part (B) Demand Load Total (100% of 1st 10KVA + 40% of remainder)		17,864
C HEATING AND AIR-CONDITIONING LOAD					
C2 100% Nameplate Ratings of Heat Pump (220.82 (C)(2))					
1) Heat Pump Unit #2	3,057 VA/Circuit	1 ea		3,057	
C4 65% of Total Electric Heat if < 4 Separately Controlled Units (220.82 (C)(4))					
1) kW of Electric Heat	5.20 kW	65%		3,380	
			Part (C) Connected Load Total	6,437	
			Part (C) Demand Load (Largest of C1 - C5)		3,380
			Total Dwelling Unit Demand Load		**21,244**
			Total Amps @ 208/120V-1Ph-3W		**102**

Provide 125A Load Center & Feed with 110A/2P Breaker

Units 3D (3 Bed / 2 Bath) Feeder Calculation

Area 1294 SF

				Connected Load (VA)	Demand Load (VA)
Feeder & Service Loads per NEC 220.82 Part IV					
B GENERAL LOADS					
B1 General Lighting & Receptacles (220.82 (B)(1))					
a) Lighting & Receptacles	3 VA/SF	1294 SF		3,882	
B2 Small Appliance & Laundry Branch Circuits (220.82 (B)(2))					
a) Laundry Circuit	1,500 VA/Circuit	1 Circuit		1,500	
b) Kitchen Circuits	1,500 VA/Circuit	2 Circuit		3,000	
B3 Nameplate Ratings of Equipment (220.82 (B)(3))					
a1) Dishwasher	840 VA/Circuit	1 ea		840	
a2) Refrigerator	1,000 VA/Circuit	1 ea		1,000	
a3) Microwave	1,000 VA/Circuit	1 ea		1,000	
a4) Disposal	1,175 VA/Circuit	1 ea		1,175	
b) Electric Range	8,000 VA/Circuit	1 ea		8,000	
c) Clothes Dryer	5,000 VA/Circuit	1 ea		5,000	
d) Water Heater	4,500 VA/Circuit	1 ea		4,500	
B4 Nameplate Ratings of Motors (220.82 (B)(4))					
1) Furnace Blower Fan	900 VA/Circuit	1 ea		900	
			Part (B) Connected Load Total	30,797	
			Part (B) Demand Load Total (100% of 1st 10KVA + 40% of remainder)		18,319
C HEATING AND AIR-CONDITIONING LOAD					
C2 100% Nameplate Ratings of Heat Pump (220.82 (C)(2))					
1) Heat Pump Unit #3	3,744 VA/Circuit	1 ea		3,744	
C4 65% of Total Electric Heat if < 4 Separately Controlled Units (220.82 (C)(4))					
1) kW of Electric Heat	6.90 kW	65%		4,485	
			Part (C) Connected Load Total	8,229	
			Part (C) Demand Load (Largest of C1 - C5)		4,485
			Total Dwelling Unit Demand Load		**22,804**
			Total Amps @ 208/120V-1Ph-3W		**110**

Provide 125A Load Center & Feed with 110A/2P Breaker

Unit 2D (2 Bed / 2 Bath) Feeder Calculation

Area 1011 SF

				Connected Load (VA)	Demand Load (VA)
Feeder & Service Loads per NEC 220.82 Part IV					
B GENERAL LOADS					
B1 General Lighting & Receptacles (220.82 (B)(1))					
a) Lighting & Receptacles	3 VA/SF	1011 SF		3,033	
B2 Small Appliance & Laundry Branch Circuits (220.82 (B)(2))					
a) Laundry Circuit	1,500 VA/Circuit	1 Circuit		1,500	
b) Kitchen Circuits	1,500 VA/Circuit	2 Circuit		3,000	
B3 Nameplate Ratings of Equipment (220.82 (B)(3))					
a1) Dishwasher	840 VA/Circuit	1 ea		840	
a2) Refrigerator	1,000 VA/Circuit	1 ea		1,000	
a3) Microwave	1,000 VA/Circuit	1 ea		1,000	
a4) Disposal	1,175 VA/Circuit	1 ea		1,175	
b) Electric Range	8,000 VA/Circuit	1 ea		8,000	
c) Clothes Dryer	5,000 VA/Circuit	1 ea		5,000	
d) Water Heater	4,500 VA/Circuit	1 ea		4,500	
B4 Nameplate Ratings of Motors (220.82 (B)(4))					
1) Furnace Blower Fan	956 VA/Circuit	1 ea		956	
			Part (B) Connected Load Total	30,004	
			Part (B) Demand Load Total (100% of 1st 10KVA + 40% of remainder)		18,002
C HEATING AND AIR-CONDITIONING LOAD					
C2 100% Nameplate Ratings of Heat Pump (220.82 (C)(2))					
1) Heat Pump Unit #3	3,057 VA/Circuit	1 ea		3,057	
C4 65% of Total Electric Heat if < 4 Separately Controlled Units (220.82 (C)(4))					
1) kW of Electric Heat	6.90 kW	65%		4,485	
			Part (C) Connected Load Total	7,542	
			Part (C) Demand Load (Largest of C1 - C5)		4,485
			Total Dwelling Unit Demand Load		**22,487**
			Total Amps @ 208/120V-1Ph-3W		**108**

Provide 125A Load Center & Feed with 110A/2P Breaker

Units 1A/1B/1C (1 Bed / 1 Bath) Feeder Calculation

Area 701 SF

				Connected Load (VA)	Demand Load (VA)
Feeder & Service Loads per NEC 220.82 Part IV					
B GENERAL LOADS					
B1 General Lighting & Receptacles (220.82 (B)(1))					
a) Lighting & Receptacles	3 VA/SF	701 SF		2,103	
B2 Small Appliance & Laundry Branch Circuits (220.82 (B)(2))					
a) Laundry Circuit	1,500 VA/Circuit	1 Circuit		1,500	
b) Kitchen Circuits	1,500 VA/Circuit	2 Circuit		3,000	
B3 Nameplate Ratings of Equipment (220.82 (B)(3))					
a1) Dishwasher	840 VA/Circuit	1 ea		840	
a2) Refrigerator	1,000 VA/Circuit	1 ea		1,000	
a3) Microwave	1,000 VA/Circuit	1 ea		1,000	
a4) Disposal	1,175 VA/Circuit	1 ea		1,175	
b) Electric Range	8,000 VA/Circuit	1 ea		8,000	
c) Clothes Dryer	5,000 VA/Circuit	1 ea		5,000	
d) Water Heater	4,500 VA/Circuit	1 ea		4,500	
B4 Nameplate Ratings of Motors (220.82 (B)(4))					
1) Furnace Blower Fan	956 VA/Circuit	1 ea		956	
			Part (B) Connected Load Total	29,074	
			Part (B) Demand Load Total (100% of 1st 10KVA + 40% of remainder)		17,630
C HEATING AND AIR-CONDITIONING LOAD					
C2 100% Nameplate Ratings of Heat Pump (220.82 (C)(2))					
1) Heat Pump Unit #1	2,516 VA/Circuit	1 ea		2,516	
C4 65% of Total Electric Heat if < 4 Separately Controlled Units (220.82 (C)(4))					
1) kW of Electric Heat	3.90 kW	65%		2,535	
			Part (C) Connected Load Total	5,051	
			Part (C) Demand Load (Largest of C1 - C5)		2,535
			Total Dwelling Unit Demand VA		**20,165**
			Total Amps @ 208/120V-1Ph-3W		**97**

Provide 125A Load Center & Feed with 100A/2P Breaker

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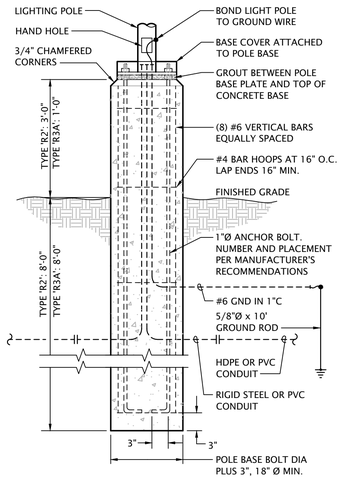
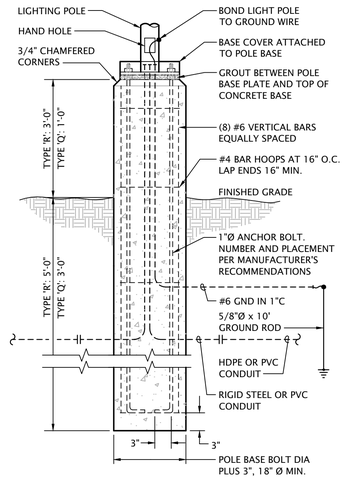
Project 22062 May 2023



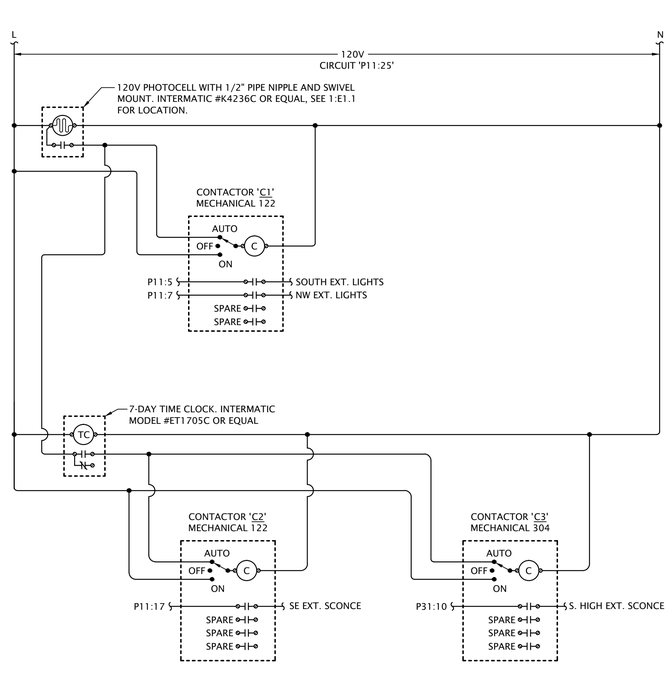
3 CONCRETE POLE BASE DETAIL (AT RETAINING WALLS)

No Scale



2 CONCRETE POLE BASE DETAIL

No Scale



PROVIDE LIGHTING CONTACTORS WITH QUANTITY OF POLES SHOWN,120V COIL, INTEGRAL 3-POSITION MANUAL SELECTOR SWITCH, AND NEMA 1 ENCLOSURE.

1 EXTERIOR LIGHTING CONTROL DIAGRAM

No Scale

LIGHT FIXTURE SCHEDULE

MARK	MANUFACTURER	MODEL NUMBER	LAMP / LED DATA		BALLAST/DRIVER	MOUNTING	FINISH	DESCRIPTION	NOTES
			WATT/LUMENS	COLOR					
A	----	SELECTED BY OWNER, PROVIDED BY E.C.	---	---	---	PENDANDT	---	DECORATIVE PENDANT AT ISLAND	
B	---	SELECTED BY OWNER, PROVIDED BY E.C.	---	---	---	PENDANDT	---	DECORATIVE ENTRY PENDANT	
C	JESCO	DL-AC-FLEX2-NPX-FR-3090	6W/FT LED 312 LUMENS/FT	3000'K	STANDARD	COVE	WHITE	LINEAR LINE VOLTAGE LED STRIP LIGHT	
D	HALO	SMD6R-6-930-WH	9.6W LED 750 LUMENS	3000'K	INTEGRAL DRIVER	SURFACE	BRONZE	6" ROUND SURFACE MOUNT DOWNLIGHT	.
E	SURE-LITES	SEL25SD	---	WHITE	N/A	WALL AT 7'-6" AFF	WHITE	TWIN HEAD POLYCARBONATE EMERGENCY LIGHT	1,2,10
F	SEAGULL	15040EN-782	(2) 10W LED	3000'K	INTEGRAL DRIVER	SURFACE	BRONZE	52" DIAMETER CEILING FAN WITH LED LIGHT KIT	.
G	SEAGULL	4423003EN3-710	(3) 9.5W LED	3000'K	INTEGRAL DRIVER	WALL AT 7'-0"	BURNT SIENNA	3-LAMP LED VANITY LIGHT	.
H	SEAGULL	5913291S-15	38W LED 3,500 LUMENS	3000'K	INTEGRAL DRIVER	SURFACE	WHITE	4' LINEAR FLUORESCENT WITH PRISMATIC ACRYLIC LENS	.
J	HALO	SMD6R-12-930-WH	15.3W LED 1200 LUMENS	3000'K	INTEGRAL DRIVER	SURFACE	BRONZE	6" ROUND SURFACE MOUNT DOWNLIGHT	10
K	METALUX	4SNLED-LD4-49SL-LW-UNV-L835-CD1	38W LED 5,000 LUMENS	3500'K	0-10V DIMMING (10%-100%)	SURFACE	WHITE	4' LED STRIP WITH FROSTED LENS, WIDE DISTRIBUTION	.
L1	LITHONIA	WSR-LED-P1-40K-SR3-MVOLT	20W LED 2,244 LUMENS	4000'K	STANDARD	WALL	BLACK	EXTERIOR LED WALL PACK WITH IES TYPE III DISTRIBUTION	7
L1E	LITHONIA	WSR-LED-P1-40K-SR3-MVOLT	20W LED 2,244 LUMENS	4000'K	STANDARD	WALL	BLACK	EXTERIOR LED WALL PACK WITH IES TYPE III DISTRIBUTION	7
L2	LITHONIA	WSR-LED-P2-40K-SR4-MVOLT	29W LED 3,053 LUMENS	4000'K	STANDARD	WALL	BLACK	EXTERIOR LED WALL PACK WITH IES TYPE IV DISTRIBUTION	7
L2E	LITHONIA	WSR-LED-P2-40K-SR4-MVOLT	29W LED 3,053 LUMENS	4000'K	STANDARD	WALL	BLACK	EXTERIOR LED WALL PACK WITH IES TYPE IV DISTRIBUTION	7
M1	ERALUX	ET6024-C80-4-08-62-80-B-DMG	3,160 UP 3,160 DOWN	3000'K	0-10V DIMMING	WALL	BLACK	DIE-CAST DIRECTIONAL FACADE LIGHT, 8° NARROW UPLIGHT, 62° WIDE FLOOD DOWNLIGHT	7
M2	ERALUX	ET6024-C80-4-18-18-80-B-DMG	3,160 UP 3,160 DOWN	3000'K	0-10V DIMMING	WALL	BLACK	DIE-CAST DIRECTIONAL FACADE LIGHT, 18° UPLIGHT, 18° DOWNLIGHT	7
N1	ILP	PAN22-30WLED-U-35	31W LED 4,000 LUMENS	3500'K	0-10V DIMMING	LAY-IN	WHITE	2x2 EDGE-LIT FLAT PANEL	
N2	ILP	PAN24-30WLED-U-35	31W LED 4,000 LUMENS	3500'K	0-10V DIMMING	LAY-IN	WHITE	2x4 EDGE-LIT FLAT PANEL	
O	AIDEN	530628K	36W LED 2,900 LUMEN	3000'K	FIXED OUTPUT DRIVER	WALL COORD. W/ ARCH	BLACK	2' ARCHITECTURAL WALL BRACKET	
P	LIGHTOLIER	6RN-P6R-DL-15-830-CL	15W LED 1,500 LUMENS	3000'K	0-10V DIMMING	RECESSED	WHITE	6" LED DOWNLIGHT WITH NEW CONSTRUCTION FRAME KIT	10
PE	LIGHTOLIER	6RN-EM6-P6R-DL-15-830-CL	15W LED 1,500 LUMENS	3000'K	0-10V DIMMING	RECESSED	WHITE	6" LED DOWNLIGHT WITH NEW CONSTRUCTION FRAME KIT AND EMERGENCY BATTERY BACKUP	10
Q	LITHONIA	DSX0-LED-P1-40K-70CRI-T4M-MVOLT-HS-DBLXD	33W LED 4,860 LUMENS	4000'K	FIXED OUTPUT DRIVER	9' SSS POLE	BLACK	LED AREA LIGHT, SINGLE HEAD FULL CUT-OFF WITH IES TYPE IV DISTRIBUTION AND HOUSE SIDE SHEILD	4,7,9
R1	LITHONIA	DSX0-LED-P4-40K-70CRI-T2M-MVOLT-HS-DBLXD	93W LED 11,003 LUMENS	4000'K	FIXED OUTPUT DRIVER	17' SSS POLE	BLACK	LED AREA LIGHT, SINGLE HEAD FULL CUT-OFF WITH IES TYPE II DISTRIBUTION AND HOUSE SIDE SHEILD	5,7,9,12
R2	LITHONIA	DSX0-LED-P4-40K-70CRI-TFTM-MVOLT-HS-DBLXD	93W LED 11,374 LUMENS	4000'K	FIXED OUTPUT DRIVER	17' SSS POLE	BLACK	LED AREA LIGHT, SINGLE HEAD FULL CUT-OFF WITH IES TYPE IV DISTRIBUTION AND HOUSE SIDE SHIELD	5,7,9,12
R3	LITHONIA	DSX0-LED-P5-40K-BLC4-MVOLT-DBLXD	90 W LED 9,083 LUMENS	4000'K	FIXED OUTPUT DRIVER	17' SSS POLE	BLACK	LED AREA LIGHT, SINGLE HEAD FULL CUT-OFF WITH IES TYPE IV BACKLIGHT CONTROL DISTRIBUTION	5,7,9,12
R3A	LITHONIA	DSX0-LED-P5-40K-BLC4-MVOLT-DBLXD	90 W LED 9,083 LUMENS	4000'K	FIXED OUTPUT DRIVER	13' SSS POLE	BLACK	LED AREA LIGHT, SINGLE HEAD FULL CUT-OFF WITH IES TYPE IV BACKLIGHT CONTROL DISTRIBUTION	7,9,11,12
S	ACCLAIM	DFB-111-AKEU	50W LED 2455 LUMEN	4000'K	FIXED OUTPUT DRIVER	GRADE	BLACK	IP-66 RATED, GRADE MOUNTED LED FLOOD LIGHT	7
T	WILLIAMS	96-4-L40/830-HIAFR-WET/1-DRV-UNV	30W LED 4,000 LUMENS	3000'K	FIXED OUTPUT DRIVER	SURFACE	WHITE	4' FULLY ENCLOSED AND GASKETED INDUSTRIAL FIXTURE WITH FROSTED, RIBBED, IMPACT-RESISTANT ACRYLIC LENS	.
U	EVERGREEN	EVOL30-W-44-90LED-MBK-WDA-30K	90W LED 7,200 LUMENS	3000'K	FIXED OUTPUT DRIVER	WALL COORD. W/ ARCH	BLACK	44" TALL DECORATIVE WALL MOUNT FIXTURE WITH WHITE DURABLE ACRYLIC LENS	7
V	HALO	PR4FS12D010 - PR4M12MD8FSMWPR4WW	21.3W LED 2,000 LUMENS	3000'K	0-10V DIMMING	RECESSED	WHITE	4" LED RECESSED DOWNLIGHT WITH WALL WASH OPTIC	
X	MULE	MXBRU-SD	---	GREEN LETTERS	N/A	CEILING/WALL/END	BLACK	SINGLE/DOUBLE FACE POLYCARBONATE LED EXIT	1,2,10
XE	MULE	SQC-LED-1-R-WW-SD	--- 1 WATT	GREEN LETTERS	N/A	CEILING/WALL	BLACK	SINGLE FACE COMINATION POLYCARBONATE EXIT SIGN/TWIN HEAD EMERGENCY LIGHT	1,2,10
XER	MULE	SQC-LED-1-R-WW-SD	--- 1 WATT	GREEN LETTERS	N/A	CEILING/WALL	BLACK	SINGLE FACE COMINATION POLYCARBONATE EXIT SIGN/TWIN HEAD EMERGENCY LIGHT	1,2,10

GENERAL:

- All interior LED fixtures shall be 3000°K corrected color temperature, min. 80 CRI.
- All light fixtures shall be provided with universal drivers capable of operating at 120V or 208V UNO.
- All LED fixtures shall adhere to LM79 and LM80 standards.
- All apartment light fixtures shall be Energy Star certified.

NOTES:

1. Fixture shall have self-diagnostic/self-testing electronics.
2. Provide with emergency battery integral charger.
3. Fixture shall be capable of operation in temperatures ranging from -40°F through 104°F.
4. Provide fixture/pole assembly with 10' round straight steel pole, black to match fixture. Fixture height shall not exceed 12'-0" AFG.
5. Provide fixture/pole assembly with 17' round straight steel pole, black to match fixture. Fixture height shall not exceed 20'-0" AFG.
6. Provide with bar hangers appropriate for ceiling system in which fixture is installed.
7. U.L. listed for 'wet location'.
8. Where installed in fire rated assembly, provide fire rated recessed light cover equal to Tenmat FF109. Verify rating requirement with Architect.
9. Fixture/pole assembly shall be rated for 100 mph wind loads. Provide with vibration damper per manufacturer's recommendations.
10. U.L. listed for 'damp location'.
11. Fixture installed above retaining wall. Provide fixture/pole assembly with 13' round straight steel pole, black to match fixture. Fixture height shall not exceed 20'-0" above parking lot surface.
12. Provide fixture with motion/ambient sensor enabled at 1 footcandle, control option PIRH1FC3V.

