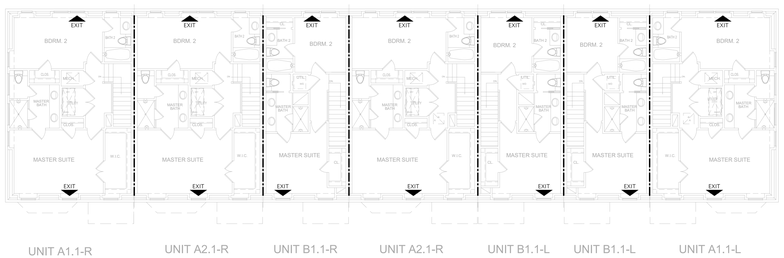
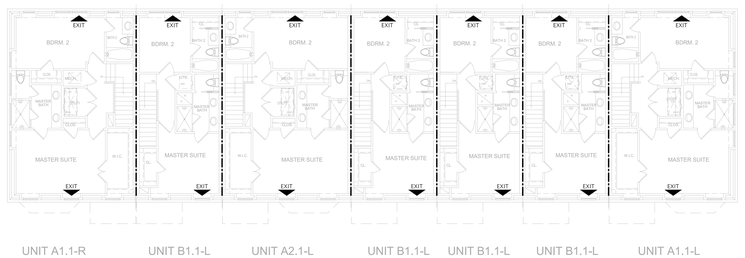
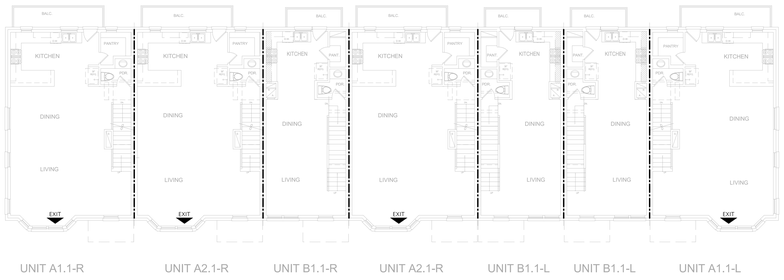


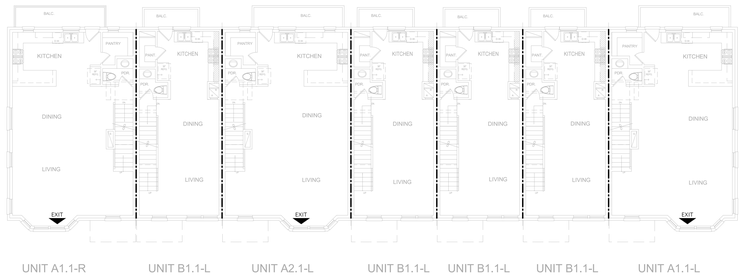
06 | BUILDING 2 - THIRD FLOOR CODE PLAN
1/8" = 1'-0"



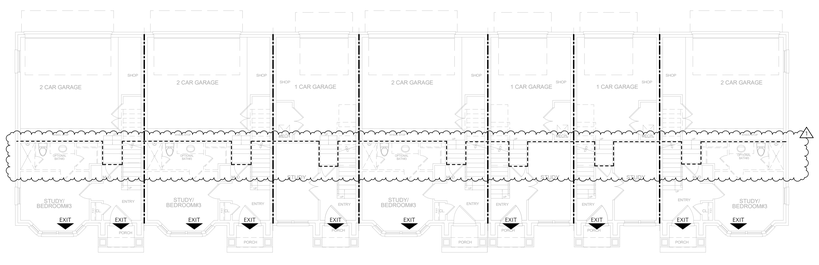
03 | BUILDING 1 - THIRD FLOOR CODE PLAN
1/8" = 1'-0"



05 | BUILDING 2 - SECOND FLOOR CODE PLAN
1/8" = 1'-0"

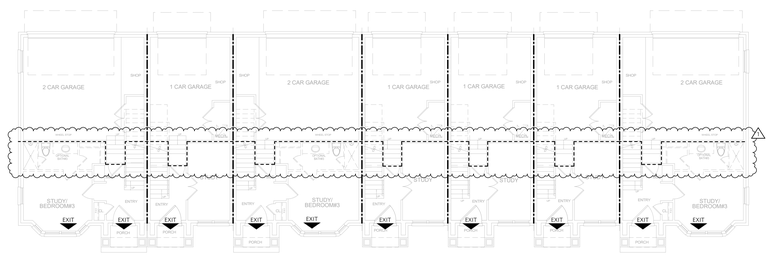


02 | BUILDING 1 - SECOND FLOOR CODE PLAN
1/8" = 1'-0"



04 | BUILDING 2 - FIRST FLOOR CODE PLAN
1/8" = 1'-0"

BUILDING 2
TOTAL BUILDING AREA: 15,011 SF
TOTAL LIVING AREA: 11,867 SF
NUMBER OF LIVING UNITS: 7
NUMBER OF BEDROOMS: 14
NUMBER OF BATHROOMS: 14 BATHS, 7 HALF BATHS
NUMBER OF STORIES: 3



01 | BUILDING 1 - FIRST FLOOR CODE PLAN
1/8" = 1'-0"

BUILDING 1
TOTAL BUILDING AREA: 14,135 SF
TOTAL LIVING AREA: 11,153 SF
NUMBER OF LIVING UNITS: 7
NUMBER OF BEDROOMS: 14
NUMBER OF BATHROOMS: 14 BATHS, 7 HALF BATHS
NUMBER OF STORIES: 3

CODE SUMMARY

APPLICABLE CODES:

2018 INTERNATIONAL RESIDENTIAL CODE
2018 INTERNATIONAL PLUMBING CODE
2018 INTERNATIONAL MECHANICAL CODE
2018 INTERNATIONAL FUEL GAS CODE
2018 INTERNATIONAL FIRE CODE
2017 NATIONAL ELECTRICAL CODE
ICC/ANSI A117.1-2009, ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES

GENERAL BUILDING HEIGHTS AND AREAS

BUILDING	*HEIGHT*	*STORIES*
1	44'-3"	3
2	44'-3"	3
3	39'-0"	3
4	39'-0"	3

SECTION R302 *FIRE-RESISTANT CONSTRUCTION*

UNPROTECTED WOOD
FULLY SPRINKLERED - NFPA 13D

EXTERIOR WALLS - DWELLINGS WITH FIRE SPRINKLERS (TABLE R302.1(2))

EXTERIOR WALL ELEMENT	*MIN. RATING*	*MIN. SEPARATION DIST.*
WALLS		
NOT FIRE-RESISTANCE RATED	0 HR	0 FT (EXCEPTION A)
PROJECTIONS		
FIRE-RESISTANCE RATED	0 HR (EXCEPTION B)	0 FT (EXCEPTION A)
NOT FIRE-RESISTANCE RATED	0 HR	3 FT
OPENINGS IN WALLS		
UNLIMITED	0 HR	0 FT (EXCEPTION A)
PENETRATIONS	NONE REQUIRED	0 FT (EXCEPTION A)

R302.2 *TOWNHOUSES*

COMMON WALLS SEPARATING TOWNHOUSES = 1 HR. RATING WITH AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION P2904

SECTION R310 *EMERGENCY ESCAPE AND RESCUE OPENINGS*

WHERE REQUIRED:
BASEMENTS W/ HABITABLE SPACE AND EVERY SLEEPING ROOM SHALL HAVE AT LEAST ONE OPERABLE EMERGENCY ESCAPE AND RESCUE OPENING.
MINIMUM OPENING AREA:
ALL EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL HAVE A MINIMUM NET CLEAR OPENING OF 5.7 SQ. FT. THE MINIMUM NET CLEAR OPENING HEIGHT SHALL BE 24 INCHES. THE MINIMUM NET CLEAR OPENING WIDTH SHALL BE 20 INCHES.
WINDOWS:
WHERE WINDOWS ARE PROVIDED AS THE EMERGENCY ESCAPE AND RESCUE OPENING, THEY SHALL HAVE A SILL HEIGHT OF NOT MORE THAN 44 INCHES ABOVE THE FLOOR AND HAVE OPENING CONTROL DEVICES COMPLYING WITH ASTM F2090.
WINDOW WELLS:
HORIZONTAL AREA REQUIRED: 3'-0" W x 3'-0"D
HORIZONTAL AREA PROVIDED: 5'-0" W x 3'-6"D

SECTION R311 *MEANS OF EGRESS*

1 MEANS OF EGRESS PROVIDED PER DWELLING UNIT, MINIMUM OF 1 REQUIRED
CLEAR WIDTH REQUIRED: 32"
CLEAR WIDTHS PROVIDED: 44" (BUILDING 1 & 2), 34" (BUILDING 3 & 4) 1

SECTION R313 *AUTOMATIC FIRE SPRINKLER SYSTEMS*

AN AUTOMATIC RESIDENTIAL FIRE SPRINKLER SYSTEM SHALL BE INSTALLED IN EACH TOWNHOUSE AND SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH SECTION P2904.

SECTION R314 *SMOKE ALARMS*

SMOKE ALARMS SHALL BE PROVIDED IN ALL DWELLING UNITS AND SHALL COMPLY WITH NFPA 72 AND SECTION R314 AND BE LISTED IN ACCORDANCE WITH UL 217.

SECTION R315 *CARBON MONOXIDE ALARMS*

CARBON MONOXIDE ALARMS SHALL BE PROVIDED IN ALL DWELLING UNITS AND SHALL BE LISTED IN ACCORDANCE WITH UL 2034. COMBINATION CARBON MONOXIDE AND SMOKE ALARMS SHALL BE LISTED IN ACCORDANCE WITH UL 2034 AND UL 217.

LOCAL JURISDICTION *CITY OF LEE'S SUMMIT, MO MUNICIPAL CODE*

CODE LEGEND

1 HOUR RATED - PER UL U378. REF. 3/A004
DWELLING - GARAGE SEPARATION

clockwork
423 DELAWARE, STE 102
KANSAS CITY, MISSOURI 64105
www.clockwork-ad.com

NLV DEVELOPMENT

LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

STATE OF MISSOURI
CHRISTIAN J ARNOLD
NUMBER A-2020037158
ARCHITECT

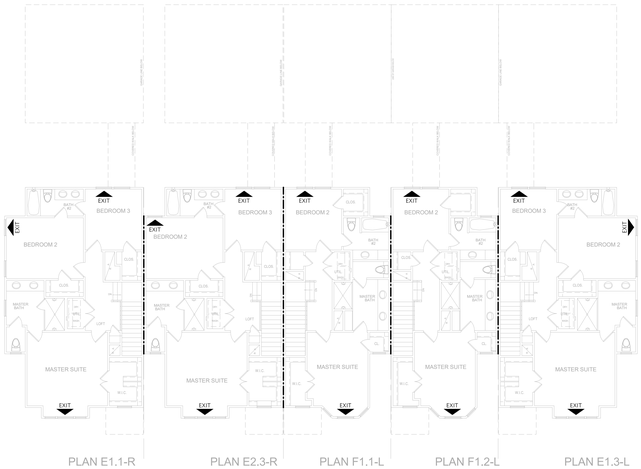
PROFESSIONAL CERTIFICATION:
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY THE LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MISSOURI.

REV	ISSUE	DATE
	PERMIT SET	2022 12 22
1	PERMIT REVIEW	2023 01 26

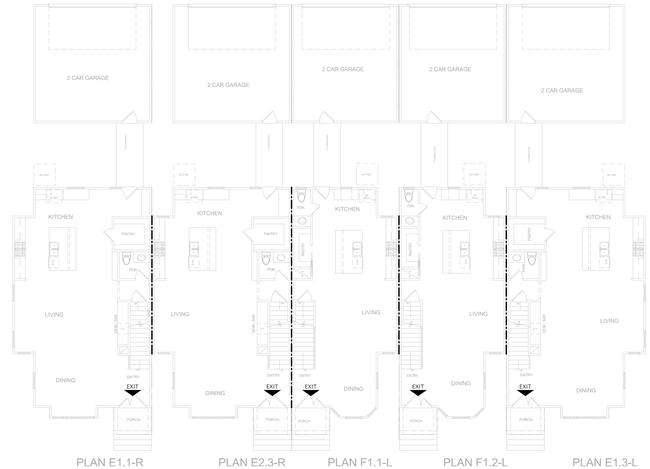
BUILDING 1 & 2 CODE PLANS

A001

21009 PROJECT NAME



06 | BUILDING 4 - SECOND FLOOR CODE PLAN
1/8" = 1'-0"



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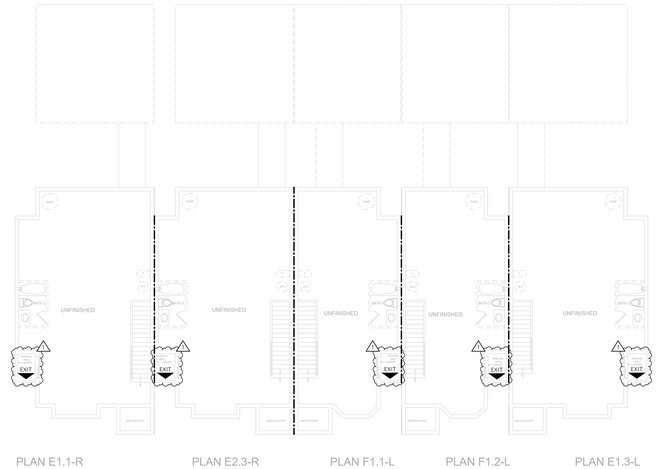
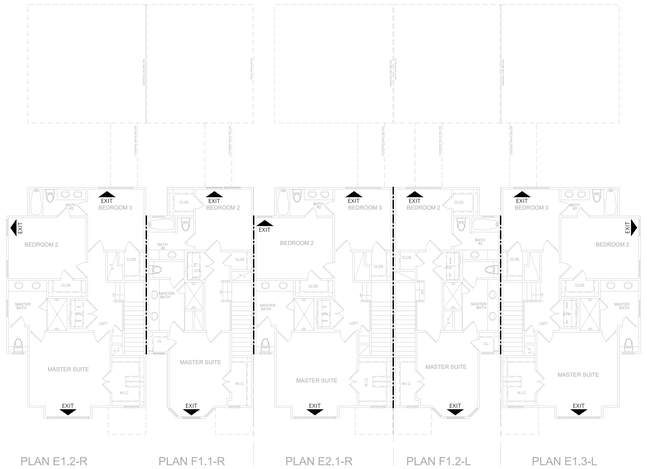
1/8" = 1'-0"

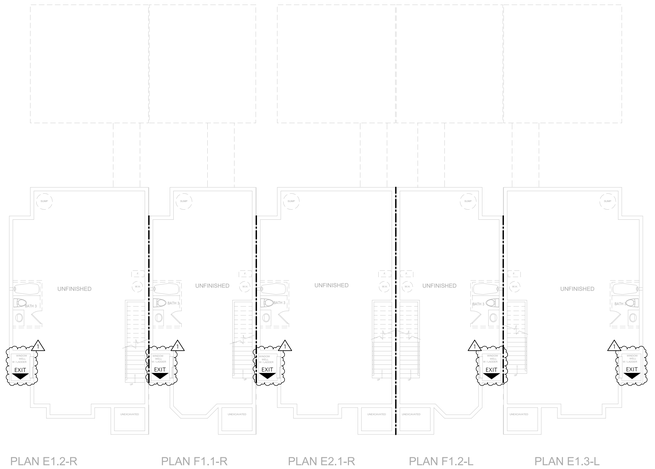


04 | BUILDING 4 - BASEMENT CODE PLAN
1/8" = 1'-0"



03 | BUILDING 3 - SECOND FLOOR CODE PLAN
1/8" = 1'-0"

02 | BUILDING 3 - FIRST FLOOR CODE PLAN
1/8" = 1'-0"



01 | BUILDING 3 - BASEMENT CODE PLAN
1/8" = 1'-0"

CODE SUMMARY

APPLICABLE CODES:

2018 INTERNATIONAL RESIDENTIAL CODE
2018 INTERNATIONAL PLUMBING CODE
2018 INTERNATIONAL MECHANICAL CODE
2018 INTERNATIONAL FUEL GAS CODE
2018 INTERNATIONAL FIRE CODE
2017 NATIONAL ELECTRICAL CODE
ICC/ANSI A117.1-2009, ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES

GENERAL BUILDING HEIGHTS AND AREAS

BUILDING	*HEIGHT*	*STORIES*
1	44'-3"	3
2	44'-3"	3
3	39'-0"	3
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SECTION R302 *FIRE-RESISTANT CONSTRUCTION*

UNPROTECTED WOOD
FULLY SPRINKLERED - NFPA 13D

EXTERIOR WALLS - DWELLINGS WITH FIRE SPRINKLERS (TABLE R302.1(2))

EXTERIOR WALL ELEMENT	*MIN. RATING*	*MIN. SEPARATION DIST.*
WALLS		
NOT FIRE-RESISTANCE RATED	0 HR	0 FT (EXCEPTION A)
PROJECTIONS		
FIRE-RESISTANCE RATED	0 HR (EXCEPTION B)	0 FT (EXCEPTION A)
NOT FIRE-RESISTANCE RATED	0 HR	3 FT
OPENINGS IN WALLS		
UNLIMITED	0 HR	0 FT (EXCEPTION A)
PENETRATIONS	NONE REQUIRED	0 FT (EXCEPTION A)

R302.2 *TOWNHOUSES*

COMMON WALLS SEPARATING TOWNHOUSES = 1 HR. RATING WITH AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION P2904

SECTION R310 *EMERGENCY ESCAPE AND RESCUE OPENINGS*

WHERE REQUIRED:
BASEMENTS W/ HABITABLE SPACE AND EVERY SLEEPING ROOM SHALL HAVE AT LEAST ONE OPERABLE EMERGENCY ESCAPE AND RESCUE OPENING.
MINIMUM OPENING AREA:
ALL EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL HAVE A MINIMUM NET CLEAR OPENING OF 5.7 SQ. FT. THE MINIMUM NET CLEAR OPENING HEIGHT SHALL BE 24 INCHES. THE MINIMUM NET CLEAR OPENING WIDTH SHALL BE 20 INCHES.
WINDOWS:
WHERE WINDOWS ARE PROVIDED AS THE EMERGENCY ESCAPE AND RESCUE OPENING, THEY SHALL HAVE A SILL HEIGHT OF NOT MORE THAN 44 INCHES ABOVE THE FLOOR AND HAVE OPENING CONTROL DEVICES COMPLYING WITH ASTM F2090.
WINDOW WELLS:
HORIZONTAL AREA REQUIRED: 3'-0" W x 3'-0"D
HORIZONTAL AREA PROVIDED: 5'-0" W x 3'-6"D

SECTION R311 *MEANS OF EGRESS*

1 MEANS OF EGRESS PROVIDED PER DWELLING UNIT, MINIMUM OF 1 REQUIRED
CLEAR WIDTH REQUIRED: 32"
CLEAR WIDTHS PROVIDED: 44" (BUILDING 1 & 2), 34" (BUILDING 3 & 4)

SECTION R313 *AUTOMATIC FIRE SPRINKLER SYSTEMS*

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SECTION R315 *CARBON MONOXIDE ALARMS*

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LOCAL JURISDICTION *CITY OF LEE'S SUMMIT, MO MUNICIPAL CODE*

CODE LEGEND

1 HOUR RATED - PER UL U378. REF. 3/A004
DWELLING - GARAGE SEPARATION

BUILDING 4
TOTAL BUILDING AREA: 15,808 SF
TOTAL LIVING AREA: 8,888 SF
NUMBER OF LIVING UNITS: 5
NUMBER OF BEDROOMS: 13
NUMBER OF BATHROOMS: 10 BATHS, 5 HALF BATHS
NUMBER OF STORIES: 3

BUILDING 3
TOTAL BUILDING AREA: 15,808 SF
TOTAL LIVING AREA: 8,888 SF
NUMBER OF LIVING UNITS: 5
NUMBER OF BEDROOMS: 13
NUMBER OF BATHROOMS: 10 BATHS, 5 HALF BATHS
NUMBER OF STORIES: 2 WITH BASEMENT

clockwork
423 DELAWARE, STE 102
KANSAS CITY, MISSOURI 64105
www.clockwork-ad.com

NLV DEVELOPMENT

LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

STATE OF MISSOURI
CHRISTIAN J ARNOLD
NUMBER A-2003027158
REGISTERED ARCHITECT

PROFESSIONAL CERTIFICATION:
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY THE LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MISSOURI.

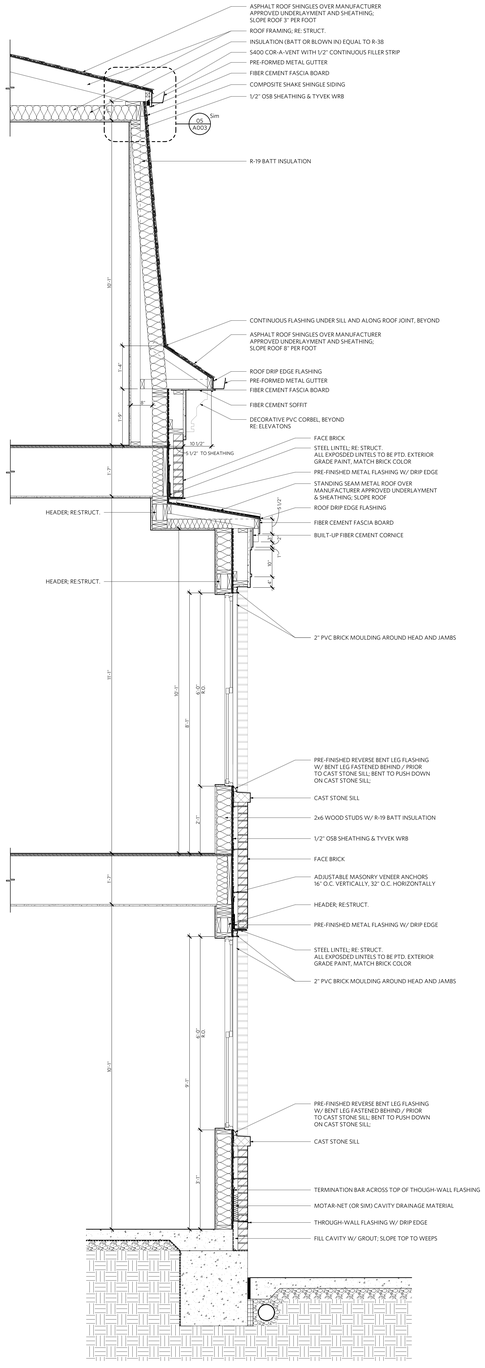
REV	ISSUE	DATE
	PERMIT SET	2022 12 22
1	PERMIT REVIEW	2023 01 26

BUILDING 3 & 4 CODE PLANS

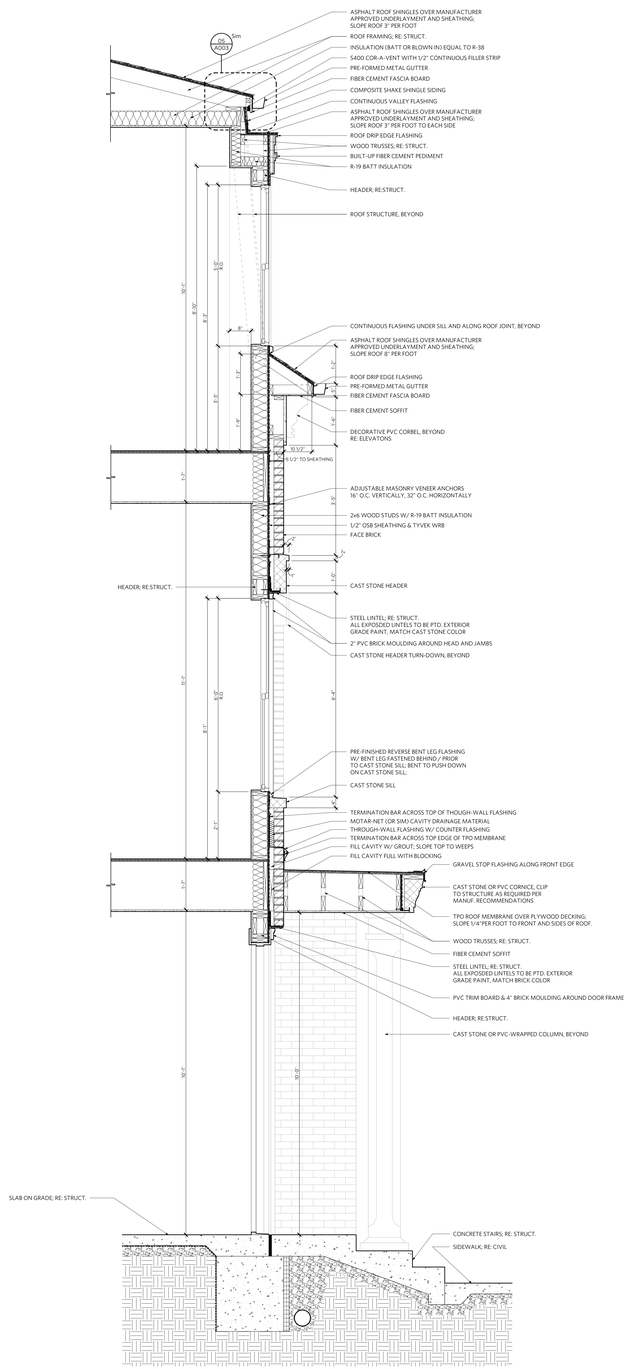
A002

2100 PROJECT NAME

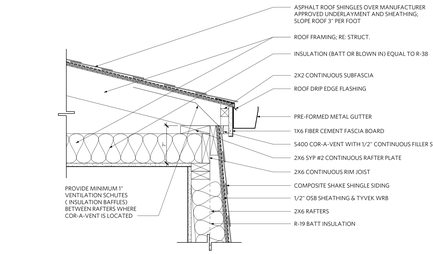
clockwork
423 DELAWARE, STE 102
KANSAS CITY, MISSOURI 64105
www.clockwork-ad.com



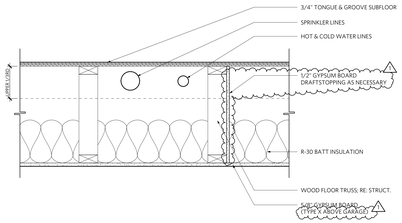
03 | BUILDING 1 & 2 WALL SECTION 2
3/4" = 1'-0"



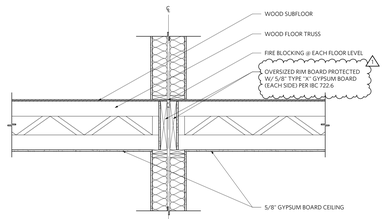
02 | BUILDING 1 & 2 WALL SECTION 1
3/4" = 1'-0"



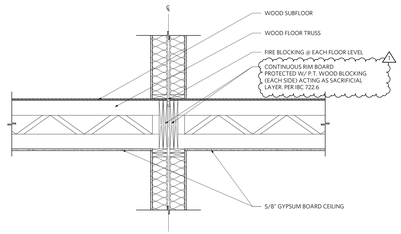
05 | BUILDING 1 & 2 ROOF EDGE DETAIL
1 1/2" = 1'-0"



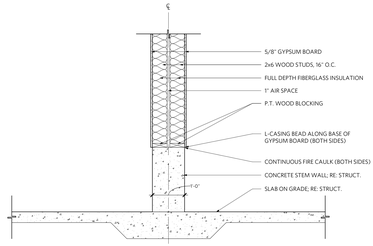
04 | TYPICAL FLOOR DETAIL
1 1/2" = 1'-0"



OPTIONAL ALTERNATE DETAIL 2

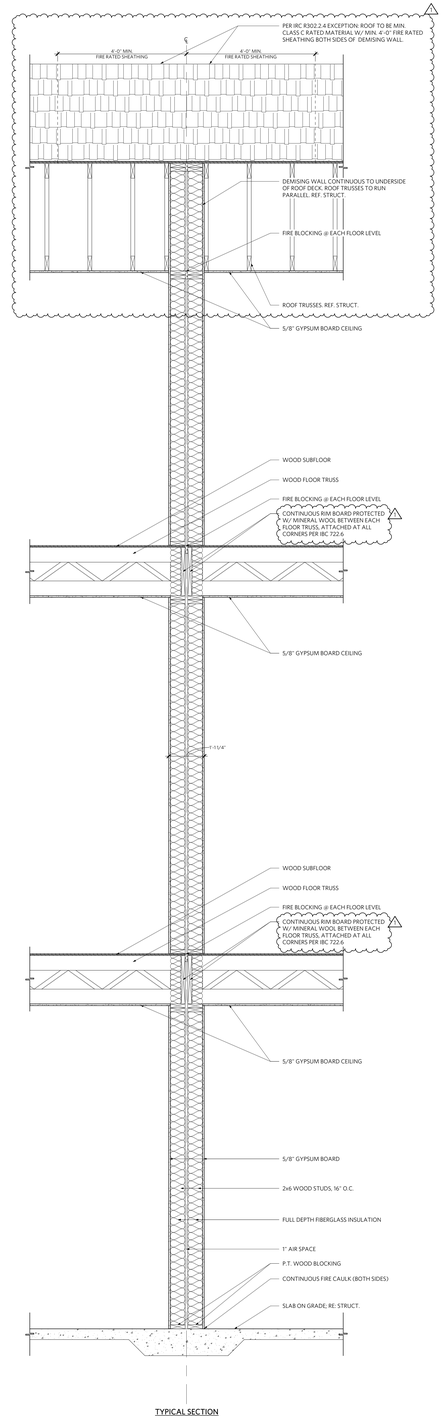


OPTIONAL ALTERNATE DETAIL 1



BASE DETAIL @ GARAGE

NOTE:
WALL SECTION RATED PER UL U378. REF. 3/A004



TYPICAL SECTION

01 | DEMISING WALL SECTION
3/4" = 1'-0"

NLV DEVELOPMENT

LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

STATE OF MISSOURI
CHRISTIAN J. ARNOLD
NUMBER A-2008037158
ARCHITECT

PROFESSIONAL CERTIFICATION:
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REV	ISSUE	DATE
	PERMIT SET	2022 12 22
1	PERMIT REVIEW	2023 01 26

WALL SECTIONS

A003

21009 PROJECT NAME

Design No. U378

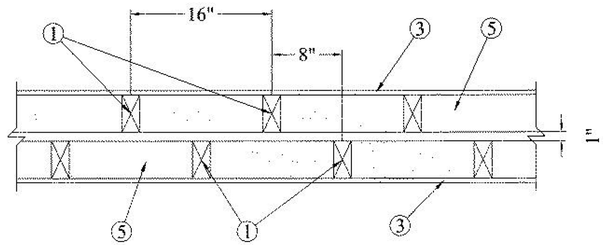
February 06, 2018

Bearing Wall Rating — 1-1/2 or 2 Hr. (See Item 3)

Finish Rating — See Item 3

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



1. **Wood Studs —** Double row of nominal 2 x 4 in. studs, spaced 16 in. OC and cross-braced at mid-height. Opposite rows spaced 1 in. apart, staggered 8 in. OC and joined at the top and bottom with bearing plates.

2. **Bearing Plates —** (not shown) Nominal 2 x 4 in. Two layers on top and one layer on bottom for each row of studs.

3. **Wallboard, Gypsum* —** For 1-1/2 Hr Rating — Finish rating is 20 minutes. One layer of 5/8 in. thick wallboard, 4 ft wide. Applied vertically and nailed to studs and bearing plates 7 in. OC with 6d cement coated nails, 1-7/8 in. long, 0.0915 in. shank diameter and 1/4 in. diameter head. Vertical joints centered over studs. As an alternative, No. 6 bugle head drywall screws, 1-7/8 in. long may be substituted for the 6d cement coated nails. For 2 Hr Rating (Not Shown) — Finish rating is 31 minutes. Two layers of 5/8 in. thick wallboard, 4 ft wide. Inner layer applied vertically and nailed to studs and bearing plates 6 in. OC with 6d cement coated nails, 1-7/8 in. long, 0.0915 in. shank diameter and 1/4 in. diameter head, with first nail starting 3 in. from all edges. Outer layer applied vertically and nailed to studs and bearing plates 8 in. OC with 8d cement coated nails, 2-3/8 in. long, 0.113 in. shank diameter and 9/32 in. diameter head, with first nail starting 4 in. from all edges. Vertical joints centered over studs. All joints in face layers staggered with joints in base layers.
UNITED STATES GYPSUM CO — Type C

4. **Joints and Nailheads —** (Not shown) — Wallboard joints taped and both joints and nailheads covered with joint compound.

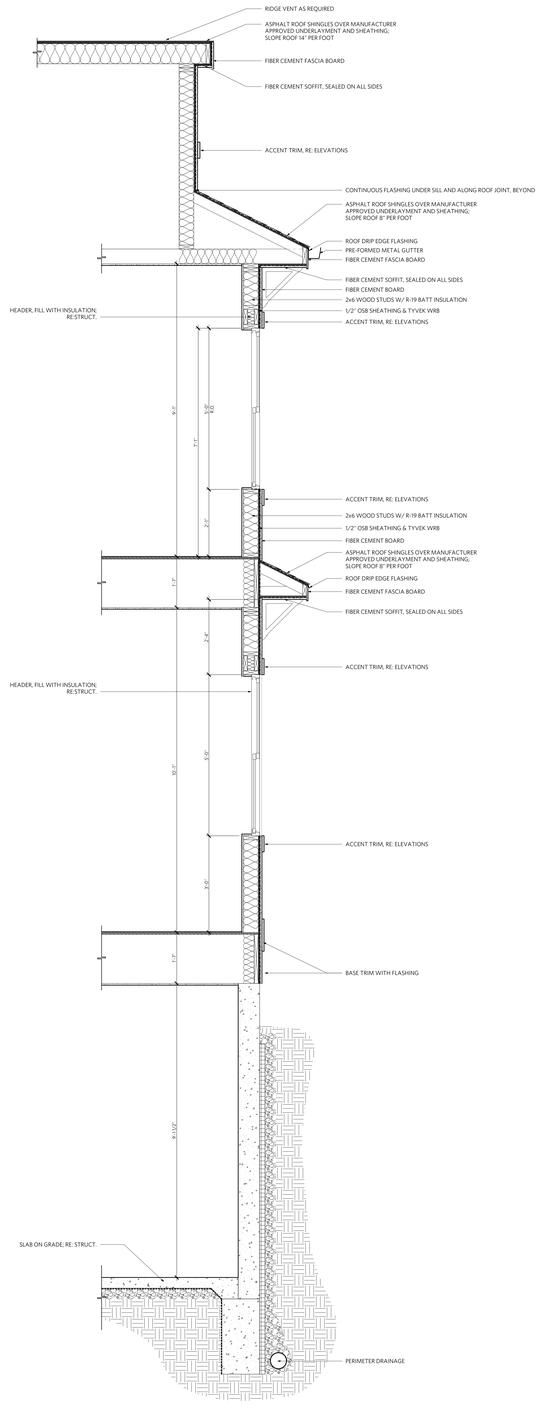
5. **Loose Fill Materials* —** Blown-in fiberglass loose-fill insulation material. The insulation is blown into the wall cavity to completely fill the enclosed 8 in. cavity in accordance with the application instructions supplied with the product. The minimum average overall density is 2.6 lb/ft^3 dry blown, with no individual density less than 2.2 lb/ft^3 dry blown.
OWENS CORNING — ProPink Complete, ProPink L77 or ProPink Multi-Spec.

6. **Retention Fabric —** (Not shown) - ProPink Complete, ProPink L77 or ProPink Multi-Spec non-woven fibrous fabric material attached with staples to the outer face of one row of studs to facilitate the installation of the insulation.

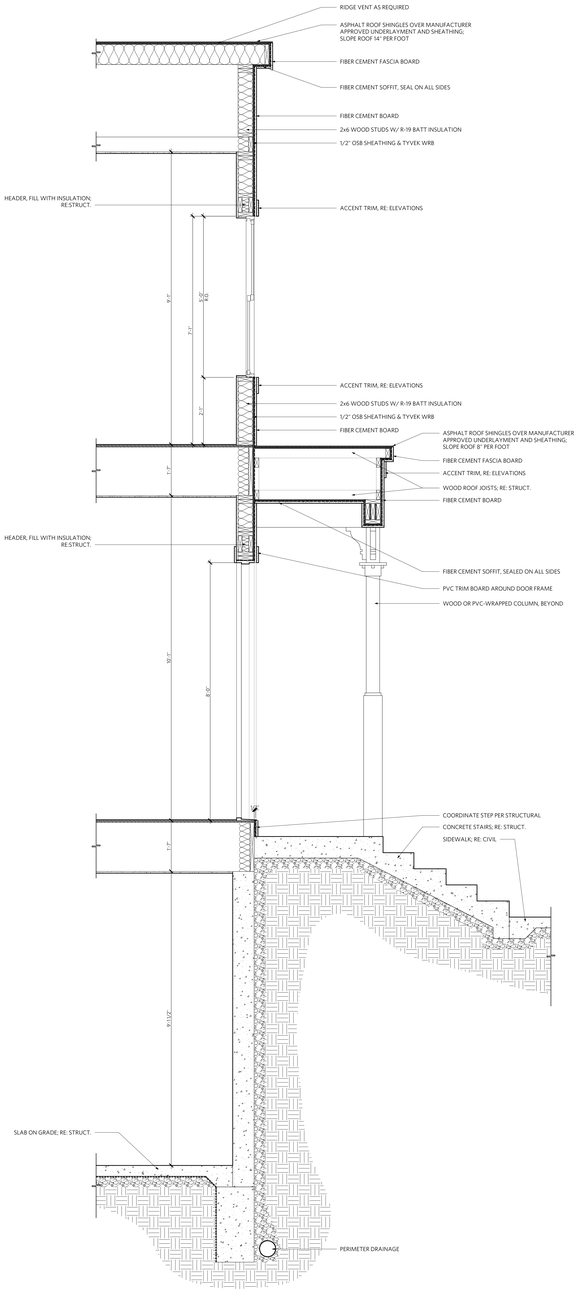
*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2018-02-06

3 | UL U378 WALL RATING
NOT TO SCALE



02 | BUILDING 3 & 4 WALL SECTION 2
3/4" = 1'-0"



01 | BUILDING 3 & 4 WALL SECTION 1
3/4" = 1'-0"

clockwork
423 DELAWARE, STE 102
KANSAS CITY, MISSOURI 64105
www.clockwork-ad.com

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

STATE OF MISSOURI
CHRISTIAN J ARNOLD
NUMBER A-2002027198
ARCHITECT

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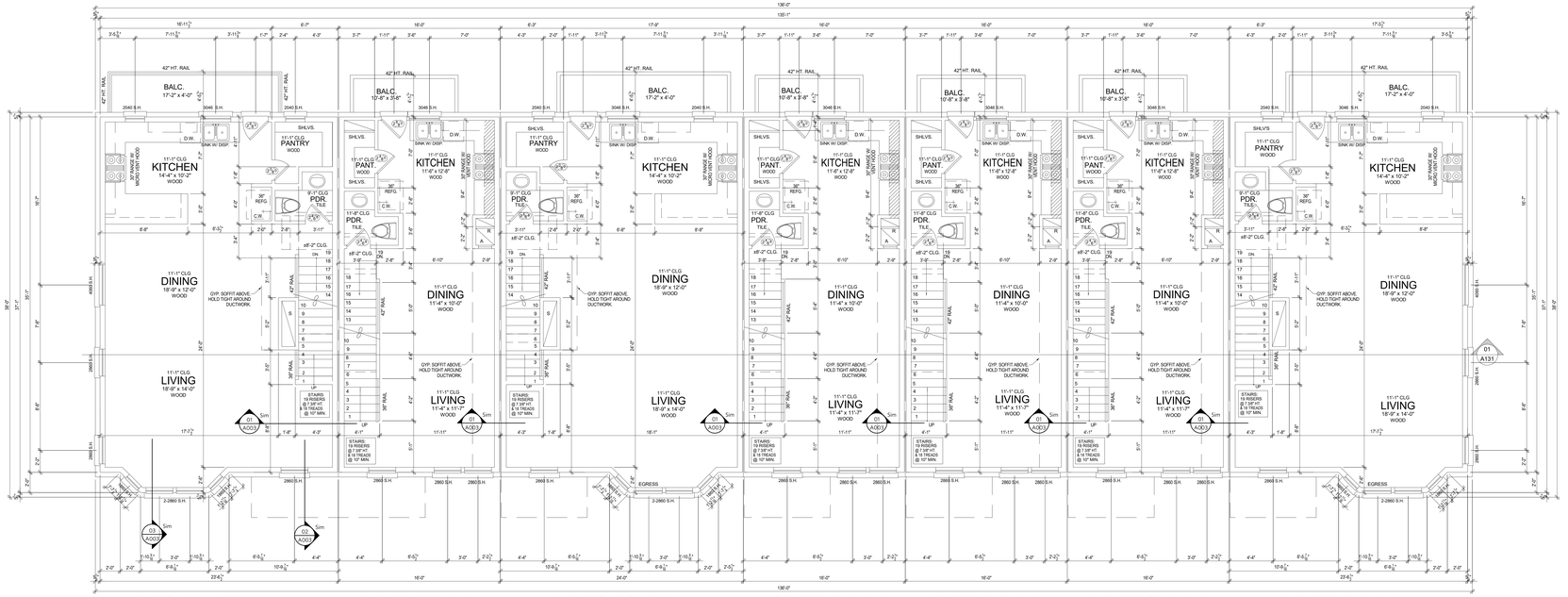
REV	ISSUE	DATE
	PERMIT SET	2022 12 22
1	PERMIT REVIEW	2023 01 26

WALL SECTIONS
A004

2100 PROJECT NAME

clockwork
423 DELAWARE, STE 102
KANSAS CITY, MISSOURI 64105
www.clockwork-ad.com



02 | BUILDING 1 - SECOND FLOOR PLAN
1/4" = 1'-0"

01 | BUILDING 1 - FIRST FLOOR PLAN
1/4" = 1'-0"

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

STATE OF MISSOURI
CHRISTIAN J. ARNOLD
NUMBER A-2003027188
ARCHITECT

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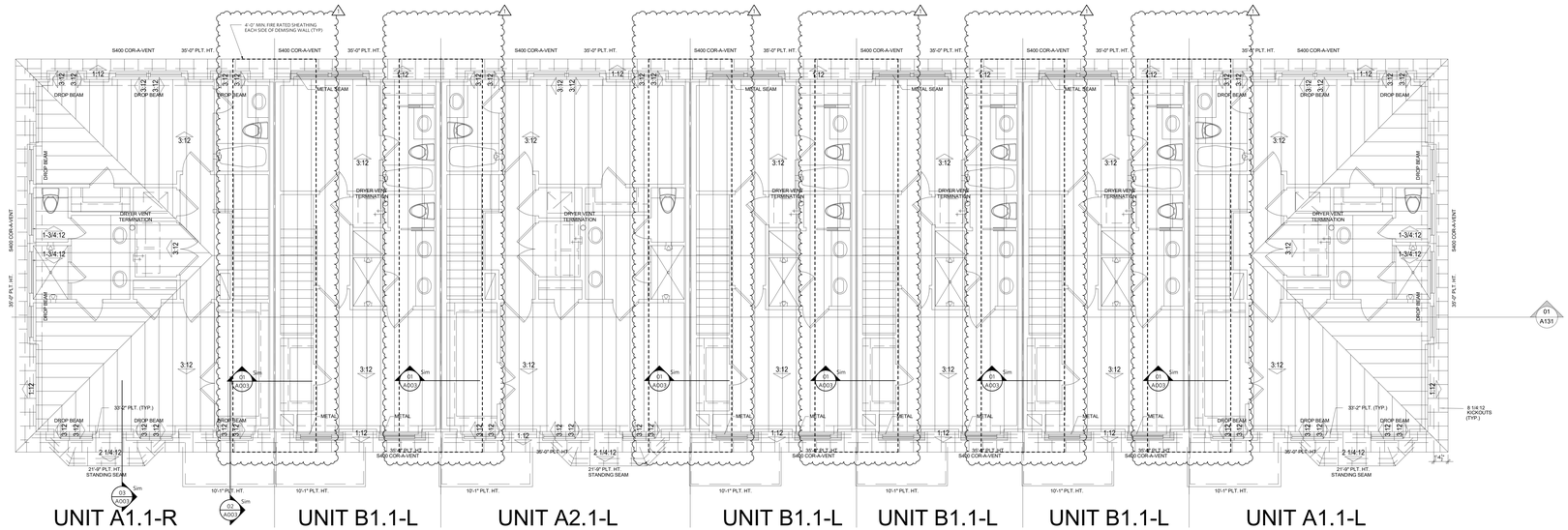
REV	ISSUE	DATE
	PERMIT SET	2022 12 22
1	PERMIT REVIEW	2023 01 26

BUILDING 1 - FIRST AND SECOND FLOOR PLAN

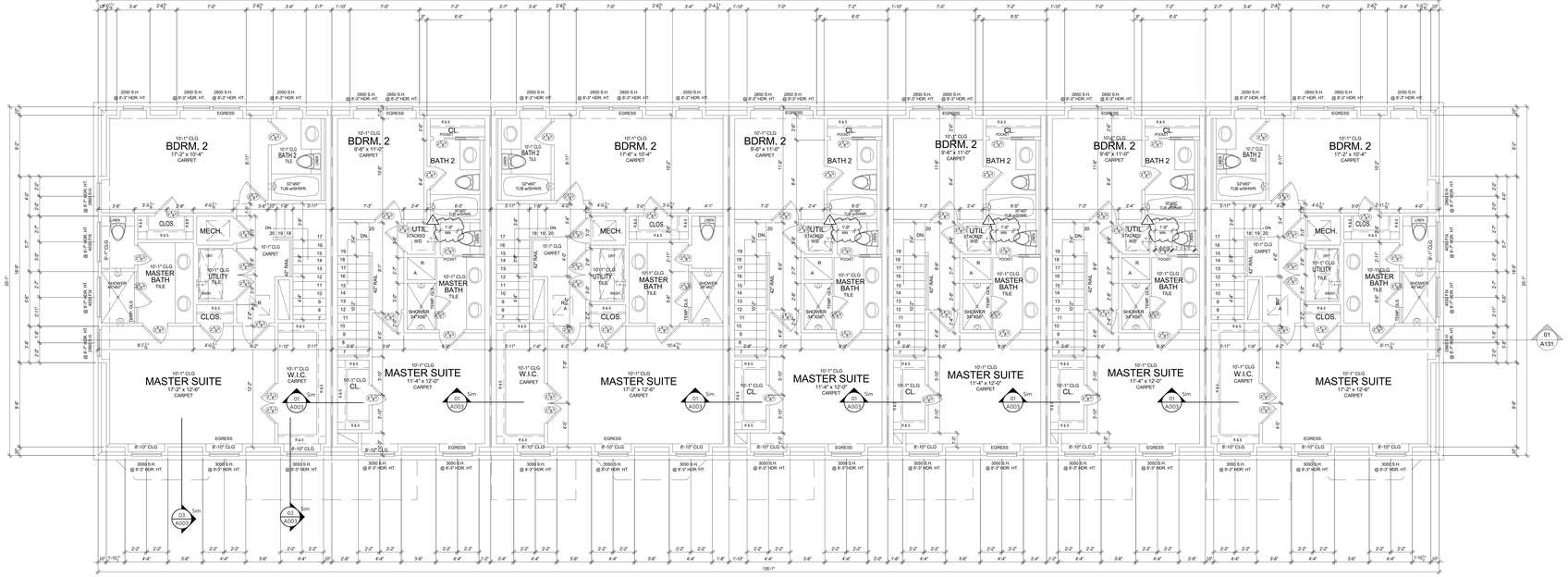
A111

2100 PROJECT NAME

clockwork
423 DELAWARE, STE 102
KANSAS CITY, MISSOURI 64105
www.clockwork-ad.com



02 | BUILDING 1 - ROOF PLAN
1/4" = 1'-0"



01 | BUILDING 1 - THIRD FLOOR PLAN
1/4" = 1'-0"

21009 PROJECT NAME

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

STATE OF MISSOURI
CHRISTIAN J. ARNOLD
NUMBER A-2009037158
ARCHITECT

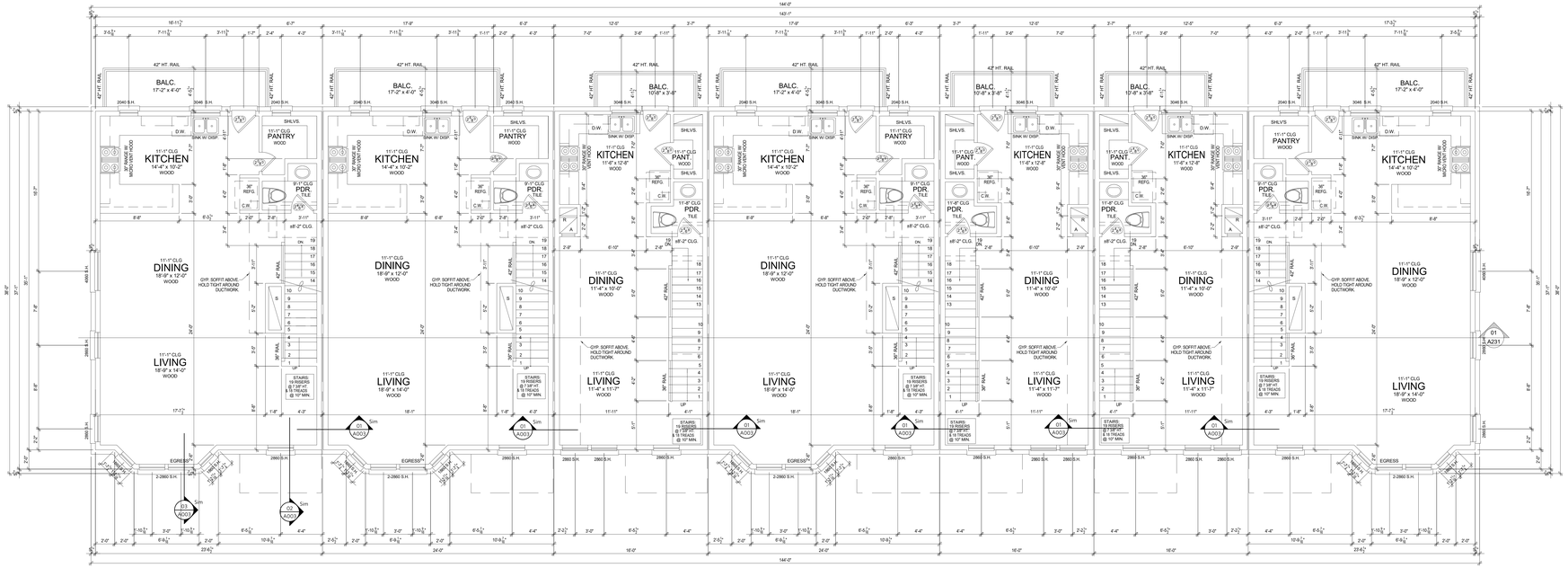
PROFESSIONAL CERTIFICATION:
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY THE LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MISSOURI.

REV	ISSUE	DATE
	PERMIT SET	2022 12 22
1	PERMIT REVIEW	2023 01 26

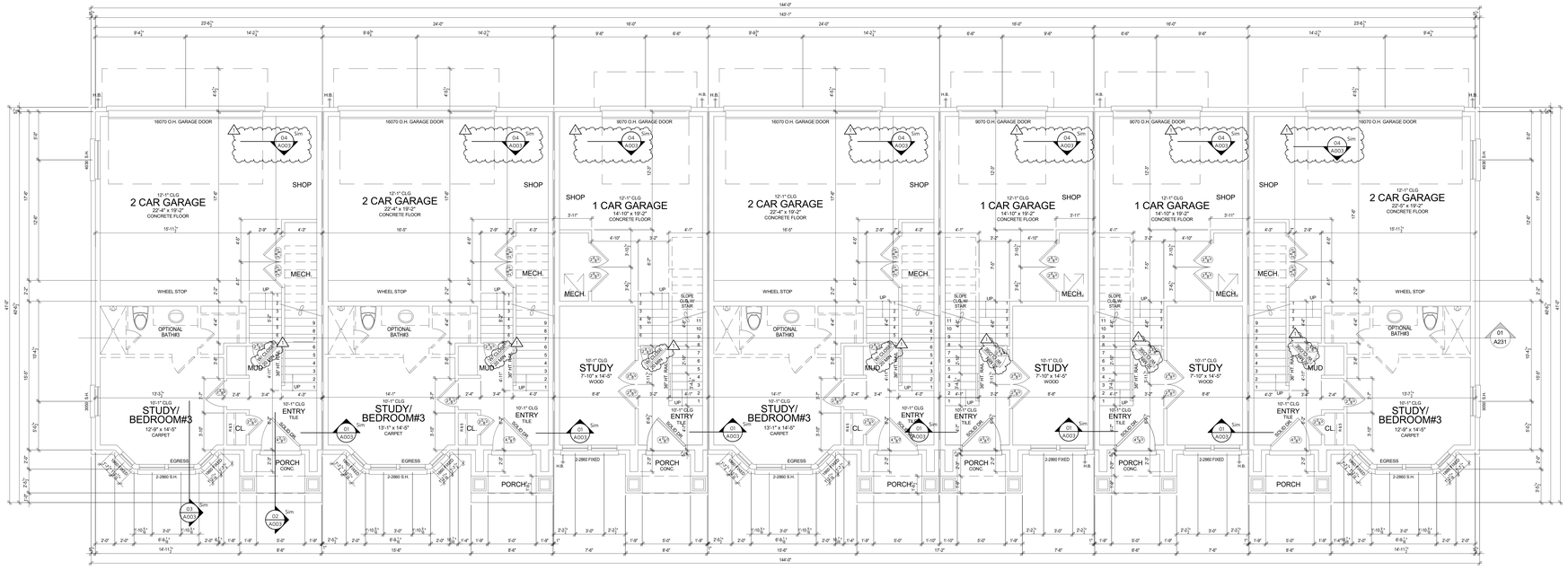
BUILDING 1 - THIRD FLOOR AND ROOF PLAN

A112

clockwork
423 DELAWARE, STE 102
KANSAS CITY, MISSOURI 64105
www.clockwork-ad.com



02 BUILDING 2 - SECOND FLOOR PLAN
1/4" = 1'-0"



01 BUILDING 2 - FIRST FLOOR PLAN
1/4" = 1'-0"

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

STATE OF MISSOURI
CHRISTIAN J. ARNOLD
NUMBER A-2009207155
REGISTERED ARCHITECT

PROFESSIONAL CERTIFICATION:
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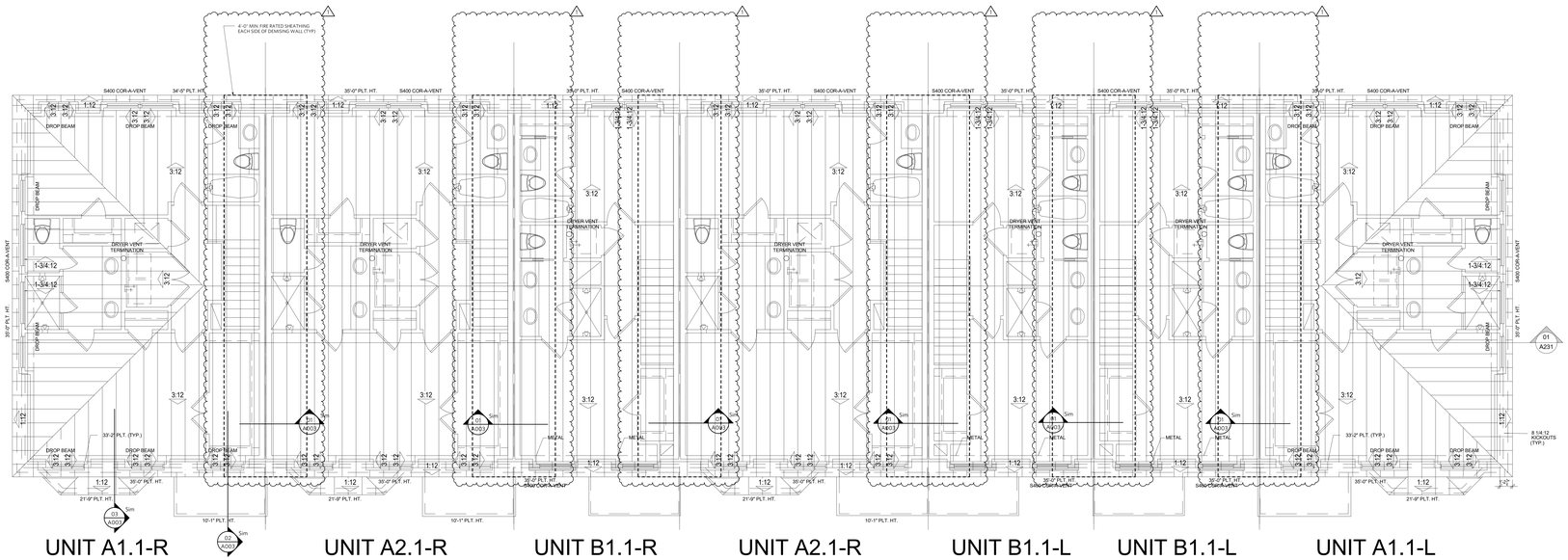
REV	ISSUE	DATE
	PERMIT SET	2022.12.22
1	PERMIT REVIEW	2023.01.26

BUILDING 2 - FIRST AND SECOND FLOOR PLAN

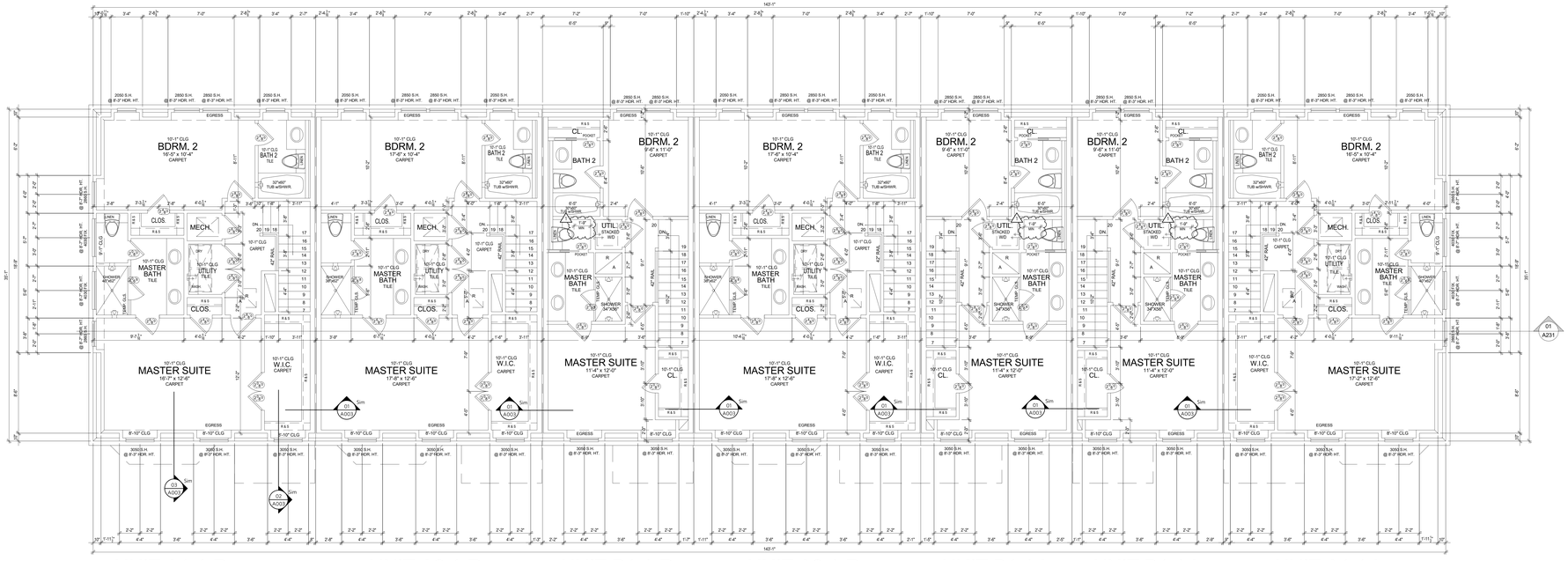
A211

2100 PROJECT NAME

clockwork
423 DELAWARE, STE 102
KANSAS CITY, MISSOURI 64105
www.clockwork-ad.com



02 | BUILDING 2 - ROOF PLAN
1/4" = 1'-0"



01 | BUILDING 2 - THIRD FLOOR PLAN
1/4" = 1'-0"

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

STATE OF MISSOURI
CHRISTIAN J. ARNOLD
NUMBER A-2008037158
ARCHITECT

PROFESSIONAL CERTIFICATION:
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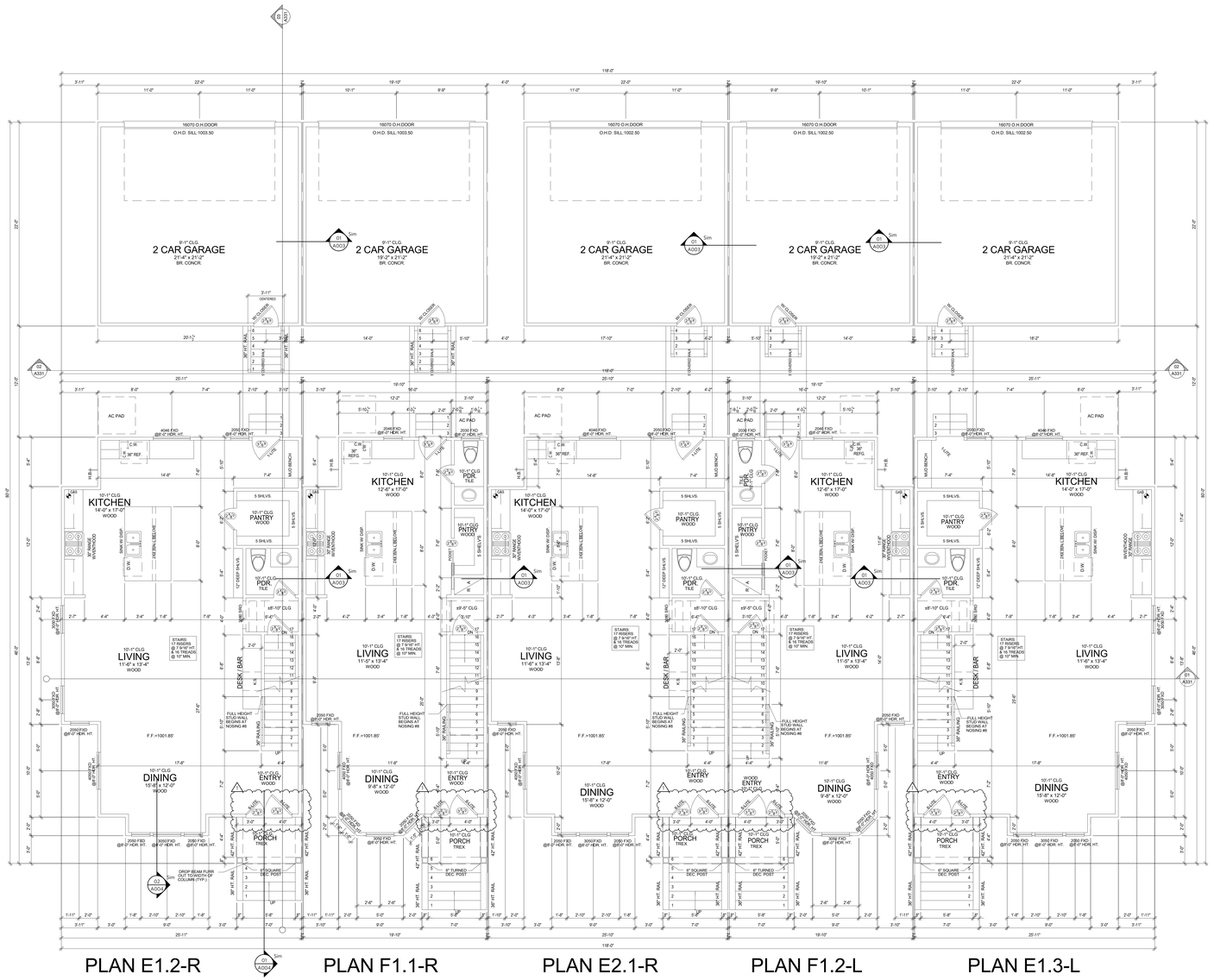
REV	ISSUE	DATE
	PERMIT SET	2022 12 22
1	PERMIT REVIEW	2023 01 26

BUILDING 2 - THIRD FLOOR AND ROOF PLAN

A212

21009 PROJECT NAME

clockwork
423 DELAWARE, STE 102
KANSAS CITY, MISSOURI 64105
www.clockwork-ad.com



01 BUILDING 3 - FIRST FLOOR PLAN
1/4" = 1'-0"

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

STATE OF MISSOURI
CHRISTIAN J. ARNOLD
NUMBER A-2002027158
ARCHITECT

PROFESSIONAL CERTIFICATION:
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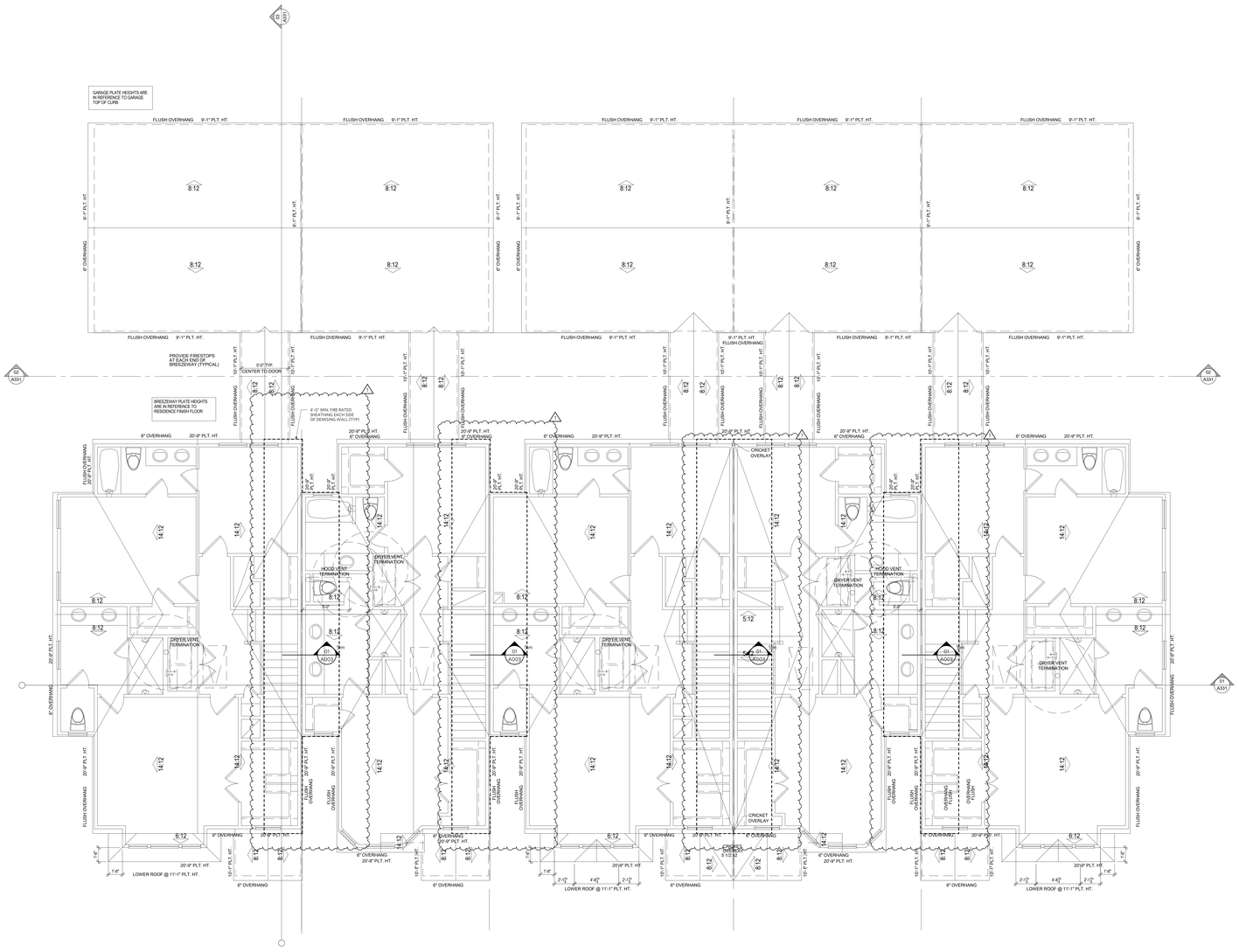
REV	ISSUE	DATE
	PERMIT SET	2022 12 22
1	PERMIT REVIEW	2023 01 26

BUILDING 3 - FIRST FLOOR PLAN

A312

21-00 PROJECT NAME



01 BUILDING 3 - ROOF PLAN
1/4" = 1'-0"

clockwork
423 DELAWARE, STE 102
KANSAS CITY, MISSOURI 64105
www.clockwork-ad.com

NLV DEVELOPMENT

LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

STATE OF MISSOURI
CHRISTIAN J. ARNOLD
NUMBER A-2009027158
ARCHITECT

PROFESSIONAL CERTIFICATION:
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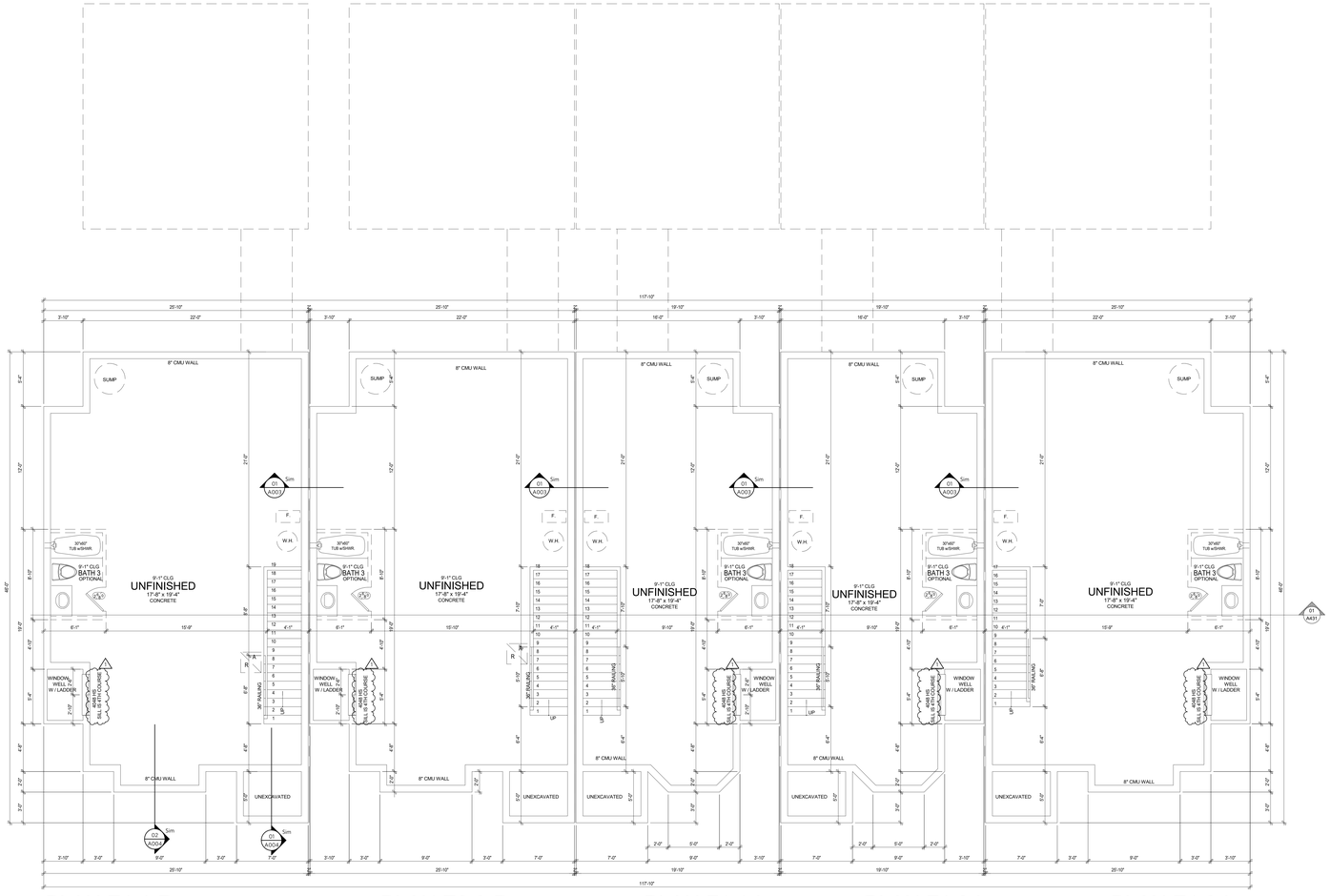
REV	ISSUE	DATE
	PERMIT SET	2022 12 22
1	PERMIT REVIEW	2023 01 26

BUILDING 3 - ROOF PLAN

A314

21.00 PROJECT NAME



PLAN E1.1-R PLAN E2.3-R PLAN F1.1-L PLAN F1.2-L PLAN E1.3-L

01 BUILDING 4 - BASEMENT FLOOR PLAN
1/4" = 1'-0"

clockwork
423 DELAWARE, STE 102
KANSAS CITY, MISSOURI 64105
www.clockwork-ad.com

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

STATE OF MISSOURI
CHRISTIAN J. ARNOLD
NUMBER A-2009037158
ARCHITECT

PROFESSIONAL CERTIFICATION:
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REV	ISSUE	DATE
	PERMIT SET	2022 12 22
1	PERMIT REVIEW	2023 01 26

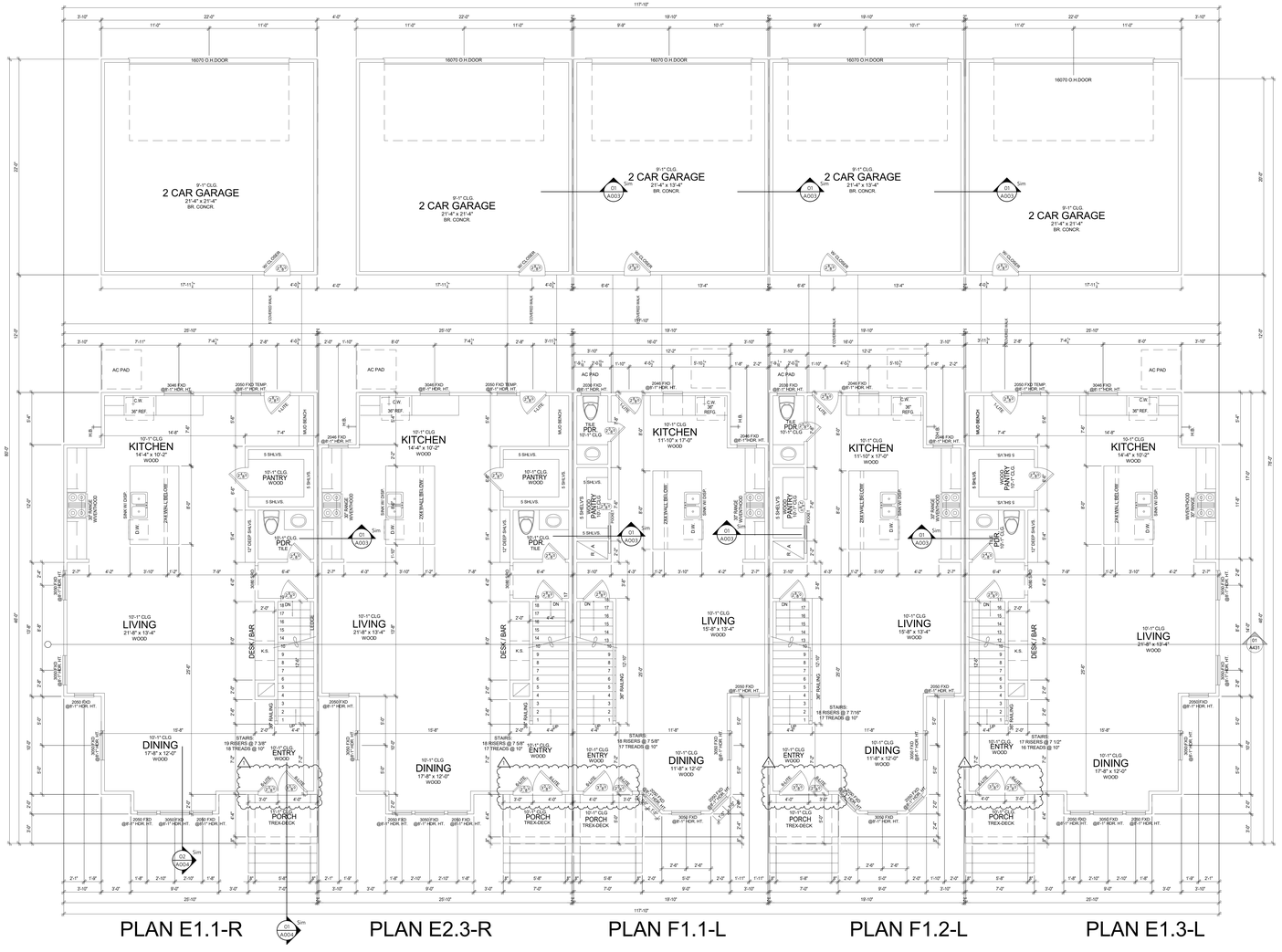
BUILDING 4 - BASEMENT FLOOR PLAN

A411

2103 PROJECT NAME

clockwork

423 DELAWARE, STE 102
KANSAS CITY, MISSOURI 64105
www.clockwork-ad.com



NLV DEVELOPMENT

LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

STATE OF MISSOURI
CHRISTIAN J ARNOLD
NUMBER A-2009037195
ARCHITECT

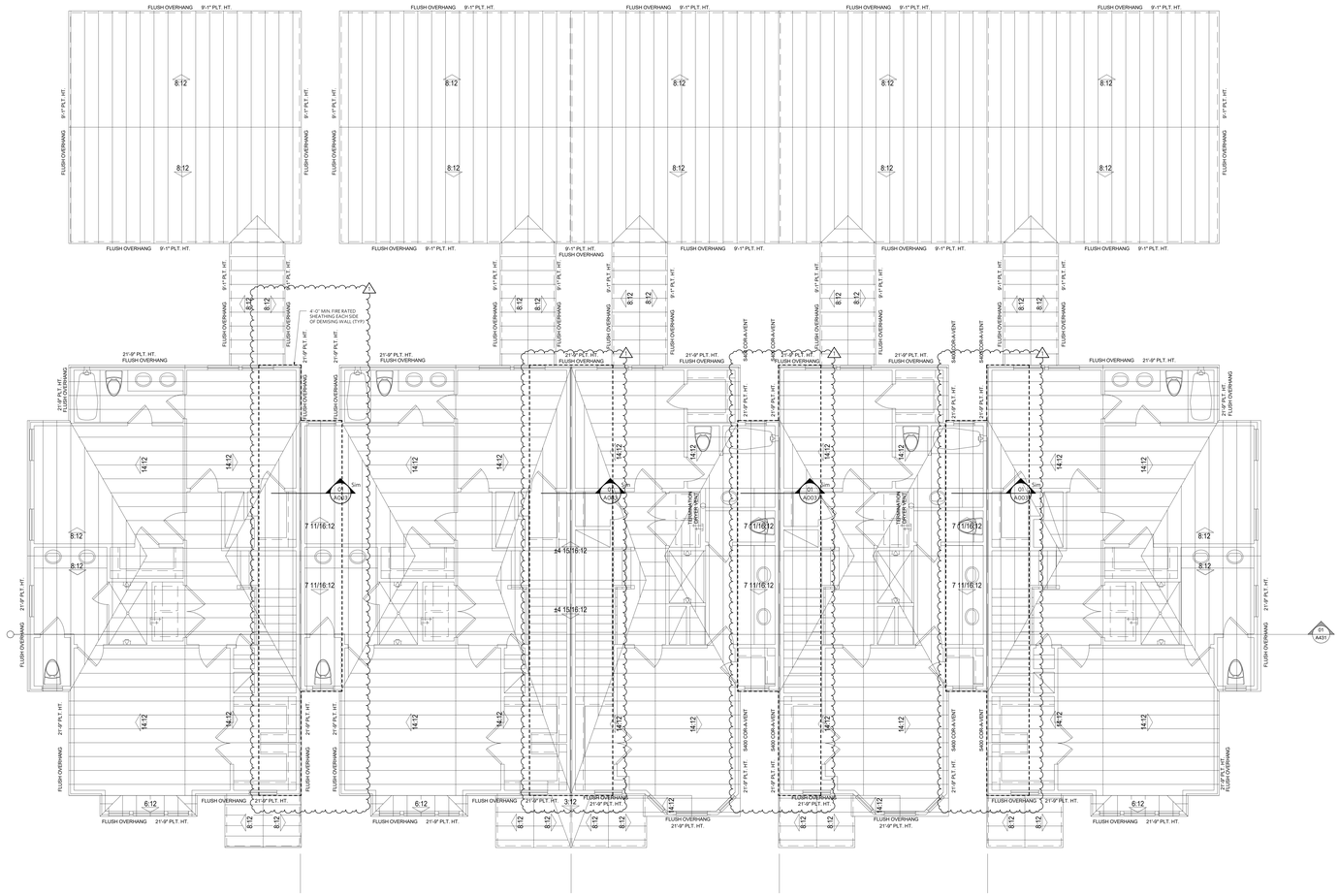
PROFESSIONAL CERTIFICATION:
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY THE LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MISSOURI.

REV	ISSUE	DATE
	PERMIT SET	2022 12 22
1	PERMIT REVIEW	2023 01 26

BUILDING 4 - FIRST FLOOR PLAN

A412

21100 PROJECT NAME



01 | BUILDING 4 - ROOF PLAN
1/4" = 1'-0"

clockwork
423 DELAWARE, STE 102
KANSAS CITY, MISSOURI 64105
www.clockwork-ad.com

NLV DEVELOPMENT

LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

STATE OF MISSOURI
CHRISTIAN J ARNOLD
NUMBER A-2020027158
ARCHITECT

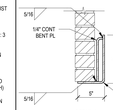
PROFESSIONAL CERTIFICATION:
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY THE LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MISSOURI.

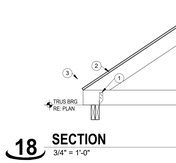
REV	ISSUE	DATE
	PERMIT SET	2022 12 22
1	PERMIT REVIEW	2023 01 26

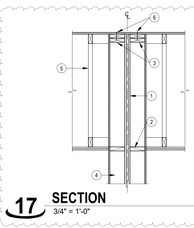
BUILDING 4 - ROOF PLAN

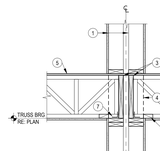
A414

21051 PROJECT NAME









STRUCTURAL DESIGN CRITERIA (2018 IRC AND ASCE 7-16):

1. BUILDING OCCUPANCY RISK CATEGORY II.

2. LIVE LOADS [UNIFORM (PSF) / POINT LOADS (KIPS)]:
-- ROOF:……………………………………….........20 PSF / 300#
-- RESIDENTIAL CORRIDORS……………………....40 PSF
-- GROUND LEVEL SLAB ....100 PSF / 2.0 K
-- STAIRS ....100 PSF / 300#
-- RESIDENTIAL…………………. ....40 PSF

3. ROOF SNOW LOAD:
-- GROUND SNOW LOAD (Pg):……………………....20 PSF
-- FLAT ROOF SNOW LOAD (Pf): ....15.4 PSF W/ DRIFT
-- MIN UNIFORM ROOF SNOW LOAD (Pm):……….20 PSF (NO DRIFT OR RAIN)
-- RAIN ON SNOW SURCHARGE (Prs) ....5.0 PSF
-- SNOW EXPOSURE FACTOR (Ce):………………..1.0, EXPOSURE B & C
-- SNOW LOAD IMPORTANCE FACTOR (Is):……....1.0
-- THERMAL FACTOR (Ct):………………………......1.1 (just above freezing)
– SLOPE FACTOR (CS)...1.0 (for ¼ per foot roofs)

4. WIND DESIGN DATA:
-- BASIC WIND SPEED (3 SEC GUST):……….……..115 MPH
-- WIND EXPOSURE:…………………………………..C
-- DIRECTIONALITY FACTOR (Kd) 0.85
-- INTERNAL PRESSURE COEFF:……………………0.18
-- COMPONENTS AND CLADDING WIND (ULTIMATE 1.0*W) PRESSURES (BASED ON TRIB 10 S.F., EXP. B. MAY BE REDUCED FOR COMPONENTS WITH LARGER TRIB PER BLDG CODE):
WALLS AT CORNERS & EDGES:…………………+28 / -37 PSF
ALL OTHER MAIN WALL CONDITIONS:…………+28 / -31 PSF
ROOF CORNERS:…..................………………......+15 / -81 PSF
ROOF EDGES: ....+15 / -67 PSF
ALL OTHER MAIN ROOF CONDITIONS:…………+15 / -28 PSF

5. EARTHQUAKE DESIGN DATA:
-- SEISMIC IMPORTANCE FACTOR (Ie):…………....1.0
-- MAPPED SPECTRAL RESP ACCEL (Ss / S1):…..0.10 / 0.068
-- SITE CLASS:…………………………………………D
-- SPECTRAL RESPONSE COEFF (Sds / Sd1):……0.107 / 0.109
-- SEISMIC DESIGN CATEGORY:……………………B
-- SEISMIC FORCE RESISTING SYSTEM:…………R=6.5, WOOD SHEAR WALLS
-- DESIGN BASE SHEAR:……………………………4.72 K (ELF AND ASD)
-- SEISMIC RESPONSE COEFF (Cs):……………….0.016
-- ANALYSIS PROCEDURE:…………………………..ELF

6. RAIN LOAD DATA:
– 15-MIN RAIN INTENSITY……………………………7.49 IN/HR
– 60-MIN RAIN INTENSITY………………………......3.51 IN/HR
DESIGN ASSUMES APPROPRIATE ROOF SLOPE AND DRAINAGE (INCLUDING OVERFLOWS) IS PROVIDED. ROOF IS DESIGNED FOR LIVE LOAD INDICATED ABOVE

7. GUARD RAILS:...50 PLF, AND/OR 200# CONCENTRATED LOAD APPLIED IN ANY DIRECTION.

03_Abbreviation Schedule	
Abbreviation	Abbreviation Name
+/-	PLUS OR MINUS
ADDNL	ADDITIONAL
ADJ	ADJACENT
AESS	ARCHITECTURALLY EXPOSED STRUCTURAL STEEL
AFF	ABOVE FINISHED FLOOR
ALT	ALTERNATE
AR	ANCHOR ROD
ARCH	ARCHITECT OR ARCHITECTURAL
B/	BOTTOM OF
B/W	BETWEEN
BLDG	BUILDING
BLKG	BLOCKING
BM	BEAM
BOT	BOTTOM
BRG	BEARING
BWP	BRACED WALL PANEL
CFS	COLD FORMED STEEL
CHKD	CHECKED
CIP	CAST IN PLACE
CJ	CONTROL JOINT
CJP	COMPLETE JOINT PENETRATION
CL	CENTERLINE
CLR	CLEAR
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONT	CONTINUOUS
CTR	CENTER
db	DIA OF REINF BAR, DIA OF BOLT
DBA	DEFORMED BAR ANCHOR
DIA or Ø	DIAMETER
DIAG	DIAGONAL
DIR	DIRECTION
DWL	DOWEL
EA	EACH
EE	EXTENDED END
EJ	EXPANSION JOINT
ELEV	ELEVATION
ENGR	ENGINEER
EOD	EDGE OF DECK
EOS	EDGE OF SLAB
EQ	EQUAL
EW	EACH WAY
EXIST	EXISTING
EXT	EXTERIOR
FDN	FOUNDATION
FLG	FLANGE
FLR	FLOOR
FS	FAR SIDE
FTG	FOOTING
FV	FIELD VERIFY
GA	GAUGE
GALV	GALVANIZED
GB	GRADE BEAM
GC	GENERAL CONTRACTOR
HORIZ	HORIZONTAL
HSA	HEADED STUD ANCHOR
HSS	HOLLOW STRUCTURAL SECTION
IF	INSIDE FACE
INT	INTERIOR
JST	JOIST
K	KIPS (1000 LBS)
LCE	COMPRESSION EMBEDMENT LENGTH
LCS	COMPRESSION LAP SPLICE LENGTH
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LTE	TENSION EMBEDMENT LENGTH
LTS	TENSION LAP SLICE LENGTH
LW	LIGHTWEIGHT
MFCR	MANUFACTURER
MTL	METAL
NIC	NOT IN CONTRACT
NS	NEAR SIDE
NTS	NOT TO SCALE
OC	ON CENTER
OF	OUTSIDE FACE
OPP	OPPOSITE
OVS	OVERSIZED
P/C	PRECAST
PAF	POWDER ACTUATED FASTENER
PAR	PARALLEL
PEMB	PRE-ENGINEERED METAL BUILDING
PEN	PENETRATION
PERP	PERPENDICULAR
PL	PLATE
PLF	POUNDS PER LINEAR FOOT
PREFAB	PREFABRICATED
PRELIM	PRELIMINARY
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
RC	REINFORCED CONCRETE
RE:	REFER TO
REINF	REINFORCING
REQD	REQUIRED
RF	RIGID FRAME
SC	SLIP CRITICAL
SDS	SELF DRILLING SCREW
SIM	SIMILAR
SLV	SHORT LEG VERTICAL
SOG	SLAB ON GRADE
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STIR	STIRRUPS
STL	STEEL
SW	SHEAR WALL
SYM	SYMMETRIC
T&B	TOP AND BOTTOM
T/	TOP OF
TRANS	TRANSVERSE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
W/	WITH
W/O	WITHOUT
WF	WIDE FLANGE
WP	WORK POINT
WWR	WELDED WIRE REINFORCEMENT

STRUCTURAL GENERAL NOTES:

1. DESIGN AND CONSTRUCTION SHALL CONFORM TO THE "INTERNATIONAL RESIDENTIAL CODE, 2018 EDITION" AS AMENDED BY THE CITY OF LEE'S SUMMIT, MO. REFER TO THE SPECIAL STRUCTURAL INSPECTION NOTES FOR ADDITIONAL REQUIREMENTS.

2. CONTRACTOR TO VERIFY ALL DIMENSIONS, ELEVATIONS AND EXISTING CONDITIONS AND REPORT ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO COMMENCING WORK.

3. IF DISCREPANCIES EXIST BETWEEN STRUCTURAL PLANS, ARCHITECTURAL PLANS, OTHER PLANS, OR SPECIFICATIONS, THE CONTRACTOR OR SUBCONTRACTOR SHALL PROVIDE A WRITTEN REQUEST FOR CLARIFICATION FROM THE ARCHITECT AND/OR ENGINEER PRIOR TO PROCEEDING WITH THE WORK.

4. THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS FULLY COMPLETED. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO EXECUTE AND DETERMINE FINAL ERECTION PROCEDURES, SEQUENCING AND TO ENSURE THE SAFETY OF THE BUILDING AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES WHATEVER SHORING, SHEETING, TEMPORARY BRACING, GUYING OR TIE DOWNS WHICH MIGHT BE NECESSARY.

5. THE STRUCTURE AND FOUNDATIONS ARE NOT DESIGNED FOR FUTURE EXPANSION.

6. FABRICATORS AND SUPPLIERS SHALL CLEARLY NOTE AND HIGHLIGHT CHANGES MADE IN SHOP DRAWINGS, WHICH DO NOT COMPLY WITH THE CONTRACT DOCUMENTS.

7. COLUMNS, BEAMS, JOISTS, OR TRUSSES SHALL NOT BE FIELD CUT OR TRIMMED FOR ANY REASON WITHOUT THE WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.

8. HOLES, PIPES, SLEEVES, ETC. NOT SHOWN ON THE DRAWINGS MUST BE REVIEWED BY THE ARCHITECT/ENGINEER BEFORE PLACEMENT THROUGH STRUCTURAL MEMBERS.

9. IF MECHANICAL AND ELECTRICAL EQUIPMENT SIZES, WEIGHTS, OR LOCATIONS DO NOT COINCIDE WITH EQUIPMENT SHOWN ON THE PLANS, COORDINATE ADJUSTMENTS WITH THE ARCHITECT.

10. NO AREA OF THE STRUCTURE SHALL BE LOADED WITH CONSTRUCTION MATERIALS OR EQUIPMENT THAT EXCEEDS FINAL DESIGN CRITERIA.

11. BEAMS, COLUMNS, WALLS AND FOOTING CENTERS SHALL BE CENTERED UNDER SUPPORTING MEMBERS (TYPICAL UNLESS NOTED OTHERWISE).

12. DELEGATED DESIGN - DEFERRED SUBMITTALS SHALL BE SIGNED/ SEALED PRIOR TO SUBMITTAL FOR REVIEW. THESE INCLUDE:
A. WOOD FLOOR AND ROOF TRUSSES

SUBMIT THESE SHOP DRAWINGS AND CALCULATIONS SEALED BY A STRUCTURAL ENGINEER LICENSED TO PRACTICE IN THE JURISDICTION OF THE PROJECT SHALL BE FURNISHED TO THE ENGINEER OF RECORD FOR REVIEW. CONTRACTOR SHALL SUBMIT COPIES OF DEFERRED SUBMITTALS TO BUILDING DEPARTMENT AFTER ARCH/ENG REVIEW.

13. TYPICAL DETAILS ARE SHOWN ON SHEETS DESIGNATED "S0XX". THE INCLUDED TYPICAL DETAILS MAY OR MAY NOT BE CUT / REFERENCED ON PLANS OR SECTIONS, BUT ARE TO BE USED AS APPLICABLE.

14. REFER TO CIVIL PLANS FOR ALL BUILDING ORIENTATIONS AND LOCATIONS ON SITE.

SUBMITTALS:

1. GENERAL CONTRACTOR TO PROVIDE A SHOP DRAWING SUBMITTAL LOG ITEMIZING ALL PROPOSED SUBMITTALS FOR APPROVAL BY STRUCTURAL ENGINEER OF RECORD.

2. ALL SHOP DRAWINGS SHALL BE CHECKED BY THE FABRICATOR AND APPROVED BY THE GENERAL CONTRACTOR PRIOR TO SUBMITTAL TO THE STRUCTURAL ENGINEER OF RECORD. SHOP DRAWING REVIEW BY ENGINEER IS LIMITED TO VERIFYING GENERAL CONFORMANCE TO THE CONTRACT DOCUMENTS. CONTRACTOR IS RESPONSIBLE FOR ANY CHANGES FROM THE CONTRACT DOCUMENTS, DIMENSIONAL ERRORS, COORDINATION ERRORS, OR OMISSIONS IN SHOP DRAWINGS.

3. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT PRIOR TO FABRICATION AND CONSTRUCTION REGARDING ALL STRUCTURAL ITEMS, INCLUDING THE FOLLOWING:
-- CONCRETE MIX DESIGNS (5 DAYS BEFORE POUR, MIN.)
-- CONCRETE REINFORCEMENT
-- WOOD FLOOR AND ROOF TRUSSES
-- STEEL FRAMING

4. SHOP DRAWINGS SHALL INCLUDE CONNECTIONS AS WELL AS SIZE, SPACING, AND GRADE OF ALL MEMBERS. PLANS AND ANY DETAILING NECESSARY FOR DETERMINING FIT AND PLACEMENT SHALL ALSO BE INCLUDED.

5. IF THE SHOP DRAWINGS DIFFER FROM OR ADD TO THE DESIGN OF THE STRUCTURAL DRAWINGS, THEY SHALL BEAR THE SEAL AND SIGNATURE OF AN ENGINEER REGISTERED IN THE STATE OF THE PROJECT. ANY CHANGES TO THE STRUCTURAL DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT AND ARE SUBJECT TO REVIEW AND APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD.

6. ITEMS THAT ARE DESIGNED BY THE CONTRACTOR SHALL BE DESIGNED TO RESIST THE LIVE LOADS INDICATED IN STRUCTURAL NOTES, DEAD LOAD, SELF WEIGHT, ANY ADDITIONAL LOADING INDICATED ON PLANS AND DETAILS, SNOW DRIFT, AND A NET WIND UPLIFT.

8. ITEMS THAT ARE DESIGNED BY THE CONTRACTOR SHALL INCLUDE ANY RELEVANT TECHNICAL LITERATURE FROM MANUFACTURER. ALSO PROVIDE A CERTIFICATION FROM THE MANUFACTURER SHOWING THE PRODUCT IS IN COMPLIANCE WITH ALL APPLICABLE CODES AND STANDARDS.

8. THE CONTRACTOR SHALL COORDINATE SEISMIC RESTRAINTS OF MECHANICAL, PLUMBING, AND ELECTRICAL EQUIPMENT, MACHINERY, AND ASSOCIATED PIPING WITH THE STRUCTURE. ANY CONNECTIONS TO STRUCTURE SHALL CONFORM TO ASCE 7, CHAPTER 13 AND SHALL BE DESIGNED BY AN ENGINEER REGISTERED IN THE APPROPRIATE STATE, AND SHALL BE SUBMITTED TO THE ARCHITECT PRIOR TO FABRICATION.

9. FIELD ENGINEERED DETAILS DEVELOPED BY THE CONTRACTOR THAT DIFFER FROM OR ADD TO THE STRUCTURAL DRAWINGS SHALL BEAR THE SEAL AND SIGNATURE OF AN ENGINEER REGISTERED IN THE APPROPRIATE STATE AND SHALL BE SUBMITTED TO THE ARCHITECT PRIOR TO CONSTRUCTION.

SPECIAL INSPECTIONS:

1. PROVIDE SPECIAL STRUCTURAL INSPECTIONS AND VERIFICATIONS BY A THIRD PARTY MEETING THE REQUIREMENTS OF CHAPTER 17 OF THE BUILDING CODE AND THE BUILDING OFFICIAL.

2. SPECIAL INSPECTORS SHALL BE QUALIFIED AND FURNISH THEIR REPORTS IN A TIMELY MANNER TO THE CONTRACTOR, BUILDING OFFICIALS, ARCHITECT, AND/OR ENGINEER

3. SHOULD INSPECTOR IDENTIFY ANY DISCREPANCY, THEY SHALL NOTIFY CONTRACTOR FIRST, AND THEN ARCHT/ ENGINEER IMMEDIATELY THEREAFTER IF CORRECTIVE ACTION IS NEEDED.

4. SPECIAL INSPECTIONS AS REQUIRED BY CODE:
A. CONCRETE: SECTION 1705.3 AND TABLE 1705.3 CONCRETE MATERIAL SAMPLING AND TESTING, REBAR OBSERVATIONS. TAKE SET OF (3) CYLINDERS FOR EVERY 50 C.Y., BUT NOT LESS THAN ONE SET OF SAMPLES PER DAY'S WORK AND PER MIX.
B. EARTHWORK: SECTION 1705.6. FOUNDATION BEARING, EXCAVATION, FILL PLACEMENT.

EARTHWORK AND FOUNDATIONS:

1. REFERENCE THE GEOTECHNICAL INVESTIGATION PREPARED BY OLSSON DATED JULY 27, 2021 (JOB NO. 021-02987). THE CONTRACTOR SHALL OBTAIN A COPY OF THIS REPORT AND FOLLOW ALL RECOMMENDATIONS WITHIN.

2. PERIMETER AND EXTERIOR FOOTINGS SHALL BEAR AT A MINIMUM OF 3'-0" BELOW ADJACENT GRADE.

3. ALL FOOTINGS SHALL BEAR A MINIMUM DEPTH BELOW GRADE OF 3'-0" ON FIRM NATIVE MATERIALS, COMPACTED OR ENGINEERED FILL CAPABLE OF SUPPORTING AN ALLOWABLE BEARING PRESSURE OF 2,500 PSF PER THE GEOTECH REPORT. DEEPEN FOOTINGS, AND REMOVE AND REPLACE UNACCEPTABLE SOILS WITH ENGINEERED FILL AS REQUIRED TO PROVIDE THIS MINIMUM DEPTH AND SUITABLE BEARING.

4. UNDERCUT THE PAD TO A DEPTH OF 18-INCHES BELOW BOTTOM OF FLOOR SLAB ELEVATION AND REPLACE WITH LOW-VOLUME-CHANGE MATERIALS PER THE GEOTECHNICAL REPORT.

5. FILL PLACEMENT, COMPACTION, AND SOIL BEARING TESTS SHALL BE PERFORMED BY A GEOTECHNICAL ENGINEER PRIOR TO INSTALLING FOOTINGS TO ENSURE DESIGN ALLOWABLE BEARING VALUES AND SLAB SUBGRADE REQUIREMENTS ARE SATISFIED. IF ACTUAL SITE CONDITIONS DO NOT SATISFY THESE REQUIREMENTS, COORDINATE ADJUSTMENTS WITH ARCHITECT/ENGINEER/ GEOTECHNICAL ENGINEER

6. SURFACE WATER SHALL NOT BE ALLOWED TO STAND ADJACENT TO OR DRAIN TOWARDS THE FOUNDATION AND SLAB SUBGRADES UNDER ANY CIRCUMSTANCES. PAVEMENTS OR GRADED SOILS AT THE PERIMETER OF THE BUILDING, EXCEPT AS REQUIRED AT EXITS OR AS NOTED, SHALL BE SLOPED AWAY AT 5% OR 6" MIN FOR THE FIRST TEN FEET AND AS REQUIRED TO PROVIDE POSITIVE DRAINAGE.

7. FOOTINGS MAY BE POURED TO NEAT LINES OF EXCAVATIONS PROVIDING VERTICAL LINES OF EXCAVATIONS CAN BE MAINTAINED DURING CONCRETE PLACEMENT.

8. FOUNDATION WALL BACKFILL SHALL NOT BE UNBALANCED BY MORE THAN TWO FEET ON EITHER SIDE AT ANY TIME. BASEMENT WALL AND RESTRAINED RETAINING WALL BACKFILL SHALL NOT BE PLACED, UNLESS THE WALL IS ADEQUATELY BRACED. RETAINING WALL AND BASEMENT WALL BACKFILL SHALL BE FREE DRAINING GRANULAR BACKFILL ACCEPTABLE TO THE GEOTECHNICAL ENGINEER.

CONCRETE AND MASONRY REINFORCING STEEL:

1. SUBMIT SHOP DRAWINGS FOR REBAR. ALL REINFORCING BARS SHALL MEET ASTM A615 GRADE 60.

2. ALL MESH SHALL MEET ASTM A-185: LAP A MINIMUM OF 8" OR ONE FULL MESH, WHICHEVER IS GREATER.

3. REINFORCING BAR QUANTITIES SHOWN ARE FOR ESTIMATING PURPOSES ONLY.

4. CONCRETE PROTECTION FOR REINFORCEMENT SHALL BE ¾" CLEAR FOR SLABS, 2" CLEAR FOR FORMED SURFACES AND 3" CLEAR FOR FOOTINGS (TYPICAL UNLESS NOTED).

5. CONTRACTOR SHALL VERIFY THAT ALL REINFORCEMENT, SLAB DOWELS, INSERTS, SLEEVES AND EMBEDDED ITEMS ARE PROPERLY LOCATED AND RIGIDLY SECURED PRIOR TO CONCRETE PLACEMENT, "WET STICKING" DOWELS WILL NOT BE ALLOWED.

6. REINFORCEMENT SHALL BE DETAILED IN ACCORDANCE WITH THE LATEST A.C.I. DETAILING MANUAL BY A QUALIFIED AND EXPERIENCED FIRM AND PERSON. PLACE AND SUPPORT REINFORCEMENT WITH ACCESSORIES: MAXIMUM SPACING - 48" CENTERS (PLASTIC-TIPPED LEGS FOR EXPOSED SURFACES). USE 3" SBP SUPPORTS AT ALL FOOTINGS.

7. ALL STRUCTURAL ADHESIVE SHALL BE SIMPSON SET 3G OR HILTI HY-200 R OR EQUIVALENT. ALL STRUCTURAL ADHESIVE SHALL BE INSTALLED PER THE MANUFACTURER'S REQUIREMENTS. SUBSTITUTIONS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL WITH APPROPRIATE ICBO EVALUATION REPORTS.

CAST IN PLACE CONCRETE:

1. SUBMIT PROPOSED MIXED DESIGNS OF EACH TYPE FOR REVIEW. REQUIRED MINIMUM CONCRETE COMPRESSIVE STRENGTHS AT 28 DAYS:

a. FOOTING AND GRADE BEAM CONCRETE………………...4000 PSI
b. BASEMENT / FOUNDATION WALL CONCRETE…………..4000 PSI
c. SLAB ON GRADE AND STRUC SLAB ABOVE GRADE…..4000 PSI

2. ALL CONCRETE MIX DESIGNS SHALL HAVE WATER TO CEMENT RATIOS LESS THAN 0.52 (0.45 FOR MOISTURE SENSITIVE FLOORING), WITH A MAXIMUM 60/40 FINE TO COARSE AGGREGATE RATIO. CONCRETE MIX DESIGNS THAT DO NOT CONFORM TO THE ABOVE STANDARD AND/OR CONTAIN WATER REDUCING ADMIXTURES SHALL BE SUBMITTED WITH APPROPRIATE TEST DATA PER A.C.I.. ALL CONCRETE SHALL BE IN CONFORMANCE WITH THE A.C.I. 301 STANDARD THAT IS REFERENCED IN THE BUILDING CODE AT THE TIME OF PERMITTING THE PROJECT..

3. EXTERIOR CONCRETE (FLOOR SLABS, WALLS, ETC) SHALL HAVE 6.5% (PLUS/MINUS 1.5%) ENTRAINED AIR.

4. CHAMFER ALL EXPOSED CONCRETE EDGES 3/4" (VERIFY WITH ARCHITECT).

5. NO ALUMINUM SHALL BE EMBEDDED IN ANY CONCRETE.

6. NO CALCIUM CHLORIDE SHALL BE USED IN CONCRETE

7. THE DESIGN, CONSTRUCTION, AND SAFETY OF ALL FORMWORK IS THE RESPONSIBILITY OF THE CONTRACTOR

8. ALL CONCRETE IS REINFORCED UNLESS SPECIFICALLY NOTED AS UNREINFORCED. REINFORCE ALL CONCRETE NOT OTHERWISE SHOWN WITH THE SAME REINFORCING AS SIMILAR SECTIONS OR AREAS.

9. CONSTRUCTION JOINTS IN GRADE BEAMS, CONTINUOUS FOOTINGS, AND WALLS THAT DO NOT CHANGE DIRECTION SHALL BE SPACED NO GREATER THAN 60'-0". INTERMEDIATE CONTROL JOINTS SHALL BE SPACED AT 25'-0" MAX FOR WALLS. CONTROL JOINTS IN WALLS SHALL ALSO BE LOCATED 15'-0" FROM CORNERS AND AT CHANGES IN WALL THICKNESS

10. WHERE FRESH CONCRETE IS DEPOSITED AGAINST HARDENED CONCRETE (GREATER THAN 8 HRS OLD), CLEAN EXISTING SURFACE OF LAITANCE AND FOREIGN MATERIAL AND DAMPEN THE EXISTING SURFACE. IF REQUIRED, ROUGHEN EXISTING CONCRETE TO ¼" AMPLITUDE.