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THE RESERVES at MAGNOLIA
NEW APARTMENT COMPLEX
DENTON, TEXAS

5-17-2023

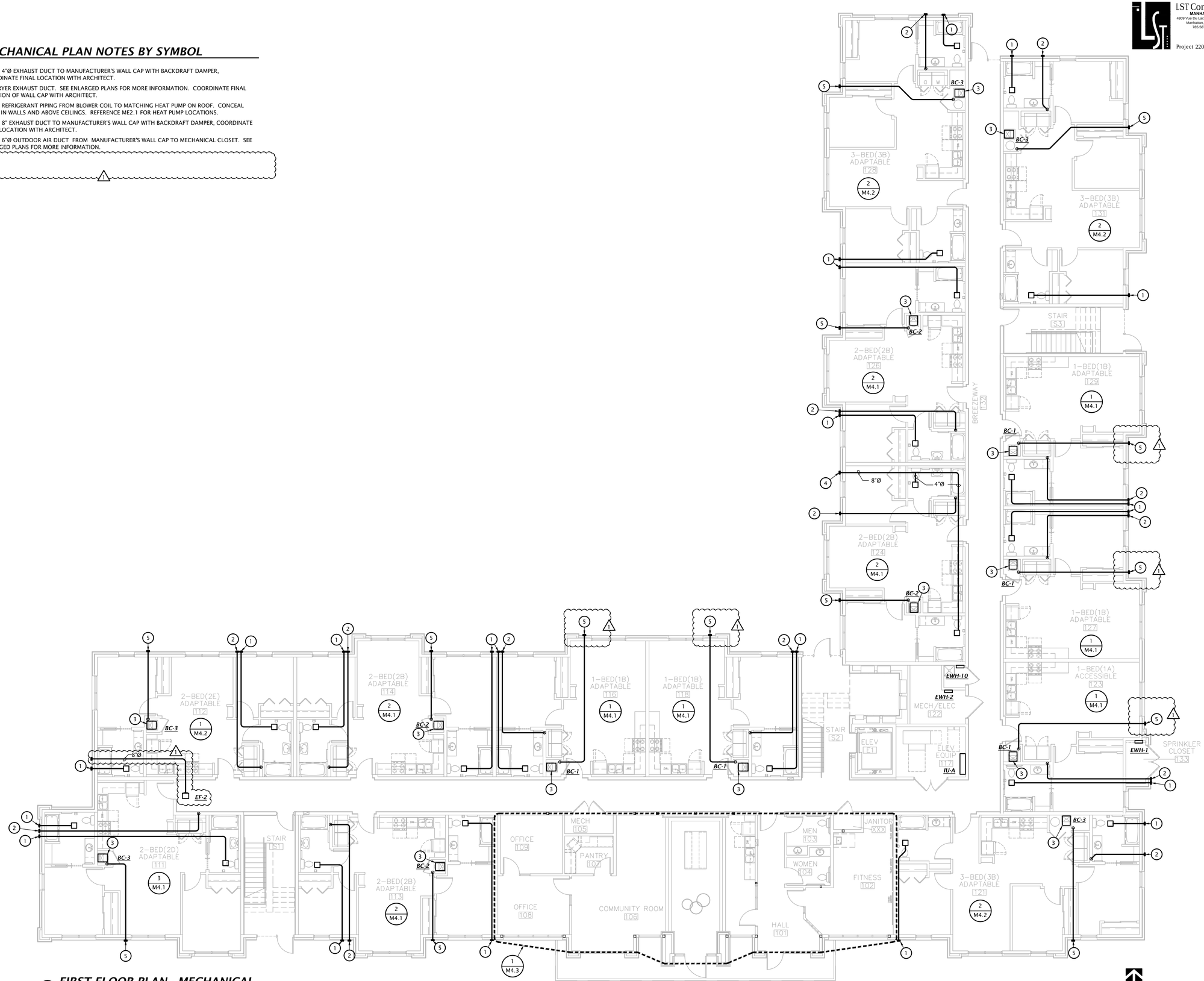
REVISION:

DATE: 06-26-2023
JOB: 21-3205
SHEET NO.:

E6.6

(#) MECHANICAL PLAN NOTES BY SYMBOL

1. ROUTE 4"Ø EXHAUST DUCT TO MANUFACTURER'S WALL CAP WITH BACKDRAFT DAMPER, COORDINATE FINAL LOCATION WITH ARCHITECT.
2. 4"Ø DRYER EXHAUST DUCT. SEE ENLARGED PLANS FOR MORE INFORMATION. COORDINATE FINAL LOCATION OF WALL CAP WITH ARCHITECT.
3. ROUTE REFRIGERANT PIPING FROM BLOWER COIL TO MATCHING HEAT PUMP ON ROOF. CONCEAL PIPING IN WALLS AND ABOVE CEILINGS. REFERENCE ME2.1 FOR HEAT PUMP LOCATIONS.
4. ROUTE 8" EXHAUST DUCT TO MANUFACTURER'S WALL CAP WITH BACKDRAFT DAMPER, COORDINATE FINAL LOCATION WITH ARCHITECT.
5. ROUTE 6"Ø OUTDOOR AIR DUCT FROM MANUFACTURER'S WALL CAP TO MECHANICAL CLOSET. SEE ENLARGED PLANS FOR MORE INFORMATION.



(1) FIRST FLOOR PLAN - MECHANICAL

1/8" = 1'-0"

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Project 22062 May 2023

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THE RESERVES at MAGNOLIA

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DENTON, TEXAS

5-17-2023

STATE OF TEXAS
TIMOTHY C. TREDWAY
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M2.1

(#) MECHANICAL PLAN NOTES BY SYMBOL

1. ROUTE 4"Ø EXHAUST DUCT TO MANUFACTURER'S WALL CAP WITH BACKDRAFT DAMPER, COORDINATE FINAL LOCATION WITH ARCHITECT.
2. 4"Ø DRYER EXHAUST DUCT. SEE ENLARGED PLANS FOR MORE INFORMATION. COORDINATE FINAL LOCATION OF WALL CAP WITH ARCHITECT.
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4. ROUTE 8" EXHAUST DUCT TO MANUFACTURER'S WALL CAP WITH BACKDRAFT DAMPER, COORDINATE FINAL LOCATION WITH ARCHITECT.
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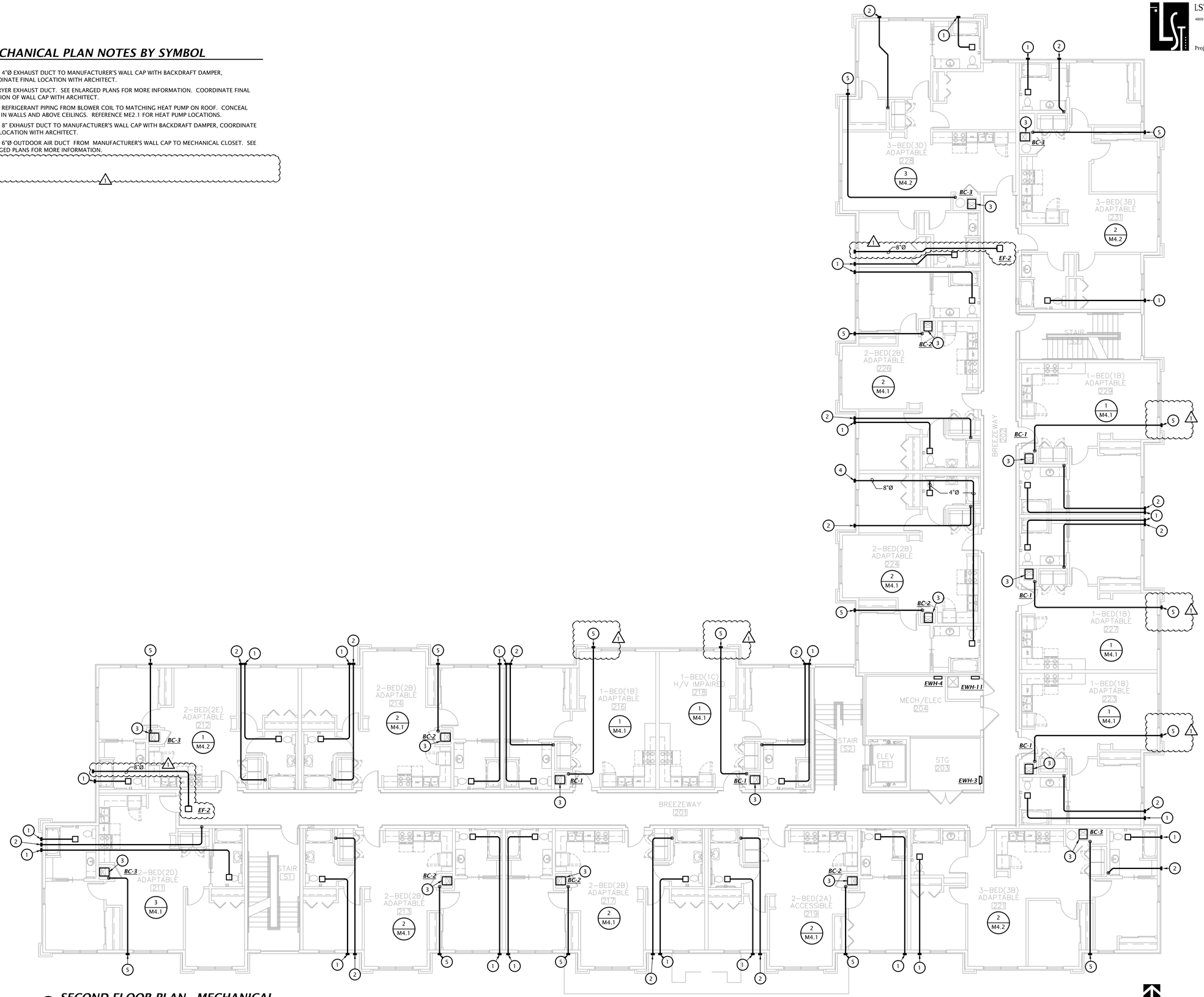

(1) SECOND FLOOR PLAN - MECHANICAL

1/8" = 1'-0"

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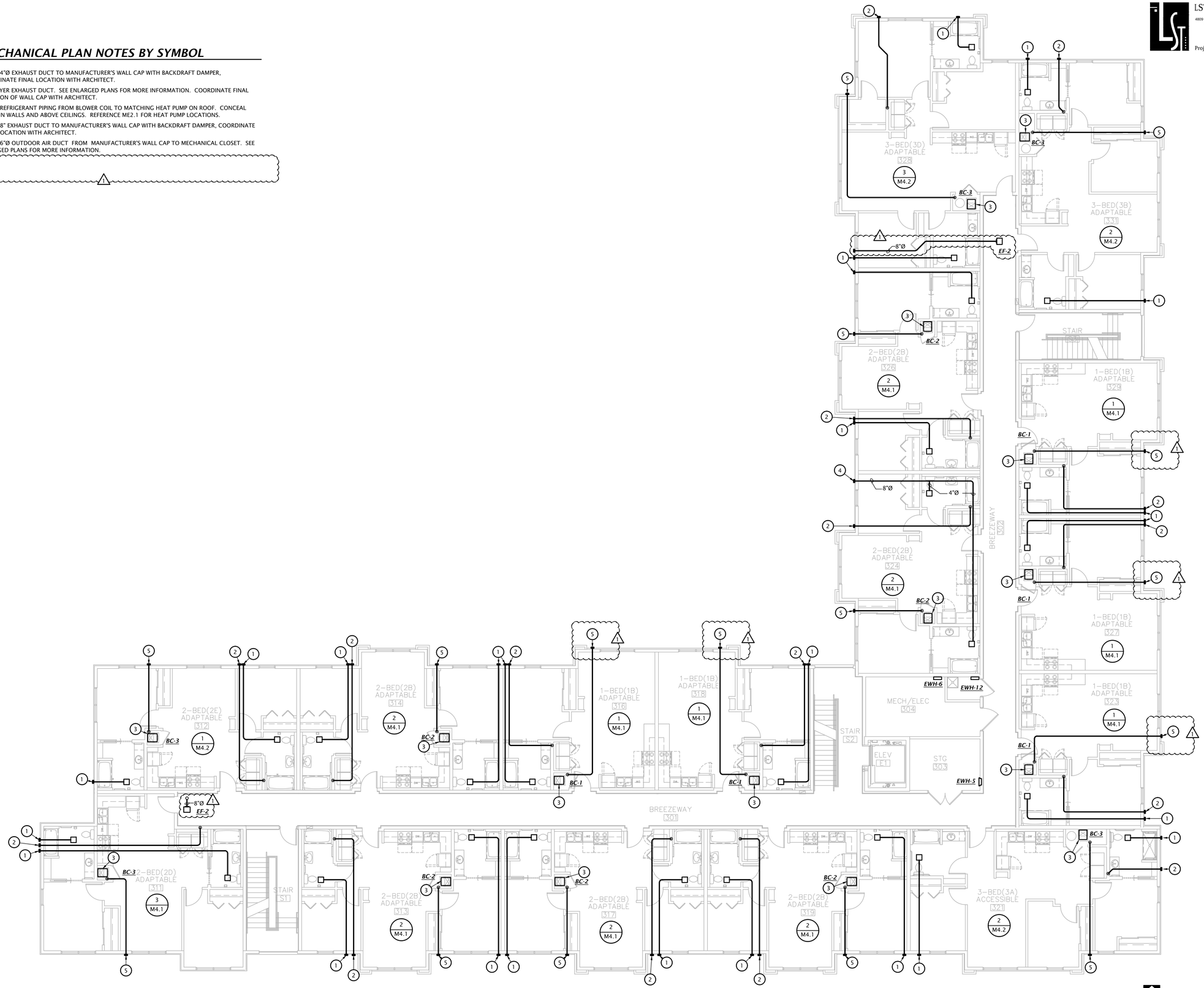
M2.2

(#) MECHANICAL PLAN NOTES BY SYMBOL

1. ROUTE 4"Ø EXHAUST DUCT TO MANUFACTURER'S WALL CAP WITH BACKDRAFT DAMPER, COORDINATE FINAL LOCATION WITH ARCHITECT.
2. 4"Ø DRYER EXHAUST DUCT. SEE ENLARGED PLANS FOR MORE INFORMATION. COORDINATE FINAL LOCATION OF WALL CAP WITH ARCHITECT.
3. ROUTE REFRIGERANT PIPING FROM BLOWER COIL TO MATCHING HEAT PUMP ON ROOF. CONCEAL PIPING IN WALLS AND ABOVE CEILINGS. REFERENCE ME2.1 FOR HEAT PUMP LOCATIONS.
4. ROUTE 8" EXHAUST DUCT TO MANUFACTURER'S WALL CAP WITH BACKDRAFT DAMPER, COORDINATE FINAL LOCATION WITH ARCHITECT.
5. ROUTE 6"Ø OUTDOOR AIR DUCT FROM MANUFACTURER'S WALL CAP TO MECHANICAL CLOSET. SEE ENLARGED PLANS FOR MORE INFORMATION.



1 THIRD FLOOR PLAN - MECHANICAL
1/8" = 1'-0"

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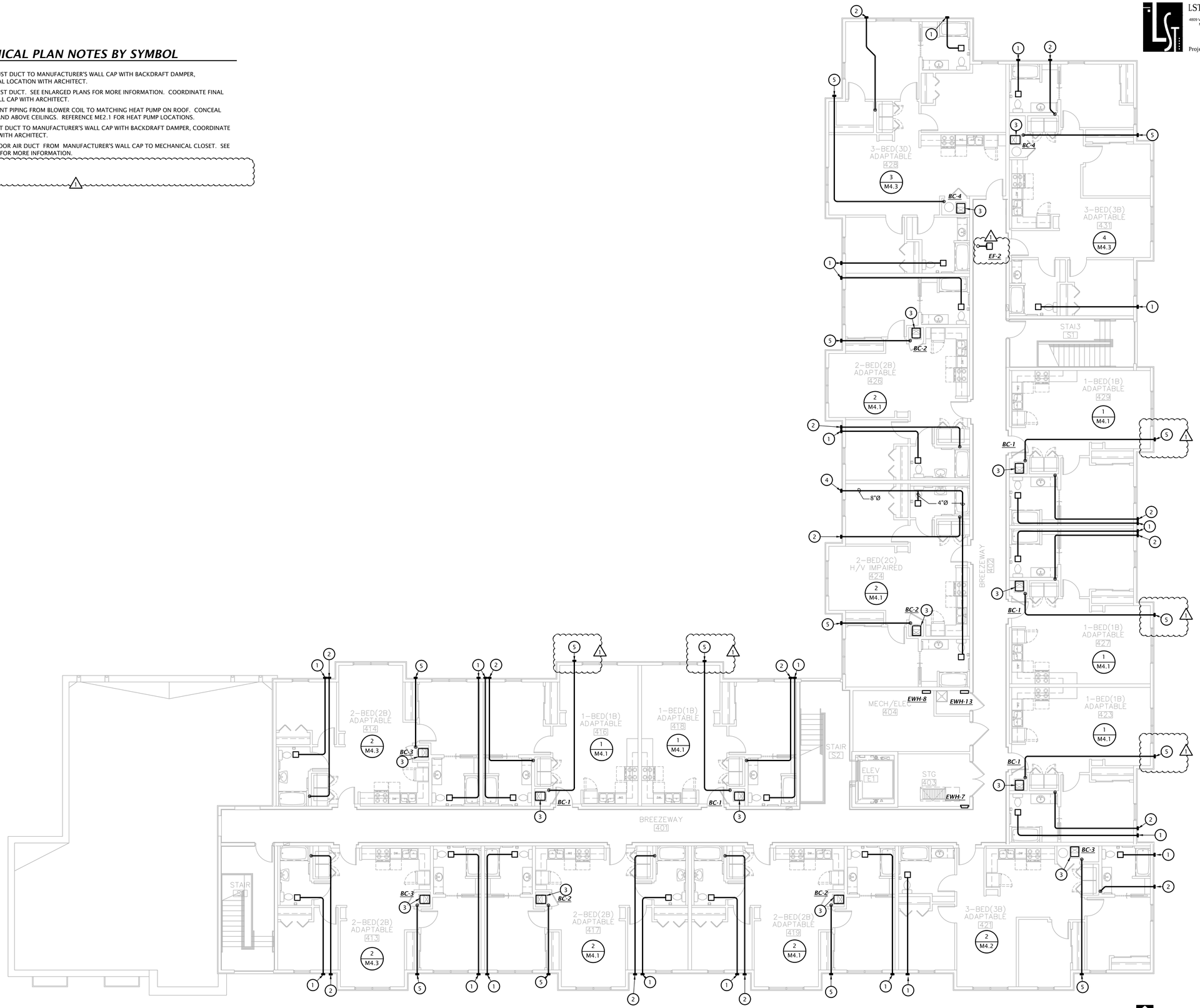
M2.3

MECHANICAL PLAN NOTES BY SYMBOL

1. ROUTE 4"Ø EXHAUST DUCT TO MANUFACTURER'S WALL CAP WITH BACKDRAFT DAMPER, COORDINATE FINAL LOCATION WITH ARCHITECT.
2. 4"Ø DRYER EXHAUST DUCT. SEE ENLARGED PLANS FOR MORE INFORMATION. COORDINATE FINAL LOCATION OF WALL CAP WITH ARCHITECT.
3. ROUTE REFRIGERANT PIPING FROM BLOWER COIL TO MATCHING HEAT PUMP ON ROOF. CONCEAL PIPING IN WALLS AND ABOVE CEILINGS. REFERENCE ME2.1 FOR HEAT PUMP LOCATIONS.
4. ROUTE 8" EXHAUST DUCT TO MANUFACTURER'S WALL CAP WITH BACKDRAFT DAMPER, COORDINATE FINAL LOCATION WITH ARCHITECT.
5. ROUTE 6"Ø OUTDOOR AIR DUCT FROM MANUFACTURER'S WALL CAP TO MECHANICAL CLOSET. SEE ENLARGED PLANS FOR MORE INFORMATION.



1 FOURTH FLOOR PLAN - MECHANICAL
1/8" = 1'-0"

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M2.4

GENERAL HVAC PLAN NOTES

- PROJECT SHALL COMPLY WITH ALL REQUIREMENTS OF THE 2021 IECC. REFERENCE SPECIFICATIONS FOR COMMISSIONING REQUIREMENTS.
- ON FOURTH FLOOR WHERE DUCTWORK OCCURS IN UNCONDITIONED SPACE, SEAL DUCTWORK PER IECC 2021 AND WRAP IN MINIMUM R-8 INSULATION.
- PROVIDE RADIATION DAMPERS AT ALL PENETRATIONS OF FIRE RATED FLOOR/CEILING ASSEMBLIES.
- ALL DUCTWORK SHALL BE SEALED AND TESTED IN ACCORDANCE WITH R403.3.4, R403.3.5 OF THE 2021 IECC.
- REFRIGERANT PIPING SHALL BE INSULATED PER TABLE C403.12.3 OF THE 2021 IECC.
- INSULATE BACKSIDE OF ALL SUPPLY DIFFUSERS.

(#) ENLARGED HVAC PLAN NOTES BY SYMBOL

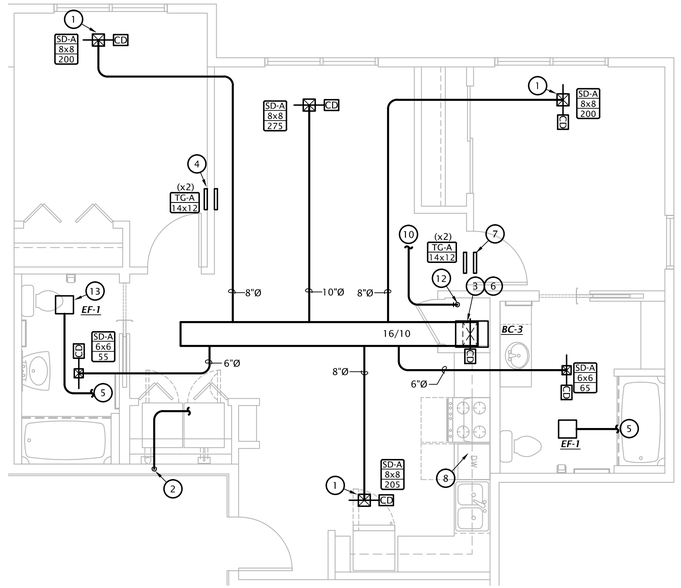
NOTES SHOWN ARE TYPICAL FOR ALL APARTMENTS WHERE APPLICABLE.

1. PROVIDE ALL SUPPLY AIR PENETRATIONS OF CEILING WITH U.L. LISTED RADIATION DAMPER, GREENHECK CRD OR EQUIVALENT, TYPICAL.
2. PROVIDE U.L. LISTED DRYER BOX EQUAL TO IN-O-VATE TECHNOLOGIES IN WALL INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, AND ROUTE 4"Ø DRYER EXHAUST DUCT TO DRYER MANUFACTURER'S RECOMMENDED WALL CAP WITH BACKDRAFT DAMPER. SEE OVERALL MECHANICAL PLANS FOR UNIT SPECIFIC ROUTING. MAXIMUM ALLOWABLE DUCT LENGTH = 35' WITH THREE 90° ELBOWS. PROVIDE PERMANENT LABEL IDENTIFYING EQUIVALENT LENGTH OF DRYER DUCT INSTALLED PER IMC 504.

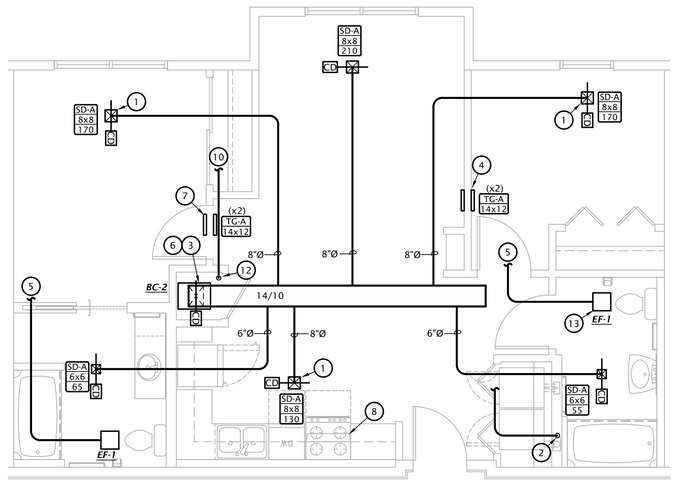
   NOTE: ANNULAR SPACE AROUND DUCT IS TO BE SEALED AT ALL PENETRATIONS OF FLOORS AND CEILINGS WITH U.L. LISTED FIRE STOPPING SYSTEM.