11. SLABS ON GRADE SHALL BE 4" THICK MINIMUM ON 4" OF GRANULAR FILL. REINF SLAB WITH 6 X 6-W2.1xW2.1 WWR OR #3 BARS @ 18" OC EA WAY. PLACE REINF IN UPPER 1/3 OF SLAB THICKNESS. AT INTERIOR SLABS, A 10 MIL VAPOR BARRIER SHALL BE PLACED BETWEEN THE CONCRETE AND GRANULAR BASE AND CARE SHOULD BE TAKEN DURING CURING TO PREVENT SLAB CURLING. THIS NOTE SHALL BE TYPICAL UNLESS NOTED OTHERWISE

12. SAW CUT JOINTS OR KEYED CONSTRUCTION JOINTS IN SLABS ON GRADE SHALL BE SPACED TO DIVIDE THE SLAB INTO PANELS NOT TO EXCEED 225 SQUARE FEET. THE LONGER DIMENSION OF EACH PANEL SHALL NOT EXCEED THE SHORTER DIMENSIONS BY MORE THAN 40%. JOINTS SHALL BE LOCATED AT COLUMN CENTERLINES WHERE POSSIBLE. SPACING BETWEEN JOINTS SHALL NOT EXCEED 15 FEET. CONTRACTOR SHALL SUBMIT JOINT LAYOUT TO ARCHITECT FOR APPROVAL. REFER TO TYPICAL DETAILS.

13. REINFORCEMENT SHALL BE CONTINUOUS AND LAPPED 53 BAR DIAMETERS (2' -6" MIN.) EXCEPT AS NOTED AND PROVIDE CORNER BARS OF SAME SIZE AND SPACING.

14. MINIMUM CONCRETE WALL REINFORCING (WALL 10" OR GREATER) SHALL BE #5 AT 10" CENTERS EACH WAY, EACH FACE

15. MINIMUM REINFORCING AROUND CONCRETE WALL OPENINGS 2'-0" OR GREATER (TYPICAL UNLESS NOTED): 2 - #5, EXTEND REINF 2'-0" PAST OPENINGS. PROVIDE 2-#5 x 4'-0" DIAGONAL BARS AT CORNERS

16. CONTRACTOR SHALL COORDINATE ALL CURING COMPOUNDS WITH FLOOR FINISH REQUIREMENTS TO ENSURE COMPATIBILITY.

17. FOUNDATION CONTRACTOR TO ENSURE PROPER ANCHOR ROD PROJECTION AND THAT ANCHOR RODS ARE HELD SECURELY IN POSITION PRIOR TO CONCRETE PLACEMENT. INSTALL ANCHOR RODS TO THE STRICT DIMENSIONAL TOLERANCES PER AISC REQUIREMENTS. STRUCTURAL STEEL COLUMN ANCHOR RODS SHALL BE SET WITH A RIGID TEMPLATE.

18. AGGREGATES AND/OR CONCRETE MIXES SHALL BE CERTIFIED TO BE FREE OF AND ELIMINATE DAMAGE OF CONCRETE DUE TO ALKALI-SILICA REACTION OR ALKALI-AGGREGATE REACTIONS WHEN EXPOSED TO SOILS AND/OR AN EXTERIOR ENVIRONMENT.

19. ALL CONCRETE MIX DESIGNS EXPOSED TO AN EXTERIOR ENVIRONMENT SHALL MEET THE REQUIREMENTS OF THE KANSAS CITY METRO MATERIALS BOARD (KCMMB) OR THE JOHNSON COUNTY CONCRETE BOARD (JCCB).

WOOD:

1. FRAMING MATERIAL: ALL WOOD FRAMING SHALL MEET OR EXCEED THE FOLLOWING:
A. NOMINAL STRUCTURAL LUMBER: DOUG. FIR -- NO.2 OR BETTER, KILN-DRIED, MIN Fb = 900 PSI, MIN E = 1400 KSI.
B. EXPOSED TO WEATHER: NOMINAL STRUCT LUMBER -- PRESS TREATED NO.2 OR BETTER, MIN Fb = 1000 PSI, MIN E = 1300 KSI
C. MICROLLAM LVL (LAMINATED VENEER LUMBER) BEAMS SHALL MEET TRUS JOIST SPECIFICATIONS: MINIMUM Fb = 2600 PSI AND MINIMUM E = 1900 KSI.
D. TIMBERSTRAND LSL (LAMINATED STRAND LUMBER) BEAMS SHALL MEET TRUS JOIST SPECIFICATIONS: MINIMUM Fb = 2600 PSI AND MINIMUM E = 1550 KSI.
E. GLULAM FRAMING: 24F-V4 DOUGLAS FIR, ARCHITECTURAL FINISH (COORDINATE WITH ARCH).

2. ALL LUMBER IN DIRECT CONTACT WITH CONCRETE OR MASONRY, SUCH AS SILL PLATES AND BEARING PLATES BELOW BEAMS POCKETED IN CMU, SHALL BE TREATED LUMBER.

3. WOOD SHEATHING:
A. ROOF SHEATHING SHALL BE 15/32" OR 1/2" WITH AN APA SPAN RATING OF 32/16, EXPOSURE 1, MINIMUM 2 SPAN, FASTEN WITH 10d COMMON NAILS AT 6" CENTERS AT ALL PANEL EDGES AND 12" CENTERS MAXIMUM AT INTERMEDIATE FRAMING MEMBERS (IN THE FIELD). USE PLYCLIPS AT MIDSPAN.
B. FLOOR SHEATHING SHALL BE TONGUE AND GROOVE SHEATHING, EXPOSURE 1, MINIMUM 2 SPAN, FASTEN WITH APA APPROVED ADHESIVE AND 10d RING SHANKED NAILS AT 6" ON CENTERS AT ALL PANEL EDGES AND AT 10" ON CENTERS MAXIMUM AT INTERMEDIATE FRAMING MEMBERS (IN THE FIELD).
--WHEN CLEAR DISTANCE BETWEEN FLOOR JOISTS OR FLOOR TRUSSES IS 16" OR LESS USE 3/4" SHEATHING WITH AN APA SPAN RATING OF 48/24.
--WHEN CLEAR DISTANCE BETWEEN FLOOR JOISTS OR FLOOR TRUSSES IS GREATER THAN 16" USE 7/8" SHEATHING WITH AN APA SPAN RATING OF 60/32.
C. WALL SHEATHING FOR EXTERIOR WALLS SHALL BE 7/16" WITH AN APA SPAN RATING OF 24/16, UNLESS NOTED OTHERWISE. ALL PANEL EDGES SHALL BE BACKED WITH 2 INCH NOMINAL OR WIDER FRAMING. FASTEN WITH 8d COMMON NAILS AT 6" OC MAXIMUM AT ALL TOP PLATES, BLOCKING, BOUNDARIES AND 10" OC MAXIMUM IN THE FIELD.

4. ALL WOOD SHEATHING TO BE STAGGERED 4'X8' SHEETS. ORIENTED PERPENDICULAR TO SUPPORTING MEMBERS.

5. PROVIDE 1/8" GAP AT ALL SHEATHING PANEL EDGES AND END JOINTS UNLESS OTHERWISE SPECIFIED BY THE MANUFACTURER. DUE TO CONSTRUCTION CONDITIONS, TEMPORARY EXPANSION JOINTS MAY BE REQUIRED IN FLOOR/ROOF SHEATHING.

6. ALL HEADERS IN EXTERIOR OR INTERIOR BEARING WALLS SPANNING MORE THAN 3'-8" SHALL BE SUPPORTED ON DOUBLE STUDS UNLESS NOTED.

7. MINIMUM NAILING SHALL CONFORM TO IRC TABLE R602.3(1). USE COMMON NAILS EXCEPT WHERE NOTED. ALL FASTENERS (BOLTS, SCREWS, NAILS, ETC) IN CONTACT WITH PRESSURE TREATED LUMBER SHALL BE HOT DIP GALVANIZED.

8. LIGHT GAUGE WOOD FRAMING CONNECTORS AS NOTED ON THE PLANS FOR WOOD JOISTS, COLUMNS, BEAMS AND TRUSSES SHALL BE "STRONG – TIE" CONNECTORS BY THE SIMPSON CO. OR REVIEWED EQUIVALENT. CONNECTORS IN DIRECT CONTACT WITH PRESSURE TREATED LUMBER SHALL HAVE "ZMAX" G185 HOT DIP GALVANIZED COATING OR REVIEWED EQUIVALENT.

9. CONNECTORS IN DIRECT CONTACT WITH PRESSURE TREATED LUMBER SHALL HAVE "ZMAX" G185 HOT DIP GALVANIZED COATING OR REVIEWED EQUIVALENT.

10. STAINLESS STEEL FASTENERS, ANCHOR BOLTS, LIGHT GAUGE CONNECTORS, ETC. MAY BE SUBSTITUTED FOR HOT DIP GALVANIZED MATERIALS AT THE CONTRACTORS OPTION.

11. PROVIDE UPLIFT CONNECTORS AT EACH ROOF TRUSS TO WALL CONNECTIONS PER IBC.

12. STUDS SHALL BE CONTINUOUS BETWEEN EACH DIAPHRAGM LEVEL. EXTERIOR WALL STUDS AT GROUND FLOOR SHALL BE BRACED BY KICKERS AND/OR STRUCTURAL CEILING FRAMING.

13. TYPICAL SILL ANCHOR RODS SHALL BE GALVANIZED 5/8" DIAMETER EMBEDDED 7" MIN INTO CONCRETE, SPACED NO FURTHER THAN 3'-0" OC, AND SHALL OCCUR WITHIN 12" OF THE ENDS OF A SILL PLATE. SPACE ANCHOR RODS MORE CLOSELY TOGETHER AT SHEAR WALLS AS SHOWN ON THE DRAWINGS. EACH SILL PLATE SHALL HAVE A MINIMUM OF 2 ANCHOR RODS. PROVIDE 2" SQUARE PLATE WASHERS AND NUTS.

14. SUBSTITUTIONS OF SPECIFIED WOOD MEMBERS SHALL NOT BE MADE WITHOUT REVIEW OF THE ARCHITECT/ENGINEER.

PRE-FABRICATED WOOD TRUSS NOTES:

1. THE WOOD TRUSS MANUFACTURER SHALL SUBMIT SHOP DRAWINGS AND CALCULATIONS FOR ENGINEER'S REVIEW. THE SHOP DRAWINGS SHALL INCLUDE PLACING PLANS OF ALL TRUSSES CLEARLY LABELED, DETAILS OF TRUSS CONNECTIONS AND ANCHORAGES, DETAILS OF METAL CONNECTORS USED AT JOINTS, AND ENGINEERING DESIGN DATA. THE ENGINEERING DESIGN FOR EACH TYPE OF TRUSS SHALL INCLUDE: TRUSS LOCATION IDENTIFICATION, ALL LOADINGS AND REACTIONS, WOOD SPECIES AND STRESS GRADES, MEMBER STRESSES, JOINT CONNECTIONS, CONFIGURATION, TRUSS HANGERS, TRUSS TO TRUSS CONNECTIONS, BRACING FOR LATERAL STABILITY OF THE COMPLETED FRAMING SYSTEM AND OF THE TEMPORARY CONSTRUCTION CONDITION IN ACCORDANCE WITH THE TPI RECOMMENDATIONS, AND THE PROFESSIONAL ENGINEERS SEAL OF THE PERSON RESPONSIBLE FOR THE DESIGN OF THE TRUSSES/TRUSS SYSTEM.

2. THE CONTRACTOR SHALL FURNISH A COPY OF THE APPROVED PRE-FABRICATED TRUSS SHOP DRAWINGS TO BUILDING OFFICIAL FOR THEIR RECORDS.

3. TRUSS MEMBERS AND COMPONENTS SHALL NOT BE FIELD CUT, NOTCHED, DRILLED, OR ALTERED IN ANY WAY WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER RESPONSIBLE FOR THE TRUSS DESIGN.

4. PRE-FABRICATED WOOD ROOF TRUSS DESIGN CRITERIA
--TOP CHORD DEAD LOAD...............................10 PSF
--TOP CHORD LIVE LOAD.................................20 PSF
-- BOTT. CHORD DEAD LOAD ....5 PSF
– ROOF NET UPLIFT ……………………………..15 PSF
-- LIVE LOAD DEFLECTION CRITERIA...............MIN OF L/480 OR 0.75"
-- TOTAL LOAD DEFLECTION CRITERIA ....MIN OF L/240 OR 1.5"

5. PRE-FABRICATED WOOD FLOOR TRUSS DESIGN CRITERIA
--TOP CHORD DEAD LOAD...............................30 PSF
--TOP CHORD LIVE LOAD.................................40 PSF
-- BOTT. CHORD DEAD LOAD ....5 PSF
-- LIVE LOAD DEFLECTION CRITERIA...............MIN OF L/480 OR 0.5"
-- TOTAL LOAD DEFLECTION CRITERIA ....MIN OF L/240 OR 1"

DETAIL NOTES:

1. SIMPSON H2.5T OR SIMILAR BY TRUSS SUPPLIER
2. PRE-ENGINEERED ROOF TRUSS, RE: PLAN
3. ROOF SHEATHING, RE: PLAN

18 SECTION
3/4" = 1'-0"

LOOSE LINTEL SCHEDULE			
MARK	OPENING SIZE	OPENING SIZE	BRG LENGTH
L1	UP TO 1'-8"	1/4" PL x WALL WIDTH - 1/2"	4"
L2	1'-9" TO 3'-0"	L3 1/2" x 3 1/2" x 1/4"	4"
L3	3'-1" TO 4'-5"	L4" x 3 1/2" x 5/16"	4"
L4	4'-6" TO 6'-3"	L5" x 3 1/2" x 3/8"	4"
L5	6'-4" TO 8'-0"	L6" x 3 1/2" x 3/8"	8"
L6	8'-1" TO 12'-0"	5/16" & 1/4" BENT PL (SEE DETAIL A)	8"

NOTES:

A. HEIGHT OF MASONRY ABOVE LINTEL MUST BE MIN OF 1/2 THE OPENING WIDTH

B. PROVIDE ONE STEEL LINTEL FOR EA 4" THICKNESS OF MASONRY. (FOR EXAMPLE: 3 ANGLES FOR 12" OF WALL)

C. LINTELS SPECIFICALLY CALLED OUT ON DRAWINGS SHALL GOVERN OVER THIS SCHEDULE

D. ALL STEEL ANGLES SHALL BE GALV AND SHALL HAVE SHORT LEG HORIZONTAL (SLH)

E. L6 REQUIRES A 2" MIN AIR GAP TO FIT IN WALL CAVITY.

DETAIL A

12 LOOSE LINTEL SCHEDULE
1 1/2" = 1'-0"

DETAIL NOTES:

1. LOAD BEARING STUD WALL, RE: PLAN
2. PRE-ENGINEERED FLOOR TRUSS, RE: PLAN
3. 1 3/4" LSL RIM BOARD TO MATCH TRUSS DEPTH CONT, RE: SHEAR WALL SCHEDULE FOR RIM BOARD TO TOP PLATE FASTENER
4. PROVIDE 2x4 CRIPPLE STUDS TO MATCH NUMBER OF STUDS AT POSTS AND JAMBS ABOVE, (1) 2x4 FOR EACH 2x6
5. FLOOR SHEATHING, RE: PLAN AND GENERAL NOTES
6. DRYWALL BLOCKING, RE: ARCH
7. RIM TO TOP PLATE CONNECTION, RE: SHEAR WALL SCHEDULE
8. BASEMENT WALL, RE: PLAN
9. 2x6 TREATED PLATE. FASTEN W/ 5/8" Ø SCREW ANCHORS @ 32" OC

6 SECTION
3/4" = 1'-0"

DETAIL NOTES:

1. CONT DRAFT STOP, RE: ARCH
2. FIRE BLOCKING RE: ARCH
3. DOUBLE TOP PLATE
4. LOAD BEARING STUD WALL, RE: PLAN
5. PRE-ENGINEERED ROOF TRUSS, RE: PLAN. DESIGN ROOF TRUSS AT DEMISING WALLS FOR 500 PLF (ASD)
6. PROVIDE CONT DIAPHRAGM NAILING TO EA DOUBLE TOP PL BELOW

17 SECTION
3/4" = 1'-0"

DETAIL NOTES:

1. LOAD BEARING STUD WALL, RE: PLAN
2. PRE-ENGINEERED FLOOR TRUSS, RE: PLAN
3. 1 3/4" LSL RIM BOARD TO MATCH TRUSS DEPTH CONT, RE: SHEAR WALL SCHEDULE FOR RIM BOARD TO TOP PLATE FASTENER
4. PROVIDE 2x4 CRIPPLE STUDS TO MATCH NUMBER OF STUDS AT POSTS AND JAMBS ABOVE, (1) 2x4 FOR EACH 2x6
5. FLOOR SHEATHING, RE: PLAN AND GENERAL NOTES
6. DRYWALL BLOCKING, RE: ARCH
7. RIM TO TOP PLATE CONNECTION, RE: SHEAR WALL SCHEDULE

11 SECTION
3/4" = 1'-0"

DETAIL NOTES:

1. LOAD BEARING STUD WALL, RE: PLAN
2. PRE-ENGINEERED FLOOR TRUSS, RE: PLAN
3. 1 3/4" LSL RIM BOARD TO MATCH TRUSS DEPTH CONT, RE: SHEAR WALL SCHEDULE FOR RIM BOARD TO TOP PLATE FASTENER
4. TRUSS BLOCKING, RE: TYPICAL DETAILS
5. FLOOR SHEATHING, RE: PLAN AND GENERAL NOTES
6. TRUSS HANGER BY TRUSS SUPPLIER
7. RIM TO TOP PLATE CONNECTION, RE: SHEAR WALL SCHEDULE
8. BASEMENT WALL, RE: PLAN
9. 2x6 TREATED PLATE. FASTEN W/ 5/8" Ø SCREW ANCHORS @ 32" OC

5 SECTION
3/4" = 1'-0"

DETAIL NOTES:

1. LOAD BEARING STUD WALL, RE: PLAN
2. PRE-ENGINEERED ROOF TRUSS, RE: PLAN
3. ROOF SHEATHING, RE: PLAN
4. WALL SHEATHING, RE: SHEAR WALL SCHEDULE
5. CONT DRYWALL BLOCKING, RE: ARCH
6. SIMPSON H2.5T OR SIMILAR BY TRUSS SUPPLIER
7. CONT DOUBLE TOP PLATE

16 ROOF SECTION
3/4" = 1'-0"

DETAIL NOTES:

1. LOAD BEARING STUD WALL, RE: PLAN. STEP BACK 3RD FLOOR STUD WALLS PER ARCH
2. PRE-ENGINEERED FLOOR TRUSS, RE: PLAN
3. 1 3/4" LSL RIM BOARD TO MATCH TRUSS DEPTH CONT, RE: SHEAR WALL SCHEDULE FOR RIM BOARD TO TOP PLATE FASTENER
4. TRUSS BLOCKING, RE: TYPICAL DETAILS
5. FLOOR SHEATHING, RE: PLAN AND GENERAL NOTES
6. TRUSS HANGER BY TRUSS SUPPLIER
7. RIM TO TOP PLATE CONNECTION, RE: SHEAR WALL SCHEDULE

10 SECTION
3/4" = 1'-0"

DETAIL NOTES:

1. STEM WALL AND CONT WALL FTG, RE: PLAN
2. LOAD BEARING STUD WALL, RE: PLAN
3. #4 DWLS @ 12" OC x 3'-0" LONG. PROVIDE 6" EMBED MIN. FIELD BEND INTO GARAGE SLAB
4. GARAGE SLAB, RE: PLAN
5. COMPACTED FILL OR GRAVEL @ OVERDIG
6. SLAB ON GRADE, RE: PLAN
7. PROVIDE CONT #4 AND #3 DOWELS (1'-6"x1'-6") @ 18" OC ALONG PERIMETER

4 FOUNDATION SECTION
3/4" = 1'-0"

DETAIL NOTES:

1. LOAD BEARING STUD WALL, RE: PLAN
2. PRE-ENGINEERED ROOF TRUSS, RE: PLAN
3. HOLD DOWN GABLE END TRUSS
4. SIMPSON A34 CLIPS @ 24" OC
5. OUTRIGGERS, RE: PLAN
6. SOLID BLOCKING BETWEEN OUTRIGGERS
7. CONT 2x BLOCKING
8. CONT DRYWALL BLOCKING, RE: ARCH
9. 2x4 @ 24" OC
10. BRACING BY TRUSS SUPPLIER

15 ROOF SECTION
3/4" = 1'-0"

DETAIL NOTES:

1. LOAD BEARING STUD WALL, RE: PLAN. STEP BACK 3RD FLOOR STUD WALLS PER ARCH
2. PRE-ENGINEERED FLOOR TRUSS, RE: PLAN
3. 1 3/4" LSL RIM BOARD TO MATCH TRUSS DEPTH CONT, RE: SHEAR WALL SCHEDULE FOR RIM BOARD TO TOP PLATE FASTENER
4. PROVIDE 2x4 CRIPPLE STUDS TO MATCH NUMBER OF STUDS AT POSTS AND JAMBS ABOVE, (1) 2x4 FOR EACH 2x6
5. FLOOR SHEATHING, RE: PLAN AND GENERAL NOTES
6. DRYWALL BLOCKING, RE: ARCH
7. RIM TO TOP PLATE CONNECTION, RE: SHEAR WALL SCHEDULE

9 SECTION
3/4" = 1'-0"

DETAIL NOTES:

1. SLAB ON GRADE, RE: PLAN
2. BASEMENT WALL AND CONT WALL FOOTING, RE: PLAN FOR SIZE AND REINF
3. PROVIDE CONT #4 AND #4 DOWELS (18" x 18") @ 18" OC

3 FOUNDATION SECTION
3/4" = 1'-0"

DETAIL NOTES:

1. CONT 2x LEDGER TO MATCH RAFTER SIZE. FASTEN W/ (2) 1/4"x5" SDS SCREWS @ 16" OC
2. RAFTERS, RE: PLAN. TAPER END AS REQD PER ARCH
3. WOOD BEAM, RE: PLAN
4. LOAD BEARING STUD WALL, RE: PLAN
5. EXTERIOR SHEATHING, RE: GENERAL NOTES
6. TAPERED SLEEPER AS REQD, RE: ARCH

NOTES:
REFER TO 7 / S001 FOR ADDITIONAL NOTES

14 SECTION
3/4" = 1'-0"

DETAIL NOTES:

1. LOAD BEARING STUD WALL, RE: PLAN
2. PRE-ENGINEERED FLOOR TRUSS, RE: PLAN
3. 1 3/4" LSL RIM BOARD TO MATCH TRUSS DEPTH CONT, RE: SHEAR WALL SCHEDULE FOR RIM BOARD TO TOP PLATE FASTENER
4. TRUSS BLOCKING, RE: TYPICAL DETAILS
5. FLOOR SHEATHING, RE: PLAN AND GENERAL NOTES
6. TRUSS HANGER BY TRUSS SUPPLIER
7. RIM TO TOP PLATE CONNECTION, RE: SHEAR WALL SCHEDULE

8 SECTION
3/4" = 1'-0"

DETAIL NOTES:

1. SLAB ON GRADE, RE: PLAN
2. STEM WALL AND CONT WALL FOOTING, RE: PLAN FOR SIZE AND REINF
3. WOOD POST AND POST BASE, RE: PLAN
4. REINF AND DOWELS AROUND PERIMETER, RE: PLAN

2 FOUNDATION SECTION
3/4" = 1'-0"

DETAIL NOTES:

1. STEEL BEAM, RE: PLAN. PROVIDE 2x6 NAILER AND FASTEN W/ (2) 1/2" Ø THROUGH BOLTS @ 24" OC STAGGERED
2. PRE-ENGINEERED FLOOR TRUSS, RE: PLAN
3. FLOOR SHEATHING, RE: PLAN

19 STEEL BEAM SECTION
3/4" = 1'-0"

DETAIL NOTES:

1. CONT 2x LEDGER TO MATCH RAFTER SIZE. FASTEN W/ (2) 1/4"x5" SDS SCREWS @ 16" OC
2. RAFTERS, RE: PLAN. TAPER END AS REQD PER ARCH
3. WOOD BEAM, RE: PLAN
4. WOOD POST, RE: PLAN
5. EXTERIOR SHEATHING, RE: GENERAL NOTES
6. CAST STONE FACADE, RE: ARCH AND STONE SUPPLIER

NOTES:
REFER TO 7 / S001 FOR ADDITIONAL NOTES

13 SECTION
3/4" = 1'-0"

DETAIL NOTES:

1. LOAD BEARING STUD WALL, RE: PLAN
2. PRE-ENGINEERED FLOOR TRUSS, RE: PLAN
3. 1 3/4" LSL RIM BOARD TO MATCH TRUSS DEPTH CONT, RE: SHEAR WALL SCHEDULE FOR RIM BOARD TO TOP PLATE FASTENER
4. PROVIDE 2x4 CRIPPLE STUDS TO MATCH NUMBER OF STUDS AT POSTS AND JAMBS ABOVE, (1) 2x4 FOR EACH 2x6
5. FLOOR SHEATHING, RE: PLAN AND GENERAL NOTES
6. DRYWALL BLOCKING, RE: ARCH
7. RIM TO TOP PLATE CONNECTION, RE: SHEAR WALL SCHEDULE

7 SECTION
3/4" = 1'-0"

DETAIL NOTES:

1. SLAB ON GRADE, RE: PLAN
2. STEM WALL AND CONT WALL FOOTING, RE: PLAN FOR SIZE AND REINF
3. LOAD BEARING WALL, RE: PLAN
4. PROVIDE CONT #4 AND #4 DOWELS (18" x 18") @ 18" OC
5. BRICK, RE: ARCH. PROVIDE 4" CMU COURSE AS REQD TO BEAR ON FOOTING. FULLY GROUT
6. FULLY GROUT BEHIND CMU BELOW GRADE AND PROVIDE THROUGH WALL FLASHING PER ARCH

1 FOUNDATION SECTION
3/4" = 1'-0"

clockwork
423 DELAWARE, STE 102
KANSAS CITY, MISSOURI
64105
www.clockwork-ad.com

STAND STRUCTURAL ENGINEERING INC
8234 Robinson Street
Overland Park, KS 66204
913-214-2169
stand-sei.com

100% CONSTRUCTION
DOCUMENTS
01-24-2020

NEW LONGVIEW TOWNHOMES
LEE'S SUMMIT, MO

JOHN E. FUNK
NUMBER E-2000173299
01/26/23

REV	ISSUE	DATE
	PERMIT	12/12/2022
1	Permit Review	1/26/2023

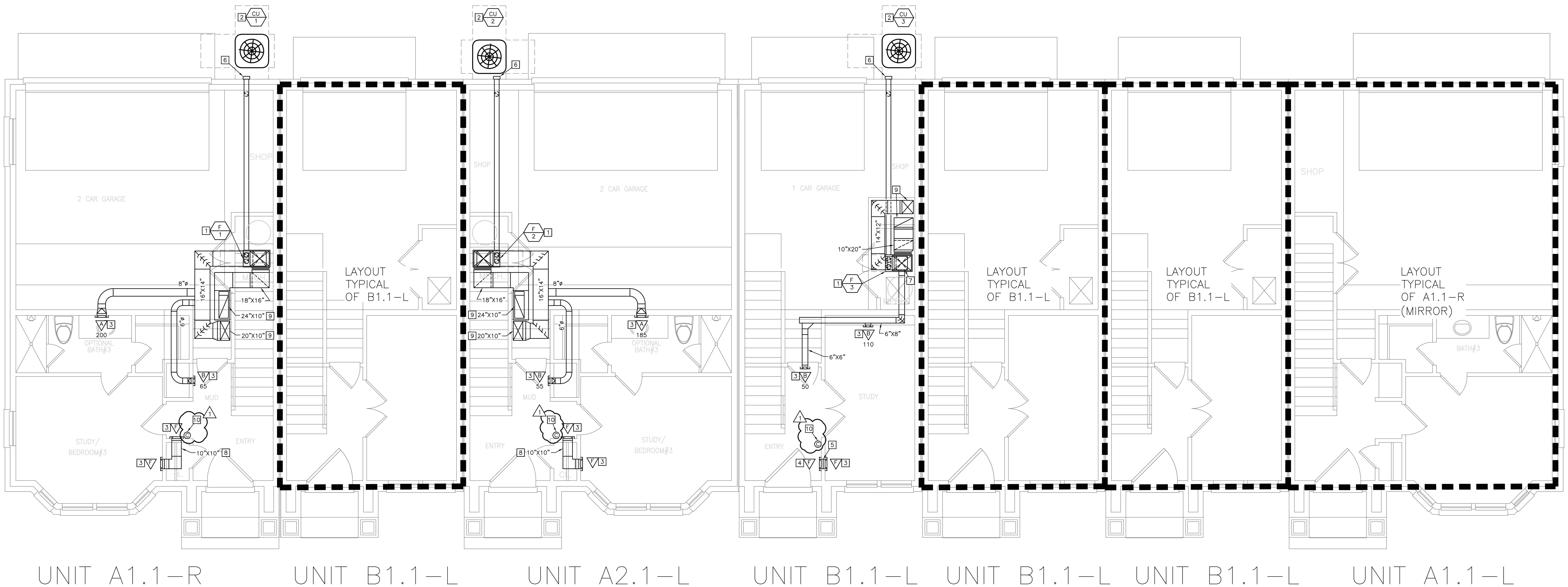
STRUCTURAL
GENERAL NOTES
AND SECTIONS

S001

22066

MECHANICAL KEY NOTES

1. PROVIDE FURNACE AND COOLING COIL. INSTALL UNIT LEVEL FOR PROPER CONDENSATE DRAINAGE. PROVIDE ANGLE IRON FRAME TO MOUNT UNIT ON TO ACCOMMODATE BOTTOM RETURN. MOUT UNIT A MINIMUM 18" ABOVE FINISHED FLOOR. PROVIDE FLEXIBLE CONNECTORS ON THE SUPPLY AND RETURN AIR DUCT CONNECTIONS.
2. PROVIDE CONDENSING UNIT AND CONCRETE PAD. PROVIDE MANUFACTURER'S RECOMMENDED TYPE AND SIZE OF REFRIGERANT PIPING FROM COOLING COIL ON FURNACE TO CONDENSING UNIT. PROVIDE WALL PENETRATIONS AND SUPPORTS. INSULATE SUCTION LINE WITH 1" THICK ARMAFLEX AP. PAINT INSULATION LOCATED OUTDOORS WITH ARMAFLEX WB FINISH. TRAP AND SLOPE LINES PER MANUFACTURER'S RECOMMENDATIONS.
3. MOUNT BOTTOM OF SUPPLY REGISTER/TRANSFER GRILLE 8'–3" ABOVE FINISHED FLOOR.
4. MOUNT BOTTOM OF GRILLE 18" ABOVE FINISHED FLOOR.
5. PROVIDE SHEET METAL CAVITY TO CONNECT TRANSFER GRILLES.
6. PROVIDE MANUFACTURER CONCENTRIC VENT KIT FOR WALL DISCHARGE. STACK COMBUSTION AIR AND VENT PIPING. SIZE AND INSTALL FURNACE COMBUSTION AIR INTAKE AND VENT PIPING PER MANUFACTURER'S REQUIREMENTS.
7. INSTALL DUCT TAP UPSTREAM OF ELBOW.
8. PROVIDE TRANSFER AIR BOOT WITH ACOUSTICAL DUCT LINER. LINER SHALL BE 1" THICK, LONG TEXTILE TYPE FIBER, WITH SURFACE CLEANABLE PER NAIMA DUCT CLEANING GUIDELINES. INSTALL LINER IN ACCORDANCE WITH SMACNA DUCT CONSTRUCTION STANDARDS. LAMINATE LINER TO INTERNAL SURFACES OF DUCT IN ACCORDANCE WITH LINER MANUFACTURER'S INSTRUCTIONS, AND FASTEN WITH MECHANICAL FASTENERS.
9. ROUTE DUCTWORK UP TO LEVEL ABOVE. REFER TO SHEET M111 FOR CONTINUATION.
10. PROVIDE CARBON MONOXIDE DETECTOR. DETECTOR SHALL BE HARD WIRED WITH BATTERY BACKUP. INSTALL APPROXIMATELY 5'–0" ABOVE FINISHED FLOOR. COORDINATE POWER REQUIREMENTS WITH ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL PROVIDE POWER WIRING.



01 FIRST FLOOR MECHANICAL PLAN
1/4"=1'-0"

NORTH
TRUE

Dialectic ENGINEERING
Dialectic, Inc.
310 W 20th Street, Suite 100
Kansas City, MO 64108
Missouri Certificate of Authorization Number 1582
T 816-997-9601
F 816-997-9602
DialecticEng.com

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WAEL SAMMUR
NAME:
MECHANICAL ENGINEER
DISCIPLINE
EN–29583
LICENSE NUMBER

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

BUILDING 1
FIRST FLOOR MECHANICAL PLAN

REVISIONS:

NO.	DATE:	DESCRIPTION:
1	01.26.2023	PERMIT REVIEW

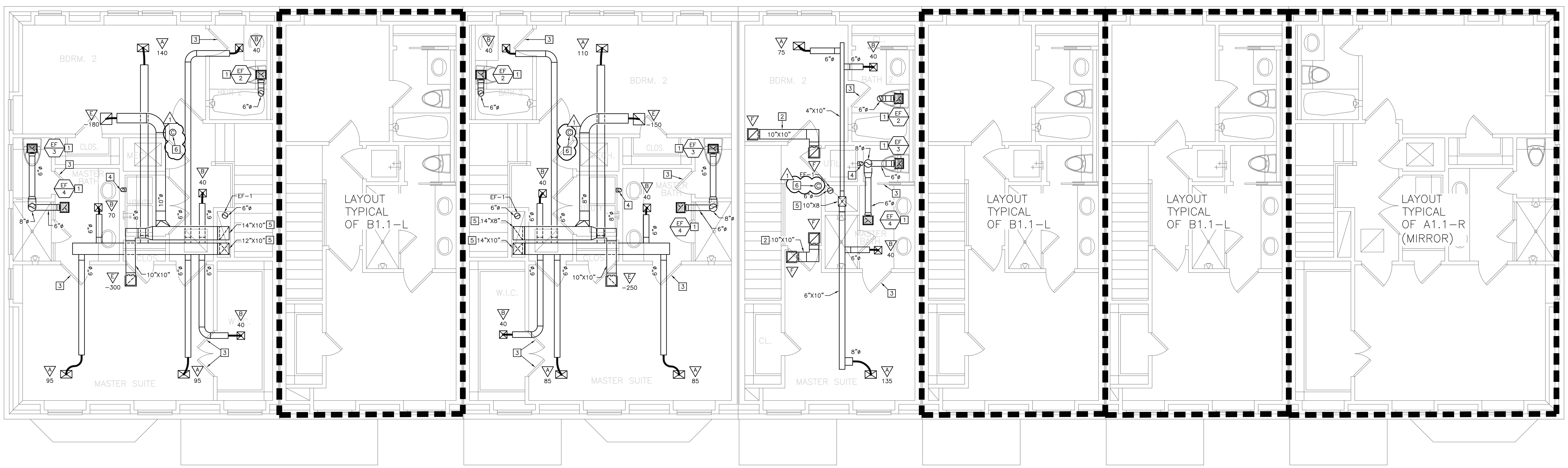
SCALE:	1/4'=1'–0"
JOB #:	01202245.01
DATE:	2022/12/23
DRAWN BY:	EML
CHECKED BY:	CLK

STATE OF MISSOURI
WAEL A. SAMMUR
NUMBER
E-29583
REGISTERED PROFESSIONAL ENGINEER
1/26/23

SHEET NO:
M110

MECHANICAL KEY NOTES

1. PROVIDE CEILING MOUNTED EXHAUST FAN. TRANSITION FROM FAN DISCHARGE TO DUCT SIZE SHOWN AND EXTEND UP THROUGH ROOF. PROVIDE ROOF JACK, STORM COLLAR, AND ALL-WEATHER CAP.
2. PROVIDE TRANSFER AIR BOOT WITH ACOUSTICAL DUCT LINER. LINER SHALL BE 1" THICK, LONG TEXTILE TYPE FIBER, WITH SURFACE CLEANABLE PER NAIMA DUCT CLEANING GUIDELINES. INSTALL LINER IN ACCORDANCE WITH SMACNA DUCT CONSTRUCTION STANDARDS. LAMINATE LINER TO INTERNAL SURFACES OF DUCT IN ACCORDANCE WITH LINER MANUFACTURER'S INSTRUCTIONS, AND FASTEN WITH MECHANICAL FASTENERS.
3. UNDERCUT DOOR 1" FOR TRANSFER AIR.
4. PROVIDE DRYER EXHAUST DUCTWORK FROM DRYER DOWN TO LEVEL BELOW TO EXTERIOR WALL. IF EQUIVALENT LENGTH OF EXHAUST DUCT EXCEEDS 35 FEET, CONTRACTOR TO PROVIDE PERMANENT LABEL/TAG LOCATED WITHIN 6 FEET OF EXHAUST CONNECTION. SIZE, INSTALL, AND TERMINATE PER MANUFACTURER'S INSTALLATION REQUIREMENTS.
5. ROUTE DUCTWORK DOWN TO LEVEL BELOW. REFER TO SHEET M111 FOR CONTINUATION.
6. PROVIDE CARBON MONOXIDE DETECTOR. DETECTOR SHALL BE HARD WIRED WITH BATTERY BACKUP. INSTALL APPROXIMATELY 5'-0" ABOVE FINISHED FLOOR. COORDINATE POWER REQUIREMENTS WITH ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL PROVIDE POWER WIRING.



UNIT A1.1-R | UNIT B1.1-L | UNIT A2.1-L | UNIT B1.1-L | UNIT B1.1-L | UNIT B1.1-L | UNIT A1.1-L

01 THIRD FLOOR MECHANICAL PLAN
1/4"=1'-0"

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NAME: WAEL SAMMUR
DISCIPLINE: MECHANICAL ENGINEER
LICENSE NUMBER: EN-29583

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

BUILDING 1
THIRD FLOOR MECHANICAL PLAN

REVISIONS:

NO.	DATE:	DESCRIPTION:
1	01.26.2023	PERMIT REVIEW

SCALE:	1/4'=1'-0"
JOB #:	01202245.01
DATE:	2022/12/23
DRAWN BY:	EML
CHECKED BY:	CLK

STATE OF MISSOURI
WAEL A. SAMMUR
NUMBER E-29583
REGISTERED PROFESSIONAL ENGINEER

SHEET NO: M112

MECHANICAL KEY NOTES

1. PROVIDE FURNACE AND COOLING COIL. INSTALL UNIT LEVEL FOR PROPER CONDENSATE DRAINAGE. PROVIDE ANGLE IRON FRAME TO MOUNT UNIT ON TO ACCOMMODATE BOTTOM RETURN. MOUT UNIT A MINIMUM 18" ABOVE FINISHED FLOOR. PROVIDE FLEXIBLE CONNECTORS ON THE SUPPLY AND RETURN AIR DUCT CONNECTIONS.
2. PROVIDE CONDENSING UNIT AND CONCRETE PAD. PROVIDE MANUFACTURER'S RECOMMENDED TYPE AND SIZE OF REFRIGERANT PIPING FROM COOLING COIL ON FURNACE TO CONDENSING UNIT. PROVIDE WALL PENETRATIONS AND SUPPORTS. INSULATE SUCTION LINE WITH 1" THICK ARMAFLEX AP. PAINT INSULATION LOCATED OUTDOORS WITH ARMAFLEX WB FINISH. TRAP AND SLOPE LINES PER MANUFACTURER'S RECOMMENDATIONS.
3. MOUNT BOTTOM OF SUPPLY REGISTER/TRANSFER GRILLE 8'–3" ABOVE FINISHED FLOOR.
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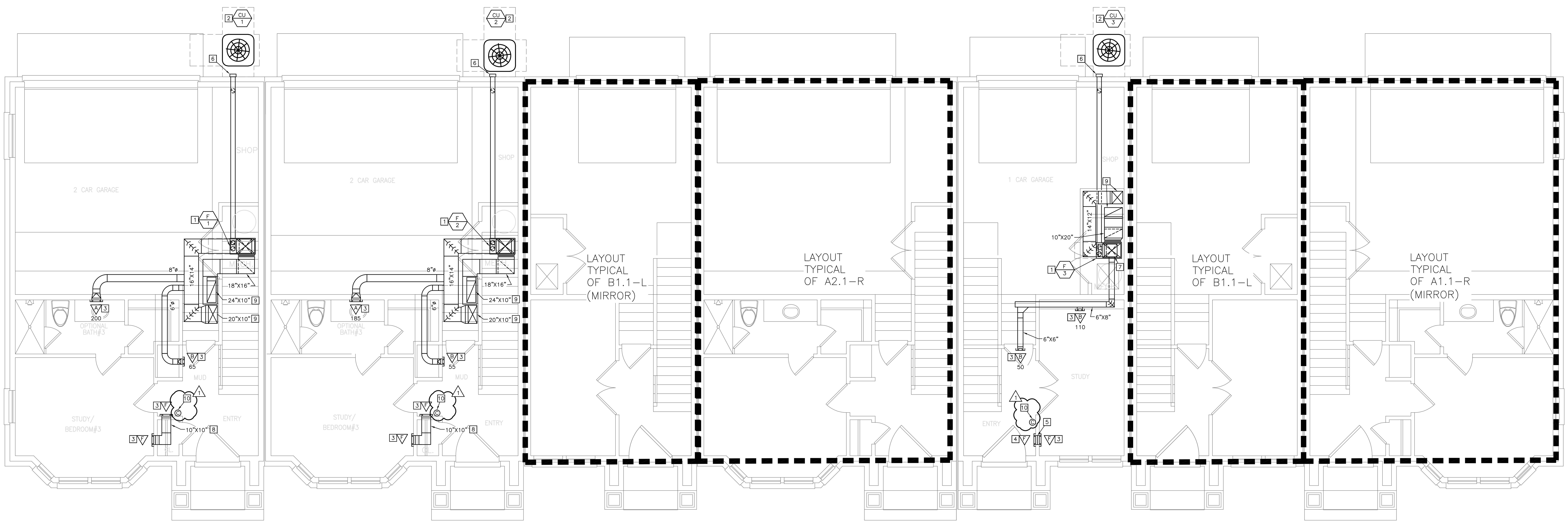
9. ROUTE DUCTWORK UP TO LEVEL ABOVE. REFER TO SHEET M121 FOR CONTINUATION.
10. PROVIDE CARBON MONOXIDE DETECTOR. DETECTOR SHALL BE HARD WIRED WITH BATTERY BACKUP. INSTALL APPROXIMATELY 5'–0" ABOVE FINISHED FLOOR. COORDINATE POWER REQUIREMENTS WITH ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL PROVIDE POWER WIRING.



UNIT A1.1–R UNIT A2.1–R UNIT B1.1–R UNIT A2.1–R UNIT B1.1–L UNIT B1.1–L UNIT A1.1–L

01 FIRST FLOOR MECHANICAL PLAN
1/4"=1'–0"

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DISCIPLINE
EN–29583
LICENSE NUMBER

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

BUILDING 2
FIRST FLOOR MECHANICAL PLAN

REVISIONS:

NO.	DATE:	DESCRIPTION:
1	01.26.2023	PERMIT REVIEW

SCALE:	1/4"=1'–0"
JOB #:	01202245.01
DATE:	2022/12/23
DRAWN BY:	EML
CHECKED BY:	CLK

STATE OF MISSOURI
WAEL A. SAMMUR
NUMBER E-29583
REGISTERED PROFESSIONAL ENGINEER

SHEET NO:
M120

MECHANICAL KEY NOTES

1. PROVIDE CEILING MOUNTED EXHAUST FAN. TRANSITION FROM FAN DISCHARGE TO DUCT SIZE SHOWN AND EXTEND UP THROUGH ROOF. PROVIDE ROOF JACK, STORM COLLAR, AND ALL-WEATHER CAP.
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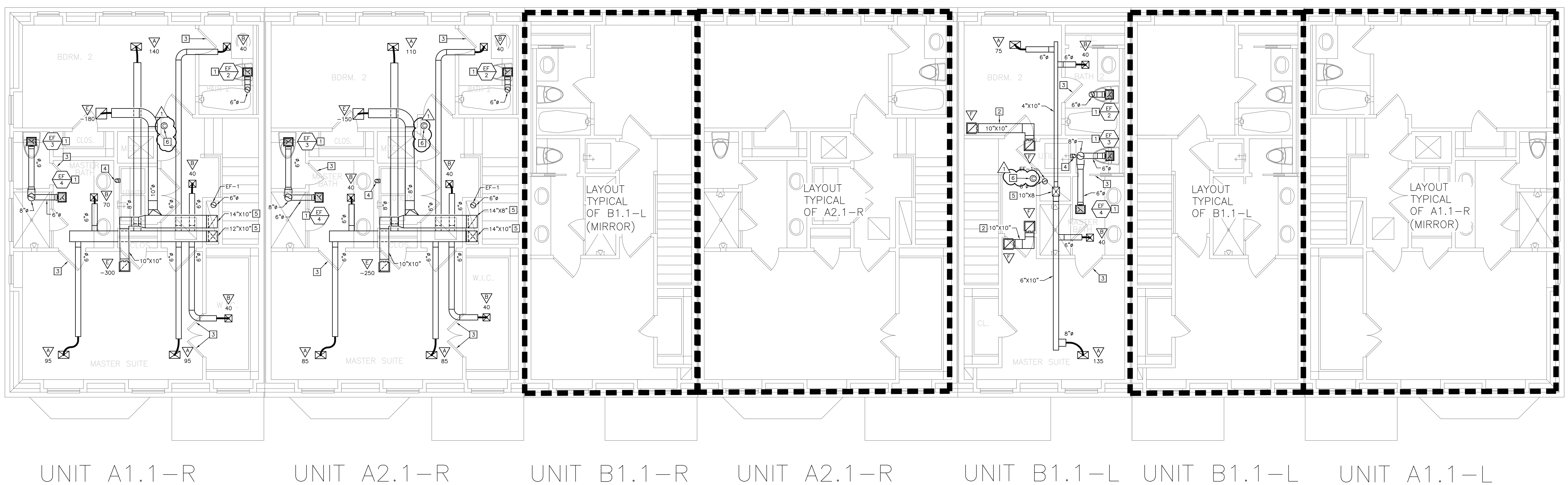

01 THIRD FLOOR MECHANICAL PLAN
1/4"=1'-0"

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NAME: WAEL SAMMUR
DISCIPLINE: MECHANICAL ENGINEER
LICENSE NUMBER: EN-29583

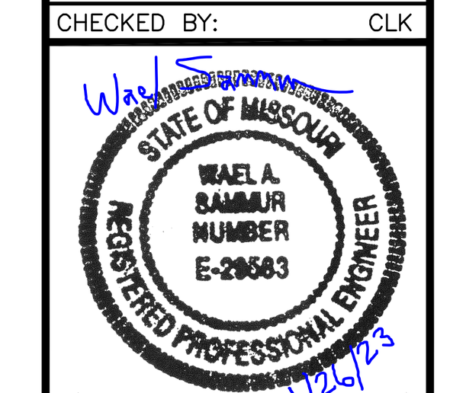
NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

BUILDING 2
THIRD FLOOR MECHANICAL PLAN

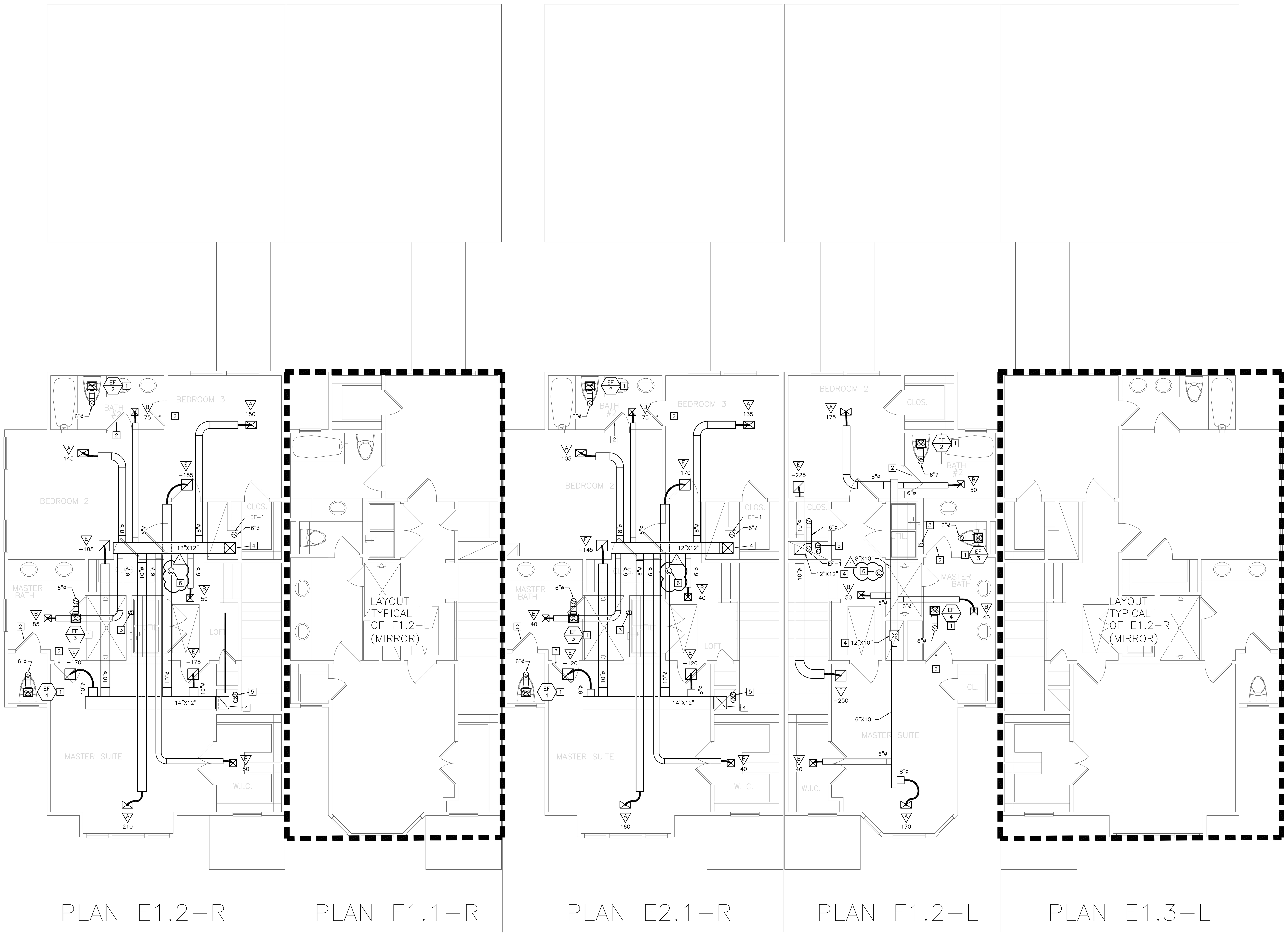
REVISIONS:

NO.	DATE:	DESCRIPTION:
1	01.26.2023	PERMIT REVIEW

SCALE:	1/4'=1'-0"
JOB #:	01202245.01
DATE:	2022/12/23
DRAWN BY:	EML
CHECKED BY:	CLK



SHEET NO:
M122



01 SECOND FLOOR MECHANICAL PLAN
1/4"=1'-0"

MECHANICAL KEY NOTES

1. PROVIDE CEILING MOUNTED EXHAUST FAN. TRANSITION FROM FAN DISCHARGE TO DUCT SIZE SHOWN AND EXTEND UP THROUGH ROOF. PROVIDE ROOF JACK, STORM COLLAR, AND ALL–WEATHER CAP.
2. UNDERCUT DOOR 1" FOR TRANSFER AIR.
3. PROVIDE DRYER EXHAUST DUCTWORK FROM DRYER DOWN TO LEVEL BELOW TO EXTERIOR WALL. IF EQUIVALENT LENGTH OF EXHAUST DUCT EXCEEDS 35 FEET, CONTRACTOR TO PROVIDE PERMANENT LABEL/TAG LOCATED WITHIN 6 FEET OF EXHAUST CONNECTION. SIZE, INSTALL, AND TERMINATE PER MANUFACTURER'S INSTALLATION REQUIREMENTS.
4. ROUTE DUCTWORK DOWN TO LEVEL BELOW. REFER TO SHEET M131 FOR CONTINUATION.
5. ROUTE CONCENTRIC VENT DUCT UP THROUGH ROOF. INSTALL AND SIZE FURNACE COMBUSTION AIR INTAKE AND VENT PIPING PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
6. PROVIDE CARBON MONOXIDE DETECTOR. DETECTOR SHALL BE HARD WIRED WITH BATTERY BACKUP. INSTALL APPROXIMATELY 5'–0" ABOVE FINISHED FLOOR. COORDINATE POWER REQUIREMENTS WITH ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL PROVIDE POWER WIRING.