3. PROVIDE AUXILIARY DRAIN PAN BELOW BLOWER COIL UNIT, AND PIPE OVERFLOW DRAIN TO FLOOR DRAIN.
4. INSTALL TRANSFER GRILLES ON OPPOSITE SIDES OF WALL. MOUNT GRILL 6" BELOW CEILING IN HALL AND 6" AFF IN BEDROOM, LINE STUD CAVITY WITH SHEET METAL DUCTWORK.
5. ROUTE 4"Ø EXHAUST DUCT TO WALL CAP. SEE OVERALL MECHANICAL PLANS FOR UNIT SPECIFIC ROUTING.
6. ROUTE REFRIGERANT PIPING FROM EVAPORATOR COIL TO MATCHING CONDENSING UNIT. SEE SHEET ME2.1, FOR CONDENSING UNIT LOCATIONS. (TYPICAL)
7. INSTALL TRANSFER GRILLES ON OPPOSITE SIDES OF WALL ABOVE BEDROOM DOOR. OFFSET VERTICALLY AS MUCH AS POSSIBLE, LINE STUD CAVITY WITH SHEET METAL DUCTWORK.
8. RECIRCULATING RANGE HOOD PROVIDED BY OTHERS.
9. NOTE NOT USED.
10. ROUTE 6"Ø INTAKE DUCT FROM MANUFACTURER'S WALL INTAKE. SEE OVERALL MECHANICAL PLANS FOR SPECIFIC ROUTING.
11. PROVIDE AIR CYCLER G2 4" MOTORIZED DAMPER AND CONTROLLER. INSTALL AND SETUP SYSTEM PER MANUFACTURER'S INSTRUCTIONS.
12. PROVIDE AIR CYCLER G2 6" MOTORIZED DAMPER AND CONTROLLER. INSTALL AND SETUP SYSTEM PER MANUFACTURER'S
13. CONNECT EXHAUST FAN TO AIR CYCLER G2 SYSTEM. PROVIDE 'FAN CONNECT' SWITCH TO E.C. FOR INSTALLATION.

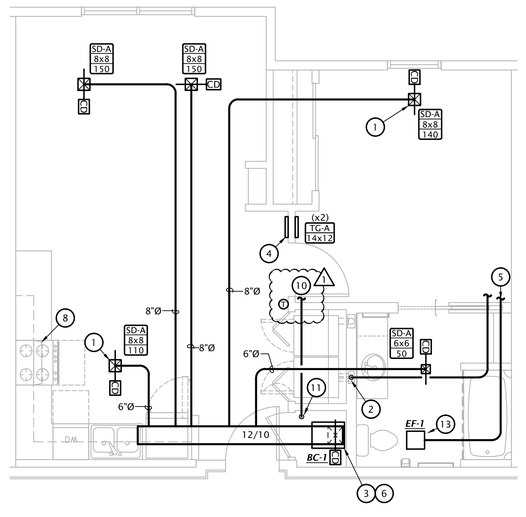
OUTDOOR AIR CALCULATIONS PER: IMC 2021 Table 403.1.1.1				
	A (FT^2)	V (FT^3)	#BR	OA (CFM)
1 Bedroom A, B, and C	630	5670	1	33
2 Bedroom A, B, and C	795	7155	2	45
2 Bedroom D	890	8010	2	47
2 Bedroom E	760	6840	2	45
3 Bedroom A, B, and E	1000	9000	3	60
3 Bedroom D	1160	10440	3	61
OA = (Volume* 0.35 ACH)/60 (MIN. 15 CFM PER PERSON)				



(3) 2 BEDROOM HVAC PLAN (TYPE D)
1/4" = 1'-0"



(2) 2 BEDROOM HVAC PLAN (TYPES A, B, AND C)
1/4" = 1'-0"



(1) 1 BEDROOM HVAC PLAN (TYPES A,B, AND C)
1/4" = 1'-0"

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M4.1

GENERAL HVAC PLAN NOTES

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- ON FOURTH FLOOR WHERE DUCTWORK OCCURS IN UNCONDITIONED SPACE, SEAL DUCTWORK PER IECC 2021 AND WRAP IN MINIMUM R-8 INSULATION.
- PROVIDE RADIATION DAMPERS AT ALL PENETRATIONS OF FIRE RATED FLOOR/CEILING ASSEMBLIES.
- ALL DUCTWORK SHALL BE SEALED AND TESTED IN ACCORDANCE WITH R403.3.4, R403.3.5 OF THE 2021 IECC.
- REFRIGERANT PIPING SHALL BE INSULATED PER TABLE C403.12 OF THE 2021 IECC.
- INSULATE BACKSIDE OF ALL SUPPLY DIFFUSERS.

(#) ENLARGED HVAC PLAN NOTES BY SYMBOL

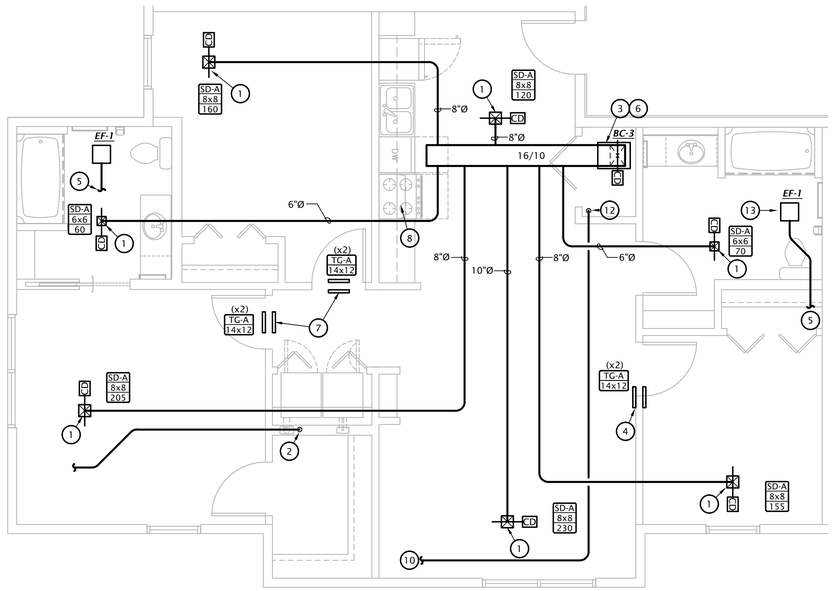
NOTES SHOWN ARE TYPICAL FOR ALL APARTMENTS WHERE APPLICABLE.

1. PROVIDE ALL SUPPLY AIR PENETRATIONS OF CEILING WITH U.L. LISTED RADIATION DAMPER, GREENHECK CRD OR EQUIVALENT, TYPICAL.
2. PROVIDE U.L. LISTED DRYER BOX EQUAL TO IN-O-VATE TECHNOLOGIES IN WALL INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, AND ROUTE 4"Ø DRYER EXHAUST DUCT TO DRYER MANUFACTURER'S RECOMMENDED WALL CAP WITH BACKDRAFT DAMPER. SEE OVERALL MECHANICAL PLANS FOR UNIT SPECIFIC ROUTING. MAXIMUM ALLOWABLE DUCT LENGTH = 35' WITH THREE 90° ELBOWS. PROVIDE PERMANENT LABEL IDENTIFYING EQUIVALENT LENGTH OF DRYER DUCT INSTALLED PER IMC 504.

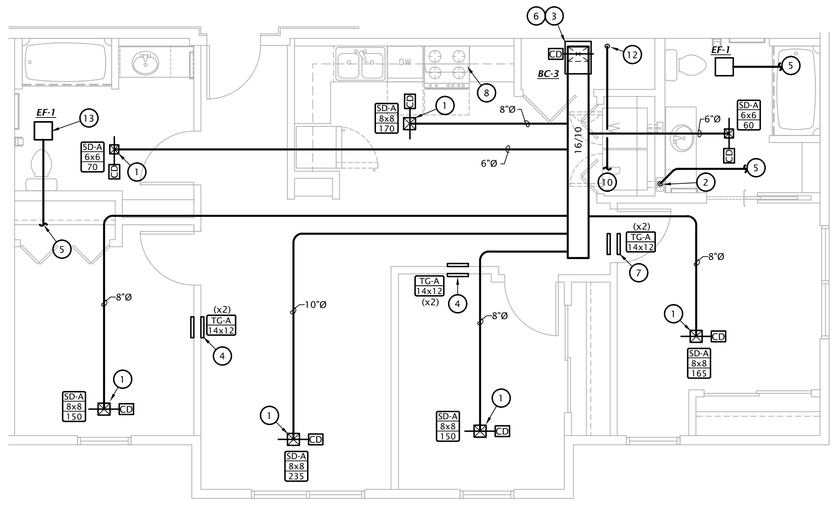
   NOTE: ANNULAR SPACE AROUND DUCT IS TO BE SEALED AT ALL PENETRATIONS OF FLOORS AND CEILINGS WITH U.L. LISTED FIRE STOPPING SYSTEM.

3. PROVIDE AUXILIARY DRAIN PAN BELOW BLOWER COIL UNIT, AND PIPE OVERFLOW DRAIN TO FLOOR DRAIN.
4. INSTALL TRANSFER GRILLES ON OPPOSITE SIDES OF WALL. MOUNT GRILL 6" BELOW CEILING IN HALL AND 6" AFF IN BEDROOM, LINE STUD CAVITY WITH SHEET METAL DUCTWORK.
5. ROUTE 4"Ø EXHAUST DUCT TO WALL CAP. SEE OVERALL MECHANICAL PLANS FOR UNIT SPECIFIC ROUTING.
6. ROUTE REFRIGERANT PIPING FROM EVAPORATOR COIL TO MATCHING CONDENSING UNIT. SEE SHEET ME2.1, FOR CONDENSING UNIT LOCATIONS. (TYPICAL)
7. INSTALL TRANSFER GRILLES ON OPPOSITE SIDES OF WALL ABOVE BEDROOM DOOR. OFFSET VERTICALLY AS MUCH AS POSSIBLE, LINE STUD CAVITY WITH SHEET METAL DUCTWORK.
8. RECIRCULATING RANGE HOOD PROVIDED BY OTHERS.
9. ROUTE 4"Ø INTAKE DUCT FROM MANUFACTURER'S WALL INTAKE. SEE OVERALL MECHANICAL PLANS FOR SPECIFIC ROUTING.
10. ROUTE 6"Ø INTAKE DUCT FROM MANUFACTURER'S WALL INTAKE. SEE OVERALL MECHANICAL PLANS FOR SPECIFIC ROUTING.
11. PROVIDE AIR CYCLER G2 4" MOTORIZED DAMPER AND CONTROLLER. INSTALL AND SETUP SYSTEM PER MANUFACTURER'S INSTRUCTIONS.
12. PROVIDE AIR CYCLER G2 6" MOTORIZED DAMPER AND CONTROLLER. INSTALL AND SETUP SYSTEM PER MANUFACTURER'S
13. CONNECT EXHAUST FAN TO AIR CYCLER G2 SYSTEM. PROVIDE 'FAN CONNECT' SWITCH TO E.C. FOR INSTALLATION.

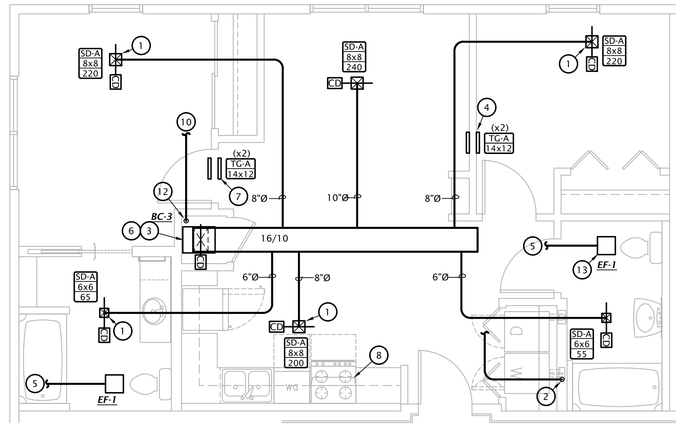
OUTDOOR AIR CALCULATIONS PER: IMC 2021 Table 403.1.1.1				
	A (FT^2)	V (FT^3)	#BR	OA (CFM)
1 Bedroom A, B, and C	630	5670	1	33
2 Bedroom A, B, and C	795	7155	2	45
2 Bedroom D	890	8010	2	47
2 Bedroom E	760	6840	2	45
3 Bedroom A, B, and E	1000	9000	3	60
3 Bedroom D	1160	10440	3	61
OA = (Volume* 0.35 ACH)/60 (MIN. 15 CFM PER PERSON)				



3 3 BEDROOM HVAC PLAN (TYPE D)
1/4" = 1'-0"



2 3 BEDROOM HVAC PLAN (TYPES A, B, AND E)
1/4" = 1'-0"



1 2 BEDROOM HVAC PLAN (TYPE E)
1/4" = 1'-0"

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Project 22062 May 2023

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THE RESERVES at MAGNOLIA
NEW APARTMENT COMPLEX
DENTON, TEXAS

5-17-2023

REVISION:
1 06-26-2023

DATE: 06-26-2023
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M4.2

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GENERAL HVAC PLAN NOTES

- PROJECT SHALL COMPLY WITH ALL REQUIREMENTS OF THE 2021 IECC. REFERENCE SPECIFICATIONS FOR COMMISSIONING REQURIREMENTS.
- ON FOURTH FLOOR WHERE DUCTWORK OCCURS IN UNCONDITIONED SPACE, SEAL DUCTWORK PER IECC 2021 AND WRAP IN MINIMUM R-8 INSULATION.
- PROVIDE RADIATION DAMPERS AT ALL PENETRATIONS OF FIRE RATED FLOOR/CEILING ASSEMBLIES.
- ALL DUCTWORK SHALL BE SEALED AND TESTED IN ACCORDANCE WITH R403.3.4, R403.3.5 OF THE 2021 IECC.
- REFRIGERANT PIPING SHALL BE INSULATED PER TABLE C403.12 OF THE 2021 IECC.
- INSULATE BACKSIDE OF ALL SUPPLY DIFFUSERS.

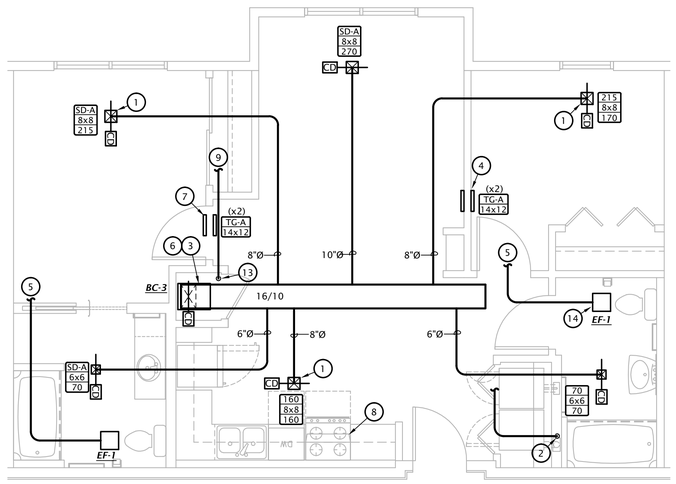
(#) ENLARGED HVAC PLAN NOTES BY SYMBOL

NOTES SHOWN ARE TYPICAL FOR ALL APARTMENTS WHERE APPLICABLE.

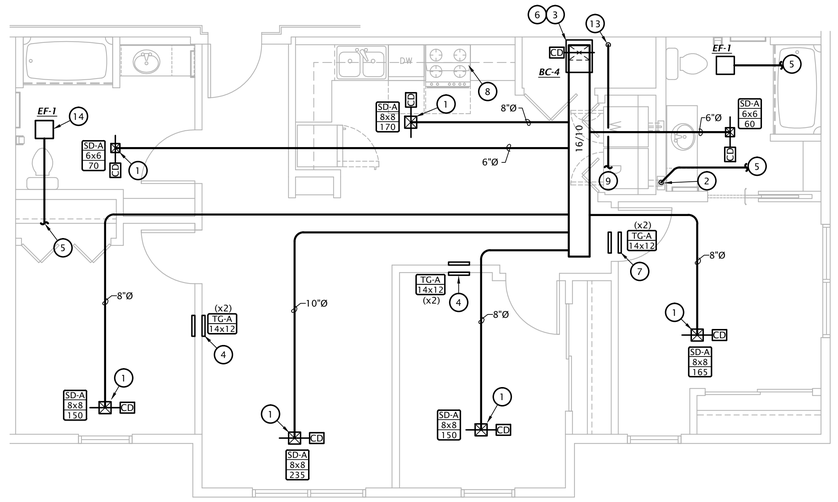
1. PROVIDE ALL SUPPLY AIR PENETRATIONS OF CEILING WITH U.L. LISTED RADIATION DAMPER, GREENHECK CRD OR EQUIVALENT, TYPICAL.
2. PROVIDE U.L. LISTED DRYER BOX EQUAL TO IN-O-VATE TECHNOLOGIES IN WALL INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, AND ROUTE 4"Ø DRYER EXHAUST DUCT TO DRYER MANUFACTURER'S RECOMMENDED WALL CAP WITH BACKDRAFT DAMPER. SEE OVERALL MECHANICAL PLANS FOR UNIT SPECIFIC ROUTING. MAXIMUM ALLOWABLE DUCT LENGTH = 35' WITH THREE 90° ELBOWS. PROVIDE PERMANENT LABEL IDENTIFYING EQUIVALENT LENGTH OF DRYER DUCT INSTALLED PER IMC 504.

   NOTE: ANNULAR SPACE AROUND DUCT IS TO BE SEALED AT ALL PENETRATIONS OF FLOORS AND CEILINGS WITH U.L. LISTED FIRE STOPPING SYSTEM.

3. PROVIDE AUXILIARY DRAIN PAN BELOW BLOWER COIL UNIT, AND PIPE OVERFLOW DRAIN TO FLOOR DRAIN.
4. INSTALL TRANSFER GRILLES ON OPPOSITE SIDES OF WALL. MOUNT GRILL 6" BELOW CEILING IN HALL AND 6" AFF IN BEDROOM, LINE STUD CAVITY WITH SHEET METAL DUCTWORK.
5. ROUTE 4"Ø EXHAUST DUCT TO WALL CAP. SEE OVERALL MECHANICAL PLANS FOR UNIT SPECIFIC ROUTING.
6. ROUTE REFRIGERANT PIPING FROM EVAPORATOR COIL TO MATCHING CONDENSING UNIT. SEE SHEET ME2.1, FOR CONDENSING UNIT LOCATIONS. (TYPICAL)
7. INSTALL TRANSFER GRILLES ON OPPOSITE SIDES OF WALL ABOVE BEDROOM DOOR. OFFSET VERTICALLY AS MUCH AS POSSIBLE, LINE STUD CAVITY WITH SHEET METAL DUCTWORK.
8. RECIRCULATING RANGE HOOD PROVIDED BY OTHERS.
9. ROUTE 6"Ø INTAKE DUCT FROM MANUFACTURER'S WALL INTAKE. SEE OVERALL MECHANICAL PLANS FOR SPECIFIC ROUTING.
10. ROUTE REFRIGERANT PIPING FROM BLOWER COIL TO MATCHING HEAT PUMP ON ROOF. CONCEAL PIPING IN WALLS AND ABOVE CEILINGS. REFERENCE ME2.1 FOR HEAT PUMP LOCATIONS.
11. ROUTE DUCT THROUGH SOFFIT. COORDINATE DUCT ROUTING WITH STRUCTURAL BEAMS AND CEILING, TRANSITION DUCT UP BETWEEN BEAMS FOR SIDE CONNECTION OF BRANCH DUCTS TO BE ROUTED ABOVE HARD CEILING.
12. PROVIDE AIR CYCLER G2 4" MOTORIZED DAMPER AND CONTROLLER. INSTALL AND SETUP SYSTEM PER MANUFACTURER'S INSTRUCTIONS.
13. PROVIDE AIR CYCLER G2 6" MOTORIZED DAMPER AND CONTROLLER. INSTALL AND SETUP SYSTEM PER MANUFACTURER'S
14. CONNECT EXHAUST FAN TO AIR CYCLER G2 SYSTEM. PROVIDE 'FAN CONNECT' SWITCH TO E.C. FOR INSTALLATION.
15. CONNECT ERV SUPPLY DUCT TO RETURN AIR DUCTWORK AT BLOWER COIL.
16. MOUNT RETURN GRILLE AS HIGH AS POSSIBLE.
17. PROVIDE SUPPLY GRILLE WITH MANUAL BALANCING DAMPER.
18. COORDINATE DUCTWORK ROUTING WITH WASTE AND VENT PIPING, TRANSITION WHERE REQUIRED TO ACCOMMODATE PIPING.
19. PROVIDE OUTDOOR AIR/EXHAUST GRILLE IN SOFFIT. PROVIDE PRICE 630 ALUMINUM LOUVERED RETURN GRILLE WITH INSECT SCREEN, SIZE AS NOTED.
20. PROVIDE 6" EXHAUST WALL CAP WITH BACKDRAFT DAMPER AND INSECT SCREEN.