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WAEL SAMMUR — NAME:
EN–29583 — LICENSE NUMBER
MECHANICAL ENGINEER — DISCIPLINE

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

BUILDING 3
BASEMENT MECHANICAL PLAN

REVISIONS:

NO.	DATE:	DESCRIPTION:
1	01.26.2023	PERMIT REVIEW

SCALE:	1/4'=1'–0"
JOB #:	01202245.01
DATE:	2022/12/23
DRAWN BY:	EML
CHECKED BY:	CLK

STATE OF MISSOURI
WAEL A. SAMMUR
NUMBER
E-29583
REGISTERED PROFESSIONAL ENGINEER

SHEET NO:
M132

MECHANICAL KEY NOTES

1. PROVIDE CEILING MOUNTED EXHAUST FAN. TRANSITION FROM FAN DISCHARGE TO DUCT SIZE SHOWN AND EXTEND UP THROUGH ROOF. PROVIDE ROOF JACK, STORM COLLAR, AND ALL–WEATHER CAP.
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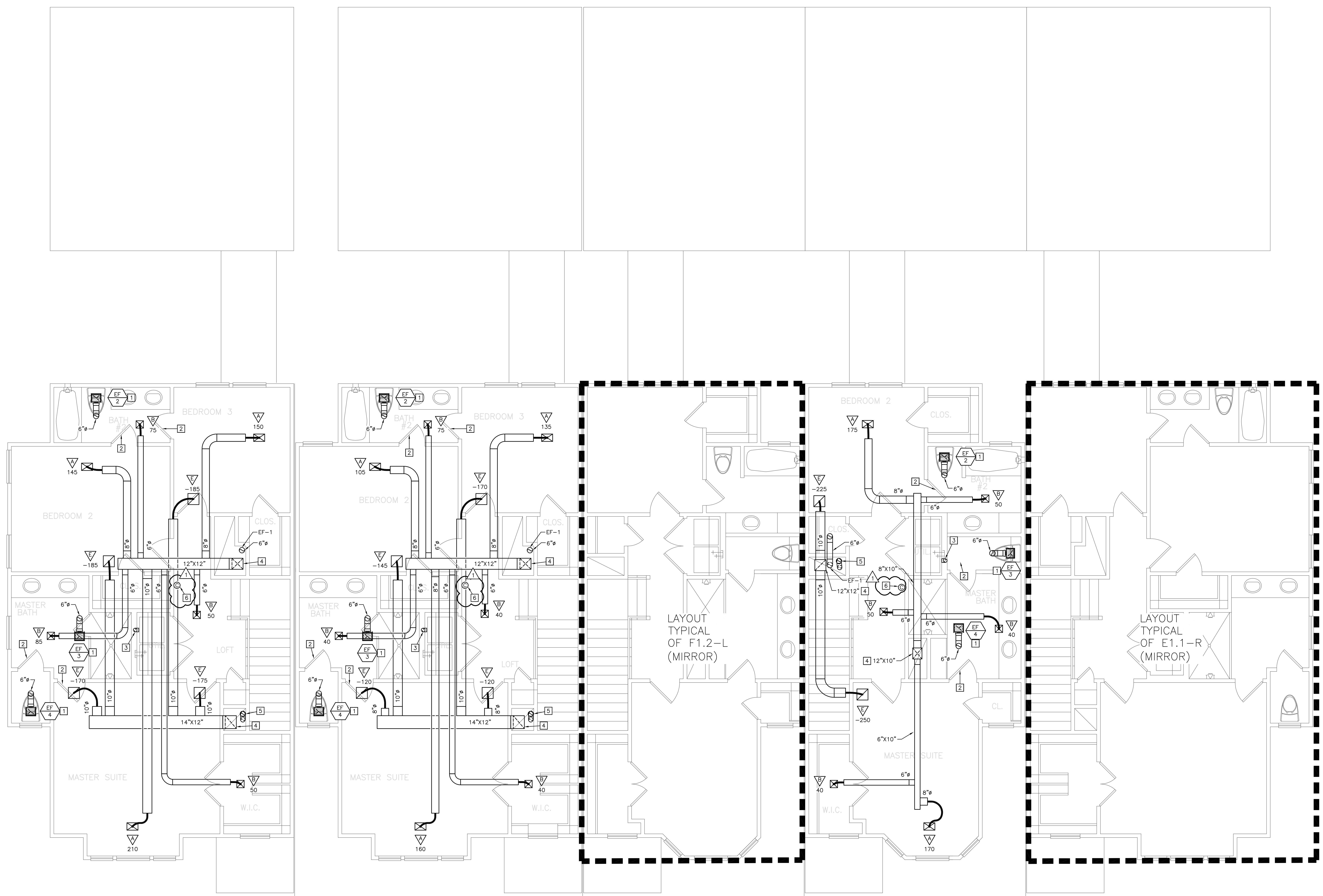
4. ROUTE DUCTWORK DOWN TO LEVEL BELOW. REFER TO SHEET M141 FOR CONTINUATION.
5. ROUTE CONCENTRIC VENT DUCT UP THROUGH ROOF. INSTALL AND SIZE FURNACE COMBUSTION AIR INTAKE AND VENT PIPING PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
6. PROVIDE CARBON MONOXIDE DETECTOR. DETECTOR SHALL BE HARD WIRED WITH BATTERY BACKUP. INSTALL APPROXIMATELY 5'–0" ABOVE FINISHED FLOOR. COORDINATE POWER REQUIREMENTS WITH ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL PROVIDE POWER WIRING.



PLAN E1.1–R   PLAN E2.3–R   PLAN F1.1–L   PLAN F1.2–L   PLAN E1.3–L

01 SECOND FLOOR MECHANICAL PLAN
1/4"=1'–0"

NORTH
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NAME: WAEL SAMMUR
DISCIPLINE: MECHANICAL ENGINEER
LICENSE NUMBER: EN–29583

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

BUILDING 4
SECOND FLOOR MECHANICAL PLAN

REVISIONS:

NO.	DATE:	DESCRIPTION:
1	01.26.2023	PERMIT REVIEW

SCALE:	1/4'=1'–0"
JOB #:	01202245.01
DATE:	2022/12/23
DRAWN BY:	EML
CHECKED BY:	CLK

STATE OF MISSOURI
WAEL A. SAMMUR
NUMBER E-29583
REGISTERED PROFESSIONAL ENGINEER

SHEET NO:
M142

EXPANSION TANK SCHEDULE

SYMBOL	MANUFACTURER	MODEL	TOTAL VOLUME (GALLONS)	ACCEPTANCE VOLUME (GALLONS)	CONNECTION LOCATION	CONNECTION SIZE	MOUNTING	NOTES (#)
ET	AMTROL	ST-5	2	.45	TOP	¾"	NEAR WH-1	(1), (2)

NOTES:
1. EXPANSION TANK: STEEL SHELL, HEAVY DUTY BUTYL NSF/ANSI 61, FACTORY PRECHARGED TO 40 PSIG. MAX OPERATING TEMPERATURE 100°, MAX OPERATING PRESSURE 150 PSI, 1 YEAR MANUFACTURER'S WARRANTY. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
2. FIELD CHARGE EXPANSION TANK TO SYSTEM PRESSURE BEFORE CONNECTION TO DOMESTIC WATER SYSTEM. FIELD VERIFY PRESSURE REQUIREMENTS.

RECIRCULATION PUMP SCHEDULE

SYMBOL	MANUFACTURER	MODEL	GALLONS	FEET OF HEAD	VOLTAGE	PHASE	FLA	WATTS	NOTES (#)
RP	BELL & GOSSETT	NBF-8S/LW	2	1.22	115	1	0.38	39	N/A

NOTES:
1. PROVIDE PIPE MOUNTED AQUASTAT INSTALLED UP STREAM OF PUMP. SET PUMP TO TURN ON 1 HOUR BEFORE AND TURN OFF 1 HOUR AFTER NORMAL BUSINESS HOURS. COORDINATE HOURS OF BUSINESS WITH OWNER'S REPRESENTATIVE.

WATER HEATER SCHEDULE

MARK	MANUFACTURER	MODEL	TYPE	TANK LINING	STORAGE GALLONS	RECOVERY GPH	TEMP RISE	ELECTRICAL				NOTES
								VOLT	PH	HZ		
WH-1	AO SMITH	GPDX 50L	GAS TANK	GLASS	50	73	100°F	120	1	60		1

NOTES:
1. PROVIDE DISCONNECT AND TEMPERATURE PRESSURE RELIEF VALVE. SEE DETAIL AND SPECIFICATIONS.

PLUMBING FIXTURE SCHEDULE

ID	FIXTURE TYPE	MANUFACTURER	MODEL	DESCRIPTION	ACCESSORIES/OPTIONS
FD	FLOOR DRAIN	GENERAL CONTRACTOR TO PROVIDE (TYP).	GENERAL CONTRACTOR TO PROVIDE (TYP).	FLOOR DRAIN WITH CAST IRON BODY TO BE PROVIDED BY GENERAL CONTRACTOR. VERIFY ALL PLUMBING PIPE CONNECTIONS COMPLY WITH PIPE SIZES SHOWN ON PLAN.	PROVIDE OUTLET WITH P-TRAP AND CLEAN AND POLISH STRAINER TOP AFTER INSTALLATION. PROVIDE WITH TRAP SEAL DEVICE EQUAL TO PROSET "TRAP GUARD".
IMB	ICE MAKER BOX	–	–	ICE MAKER BOX TO BE PROVIDED BY GENERAL CONTRACTOR. PLUMBING FIXTURE TO ADHERE TO LOCAL PLUMBING CODE.	–
LV-1	LAVATORY	–	–	SOLID SURFACE LAVATORY AND DECK WITH TWO HANDLE FAUCET TO BE PROVIDED BY GENERAL CONTRACTOR. VERIFY ALL PLUMBING PIPE CONNECTIONS COMPLY WITH PIPE SIZES SHOWN ON PLAN. FIXTURE FLOW RATE TO ADHERE TO LOCAL PLUMBING CODE.	GENERAL CONTRACTOR TO PROVIDE TRIM, TMVS, P-TRAP, AND SUPPLIES FOR ALL PLUMBING FIXTURES AS NECESSARY (TYP).
LV-2	BATHROOM PEDESTAL SINK	–	–	BATHROOM PEDESTAL PORCELAIN SINK TO BE PROVIDED BY GENERAL CONTRACTOR. VERIFY ALL PLUMBING PIPE CONNECTIONS COMPLY WITH PIPE SIZES SHOWN ON PLAN. FIXTURE FLOW RATE TO ADHERE TO LOCAL PLUMBING CODE.	–
LV-3	MASTER BATHROOM LAVATORY	–	–	SOLID SURFACE LAVATORY AND DECK WITH SINGLE HANDLE FAUCET TO BE PROVIDED BY GENERAL CONTRACTOR. VERIFY ALL PLUMBING PIPE CONNECTIONS COMPLY WITH PIPE SIZES SHOWN ON PLAN. FIXTURE FLOW RATE TO ADHERE TO LOCAL PLUMBING CODE.	–
KS-1	KITCHEN SINK	–	–	STAINLESS STEEL TWO COMPARTMENT KITCHEN SINK, FAUCET(WITH PULL DOWN SPRAYER), AND GARBAGE DISPOSAL UNDER SINK TO BE PROVIDED BY GENERAL CONTRACTOR. VERIFY ALL PLUMBING PIPE CONNECTIONS COMPLY WITH PIPE SIZES SHOWN ON PLAN. FIXTURE FLOW RATE TO ADHERE TO LOCAL PLUMBING CODE.	–
DW	DISHWASHER	–	–	DISHWASHER TO BE PROVIDED BY GENERAL CONTRACTOR. VERIFY ALL PLUMBING PIPE CONNECTIONS COMPLY WITH PIPE SIZES SHOWN ON PLAN. FIXTURE FLOW RATE TO ADHERE TO LOCAL PLUMBING CODE.	–
WC-1	WATER CLOSET	–	–	FLOOR MOUNTED TANK TYPE WATER CLOSET TO BE PROVIDED BY GENERAL CONTRACTOR. VERIFY ALL PLUMBING PIPE CONNECTIONS COMPLY WITH PIPE SIZES SHOWN ON PLAN. FIXTURE FLOW RATE TO ADHERE TO LOCAL PLUMBING CODE.	–
SH-1	SHOWER	–	–	FIBERGLASS SHOWER TO BE PROVIDED BY GENERAL CONTRACTOR. DELTA SHOWER VALVE WITH COMBO SHOWER HEAD/RAINWATER HEAD TO BE PROVIDED BY GENERAL CONTRACTOR. VERIFY ALL PLUMBING PIPE CONNECTIONS COMPLY WITH PIPE SIZES SHOWN ON PLAN. FIXTURE FLOW RATE TO ADHERE TO LOCAL PLUMBING CODE.	–
BT-1	BATH TUB	–	–	FIBERGLASS BATH/SHOWER COMBO TO BE PROVIDED BY GENERAL CONTRACTOR. GENERAL CONTRACTOR TO PROVIDE DELTA SHOWER VALVE WITH SHOWER HEAD. VERIFY ALL PLUMBING PIPE CONNECTIONS COMPLY WITH PIPE SIZES SHOWN ON PLAN. FIXTURE FLOW RATE TO ADHERE TO LOCAL PLUMBING CODE.	–
HB-1	HOSE BIBB	–	–	FROST PROOF SILCOCK, ANTI-SIPHON HOSE BIBB. VERIFY ALL PLUMBING PIPE CONNECTIONS COMPLY WITH PIPE SIZES SHOWN ON PLAN.	–
WB-1	WASHER BOX	–	–	WASHER BOX TO BE PROVIDED BY GENERAL CONTRACTOR. VERIFY ALL PLUMBING PIPE CONNECTIONS COMPLY WITH PIPE SIZES SHOWN ON PLAN.	–

1

NOTES:
1. VERIFY FIXTURE MANUFACTURER MODEL AND TYPE PRIOR TO ORDERING. VERIFY WITH ARCHITECT AND OWNER.

SEWAGE EJECTOR SCHEDULE

MARK	MANUFACTURER	MODEL	TYPE	FLUID TEMP	FLOW GPM	PRESSURE HEAD	PUMP EFF	MOTOR		ELECTRICAL			SERVICE	NOTES
								RPM	HP	VOLT	PH	HZ		
SE-1	ZOELLER	M264	SEWAGE EJECTOR	110°F	4	16 FT	–	1725	4/10	115	1	60	WASTE	1
	–	–	–	–	–	–	–	–	–	–	–	–	–	–

NOTES:
1. PROVIDE COMBINATION MOTOR STARTER/DISCONNECT SWITCH TO ELECTRICAL CONTRACTOR FOR INSTALLATION.

GAS SCHEDULE

MARK	CFH
F-1	80.0
F-2	80.0
F-3	40.0
F-4	120.0
F-5	80.0
F-6	60.0
GWH-1	199.0
GAS OVEN	70.0

DIALECTIC ENGINEERING

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DialecticEng.com

PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MISSOURI

NAME: WAEL SAMMUR

DISCIPLINE: MECHANICAL ENGINEER

LICENSE NUMBER: EN-29583

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

PLUMBING SCHEDULES

REVISIONS:

NO.	DATE:	DESCRIPTION:
1	01.26.2023	PERMIT REVIEW

SCALE:	1/4"=1'-0"
JOB #:	01202245.01
DATE:	2022/12/23
DRAWN BY:	JL
CHECKED BY:	NP

STATE OF MISSOURI
WAEL A. SAMMUR
NUMBER
E-29583
REGISTERED PROFESSIONAL ENGINEER
1/26/23

SHEET NO:
P002

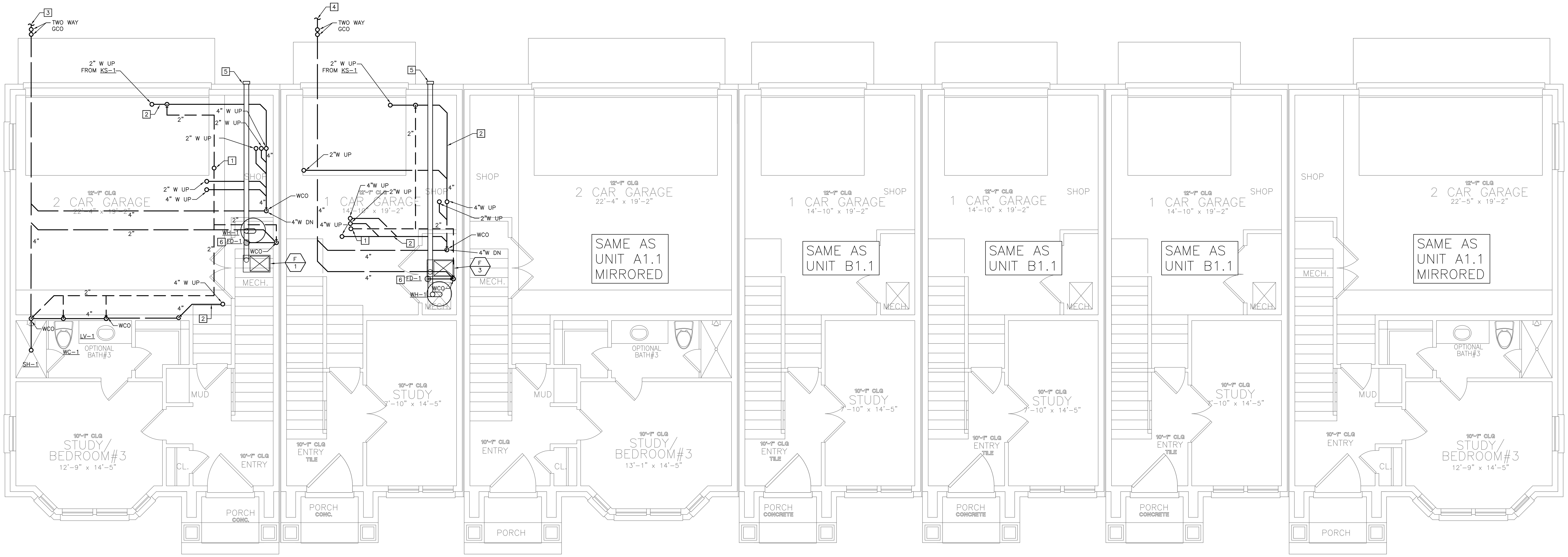
GENERAL NOTES

1. PER 2018 IRC 302.2.2., PIPING NOT ALLOWED IN COMMON WALLS. PROVIDE A FURR OUT WALL FOR ALL PLUMBING PIPING SERVING PLUMBING FIXTURES ON COMMON WALLS OR PIPING IN COMMON WALLS. PLUMBING PIPING SHOWN ON PLANS IS FOR DIAGRAMMATICAL PURPOSES ONLY.

1

PLUMBING KEYNOTES

1. 2" VENT PIPE FROM ABOVE.
2. WASTE PIPING IN FIRST FLOOR CEILING TIGHT TO STRUCTURAL. ROUTE AT A SLOPE OF 1/8" PER FOOT.
3. 4" WASTE PIPING OUT TO CIVIL. ESTIMATED INVERT ELEVATION IS 2'–6" BELOW GRADE.
4. 4" WASTE PIPING OUT TO CIVIL. ESTIMATED INVERT ELEVATION IS 2'–5" BELOW GRADE.
5. PROVIDE MANUFACTURER CONCENTRIC VENT KIT FOR WALL DISCHARGE. SIZE AND INSTALL PER MANUFACTURER'S REQUIREMENTS.
6. ROUTE CONDENSATION FROM FURNACE AND WATER HEATER TO FLOOR DRAIN WITH AHJ AIR GAP.



UNIT A1.1 | UNIT B1.1 | UNIT A2.1 | UNIT B1.1 | UNIT B1.1 | UNIT B1.1 | UNIT A1.1

01 FIRST FLOOR WASTE AND VENT PLAN
1/4"=1'-0"

DIALECTIC ENGINEERING
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NAME: WAEL SAMMUR
DISCIPLINE: MECHANICAL ENGINEER
LICENSE NUMBER: EN-29583

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

BUILDING 1
FIRST FLOOR WASTE AND VENT PLAN

REVISIONS:

NO.	DATE:	DESCRIPTION:
1	01.26.2023	PERMIT REVIEW

SCALE:	1/4'=1'–0"
JOB #:	01202245.01
DATE:	2022/12/23
DRAWN BY:	JL
CHECKED BY:	NP

STATE OF MISSOURI
WAEL A. SAMMUR
NUMBER
E-29583
REGISTERED PROFESSIONAL ENGINEER

SHEET NO:
P100

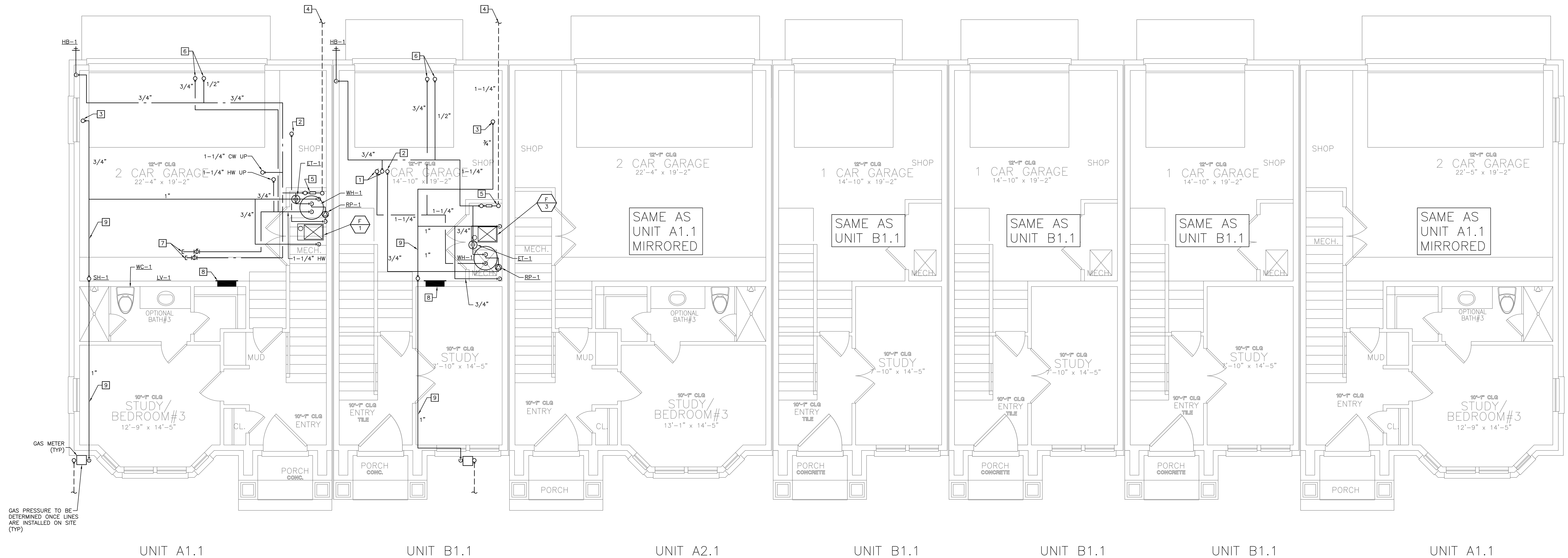
GENERAL NOTES

1. PER 2018 IRC 302.2.2., PIPING NOT ALLOWED IN COMMON WALLS. PROVIDE A FURR OUT WALL FOR ALL PLUMBING PIPING SERVING PLUMBING FIXTURES ON COMMON WALLS OR PIPING IN COMMON WALLS. PLUMBING PIPING SHOWN ON PLANS IS FOR DIAGRAMMATICAL PURPOSES ONLY.
2. PER 2018 IRC 1307.3, APPLIANCES HAVING AN IGNITION SOURCE SHALL BE ELEVATED SUCH THAT THE SOURCE OF IGNITION IS NOT LESS THAN 18" ABOVE THE FLOOR IN GARAGES. PROVIDE A WATER HEATER STAND UNDERNEATH WATER HEATER TO ACCOMMODATE CODE.

1

PLUMBING KEYNOTES

1. 1-1/4" CW AND HW UP TO THE NEXT LEVEL.
2. 3/4" HOT WATER RE-CIRCULATION FROM ABOVE.
3. 3/4" GAS LINE UP TO SERVE GAS FIRED OVEN.
4. 1-1/4" UNDERGROUND COLD WATER FROM WATER METER. REFERENCE CIVIL PLANS FOR CONTINUATION.
5. 1-1/4" COLD WATER UP FROM BELOW GRADE IN MECHANICAL CLOSET. PROVIDE SHUT-OFF VALVE UPON PENETRATING SLAB AND 1-1/4" RPZ BACKFLOW PREVENTER. ROUTE BACKFLOW PREVENTER DISCHARGE TO NEAREST FLOOR DRAIN WITH AHJ APPROVED AIR GAP. REFERENCE WASTE AND VENT PLAN FOR FLOOR DRAIN LOCATION.
6. 3/4" HOT WATER AND 1/2" CW UP TO KS-1. ROUTE 1/2" HOT WATER TO KITCHEN SINK AND A 1/2" HOT WATER LINE TO DISHWASHER FROM 3/4" HOT WATER LINE.
7. 1" COLD WATER STUB AND 3/4" HOT WATER VALVED AND CAPPED FOR FUTURE BATHROOM.
8. DO NOT ROUTE PLUMBING ABOVE ELECTRICAL PANEL.
9. ROUTE GAS PIPING IN CEILING SPACE TIGHT TO STRUCTURE.



01 FIRST FLOOR DOMESTIC WATER PLAN
1/4"=1'-0"

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WAEL SAMMUR
NAME:

MECHANICAL ENGINEER
DISCIPLINE

EN-29583
LICENSE NUMBER

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

BUILDING 1
FIRST FLOOR DOMESTIC WATER PLAN

REVISIONS:

NO.	DATE:	DESCRIPTION:
1	01.26.2023	PERMIT REVIEW

SCALE:	1/4'=1'-0"
JOB #:	01202245.01
DATE:	2022/12/23
DRAWN BY:	JL
CHECKED BY:	NP

STATE OF MISSOURI
WAEL A. SAMMUR
NUMBER
E-29583
REGISTERED PROFESSIONAL ENGINEER

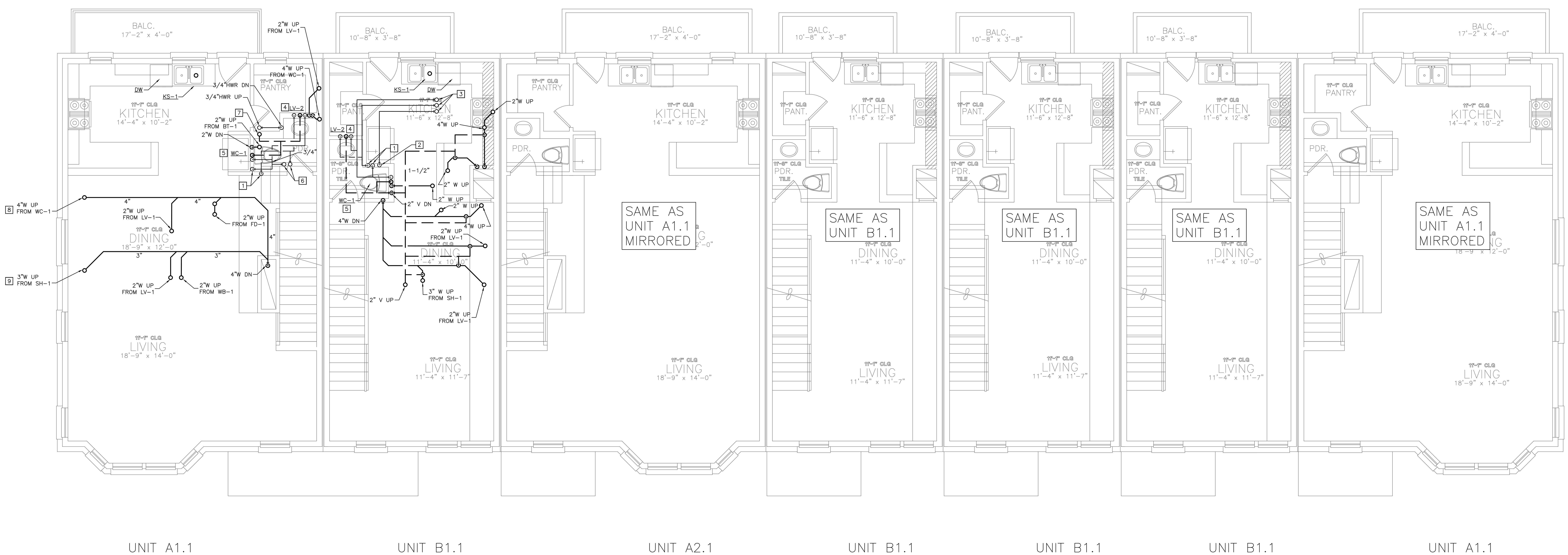
SHEET NO:
P101

GENERAL NOTES

1. PER 2018 IRC 302.2.2., PIPING NOT ALLOWED IN COMMON WALLS. PROVIDE A FURR OUT WALL FOR ALL PLUMBING PIPING SERVING PLUMBING FIXTURES ON COMMON WALLS OR PIPING IN COMMON WALLS. PLUMBING PIPING SHOWN ON PLANS IS FOR DIAGRAMMATICAL PURPOSES ONLY.

PLUMBING KEYNOTES

1. 1–1/4" CW AND HW FROM BELOW.
2. 3/4" HWR DOWN TO LEVEL BELOW.
3. 1" CW AND HW UP TO NEXT LEVEL. 3/4" HWR FROM LEVEL ABOVE.
4. 1/2" CW AND HW TO SERVE FIXTURE. REFERENCE PLUMBING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.
5. 1/2" CW TO SERVE FIXTURE. REFERENCE PLUMBING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.
6. 1" CW AND HW UP TO NEXT LEVEL.
7. 2" VENT FROM ABOVE DOWN.
8. WATER CLOSET WET VENTED FROM LAVATORY DOWNSTREAM. REFERENCE SECTION 912 AND TABLE 912.3 OF THE 2018 IPC.
9. SHOWER WET VENTED FROM LAVATORY DOWNSTREAM. REFERENCE SECTION 912 AND TABLE 912.3 OF THE 2018 IPC.



01 SECOND FLOOR PLUMBING PLAN
1/4"=1'-0"

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WAEL SAMMUR
NAME:
MECHANICAL ENGINEER
DISCIPLINE
EN-29583
LICENSE NUMBER

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

BUILDING 1
SECOND FLOOR PLUMBING PLAN

REVISIONS:

NO.	DATE:	DESCRIPTION:
1	01.26.2023	PERMIT REVIEW

SCALE:	1/4'=1'-0"
JOB #:	01202245.01
DATE:	2022/12/23
DRAWN BY:	JL
CHECKED BY:	NP

STATE OF MISSOURI
WAEL A. SAMMUR
NUMBER E-29583
REGISTERED PROFESSIONAL ENGINEER

SHEET NO:
P102

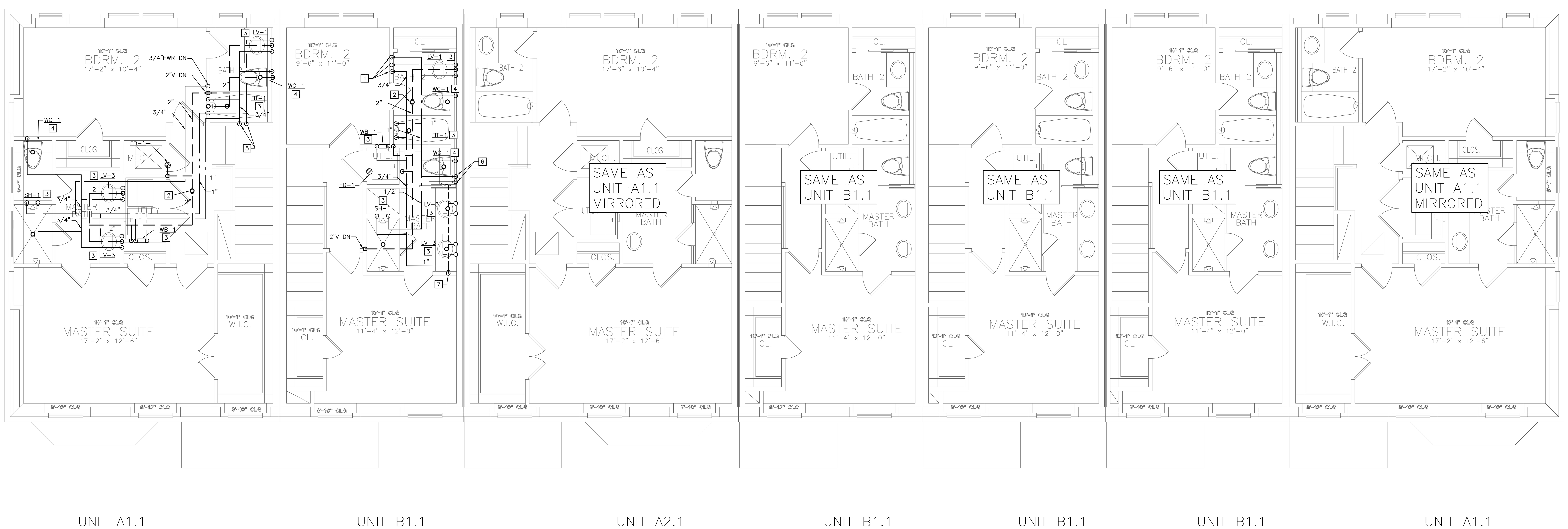
GENERAL NOTES

1. PER 2018 IRC 302.2.2., PIPING NOT ALLOWED IN COMMON WALLS. PROVIDE A FURR OUT WALL FOR ALL PLUMBING PIPING SERVING PLUMBING FIXTURES ON COMMON WALLS OR PIPING IN COMMON WALLS. PLUMBING PIPING SHOWN ON PLANS IS FOR DIAGRAMMATICAL PURPOSES ONLY.

1 (revision)

PLUMBING KEYNOTES

1. 1" CW AND HW FROM BELOW. 3/4" HWR DOWN TO NEXT LEVEL.
2. 3" VENT UP TO 3" VENT THROUGH ROOF.
3. 1/2" CW AND HW TO SERVE FIXTURE. REFERENCE PLUMBING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.
4. 1/2" CW TO SERVE FIXTURE. REFERENCE PLUMBING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.
5. 1" CW AND HW FROM BELOW.
6. ROUTE 1/2" CW AND 1" DOWN IN CHASE AND ROUTE BELOW FLOOR TO SERVE LAVATORIES AS SHOWN ON FLOOR PLAN. BRANCH OFF 1/2" HW LINE TO EACH LAVATORY AS SHOWN.
7. 1" HOT WATER LINE FROM BELOW FLOOR UP TO BATHROOM CEILING.



01 THIRD FLOOR PLUMBING PLAN
1/4"=1'-0"

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DISCIPLINE: MECHANICAL ENGINEER
LICENSE NUMBER: EN-29583

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

BUILDING 1
THIRD FLOOR PLUMBING PLAN

REVISIONS:

NO.	DATE:	DESCRIPTION:
1	01.26.2023	PERMIT REVIEW

SCALE:	1/4'=1'-0"
JOB #:	01202245.01
DATE:	2022/12/23
DRAWN BY:	JL
CHECKED BY:	NP

STATE OF MISSOURI
WAEL A. SAMMUR
NUMBER E-29583
REGISTERED PROFESSIONAL ENGINEER

SHEET NO:
P103

GENERAL NOTES

1. PER 2018 IRC 302.2.2., PIPING NOT ALLOWED IN COMMON WALLS. PROVIDE A FURR OUT WALL FOR ALL PLUMBING PIPING SERVING PLUMBING FIXTURES ON COMMON WALLS OR PIPING IN COMMON WALLS. PLUMBING PIPING SHOWN ON PLANS IS FOR DIAGRAMMATICAL PURPOSES ONLY.

1

PLUMBING KEYNOTES

1 2" VENT PIPE FROM ABOVE.

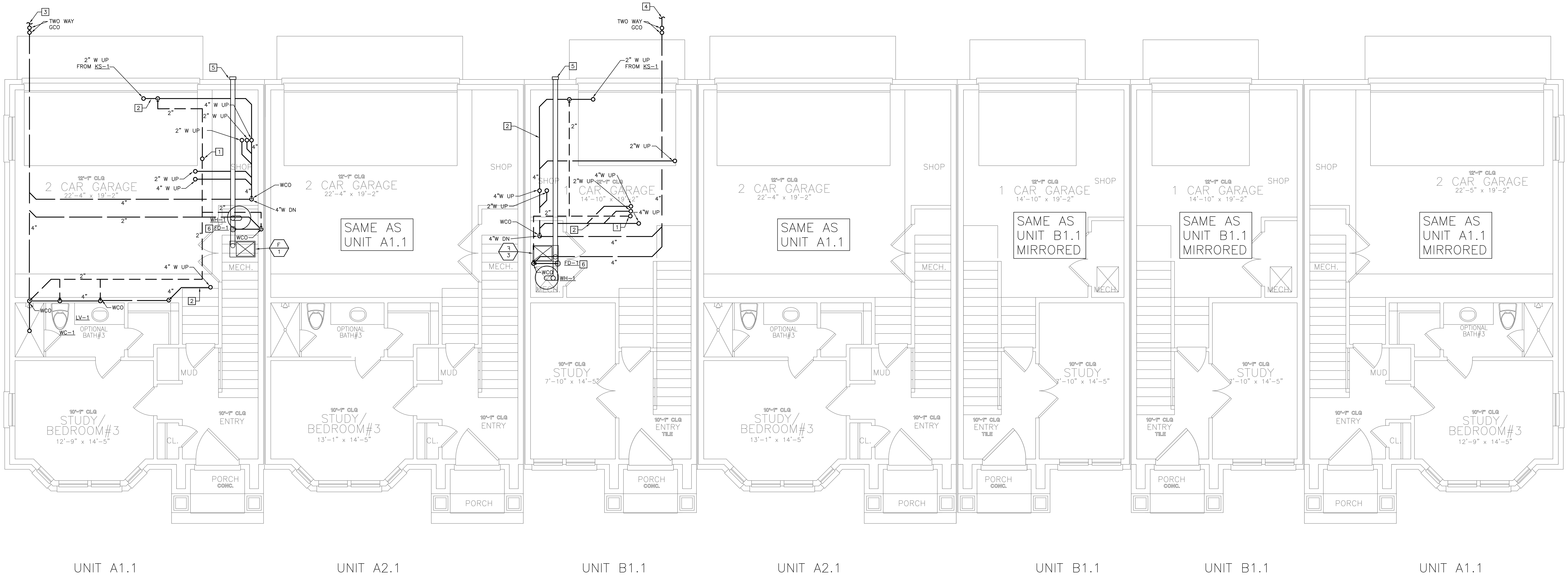
2 WASTE PIPING IN FIRST FLOOR CEILING TIGHT TO STRUCTURAL. ROUTE AT A SLOPE OF 1/8" PER FOOT.

3 4" WASTE PIPING OUT TO CIVIL. ESTIMATED INVERT ELEVATION IS 2'–6" BELOW GRADE.

4 4" WASTE PIPING OUT TO CIVIL. ESTIMATED INVERT ELEVATION IS 2'–5" BELOW GRADE.

5 PROVIDE MANUFACTURER CONCENTRIC VENT KIT FOR WALL DISCHARGE. SIZE AND INSTALL PER MANUFACTURER'S REQUIREMENTS.

6 ROUTE CONDENSATION FROM FURNACE AND WATER HEATER TO FLOOR DRAIN WITH AHJ AIR GAP.



01 FIRST FLOOR WASTE AND VENT PLAN
1/4"=1'-0"

Dialectic ENGINEERING
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WAEL SAMMUR
NAME:
MECHANICAL ENGINEER
DISCIPLINE
EN–29583
LICENSE NUMBER

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

BUILDING 2
FIRST FLOOR WASTE AND VENT PLAN

REVISIONS:

NO.	DATE:	DESCRIPTION:
1	01.26.2023	PERMIT REVIEW

SCALE:	1/4'=1'–0"
JOB #:	01202245.01
DATE:	2022/12/23
DRAWN BY:	JL
CHECKED BY:	NP

STATE OF MISSOURI
WAEL A. SAMMUR
NUMBER
E-29583
REGISTERED PROFESSIONAL ENGINEER
1/26/23

SHEET NO:
P200

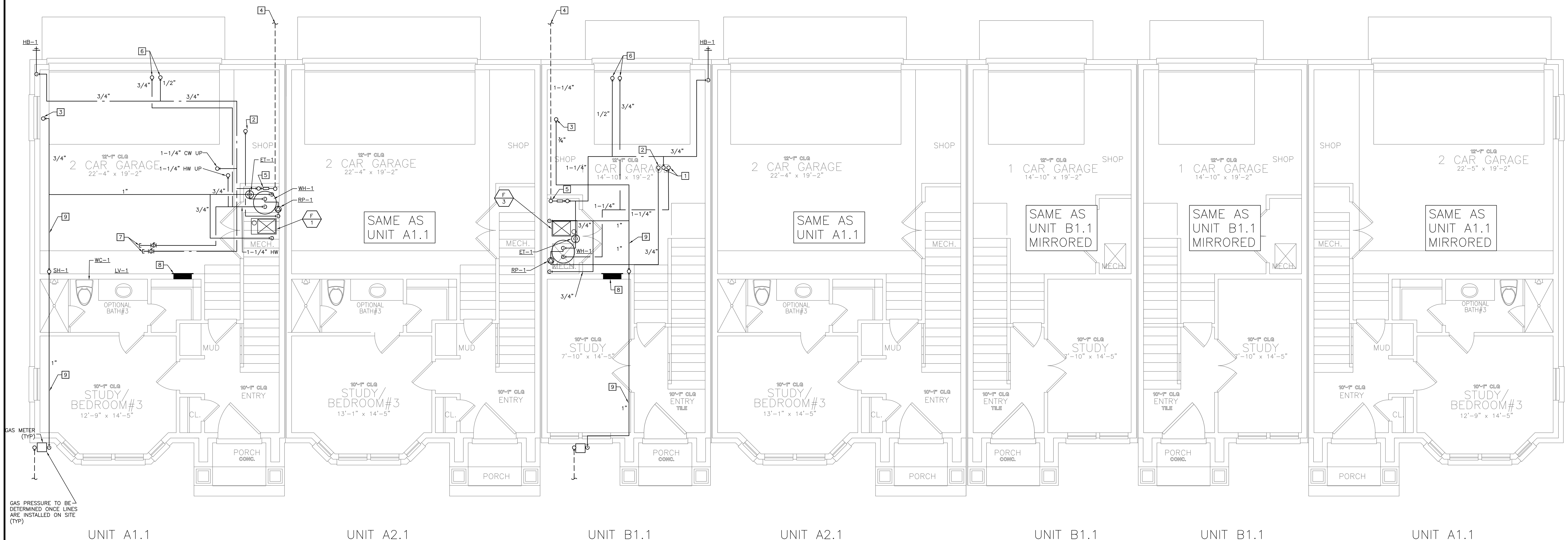
GENERAL NOTES

1. PER 2018 IRC 302.2.2., PIPING NOT ALLOWED IN COMMON WALLS. PROVIDE A FURR OUT WALL FOR ALL PLUMBING PIPING SERVING PLUMBING FIXTURES ON COMMON WALLS OR PIPING IN COMMON WALLS. PLUMBING PIPING SHOWN ON PLANS IS FOR DIAGRAMMATICAL PURPOSES ONLY.
2. PER 2018 IRC 1307.3, APPLIANCES HAVING AN IGNITION SOURCE SHALL BE ELEVATED SUCH THAT THE SOURCE OF IGNITION IS NOT LESS THAN 18" ABOVE THE FLOOR IN GARAGES. PROVIDE A WATER HEATER STAND UNDERNEATH WATER HEATER TO ACCOMMODATE CODE.

1

PLUMBING KEYNOTES

1. 1-1/4" CW AND HW UP TO THE NEXT LEVEL.
2. 3/4" HOT WATER RE-CIRCULATION FROM ABOVE.
3. 3/4" GAS LINE UP TO SERVE GAS FIRED OVEN.
4. 1-1/4" UNDERGROUND COLD WATER FROM WATER METER. REFERENCE CIVIL PLANS FOR CONTINUATION.
5. 1-1/4" COLD WATER UP FROM BELOW GRADE IN MECHANICAL CLOSET. PROVIDE SHUT-OFF VALVE UPON PENETRATING SLAB AND 1-1/4" RPZ BACKFLOW PREVENTER. ROUTE BACKFLOW PREVENTER DISCHARGE TO NEAREST FLOOR DRAIN WITH AHJ APPROVED AIR GAP. REFERENCE WASTE AND VENT PLAN FOR FLOOR DRAIN LOCATION.
6. 3/4" HOT WATER AND 1/2" CW UP TO KS-1. ROUTE 1/2" HOT WATER TO KITCHEN SINK AND A 1/2" HOT WATER LINE TO DISHWASHER FROM 3/4" HOT WATER LINE.
7. 1" COLD WATER STUB AND 3/4" HOT WATER VALVED AND CAPPED FOR FUTURE BATHROOM.
8. DO NOT ROUTE PLUMBING ABOVE ELECTRICAL PANEL.
9. ROUTE GAS PIPING IN CEILING SPACE TIGHT TO STRUCTURE.



01 FIRST FLOOR DOMESTIC WATER PLAN
1/4"=1'-0"

DIALECTIC ENGINEERING
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WAEL SAMMUR
NAME:
EN-29583
LICENSE NUMBER
MECHANICAL ENGINEER
DISCIPLINE

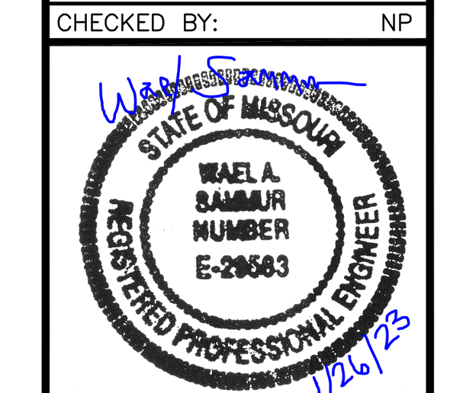
NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

BUILDING 2
FIRST FLOOR DOMESTIC WATER PLAN

REVISIONS:

NO.	DATE:	DESCRIPTION:
1	01.26.2023	PERMIT REVIEW

SCALE:	1/4"=1'-0"
JOB #:	01202245.01
DATE:	2022/12/23
DRAWN BY:	JL
CHECKED BY:	NP



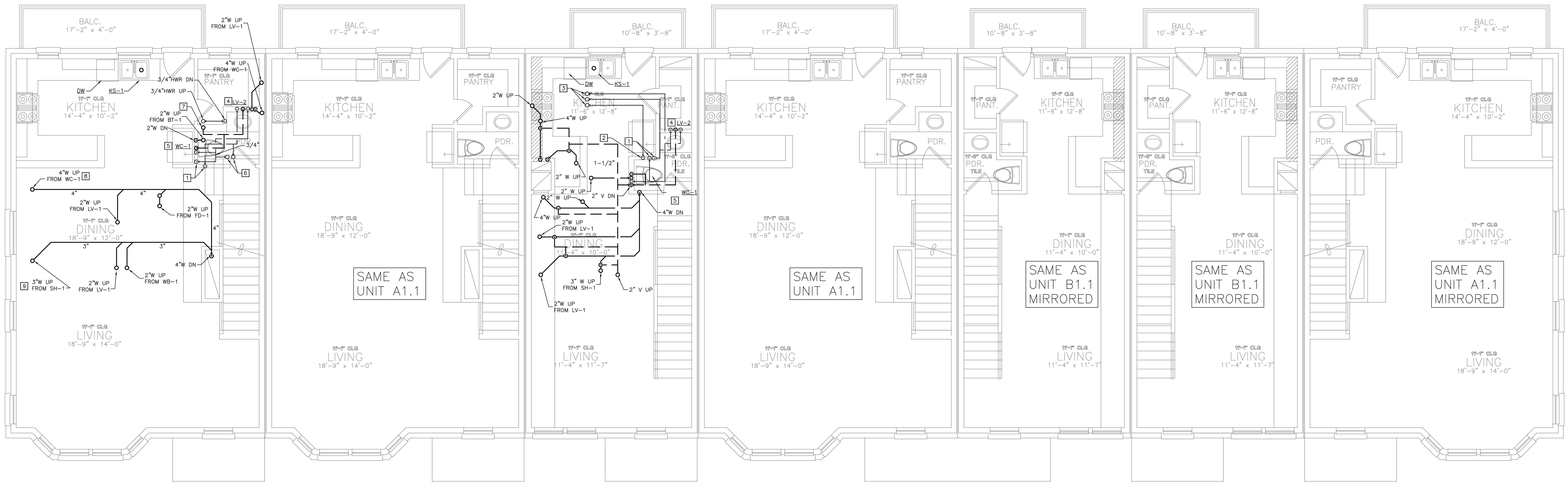
SHEET NO:
P201

GENERAL NOTES

1. PER 2018 IRC 302.2.2., PIPING NOT ALLOWED IN COMMON WALLS. PROVIDE A FURR OUT WALL FOR ALL PLUMBING PIPING SERVING PLUMBING FIXTURES ON COMMON WALLS OR PIPING IN COMMON WALLS. PLUMBING PIPING SHOWN ON PLANS IS FOR DIAGRAMMATICAL PURPOSES ONLY.

PLUMBING KEYNOTES

1. 1-1/4" CW AND HW FROM BELOW.
2. 3/4" HWR DOWN TO LEVEL BELOW.
3. 1" CW AND HW UP TO NEXT LEVEL. 3/4" HWR FROM LEVEL ABOVE.
4. 1/2" CW AND HW TO SERVE FIXTURE. REFERENCE PLUMBING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.
5. 1/2" CW TO SERVE FIXTURE. REFERENCE PLUMBING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.
6. 1" CW AND HW UP TO NEXT LEVEL.
7. 2" VENT FROM ABOVE DOWN.
8. WATER CLOSET WET VENTED FROM LAVATORY DOWNSTREAM. REFERENCE SECTION 912 AND TABLE 912.3 OF THE 2018 IPC.
9. SHOWER WET VENTED FROM LAVATORY DOWNSTREAM. REFERENCE SECTION 912 AND TABLE 912.3 OF THE 2018 IPC.



UNIT A1.1 | UNIT A2.1 | UNIT B1.1 | UNIT A2.1 | UNIT B1.1 | UNIT B1.1 | UNIT A1.1

01 SECOND FLOOR PLUMBING PLAN
1/4"=1'-0"

Dialectic ENGINEERING
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NAME: WAEL SAMMUR
DISCIPLINE: MECHANICAL ENGINEER
LICENSE NUMBER: EN-29583

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

BUILDING 2
SECOND FLOOR PLUMBING PLAN

REVISIONS:

NO.	DATE:	DESCRIPTION:
1	01.26.2023	PERMIT REVIEW

SCALE:	1/4'=1'-0"
JOB #:	01202245.01
DATE:	2022/12/23
DRAWN BY:	JL
CHECKED BY:	NP

STATE OF MISSOURI
WAEL A. SAMMUR
NUMBER
E-29583
REGISTERED PROFESSIONAL ENGINEER

SHEET NO:
P202

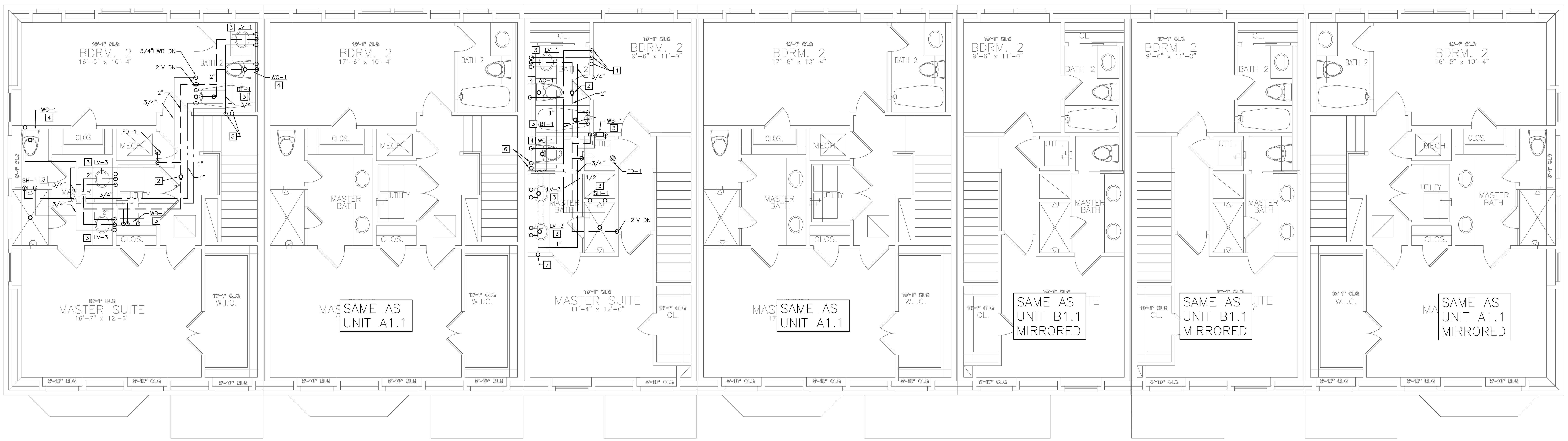
GENERAL NOTES

1. PER 2018 IRC 302.2.2., PIPING NOT ALLOWED IN COMMON WALLS. PROVIDE A FURR OUT WALL FOR ALL PLUMBING PIPING SERVING PLUMBING FIXTURES ON COMMON WALLS OR PIPING IN COMMON WALLS. PLUMBING PIPING SHOWN ON PLANS IS FOR DIAGRAMMATICAL PURPOSES ONLY.

1 (revision)

PLUMBING KEYNOTES

1. 1" CW AND HW FROM BELOW. 3/4" HWR DOWN TO NEXT LEVEL.
2. 3" VENT UP TO 3" VENT THROUGH ROOF.
3. 1/2" CW AND HW TO SERVE FIXTURE. REFERENCE PLUMBING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.
4. 1/2" CW TO SERVE FIXTURE. REFERENCE PLUMBING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.
5. 1" CW AND HW FROM BELOW.
6. ROUTE ½" CW AND 1" DOWN IN CHASE AND ROUTE BELOW FLOOR TO SERVE LAVATORIES AS SHOWN ON FLOOR PLAN. BRANCH OFF 1/2" HW LINE TO EACH LAVATORY AS SHOWN.
7. 1" HOT WATER LINE FROM BELOW FLOOR UP TO BATHROOM CEILING.



01 THIRD FLOOR PLUMBING PLAN
1/4"=1'-0"

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NAME: WAEL SAMMUR
DISCIPLINE: MECHANICAL ENGINEER
LICENSE NUMBER: EN-29583

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

BUILDING 2
THIRD FLOOR PLUMBING PLAN

REVISIONS:

NO.	DATE:	DESCRIPTION:
1	01.26.2023	PERMIT REVIEW

SCALE:	1/4'=1'-0"
JOB #:	01202245.01
DATE:	2022/12/23
DRAWN BY:	JL
CHECKED BY:	NP

STATE OF MISSOURI — WAEL A. SAMMUR — NUMBER E-29583 — REGISTERED PROFESSIONAL ENGINEER — 1/26/23

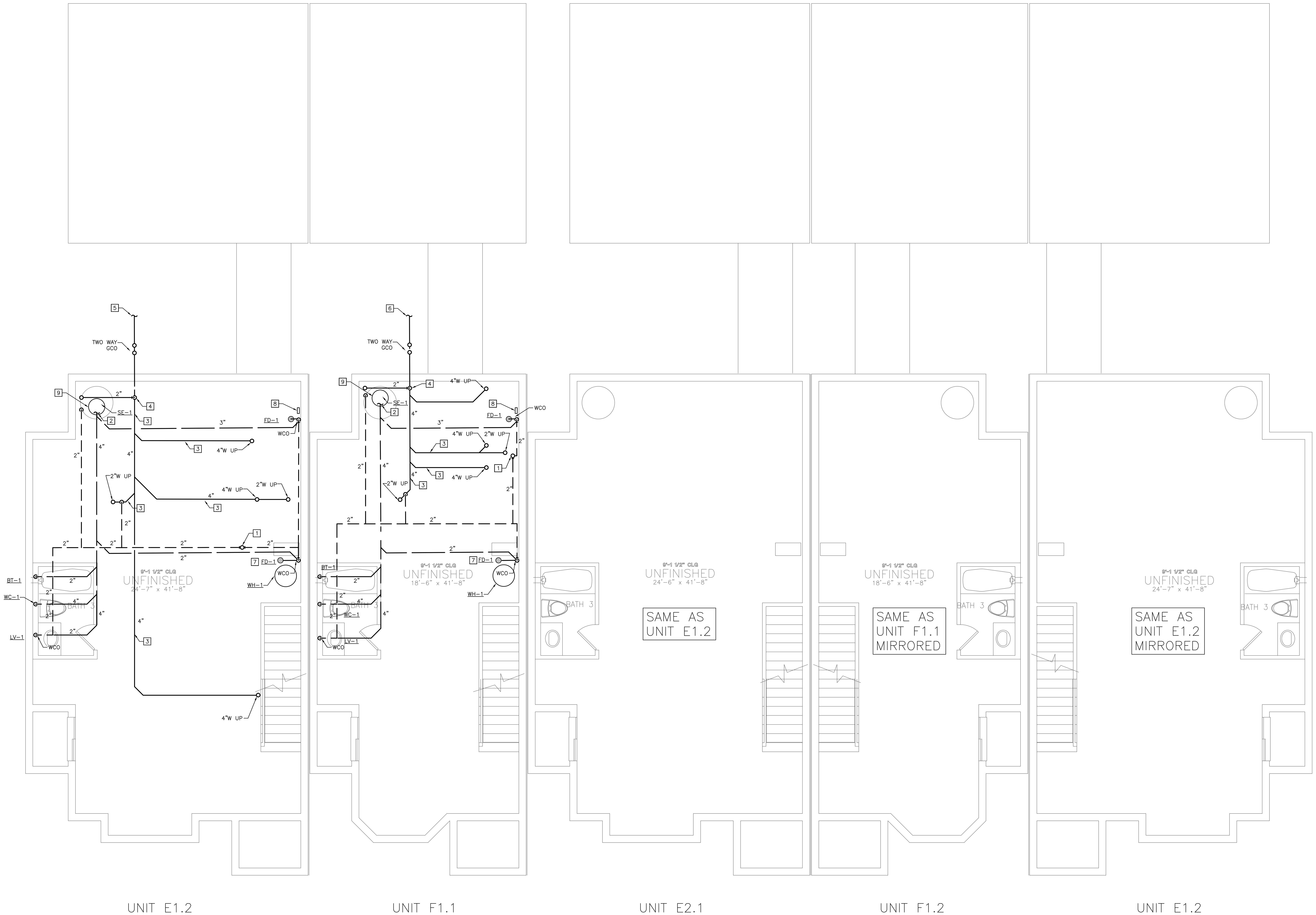
SHEET NO:
P203

GENERAL NOTES

1. PER 2018 IRC 302.2.2., PIPING NOT ALLOWED IN COMMON WALLS. PROVIDE A FURR OUT WALL FOR ALL PLUMBING PIPING SERVING PLUMBING FIXTURES ON COMMON WALLS OR PIPING IN COMMON WALLS. PLUMBING PIPING SHOWN ON PLANS IS FOR DIAGRAMMATICAL PURPOSES ONLY.

PLUMBING KEYNOTES

1. 2" VENT PIPE FROM ABOVE.
2. ROUTE 4" WASTE PIPING INTO SEWAGE EJECTOR BASIN. ESTIMATED INVERT ELEVATION INTO SEWAGE EJECTOR IS 2'-5" BELOW FINISHED FLOOR.
3. WASTE PIPING IN BASEMENT CEILING TIGHT TO STRUCTURAL. ROUTE AT A SLOPE OF 1/8" PER FOOT.
4. PUMP 2" WASTE PIPING UP ALONG BASEMENT WALL AND TIGHT TO BOTTOM OF FIRST FLOOR STRUCTURE FROM SEWAGE EJECTOR AND CONNECT FROM ABOVE INTO 4" WASTE PIPING IN BASEMENT CEILING.
5. 4" WASTE PIPING OUT TO CIVIL. ESTIMATED INVERT ELEVATION IS 2'-6" BELOW GRADE.
6. 4" WASTE PIPING OUT TO CIVIL. ESTIMATED INVERT ELEVATION IS 2'-5" BELOW GRADE.
7. ROUTE CONDENSATION FROM FURNACE AND WATER HEATER TO FLOOR DRAIN WITH AHJ APPROVED AIR GAP.
8. 1-1/4" RPZ BACKFLOW PREVENTER. ROUTE DISCHARGE INTO FLOOR DRAIN WITH AHJ APPROVED AIR GAP.
9. PRIOR TO PURCHASING SEWAGE EJECTOR PUMP, CONTRACTOR TO FIELD VERIFY INVERT DEPTH OF SANITARY SEWER MAIN WITH CIVIL. BASEMENT SEWER LINE IS 2'-6" BELOW FINISHED FLOOR AT THE EDGE OF THE BUILDING. IF INVERT CAN BE MET WITHOUT THE PUMP IT MAY BE OMITTED. PROVIDE TWO WAY CLEANOUT AND BACKWATER VALVE ON BASEMENT SEWER LINE.



01 BASEMENT WASTE AND VENT PLAN
1/4"=1'-0"

DIALECTIC ENGINEERING
Dialectic, Inc.
310 W 20th Street, Suite 100
Kansas City, MO 64108
Missouri Certificate of Authorization Number 1582
T 816-997-9601
F 816-997-9602
DialecticEng.com

PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MISSOURI

NAME: WAEL SAMMUR
LICENSE NUMBER: EN-29583
DISCIPLINE: MECHANICAL ENGINEER

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

BUILDING 3
BASEMENT WASTE AND VENT PLAN

REVISIONS:

NO.	DATE:	DESCRIPTION:
1	01.26.2023	PERMIT REVIEW

SCALE:	1/4'=1'-0"
JOB #:	01202245.01
DATE:	2022/12/23
DRAWN BY:	JL
CHECKED BY:	NP

STATE OF MISSOURI – WAEL A. SAMMUR – NUMBER E-29583 – REGISTERED PROFESSIONAL ENGINEER
1/26/23

SHEET NO:
P300

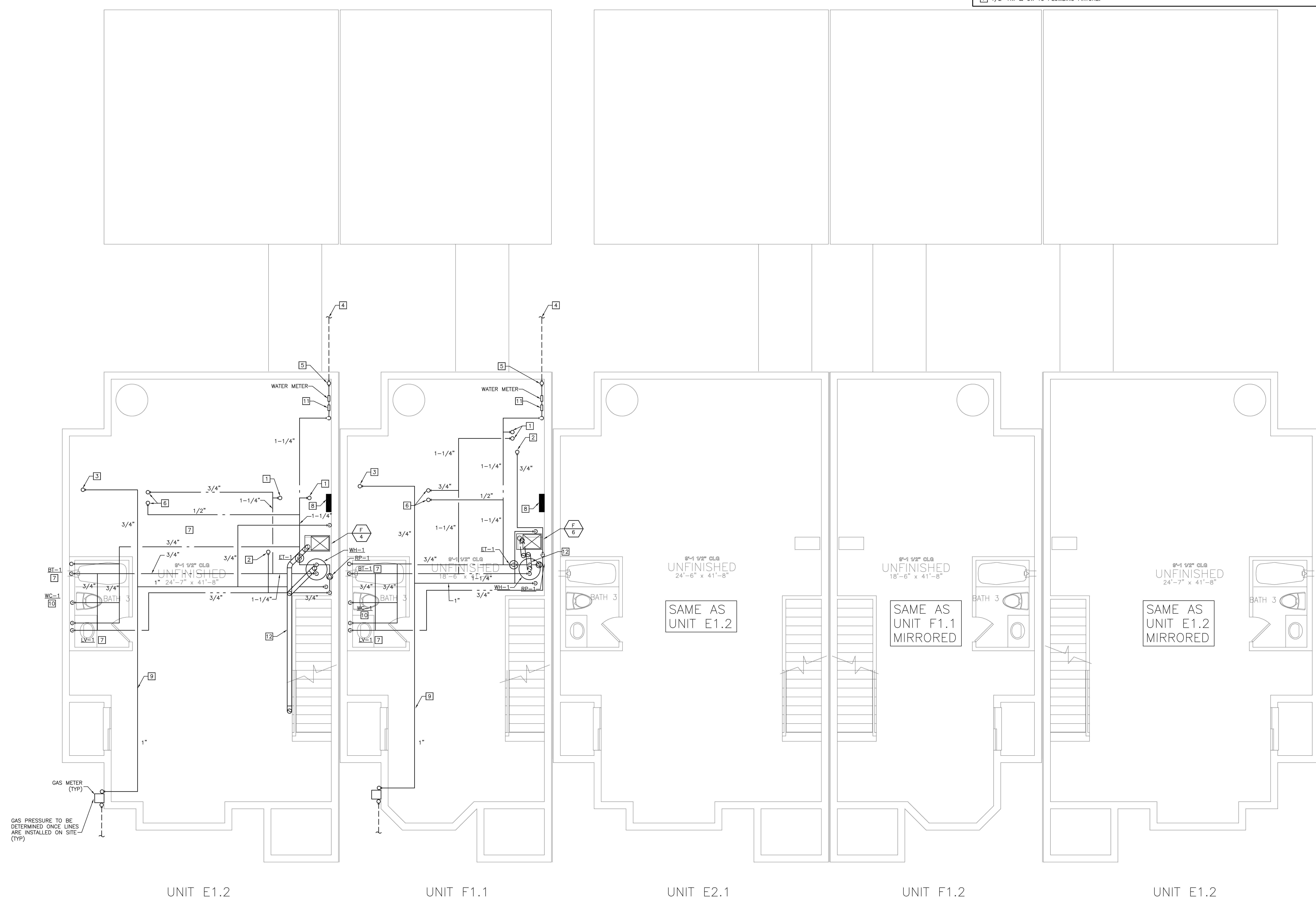
GENERAL NOTES

1. PER 2018 IRC 302.2.2., PIPING NOT ALLOWED IN COMMON WALLS. PROVIDE A FURR OUT WALL FOR ALL PLUMBING PIPING SERVING PLUMBING FIXTURES ON COMMON WALLS OR PIPING IN COMMON WALLS. PLUMBING PIPING SHOWN ON PLANS IS FOR DIAGRAMMATICAL PURPOSES ONLY.

1

PLUMBING KEYNOTES

1. 1-1/4" CW AND HW UP TO THE NEXT LEVEL.
2. 3/4" HOT WATER RE-CIRCULATION FROM ABOVE.
3. 3/4" GAS LINE UP TO SERVE GAS FIRED OVEN.
4. 1-1/4" UNDERGROUND COLD WATER. REFERENCE CIVIL PLANS FOR CONTINUATION.
5. 1-1/4" COLD WATER UP FROM BELOW GRADE. PROVIDE SHUT-OFF VALVE UPON PENETRATING SLAB.
6. 3/4" HW AND 1/2" CW UP TO KS-1. ROUTE 1/2" HW TO SERVE SINK AND 1/2" HW LINE TO SERVE DISHWASHER FROM 3/4" HW LINE.
7. 1/2" HW & CW TO PLUMBING FIXTURE.
8. DO NOT ROUTE PLUMBING ABOVE ELECTRICAL PANEL.
9. ROUTE GAS PIPING IN CEILING SPACE.
10. 1/2" CW TO SERVE FIXTURE. REFERENCE PLUMBING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.
11. 1-1/4" RPZ BACKFLOW PREVENTER. ROUTE BACKFLOW DISCHARGE TO FLOOR DRAIN WITH AHJ APPROVED AIR GAP.
12. PROVIDE MANUFACTURER CONCENTRIC VENT FOR WATER HEATER AND FURNACE AND INSTALL PER MANUFACTURER'S REQUIREMENTS.



01 BASEMENT DOMESTIC WATER PLAN
1/4"=1'-0"

DIALECTIC ENGINEERING
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NAME: WAEL SAMMUR
LICENSE NUMBER: EN-29583
DISCIPLINE: MECHANICAL ENGINEER

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

BUILDING 3
BASEMENT DOMESTIC WATER PLAN

REVISIONS:

NO.	DATE:	DESCRIPTION:
1	01.26.2023	PERMIT REVIEW

SCALE:	1/4'=1'-0"
JOB #:	01202245.01
DATE:	2022/12/23
DRAWN BY:	JL
CHECKED BY:	NP

STATE OF MISSOURI
WAEL A. SAMMUR
NUMBER E-29583
REGISTERED PROFESSIONAL ENGINEER
1/26/23

SHEET NO:
P301

GENERAL NOTES

1. PER 2018 IRC 302.2.2., PIPING NOT ALLOWED IN COMMON WALLS. PROVIDE A FURR OUT WALL FOR ALL PLUMBING PIPING SERVING PLUMBING FIXTURES ON COMMON WALLS OR PIPING IN COMMON WALLS. PLUMBING PIPING SHOWN ON PLANS IS FOR DIAGRAMMATICAL PURPOSES ONLY.

1

PLUMBING KEYNOTES

1. 1-1/4" CW AND HW FROM BELOW.
2. 3/4" HWR DOWN TO LEVEL BELOW.
3. 1" CW AND HW UP TO NEXT LEVEL. 3/4" HWR FROM LEVEL ABOVE.
4. 1/2" CW AND HW TO SERVE FIXTURE. REFERENCE PLUMBING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.
5. 1/2" CW TO SERVE FIXTURE. REFERENCE PLUMBING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.
6. 1" CW AND HW UP TO NEXT LEVEL.
7. 2" VENT FROM ABOVE.
8. 1-1/4" CW FROM BELOW.
9. 1-1/4" HW FROM BELOW.

01 FIRST FLOOR PLUMBING PLAN
1/4"=1'-0"

Dialectic ENGINEERING
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NAME: WAEL SAMMUR
DISCIPLINE: MECHANICAL ENGINEER
LICENSE NUMBER: EN-29583

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

BUILDING 3
FIRST FLOOR PLUMBING PLAN

REVISIONS:

NO.	DATE:	DESCRIPTION:
1	01.26.2023	PERMIT REVIEW

SCALE:	1/4'=1'-0"
JOB #:	01202245.01
DATE:	2022/12/23
DRAWN BY:	JL
CHECKED BY:	NP

STATE OF MISSOURI
WAEL A. SAMMUR
NUMBER E-29583
REGISTERED PROFESSIONAL ENGINEER
1/26/23

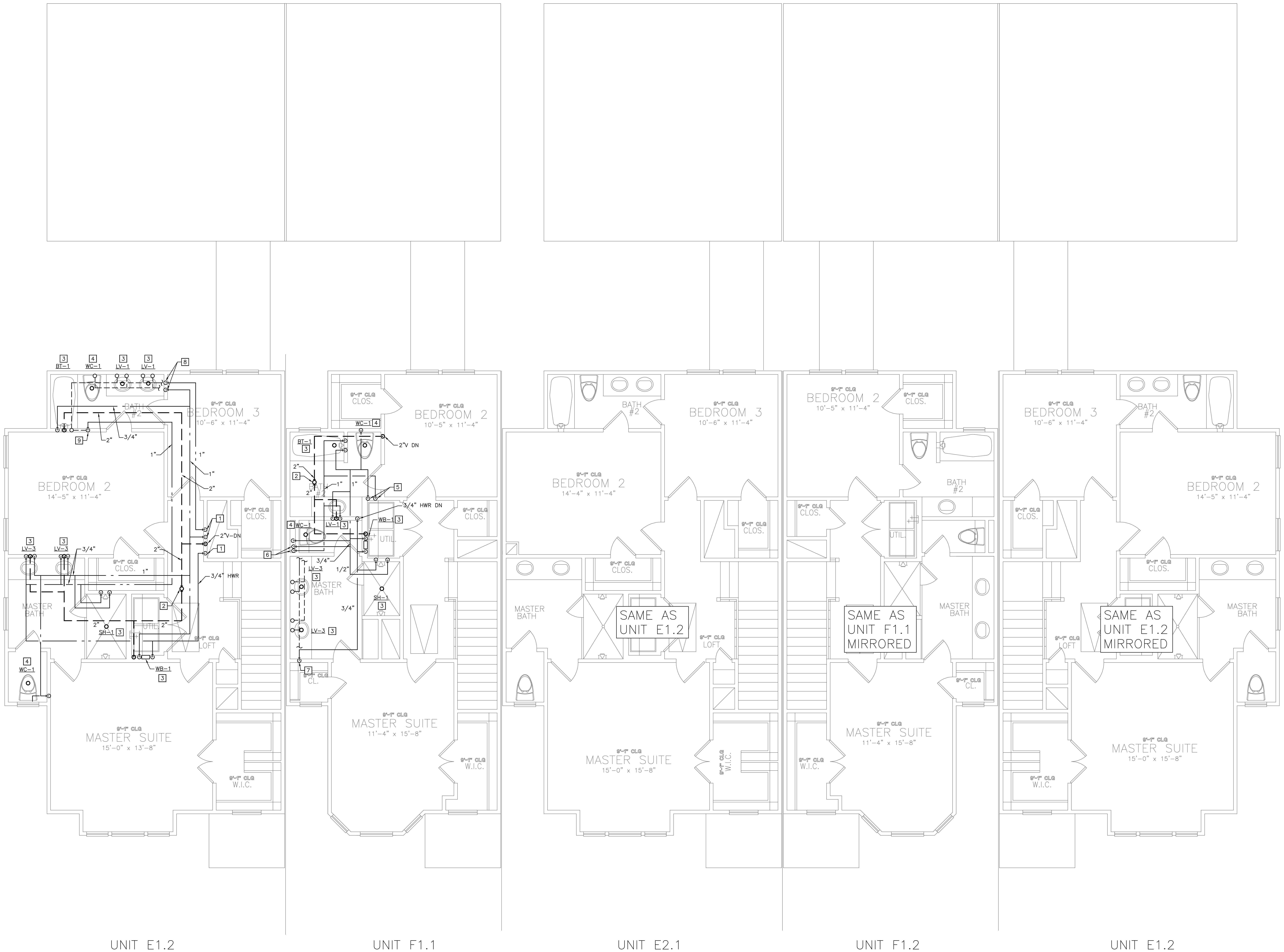
SHEET NO:
P302

GENERAL NOTES

1. PER 2018 IRC 302.2.2., PIPING NOT ALLOWED IN COMMON WALLS. PROVIDE A FURR OUT WALL FOR ALL PLUMBING PIPING SERVING PLUMBING FIXTURES ON COMMON WALLS OR PIPING IN COMMON WALLS. PLUMBING PIPING SHOWN ON PLANS IS FOR DIAGRAMMATICAL PURPOSES ONLY.

PLUMBING KEYNOTES

1. 1" CW AND HW FROM BELOW. 3/4" HWR DOWN TO NEXT LEVEL.
2. 3" VENT UP TO 3" VENT THROUGH ROOF.
3. 1/2" CW AND HW TO SERVE FIXTURE. REFERENCE PLUMBING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.
4. 1/2" CW TO SERVE FIXTURE. REFERENCE PLUMBING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.
5. 1" CW AND HW FROM BELOW.
6. ROUTE ½" CW AND 1" HW DOWN IN CHASE AND ROUTE BELOW FLOOR TO SERVE LAVATORIES AS SHOWN ON FLOOR PLAN. BRANCH OFF 1/2" HW LINE TO EACH LAVATORY AS SHOWN.
7. 3/4" HOT WATER LINE FROM BELOW FLOOR UP TO BATHROOM CEILING.
8. ROUTE 1" CW AND 1" HW DOWN IN CHASE AND ROUTE BELOW FLOOR TO SERVE LAVATORIES AND SHOWER AS SHOWN ON FLOOR PLAN. BRANCH OFF 1/2" HW LINE TO EACH FIXTURE AS SHOWN.
9. 1" HOT WATER LINE FROM BELOW FLOOR UP TO BATHROOM CEILING.



01 SECOND FLOOR PLUMBING PLAN
1/4"=1'-0"

DIALECTIC ENGINEERING
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WAEL SAMMUR
NAME:
MECHANICAL ENGINEER
DISCIPLINE
EN-29583
LICENSE NUMBER

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

BUILDING 3
SECOND FLOOR PLUMBING PLAN

REVISIONS:

NO.	DATE:	DESCRIPTION:
1	01.26.2023	PERMIT REVIEW

SCALE:	1/4'=1'-0"
JOB #:	01202245.01
DATE:	2022/12/23
DRAWN BY:	JL
CHECKED BY:	NP

STATE OF MISSOURI
WAEL A. SAMMUR
NUMBER
E-29583
REGISTERED PROFESSIONAL ENGINEER
1/26/23

SHEET NO:
P303

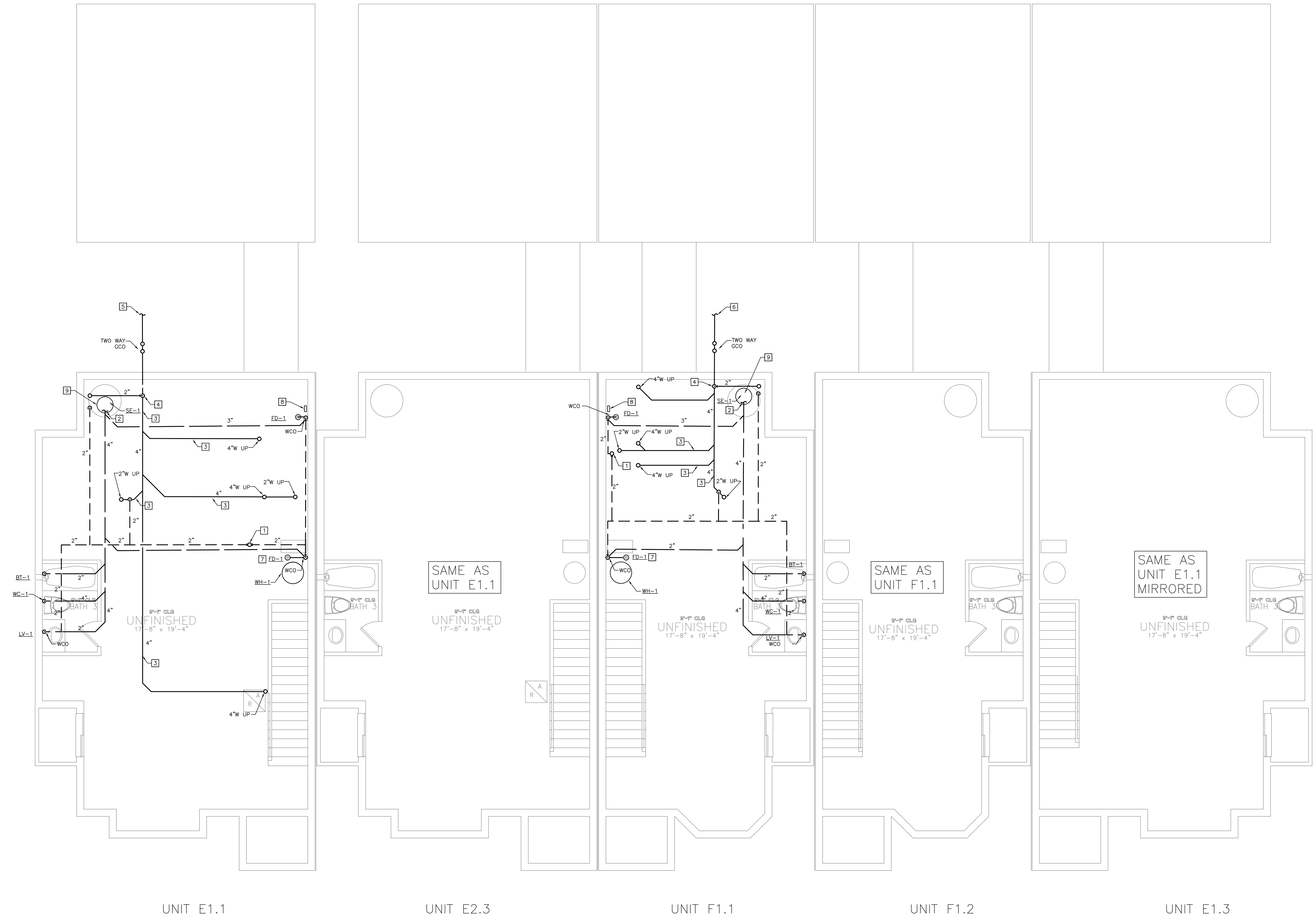
GENERAL NOTES

1. PER 2018 IRC 302.2.2., PIPING NOT ALLOWED IN COMMON WALLS. PROVIDE A FURR OUT WALL FOR ALL PLUMBING PIPING SERVING PLUMBING FIXTURES ON COMMON WALLS OR PIPING IN COMMON WALLS. PLUMBING PIPING SHOWN ON PLANS IS FOR DIAGRAMMATICAL PURPOSES ONLY.

1 (revision)

PLUMBING KEYNOTES

1. 2" VENT PIPE FROM ABOVE.
2. ROUTE 4" WASTE PIPING INTO SEWAGE EJECTOR BASIN. ESTIMATED INVERT ELEVATION INTO SEWAGE EJECTOR IS 2'-5" BELOW FINISHED FLOOR.
3. WASTE PIPING IN BASEMENT CEILING TIGHT TO STRUCTURAL. ROUTE AT A SLOPE OF 1/8" PER FOOT.
4. PUMP 2" WASTE PIPING UP ALONG BASEMENT WALL AND TIGHT TO BOTTOM OF FIRST FLOOR STRUCTURE FROM SEWAGE EJECTOR AND CONNECT FROM ABOVE INTO 4" WASTE PIPING IN BASEMENT CEILING.
5. 4" WASTE PIPING OUT TO CIVIL. ESTIMATED INVERT ELEVATION IS 2'-6" BELOW GRADE.
6. 4" WASTE PIPING OUT TO CIVIL. ESTIMATED INVERT ELEVATION IS 2'-5" BELOW GRADE.
7. ROUTE CONDENSATION FROM FURNACE AND WATER HEATER TO FLOOR DRAIN WITH AHJ APPROVED AIR GAP.
8. 1-1/4" RPZ BACKFLOW PREVENTER. ROUTE DISCHARGE INTO FLOOR DRAIN WITH AHJ APPROVED AIR GAP.
9. PRIOR TO PURCHASING SEWAGE EJECTOR PUMP, CONTRACTOR TO FIELD VERIFY INVERT DEPTH OF SANITARY SEWER MAIN WITH CIVIL. BASEMENT SEWER LINE IS 2'-6" BELOW FINISHED FLOOR AT THE EDGE OF THE BUILDING. IF INVERT CAN BE MET WITHOUT THE PUMP IT MAY BE OMITTED. PROVIDE TWO WAY CLEANOUT AND BACKWATER VALVE ON BASEMENT SEWER LINE.



01 BASEMENT WASTE AND VENT PLAN
1/4"=1'-0"

Dialectic ENGINEERING
Dialectic, Inc.
310 W 20th Street, Suite 100
Kansas City, MO 64108
Missouri Certificate of Authorization Number 1582
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NAME: WAEL SAMMUR
DISCIPLINE: MECHANICAL ENGINEER
LICENSE NUMBER: EN-29583

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

BUILDING 4
BASEMENT WASTE AND VENT PLAN

REVISIONS:

NO.	DATE:	DESCRIPTION:
1	01.26.2023	PERMIT REVIEW

SCALE:	1/4'=1'-0"
JOB #:	01202245.01
DATE:	2022/12/23
DRAWN BY:	JL
CHECKED BY:	NP

STATE OF MISSOURI
WAEL A. SAMMUR
NUMBER
E-29583
REGISTERED PROFESSIONAL ENGINEER
1/26/23

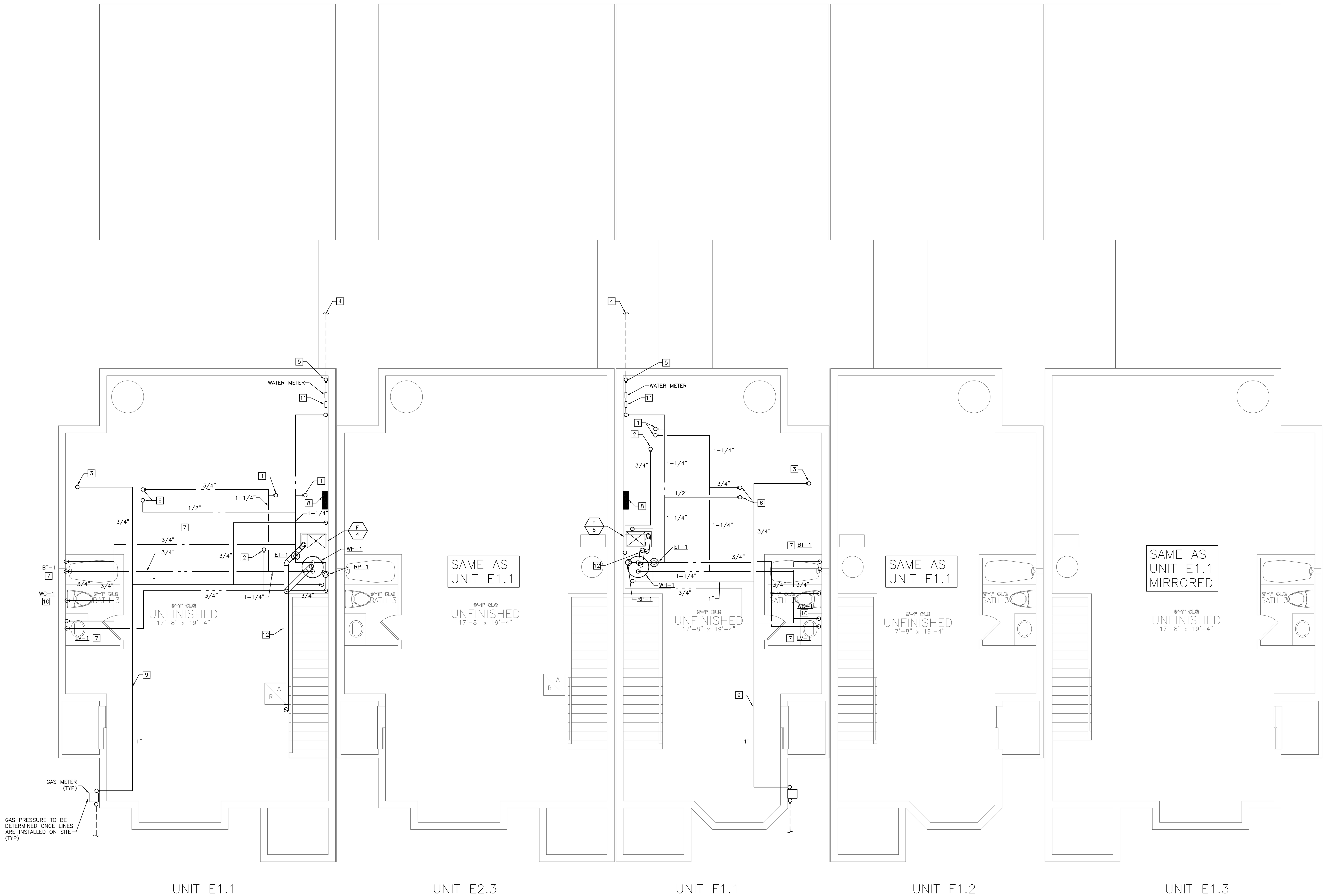
SHEET NO:
P400

GENERAL NOTES

1. PER 2018 IRC 302.2.2., PIPING NOT ALLOWED IN COMMON WALLS. PROVIDE A FURR OUT WALL FOR ALL PLUMBING PIPING SERVING PLUMBING FIXTURES ON COMMON WALLS OR PIPING IN COMMON WALLS. PLUMBING PIPING SHOWN ON PLANS IS FOR DIAGRAMMATICAL PURPOSES ONLY.

PLUMBING KEYNOTES

1. 1-1/4" CW AND HW UP TO THE NEXT LEVEL.
2. 3/4" HOT WATER RE-CIRCULATION FROM ABOVE.
3. 3/4" GAS LINE UP TO SERVE GAS FIRED OVEN.
4. 1-1/4" UNDERGROUND COLD WATER. REFERENCE CIVIL PLANS FOR CONTINUATION.
5. 1-1/4" COLD WATER UP FROM BELOW GRADE. PROVIDE SHUT-OFF VALVE UPON PENETRATING SLAB.
6. 3/4" HW AND 1/2" CW UP TO KS-1. ROUTE 1/2" HW TO SERVE SINK AND 1/2" HW LINE TO SERVE DISHWASHER FROM 3/4" HW LINE.
7. 1/2" HW & CW TO PLUMBING FIXTURE.
8. DO NOT ROUTE PLUMBING ABOVE ELECTRICAL PANEL.
9. ROUTE GAS PIPING IN CEILING SPACE.
10. 1/2" CW TO SERVE FIXTURE. REFERENCE PLUMBING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.
11. 1-1/4" RPZ BACKFLOW PREVENTER. ROUTE BACKFLOW DISCHARGE TO FLOOR DRAIN WITH AHJ APPROVED AIR GAP.
12. PROVIDE MANUFACTURER CONCENTRIC VENT FOR WATER HEATER AND FURNACE AND INSTALL PER MANUFACTURER'S REQUIREMENTS.



01 BASEMENT DOMESTIC WATER PLAN
1/4"=1'-0"

DIALECTIC ENGINEERING
Dialectic, Inc.
310 W 20th Street, Suite 100
Kansas City, MO 64108
Missouri Certificate of Authorization Number 1582
T 816-997-9601
F 816-997-9602
DialecticEng.com

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NAME: WAEL SAMMUR
DISCIPLINE: MECHANICAL ENGINEER
LICENSE NUMBER: EN-29583

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

BUILDING 4
BASEMENT DOMESTIC WATER PLAN

REVISIONS:

NO.	DATE:	DESCRIPTION:
1	01.26.2023	PERMIT REVIEW

SCALE:	1/4"=1'-0"
JOB #:	01202245.01
DATE:	2022/12/23
DRAWN BY:	JL
CHECKED BY:	NP

STATE OF MISSOURI
WAEL A. SAMMUR
NUMBER E-29583
REGISTERED PROFESSIONAL ENGINEER

SHEET NO:
P401

GENERAL NOTES

1. PER 2018 IRC 302.2.2., PIPING NOT ALLOWED IN COMMON WALLS. PROVIDE A FURR OUT WALL FOR ALL PLUMBING PIPING SERVING PLUMBING FIXTURES ON COMMON WALLS OR PIPING IN COMMON WALLS. PLUMBING PIPING SHOWN ON PLANS IS FOR DIAGRAMMATICAL PURPOSES ONLY.

1 (revision)

PLUMBING KEYNOTES

1. 1-1/4" CW AND HW FROM BELOW.
2. 3/4" HWR DOWN TO LEVEL BELOW.
3. 1" CW AND HW UP TO NEXT LEVEL. 3/4" HWR FROM LEVEL ABOVE.
4. 1/2" CW AND HW TO SERVE FIXTURE. REFERENCE PLUMBING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.
5. 1/2" CW TO SERVE FIXTURE. REFERENCE PLUMBING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.
6. 1" CW AND HW UP TO NEXT LEVEL.
7. 2" VENT FROM ABOVE.
8. 1-1/4" CW FROM BELOW.
9. 1-1/4" HW FROM BELOW.

01 FIRST FLOOR PLUMBING PLAN
1/4"=1'-0"

Dialectic ENGINEERING
Dialectic, Inc.
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NAME: WAEL SAMMUR
DISCIPLINE: MECHANICAL ENGINEER
LICENSE NUMBER: EN-29583

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

BUILDING 4
FIRST FLOOR PLUMBING PLAN

REVISIONS:

NO.	DATE:	DESCRIPTION:
1	01.26.2023	PERMIT REVIEW

SCALE:	1/4'=1'-0"
JOB #:	01202245.01
DATE:	2022/12/23
DRAWN BY:	JL
CHECKED BY:	NP

STATE OF MISSOURI — WAEL A. SAMMUR — NUMBER E-29583 — REGISTERED PROFESSIONAL ENGINEER

SHEET NO: **P402**

GENERAL NOTES

1. PER 2018 IRC 302.2.2., PIPING NOT ALLOWED IN COMMON WALLS. PROVIDE A FURR OUT WALL FOR ALL PLUMBING PIPING SERVING PLUMBING FIXTURES ON COMMON WALLS OR PIPING IN COMMON WALLS. PLUMBING PIPING SHOWN ON PLANS IS FOR DIAGRAMMATICAL PURPOSES ONLY.

1 (revision)

PLUMBING KEYNOTES

1. 1" CW AND HW FROM BELOW. 3/4" HWR DOWN TO NEXT LEVEL.
2. 3" VENT UP TO 3" VENT THROUGH ROOF.
3. 1/2" CW AND HW TO SERVE FIXTURE. REFERENCE PLUMBING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.
4. 1/2" CW TO SERVE FIXTURE. REFERENCE PLUMBING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.
5. 1" CW AND HW FROM BELOW.
6. ROUTE ½" CW AND 1" HW DOWN IN CHASE AND ROUTE BELOW FLOOR TO SERVE LAVATORIES AS SHOWN ON FLOOR PLAN. BRANCH OFF 1/2" HW LINE TO EACH LAVATORY AS SHOWN.
7. 3/4" HOT WATER LINE FROM BELOW FLOOR UP TO BATHROOM CEILING.
8. ROUTE 1" CW AND 1" HW DOWN IN CHASE AND ROUTE BELOW FLOOR TO SERVE LAVATORIES AND SHOWER AS SHOWN ON FLOOR PLAN. BRANCH OFF 1/2" HW LINE TO EACH FIXTURE AS SHOWN.
9. 1" HOT WATER LINE FROM BELOW FLOOR UP TO BATHROOM CEILING.

01 SECOND FLOOR PLUMBING PLAN
1/4"=1'-0"

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NAME: WAEL SAMMUR
DISCIPLINE: MECHANICAL ENGINEER
LICENSE NUMBER: EN-29583

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

BUILDING 4
SECOND FLOOR PLUMBING PLAN

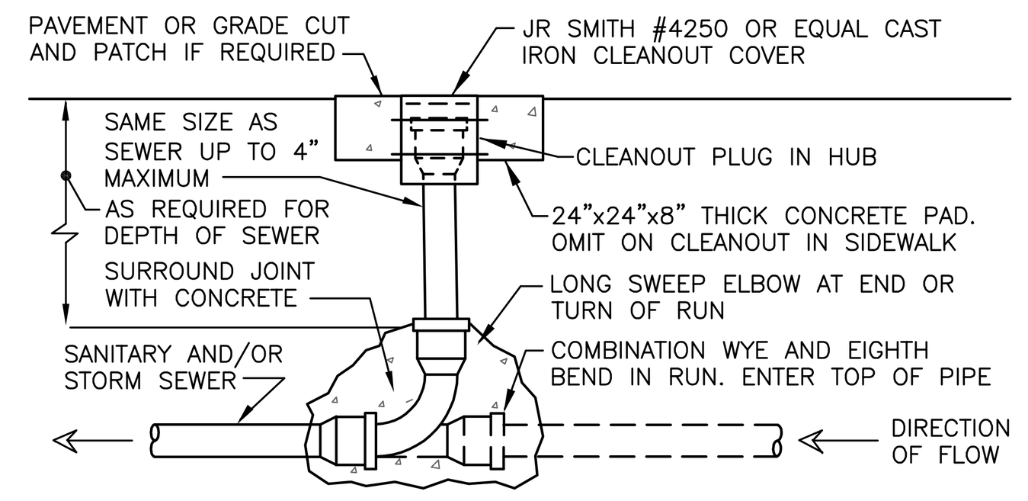
REVISIONS:

NO.	DATE:	DESCRIPTION:
1	01.26.2023	PERMIT REVIEW

SCALE:	1/4'=1'-0"
JOB #:	01202245.01
DATE:	2022/12/23
DRAWN BY:	JL
CHECKED BY:	NP

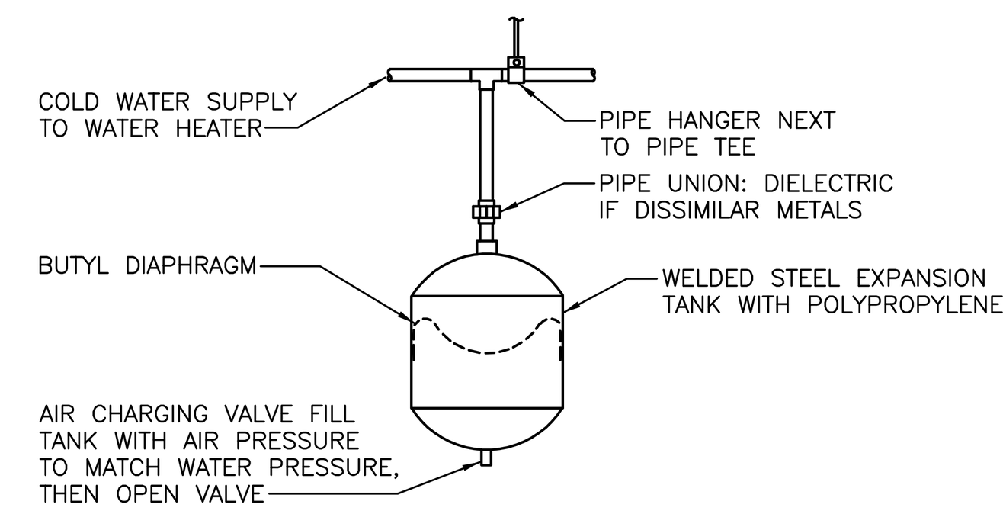
STATE OF MISSOURI
WAEL A. SAMMUR
NUMBER
E-29583
REGISTERED PROFESSIONAL ENGINEER
1/26/23

SHEET NO:
P403



LOCATE EXTERIOR CLEANOUTS AT ENDS OF RUNS, AT TURNS OF PIPE GREATER THAN 45 DEGREES, AT MAXIMUM 100' INTERVALS ON STRAIGHT RUNS, AND WHERE SHOWN ON PLANS. VERIFY SOIL/ROCK CONDITIONS WITH GEOTECHNICAL REPORT OR SITE EXAMINATION. USE SCHEDULE-40 POLYVINYL CHLORIDE (PVC) PIPE AND FITTINGS WITH SOLVENT WELD JOINTS. BACKFILL WITH CRUSHED ROCK TO COVER PIPE MINIMUM 6". PROVIDE EARTH BACKFILL AND COMPACTION PER ARCHITECTURAL SPECS. REPAIR ANY SOD AND/OR PAVEMENT TO MATCH EXISTING.

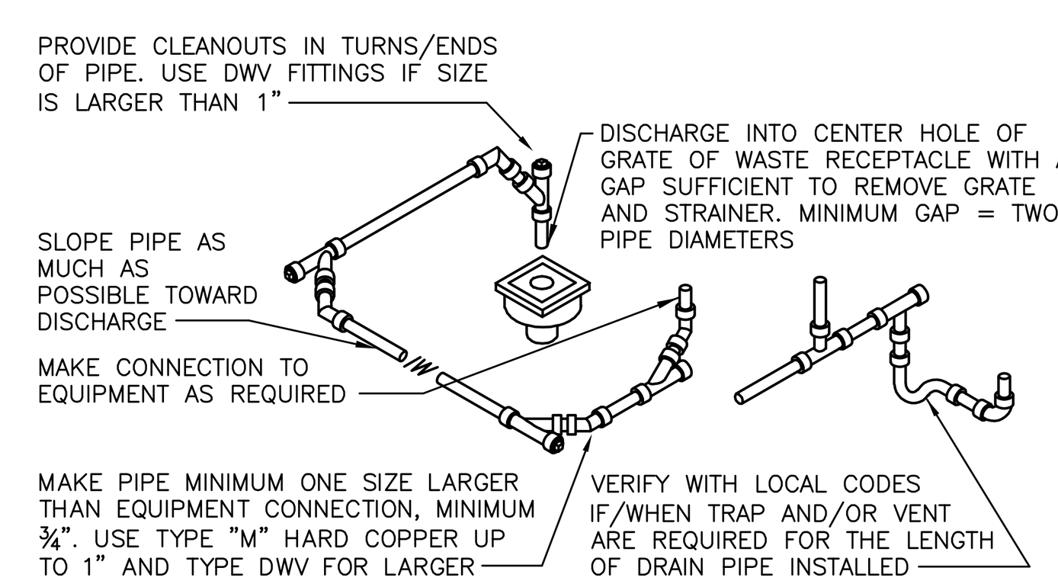
8 EXTERIOR CLEANOUT
NOT TO SCALE



PIPING ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT FIELD CONDITIONS. MAKE PIPE SAME SIZE AS TANK FITTING. FOLLOW MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION PROCEDURE. VERIFY PROPER OPERATION WHEN INSTALLED.

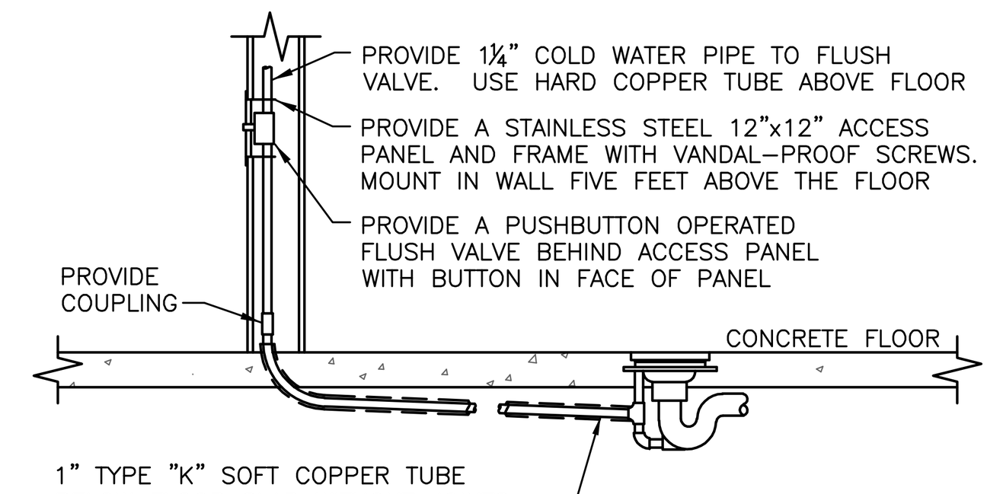
EXPANSION TANK INSTALLATION SHALL OCCUR ONLY WHEN THERE IS A BACKFLOW PREVENTION DEVICE INSTALLED WITHIN THE TENANT SPACE WATER SYSTEM OR BUILDING WATER SYSTEM.

9 SMALL EXPANSION TANK
NOT TO SCALE



ROUTE PIPE INCONSPICUOUSLY AND UNOBTRUSIVELY. HANG PIPE AS REQUIRED. DO NOT INSULATE INDIRECT DRAIN PIPE WHEN INSTALLED EXPOSED IN FOOD SERVICE FACILITY. REFER TO LOCAL CODES FOR FURTHER INFORMATION.

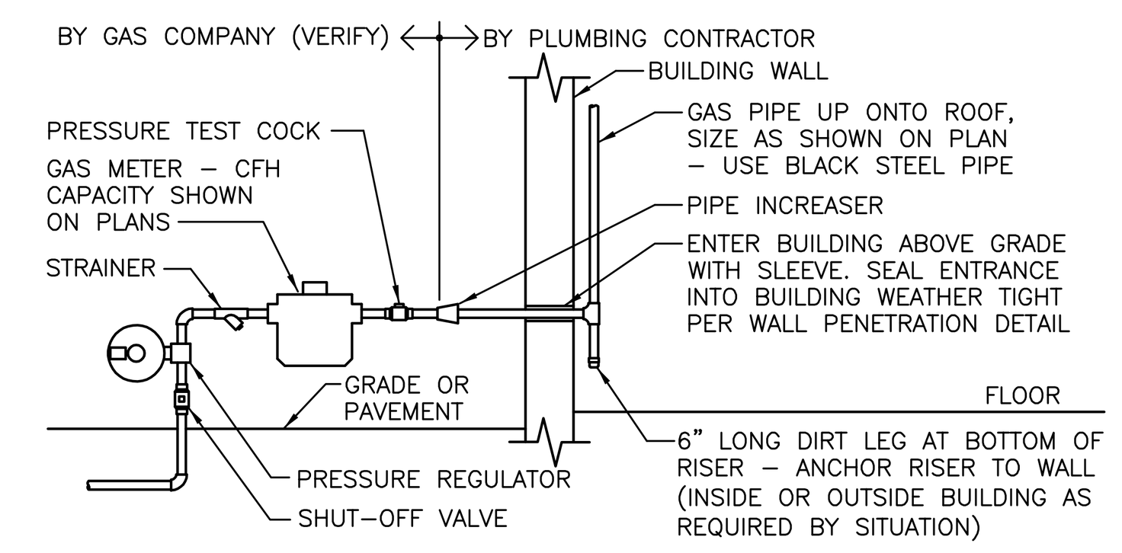
10 INDIRECT DRAIN
NOT TO SCALE



1" TYPE "K" SOFT COPPER TUBE BELOW FLOOR SLAB WITHOUT JOINTS. SLOPE TOWARD FLUSHING FLOOR DRAIN. PROVIDE ½" ELASTOMERIC INSULATION FROM TRAP TO ABOVE FLOOR SLAB

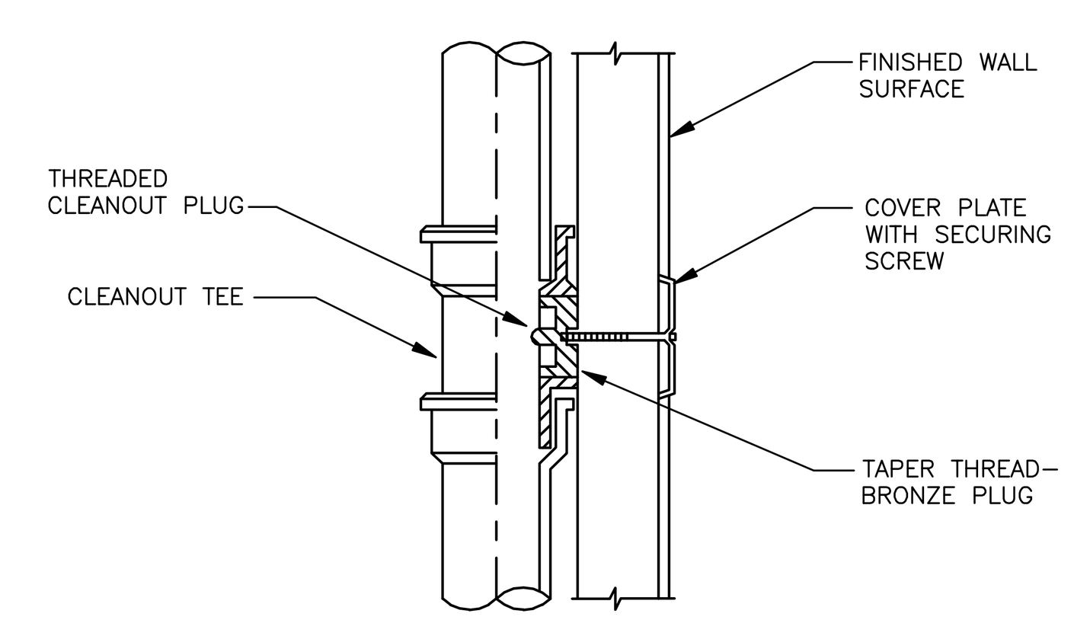
FLUSHING FLOOR DRAIN WITH INTEGRAL TRAP, WITH PIPE CONNECTIONS, CLAMPING COLLAR AND SECURED GRATE.