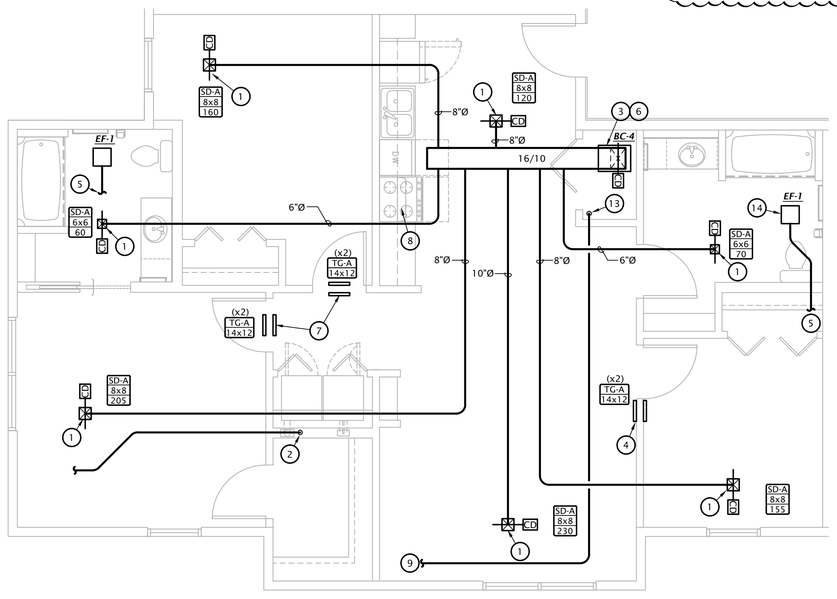
(2) 2 BEDROOM HVAC PLAN (APT. 413, & 414)
1/4" = 1'-0"



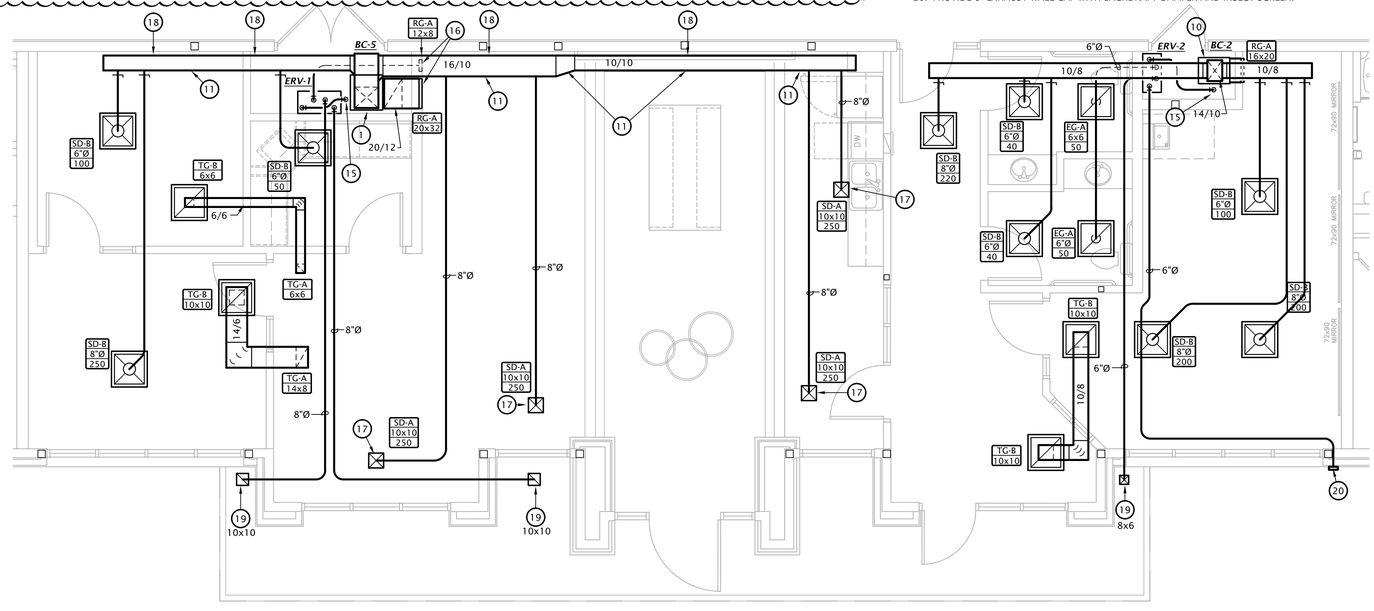
(4) 3 BEDROOM HVAC PLAN (APT. 431)
1/4" = 1'-0"

OUTDOOR AIR CALCULATIONS PER: IMC 2021 Table 403.1.1					
	A (FT^2)	Ra	Rp	P	OA (CFM)
Community Room/Pantry	800	0.06	5	13	113
Leasing Offices	145	0.06	5	2	19
Office	145	0.06	5	1	14
ERV-1				Total:	145
Fitness Room	288	0.06	20	4	97
Toilet	40	0	0	0	0
Toilet	56	0	0	0	0
Hall	180	0.06	0	0	11
ERV-2				Total:	108
OA = Rp * P + Ra * A					

OUTDOOR AIR CALCULATIONS PER: IMC 2021 Table 403.1.1.1				
	A (FT^2)	V (FT^3)	#BR	OA (CFM)
1 Bedroom A, B, and C	630	5670	1	33
2 Bedroom A, B, and C	795	7155	2	45
2 Bedroom D	890	8010	2	47
2 Bedroom E	760	6840	2	45
3 Bedroom A, B, and E	1000	9000	3	60
3 Bedroom D	1160	10440	3	61
OA = (Volume* 0.35 ACH)/60 (MIN. 15 CFM PER PERSON)				



(3) 3 BEDROOM HVAC PLAN (APT. 428)
1/4" = 1'-0"



(1) ENLARGED COMMONS HVAC PLAN
1/4" = 1'-0"

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THE RESERVES at MAGNOLIA
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5-17-2023

STATE OF KANSAS
TIMOTHY C. TREDWAY
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LICENSED PROFESSIONAL ENGINEER

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Project 22062 May 2023

EXHAUST FAN SCHEDULE

MARK	MANUFACTURER	MODEL	CFM	ESP (" wg)	POWER	VOLTS/ PHASE	NOTES
EF-1	BROAN	XR80	80	0.4"	6 W	120 / 1	1,2,3,4,5,6,7
EF-2	GREENHECK	SP-A390	345	0.375"	57.2 W	120 / 1	1,3,4,5,6

NOTES:

1. Fixture shall be Energy Star listed.
2. Fixture shall operate at <1 SONE
3. Provide integral disconnect.
4. Provide manufacturer's wall cap or roof jack, see plans.
5. Provide integral backdraft damper.
6. Provide with manufacturer's ceiling radiation damper.
7. Fixture occurs in each tenant unit.

ELECTRIC HEATER SCHEDULE

MARK	MANUF.	MODEL	MOUNTING	WATTS	VOLTAGE/PHASE	DESCRIPTION	NOTES
EWH-3,5,7,10,11, 12,13	TRANE	UHWA	WALL	2,000	208/1	Architectural fan forced wall heater	1,2,3
EWH-1,2,4,6,8,9	TRANE	UHWA	WALL	5,000	208/1	Architectural fan forced wall heater	1,2,4

NOTES:

1. Provide with high temp. thermal cutout and fan delay.
2. Provide with integral thermostat and unit mounted disconnect switch.
3. Provide with manufacturer's semi-recessed mounting adapter sleeve. Coordinate exact mounting requirements and locations with Arch. and rated construction.
4. Provide with manufacturer's surface mounting adapter sleeve. Coordinate exact mounting requirements and locations with Arch. and rated construction.

MECHANICAL SYMBOLS

T	THERMOSTAT
	SQUARE SUPPLY DIFFUSER - TYPE AND AIRFLOW INDICATED
	SQUARE RETURN GRILLE - TYPE INDICATED
	MANUAL BALANCING DAMPER
	FLEXIBLE DUCTWORK - MAX. 5'
XX-X / XXX	DIFFUSER DESIGNATION AIRFLOW INDICATED
	RECTANGULAR RETURN OR RELIEF AIR DUCT UP
	RECTANGULAR SUPPLY AIR DUCT UP
	RECTANGULAR SUPPLY AIR DUCT DOWN
	RECTANGULAR RETURN OR EXHAUST AIR DUCT DOWN
	WALL DIFFUSER
	ROUND DUCT UP
	PIPE TURNING UP
	PIPE TURNING DOWN
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION
CD	CEILING RADIATION DAMPER
	CONTROL CABLE, VERIFY TYPE WITH EQUIPMENT MANUFACTURER

AIR DEVICE SCHEDULE

MARK	MANUFACTURER	MODEL	APPLICATION				FINISH	MOUNTING	DAMPER	DESCRIPTION
			SUPPLY	RETURN	EXHAUST	TRANSFER				
SD-A	PRICE	520	•				White	Surface	No	Steel double deflection supply grille with front blades paralles to long dimension, size as indicated on plans
SD-B	PRICE	SCD	•				White	Lay-in	No	24"x24" steel square cone diffuser, neck as indicated on drawings.
RG-A	PRICE	530		•			White	Surface Wall/Ceiling	No	Steel louvered return grille, size as indicated on plans
RG-B	PRICE	PDDR		•			White	Lay-in	No	24"x24" perforated face return grille, neck as indicated on drawings.
EG-A	PRICE	PDDR			•		White	Lay-in	No	24"x24" perforated face return grille, nech as indicated on drawings.
TG-A	PRICE	530				•	White	Surface Wall/Ceiling	No	Steel louvered transfer grille, size as indicated on plans
TG-B	PRICE	PDDR				•	White	Lay-in	No	24"x24" perforated face return grille, nech as indicated on drawings.

GENERAL NOTES:

- Maximum noise criteria shall be 25.
- Runouts to diffusers shall be same size as neck, U.N.O.
- Paint objects visible through grilles with flat black paint.
- Provide mounting frame as required for ceiling type. Coordinate with Architect.
- Verify finish with Architect.
- Provide devices with raditaion dampers as required in rated ceilings. Coordinate with Arch.

BLOWER COIL SCHEDULE

MARK	MANUF.	MODEL	FAN			HEATING KW	V/Ph	MOTOR FLA	MCA	MOCP
			CFM	ESP	SPEED					
BC-1	GOODMAN	ASPT29B	600	0.7	MED	3.9	208/1	4.6	27	30
BC-2	GOODMAN	ASPT29B	800	0.7	MED-HIGH	5.2	208/1	4.6	33	35
BC-3	GOODMAN	ASPT37C	1000	0.7	MED-HIGH	6.9	208/1	4.5	42	45
BC-4	GOODMAN	ASPT35	1000	0.7	MED-HIGH	6.9	208/1	4.5	42	45
BC-5	GOODMAN	ASPT47D	1400	0.7	MED-HIGH	8.3	208/1	3.9	49	50

Notes:

1. Single point connection required, coordinate the exact electrical requirements of equipment provided with E.C.
2. Electric heater shall not operate simultaneously with heat pump. Electric heater shall be used as back-up heat only.

HEAT PUMP SCHEDULE

MARK	MANUF.	MODEL	NOMINAL TONS	WEIGHT (LBS.)	COOLING CAPACITY					HEATING CAPACITY			MIN HSPF2	ELECTRICAL		
					OA DB	ENT AIR DB/WB	SENS MBH	TOT MBH	MIN SEER2	OA DB	ENT AIR DB	TOT MBH		MCA	MOCP	V/PH
HP-1	GOODMAN	GSZC160181	1.5	174	105	78/67	11.3	16.9	14.3	47	70	18.0	7.5	12.2	20	208/1
HP-2	GOODMAN	GSZC160241	2	180	105	78/67	15.1	22.5	14.3	47	70	24.0	7.5	14.7	25	208/1
HP-3	GOODMAN	GSZC160301	2.5	186	105	78/67	21.0	26.3	14.3	47	70	29.4	7.5	18.0	30	208/1
HP-4	GOODMAN	GSZC160361	3	220	105	80/67	32.3	25.2	14.3	47	70	35.0	7.5	18.9	30	208/1
HP-5	GOODMAN	GSZC160421	3.5	226	105	80/67	30.8	38.1	14.3	47	70	40.0	7.5	22.1	35	208/1

Notes:

1. Refrigerant lines shall be field fabricated. Coordinate line sizing requirements with equipment manufacturer for length of run for each apartment. Provide suction accumulators, etc. as required.
2. Provide 7-day programmable thermostat.
3. Provide with R410a refrigerant.
4. Provide 2 sets of MERV-7 filters.

MITSUBISHI ELECTRIC TRANE HVAC US: CITY MULTI VRF OUTDOOR UNIT SCHEDULE

System Tag	Model Number	Design Cooling Outdoor Temp DB (°F)	Design Heating Outdoor Temp WB (°F)	Corrected Cooling Total Capacity (BTU/h)	Corrected Heating Capacity (BTU/h)	Electrical			
						Voltage / Phase	MCA	RFS	MOCP
HP-A	TRUYA0301HA70NA	101.0	15.5	25,976	19,451	208/230V / 1-phase	19	25	25

Notes:

1 Provide Heat Pumps with manufacturer's hail guards.

MITSUBISHI ELECTRIC TRANE HVAC US: CITY MULTI VRF INDOOR UNIT SCHEDULE

System Tag	Room Name	Tag Reference	Model	Type	Cooling Design Entering Temp DB/WB (°F)	Heating Design Entering Temp DB/WB (°F)	Cooling Total Capacity (BTU/h)	Cooling Sensible Capacity (BTU/h)	Heating Capacity (BTU/h)	Estimated Cooling Coil LAT (°F)	Estimated Heating Coil LAT (°F)	Refrig Pipe Dim Liquid/Suction (inch)	Voltage / Phase	Electrical MCA/MFS
HP-A	ELEVATOR	IU-A	TPKA0A0301KA70A	Wall -Mounted	75.0/63.0	70.0	25,976	19,559.80	19,451	50.5	94.1	5/8 / 3/8	208/230V/1-phase	Powered by Outdoor

Notes:

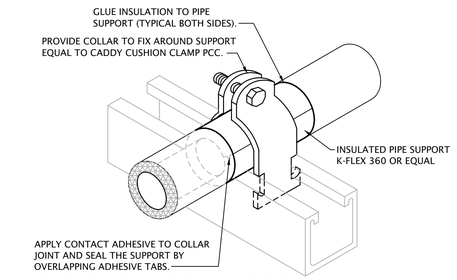
1 Provide unit with manufacturer's condensate lift. Pump shall be installed inside unit housing.

ENERGY RECOVERY VENTILATOR SCHEDULE

MARK	MANUFATURER	MODEL NUMBER	TYPE	AIRFLOW		E.S.P. ("W.C.)	MCA	VOLTAGE/PHASE	WEIGHT (LBS.)
				SUPPLY	EXHAUST				
ERV-1	ALDES	H190-7RG	POLYPROPYLENE CORE	200	190	0.40	1.95	120V/1 PH	46
ERV-2	ALDES	H95-TRG	POLYPROPYLENE CORE	110	100	0.20	0.6	120V/1 PH	32

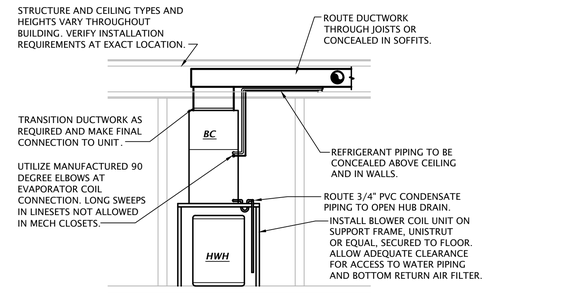
NOTES:

1. Provide with Digital Multifunction Control.
2. Provide all components and startup per manufacturer's recommendations.
3. Mount on wall as shown on plans and coordinate with other trades.



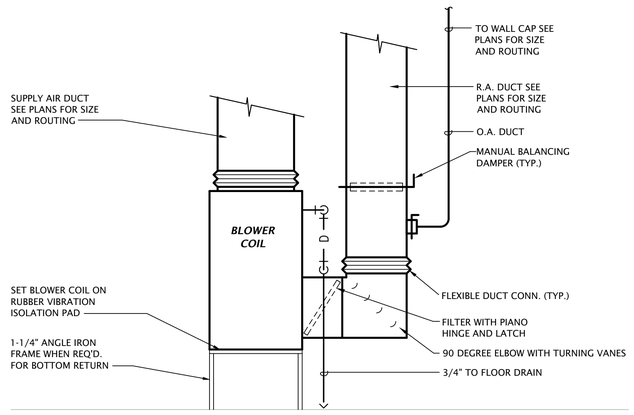
3 EXTERIOR PIPE SUPPORT DETAIL

NO SCALE



2 APARTMENT BLOWER COIL DETAIL

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



1 COMMON AREA BLOWER COIL DETAIL

NO SCALE

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THE RESERVES at MAGNOLIA

NEW APARTMENT COMPLEX

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M6.1

(#) WASTE AND VENT PLAN NOTES BY SYMBOL

1. COORDINATE EXACT ROOF DRAIN PIPE ROUTING AND OVERFLOW DRAIN REQUIREMENTS WITH ARCHITECT AND CIVIL ENGINEER.
2. PROVIDE OIL INTERCEPTOR EQUAL TO MIFAB SERIES MI-O-HU-3 WITH RATED FLOW = 50 GPM; HOLDING CAPACITY = 163 GALLONS. SEPARATOR MUST HOLD TOTAL HYDRAULIC FLUID CAPACITY OF ELEVATOR SYSTEM, 124 GALLONS.
3. PROVIDE SAMPLING WELL, COORDINATE REQUIREMENTS WITH CITY.
4. 3" VENT BELOW GRADE.
5. 3" VENT ABOVE FIRST FLOOR CEILING.
6. LIMITED SPACE ABOVE CEILING IN THIS AREA. ROUTE PIPING AS HIGH AS POSSIBLE, COORDINATE ROUTING WITH OTHER TRADES.
7. SEE DETAIL 2 THIS SHEET FOR MORE INFORMATION.
8. PIPING LOCATED ABOVE FIRST FLOOR CEILING.

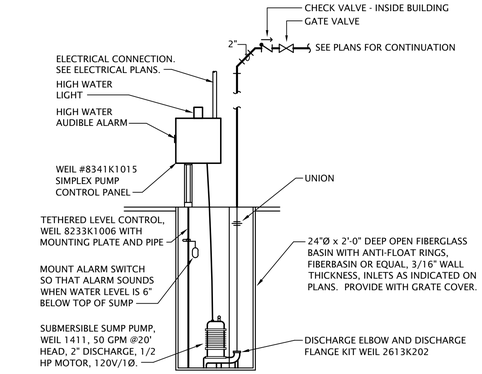
PLUMBING SIZING SYMBOLS	
X"	DRAIN (X = SIZE)
X"	VENT (X = SIZE)
X"	WASTE STACK VENT (X = SIZE)

NOTES:

SEE PLUMBING ROUGH-IN SCHEDULE ON SHEET P6.1 FOR ADDITIONAL INFORMATION.

SIZES INDICATED ARE TYPICAL FOR SIMILAR FIXTURES IN EACH APARTMENT.

PER THE 2021 IPC 913.2, WASTE STACK VENTS SHALL BE VERTICAL, AND BOTH HORIZONTAL AND VERTICAL OFFSETS SHALL BE PROHIBITED BETWEEN THE LOWEST FIXTURE DRAIN CONNECTION AND THE HIGHEST FIXTURE DRAIN CONNECTION..



(2) ELEVATOR SUMP PUMP DETAIL

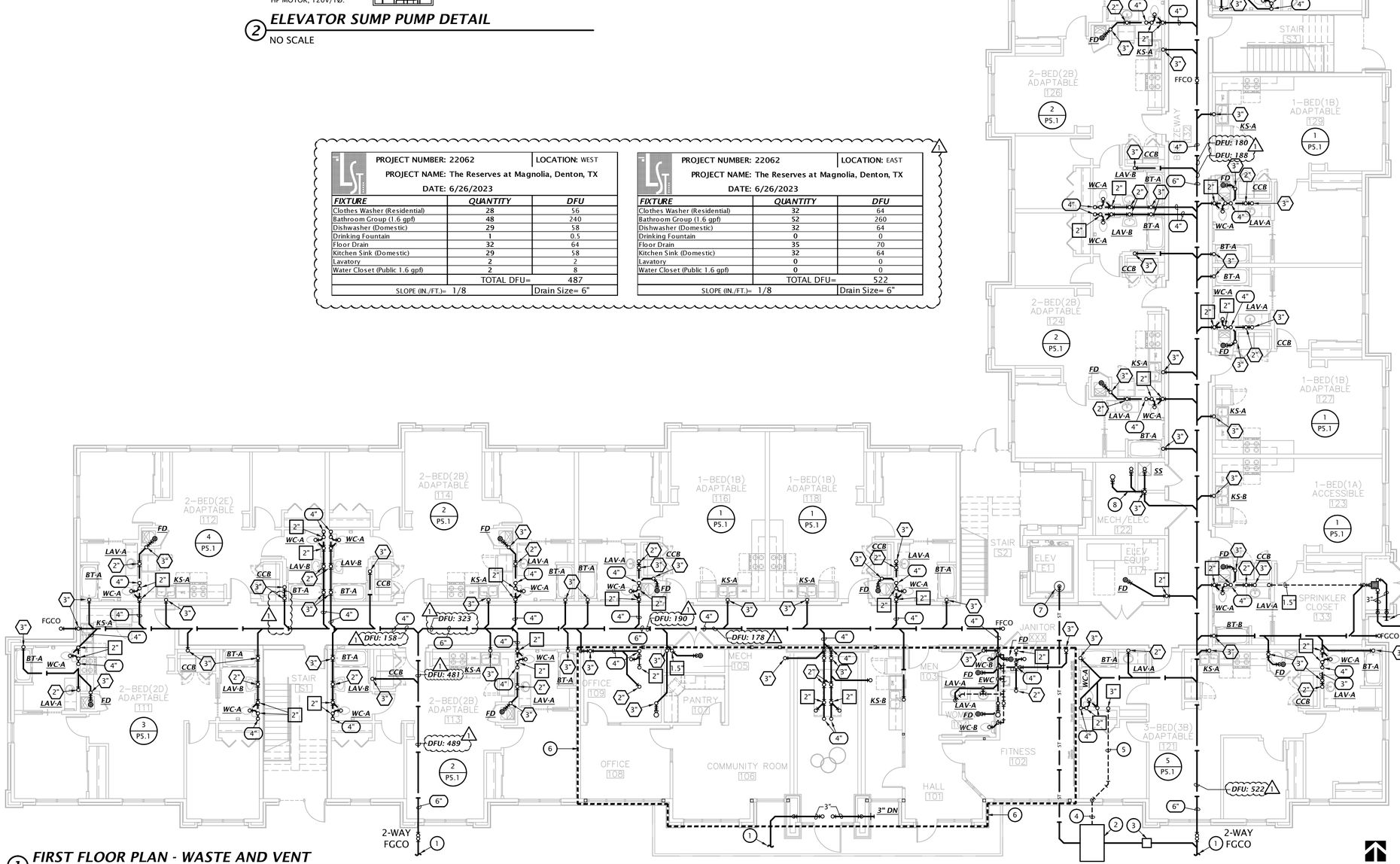
NO SCALE

PROJECT NUMBER: 22062	LOCATION: WEST
PROJECT NAME: The Reserves at Magnolia, Denton, TX	
DATE: 6/26/2023	

FIXTURE	QUANTITY	DFU
Clothes Washer (Residential)	28	56
Bathroom Group (1.6 gpf)	48	240
Dishwasher (Domestic)	29	58
Drinking Fountain	1	0.5
Floor Drain	32	64
Kitchen Sink (Domestic)	29	58
Lavatory	2	2
Water Closet (Public 1.6 gpf)	2	8
	TOTAL DFU=	487
SLOPE (IN./FT.)= 1/8		Drain Size= 6"

PROJECT NUMBER: 22062	LOCATION: EAST
PROJECT NAME: The Reserves at Magnolia, Denton, TX	
DATE: 6/26/2023	

FIXTURE	QUANTITY	DFU
Clothes Washer (Residential)	32	64
Bathroom Group (1.6 gpf)	52	260
Dishwasher (Domestic)	32	64
Drinking Fountain	0	0
Floor Drain	35	70
Kitchen Sink (Domestic)	32	64
Lavatory	0	0
Water Closet (Public 1.6 gpf)	0	0
	TOTAL DFU=	522
SLOPE (IN./FT.)= 1/8		Drain Size= 6"



(1) FIRST FLOOR PLAN - WASTE AND VENT

1/8" = 1'-0"

LST Consulting Engineers, PA
MANHATTAN
4809 Vue Du Lac Place, Suite 201
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Project 22062 May 2023

JonesGillamRenz
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785.827.0386 jgr@jgrarchitects.com

THE RESERVES at MAGNOLIA

NEW APARTMENT COMPLEX

DENTON, TEXAS

5-17-2023

REVISION:	
1	06-26-2023

DATE:	06-26-2023
JOB:	21-3205
SHEET NO.:	

P2.1

(#) WASTE AND VENT PLAN NOTES BY SYMBOL

1. COORDINATE EXACT ROOF DRAIN PIPE ROUTING AND OVERFLOW DRAIN REQUIREMENTS WITH ARCHITECT AND CIVIL ENGINEER.
2. PROVIDE OIL INTERCEPTOR EQUAL TO MIFAB SERIES MI-O-HU-3 WITH RATED FLOW = 50 GPM; HOLDING CAPACITY = 163 GALLONS. SEPARATOR MUST HOLD TOTAL HYDRAULIC FLUID CAPACITY OF ELEVATOR SYSTEM, 124 GALLONS.
3. PROVIDE SAMPLING WELL, COORDINATE REQUIREMENTS WITH CITY.
4. 3" VENT BELOW GRADE.
5. 3" VENT ABOVE FIRST FLOOR CEILING.
6. LIMITED SPACE ABOVE CEILING IN THIS AREA. ROUTE PIPING AS HIGH AS POSSIBLE, COORDINATE ROUTING WITH OTHER TRADES.
7. SEE DETAIL 2 THIS SHEET FOR MORE INFORMATION.
8. PIPING LOCATED ABOVE FIRST FLOOR CEILING.