4 FLUSHING FLOOR DRAIN
NOT TO SCALE

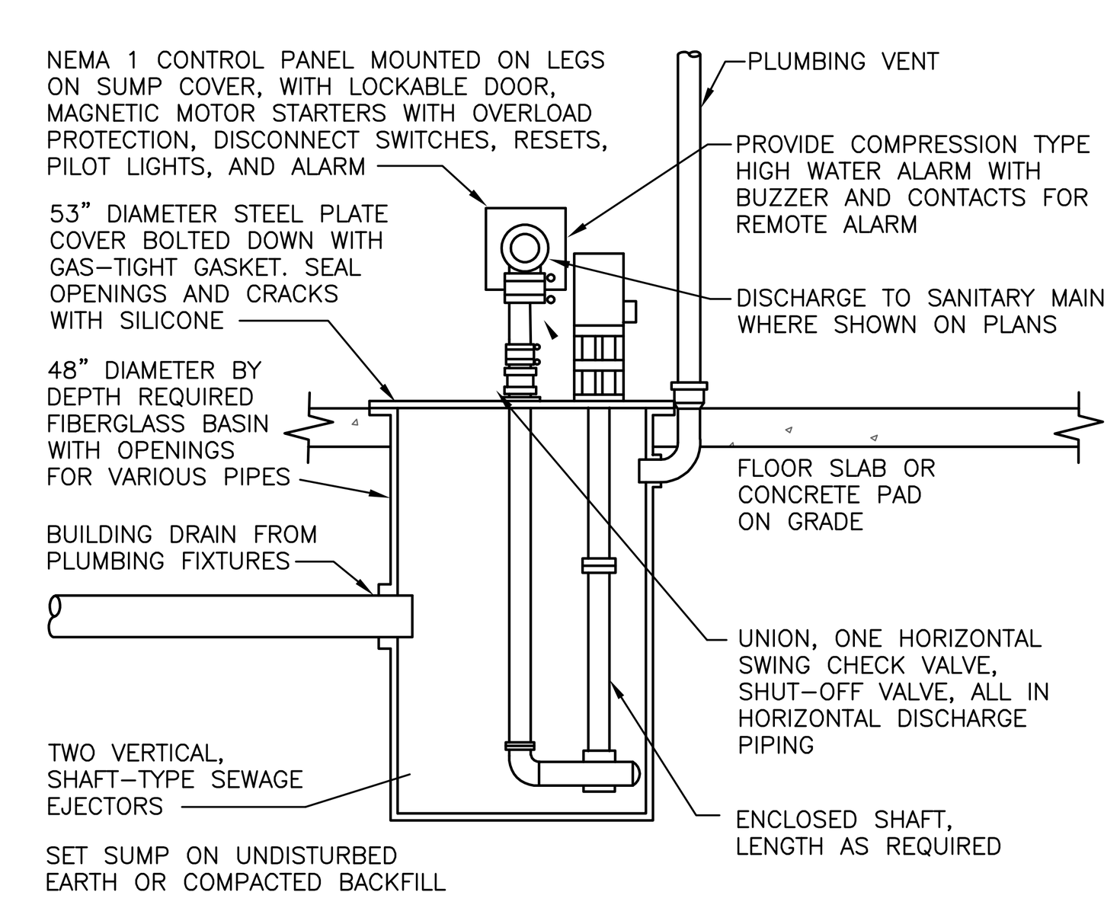


VERIFY REQUIREMENTS FOR METERING AND PIPING WITH GAS COMPANY. GAS COMPANY SHALL EXCAVATE, BACKFILL, AND REPAIR PAVING AND SOD FOR GAS SERVICE LINE INSTALLATION FROM MAIN TO BUILDING. PLUMBING CONTRACTOR TO PAY ALL GAS COMPANY FEES FOR THIS INSTALLATION. USE WELDED OR SCREWED PIPE AND FITTINGS PER SPECIFICATIONS. PAINT EXPOSED METAL GAS PIPE, FITTINGS AND ITEMS LIGHT GREEN.

5 GAS SERVICE
NOT TO SCALE

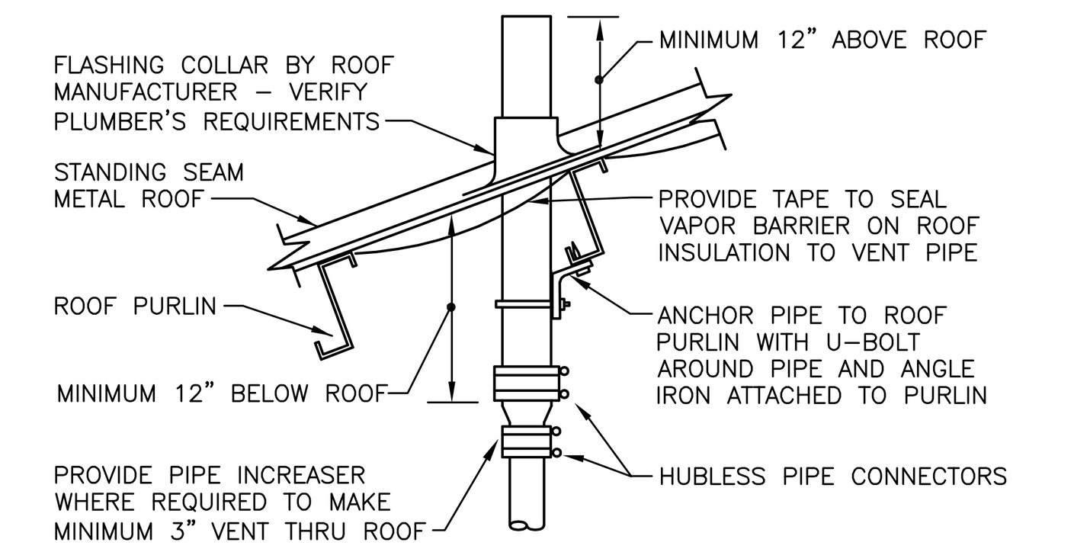


6 WALL CLEANOUT
NOT TO SCALE



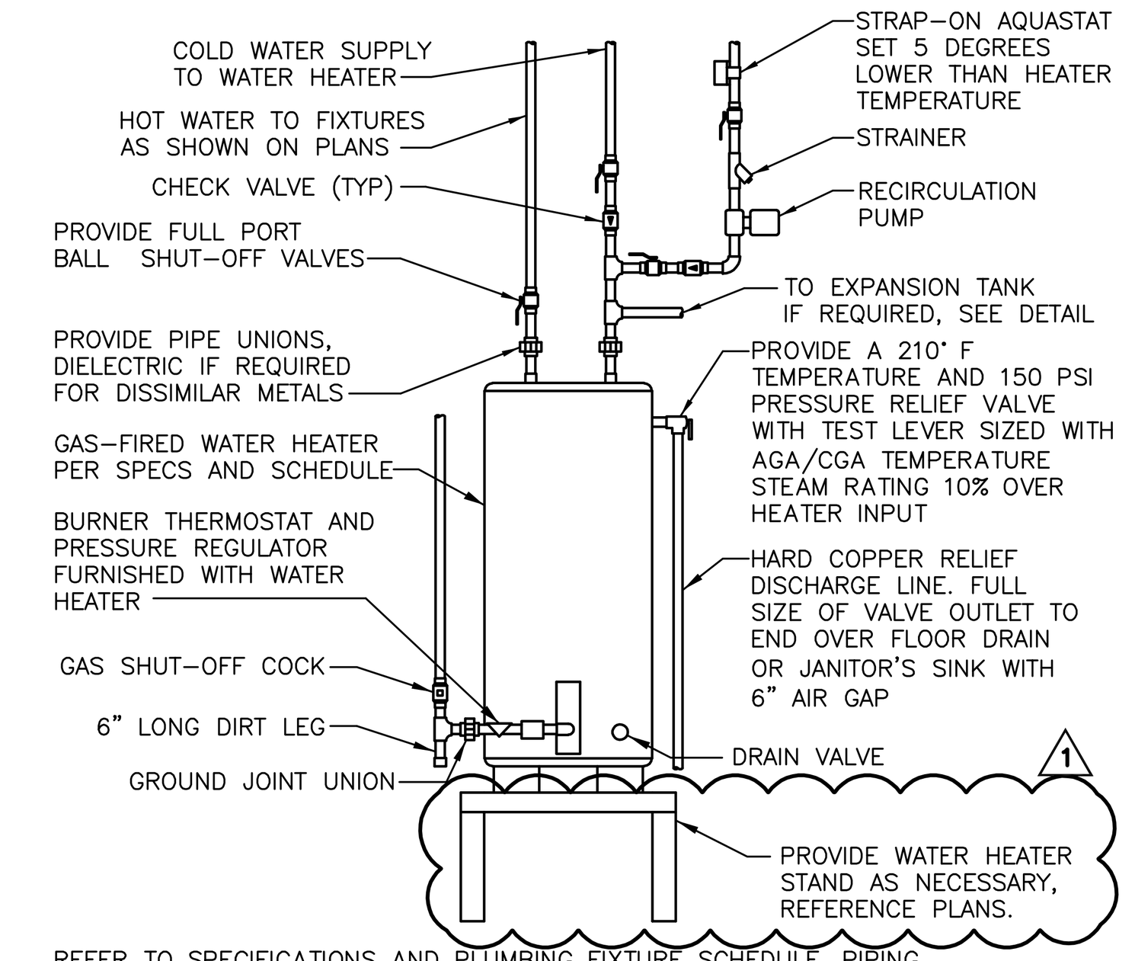
LOCATE AND ARRANGE SO THAT PUMP AND COVER CAN BE REMOVED. ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT FIELD CONDITIONS. PIT EXCAVATION IS BY PLUMBING CONTRACTOR, WITH GRAVEL BACKFILL. PROVIDE SUMP WITH BOTTOM MINIMUM THREE FEET BELOW LOWEST INLET. PROVIDE COPPER FLOATS AND AUTOMATIC MECHANICAL ALTERNATOR. LOCATE FLOATS AT ELEVATIONS RECOMMENDED BY PUMP MANUFACTURER.

7 SEWAGE EJECTOR
NOT TO SCALE



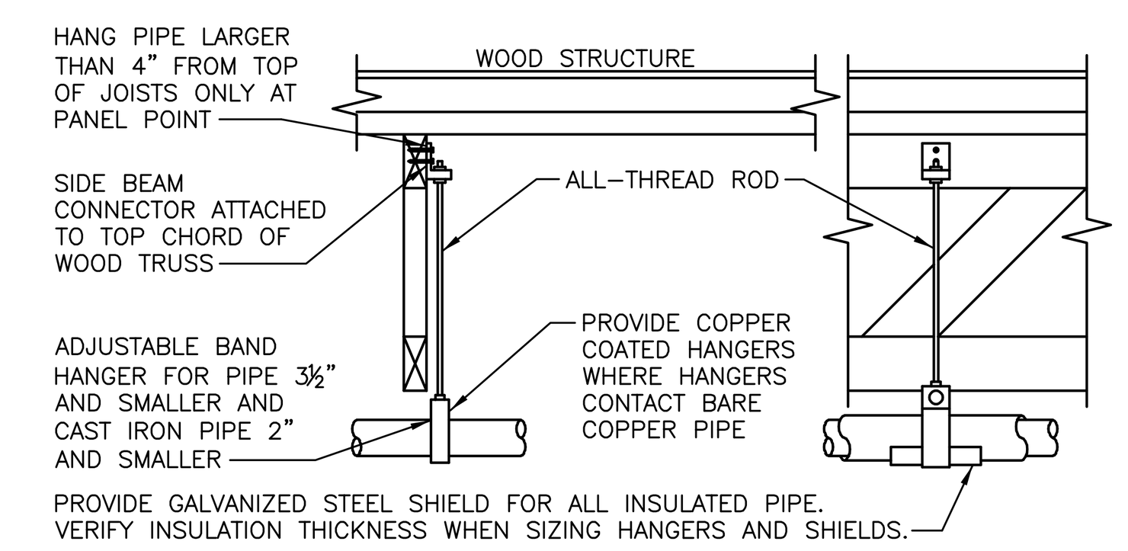
REFER TO PLANS FOR VTR PIPE SIZES AND LOCATIONS. VTR SHALL BE LOCATED A MINIMUM OF 20 FEET HORIZONTAL (UNLESS APPROVED BY ENGINEER PRIOR TO INSTALLATION) OR THREE FEET VERTICAL ABOVE ANY BUILDING OPENING OR FRESH AIR INTAKE. LOCATE VTR A MINIMUM OF ONE FOOT FROM ANY VERTICAL SURFACE. PROVIDE PROVIDE 1" FIBERGLASS INSULATION WITH ALL-SERVICE JACKET ON VENT PIPE INSIDE BUILDING WITHIN SIX FEET OF VENT THRU ROOF.

1 VENT THRU ROOF (VTR)
NOT TO SCALE



REFER TO SPECIFICATIONS AND PLUMBING FIXTURE SCHEDULE. PIPING ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT FIELD CONDITIONS. REFER TO FLOOR PLAN FOR PIPE SIZES. SET WATER HEATER THERMOSTAT AT 120 DEGREES FAHRENHEIT. PROVIDE SEISMIC STRAP OR BRACING AND FLEXIBLE CONNECTORS TO WATER AND GAS CONNECTIONS IF/AS REQUIRED BY LOCAL AUTHORITIES.

2 GAS WATER HEATER WITH PUMP
NOT TO SCALE



HANGER SPACING		
PIPE SIZE	COPPER PIPE	STEEL PIPE
½"	6'-0"	6'-0"
¾"	6'-0"	6'-0"
1"	6'-0"	8'-0"
1¼"	6'-0"	10'-0"
1½"	6'-0"	10'-0"
2"	10'-0"	10'-0"
2½"	10'-0"	10'-0"
3"	10'-0"	10'-0"
4"	10'-0"	10'-0"

PROVIDE UPPER ATTACHMENT AS REQUIRED FOR CASES NOT SHOWN HERE. DO NOT INSTALL HANGER INSIDE INSULATION OR OTHERWISE PENETRATE VAPOR BARRIER. DO NOT HANG ONE PIPE FROM ANOTHER EXCEPT IN CHASES. SLOPE ALL WATER PIPING SLIGHTLY TOWARD A DRAINABLE LOCATIONS. HANGER SPACING FOR PIPE SIZES: AS INDICATED IN TABLE. CAST IRON: 10'-0" AND WITHIN 1'-0" OF ALL JOINTS. ROD SIZES FOR PIPE SIZE: 2" AND SMALLER = ⅜", 2½" TO 3" = ½", 4" = ⅝". LOCATE HANGERS WITHIN 1'-0" OF VALVES AND FITTINGS. PROVIDE SUPPLEMENTAL STEEL STRUTS BETWEEN JOISTS IF REQUIRED. LOCATE HANGERS WITHIN 1'-0" OF EQUIPMENT CONNECTIONS. ANCHOR WATER PIPE AGAINST SWAYING DUE TO CHANGES IN WATER VELOCITY. CHAINS AND PERFORATED STRAP IRON AND STEEL ARE NOT ACCEPTABLE. DO NOT SUSPEND PIPE FROM JOIST BRACING MEMBERS. REFER TO CODES AND SPECIFICATIONS FOR FURTHER INFORMATION. PROVIDE SEISMIC BRACING IF/AS REQUIRED BY LOCAL AUTHORITIES.

3 PIPE HANGERS
NOT TO SCALE

Dialectic ENGINEERING

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MISSOURI

NAME: WAEL SAMMUR
DISCIPLINE: MECHANICAL ENGINEER
LICENSE NUMBER: EN-29583

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

PLUMBING DETAILS

REVISIONS:		
NO.	DATE:	DESCRIPTION:
1	01.26.2023	PERMIT REVIEW

SCALE:	1/4'=1'-0"
JOB #:	01202245.01
DATE:	2022/12/23
DRAWN BY:	JL
CHECKED BY:	NP

STATE OF MISSOURI WAEL A. SAMMUR NUMBER E-29583 REGISTERED PROFESSIONAL ENGINEER 1/26/23

SHEET NO:
P500

GENERAL ELECTRICAL NOTES

A. INCLUDE ALLOWANCE FOR UNFORESEEN CONDITIONS THAT MAY AFFECT THE SCOPE OF WORK. MINOR DEVIATIONS REQUIRED FOR ACCOMPLISHING THE INTENT OF THIS DESIGN SHALL BE INCLUDED IN THE ALLOWANCE.

B. PANELBOARDS AND DISCONNECT SWITCHES SHALL BE "LISTED" AND "IDENTIFIED" AS RATED FOR MINIMUM OF 75°C CONDUCTOR TERMINATION.

C. ELECTRICAL DESIGN IS BASED ON INSTALLATION OF 75°C CONDUCTORS CONNECTED TO TERMINAL LUGS AND EQUIPMENT U.L. LISTED FOR MINIMUM 75°C. CONDUCTORS TERMINATED ON EQUIPMENT WITH LOWER RATING (60°C) OR NO RATING SHOWN SHALL HAVE CONDUCTOR SIZE INCREASED TO CONFORM TO ADOPTED ELECTRICAL CODE AND UL/CUL NO. 489 REQUIREMENTS.

D. CONDUIT INSTALLED BELOW SLAB SHALL BE RIGID STEEL, IMC, PVC OR HDPE, MINIMUM 3/4". IF PVC OR HDPE IS USED, TRANSITION TO RIGID STEEL BEFORE TURNING UP AND PENETRATING FLOOR SLAB.

E. CONDUCTORS SHALL BE MINIMUM #14 THHN/THWN COPPER UNLESS NOTED OTHERWISE ON PLANS OR IN SPECIFICATIONS. BRANCH CIRCUITS SHALL BE PROVIDED WITH (2) #14 CONDUCTORS AND (1) #14 EQUIPMENT GROUND CONDUCTOR UNLESS NOTED OTHERWISE.

F. CONTROL VOLTAGE WIRING SHALL BE PLENUM RATED OR INSTALLED IN CONDUIT.

G. THERMOSTATS, TEMPERATURE SENSORS, CARBON DIOXIDE SENSORS AND HUMIDISTATS: UNLESS NOTED OTHERWISE, PROVIDE WALL BOX AT +3'–10" AFF WITH 3/4" CONDUIT STUBBED OUT TO ABOVE ACCESSIBLE CEILING WITH NYLON BUSHINGS AND PULLSTRING.

H. PROVIDE FLEXIBLE CONNECTIONS ONLY FOR FINAL CONNECTION TO EQUIPMENT, 6'–0" MAXIMUM LENGTH. PROVIDE LIQUID TIGHT FLEXIBLE CONNECTION AT EXTERIOR LOCATIONS AND WHERE EXPOSURE TO MOISTURE IS POSSIBLE.

I. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH A PULL WIRE.

J. ALL RACEWAYS SHALL CONTAIN A GROUNDING ELECTRODE SIZED PER THE ADOPTED ELECTRICAL CODE.

K. COORDINATE WORK ABOVE THE CEILING WITH OTHER TRADES TO PROVIDE THE GREATEST POSSIBLE CLEARANCE. CONDUIT RUNS SHALL BE RUN THROUGH TRUSSES WHERE POSSIBLE.

L. VERIFY EXACT PLACEMENT OF ALL DEVICES SHOWN ON CONSTRUCTION DOCUMENTS PRIOR TO FINAL PLACEMENT.

M. ALL RECESSED PANELBOARDS SHALL BE INSTALLED WITH MINIMUM OF (3) 3/4" CONDUITS STUBBED UP TO ACCESSIBLE CEILING SPACE FOR FUTURE USE.

N. ALL PANELBOARDS AND LINE VOLTAGE CONTROL EQUIPMENT SHALL BE FIELD MARKED TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS. MARKING SHALL BE LOCATED SO AS TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS BEFORE EXAMINATION, ADJUSTING, SERVICING OR MAINTENANCE OF EQUIPMENT. MARKING SHALL BE SELF ADHESIVE LABEL CONFORMING TO ADOPTED CODES.

O. LIGHT SWITCHES, ELECTRICAL OUTLETS, THERMOSTATS AND OTHER ENVIRONMENTAL CONTROLS SHALL HAVE OPERABLE PARTS OF THE CONTROLS LOCATED NO HIGHER THAN 48" AND NO LOWER THAN 15" ABOVE THE FLOOR. IF THE REACH IS OVER AN OBSTRUCTION BETWEEN 20" AND 25" IN DEPTH, THE MAXIMUM HEIGHT IS REDUCED TO 44" FOR FORWARD APPROACH OR 46" FOR SIDE APPROACH, PROVIDED THE OBSTRUCTION IS NO MORE THAN 24" IN DEPTH. OBSTRUCTIONS SHALL NOT EXTEND MORE THAN 25" FROM THE WALL BENEATH A CONTROL

P. TERMS:

SHALL – ACTION THAT IS REQUIRED WITHOUT OPTION OR QUALIFICATION.

FURNISH – CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING.

INSTALL – CONTRACTOR SHALL BE RESPONSIBLE FOR LABOR AND CONSTRUCTION EQUIPMENT NECESSARY TO SET IN PLACE, CONNECT, CALIBRATE AND/OR TEST EQUIPMENT FURNISHED BY HIM OR OTHERS.

PROVIDE – CONTRACTOR SHALL FURNISH AND INSTALL.

LIGHTING GENERAL NOTES

A. REFER TO "RECESSED LIGHTING FIXTURE SUPPORT DETAIL" FOR INFORMATION ON SUPPORT OF ALL RECESSED LIGHT FIXTURES.

B. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN AND DETAILS FOR LOCATION OF ALL LIGHTING FIXTURES AND ALL OTHER EQUIPMENT INSTALLED IN THE CEILING SYSTEM. VERIFY MOUNTING HEIGHTS AND FINISHES WITH ARCHITECT PRIOR TO ROUGH–IN.

C. REFER TO POWER PLANS FOR LOCATIONS OF ELECTRICAL EQUIPMENT.

POWER GENERAL NOTES

A. VERIFY EXACT LOCATIONS OF HVAC AND PLUMBING EQUIPMENT, CONDUIT STUB–UPS AND POWER CONNECTIONS PRIOR TO ROUGH–IN.

B. VERIFY EXACT LOCATION, MOUNTING HEIGHTS AND CONDUIT ROUTING FOR ALL THERMOSTATS, TEMPERATURE SENSORS, HUMIDISTATS AND CO_2 SENSORS PRIOR TO ROUGH–IN.

C. REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR ADDITIONAL ELECTRICAL REQUIREMENTS. COORDINATE PROVISIONS FOR CONTROL CONDUIT AND WIRING AS REQUIRED FOR INTERLOCKING OF FANS, MOTORS, ETC. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

D. MOUNT DEVICES INSTALLED ON EQUIPMENT ON NON–REMOVABLE PANEL. COORDINATE LOCATION PRIOR TO COMMENCING ROUGH–IN WORK.

ELECTRICAL SYMBOLS LEGEND

RACEWAYS AND WIRING:

Symbol	Description
5 3 1	HOME RUN TO PANEL. CIRCUIT NUMBERS, PHASE, NEUTRAL AND GROUND CONDUCTORS INDICATED ALONG WITH ISOLATED GROUND CONDUCTOR IF APPLICABLE.
1	PARTIAL CIRCUIT
	CONDUIT INSTALLED CONCEALED ABOVE CEILING OR IN WALL
	CONDUIT INSTALLED CONCEALED BELOW FLOOR SLAB OR UNDERGROUND
	CONDUIT INSTALLED FOR CONTROL OF FIXTURES
	GROUND CONNECTION

LUMINAIRES:

Symbol	Description
A	CEILING MOUNTED LUMINAIRE, LETTER INDICATES TYPE
A	WALL MOUNTED LUMINAIRE, LETTER INDICATES TYPE
	LINEAR FLUORESCENT LUMINAIRE
	FLUORESCENT EMERGENCY OR NIGHT LIGHT
	LINEAR FLUORESCENT STRIP LUMINAIRE
A	PENDANT FIXTURE, LETTER INDICATES TYPE

SWITCHES:

Symbol	Description
$	SINGLE POLE SWITCH, +3'–10" OR AS NOTED
$3	THREE–WAY SWITCH, +3'–10" OR AS NOTED
$4	FOUR–WAY SWITCH, +3'–10" OR AS NOTED
$WP	WEATHERPROOF TOGGLE SWITCH, +3'–10" OR AS NOTED
$P	SINGLE POLE SWITCH WITH PILOT LIGHT, +3'–10" OR AS NOTED

RECEPTACLES:

Symbol	Description
	SIMPLEX RECEPTACLE, +18" OR AS NOTED
	DUPLEX RECEPTACLE, +18" OR AS NOTED
	CONTROLLED DUPLEX RECEPTACLE, +18" OR AS NOTED
	QUADRUPLEX RECEPTACLE, +18" OR AS NOTED
	QUADRUPLEX RECEPTACLE WITH ONE OUTLET CONTROLLED, +18" OR AS NOTED
G G G	GROUND FAULT INTERRUPTING RECEPTACLE, +18" OR AS NOTED
WP WP WP	WEATHERPROOF GROUND FAULT INTERRUPTING RECEPTACLE, +18" OR AS NOTED
H H H	RECEPTACLE INSTALLED HORIZONTALLY AT +18" OR AS NOTED
H H H	RECEPTACLE INSTALLED HORIZONTALLY, BOTTOM AT +6" ABOVE COUNTER TOP
	RECEPTACLE INSTALLED FLUSH IN CEILING
	SPECIAL RECEPTACLE, NEMA STYLE AS NOTED, +18" OR AS NOTED

JUNCTION BOXES, DISCONNECTS, STARTERS AND MOTORS:

Symbol	Description
J	JUNCTION BOX
J	JUNCTION BOX PROVIDED WITH EQUIPMENT
	DISCONNECT SWITCH, TOP AT +6'–0" OR AS NOTED
	DISCONNECT SWITCH PROVIDED WITH EQUIPMENT.
	COMBINATION MOTOR STARTER/DISCONNECT SWITCH FURNISHED BY MECHANICAL CONTRACTOR, INSTALLED BY ELECTRICAL CONTRACTOR
	MAGNETIC MOTOR STARTER FURNISHED BY MECHANICAL CONTRACTOR, INSTALLED BY ELECTRICAL CONTRACTOR
VFD	VARIABLE FREQUENCY DRIVE WITH INTEGRAL DISCONNECT SWITCH FURNISHED BY MECHANICAL CONTRACTOR, INSTALLED BY ELECTRICAL CONTRACTOR
	MOTOR CONNECTION
ECB	ENCLOSED CIRCUIT BREAKER, TOP OF HANDLE +6'–0" MAXIMUM

CONTROL AND MISCELLANEOUS:

Symbol	Description
R	CONTROL OR POWER RELAY, INSTALLED AS NOTED
CH	DOOR BELL CHIME, +8'–0" OR AS NOTED
DB	DOOR BELL PUSH BUTTON, +3'–10" OR AS NOTED
GD	GARAGE DOOR PUSH BUTTON, +3'–10" OR AS NOTED
TR	CONTROL TRANSFORMER, INSTALLED AS NOTED
T TS CO2 H	THERMOSTAT, TEMPERATURE SENSOR, CARBON DIOXIDE SENSOR AND HUMIDISTAT PROVIDED BY MECHANICAL CONTRACTOR, +3'–10" OR AS NOTED
	120 VOLT DUCT TYPE SMOKE DETECTOR, PROVIDED BY MECHANICAL CONTRACTOR

SERVICE EQUIPMENT:

Symbol	Description
	TERMINAL CABINET, TOP AT +6'–0" OR AS NOTED
	CT CABINET AND METER, TOP AT +6'–0" AFG OR AS NOTED
M	POWER COMPANY METER, TOP AT +6'–0" AFG OR AS NOTED
	TRANSFORMER, FLOOR MOUNTED OR SUSPENDED FROM STRUCTURE AS NOTED
	BRANCH CIRCUIT PANELBOARD, TOP AT +6'–0" OR AS NOTED

ONE–LINE DIAGRAM:

Symbol	Description
	GROUNDING ELECTRODE
	TRANSFORMER
	CT: CURRENT TRANSFORMER
	CIRCUIT BREAKER

COMMUNICATIONS:

Symbol	Description
	TELEPHONE OUTLET, +18" WITH 3/4" CONDUIT TO ABOVE CEILING
	TELEPHONE OUTLET, +6" ABOVE COUNTER WITH 3/4" CONDUIT TO ABOVE CEILING
	DATA OUTLET, +18" WITH 3/4" CONDUIT TO ABOVE CEILING
	DATA OUTLET, +6" ABOVE COUNTER WITH 3/4" CONDUIT TO ABOVE CEILING
	TELEPHONE/DATA OUTLET, +18" WITH 1" CONDUIT TO ABOVE CEILING
	TELEPHONE/DATA OUTLET, +6" ABOVE COUNTER WITH 1" CONDUIT TO ABOVE CEILING
TV	CATV OUTLET, +18" WITH 3/4" CONDUIT TO ABOVE CEILING

FIRE ALARM: (1)

Symbol	Description
	AREA TYPE SMOKE DETECTOR WITH SOUNDER BASE
C	AREA TYPE CARBON MONOXIDE DETECTOR

GENERAL REFERENCES/NOTATIONS:

Symbol	Description
AC	MOUNT DEVICE +6" ABOVE TOP OF COUNTER TO BOTTOM OF DEVICE
+48"	MOUNTING HEIGHT ABOVE FINISHED FLOOR TO CENTERLINE OF DEVICE
03/E5	DETAIL OR SECTION REFERENCE
#	SQUARE NOTE DESIGNATION
#	CIRCLE NOTE DESIGNATION
#	HEXAGON NOTE DESIGNATION
#	DIAMOND NOTE DESIGNATION
#	REVISION DESIGNATION
?? / ??	DETAIL NUMBER DETAIL DESIGNATION SHEET NUMBER
?? / ??	SECTION NUMBER SECTION DESIGNATION SHEET NUMBER
TYPE ?	EQUIPMENT DESIGNATION
	AVAILABLE FAULT CURRENT SYSTEM POINT IDENTIFIER

ABBREVIATIONS:

Abbreviation	Meaning
AFF/AFG	ABOVE FINISHED FLOOR/GRADE
AHJ	AUTHORITY HAVING JURISDICTION
EC	ELECTRICAL CONTRACTOR
EM	EMERGENCY
ETR	EXISTING TO REMAIN
FA	FIRE ALARM
FPC	FIRE PROTECTION CONTRACTOR
GC	GENERAL CONTRACTOR
MC	MECHANICAL CONTRACTOR
NEC	NATIONAL ELECTRICAL CODE
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NL	NIGHT LIGHT
NF	NON–FUSED
PC	PLUMBING CONTRACTOR
SPD	SURGE PROTECTION DEVICE
TYP	TYPICAL
UL	UNDERWRITERS LABORATORIES
UNO	UNLESS NOTED OTHERWISE
WP	WEATHERPROOF

SYMBOLS LEGEND NOTES:
1. REFER TO LIGHT FIXTURE SCHEDULE FOR SPECIFICATION AND INFORMATION ON ALL LUMINAIRES.
2. REFER TO SPECIFICATIONS AND PLAN NOTES FOR DETAILED DESCRIPTION OF ALL DEVICES SHOWN IN THIS SCHEDULE, PROVIDED BY THIS CONTRACTOR.
3. MOUNTING HEIGHTS INDICATED ARE MEASURED FROM FINISHED FLOOR TO THE CENTERLINE OF THE DEVICE UNLESS NOTED OTHERWISE.

DIALECTIC ENGINEERING

Dialectic, Inc.
310 W 20th Street, Suite 100
Kansas City, MO 64108
Missouri Certificate of Authorization Number 1582
T 816-997-9601
F 816-997-9602
DialecticEng.com

PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MISSOURI

ADRIAN T FRANKS — NAME:

PE–2012032391 — LICENSE NUMBER

ELECTRICAL ENGINEER — DISCIPLINE

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

ELECTRICAL LEGEND AND NOTES

REVISIONS:

NO.	DATE:	DESCRIPTION:
1	01.26.2023	PERMIT REVIEW

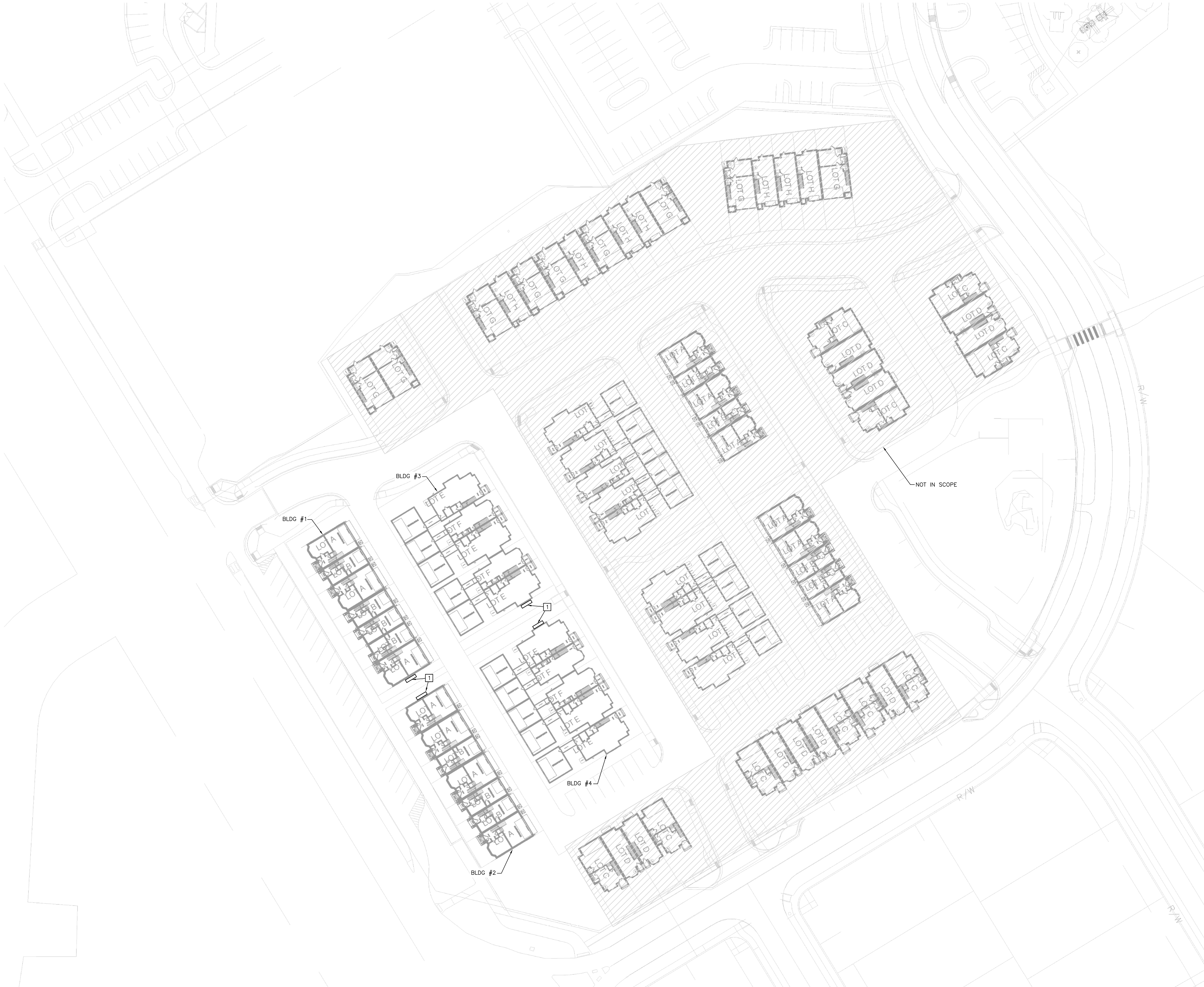
SCALE:	N.T.S.
JOB #:	01202245.01
DATE:	2022/12/23
DRAWN BY:	MLN
CHECKED BY:	ELS

STATE OF MISSOURI · ADRIAN T. FRANKS · 01/26/2023 · NUMBER PE-2012032391 · PROFESSIONAL ENGINEER

SHEET NO:
E001

ELECTRICAL KEY NOTES

1. LOCATION OF BUILDING SERVICE, METERS AND DISCONNECTS. COORDINATE UTILITY SERVICE WITH EVERGY:
   EVERGY PROJECT ENGINEER: RON DEJARNETTE
   RON.DEJARNETTE@EVERGY.COM



01 ELECTRICAL SITE PLAN
1"=30'

NORTH
TRUE

DIALECTIC ENGINEERING
Dialectic, Inc.
310 W 20th Street, Suite 100
Kansas City, MO 64108
Missouri Certificate of Authorization Number 1582
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ADRIAN T FRANKS
NAME:
ELECTRICAL ENGINEER
DISCIPLINE
PE-2012032391
LICENSE NUMBER

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

ELECTRICAL SITE PLAN

REVISIONS:

NO.	DATE:	DESCRIPTION:
1	01.26.2023	PERMIT REVIEW

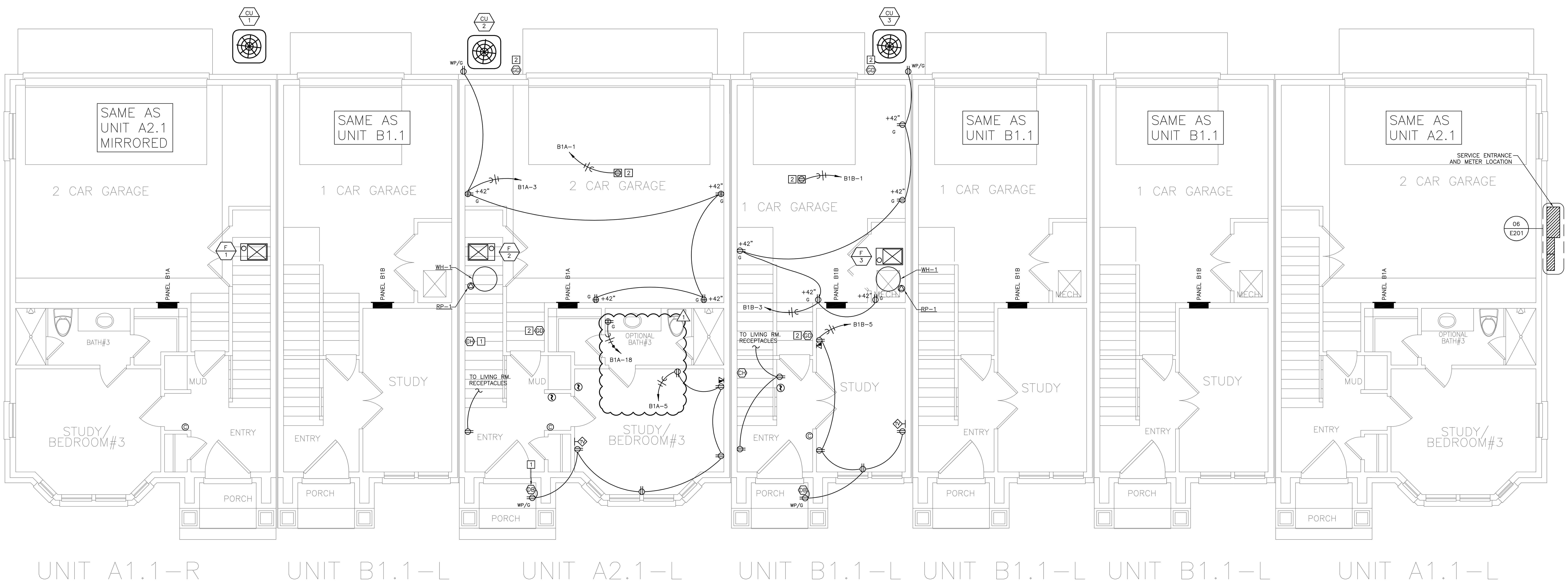
SCALE:	AS SHOWN
JOB #:	01202245.01
DATE:	2022/12/23
DRAWN BY:	MLN
CHECKED BY:	ELS

STATE OF MISSOURI
ADRIAN T. FRANKS
01/26/2023
NUMBER
PE-2012032391
PROFESSIONAL ENGINEER

SHEET NO:
E101

POWER PLAN NOTE BOX

1. DOOR CHIME AND DOORBELL. CONFIRM EXACT REQUIREMENTS WITH MANUFACTURER PRIOR TO ROUGH–IN. CONFIRM FINAL LOCATION WITH OWNER PRIOR TO ROUGH–IN. PROVIDE ALL LOW VOLTAGE WIRING AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM.
2. GARAGE DOOR OPENER. CONFIRM EXACT REQUIREMENTS WITH MANUFACTURER PRIOR TO ROUGH–IN. CONFIRM FINAL LOCATION WITH OWNER PRIOR TO ROUGH–IN. PROVIDE ALL LOW VOLTAGE WIRING AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM.



01 FIRST FLOOR POWER PLAN
1/4"=1'–0"

Dialectic ENGINEERING
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310 W 20th Street, Suite 100
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NAME: ADRIAN T FRANKS
LICENSE NUMBER: PE–2012032391
DISCIPLINE: ELECTRICAL ENGINEER

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

BUILDING 1
FIRST FLOOR POWER PLAN

REVISIONS:

NO.	DATE:	DESCRIPTION:
1	01.26.2023	PERMIT REVIEW

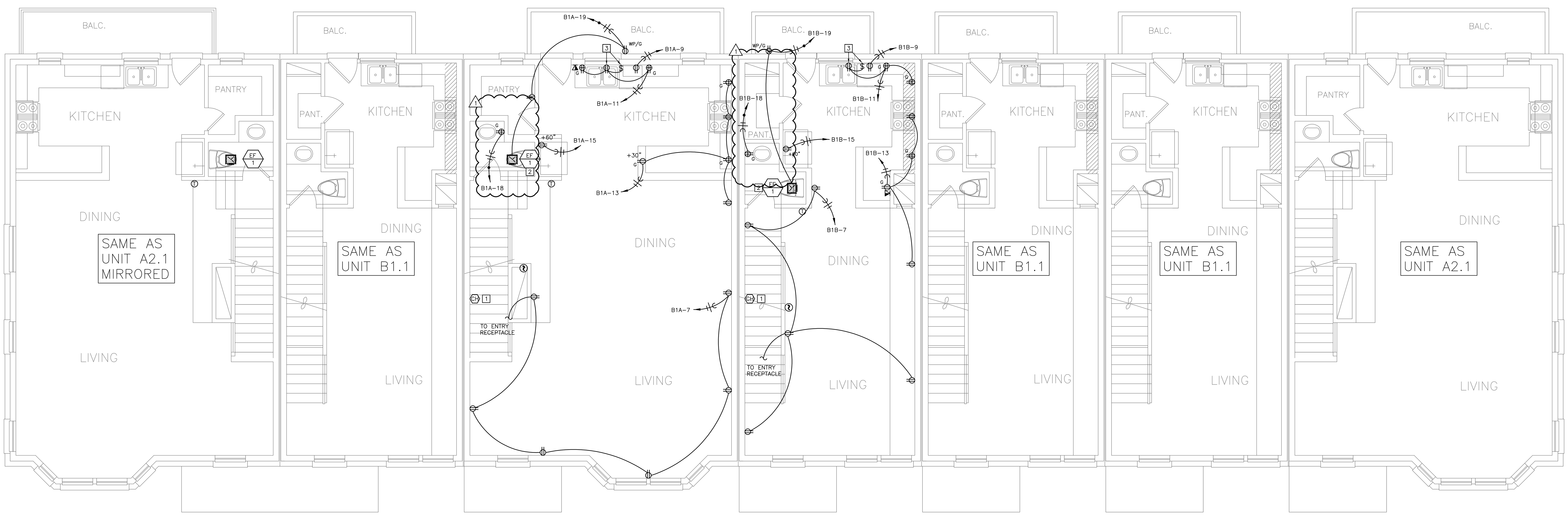
SCALE:	1/4'=1'–0"
JOB #:	01202245.01
DATE:	2022/12/23
DRAWN BY:	MLN
CHECKED BY:	ELS

STATE OF MISSOURI
ADRIAN T. FRANKS
01/26/2023
NUMBER PE-2012032391
PROFESSIONAL ENGINEER

SHEET NO:
E110

POWER PLAN NOTE BOX

1. DOOR CHIME. CONFIRM EXACT REQUIREMENTS WITH MANUFACTURER PRIOR TO ROUGH–IN. CONFIRM FINAL LOCATION WITH OWNER PRIOR TO ROUGH–IN. PROVIDE ALL LOW VOLTAGE WIRING AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM.
2. BATHROOM EXHAUST FAN. FAN IS CONTROLLED BY LIGHT SWITCH IN SAME ROOM. REFER TO LIGHTING PLAN FOR LOCATION OF SWITCH.
3. UNDER SINK DISPOSAL. CONFIRM EXACT REQUIREMENTS WITH MANUFACTURER PRIOR TO ROUGH–IN. ROUTE POWER THROUGH LIGHT SWITCH ABOVE COUNTER FOR CONTROL. CONFIRM EXACT LOCATION WITH OWNER PRIOR TO ROUGH–IN.



UNIT A1.1–R UNIT B1.1–L UNIT A2.1–L UNIT B1.1–L UNIT B1.1–L UNIT B1.1–L UNIT A1.1–L

01 SECOND FLOOR POWER PLAN
1/4"=1'–0"

Dialectic ENGINEERING
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ADRIAN T FRANKS
NAME:

ELECTRICAL ENGINEER
DISCIPLINE

PE–2012032391
LICENSE NUMBER

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

BUILDING 1
SECOND FLOOR POWER PLAN

REVISIONS:

NO.	DATE:	DESCRIPTION:
1	01.26.2023	PERMIT REVIEW

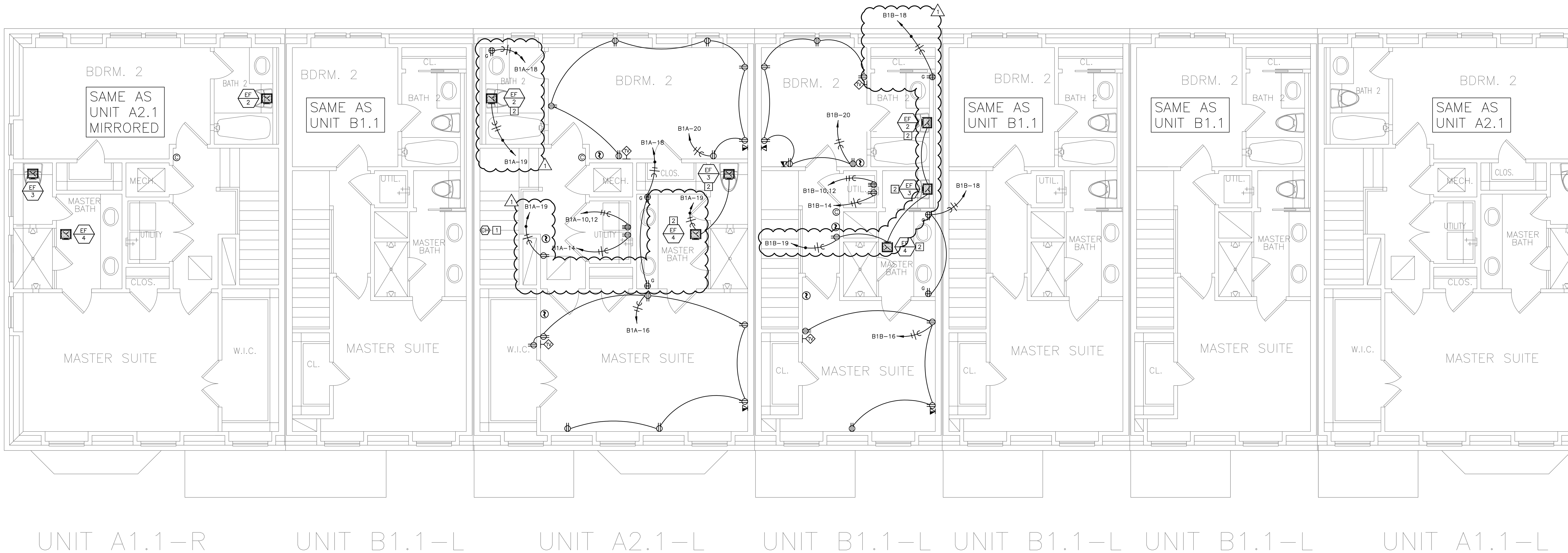
SCALE:	1/4'=1'–0"
JOB #:	01202245.01
DATE:	2022/12/23
DRAWN BY:	MLN
CHECKED BY:	ELS

STATE OF MISSOURI
ADRIAN T. FRANKS
01/26/2023
NUMBER
PE-2012032391
PROFESSIONAL ENGINEER

SHEET NO:
E111

POWER PLAN NOTE BOX

1. DOOR CHIME. CONFIRM EXACT REQUIREMENTS WITH MANUFACTURER PRIOR TO ROUGH–IN. CONFIRM FINAL LOCATION WITH OWNER PRIOR TO ROUGH–IN. PROVIDE ALL LOW VOLTAGE WIRING AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM.
2. BATHROOM EXHAUST FAN. FAN IS CONTROLLED BY LIGHT SWITCH IN SAME ROOM. REFER TO LIGHTING PLAN FOR LOCATION OF SWITCH.



01 THIRD FLOOR POWER PLAN
1/4"=1'-0"

DIALECTIC ENGINEERING
Dialectic, Inc.
310 W 20th Street, Suite 100
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Missouri Certificate of Authorization Number 1582
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F 816-997-9602
DialecticEng.com

PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MISSOURI

NAME: ADRIAN T FRANKS
DISCIPLINE: ELECTRICAL ENGINEER
LICENSE NUMBER: PE-2012032391

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

BUILDING 1
THIRD FLOOR POWER PLAN

REVISIONS:

NO.	DATE:	DESCRIPTION:
1	01.26.2023	PERMIT REVIEW

SCALE:	1/4'=1'-0"
JOB #:	01202245.01
DATE:	2022/12/23
DRAWN BY:	MLN
CHECKED BY:	ELS

STATE OF MISSOURI
ADRIAN T. FRANKS
01/26/2023
NUMBER PE-2012032391
PROFESSIONAL ENGINEER

SHEET NO:
E112

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER & CATALOG NUMBER	LAMPS & BALLAST	MOUNTING	VOLTS	WATTS	REMARKS
A	RECESSED DOWNLIGHT	TBD	(1) 10W LED MEDIUM BASE	CEILING	120	10	
AW	RECESSED DOWNLIGHT – WET LOCATION RATED	TBD	(1) 10W LED MEDIUM BASE	CEILING	120	10	
B	VANITY LIGHT FIXTURE	TBD	(3) 10W LED MEDIUM BASE	WALL	120	30	
C	4' STRIP FIXTURE	TBD	(2) 15W LED BI–PIN	CEILING	120	30	
D	WALL SCONCE	TBD	(1) 10W LED MEDIUM BASE	WALL	120	10	
F	CEILING FAN	TBD	NONE	CEILING	120	50	
P1	CUSTOM CHANDELIER	TBD	(5) 3W LED MEDIUM BASE	PENDANT	120	15	
P2	CUSTOM PENDANT	TBD	(2) 7W LED MEDIUM BASE	PENDANT	120	14	
P3	CUSTOM PENDANT	TBD	(1) 5W LED MEDIUM BASE	PENDANT	120	5	

EQUIPMENT FEEDER SCHEDULE

EQUIPMENT MARK	VOLTAGE–PHASE	PANEL – CIRCUIT(S)	MOCP	FEEDER		DISCONNECT					REMARKS
				CONDUCTOR & GROUND	PIPE	PROVIDER	AMPERAGE	POLES	FUSES	NEMA	
CU–1	240V–1P	B1A–4,6	35A	(2)#8 & (1)#10G	3/4"	CONTRACTOR	60A	2	NF	3R	2
CU–2	240V–1P	B1A–4,6	30A	(2)#10 & (1)#10G	3/4"	CONTRACTOR	30A	2	NF	3R	–
CU–3	240V–1P	B1B–4,6	20A	(2)#12 & (1)#12G	3/4"	CONTRACTOR	30A	2	NF	3R	–
EF–1	120V–1P	RE: PLAN	15A	(2)#12 & (1)#12G	3/4"	INTEGRAL	–	–	NF	–	1
EF–2	120V–1P	RE: PLAN	15A	(2)#12 & (1)#12G	3/4"	INTEGRAL	–	–	NF	–	1
EF–3	120V–1P	RE: PLAN	15A	(2)#12 & (1)#12G	3/4"	INTEGRAL	–	–	NF	–	1
EF–4	120V–1P	RE: PLAN	15A	(2)#12 & (1)#12G	3/4"	INTEGRAL	–	–	NF	–	1
F–1	120V–1P	B1A–2	15A	(2)#12 & (1)#12G	3/4"	CONTRACTOR	30A	2	NF	1	2
F–2	120V–1P	B1A–2	15A	(2)#12 & (1)#12G	3/4"	CONTRACTOR	30A	2	NF	1	–
F–3	120V–1P	B1B–2	15A	(2)#12 & (1)#12G	3/4"	CONTRACTOR	30A	2	NF	1	–
RP–1	120V–1P	B1A–8/B1B–8	15A	(2)#12 & (1)#12G	3/4"	CONTRACTOR	30A	2	NF	1	–
WH–1	120V–1P	B1A–8/B1B–8	15A	(2)#12 & (1)#12G	3/4"	CONTRACTOR	30A	2	NF	1	–

EQUIPMENT FEEDER GENERAL NOTES

A. DISCONNECT SWITCHES FOR 120V OR 277V EQUIPMENT UNDER 30 AMPS SHALL BE MOTOR RATED TOGGLE SWITCHES.

B. CONTRACTOR IS RESPONSIBLE FOR ALL FINAL CONNECTIONS TO EQUIPMENT.

C. COORDINATE EXACT ROUGH–IN LOCATIONS PRIOR TO START OF CONSTRUCTION.

D. ALL MULTI–VOLT DISCONNECT SWITCHES PROVIDED BY THIS CONTRACTOR SHALL COME WITH A NEUTRAL AND GROUND LUG KIT.

EQUIPMENT FEEDER REMARKS

1. EXHAUST FAN TO BE CONTROLLED BY A DEDICATED SWITCH. RE: PLANS FOR LOCATION OF SWITCH.
2. EQUIPMENT IS LOCATED IN THE END UNITS ONLY. REFER TO MECHANICAL PLAN FOR MORE INFORMATION.