PLUMBING SIZING SYMBOLS

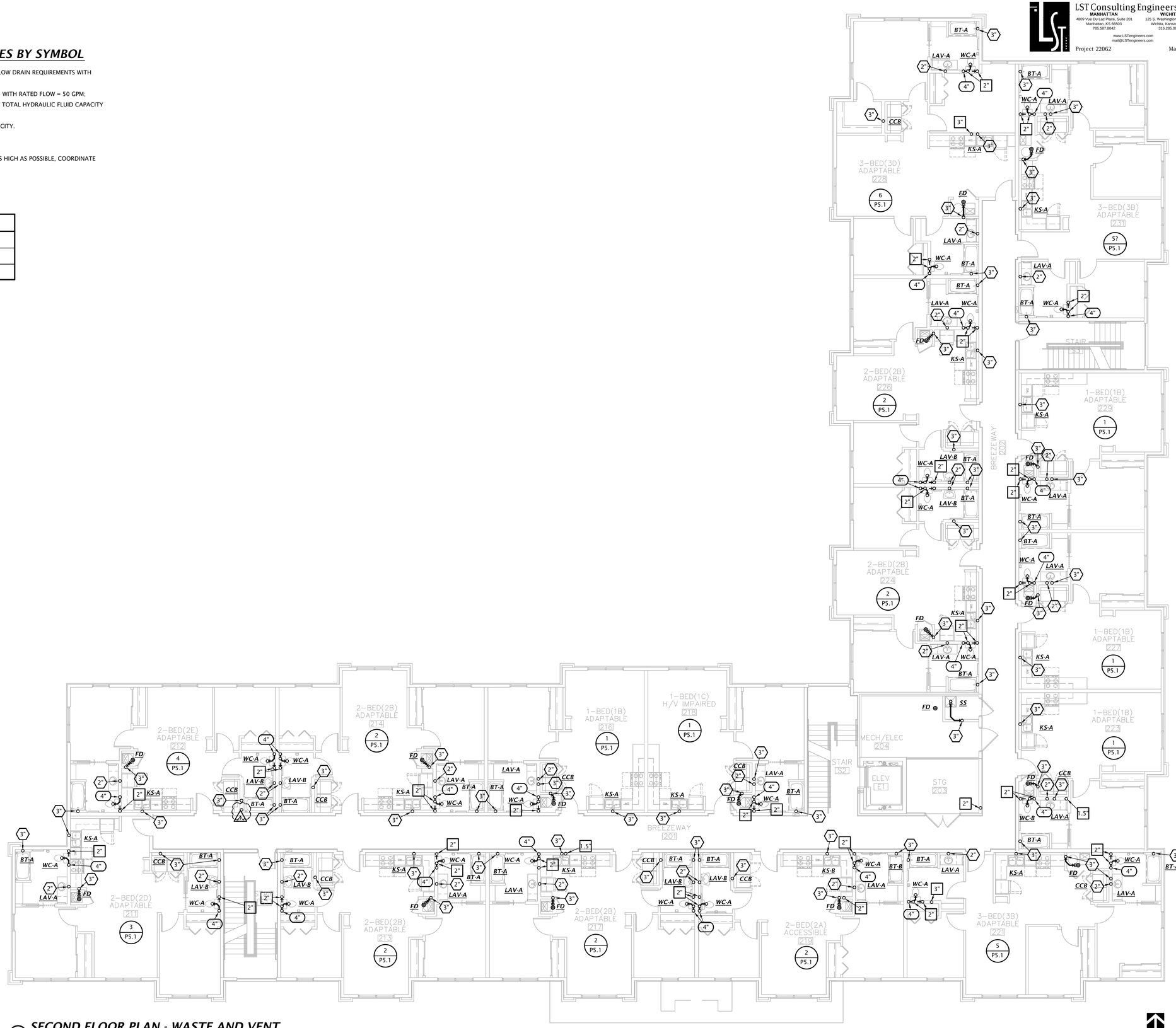
(X")	DRAIN (X = SIZE)
[X"]	VENT (X = SIZE)
⬡X"⬡	WASTE STACK VENT (X = SIZE)

NOTES:

SEE PLUMBING ROUGH-IN SCHEDULE ON SHEET P6.1 FOR ADDITIONAL INFORMATION.

SIZES INDICATED ARE TYPICAL FOR SIMILAR FIXTURES IN EACH APARTMENT.

PER THE 2021 IPC 913.2, WASTE STACK VENTS SHALL BE VERTICAL, AND BOTH HORIZONTAL AND VERTICAL OFFSETS SHALL BE PROHIBITED BETWEEN THE LOWEST FIXTURE DRAIN CONNECTION AND THE HIGHEST FIXTURE DRAIN CONNECTION..



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1/8" = 1'-0"

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NEW APARTMENT COMPLEX

DENTON, TEXAS

5-17-2023

TIMOTHY C. TREDWAY 95252 LICENSED PROFESSIONAL ENGINEER

REVISION:	
1	06-26-2023

DATE:	06-26-2023
JOB:	21-3205
SHEET NO.:	P2.2

(#) WASTE AND VENT PLAN NOTES BY SYMBOL

1. COORDINATE EXACT ROOF DRAIN PIPE ROUTING AND OVERFLOW DRAIN REQUIREMENTS WITH ARCHITECT AND CIVIL ENGINEER.
2. PROVIDE OIL INTERCEPTOR EQUAL TO MIFAB SERIES MI-O-HU-3 WITH RATED FLOW = 50 GPM; HOLDING CAPACITY = 163 GALLONS. SEPARATOR MUST HOLD TOTAL HYDRAULIC FLUID CAPACITY OF ELEVATOR SYSTEM, 124 GALLONS.
3. PROVIDE SAMPLING WELL, COORDINATE REQUIREMENTS WITH CITY.
4. 3" VENT BELOW GRADE.
5. 3" VENT ABOVE FIRST FLOOR CEILING.
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7. SEE DETAIL 2 THIS SHEET FOR MORE INFORMATION.
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PLUMBING SIZING SYMBOLS

X"	DRAIN (X = SIZE)
X"	VENT (X = SIZE)
X"	WASTE STACK VENT (X = SIZE)

NOTES:

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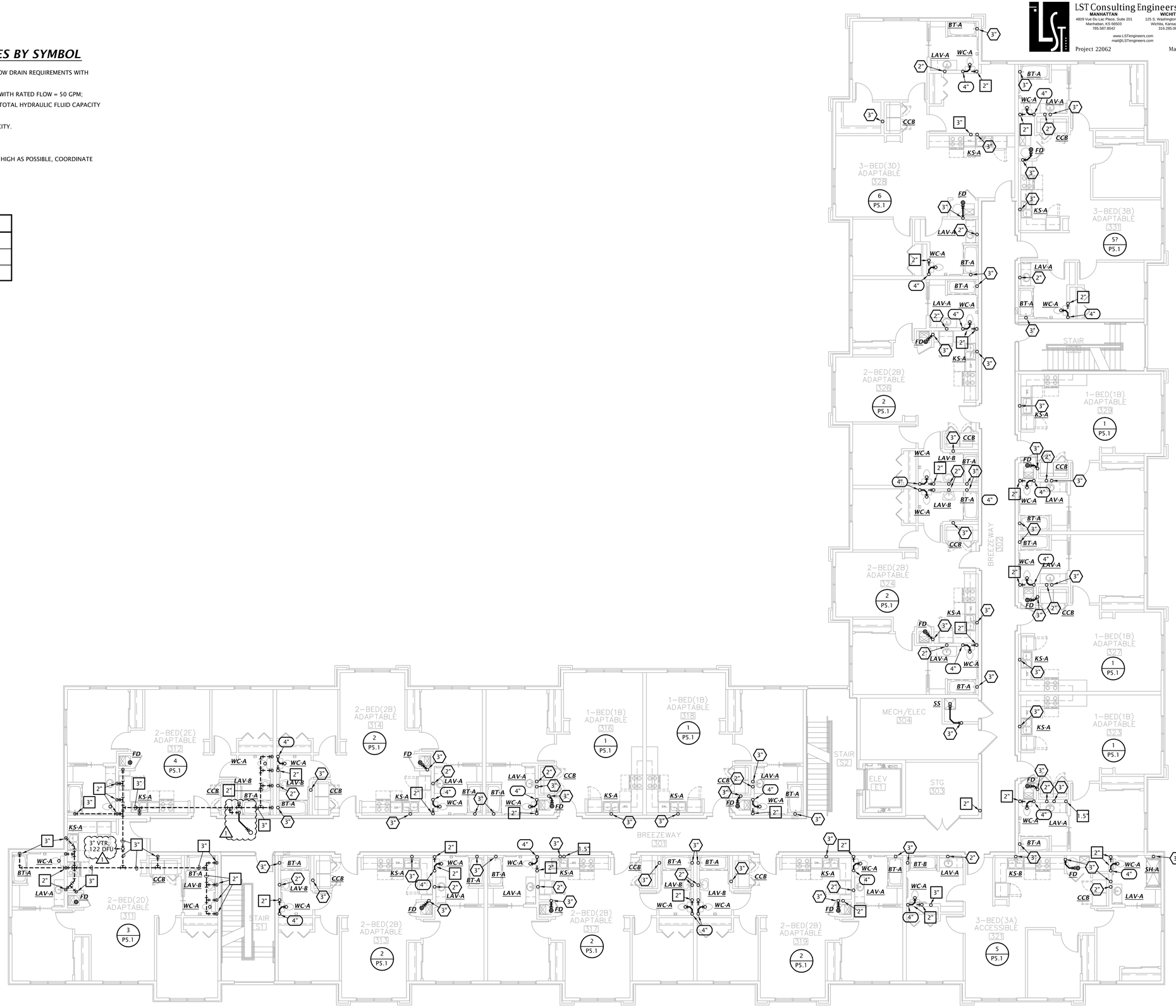

1 THIRD FLOOR PLAN - WASTE AND VENT
1/8" = 1'-0"

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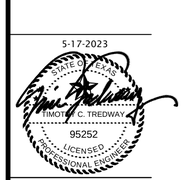


REVISION:	
1	06-26-2023

DATE:	06-26-2023
JOB:	21-3205
SHEET NO.:	

P2.3

(#) WASTE AND VENT PLAN NOTES BY SYMBOL

1. COORDINATE EXACT ROOF DRAIN PIPE ROUTING AND OVERFLOW DRAIN REQUIREMENTS WITH ARCHITECT AND CIVIL ENGINEER.
2. PROVIDE OIL INTERCEPTOR EQUAL TO MIFAB SERIES MI-O-HU-3 WITH RATED FLOW = 50 GPM; HOLDING CAPACITY = 163 GALLONS. SEPARATOR MUST HOLD TOTAL HYDRAULIC FLUID CAPACITY OF ELEVATOR SYSTEM, 124 GALLONS.
3. PROVIDE SAMPLING WELL, COORDINATE REQUIREMENTS WITH CITY.
4. 3" VENT BELOW GRADE.
5. 3" VENT ABOVE FIRST FLOOR CEILING.
6. LIMITED SPACE ABOVE CEILING IN THIS AREA. ROUTE PIPING AS HIGH AS POSSIBLE, COORDINATE ROUTING WITH OTHER TRADES.
7. SEE DETAIL 2 THIS SHEET FOR MORE INFORMATION.
8. PIPING LOCATED ABOVE FIRST FLOOR CEILING.

PLUMBING SIZING SYMBOLS

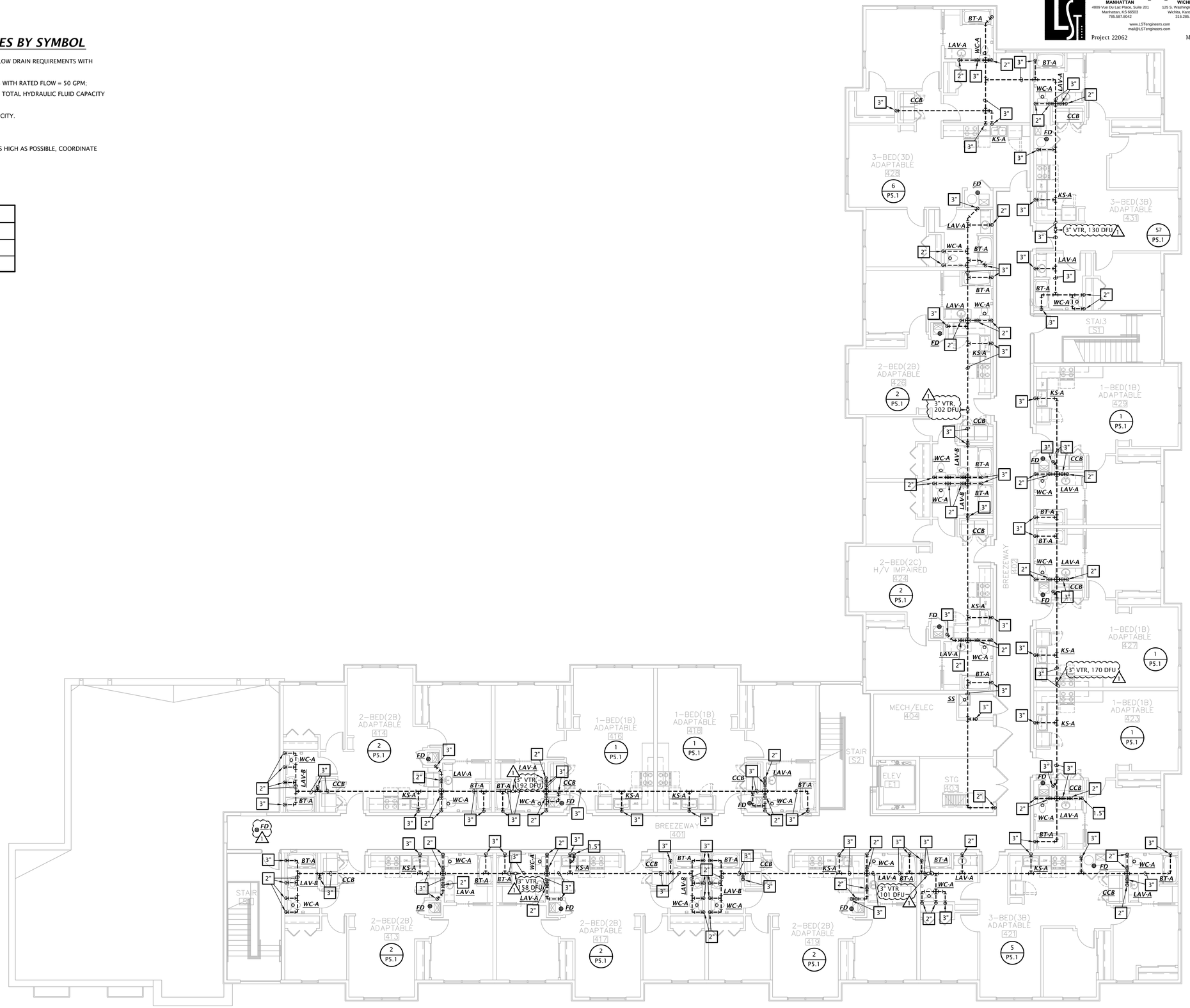
(X")	DRAIN (X = SIZE)
[X"]	VENT (X = SIZE)
<X">	WASTE STACK VENT (X = SIZE)

NOTES:

SEE PLUMBING ROUGH-IN SCHEDULE ON SHEET P6.1 FOR ADDITIONAL INFORMATION.

SIZES INDICATED ARE TYPICAL FOR SIMILAR FIXTURES IN EACH APARTMENT.

PER THE 2021 IPC 913.2, WASTE STACK VENTS SHALL BE VERTICAL, AND BOTH HORIZONTAL AND VERTICAL OFFSETS SHALL BE PROHIBITED BETWEEN THE LOWEST FIXTURE DRAIN CONNECTION AND THE HIGHEST FIXTURE DRAIN CONNECTION..



1 FOURTH FLOOR PLAN - WASTE AND VENT
1/8" = 1'-0"

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THE RESERVES at MAGNOLIA
NEW APARTMENT COMPLEX
DENTON, TEXAS

5-17-2023
STATE OF KANSAS
TIMOTHY C. TREDWAY
95252
LICENSED PROFESSIONAL ENGINEER

REVISION:
1 06-26-2023

DATE: 06-26-2023
JOB: 21-3205
SHEET NO.:

P2.4

(#) DOMESTIC WATER PLAN NOTES BY SYMBOL

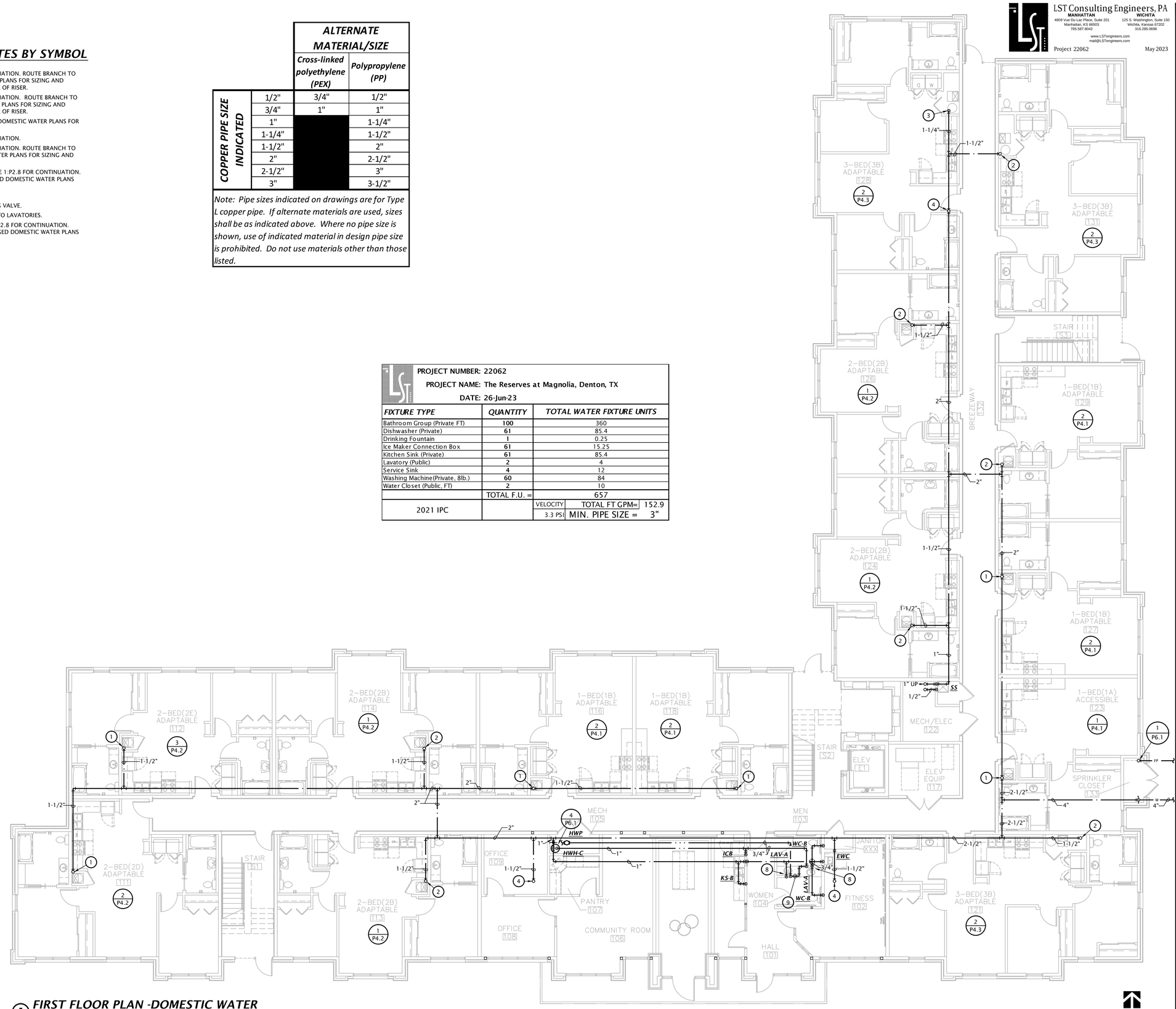
1. ROUTE 1-1/4" UP TO FLOOR ABOVE, SEE 1:P2.6 FOR CONTINUATION. ROUTE BRANCH TO FIRST FLOOR APARTMENT. SEE ENLARGED DOMESTIC WATER PLANS FOR SIZING AND ROUTING IN APARTMENT. PROVIDE SHUT-OFF VALVE AT BASE OF RISER.
2. ROUTE 1-1/2" UP TO FLOOR ABOVE, SEE 1:P2.6 FOR CONTINUATION. ROUTE BRANCH TO FIRST FLOOR APARTMENT. SEE ENLARGED DOMESTIC WATER PLANS FOR SIZING AND ROUTING IN APARTMENT. PROVIDE SHUT-OFF VALVE AT BASE OF RISER.
3. ROUTE 1-1/4" TO FIRST FLOOR APARTMENT. SEE ENLARGED DOMESTIC WATER PLANS FOR SIZING AND ROUTING IN APARTMENT.
4. ROUTE 1-1/2" UP TO FLOOR ABOVE, SEE 1:P2.6 FOR CONTINUATION.
5. ROUTE 1-1/4" UP TO FLOOR ABOVE, SEE 1:P2.7 FOR CONTINUATION. ROUTE BRANCH TO SECOND FLOOR APARTMENT. SEE ENLARGED DOMESTIC WATER PLANS FOR SIZING AND ROUTING IN APARTMENT.
6. ROUTE 1-1/4" UP TO FOURTH FLOOR APARTMENT ABOVE, SEE 1:P2.8 FOR CONTINUATION. ROUTE BRANCH TO THIRD FLOOR APARTMENT. SEE ENLARGED DOMESTIC WATER PLANS FOR SIZING AND ROUTING IN APARTMENTS.
7. ROUTE ALL APARTMENT WATER PIPING BELOW FLOOR.
8. PROVIDE PUBLIC LAVATORIES WITH POINT OF USE TEMPERING VALVE.
9. ROUTE HOT WATER DOWN IN WALL TO MINIMIZE DISTANCE TO LAVATORIES.
10. ROUTE 1" UP TO FOURTH FLOOR APARTMENT ABOVE, SEE 1:P2.8 FOR CONTINUATION. ROUTE BRANCH TO THIRD FLOOR APARTMENTS. SEE ENLARGED DOMESTIC WATER PLANS FOR SIZING AND ROUTING IN APARTMENTS.
11. 3/4" DOMESTIC COLD WATER LINE ROUTED IN ATTIC SPACE.
12. 3/4" DOMESTIC COLD WATER UP TO ROOF HYDRANT.