PANEL: B1A — LOCATION: GARAGE — NEMA ENCLOSURE: 1
SYSTEM: 240/120V., 1P,3W — MAINS: 200A MCB — CABINET MOUNTING: RECESSED
FEEDER: SEE RISER DIAGRAM — LUGS: TOP
OPTIONS: — AIC RATING: 22,000A

LOAD DESCRIPTION	BKR SIZE	BKR POLE	NOTE	WATTS	CCT NO.	PHASE	CCT NO.	WATTS	NOTE	BKR POLE	BKR SIZE	LOAD DESCRIPTION
GARAGE DOOR	20	1	AF/G	500	1	A	2	1,999	AF	1	15	F-1 OR F-2
GARAGE RCPT	20	1	AF	900	3	C	4	2,124		2	30/	CU-1 (35A) OR CU-2 (30A)
STUDY/BEDRM RCPT/CHIME	20	1	AF	1,080	5	A	6	2,124			35	
LIVING/ENTRY RCPT	20	1	AF	1,260	7	C	8	200	AF	1	15	WH-1/RP-1
DISHWASHER	20	1	AF	500	9	A	10	2,000		2	30	DRYER
KITCHEN/DISPOSAL RCPT	20	1	AF	1,500	11	C	12	2,000				
KITCHEN/RANGE/DINING RCPT	20	1	AF	1,500	13	A	14	1,000	AF/G	1	20	WASHER
FRIDGE RCPT	20	1	AF	900	15	C	16	~~1,260~~	~~AF~~	~~1~~	~~20~~	~~MASTER BEDROOM RCPT~~
FIRST/SECOND/THIRD FL./EXT. LTG	20	1	AF	944	17	A	18	900	AF	1	20	BATHROOM RCPT
BALC/PANT./HALL RCPT/EF'S	20	1	AF	712	19	C	20	~~1,260~~	~~AF~~	~~1~~	~~20~~	~~BEDROOM #2 RCPT~~
SPARE	20	1	AF		21	A	22		AF	1	20	SPARE
SPARE	20	1	AF		23	C	24		AF	1	20	SPARE
					25	A	26					
					27	C	28					
					29	A	30					
					31	C	32					
					33	A	34					
					35	C	36					
					37	A	38					
					39	C	40					
					41	A	42					
FULLY BUSSED SPACE					43	C	44					FULLY BUSSED SPACE

PHASE A : 12,547 W
PHASE C : 12,116 W

CONNECTED	DEMAND
24,663 W	24,313 W
103 A	101 A

Y:_Projects\Active\2022\01202245.01\01202245.01.Calcs and Support\01202245.01

PANEL: B1B — LOCATION: GARAGE — NEMA ENCLOSURE: 1
SYSTEM: 240/120V., 1P,3W — MAINS: 200A MCB — CABINET MOUNTING: RECESSED
FEEDER: SEE RISER DIAGRAM — LUGS: TOP
OPTIONS: — AIC RATING: 22,000A

LOAD DESCRIPTION	BKR SIZE	BKR POLE	NOTE	WATTS	CCT NO.	PHASE	CCT NO.	WATTS	NOTE	BKR POLE	BKR SIZE	LOAD DESCRIPTION
GARAGE DOOR	20	1	AF/G	500	1	A	2	1,433	AF	1	15	F-3
GARAGE RCPT	20	1	AF	1,080	3	C	4	1,320		2	20	CU-3
STUDY RCPT/CHIME	20	1	AF	900	5	A	6	1,320				
LIVING/ENTRY RCPT	20	1	AF	1,260	7	C	8	200	AF	1	15	WH-1/RP-1
DISHWASHER	20	1	AF	500	9	A	10	2,000		2	30	DRYER
KITCHEN/DISPOSAL RCPT	20	1	AF	1,500	11	C	12	2,000				
KITCHEN/RANGE/DINING RCPT	20	1	AF	1,500	13	A	14	1,000	AF/G	1	20	WASHER
FRIDGE RCPT	20	1	AF	900	15	C	16	~~720~~	~~AF~~	~~1~~	~~20~~	~~MASTER BEDROOM RCPT~~
FIRST/SECOND/THIRD FL./EXT. LTG	20	1	AF	784	17	A	18	720	AF	1	20	BATHROOM RCPT
BALC/HALL RCPT/EF'S	20	1	AF	403	19	C	20	~~1,080~~	~~AF~~	~~1~~	~~20~~	~~BEDROOM #2 RCPT~~
SPARE	20	1	AF		21	A	22		AF	1	20	SPARE
SPARE	20	1	AF		23	C	24		AF	1	20	SPARE
					25	A	26					
					27	C	28					
					29	A	30					
					31	C	32					
					33	A	34					
					35	C	36					
					37	A	38					
					39	C	40					
					41	A	42					
FULLY BUSSED SPACE					43	C	44					FULLY BUSSED SPACE

PHASE A : 10,657 W
PHASE C : 10,463 W

CONNECTED	DEMAND
21,120 W	21,193 W
88 A	88 A

Y:_Projects\Active\2022\01202245.01\01202245.01.Calcs and Support\01202245.01

ELECTRICAL SERVICE LOAD SUMMARY

LOAD DESCRIPTION	CONNECTED WATTAGE	DEMAND FACTOR	DEMAND WATTAGE
LIGHTING	5,968	125%	7,460
RECEPTACLES	81,068	1ST 10KW @ 100%	10,000
		REMAINING @ 50%	35,534
CONTINUOUS MOTORS	11,729	125%	14,661
AIR CONDITIONING *	23,304	100% FULL A/C LOAD	23,304
HEATING *	0	0% FULL HEATING LOAD	0
CONTINUOUS WATER HEATER	1,400	125%	1,750
MISCELLANEOUS	35,000	100%	35,000
		TOTAL WATTS	127,709
		TOTAL AMPERAGE	532

NOTES:
* USE GREATER LOAD OF THE TWO CATEGORIES

REQUIRED ELECTRICAL SERVICE: **1200 AMPS**

PANEL SCHEDULE NOTES

General Notes:

	BALANCE PANELS WITHIN 10% PHASE TO PHASE.

Circuit Key Notes:

G	GROUND FAULT CIRCUIT INTERUPTING BREAKER
AF	ARC FAULT CIRCUIT INTERUPTING BREAKER

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ADRIAN T FRANKS — NAME:
ELECTRICAL ENGINEER — DISCIPLINE
PE–2012032391 — LICENSE NUMBER

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

BUILDING 1
ELECTRICAL SCHEDULES

REVISIONS:

NO.	DATE:	DESCRIPTION:
1	01.26.2023	PERMIT REVIEW

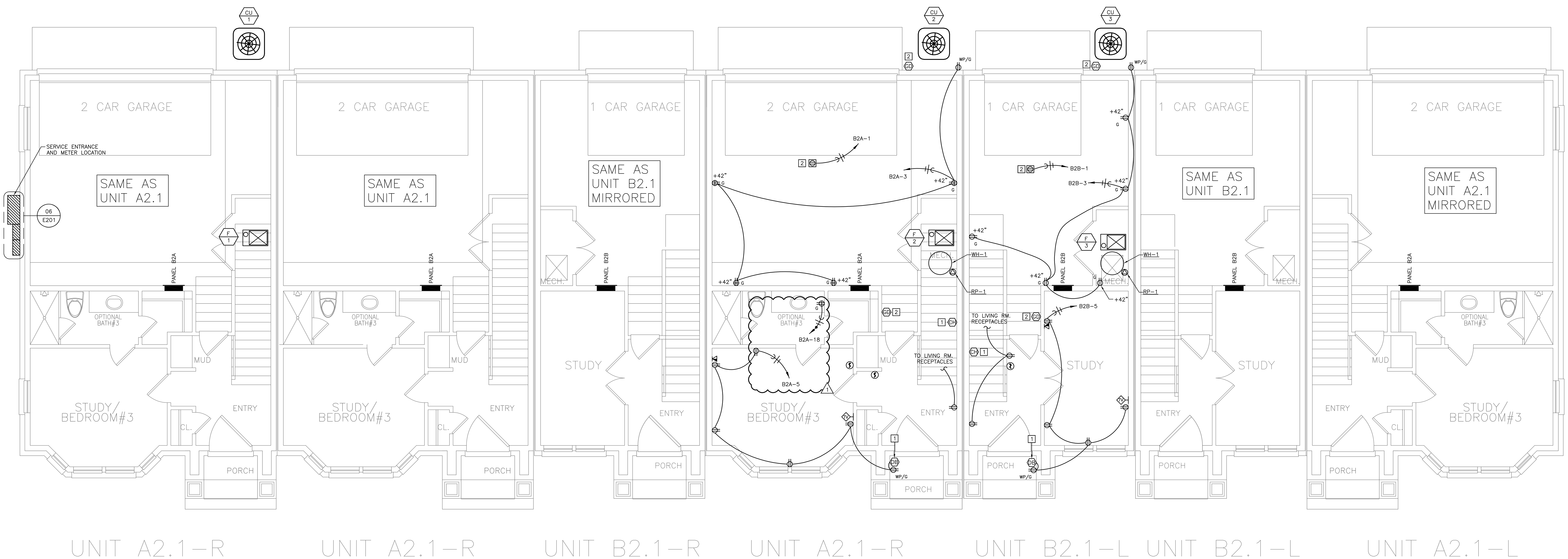
SCALE:	N.T.S.
JOB #:	01202245.01
DATE:	2022/12/23
DRAWN BY:	MLN
CHECKED BY:	ELS

STATE OF MISSOURI — ADRIAN T. FRANKS — 01/26/2023 — NUMBER PE-2012032391 — PROFESSIONAL ENGINEER

SHEET NO:
E116

POWER PLAN NOTE BOX

1. DOOR CHIME AND DOORBELL. CONFIRM EXACT REQUIREMENTS WITH MANUFACTURER PRIOR TO ROUGH–IN. CONFIRM FINAL LOCATION WITH OWNER PRIOR TO ROUGH–IN. PROVIDE ALL LOW VOLTAGE WIRING AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM.
2. GARAGE DOOR OPENER. CONFIRM EXACT REQUIREMENTS WITH MANUFACTURER PRIOR TO ROUGH–IN. CONFIRM FINAL LOCATION WITH OWNER PRIOR TO ROUGH–IN. PROVIDE ALL LOW VOLTAGE WIRING AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM.



01 FIRST FLOOR POWER PLAN
1/4"=1'–0"

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NAME: ADRIAN T FRANKS
DISCIPLINE: ELECTRICAL ENGINEER
LICENSE NUMBER: PE–2012032391

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

BUILDING 2
FIRST FLOOR POWER PLAN

REVISIONS:

NO.	DATE:	DESCRIPTION:
1	01.26.2023	PERMIT REVIEW

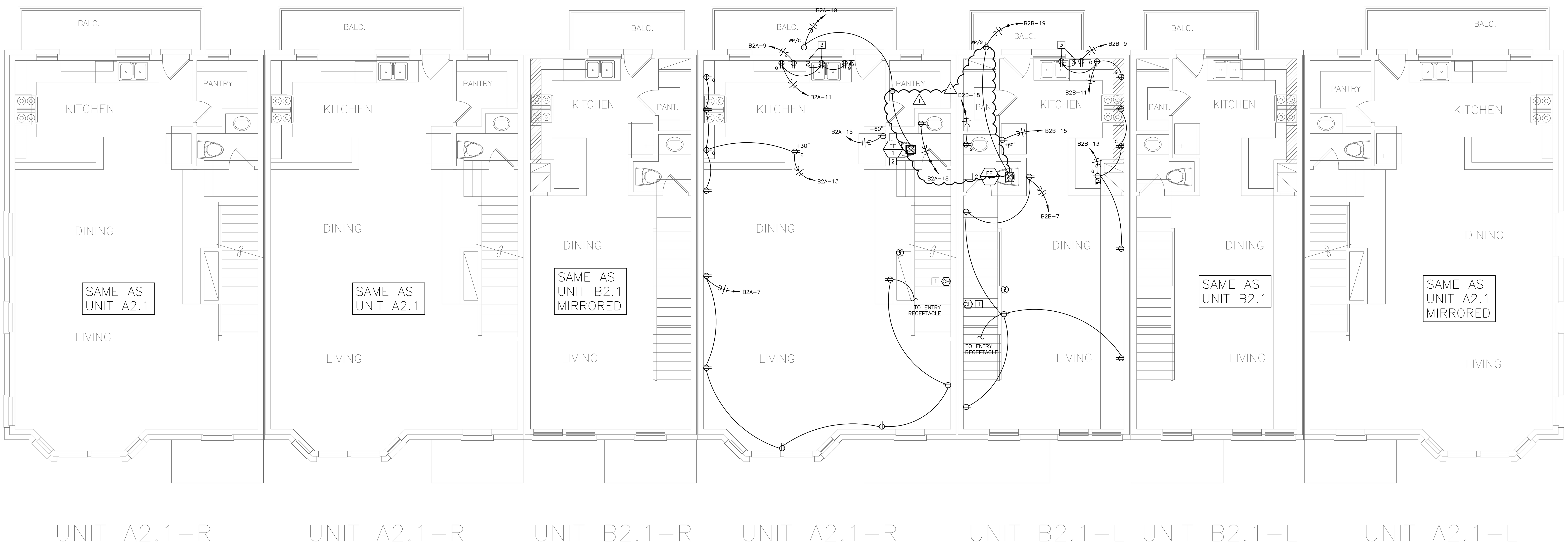
SCALE:	1/4'=1'–0"
JOB #:	01202245.01
DATE:	2022/12/23
DRAWN BY:	MLN
CHECKED BY:	ELS

STATE OF MISSOURI
ADRIAN T. FRANKS
01/26/2023
NUMBER PE-2012032391
PROFESSIONAL ENGINEER

SHEET NO:
E120

POWER PLAN NOTE BOX

1. DOOR CHIME. CONFIRM EXACT REQUIREMENTS WITH MANUFACTURER PRIOR TO ROUGH–IN. CONFIRM FINAL LOCATION WITH OWNER PRIOR TO ROUGH–IN. PROVIDE ALL LOW VOLTAGE WIRING AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM.
2. BATHROOM EXHAUST FAN. FAN IS CONTROLLED BY LIGHT SWITCH IN SAME ROOM. REFER TO LIGHTING PLAN FOR LOCATION OF SWITCH.
3. UNDER SINK DISPOSAL. CONFIRM EXACT REQUIREMENTS WITH MANUFACTURER PRIOR TO ROUGH–IN. ROUTE POWER THROUGH LIGHT SWITCH ABOVE COUNTER FOR CONTROL. CONFIRM EXACT LOCATION WITH OWNER PRIOR TO ROUGH–IN.



01 SECOND FLOOR POWER PLAN
1/4"=1'–0"

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ADRIAN T FRANKS
NAME:

PE–2012032391
LICENSE NUMBER

ELECTRICAL ENGINEER
DISCIPLINE

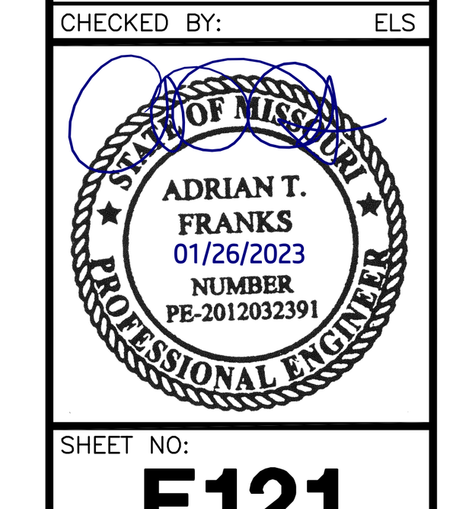
NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

BUILDING 2
SECOND FLOOR POWER PLAN

REVISIONS:

NO.	DATE:	DESCRIPTION:
1	01.26.2023	PERMIT REVIEW

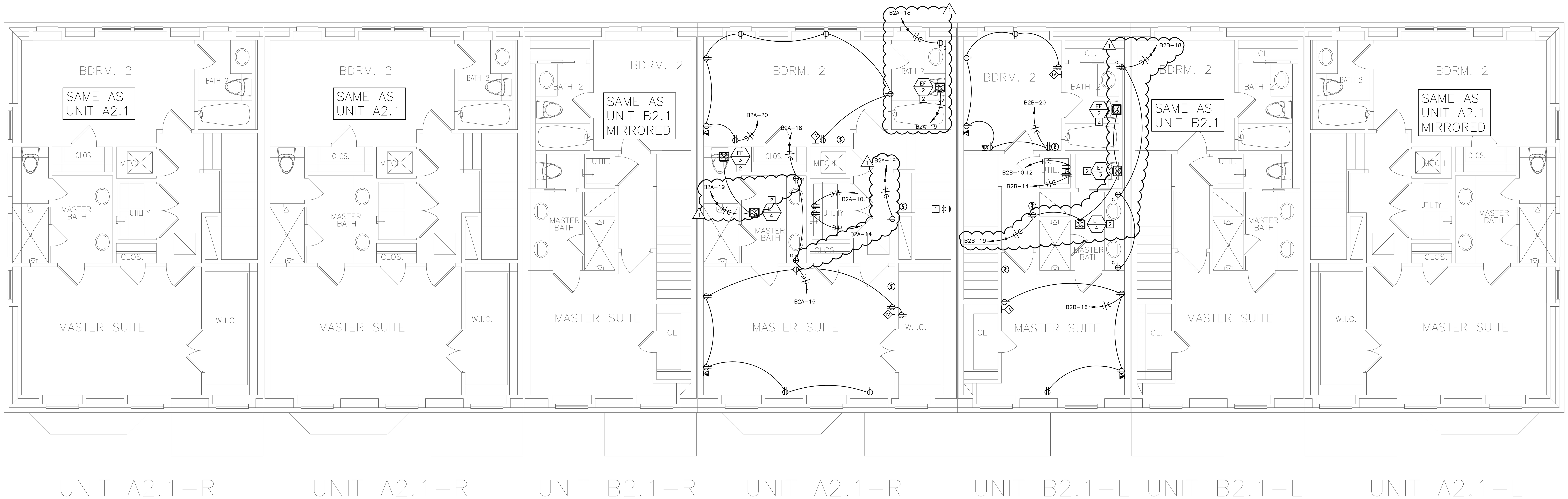
SCALE:	1/4'=1'–0"
JOB #:	01202245.01
DATE:	2022/12/23
DRAWN BY:	MLN
CHECKED BY:	ELS



SHEET NO:
E121

POWER PLAN NOTE BOX

1. DOOR CHIME. CONFIRM EXACT REQUIREMENTS WITH MANUFACTURER PRIOR TO ROUGH-IN. CONFIRM FINAL LOCATION WITH OWNER PRIOR TO ROUGH-IN. PROVIDE ALL LOW VOLTAGE WIRING AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM.
2. BATHROOM EXHAUST FAN. FAN IS CONTROLLED BY LIGHT SWITCH IN SAME ROOM. REFER TO LIGHTING PLAN FOR LOCATION OF SWITCH.



01 THIRD FLOOR POWER PLAN
1/4"=1'-0"

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NAME: ADRIAN T FRANKS
DISCIPLINE: ELECTRICAL ENGINEER
LICENSE NUMBER: PE-2012032391

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

BUILDING 2
THIRD FLOOR POWER PLAN

REVISIONS:

NO.	DATE:	DESCRIPTION:
1	01.26.2023	PERMIT REVIEW

SCALE:	1/4'=1'-0"
JOB #:	01202245.01
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DRAWN BY:	MLN
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STATE OF MISSOURI
ADRIAN T. FRANKS
01/26/2023
NUMBER PE-2012032391
PROFESSIONAL ENGINEER

SHEET NO:
E122

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER & CATALOG NUMBER	LAMPS & BALLAST	MOUNTING	VOLTS	WATTS	REMARKS
A	RECESSED DOWNLIGHT	TBD	(1) 10W LED MEDIUM BASE	CEILING	120	10	
AW	RECESSED DOWNLIGHT – WET LOCATION RATED	TBD	(1) 10W LED MEDIUM BASE	CEILING	120	10	
B	VANITY LIGHT FIXTURE	TBD	(3) 10W LED MEDIUM BASE	WALL	120	30	
C	4' STRIP FIXTURE	TBD	(2) 15W LED BI–PIN	CEILING	120	30	
D	WALL SCONCE	TBD	(1) 10W LED MEDIUM BASE	WALL	120	10	
F	CEILING FAN	TBD	NONE	CEILING	120	50	
P1	CUSTOM CHANDELIER	TBD	(5) 3W LED MEDIUM BASE	PENDANT	120	15	
P2	CUSTOM PENDANT	TBD	(2) 7W LED MEDIUM BASE	PENDANT	120	14	
P3	CUSTOM PENDANT	TBD	(1) 5W LED MEDIUM BASE	PENDANT	120	5	

EQUIPMENT FEEDER SCHEDULE

EQUIPMENT MARK	VOLTAGE–PHASE	PANEL – CIRCUIT(S)	MOCP	FEEDER		DISCONNECT					REMARKS
				CONDUCTOR & GROUND	PIPE	PROVIDER	AMPERAGE	POLES	FUSES	NEMA	
CU–1	240V–1P	B2A–4,6	35A	(2)#8 & (1)#10G	3/4"	CONTRACTOR	60A	2	NF	3R	2
CU–2	240V–1P	B2A–4,6	30A	(2)#10 & (1)#10G	3/4"	CONTRACTOR	30A	2	NF	3R	–
CU–3	240V–1P	B2B–4,6	20A	(2)#12 & (1)#12G	3/4"	CONTRACTOR	30A	2	NF	3R	–
EF–1	120V–1P	RE: PLAN	15A	(2)#12 & (1)#12G	3/4"	INTEGRAL	–	–	NF	–	1
EF–2	120V–1P	RE: PLAN	15A	(2)#12 & (1)#12G	3/4"	INTEGRAL	–	–	NF	–	1
EF–3	120V–1P	RE: PLAN	15A	(2)#12 & (1)#12G	3/4"	INTEGRAL	–	–	NF	–	1
EF–4	120V–1P	RE: PLAN	15A	(2)#12 & (1)#12G	3/4"	INTEGRAL	–	–	NF	–	1
F–1	120V–1P	B2A–2	15A	(2)#12 & (1)#12G	3/4"	CONTRACTOR	30A	2	NF	1	2
F–2	120V–1P	B2A–2	15A	(2)#12 & (1)#12G	3/4"	CONTRACTOR	30A	2	NF	1	–
F–3	120V–1P	B2B–2	15A	(2)#12 & (1)#12G	3/4"	CONTRACTOR	30A	2	NF	1	–
RP–1	120V–1P	B2A–8/B2B–8	15A	(2)#12 & (1)#12G	3/4"	CONTRACTOR	30A	2	NF	1	–
WH–1	120V–1P	B2A–8/B2B–8	15A	(2)#12 & (1)#12G	3/4"	CONTRACTOR	30A	2	NF	1	–

EQUIPMENT FEEDER GENERAL NOTES

A. DISCONNECT SWITCHES FOR 120V OR 277V EQUIPMENT UNDER 30 AMPS SHALL BE MOTOR RATED TOGGLE SWITCHES.

B. CONTRACTOR IS RESPONSIBLE FOR ALL FINAL CONNECTIONS TO EQUIPMENT.

C. COORDINATE EXACT ROUGH–IN LOCATIONS PRIOR TO START OF CONSTRUCTION.

D. ALL MULTI–VOLT DISCONNECT SWITCHES PROVIDED BY THIS CONTRACTOR SHALL COME WITH A NEUTRAL AND GROUND LUG KIT.

EQUIPMENT FEEDER REMARKS

1. EXHAUST FAN TO BE CONTROLLED BY A DEDICATED SWITCH. RE: PLANS FOR LOCATION OF SWITCH.
2. EQUIPMENT IS LOCATED IN THE END UNITS ONLY. REFER TO MECHANICAL PLAN FOR MORE INFORMATION.

PANEL: **B2A**
SYSTEM: 240/120V., 1P,3W
FEEDER: SEE RISER DIAGRAM
OPTIONS:
LOCATION: GARAGE
MAINS: 200A MCB
NEMA ENCLOSURE: 1
CABINET MOUNTING: RECESSED
LUGS: TOP
AIC RATING: 22,000A

LOAD DESCRIPTION	BKR SIZE	BKR POLE	NOTE	WATTS	CCT NO.	PHASE	CCT NO.	WATTS	NOTE	BKR POLE	BKR SIZE	LOAD DESCRIPTION
GARAGE DOOR	20	1	AF/G	500	1	A	2	1,999	AF	1	15	F-1 OR F-2
GARAGE RCPT	20	1	AF	900	3	C	4	2,124		2	30/	CU-1 (35A) OR CU-2 (30A)
STUDY/BEDRM RCPT/CHIME	20	1	AF	1,080	5	A	6	2,124			35	
LIVING/ENTRY RCPT	20	1	AF	1,260	7	C	8	200	AF	1	15	WH-1/RP-1
DISHWASHER	20	1	AF	500	9	A	10	2,000		2	30	DRYER
KITCHEN/DISPOSAL RCPT	20	1	AF	1,500	11	C	12	2,000				
KITCHEN/RANGE/DINING RCPT	20	1	AF	1,500	13	A	14	1,000	AF/G	1	20	WASHER
FRIDGE RCPT	20	1	AF	900	15	C	16	1,260	AF	1	20	MASTER BEDROOM RCPT
FIRST/SECOND/THIRD FL./EXT. LTG	20	1	AF	944	17	A	18	900	AF	1	20	BATHROOM RCPT
BALC/PANT./HALL RCPT/EF'S	20	1	AF	712	19	C	20	1,260	AF	1	20	BEDROOM #2 RCPT
SPARE	20	1	AF		21	A	22		AF	1	20	SPARE
SPARE	20	1	AF		23	C	24		AF	1	20	SPARE
					25	A	26					
					27	C	28					
					29	A	30					
					31	C	32					
					33	A	34					
					35	C	36					
					37	A	38					
					39	C	40					
					41	A	42					
FULLY BUSSED SPACE					43	C	44					FULLY BUSSED SPACE

PHASE A : 12,547 W
PHASE C : 12,116 W

CONNECTED	DEMAND
24,663 W	24,313 W
103 A	101 A

Y:_Projects\Active\2022\01202245.01\01202245.01.Calcs and Support\01202245.01

PANEL: **B2B**
SYSTEM: 240/120V., 1P,3W
FEEDER: SEE RISER DIAGRAM
OPTIONS:
LOCATION: GARAGE
MAINS: 200A MCB
NEMA ENCLOSURE: 1
CABINET MOUNTING: RECESSED
LUGS: TOP
AIC RATING: 22,000A

LOAD DESCRIPTION	BKR SIZE	BKR POLE	NOTE	WATTS	CCT NO.	PHASE	CCT NO.	WATTS	NOTE	BKR POLE	BKR SIZE	LOAD DESCRIPTION
GARAGE DOOR	20	1	AF/G	500	1	A	2	1,433	AF	1	15	F-3
GARAGE RCPT	20	1	AF	1,080	3	C	4	1,320		2	20	CU-3
STUDY RCPT/CHIME	20	1	AF	900	5	A	6	1,320				
LIVING/ENTRY RCPT	20	1	AF	1,260	7	C	8	200	AF	1	15	WH-1/RP-1
DISHWASHER	20	1	AF	500	9	A	10	2,000		2	30	DRYER
KITCHEN/DISPOSAL RCPT	20	1	AF	1,500	11	C	12	2,000				
KITCHEN/RANGE/DINING RCPT	20	1	AF	1,500	13	A	14	1,000	AF/G	1	20	WASHER
FRIDGE RCPT	20	1	AF	900	15	C	16	720	AF	1	20	MASTER BEDROOM RCPT
FIRST/SECOND/THIRD FL./EXT. LTG	20	1	AF	784	17	A	18	720	AF	1	20	BATHROOM RCPT
BALC/HALL RCPT/EF'S	20	1	AF	403	19	C	20	1,080	AF	1	20	BEDROOM #2 RCPT
SPARE	20	1	AF		21	A	22		AF	1	20	SPARE
SPARE	20	1	AF		23	C	24		AF	1	20	SPARE
					25	A	26					
					27	C	28					
					29	A	30					
					31	C	32					
					33	A	34					
					35	C	36					
					37	A	38					
					39	C	40					
					41	A	42					
FULLY BUSSED SPACE					43	C	44					FULLY BUSSED SPACE

PHASE A : 10,657 W
PHASE C : 10,463 W

CONNECTED	DEMAND
21,120 W	21,193 W
88 A	88 A

Y:_Projects\Active\2022\01202245.01\01202245.01.Calcs and Support\01202245.01

ELECTRICAL SERVICE LOAD SUMMARY

LOAD DESCRIPTION	CONNECTED WATTAGE	DEMAND FACTOR	DEMAND WATTAGE
LIGHTING	6,128	125%	7,660
RECEPTACLES	82,277	1ST 10KW @ 100%	10,000
		REMAINING @ 50%	36,139
CONTINUOUS MOTORS	12,295	125%	15,369
AIR CONDITIONING *	24,912	100% FULL A/C LOAD	24,912
HEATING *	0	0% FULL HEATING LOAD	0
CONTINUOUS WATER HEATER	1,400	125%	1,750
MISCELLANEOUS	35,000	100%	35,000
		TOTAL WATTS	130,830
		TOTAL AMPERAGE	545

NOTES:
* USE GREATER LOAD OF THE TWO CATEGORIES

REQUIRED ELECTRICAL SERVICE: **1200 AMPS**

PANEL SCHEDULE NOTES

General Notes:	
	BALANCE PANELS WITHIN 10% PHASE TO PHASE.
Circuit Key Notes:	
G	GROUND FAULT CIRCUIT INTERUPTING BREAKER
AF	ARC FAULT CIRCUIT INTERUPTING BREAKER

Dialectic ENGINEERING
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PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MISSOURI

NAME: ADRIAN T FRANKS
DISCIPLINE: ELECTRICAL ENGINEER
LICENSE NUMBER: PE–2012032391

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

BUILDING 2
ELECTRICAL SCHEDULES

REVISIONS:

NO.	DATE:	DESCRIPTION:
1	01.26.2023	PERMIT REVIEW

SCALE:	N.T.S.
JOB #:	01202245.01
DATE:	2022/12/23
DRAWN BY:	MLN
CHECKED BY:	ELS

STATE OF MISSOURI
ADRIAN T. FRANKS
01/26/2023
NUMBER PE-2012032391
PROFESSIONAL ENGINEER

SHEET NO:
E126

POWER PLAN NOTE BOX

1. DOOR CHIME. CONFIRM EXACT REQUIREMENTS WITH MANUFACTURER PRIOR TO ROUGH–IN. CONFIRM FINAL LOCATION WITH OWNER PRIOR TO ROUGH–IN. PROVIDE ALL LOW VOLTAGE WIRING AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM.
2. BATHROOM EXHAUST FAN. FAN IS CONTROLLED BY LIGHT SWITCH IN SAME ROOM. REFER TO LIGHTING PLAN FOR LOCATION OF SWITCH.
3. UNDER SINK DISPOSAL. CONFIRM EXACT REQUIREMENTS WITH MANUFACTURER PRIOR TO ROUGH–IN. ROUTE POWER THROUGH LIGHT SWITCH ABOVE COUNTER FOR CONTROL. CONFIRM EXACT LOCATION WITH OWNER PRIOR TO ROUGH–IN.
4. CONFIRM EXACT ROUTING OF POWER IN ISLAND WITH MILLWORK PROVIDER. ROUTE POWER TO ISLAND UP FROM BASEMENT. CONFIRM EXACT ROUTING OF POWER FROM BASEMENT WITH MILLWORK PROVIDER.

01 FIRST FLOOR POWER PLAN
1/4"=1'–0"

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LICENSE NUMBER: PE–2012032391

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

BUILDING 3
FIRST FLOOR POWER PLAN

REVISIONS:

NO.	DATE:	DESCRIPTION:
1	01.26.2023	PERMIT REVIEW

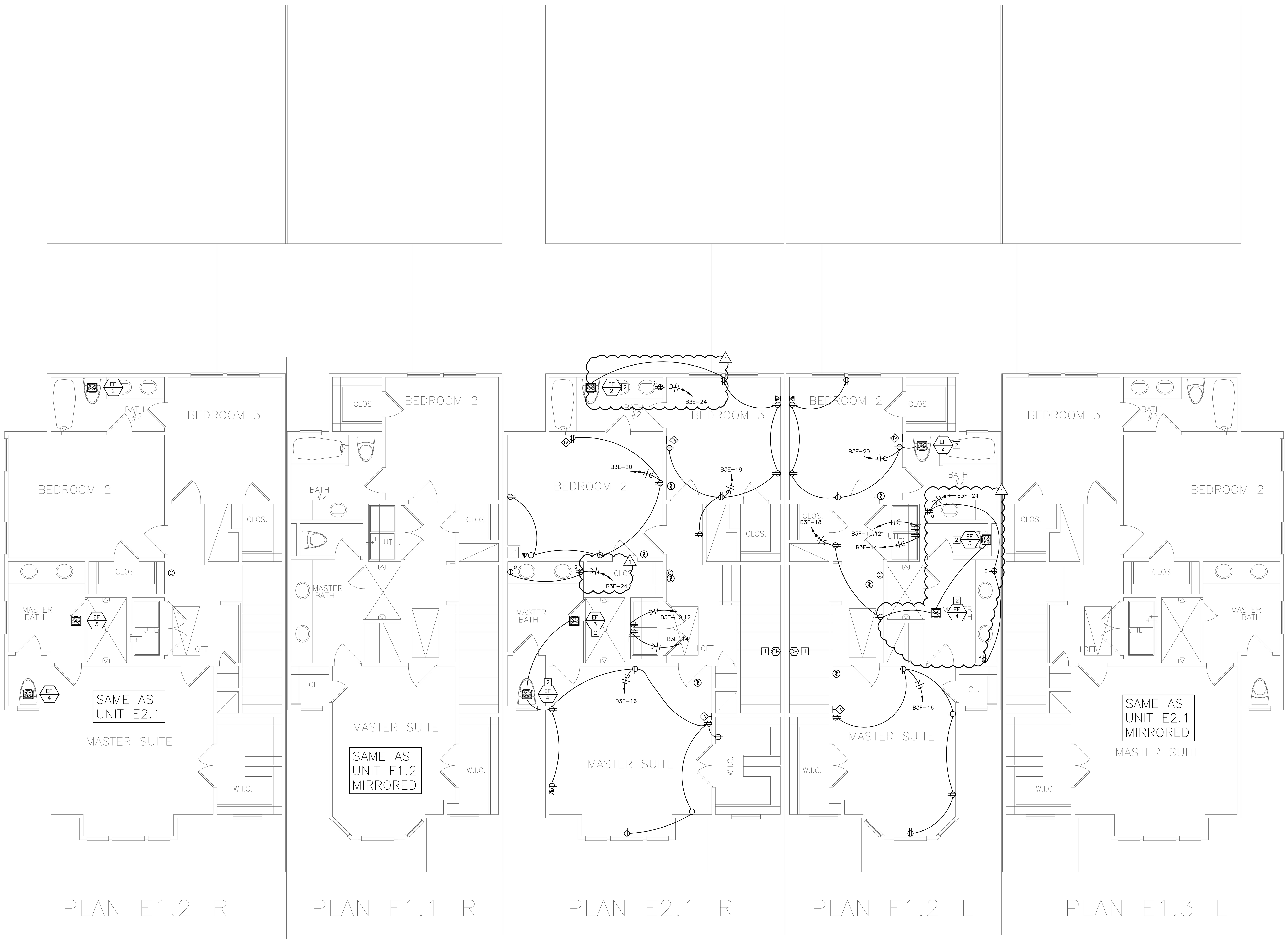
SCALE:	1/4'=1'–0"
JOB #:	01202245.01
DATE:	2022/12/23
DRAWN BY:	MLN
CHECKED BY:	ELS

STATE OF MISSOURI
ADRIAN T. FRANKS
01/26/2023
NUMBER PE-2012032391
PROFESSIONAL ENGINEER

SHEET NO:
E131

POWER PLAN NOTE BOX

1. DOOR CHIME. CONFIRM EXACT REQUIREMENTS WITH MANUFACTURER PRIOR TO ROUGH–IN. CONFIRM FINAL LOCATION WITH OWNER PRIOR TO ROUGH–IN. PROVIDE ALL LOW VOLTAGE WIRING AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM.
2. BATHROOM EXHAUST FAN. FAN IS CONTROLLED BY LIGHT SWITCH IN SAME ROOM. REFER TO LIGHTING PLAN FOR LOCATION OF SWITCH.



01 SECOND FLOOR POWER PLAN
1/4"=1'-0"

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NAME: ADRIAN T FRANKS
LICENSE NUMBER: PE–2012032391
DISCIPLINE: ELECTRICAL ENGINEER

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

BUILDING 3
SECOND FLOOR POWER PLAN

REVISIONS:

NO.	DATE:	DESCRIPTION:
1	01.26.2023	PERMIT REVIEW

SCALE:	1/4'=1'-0"
JOB #:	01202245.01
DATE:	2022/12/23
DRAWN BY:	MLN
CHECKED BY:	ELS

STATE OF MISSOURI
ADRIAN T. FRANKS
01/26/2023
NUMBER PE-2012032391
PROFESSIONAL ENGINEER

SHEET NO:
E132

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER & CATALOG NUMBER	LAMPS & BALLAST	MOUNTING	VOLTS	WATTS	REMARKS
A	RECESSED DOWNLIGHT	TBD	(1) 10W LED MEDIUM BASE	CEILING	120	10	
AW	RECESSED DOWNLIGHT – WET LOCATION RATED	TBD	(1) 10W LED MEDIUM BASE	CEILING	120	10	
B	VANITY LIGHT FIXTURE	TBD	(3) 10W LED MEDIUM BASE	WALL	120	30	
C	4' STRIP FIXTURE	TBD	(2) 15W LED BI–PIN	CEILING	120	30	
D	WALL SCONCE	TBD	(1) 10W LED MEDIUM BASE	WALL	120	10	
F	CEILING FAN	TBD	NONE	CEILING	120	50	
G	SURFACE MOUNTED FIXTURE	TBD	(1) 10W LED MEDIUM BASE	CEILING	120	10	PROVIDE FIXTURE WITH CEILING FAN BOX IN CEILING FOR POTENTIAL FUTURE CEILING FAN.
P1	CUSTOM CHANDELIER	TBD	(5) 3W LED MEDIUM BASE	PENDANT	120	15	
P2	CUSTOM PENDANT	TBD	(2) 7W LED MEDIUM BASE	PENDANT	120	14	
P3	CUSTOM PENDANT	TBD	(1) 5W LED MEDIUM BASE	PENDANT	120	5	

EQUIPMENT FEEDER SCHEDULE

EQUIPMENT MARK	VOLTAGE–PHASE	PANEL – CIRCUIT(S)	MOCP	FEEDER		DISCONNECT					REMARKS
				CONDUCTOR & GROUND	PIPE	PROVIDER	AMPERAGE	POLES	FUSES	NEMA	
CU–4	240V–1P	B3E–4,6	40A	(2)#8 & (1)#10G	3/4"	CONTRACTOR	60A	2	NF	3R	2
CU–5	240V–1P	B3E–4,6	35A	(2)#8 & (1)#10G	3/4"	CONTRACTOR	60A	2	NF	3R	–
CU–6	240V–1P	B3F–4,6	30A	(2)#10 & (1)#10G	3/4"	CONTRACTOR	30A	2	NF	3R	–
EF–1	120V–1P	RE: PLAN	15A	(2)#12 & (1)#12G	3/4"	INTEGRAL	–	–	NF	–	1
EF–2	120V–1P	RE: PLAN	15A	(2)#12 & (1)#12G	3/4"	INTEGRAL	–	–	NF	–	1
EF–3	120V–1P	RE: PLAN	15A	(2)#12 & (1)#12G	3/4"	INTEGRAL	–	–	NF	–	1
EF–4	120V–1P	RE: PLAN	15A	(2)#12 & (1)#12G	3/4"	INTEGRAL	–	–	NF	–	1
F–4	120V–1P	B3E–2	15A	(2)#12 & (1)#12G	3/4"	CONTRACTOR	30A	2	NF	1	2
F–5	120V–1P	B3E–2	15A	(2)#12 & (1)#12G	3/4"	CONTRACTOR	30A	2	NF	1	–
F–6	120V–1P	B3F–2	15A	(2)#12 & (1)#12G	3/4"	CONTRACTOR	30A	2	NF	1	–
RP–1	120V–1P	B3E–8/B3F–8	15A	(2)#12 & (1)#12G	3/4"	CONTRACTOR	30A	2	NF	1	–
SE–1	120V–1P	B3E–5/B3F–5	15A	(2)#12 & (1)#12G	3/4"	INTEGRAL	–	–	NF	–	–
WH–1	120V–1P	B3E–8/B3F–8	15A	(2)#12 & (1)#12G	3/4"	CONTRACTOR	30A	2	NF	1	–

EQUIPMENT FEEDER GENERAL NOTES

A. DISCONNECT SWITCHES FOR 120V OR 277V EQUIPMENT UNDER 30 AMPS SHALL BE MOTOR RATED TOGGLE SWITCHES.

B. CONTRACTOR IS RESPONSIBLE FOR ALL FINAL CONNECTIONS TO EQUIPMENT.

C. COORDINATE EXACT ROUGH–IN LOCATIONS PRIOR TO START OF CONSTRUCTION.

D. ALL MULTI–VOLT DISCONNECT SWITCHES PROVIDED BY THIS CONTRACTOR SHALL COME WITH A NEUTRAL AND GROUND LUG KIT.

EQUIPMENT FEEDER REMARKS

1. EXHAUST FAN TO BE CONTROLLED BY A DEDICATED SWITCH. RE: PLANS FOR LOCATION OF SWITCH.
2. EQUIPMENT IS LOCATED IN THE END UNITS ONLY. REFER TO MECHANICAL PLAN FOR MORE INFORMATION.

PANEL: B3E
SYSTEM: 240/120V., 1P,3W
FEEDER: SEE RISER DIAGRAM
OPTIONS:
LOCATION: BASEMENT
MAINS: 200A MCB
NEMA ENCLOSURE: 1
CABINET MOUNTING: SURFACE
LUGS: TOP
AIC RATING: 22,000A

LOAD DESCRIPTION	BKR SIZE	BKR POLE	NOTE	WATTS	CCT NO.	PHASE	CCT NO.	WATTS	NOTE	BKR POLE	BKR SIZE	LOAD DESCRIPTION
GARAGE DOOR	20	1	AF/G	500	1	A	2	1,999	AF	1	15	F-4 OR F-5
GARAGE/EXTERIOR RCPT	20	1	AF	720	3	C	4	2,622		2	35/	CU-4 (40A) OR CU-5 (35A)
BASEMENT RCPT/SE-1	20	1	AF	1,200	5	A	6	2,622			40	
DINING/ENTRY RCPT/CHIME	20	1	AF	1,080	7	C	8	200	AF	1	15	WH-1/RP-1
LIVING RCPT/EF-1	20	1	AF	763	9	A	10	2,000		2	30	DRYER
ISLAND/DISPOSAL RCPT	20	1	AF	1,500	11	C	12	2,000				
KITCHEN/RANGE RCPT	20	1	AF	1,500	13	A	14	1,000	AF/G	1	20	WASHER
FRIDGE RCPT	20	1	AF	900	15	C	16	1,346	AF	1	20	MASTER BEDROOM RCPT/EF-3,4
BASEMENT/FIRST FLOOR/EXT. LTG	20	1	AF	904	17	A	18	1,123	AF	1	20	BEDROOM #3/HALL RCPT/EF-2
DISHWASHER	20	1	AF	500	19	C	20	1,330	AF	1	20	BED #2 RCPT/2ND FL LTG
SPARE	20	1	AF		21	A	22		AF	1	20	SPARE
SPARE	20	1	AF		23	C	24	720	AF	1	20	BATHROOM RCPT
					25	A	26					
					27	C	28					
					29	A	30					
					31	C	32					
					33	A	34					
					35	C	36					
					37	A	38					
					39	C	40					
					41	A	42					
FULLY BUSSED SPACE					43	C	44					FULLY BUSSED SPACE

PHASE A : 13,611 W
PHASE C : 12,918 W

CONNECTED	DEMAND
26,529 W 111 A	25,714 W 107 A

Y:_Projects\Active\2022\01202245.01\01202245.01.Calcs and Support\01202245.01

PANEL: B3F
SYSTEM: 240/120V., 1P,3W
FEEDER: SEE RISER DIAGRAM
OPTIONS:
LOCATION: BASEMENT
MAINS: 200A MCB
NEMA ENCLOSURE: 1
CABINET MOUNTING: SURFACE
LUGS: TOP
AIC RATING: 22,000A

LOAD DESCRIPTION	BKR SIZE	BKR POLE	NOTE	WATTS	CCT NO.	PHASE	CCT NO.	WATTS	NOTE	BKR POLE	BKR SIZE	LOAD DESCRIPTION
GARAGE DOOR	20	1	AF/G	500	1	A	2	1,913	AF	1	15	F-6
GARAGE/EXTERIOR RCPT	20	1	AF	720	3	C	4	1,784		2	30	CU-6
BASEMENT RCPT/SE-1	20	1	AF	720	5	A	6	1,784				
DINING/ENTRY RCPT/CHIME	20	1	AF	900	7	C	8	200	AF	1	15	WH-1/RP-1
LIVING RCPT/EF-1	20	1	AF	943	9	A	10	2,000		2	30	DRYER
ISLAND/DISPOSAL RCPT	20	1	AF	1,500	11	C	12	2,000				
KITCHEN/RANGE RCPT	20	1	AF	1,500	13	A	14	1,000	AF/G	1	20	WASHER
FRIDGE RCPT	20	1	AF	900	15	C	16	900	AF	1	20	MASTER BEDROOM RCPT
BASEMENT/FIRST FLOOR/EXT. LTG	20	1	AF	804	17	A	18	796	AF	1	20	HALL RCPT/2ND FL LTG/EF-3,4
DISHWASHER	20	1	AF	500	19	C	20	943	AF	1	20	BEDROOM #2 RCPT/EF-2
SPARE	20	1	AF		21	A	22		AF	1	20	SPARE
SPARE	20	1	AF		23	C	24	720	AF	1	20	BATHROOM RCPT
					25	A	26					
					27	C	28					
					29	A	30					
					31	C	32					
					33	A	34					
					35	C	36					
					37	A	38					
					39	C	40					
					41	A	42					
FULLY BUSSED SPACE					43	C	44					FULLY BUSSED SPACE

PHASE A : 11,960 W
PHASE C : 11,067 W

CONNECTED	DEMAND
23,028 W 96 A	22,986 W 96 A

Y:_Projects\Active\2022\01202245.01\01202245.01.Calcs and Support\01202245.01

ELECTRICAL SERVICE LOAD SUMMARY

LOAD DESCRIPTION	CONNECTED WATTAGE	DEMAND FACTOR	DEMAND WATTAGE
LIGHTING	4,320	125%	5,400
RECEPTACLES	62,630	1ST 10KW @ 100%	10,000
		REMAINING @ 50%	26,315
CONTINUOUS MOTORS	9,823	125%	12,279
AIR CONDITIONING *	22,870	100% FULL A/C LOAD	22,870
HEATING *	0	0% FULL HEATING LOAD	0
CONTINUOUS WATER HEATER	1,000	125%	1,250
MISCELLANEOUS	25,000	100%	25,000
		TOTAL WATTS	103,114
		TOTAL AMPERAGE	430

NOTES:
* USE GREATER LOAD OF THE TWO CATEGORIES

REQUIRED ELECTRICAL SERVICE: **1200 AMPS**

PANEL SCHEDULE NOTES

General Notes:

	BALANCE PANELS WITHIN 10% PHASE TO PHASE.

Circuit Key Notes:

G	GROUND FAULT CIRCUIT INTERUPTING BREAKER
AF	ARC FAULT CIRCUIT INTERUPTING BREAKER

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ADRIAN T FRANKS — NAME:
ELECTRICAL ENGINEER — DISCIPLINE
PE–2012032391 — LICENSE NUMBER

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

BUILDING 3
ELECTRICAL SCHEDULES

REVISIONS:

NO.	DATE:	DESCRIPTION:
1	01.26.2023	PERMIT REVIEW

SCALE: N.T.S.
JOB #: 01202245.01
DATE: 2022/12/23
DRAWN BY: MLN
CHECKED BY: ELS

STATE OF MISSOURI
ADRIAN T. FRANKS
01/26/2023
NUMBER
PE-2012032391
PROFESSIONAL ENGINEER

SHEET NO:
E136

01 FIRST FLOOR POWER PLAN
1/4"=1'-0"

Dialectic ENGINEERING
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NAME: ADRIAN T FRANKS
LICENSE NUMBER: PE-2012032391
DISCIPLINE: ELECTRICAL ENGINEER

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

BUILDING 4
FIRST FLOOR POWER PLAN

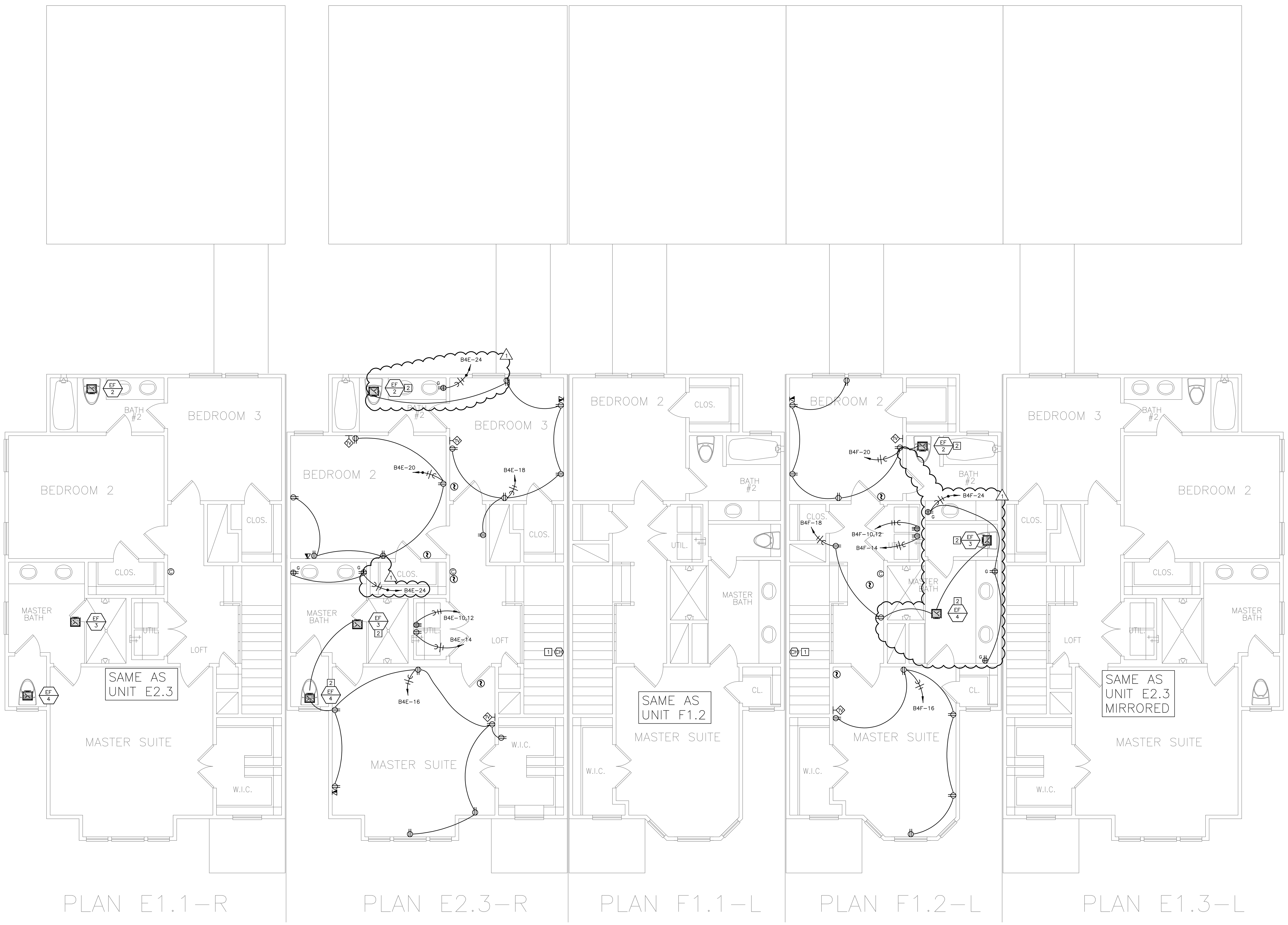
REVISIONS:

NO.	DATE:	DESCRIPTION:
1	01.26.2023	PERMIT REVIEW

SCALE:	1/4'=1'-0"
JOB #:	01202245.01
DATE:	2022/12/23
DRAWN BY:	MLN
CHECKED BY:	ELS

STATE OF MISSOURI
ADRIAN T. FRANKS
01/26/2023
NUMBER PE-2012032391
PROFESSIONAL ENGINEER

SHEET NO:
E141



01 SECOND FLOOR POWER PLAN
1/4"=1'-0"

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DISCIPLINE: ELECTRICAL ENGINEER
LICENSE NUMBER: PE-2012032391

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

BUILDING 4
SECOND FLOOR POWER PLAN

REVISIONS:

NO.	DATE:	DESCRIPTION:
1	01.26.2023	PERMIT REVIEW

SCALE:	1/4'=1'-0"
JOB #:	01202245.01
DATE:	2022/12/23
DRAWN BY:	MLN
CHECKED BY:	ELS

STATE OF MISSOURI
ADRIAN T. FRANKS
01/26/2023
NUMBER
PE-2012032391
PROFESSIONAL ENGINEER

SHEET NO:
E142

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER & CATALOG NUMBER	LAMPS & BALLAST	MOUNTING	VOLTS	WATTS	REMARKS
A	RECESSED DOWNLIGHT	TBD	(1) 10W LED MEDIUM BASE	CEILING	120	10	
AW	RECESSED DOWNLIGHT – WET LOCATION RATED	TBD	(1) 10W LED MEDIUM BASE	CEILING	120	10	
B	VANITY LIGHT FIXTURE	TBD	(3) 10W LED MEDIUM BASE	WALL	120	30	
C	4' STRIP FIXTURE	TBD	(2) 15W LED BI–PIN	CEILING	120	30	
D	WALL SCONCE	TBD	(1) 10W LED MEDIUM BASE	WALL	120	10	
F	CEILING FAN	TBD	NONE	CEILING	120	50	
G	SURFACE MOUNTED FIXTURE	TBD	(1) 10W LED MEDIUM BASE	CEILING	120	10	PROVIDE FIXTURE WITH CEILING FAN BOX IN CEILING FOR POTENTIAL FUTURE CEILING FAN.
P1	CUSTOM CHANDELIER	TBD	(5) 3W LED MEDIUM BASE	PENDANT	120	15	
P2	CUSTOM PENDANT	TBD	(2) 7W LED MEDIUM BASE	PENDANT	120	14	
P3	CUSTOM PENDANT	TBD	(1) 5W LED MEDIUM BASE	PENDANT	120	5	

EQUIPMENT FEEDER SCHEDULE

EQUIPMENT MARK	VOLTAGE–PHASE	PANEL – CIRCUIT(S)	MOCP	FEEDER		DISCONNECT					REMARKS
				CONDUCTOR & GROUND	PIPE	PROVIDER	AMPERAGE	POLES	FUSES	NEMA	
CU–4	240V–1P	B4E–4,6	40A	(2)#8 & (1)#10G	3/4"	CONTRACTOR	60A	2	NF	3R	2
CU–5	240V–1P	B4E–4,6	35A	(2)#8 & (1)#10G	3/4"	CONTRACTOR	60A	2	NF	3R	–
CU–6	240V–1P	B4F–4,6	30A	(2)#10 & (1)#10G	3/4"	CONTRACTOR	30A	2	NF	3R	–
EF–1	120V–1P	RE: PLAN	15A	(2)#12 & (1)#12G	3/4"	INTEGRAL	–	–	NF	–	1
EF–2	120V–1P	RE: PLAN	15A	(2)#12 & (1)#12G	3/4"	INTEGRAL	–	–	NF	–	1
EF–3	120V–1P	RE: PLAN	15A	(2)#12 & (1)#12G	3/4"	INTEGRAL	–	–	NF	–	1
EF–4	120V–1P	RE: PLAN	15A	(2)#12 & (1)#12G	3/4"	INTEGRAL	–	–	NF	–	1
F–4	120V–1P	B4E–2	15A	(2)#12 & (1)#12G	3/4"	CONTRACTOR	30A	2	NF	1	2
F–5	120V–1P	B4E–2	15A	(2)#12 & (1)#12G	3/4"	CONTRACTOR	30A	2	NF	1	–
F–6	120V–1P	B4F–2	15A	(2)#12 & (1)#12G	3/4"	CONTRACTOR	30A	2	NF	1	–
RP–1	120V–1P	B4E–8/B4F–8	15A	(2)#12 & (1)#12G	3/4"	CONTRACTOR	30A	2	NF	1	–
WH–1	120V–1P	B4E–8/B4F–8	15A	(2)#12 & (1)#12G	3/4"	CONTRACTOR	30A	2	NF	1	–

EQUIPMENT FEEDER GENERAL NOTES

A. DISCONNECT SWITCHES FOR 120V OR 277V EQUIPMENT UNDER 30 AMPS SHALL BE MOTOR RATED TOGGLE SWITCHES.

B. CONTRACTOR IS RESPONSIBLE FOR ALL FINAL CONNECTIONS TO EQUIPMENT.

C. COORDINATE EXACT ROUGH–IN LOCATIONS PRIOR TO START OF CONSTRUCTION.

D. ALL MULTI–VOLT DISCONNECT SWITCHES PROVIDED BY THIS CONTRACTOR SHALL COME WITH A NEUTRAL AND GROUND LUG KIT.

EQUIPMENT FEEDER REMARKS

1. EXHAUST FAN TO BE CONTROLLED BY A DEDICATED SWITCH. RE: PLANS FOR LOCATION OF SWITCH.
2. EQUIPMENT IS LOCATED IN THE END UNITS ONLY. REFER TO MECHANICAL PLAN FOR MORE INFORMATION.