		ALTERNATE MATERIAL/SIZE	
		Cross-linked polyethylene (PEX)	Polypropylene (PP)
COPPER PIPE SIZE INDICATED	1/2"	3/4"	1/2"
	3/4"	1"	1"
	1"		1-1/4"
	1-1/4"		1-1/2"
	1-1/2"		2"
	2"		2-1/2"
	2-1/2"		3"
	3"		3-1/2"

Note: Pipe sizes indicated on drawings are for Type L copper pipe. If alternate materials are used, sizes shall be as indicated above. Where no pipe size is shown, use of indicated material in design pipe size is prohibited. Do not use materials other than those listed.

PROJECT NUMBER: 22062
PROJECT NAME: The Reserves at Magnolia, Denton, TX
DATE: 26-Jun-23

FIXTURE TYPE	QUANTITY	TOTAL WATER FIXTURE UNITS
Bathroom Group (Private FT)	100	360
Dishwasher (Private)	61	85.4
Drinking Fountain	1	0.25
Ice Maker Connection Box	61	15.25
Kitchen Sink (Private)	61	85.4
Lavatory (Public)	2	4
Service Sink	4	12
Washing Machine(Private, 8lb.)	60	84
Water Closet (Public, FT)	2	10
	TOTAL F.U. =	657
2021 IPC	VELOCITY 3.3 PSI	TOTAL FT GPM= 152.9; MIN. PIPE SIZE = 3"



1 FIRST FLOOR PLAN -DOMESTIC WATER
1/8" = 1'-0"

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Project 22062 May 2023

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THE RESERVES at MAGNOLIA
NEW APARTMENT COMPLEX
DENTON, TEXAS

5-17-2023
STATE OF KANSAS
TIMOTHY C. TREDWAY
95252
LICENSED PROFESSIONAL ENGINEER

REVISION:

DATE: 06-26-2023
JOB: 21-3205
SHEET NO.:

P2.5

(#) DOMESTIC WATER PLAN NOTES BY SYMBOL

1. ROUTE 1-1/4" UP TO FLOOR ABOVE, SEE 1:P2.6 FOR CONTINUATION. ROUTE BRANCH TO FIRST FLOOR APARTMENT. SEE ENLARGED DOMESTIC WATER PLANS FOR SIZING AND ROUTING IN APARTMENT. PROVIDE SHUT-OFF VALVE AT BASE OF RISER.
2. ROUTE 1-1/2" UP TO FLOOR ABOVE, SEE 1:P2.6 FOR CONTINUATION. ROUTE BRANCH TO FIRST FLOOR APARTMENT. SEE ENLARGED DOMESTIC WATER PLANS FOR SIZING AND ROUTING IN APARTMENT. PROVIDE SHUT-OFF VALVE AT BASE OF RISER.
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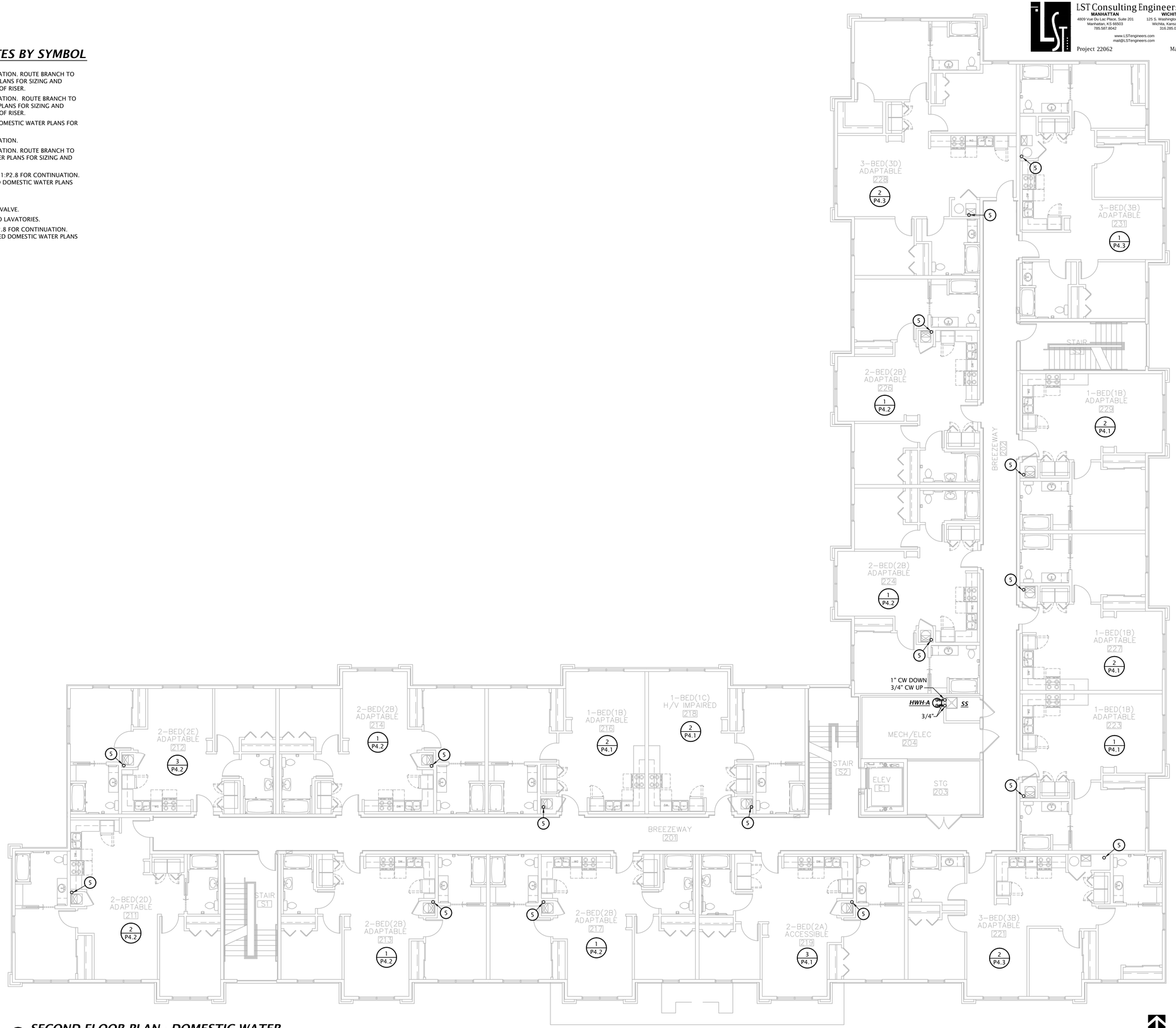
4. ROUTE 1-1/2" UP TO FLOOR ABOVE, SEE 1:P2.6 FOR CONTINUATION.
5. ROUTE 1-1/4" UP TO FLOOR ABOVE, SEE 1:P2.7 FOR CONTINUATION. ROUTE BRANCH TO SECOND FLOOR APARTMENT. SEE ENLARGED DOMESTIC WATER PLANS FOR SIZING AND ROUTING IN APARTMENT.
6. ROUTE 1-1/4" UP TO FOURTH FLOOR APARTMENT ABOVE, SEE 1:P2.8 FOR CONTINUATION. ROUTE BRANCH TO THIRD FLOOR APARTMENT. SEE ENLARGED DOMESTIC WATER PLANS FOR SIZING AND ROUTING IN APARTMENTS.
7. ROUTE ALL APARTMENT WATER PIPING BELOW FLOOR.
8. PROVIDE PUBLIC LAVATORIES WITH POINT OF USE TEMPERING VALVE.
9. ROUTE HOT WATER DOWN IN WALL TO MINIMIZE DISTANCE TO LAVATORIES.
10. ROUTE 1" UP TO FOURTH FLOOR APARTMENT ABOVE, SEE 1:P2.8 FOR CONTINUATION. ROUTE BRANCH TO THIRD FLOOR APARTMENTS. SEE ENLARGED DOMESTIC WATER PLANS FOR SIZING AND ROUTING IN APARTMENTS.
11. 3/4" DOMESTIC COLD WATER LINE ROUTED IN ATTIC SPACE.
12. 3/4" DOMESTIC COLD WATER UP TO ROOF HYDRANT.



1 SECOND FLOOR PLAN - DOMESTIC WATER
1/8" = 1'-0"

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5-17-2023

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REVISION:

DATE: 06-26-2023
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P2.6

(#) DOMESTIC WATER PLAN NOTES BY SYMBOL

1. ROUTE 1-1/4" UP TO FLOOR ABOVE, SEE 1:P2.6 FOR CONTINUATION. ROUTE BRANCH TO FIRST FLOOR APARTMENT. SEE ENLARGED DOMESTIC WATER PLANS FOR SIZING AND ROUTING IN APARTMENT. PROVIDE SHUT-OFF VALVE AT BASE OF RISER.
2. ROUTE 1-1/2" UP TO FLOOR ABOVE, SEE 1:P2.6 FOR CONTINUATION. ROUTE BRANCH TO FIRST FLOOR APARTMENT. SEE ENLARGED DOMESTIC WATER PLANS FOR SIZING AND ROUTING IN APARTMENT. PROVIDE SHUT-OFF VALVE AT BASE OF RISER.
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4. ROUTE 1-1/2" UP TO FLOOR ABOVE, SEE 1:P2.6 FOR CONTINUATION.
5. ROUTE 1-1/4" UP TO FLOOR ABOVE, SEE 1:P2.7 FOR CONTINUATION. ROUTE BRANCH TO SECOND FLOOR APARTMENT. SEE ENLARGED DOMESTIC WATER PLANS FOR SIZING AND ROUTING IN APARTMENT.
6. ROUTE 1-1/4" UP TO FOURTH FLOOR APARTMENT ABOVE, SEE 1:P2.8 FOR CONTINUATION. ROUTE BRANCH TO THIRD FLOOR APARTMENT. SEE ENLARGED DOMESTIC WATER PLANS FOR SIZING AND ROUTING IN APARTMENTS.
7. ROUTE ALL APARTMENT WATER PIPING BELOW FLOOR.
8. PROVIDE PUBLIC LAVATORIES WITH POINT OF USE TEMPERING VALVE.
9. ROUTE HOT WATER DOWN IN WALL TO MINIMIZE DISTANCE TO LAVATORIES.
10. ROUTE 1" UP TO FOURTH FLOOR APARTMENT ABOVE, SEE 1:P2.8 FOR CONTINUATION. ROUTE BRANCH TO THIRD FLOOR APARTMENTS. SEE ENLARGED DOMESTIC WATER PLANS FOR SIZING AND ROUTING IN APARTMENTS.
11. 3/4" DOMESTIC COLD WATER LINE ROUTED IN ATTIC SPACE.
12. 3/4" DOMESTIC COLD WATER UP TO ROOF HYDRANT.

COPPER PIPE SIZE INDICATED	ALTERNATE MATERIAL/SIZE	
	Cross-linked polyethylene (PEX)	Polypropylene (PP)
1/2"	3/4"	1/2"
3/4"	1"	1"
1"		1-1/4"
1-1/4"		1-1/2"
1-1/2"		2"
2"		2-1/2"
2-1/2"		3"
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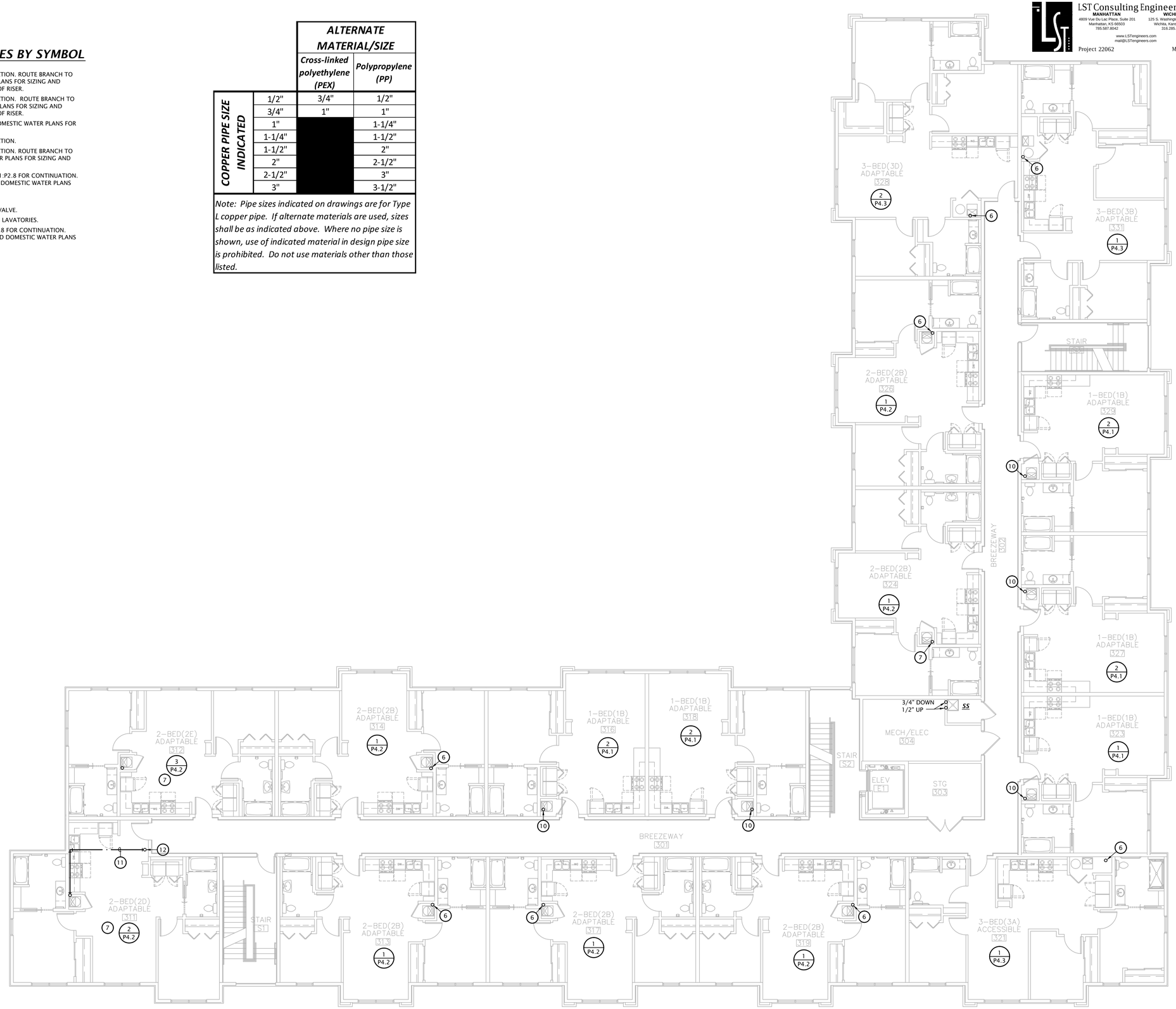
Note: Pipe sizes indicated on drawings are for Type L copper pipe. If alternate materials are used, sizes shall be as indicated above. Where no pipe size is shown, use of indicated material in design pipe size is prohibited. Do not use materials other than those listed.



1 THIRD FLOOR PLAN - DOMESTIC WATER
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P2.7

(#) DOMESTIC WATER PLAN NOTES BY SYMBOL

1. ROUTE 1-1/4" UP TO FLOOR ABOVE, SEE 1:P2.6 FOR CONTINUATION. ROUTE BRANCH TO FIRST FLOOR APARTMENT. SEE ENLARGED DOMESTIC WATER PLANS FOR SIZING AND ROUTING IN APARTMENT. PROVIDE SHUT-OFF VALVE AT BASE OF RISER.
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11. 3/4" DOMESTIC COLD WATER LINE ROUTED IN ATTIC SPACE.
12. 3/4" DOMESTIC COLD WATER UP TO ROOF HYDRANT.

COPPER PIPE SIZE INDICATED	ALTERNATE MATERIAL/SIZE	
	Cross-linked polyethylene (PEX)	Polypropylene (PP)
1/2"	3/4"	1/2"
3/4"	1"	1"
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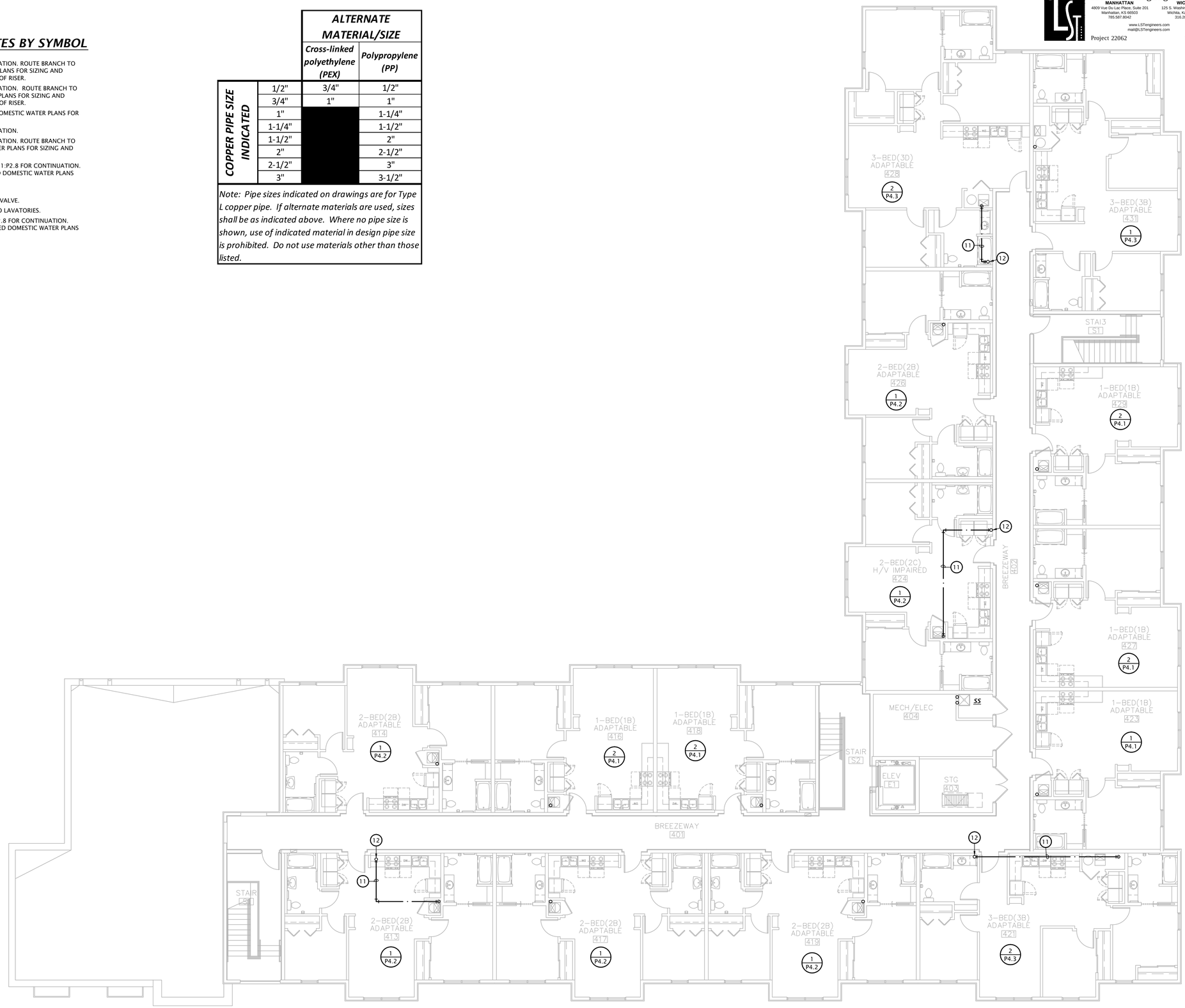
2"		2-1/2"
2-1/2"		3"
3"		3-1/2"

Note: Pipe sizes indicated on drawings are for Type L copper pipe. If alternate materials are used, sizes shall be as indicated above. Where no pipe size is shown, use of indicated material in design pipe size is prohibited. Do not use materials other than those listed.



1 FOURTH FLOOR PLAN - DOMESTIC WATER
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Project 22062 May 2023

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THE RESERVES at MAGNOLIA

NEW APARTMENT COMPLEX

DENTON, TEXAS

5-17-2023

STATE OF TEXAS
TIMOTHY C. TREDWAY
95252
LICENSED PROFESSIONAL ENGINEER

REVISION:

DATE: 06-26-2023
JOB: 21-3205
SHEET NO.:

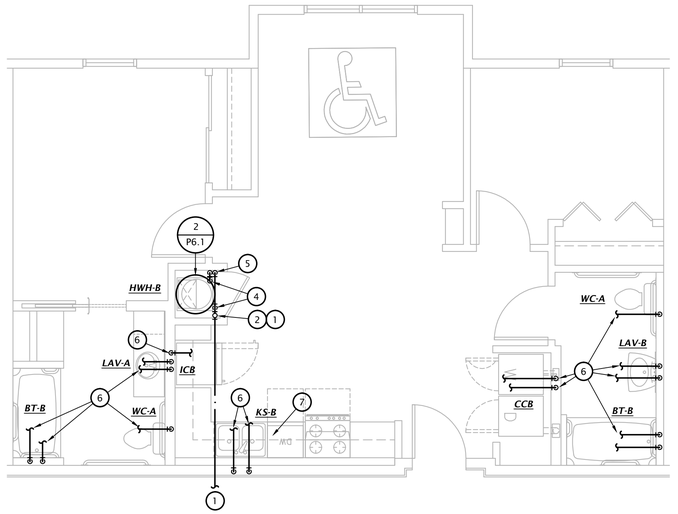
P2.8

NOTES:
- PIPING SHALL NOT BE INSTALLED ABOVE ELECTRICAL PANELS.
- COORDINATE INSTALLATION OF PIPING IN MECHANICAL CLOSET W/ M.C. & E.C.
- SEE PLUMBING FIXTURE SCHEDULE ON SHEET P6.1 FOR FIXTURE ROUGH-IN INFORMATION.
- ROUTE PIPING BELOW FLOOR FOR 4TH FLOOR APARTMENTS AND WHERE NOTED ON OVERALL PLAN. DO NOT ROUTE PIPING ABOVE CEILING IN UNCONDITIONED ATTIC/ PLENUM SPACES EXPOSED TO EXTERIOR.
- INSULATE ALL HW PIPING WITH MINIMUM R-3 INSULATION PER 2021 IECC R403.5.2.

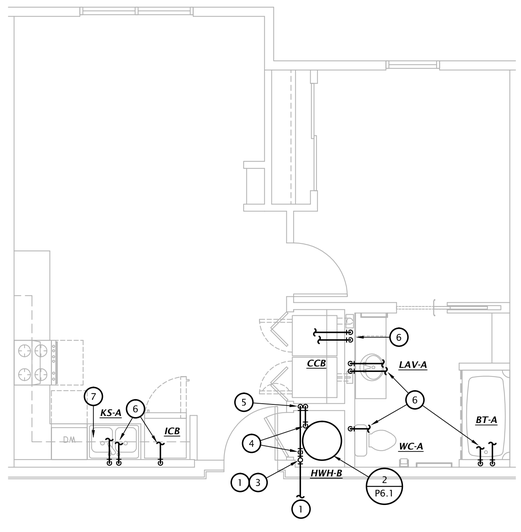
PROJECT SHALL COMPLY WITH ALL REQUIREMENTS OF THE 2021 IECC. REFERENCE SPECIFICATIONS FOR COMMISSIONING REQUIREMENTS.

(#) ENLARGED DOMESTIC WATER PLAN NOTES BY SYMBOL

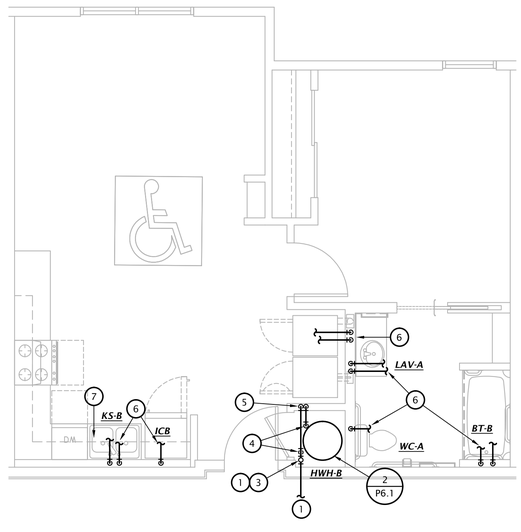
1. SEE OVERALL DOMESTIC WATER PLANS FOR SIZING AND CONTINUATION.
2. PROVIDE 1-1/4" WATER SERVICE TO ALL TWO AND THREE BEDROOM APARTMENTS. PROVIDE INDIVIDUAL SHUT-OFF VALVE FOR EACH DWELLING UNIT.
3. PROVIDE 1" WATER SERVICE TO ONE BEDROOM APARTMENTS. PROVIDE INDIVIDUAL SHUT-OFF VALVE FOR EACH DWELLING UNIT.
4. CONNECT 1" CW AND HW TO WATER HEATER.
5. PROVIDE 1" HW AND CW COPPER MANIFOLD WITH 1/2" PEX BRANCHES AND ROUTE 1/2"PEX BRANCHES TO EACH FIXTURE. MOUNT MANIFOLDS IN ACCESSIBLE LOCATION FIELD COORDINATE EXACT LOCATION OF MANIFOLD WITH G.C. AND OTHER TRADES. PROVIDE ACCESS PANEL IF MOUNTED IN WALL.
6. ROUTE 1/2" PEX BRANCHES TO MANIFOLD. PROVIDE COPPER STUB-OUTS AT ROUGH-IN FOR EACH FIXTURE.
7. PROVIDE 1/2" VALVED BRANCH BELOW SINK AND CONNECT DISHWASHER. ROUTE PIPING ALONG BACK OF CABINETRY, COORDINATE EXACT ROUTING WITH G.C. COORDINATE EXACT REQUIREMENTS WITH DISHWASHER PROVIDED.



(3) 2 BEDROOM ACCESSIBLE DOMESTIC WATER PLAN (TYPE A)
1/4" = 1'-0"



(2) 1 BEDROOM DOMESTIC WATER PLAN (TYPES B, AND C)
1/4" = 1'-0"



(1) 1 BEDROOM ACCESSIBLE DOMESTIC WATER PLAN (TYPE A)
1/4" = 1'-0"

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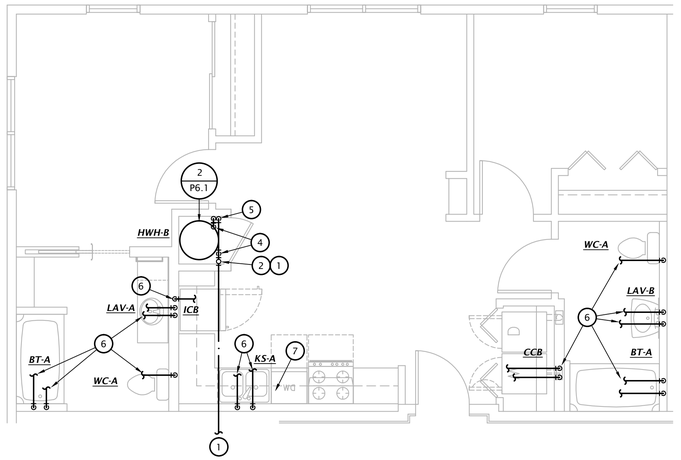
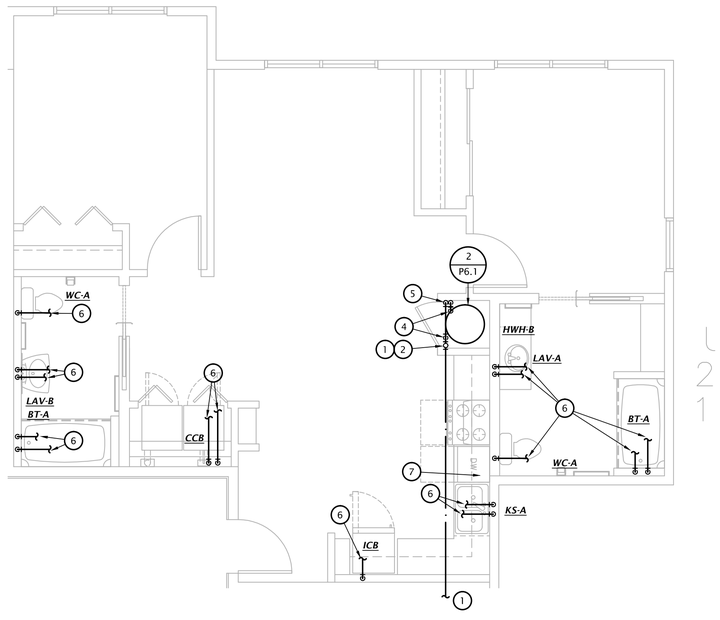
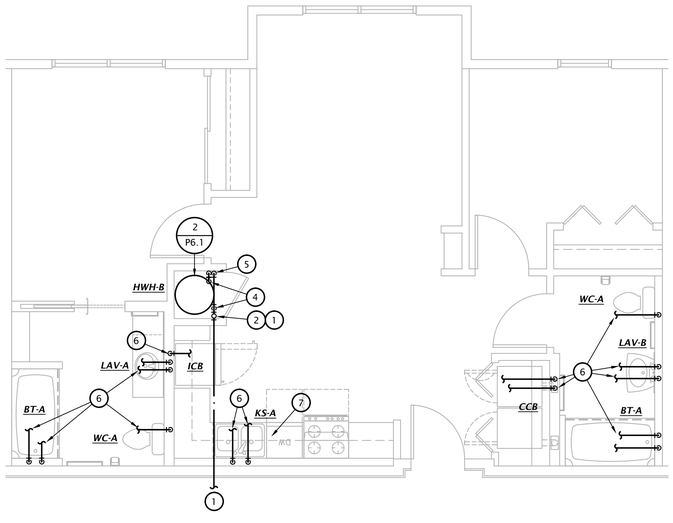


3 2 BEDROOM DOMESTIC WATER PLAN (TYPE E)
1/4" = 1'-0"



2 2 BEDROOM DOMESTIC WATER PLAN (TYPE D)
1/4" = 1'-0"



1 2 BEDROOM DOMESTIC WATER PLAN (TYPES B, AND C)
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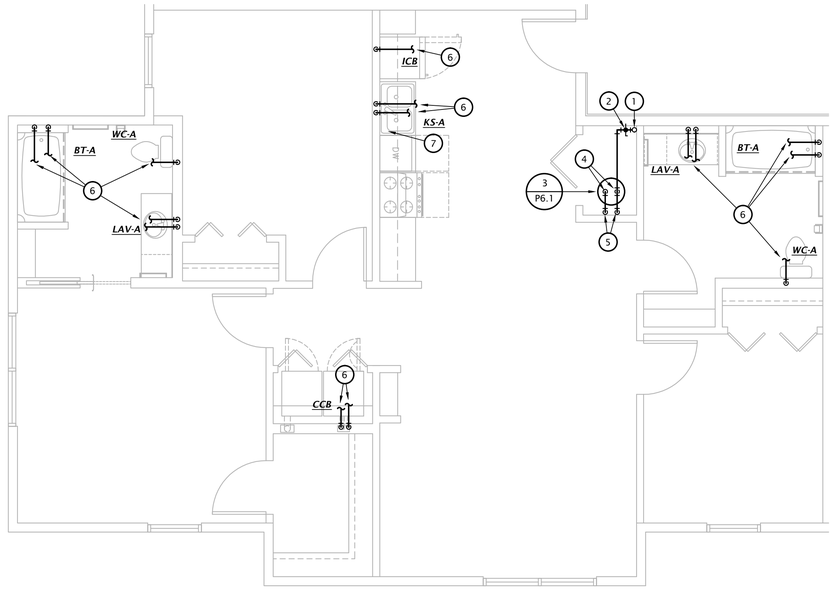
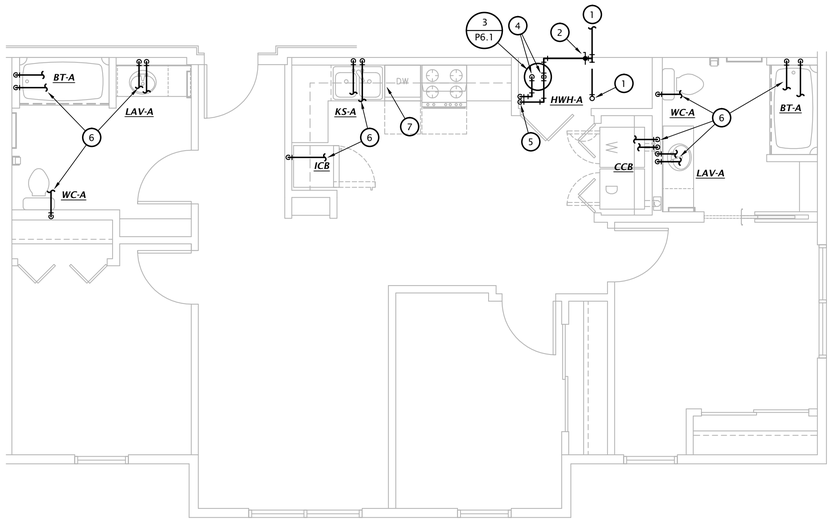
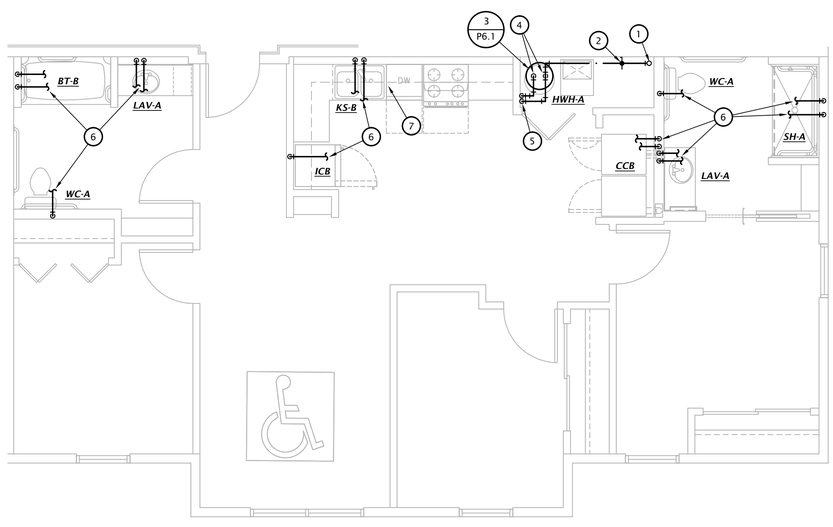


(3) 3 BEDROOM DOMESTIC WATER PLAN (TYPE D)
1/4" = 1'-0"



(2) 3 BEDROOM DOMESTIC WATER PLAN (TYPE B, AND E)
1/4" = 1'-0"



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1/4" = 1'-0"

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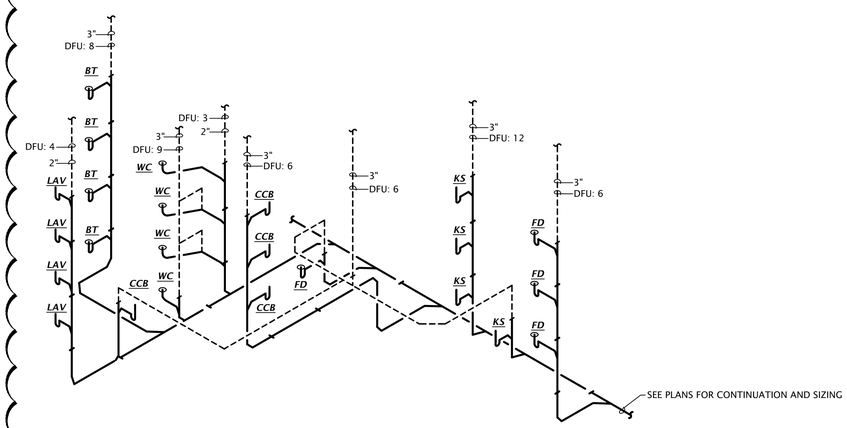
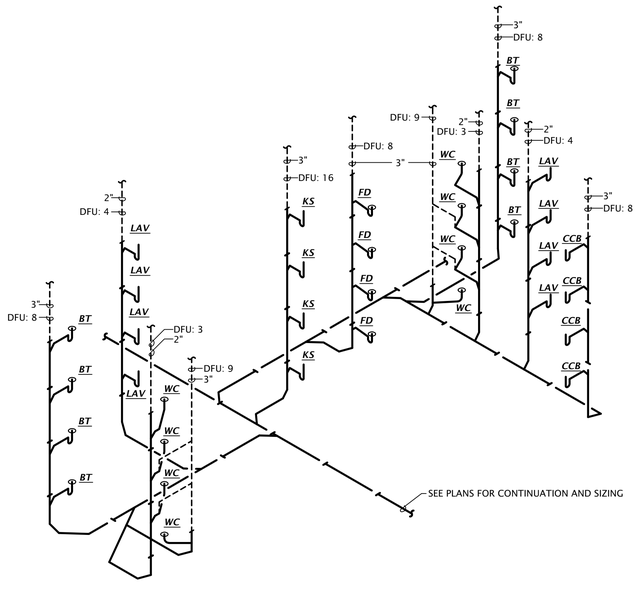


6 '3D' TYPICAL WASTE AND VENT ISOMETRIC

No Scale

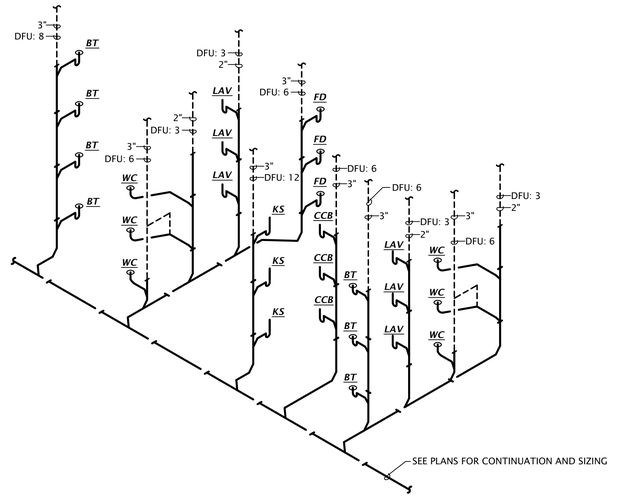
REFERENCE P4 SHEETS FOR EXACT FIXTURE TYPES



5 '3A, & 3B' TYPICAL WASTE AND VENT ISOMETRIC

No Scale

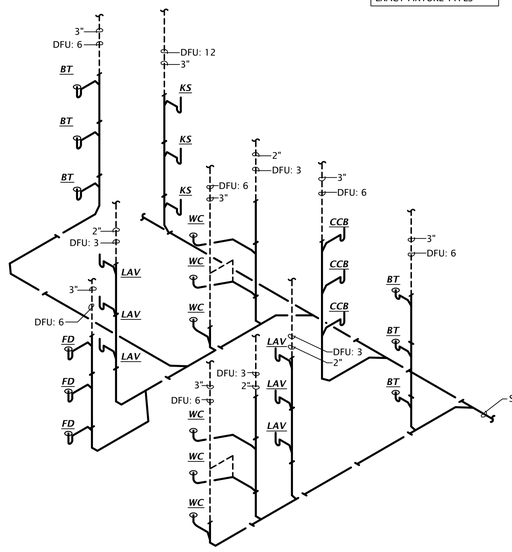
REFERENCE P4 SHEETS FOR EXACT FIXTURE TYPES



4 '2E' TYPICAL WASTE AND VENT ISOMETRIC

No Scale

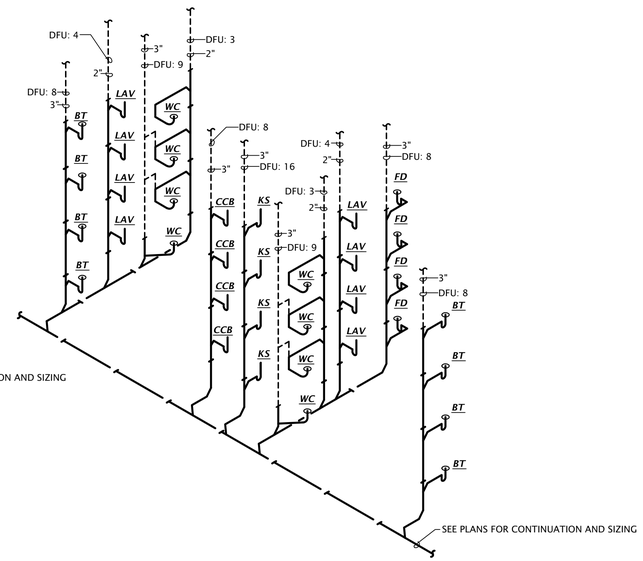
REFERENCE P4 SHEETS FOR EXACT FIXTURE TYPES



3 '2D' TYPICAL WASTE AND VENT ISOMETRIC

No Scale

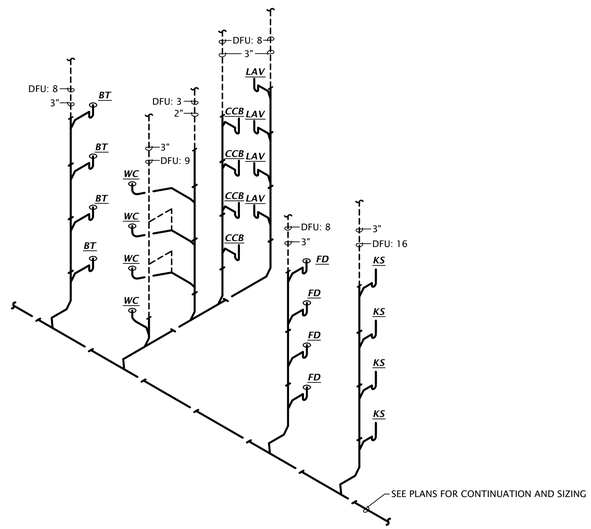
REFERENCE P4 SHEETS FOR EXACT FIXTURE TYPES



2 '2A, 2B, 2C' TYPICAL WASTE AND VENT ISOMETRIC

No Scale

REFERENCE P4 SHEETS FOR EXACT FIXTURE TYPES



1 TYPICAL ONE BEDROOM WASTE AND VENT ISOMETRIC

No Scale

REFERENCE P4 SHEETS FOR EXACT FIXTURE TYPES

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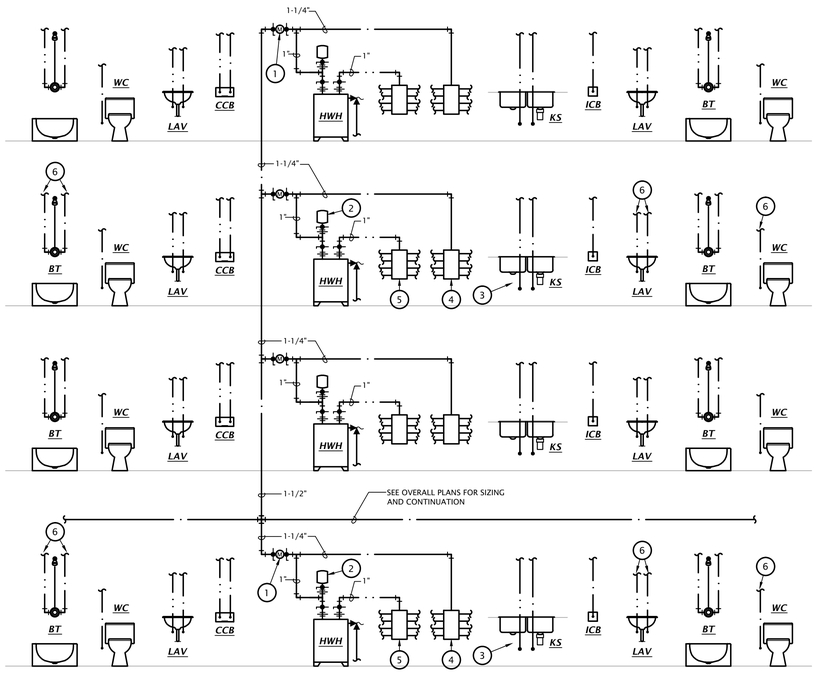
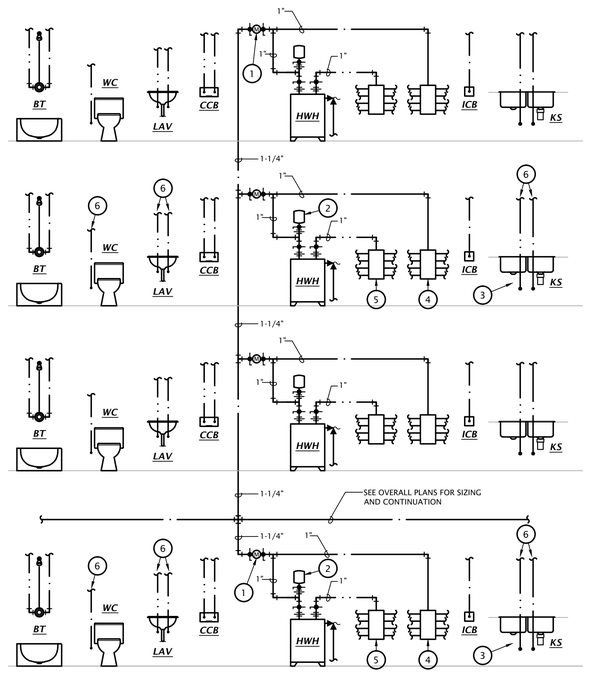