PANEL: B4E LOCATION: BASEMENT NEMA ENCLOSURE: 1
SYSTEM: 240/120V., 1P,3W MAINS: 200A MCB CABINET MOUNTING: SURFACE
FEEDER: SEE RISER DIAGRAM LUGS: TOP
OPTIONS: AIC RATING: 22,000A

LOAD DESCRIPTION	BKR SIZE	BKR POLE	NOTE	WATTS	CCT NO.	PHASE	CCT NO.	WATTS	NOTE	BKR POLE	BKR SIZE	LOAD DESCRIPTION
GARAGE DOOR	20	1	AF/G	500	1	A	2	1,999	AF	1	15	F-4 OR F-5
GARAGE/EXTERIOR RCPT	20	1	AF	720	3	C	4	2,622		2	35/	CU-4 (40A) OR CU-5 (35A)
BASEMENT RCPT/SE-1	20	1	AF	1,200	5	A	6	2,622			40	
DINING/ENTRY RCPT/CHIME	20	1	AF	1,080	7	C	8	200	AF	1	15	WH-1/RP-1
LIVING RCPT/EF-1	20	1	AF	763	9	A	10	2,000		2	30	DRYER
ISLAND/DISPOSAL RCPT	20	1	AF	1,500	11	C	12	2,000				
KITCHEN/RANGE RCPT	20	1	AF	1,500	13	A	14	1,000	AF/G	1	20	WASHER
FRIDGE RCPT	20	1	AF	900	15	C	16	1,346	AF	1	20	MASTER BEDROOM RCPT/EF-3,4
BASEMENT/FIRST FLOOR/EXT. LTG	20	1	AF	904	17	A	18	1,123	AF	1	20	BEDROOM #3/HALL RCPT/EF-2
DISHWASHER	20	1	AF	500	19	C	20	1,330	AF	1	20	BED #2 RCPT/2ND FL LTG
SPARE	20	1	AF		21	A	22		AF	1	20	SPARE
SPARE	20	1	AF		23	C	24	720	AF	1	20	BATHROOM RCPT
					25	A	26					
					27	C	28					
					29	A	30					
					31	C	32					
					33	A	34					
					35	C	36					
					37	A	38					
					39	C	40					
					41	A	42					
FULLY BUSSED SPACE					43	C	44					FULLY BUSSED SPACE

1

PHASE A : 13,611 W
PHASE C : 12,918 W

CONNECTED	DEMAND
26,529 W	25,714 W
111 A	107 A

Y:_Projects\Active\2022\01202245.01\01202245.01.Calcs and Support\01202245.01

PANEL: B4F LOCATION: BASEMENT NEMA ENCLOSURE: 1
SYSTEM: 240/120V., 1P,3W MAINS: 200A MCB CABINET MOUNTING: SURFACE
FEEDER: SEE RISER DIAGRAM LUGS: TOP
OPTIONS: AIC RATING: 22,000A

LOAD DESCRIPTION	BKR SIZE	BKR POLE	NOTE	WATTS	CCT NO.	PHASE	CCT NO.	WATTS	NOTE	BKR POLE	BKR SIZE	LOAD DESCRIPTION
GARAGE DOOR	20	1	AF/G	500	1	A	2	1,913	AF	1	15	F-6
GARAGE/EXTERIOR RCPT	20	1	AF	720	3	C	4	1,784		2	30	CU-6
BASEMENT RCPT/SE-1	20	1	AF	1,200	5	A	6	1,784				
DINING/ENTRY RCPT/CHIME	20	1	AF	900	7	C	8	200	AF	1	15	WH-1/RP-1
LIVING/BATH RCPT/EF-1	20	1	AF	1,123	9	A	10	2,000		2	30	DRYER
ISLAND/DISPOSAL RCPT	20	1	AF	1,500	11	C	12	2,000				
KITCHEN/RANGE RCPT	20	1	AF	1,500	13	A	14	1,000	AF/G	1	20	WASHER
FRIDGE RCPT	20	1	AF	900	15	C	16	900	AF	1	20	MASTER BEDROOM RCPT
BASEMENT/FIRST FLOOR/EXT. LTG	20	1	AF	804	17	A	18	796	AF	1	20	HALL RCPT/2ND FL LTG/EF-3,4
DISHWASHER	20	1	AF	500	19	C	20	943	AF	1	20	BEDROOM #2 RCPT/EF-2
SPARE	20	1	AF		21	A	22		AF	1	20	SPARE
SPARE	20	1	AF		23	C	24	720	AF	1	20	BATHROOM RCPT
					25	A	26					
					27	C	28					
					29	A	30					
					31	C	32					
					33	A	34					
					35	C	36					
					37	A	38					
					39	C	40					
					41	A	42					
FULLY BUSSED SPACE					43	C	44					FULLY BUSSED SPACE

1

PHASE A : 12,620 W
PHASE C : 11,067 W

CONNECTED	DEMAND
23,688 W	23,316 W
99 A	97 A

Y:_Projects\Active\2022\01202245.01\01202245.01.Calcs and Support\01202245.01

ELECTRICAL SERVICE LOAD SUMMARY

LOAD DESCRIPTION	CONNECTED WATTAGE	DEMAND FACTOR	DEMAND WATTAGE
LIGHTING	4,320	125%	5,400
RECEPTACLES	63,950	1ST 10KW @ 100%	10,000
		REMAINING @ 50%	26,975
CONTINUOUS MOTORS	9,823	125%	12,279
AIR CONDITIONING *	22,870	100% FULL A/C LOAD	22,870
HEATING *	0	0% FULL HEATING LOAD	0
CONTINUOUS WATER HEATER	1,000	125%	1,250
MISCELLANEOUS	25,000	100%	25,000
		TOTAL WATTS	103,774
		TOTAL AMPERAGE	432

NOTES:
* USE GREATER LOAD OF THE TWO CATEGORIES

REQUIRED ELECTRICAL SERVICE **1200 AMPS**

PANEL SCHEDULE NOTES

General Notes:

	BALANCE PANELS WITHIN 10% PHASE TO PHASE.

Circuit Key Notes:

G	GROUND FAULT CIRCUIT INTERUPTING BREAKER
AF	ARC FAULT CIRCUIT INTERUPTING BREAKER

DIALECTIC ENGINEERING
Dialectic, Inc.
310 W 20th Street, Suite 100
Kansas City, MO 64108
Missouri Certificate of Authorization Number 1582
T 816-997-9601
F 816-997-9602
DialecticEng.com

PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MISSOURI

ADRIAN T FRANKS
NAME:
ELECTRICAL ENGINEER
DISCIPLINE
PE–2012032391
LICENSE NUMBER

NLV DEVELOPMENT
LONGVIEW & KESSLER
LEES SUMMIT, MO 64081

BUILDING 4
ELECTRICAL SCHEDULES

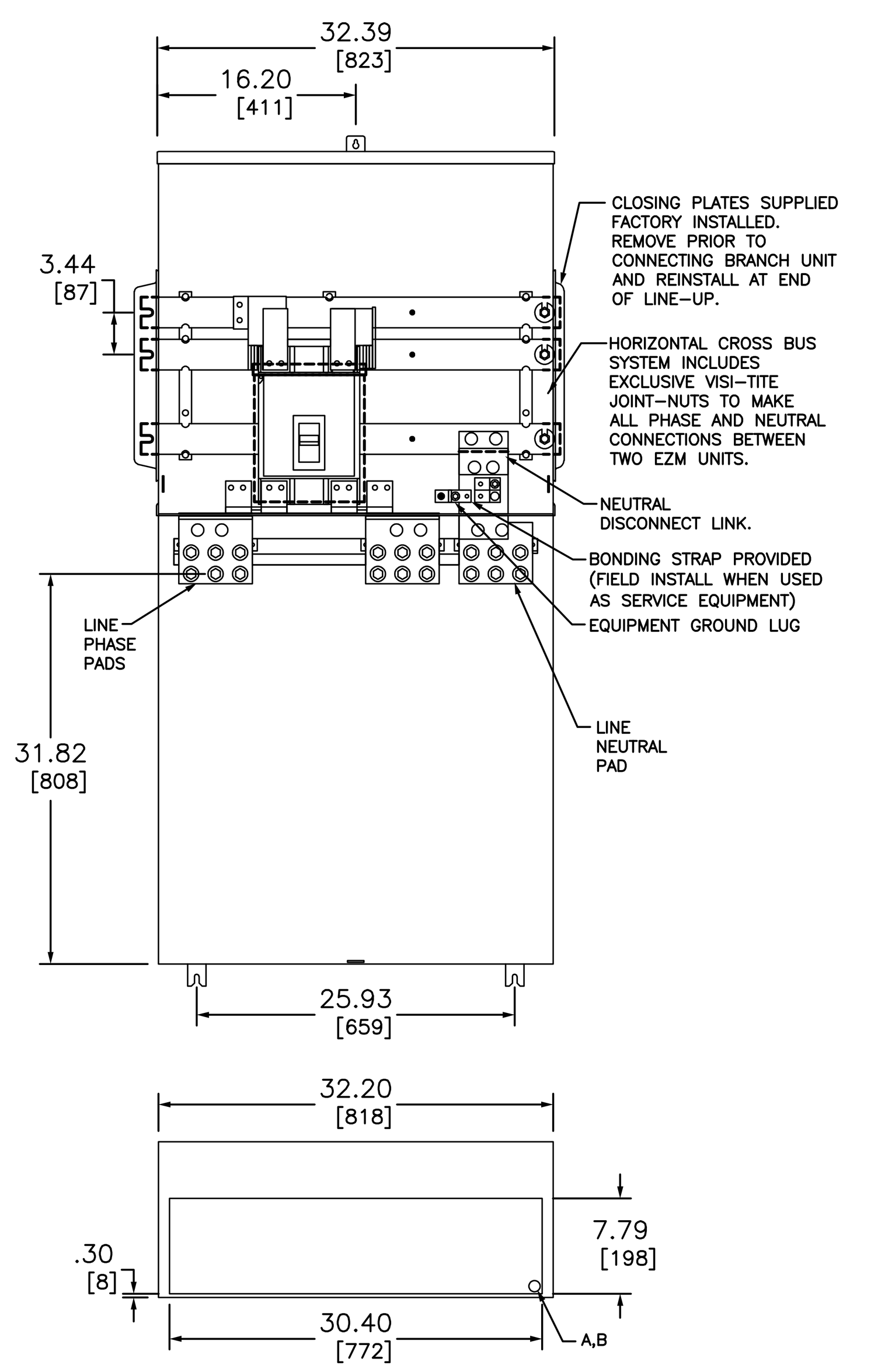
REVISIONS:

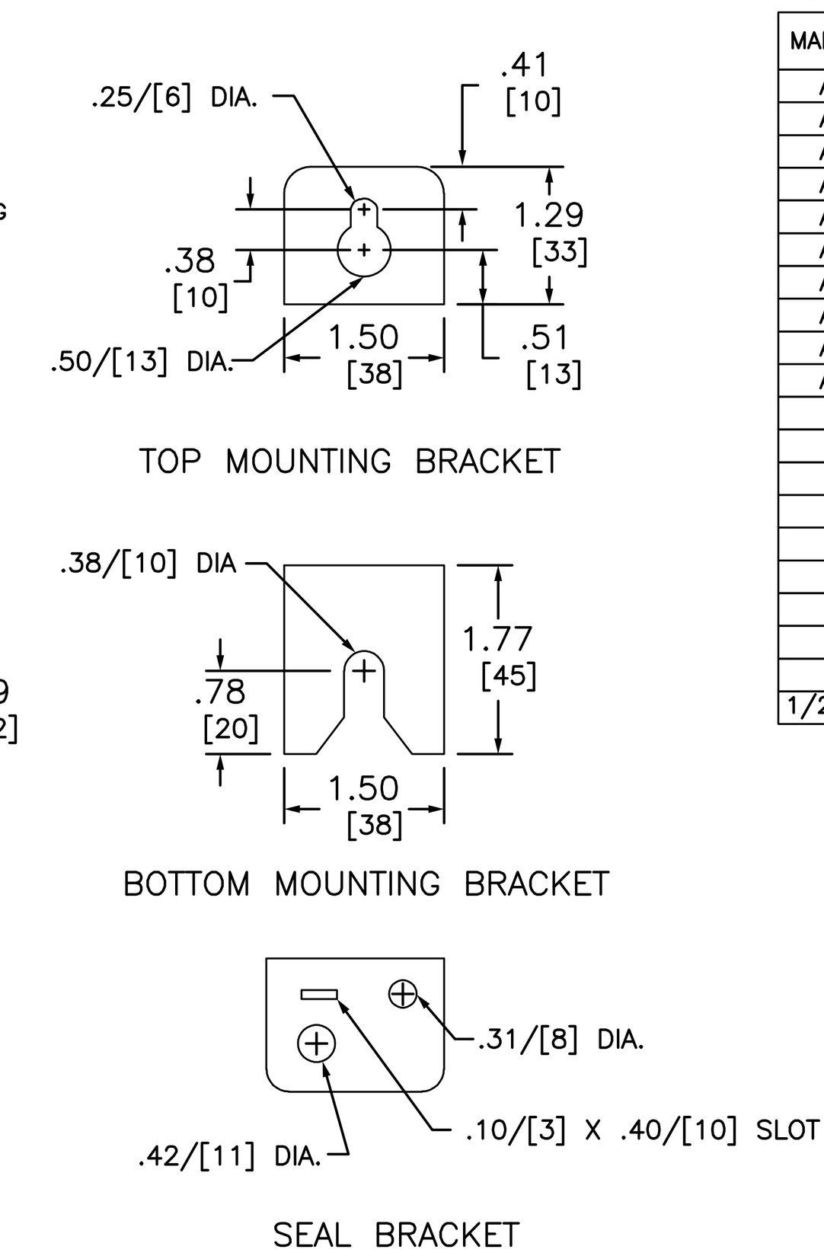
NO.	DATE:	DESCRIPTION:
1	01.26.2023	PERMIT REVIEW

SCALE:	N.T.S.
JOB #:	01202245.01
DATE:	2022/12/23
DRAWN BY:	MLN
CHECKED BY:	ELS

STATE OF MISSOURI
ADRIAN T. FRANKS
01/26/2023
NUMBER
PE-2012032391
PROFESSIONAL ENGINEER

SHEET NO:
E146





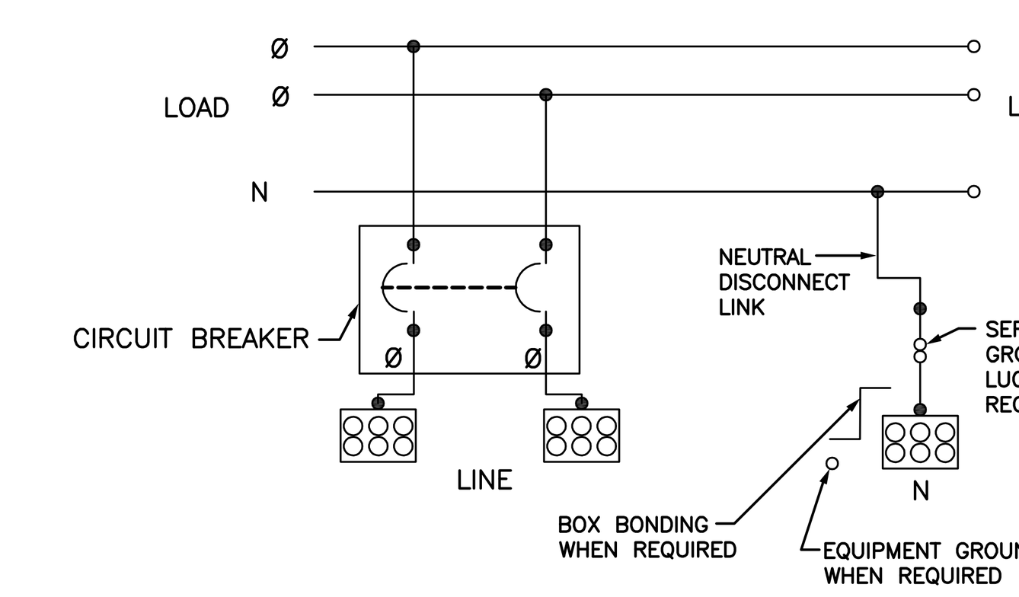
KNOCKOUTS		
SYMBOL	CONDUIT SIZE	
	IN	MM
A	.50	13
B	.75	19

NOTES:
FINISH – GRAY BAKED ENAMEL POWDER COAT PAINT OVER CLEANED GALVANNEALED STEEL.
UL LISTED – FILE E131840, VOL. M
SUITABLE FOR USE AS SERVICE EQUIPMENT.
MAIN HORIZONTAL CROSS BUS RATED AT 1200 AMPERES.
MAIN DEVICES ARE SEALABLE BY UTILITY.
GANGABLE MULTI-METERING EQUIPMENT IS DESIGNED FOR WALL MOUNTING ONLY.
(NOT SUITABLE FOR FLOOR STANDING EQUIPMENT.)
*1200A MAIN CIRCUIT BREAKER MUST BE CENTER MOUNTED WHEN USED WITH BRANCH DEVICES WITH MAIN BUS RATED 800A.
MEETS EUSERC STANDARDS FOR WEST COAST BASED UTILITIES.

ADDITIONAL NOTES:
WHEN USED AS SERVICE EQUIPMENT, INSTALL BONDING STRAP AND DISCARD EQUIPMENT GROUND LUG.
▲ THIS LUG IS AVAILABLE FROM SQUARE D. ORDER CATALOG NUMBER CMELK4, KIT INCLUDES 4 LUGS.

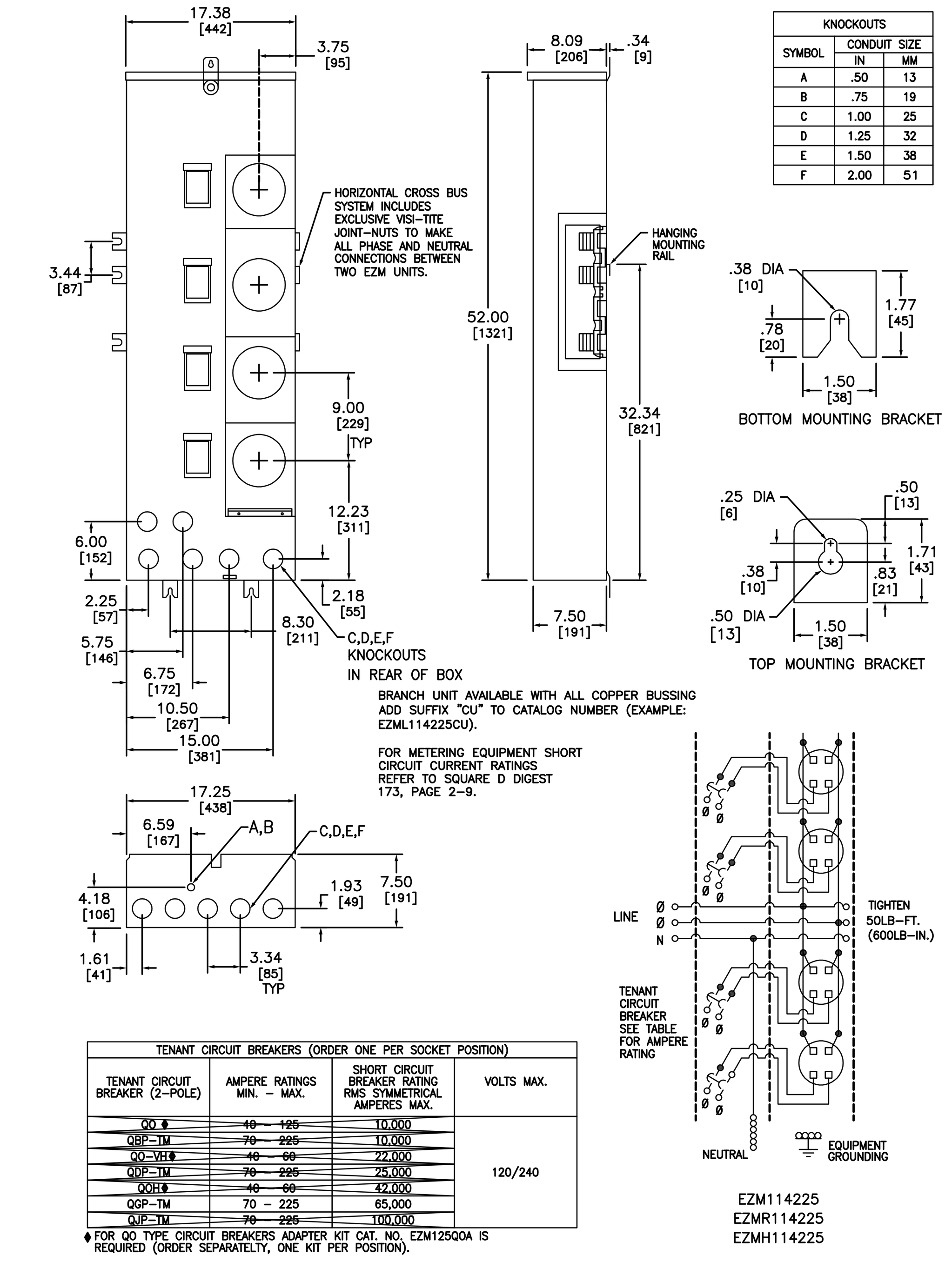
THE FOLLOWING LUGS MAY BE INSTALLED ON THE LINE LUG PADS.

MANUFACTURER	CATALOG NUMBER	WIRE RANGE, AWG/KCMIL	CRIMPING TOOL	TORQUE LB-IN
ANDERSON	VHCL50012BN	4/0–500 CU	VC63, VC7, VC6FT, VC7FT	–
ANDERSON	VHCL60012BN	250–600 CU	VC6FT, VC7FT, VC8	–
ANDERSON	VHCL75012BN	500–750 CU	VC6FT, VC7FT, VC8	–
ANDERSON	VACL50012BN	4/0–500 CU–AL	VC63, VC6FT	–
ANDERSON	VACL60012BN	350–600 AL/350–500 CU	VC6FT, VC8	–
ANDERSON	VACL75012BN	500–750 AL/500 CU	VC6FT, VC8	–
ANDERSON	VCEL05012H2	2/0–500 CU–AL	VC63, VC6FT	–
ANDERSON	VCEL06012H2	400–600 AL/400–500 CU	VC6FT	–
ANDERSON	VCEL07512H2	500–750 AL/500 CU	VC6FT	–
ANDERSON	VCELC05012H2	250–500 CU	VC63, VC7, VC6FT, VC7FT	–
Ilsco	2ACL–600	250–600 CU–AL	IDT–12	–
Ilsco	TA–600–2N ▲	2–600 CU–AL	–	375
Ilsco	TA–800–2N	300–800 CU–AL	–	500
Ilsco	TA–1000–2N	500–1000 CU–AL	–	500
Ilsco	PB2–600–2N	2–600 CU–AL	–	500
CMC	A1B2–600–2	2–600 CU–AL	–	375
CMC	L1D2–600	2–600 CU–AL	–	550
CMC	L1D2–800	300–800 CU–AL	–	550
CMC	L1D2–1000	500–1000 CU–AL	–	550
1/2–13 MOUNTING NUTS FOR LINE LUGS				375



DUAL DIMENSIONS: INCHES / MILLIMETERS

SYSTEM TYPE	MAIN RATING (AMPERES)	CATALOG NUMBER	MAIN CIRCUIT BREAKER (FACTORY INSTALLED)	LINE PHASE AND NEUTRAL LUG LANDING PADS PROVIDED FOR USE WITH CRIMP-TYPE LUGS(2-HOLE MOUNTING) QUANTITY OF LUGS PER PAD.	GROUND LUG WIRE RANGE (FACTORY INSTALLED)
1Ø 3W 120/240 VAC	1000	EZM11000GCBE	PGF36100U31A	3 (ORDER LUGS SEPARATELY)	(1) #6–300
	1000	EZM11000JCBE	PJF36100U31A	3 (ORDER LUGS SEPARATELY)	(1) #6–300
	1200	EZM11200GCBE	PGF36120U31A	3 (ORDER LUGS SEPARATELY)	(1) #6–300
	1200	EZM11200JCBE	PJF36120U31A	3 (ORDER LUGS SEPARATELY)	(1) #6–300



KNOCKOUTS		
SYMBOL	CONDUIT SIZE	
	IN	MM
A	.50	13
B	.75	19
C	1.00	25
D	1.25	32
E	1.50	38
F	2.00	51

TENANT CIRCUIT BREAKERS (ORDER ONE PER SOCKET POSITION)			
TENANT CIRCUIT BREAKER (2-POLE)	AMPERE RATINGS MIN. – MAX.	SHORT CIRCUIT BREAKER RATING RMS SYMMETRICAL AMPERES MAX.	VOLTS MAX.
QO ♦	40 – 125	10,000	120/240
QBP–TM	70 – 225	10,000	
QO–VH♦	40 – 60	22,000	
QDP–TM	70 – 225	25,000	
QOH♦	40 – 60	42,000	
QGP–TM	70 – 225	65,000	
QJP–TM	70 – 225	100,000	

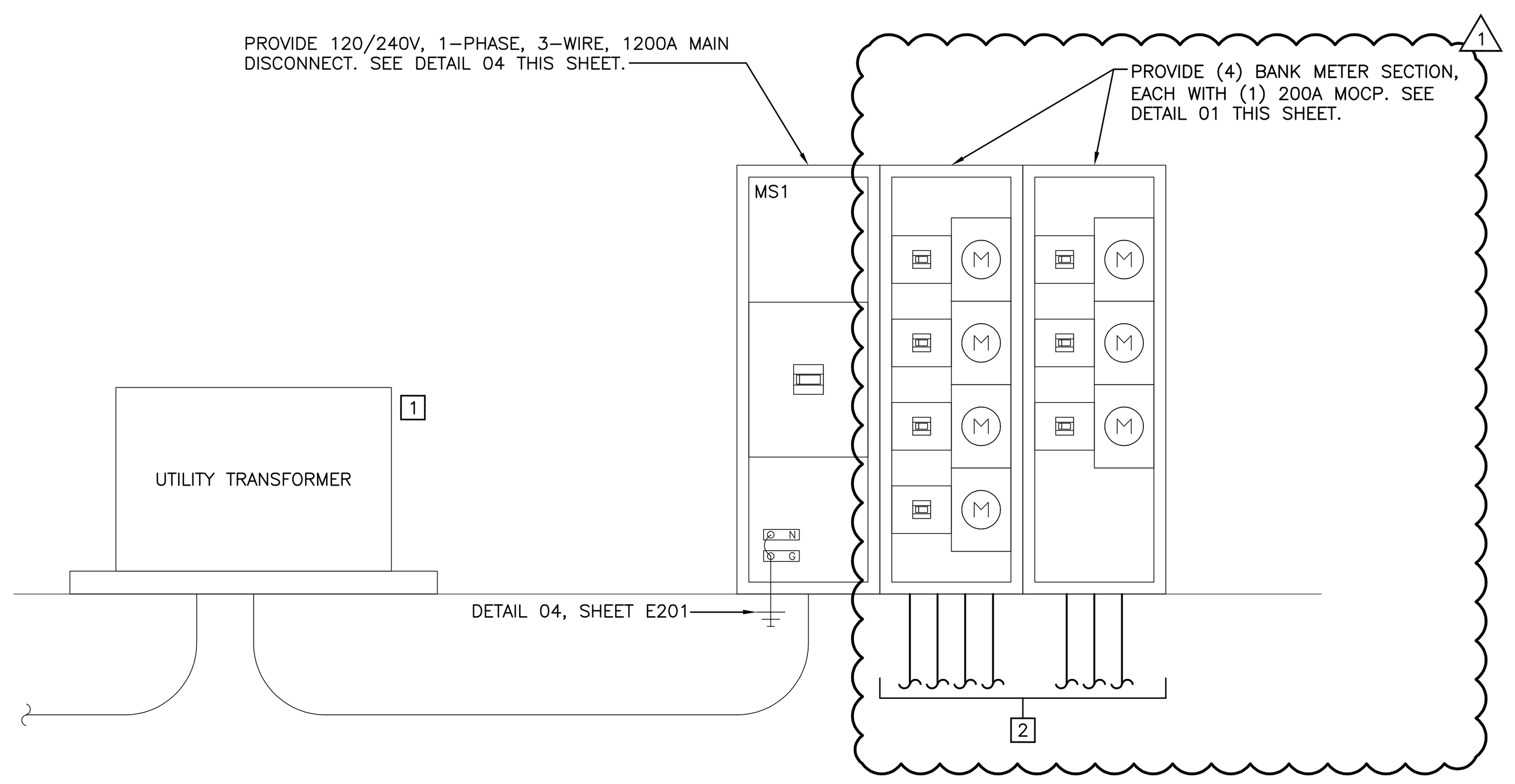
♦ FOR QO TYPE CIRCUIT BREAKERS ADAPTER KIT CAT. NO. EZM125QOA IS REQUIRED (ORDER SEPARATELTY, ONE KIT PER POSITION).

NOTES:
FINISH – GRAY BAKED ENAMEL POWDER COAT PAINT OVER CLEANED GALVANNEALED STEEL.
UL LISTED – FILE E-131840, VOL. M
SUITABLE FOR USE AS SERVICE EQUIPMENT.
MAIN HORIZONTAL CROSS BUS RATED AT 800 AMPERES.
UNMETERED COMPARTMENTS ARE SEALABLE BY UTILITY.
GANGABLE MULTI-METERING EQUIPMENT IS DESIGNED FOR WALL MOUNTING
(NOT SUITABLE FOR FLOOR STANDING EQUIPMEMT).

DUAL DIMENSIONS: INCHES / MILLIMETERS

SYSTEM TYPE (IN)	SERVICE PROVIDED (OUT)	CATALOG NUMBER	METER SOCKET TYPE	NUMBER OF POSITIONS	TENANT CIRCUIT BREAKER (ORDER SEPARATELY)	NEUTRAL WIRE RANGE	EQUIPMENT GROUND LUG WIRE RANGE
1Ø 3W 120/240VAC	1Ø 3W 120/240VAC	EZM114225	4–JAW RING TYPE WITHOUT BYPASS	4	2–POLE SEE TABLE ABOVE	#6–300 KCMIL CU/AL	#14–2/0 KCMIL CU #12–2/0 KCMIL AL
		EZMR114225	5–JAW RINGLESS TYPE WITHOUT BYPASS				
		EZMH114225	5–JAW RINGLESS TYPE WITH HORN BYPASS				

01 EZ METER MAIN AND BRANCH UNIT
NOT TO SCALE



06 TENANT SERVICE AND METER CONNECTION (BLDG #1 & #2)
NOT TO SCALE

RISER KEY NOTES

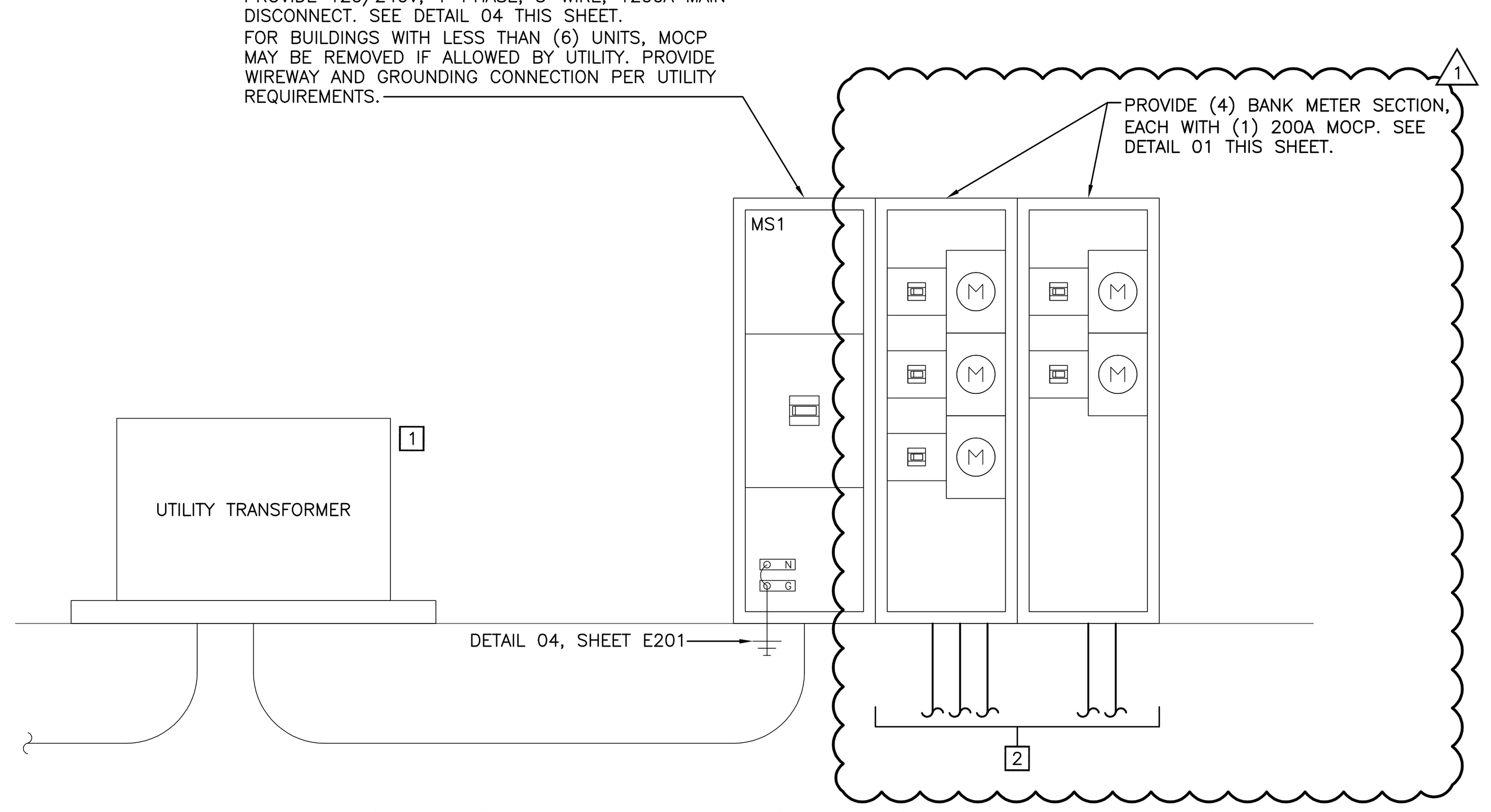
1. COORDINATE UTILITY TRANSFORMER LOCATION AND REQUIREMENTS WITH EVERGY.
2. ROUTE FEEDER TO EACH TENANT UNIT (QUANTITY AS SHOWN). SEE 'TP' FEEDER IN "FEEDER SCHEDULE" THIS SHEET. DWELLING UNIT FEEDERS CAN NOT BE ROUTED THROUGH A DIFFERENT DWELLING UNIT SPACE. CONFIRM EXACT ROUTING PRIOR TO ROUGH-IN.

FEEDER SCHEDULE:

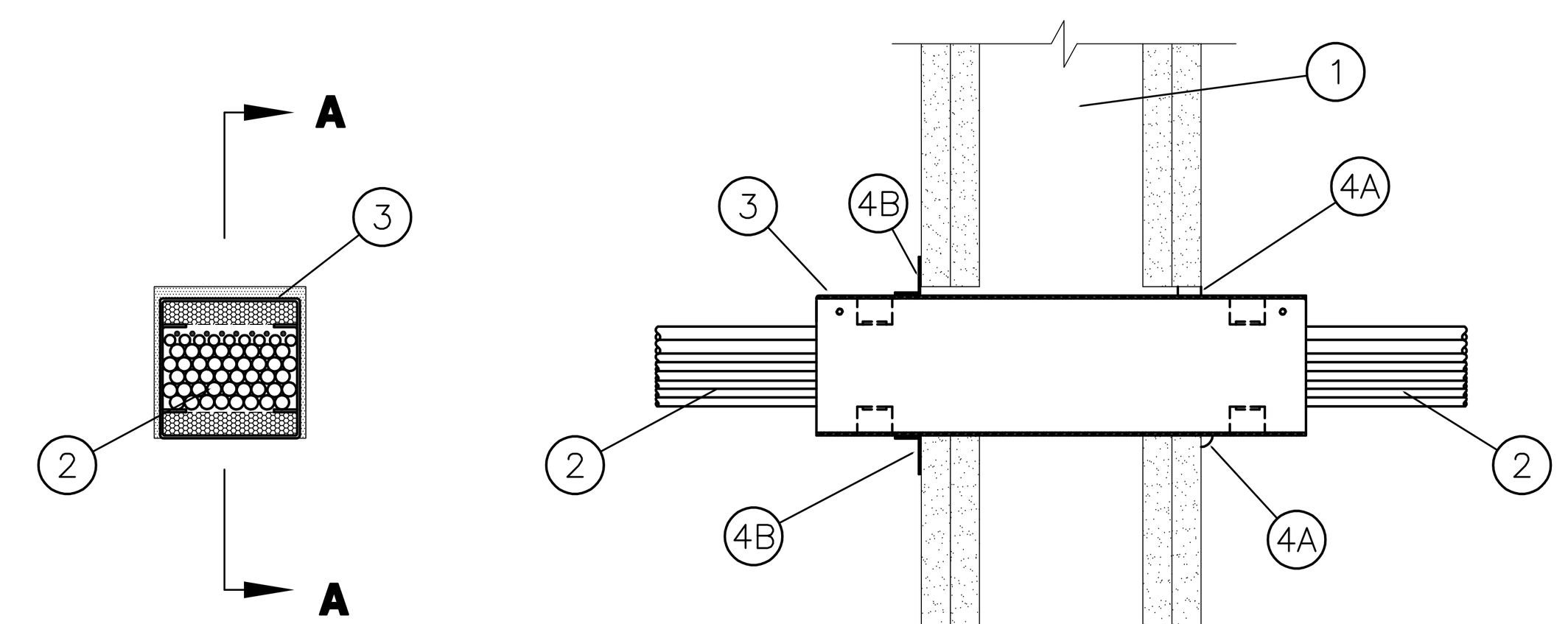
EQUIPMENT MARK	RATING	FEEDER				REMARKS
		SETS	CONDUCTORS AND GROUND	PIPE	MATERIAL	
MS1	1200A	4	(3)#350	3"	COPPER	–
TP	200A	1	(3)#3/0 & (1)#6G	2"	COPPER	–

RISER DIAGRAM FEEDER GENERAL NOTES

1. CONDUIT INSTALLED BELOW SLAB SHALL BE RIGID STEEL, IMC, PVC OR HDPE, MINIMUM 3/4". IF PVC OR HDPE IS USED, TRANSITION TO RIGID STEEL BEFORE TURNING UP AND PENETRATING FLOOR SLAB.
2. GROUNDING ELECTRODE SHALL BE ROUTED IN PVC CONDUIT AND CONNECTED TO UNPAINTED STEEL OR A GROUNDED COLD WATER PIPE.



07 TENANT SERVICE AND METER CONNECTION (BLDG #3 & #4)
NOT TO SCALE



SECTION A-A

(1) 1 OR 2 HOUR FIRE-RATED GYPSUM BOARD WALL ASSEMBLY.

(2) DATA/COMMUNICATION CABLES PASSING THROUGH FIRESTOP DEVICE. CABLE MAY OCCUPY FROM 0 TO 100 PERCENT VISUAL FILL. CABLE FILL SHALL BE DISTRIBUTED AT UNIFORM HEIGHT ACROSS WIDTH OF FIRESTOP DEVICE MODULE. CABLES SHALL BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. ANY COMBINATION OF THE FOLLOWING CABLE TYPES MAY BE USED:

A. 25 PAIR No. 24 AWG (OR SMALLER) COPPER CONDUCTOR TELECOMMUNICATION CABLE WITH POLYVINYL CHLORIDE (PVC) PLENUM RATED JACKETING AND INSULATION.

B. 4 PAIR No. 24 AWG (OR SMALLER) COPPER CONDUCTOR DATA CABLE WITH POLYVINYL CHLORIDE (PVC) PLENUM RATED JACKETING AND INSULATION.

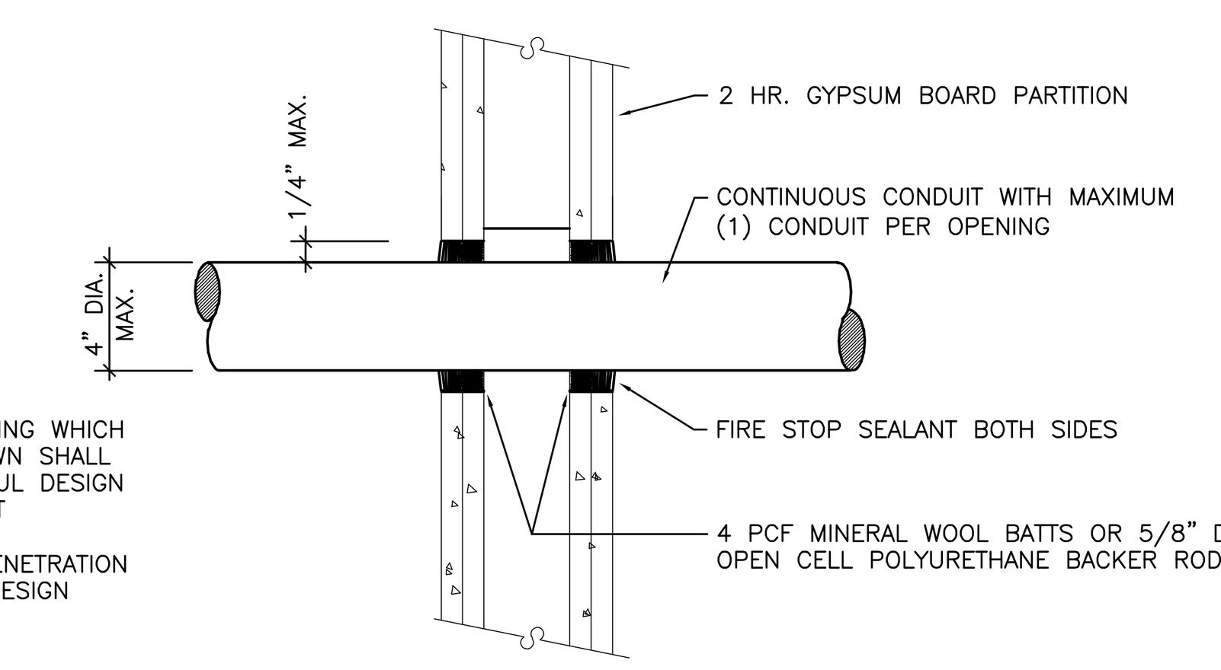
C. "RG/U" COAXIAL CABLE WITH FLUORINATED ETHYLENE PLENUM RATED JACKETING AND INSULATION.

(3) FIRE RATED POKE THROUGH DEVICE, 3" BY 3" BY 10-1/2" LONG GALVANIZED STEEL TUBE WITH INTUMESCENT MATERIAL LINING. FIRESTOP DEVICE SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. SPACE BETWEEN DEVICE AND PERIPHERY OF OPENING SHALL BE MINIMUM 0" (POINT OF CONTACT), TO MAXIMUM 1/2". POKE THROUGH DEVICE SHALL BE SPECIFIED TECHNOLOGIES, INC. "EZ-PATH" U.L. SYSTEM WL-3218 FOR NEW CONSTRUCTION OR WL-3219 FOR RETROFIT APPLICATIONS. S.T.I. #EZDP33FW & EZP133W. FIRESTOP DEVICE MODULE SHALL BE INSTALLED WITH ITS ENDS PROJECTING AN EQUAL DISTANCE BEYOND EACH SURFACE OF WALL ASSEMBLY.

(4A) RETROFIT APPLICATION ONLY – FIRE CAULK SEALANT, MINIMUM 5/8" THICKNESS SHALL BE APPLIED IN ANNULAR SPACE BETWEEN FIRESTOP DEVICE AND PERIPHERY OF OPENING ON EACH SIDE OF WALL ASSEMBLY. SEALANT SHALL BE SPECIFIED TECHNOLOGIES, INC. SPECSEAL 100, 101, 102, 105, 120, OR 129 SEALANT, SPECSEAL "LCI" SEALANT, SPECSEAL "LC150" SEALANT OR PENSIL 300 SILICONE SEALANT.

(4B) NEW WALL APPLICATION ONLY – STEEL WALL PLATE AND GASKET FURNISHED WITH FIRE RATED RATED POKE THROUGH DEVICE. WALL PLATE AND GASKET INSTALLED ON BOTH SIDE OF WALL AND SECURED TO EACH DEVICE BY MEANS OF STEEL SET SCREWS PROVIDED WITH DEVICE.

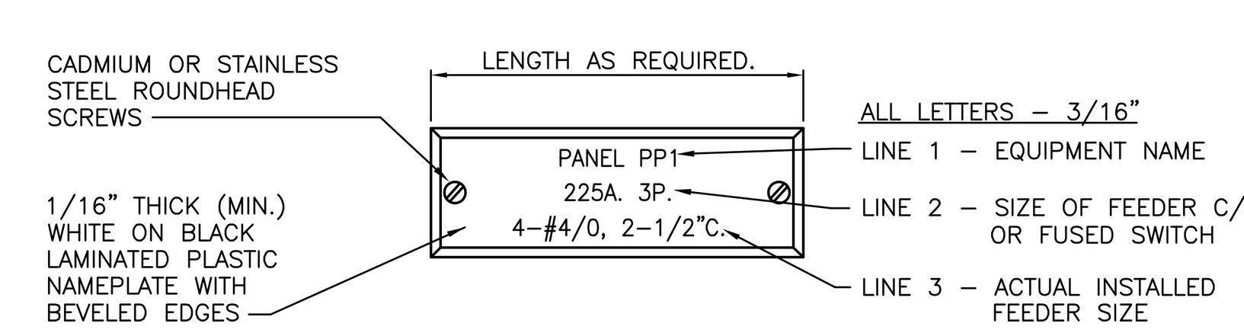
05 FIRE RATED WALL PENETRATION FOR DATA CABLES
NOT TO SCALE



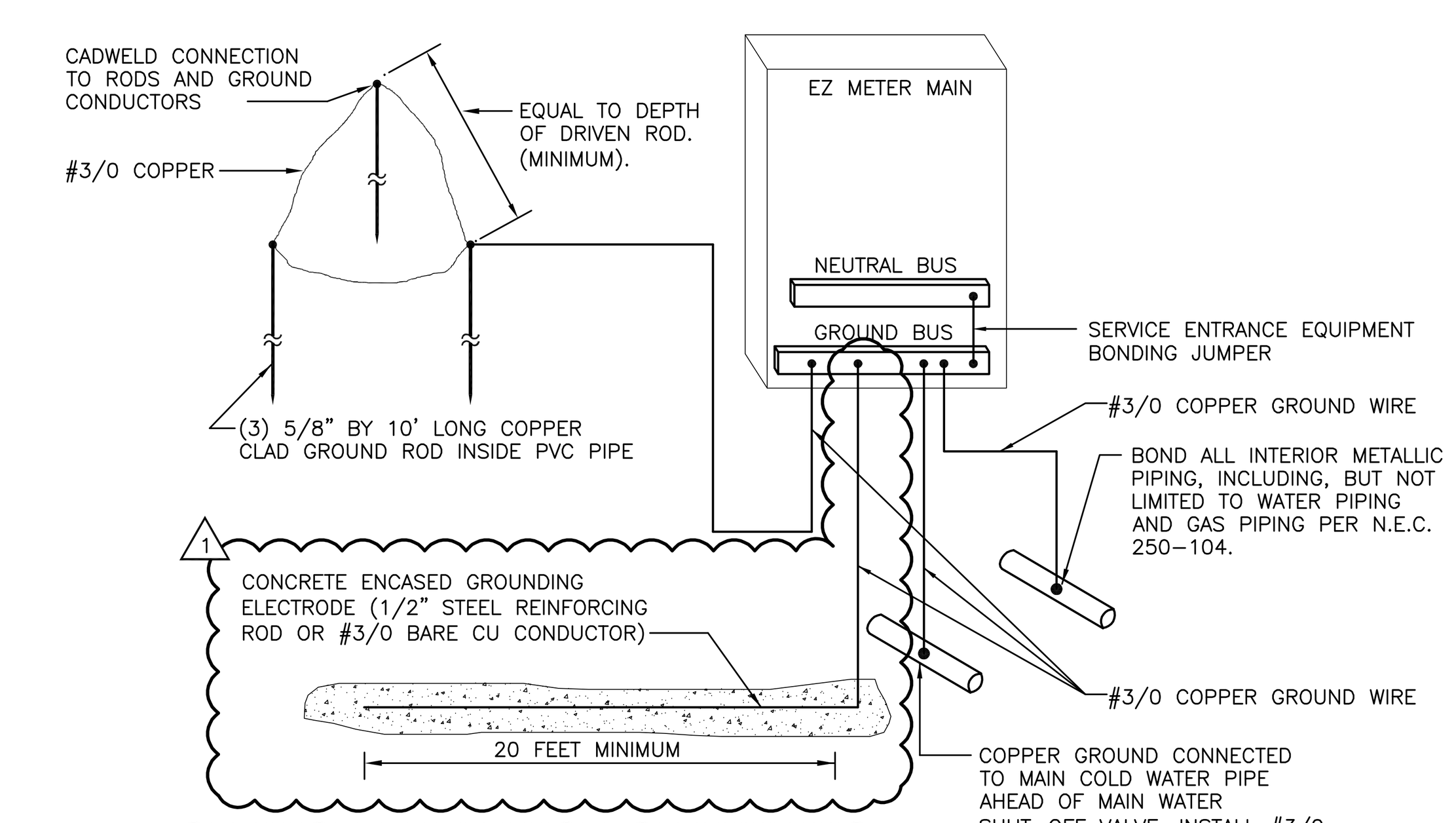
DESIGNS FOR FIRESTOPPING WHICH DIFFER FROM THAT SHOWN SHALL REQUIRE SUBMITTAL OF UL DESIGN DATA AND PRODUCT TEST REPORTS.
GYPSUM BOARD WALL PENETRATION 2 HR FIRE-RATING UL DESIGN 147/CONFIGURATION A.

NOTE: THIS DETAIL USED IN BOTH 1 HR. AND 2 HR. PARTITIONS. THIS DETAIL USED FOR BOTH DRYWALL AND PLASTER/STUD PARTITIONS, DESIGNATED AS IF. FIELD VERIFY CONDITIONS.

02 FIRE RATED - CONDUIT PENETRATION DETAIL
NOT TO SCALE



03 EQUIPMENT/PANELBOARD NAMEPLATE DETAIL
NOT TO SCALE



04 SERVICE ENTRANCE GROUNDING
NOT TO SCALE

DIALECTIC ENGINEERING
Dialectic, Inc.
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Kansas City, MO 64108
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PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MISSOURI

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