6 THREE BEDROOM TYPICAL DOMESTIC WATER RISER DIAGRAM

Not to Scale

REFERENCE P4 SHEETS FOR EXACT FIXTURE TYPES



5 ONE BEDROOM TYPICAL DOMESTIC WATER RISER DIAGRAM

Not to Scale

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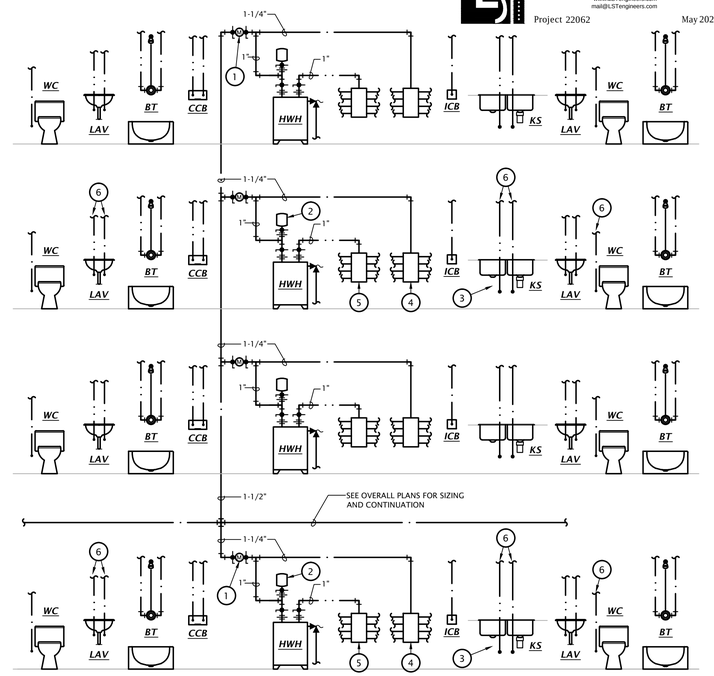

4 '2A, 2B, & 2C' TYPICAL DOMESTIC WATER RISER DIAGRAM

Not to Scale

REFERENCE P4 SHEETS FOR EXACT FIXTURE TYPES

WATER RISER DIAGRAM NOTES

1. PROVIDE TENANT METER AT EACH APARTMENT. COORDIANTE REQUIREMENTS WITH OWNER . (TYPICAL)
2. PROVIDE WATTS MODEL PLT-5 EXPANSION TANK. (TYPICAL)
3. PROVIDE 1/2" VALVED HOT WATER CONNECTION TO DISHWASHER. (TYPICAL)
4. COLD WATER SUPPLY PEX MANIFOLD. (TYPICAL)
5. HOW WATER SUPPLY PEX MANIFOLD. (TYPICAL)
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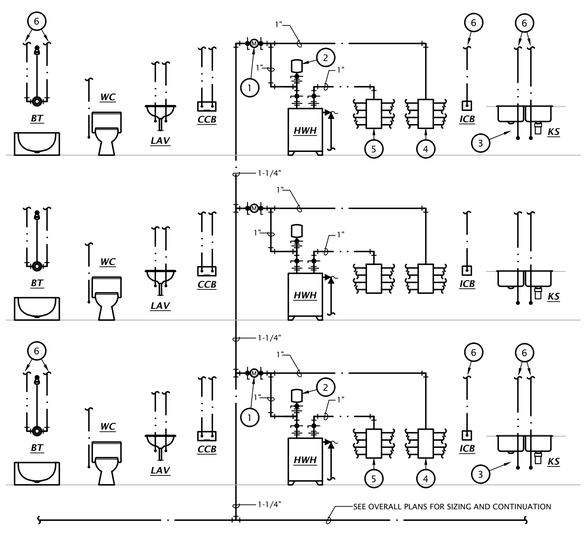

3 ALT. ONE BEDROOM DOMESTIC WATER RISER DIAGRAM

Not to Scale

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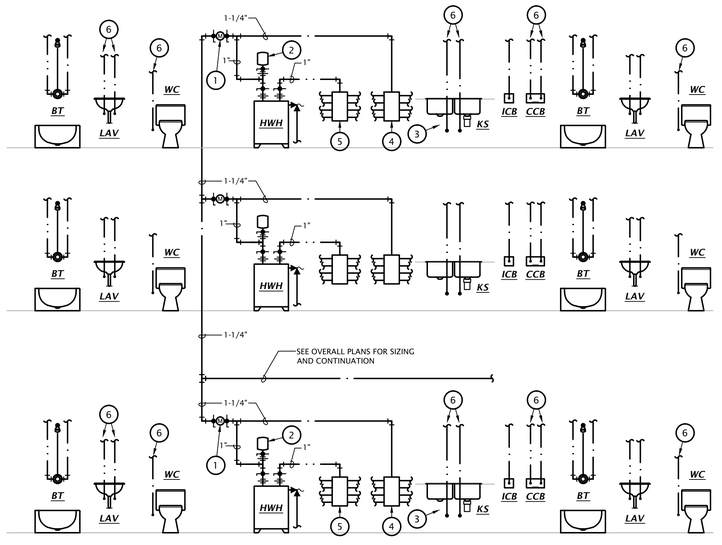

2 '2E' TYPICAL DOMESTIC WATER RISER DIAGRAM

Not to Scale

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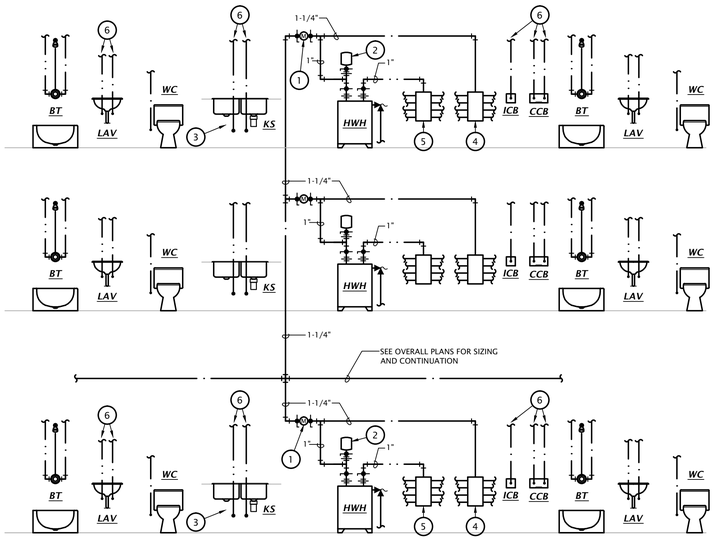

1 '2D' TYPICAL DOMESTIC WATER RISER DIAGRAM

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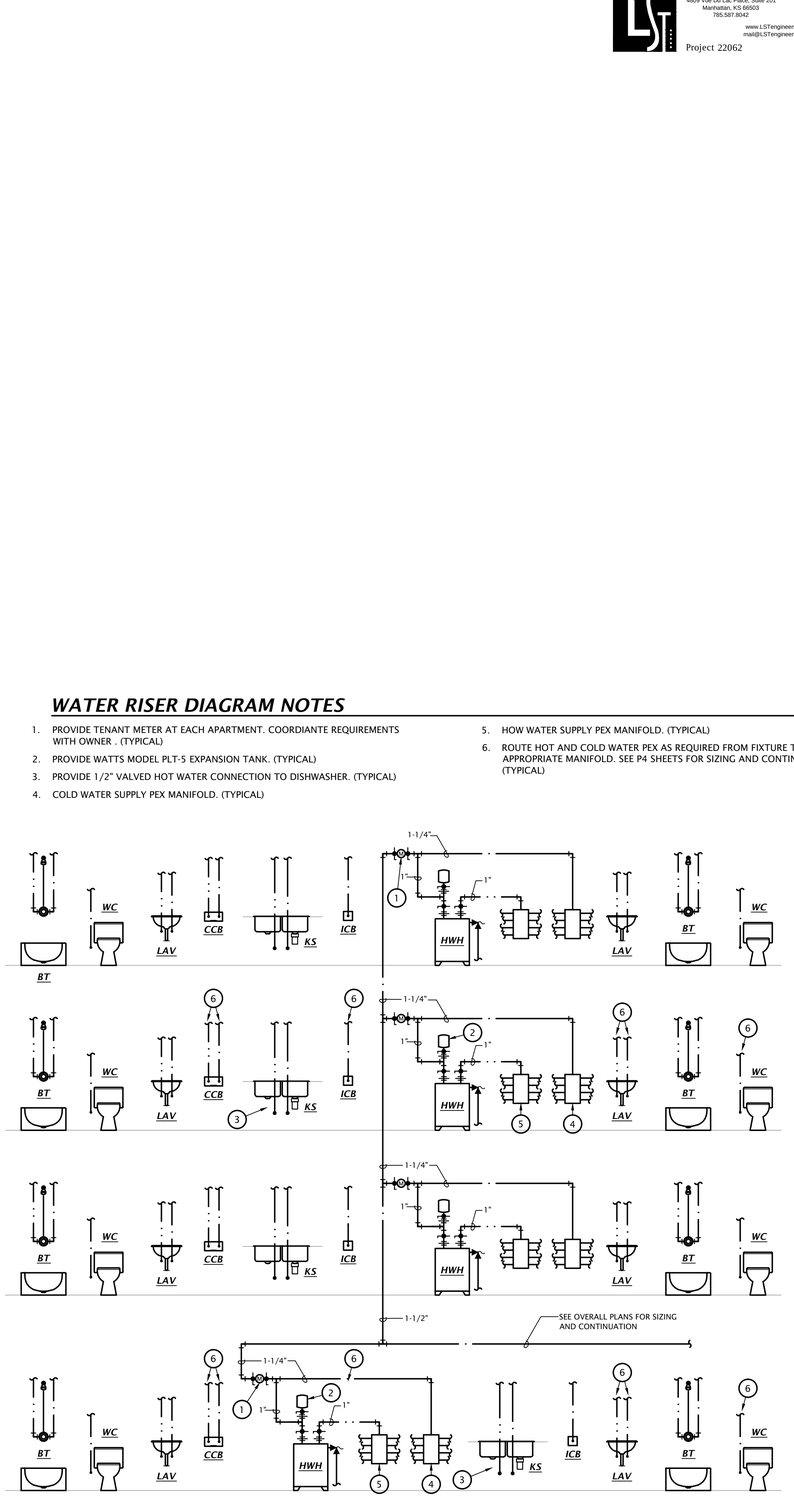

1 *ALT. THREE BEDROOM DOMESTIC WATER RISER DIAGRAM*

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PLUMBING FIXTURE SCHEDULE

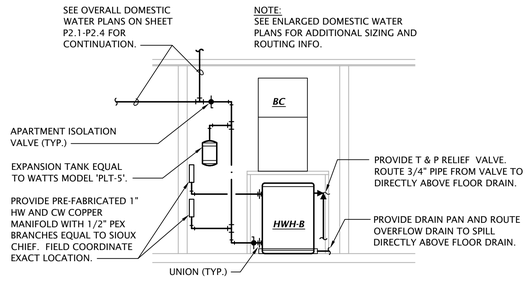
MARK	MANUFACTURER	DESCRIPTION	TRIM		ROUGH-IN SIZES				NOTES
			MANUFACTURER	DESCRIPTION	WASTE	VENT	CW	HW	
WC-A	KOHLER	Model #K-3658-(RA)-0 "Highline Classic" ADA compliant flush tank water closet, white vitreous china, two piece, 12" rough-in, elongated 16-1/2" high bowl, siphon jet flushing action, 1.28 GPF, polished chrome actuator. Coordinate location of trip lever with installation.	KOHLER	#K-4636-0 white, closed front plastic seat with slow closing lid.	4"	2"	1/2"	---	1
WC-B	KOHLER	Model #K-3658-(RA)-0 "Highline Classic" ADA compliant flush tank water closet, white vitreous china, two piece, 12" rough-in, elongated 16-1/2" high bowl, siphon jet flushing action, 1.28 GPF, polished chrome actuator. Coordinate location of trip lever with installation.	KOHLER	#K-4731-CA-0 white, open front, anti-microbial plastic seat without lid, with check hinge.	4"	2"	1/2"	---	1
LAV-A	KOHLER	Model 2196-4-0 self-rimming lavatory, white vitreous china, 20"W x 17", faucet holes on 4" centers.	KOHLER	#K-394-4-2 two handle faucet with pop-up drain and nickel finish.	2"	1-1/2"	1/2"	1/2"	1,2,3
LAV-B	KOHLER	Model 2005-0 wall hung lavatory, white vitrous china, 18-1/4"W x 17-1/4", faucet holes on 4" centers.	KOHLER	#K-394-4-2 two handle faucet with pop-up drain and nickel finish.	2"	1-1/2"	1/2"	1/2"	1,2,3
KS-A	KOHLER	Model K-3369-3 two compartment 18 GA stainless steel top-mount sink, 14-1/2"x16-1/2"x8"D inside, fully undercoated, faucet holes as required.	KOHLER INSINKERATOR	#K-780 single handle pull down kitchen sink faucet with chrome finish, single hole installation. Provide basket strainer. Badger 5 ½ HP garbage disposal with dishwasher waste connection.	2"	1-1/2"	1/2"	1/2"	1,2,4
KS-B	JUST	Model DL-ADA-2233-A-GR two compartment 18 GA stainless steel sink, self rimming, 14"x16"x5"D inside, fully undercoated, faucet holes as required, and drain hole center rear.	KOHLER IN-SINK-ERATOR	#K-780 single handle pull down kitchen sink faucet with chrome finish, single hole installation. Provide basket strainer. Badger 5 ½ HP garbage disposal with dishwasher waste connection.	2"	1-1/2"	1/2"	1/2"	1,2,4,5
SH-A	AQUARIUS	Model G-6233-8F-.75 reinforced fiberglass ADA roll-in shower, 60"W x33"D x73-3/4"H, with integral soap/toiletry shelves and grab bars in accordance with ADA requirements, fold-up seat, right or left hand rough-in as required, white finish. Provide with collapsible dam.	KOHLER	#K-304 pressure balancing valve with integral temperature limits and stops, #K-TS10584-4 valve trim, #K-355 wall supply elbow, #K-9514 60" hose, #K-22163-G hand shower, and #K-8524/K-349 slide bar. Entire assembly shall have nickel finish. Max. 2 GPM.	2"	1-1/2"	1/2"	1/2"	1
BT-A	AQUARIUS	Model A 6000 TS OT 2P cast acrylic ADA tub/shower, 60"W x33-3/4"D x78"H, with integral soap/toiletry shelves in accordance with ADA requirements right or left hand rough-in as required, white finish. Provide with blocking for grab bars and seat to be added at tenant's request.	KOHLER	#K-304 pressure balancing valve with integral temperature limits and stops, #K-TS10582-4 valve trim, #K-355 wall supply elbow, #K-9514 60" hose, #K-22163-G hand shower, and #K-8524/K-349 slide bar. Entire assembly shall have nickel finish. Max. 2 GPM.	2"	1-1/2"	1/2"	1/2"	2,4
BT-B	AQUARIUS	Model A 6000 TS OT 2P cast acrylic ADA tub/shower, 60"W x33-3/4"D x78"H, with integral soap/toiletry shelves and grab bars in accordance with ADA requirements, seat at end of tub, right or left hand rough-in as required, white finish.	KOHLER	#K-304 pressure balancing valve with integral temperature limits and stops, #K-TS10582-4 valve trim, #K-355 wall supply elbow, #K-9514 60" hose, #K-22163-G hand shower, and #K-8524/K-349 slide bar. Entire assembly shall have nickel finish. Max. 2 GPM.	2"	1-1/2"	1/2"	1/2"	1,2,4
SS	FIAT	Model MSB-2424 one piece molded stone mop basin, 24" square, stainless steel integral drain body with caulk connection, stainless steel wall guards.	DELTA	Model 28T9 faucet with hose thread outlet, vacuum breaker, pail hook, wall brace, metal lever handles.	3"	1-1/2"	3/4"	3/4"	4
WH	WOODFORD	Model 25 frost proof wall hydrant with anti-siphon vacuum breaker, metal handle.			---	---	3/4"	---	
RH	WOODFORD	Model RHY2-MS freezeless roof hydrant with vacuum breaker, cast iron mounting system, and vent to allow draining. Provide with 1/8" tapping for drain.			---	---	3/4"	---	
CCB	WATER-TITE	SUPPLIED BY OTHERS			2"	2"	1/2"	1/2"	
ICB	OATEY	Model 3848X fire rated ice maker connection box with 1/4 turn ball valve.			---	---	1/2"	---	
FD	WADE	Model 1102STD5 floor drain with satin nickel bronze strainer. Provide trap protection device equal to ProSet Trapguard.			2"	1-1/2"	---	---	
FS	WADE	Model 9140 floor sink with 8" deep body, enameled interior, sediment bucket, nickel bronze trim and grate with openings as requried. Provide trap protection device equal to ProSet Trapguard.			3"	1-1/2"	---	---	
EWC	MURDOCK	Model A172108F-UG ADA compliant dual height, self contained water cooler with stainless steal basin, from push bar actuator, and lead-free cooling system capable of cooling 8.0 GPH, 120 volts.			2"	1-1/2"	1/2"	---	1
RD	WADE	Model 3000 cast iron side outlet body roof drain with flange, flashing ring with gravel stop, unde deck clamp and cast iron dome strainer.							
OD	WADE	Model 3000 cast iron side outlet body roof drain with flange, flashing ring with gravel stop, unde deck clamp and cast iron dome strainer.							
DN	ZURN	Model ZF199 black downspout nozzle with threaded outlet and flange to secure nozzle to wall.							
HWH-A	A.O. SMITH	Model ENT-40, 40 gallon electric water heater, (2) non simultaneous 4500 watts, 208 volts heating elements, 21 GPH recovery @ 90˚F temp rise. Minimum 0.92 UEF. Supplied with temperature & pressure relief valve and brass drain valve.							
HWH-B	A.O. SMITH	Model ENJ-40, 40 gallon electric water heater, (2) non simultaneous 4500 watts, 208 volts heating elements, 21 GPH recovery @ 90˚F temp rise. Minimum 0.93 UEF. Supplied with temperature & pressure relief valve and brass drain valve.							
HWH-C	A.O. SMITH	Model EJCS-20, 20 gallon electric water heater, 2500 watts, 208 volts heating element, 11 GPH recovery @ 90˚F temp rise. Supplied with temperature & pressure relief valve and brass drain valve.							6
HWP	BELL & GOSSETT	Model NBF-33 circulation pump, bronze body, 10 GPM @ 10' head, 120 VAC. Provide clamp-on aquastat for pump control.							7

GENERAL:

- Provide fixtures with all trim necessary for complete installation.
- All toilets, lavatory faucets, showerheads, and kitchen faucets shall have EPA's WaterSense label.

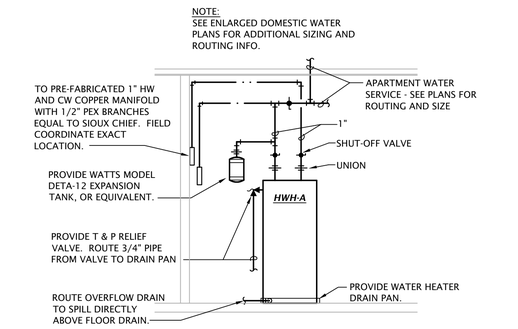
NOTES:

1. In areas open to the public, fixture and installation to meet requirements of Americans with Disabilities Act. In apartments, fixture and installation to meet requirements of the Fair Housing Act.
2. Provide Dearborn supplies with stops and escutcheon plate, 1-1/4" cast brass p-trap.
3. Insulate water and waste piping below lavatory. Utilize insulation kit equivalent to LavGuard by Truebro.
4. Trim shall be provided with polished chrome finish.
5. Insulate water and waste piping below sink. Utilize insulation kit equivalent to LavGuard by Truebro. Provide Plumberex model #3071WD-N waste disposal cover.
6. Provide wall hung platform for water heater equal to Holdrite #50-SWHP-W-C. Coordinate exact location and mounting height with architect.
7. Pump shall have controls to prevent startup within 5 minutes from the end of the previous heating cycle. Hot water recirculation system shall meet all requirements of 2015 IECC.



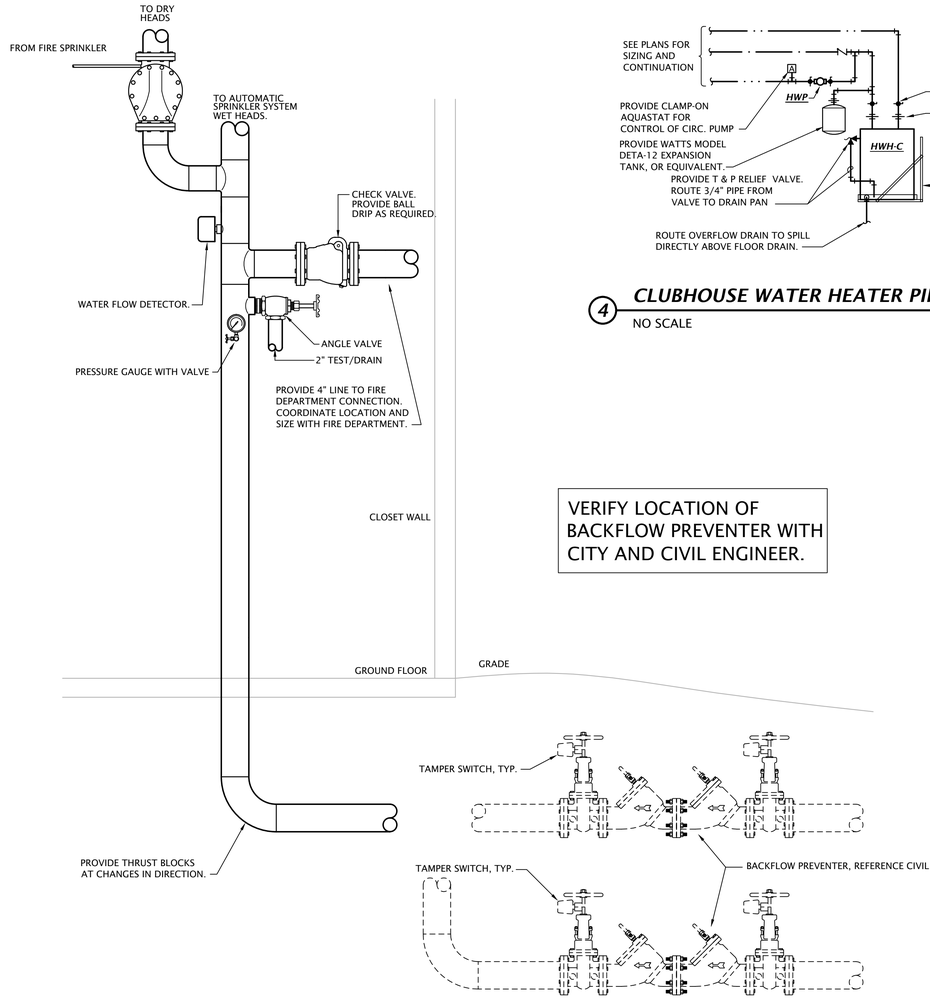
2 APARTMENT WATER HEATER PIPING DIAGRAM

NO SCALE



3 APARTMENT WATER HEATER PIPING DIAGRAM

NO SCALE



1 FIRE PROTECTION RISER DIAGRAM

NO SCALE

4 CLUBHOUSE WATER HEATER PIPING DIAGRAM

NO SCALE

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THE RESERVES at MAGNOLIA

NEW APARTMENT COMPLEX

DENTON, TEXAS

5-17-2023

STATE OF KANSAS
TIMOTHY C. TREDWAY
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LICENSED PROFESSIONAL ENGINEER

REVISION:

DATE: 06-26-2023
JOB: 21-3205
SHEET NO.:

P6.1