

ELECTRICAL SPECIFICATIONS

5.01 GENERAL

- IT IS THE INTENT OF THESE DRAWINGS AND OTHER RELATED DOCUMENTS TO PRODUCE A COMPLETE AND FUNCTIONING ELECTRICAL SYSTEM. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIAL, TEST AND OTHER SERVICES AS MAY BE NECESSARY TO ACHIEVE THIS PRODUCT. THE CONTRACTOR SHALL ACKNOWLEDGE ACCEPTANCE OF THE PLANS AS AN ADEQUATE DEFINITION OF THE SCOPE OF WORK AND EXTRA COST CLAIMS BASED ON DISCREPANCIES ON THE PLANS WILL NOT BE CONSIDERED.
- COORDINATE WITH ALL TRADES TO AVOID INTERFERENCE AMONG MECHANICAL, ELECTRICAL, ARCHITECTURAL AND STRUCTURAL ITEMS. PROVIDE ALL NECESSARY OFFSETS AND FITTINGS IN CIRCUITRY AND OTHER ITEMS REQUIRED TO INSTALL THE WORK WITHOUT INTERFERENCES.
- ALL EQUIPMENT INSTALLED SHALL BE NEW AND SHALL CONFORM TO ALL RESPECTS TO THE LATEST APPROVED STANDARDS OF IEEE, ANSI, NEMA AND UNDERWRITERS LABORATORIES, INC., UNLESS INDICATED OTHERWISE.
- SHOP DRAWINGS ARE TO BE SUBMITTED AND APPROVED BEFORE THE EQUIPMENT IS ORDERED. SUBMIT SIX (6) COPIES OF SHOP DRAWINGS TO THE ARCHITECT.
- THE ENTIRE ELECTRICAL INSTALLATION SHALL CONFORM TO THE LATEST EDITIONS OF THE NATIONAL ELECTRICAL CODE AND ALL OTHER RULES AND REGULATIONS OF THE LOCAL ELECTRICAL AND BUILDING CODES.
- ALL ELECTRICAL EQUIPMENT SHALL BEAR THE UNDERWRITER'S LABORATORIES LABEL.
- ALL FEEDER RACEWAYS, ELECTRICAL PANELS AND ALL MAJOR PIECES OF EQUIPMENT SHALL BE CLEARLY LABELED WITH MINIMUM 1" HIGH LETTERS.
- ALL WORKMANSHIP, MATERIALS AND EQUIPMENT SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR AFTER ACCEPTANCE OF AREA OF TENANT.
- THE CONTRACTOR SHALL OBTAIN ALL PERMITS AND CERTIFICATES OF INSPECTION INCLUDING THE COST OF SAME IN HIS CONTRACT.
- FINAL TESTING: AT THE TIME OF FINAL INSPECTION AND TESTS, ALL CONNECTIONS AT PANELBOARDS, DEVICES AND EQUIPMENT AND ALL SPLICES MUST BE COMPLETED. EACH BRANCH CIRCUIT AND ITS RESPECTIVE CONNECTED EQUIPMENT MUST TEST FREE OF SHORT CIRCUITS.
- UPON COMPLETION OF THE WORK, CLEAN AND POLISH ALL EXPOSED SURFACES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- 5.02 JOB RESPONSIBILITY
- PROVIDE ADEQUATE STORAGE FACILITIES FOR MATERIALS AND EQUIPMENT DURING THE PROGRESS OF THE WORK.
- BE RESPONSIBLE FOR THE CONDITION OF ALL MATERIAL AND EQUIPMENT EMPLOYED IN THE ELECTRICAL INSTALLATION UNTIL FINAL ACCEPTANCE BY THE OWNER. PROTECT SAME FROM ANY CAUSE WHATSOEVER.
- BE RESPONSIBLE FOR THE REPLACEMENT OF ALL DAMAGED OR DEFECTIVE WORK, MATERIALS EQUIPMENT. DO NOT INSTALL SENSITIVE OR DELICATE EQUIPMENT UNTIL MAJOR CONSTRUCTION WORK IS COMPLETED.
- OBSERVE AND CONFORM TO APPLICABLE SAFETY REGULATIONS, INCLUDING THOSE REQUIRED BY THE OWNER'S REPRESENTATIVE.
- ERECT AND MAINTAIN SUITABLE BARRIERS, PROTECTIVE DEVICES, LIGHTS AND WARNING SIGNS FOR THE PROTECTION OF OCCUPANTS, TRANSIENTS AND WORKMEN FROM DANGER DUE TO WORK PERFORMED BY THE ELECTRICAL CONTRACTOR.
- MAKE GOOD ANY DAMAGE TO THE WORK CAUSED BY FLOODS, STORMS, ACCIDENTS, ACT OF GOD, ACTS OF NEGLIGENCE, STRIKES, VIOLENCE OR THEFT UP TO THE TIME OF FINAL ACCEPTANCE BY THE OWNER.
- BE RESPONSIBLE FOR ANY LOSS OR INJURY TO PERSONS OR PROPERTY RESULTING FROM NEGLIGENCE OR ANY OTHER CAUSES ON THE PART OF THE EMPLOYEES.
- DO NOT LEAVE ANY ELECTRICAL WORK IN A HAZARDOUS CONDITION, EVEN TEMPORARILY.
- ERECT, MAINTAIN AND FINALLY REMOVE ALL SCAFFOLDS, STAGING, FORMS, PLATFORMS AND LADDERS REQUIRED FOR THE ELECTRICAL INSTALLATION.
- DO NOT INSTALL WORK FOR WHICH AN EXTRA CHARGE IS TO BE MADE WITHOUT WRITTEN APPROVAL FROM THE OWNER'S REPRESENTATIVE AND THE OWNER. A WRITTEN REQUEST FOR EXTRA WORK SHALL STATE THE NATURE OF THE WORK, BY WHOM REQUESTED, AND THE PRICE TO BE CHARGED.
- 5.03 PRODUCTS -
- RACEWAYS, BOXES, CONDUITS -
1. WIRING METHODS:
- EXPOSED AND CONCEALED CIRCUITRY (WHETHER CONDUIT AND WIRE OR CABLE) SHALL BE RUN TIGHT TO CEILING SLAB (AS HIGH AS POSSIBLE TO MAXIMIZE HEADROOM) IN A NEAT, WORKMANLIKE MANNER. ALL RUNS SHALL BE PARALLEL, OR PERPENDICULAR TO BUILDING WALLS.
- ALL CIRCUITRY RUNS INDICATED ON DIAGRAMMATIC. THE CONTRACTOR SHALL DETERMINE IN THE FIELD THE MOST SUITABLE ROUTES.
- OUTLET BOXES SHALL BE A MINIMUM OF 4" SQUARE WITH THE APPROPRIATE PLASTER RING OR TILE COVER.
- FINAL CONNECTION TO ALL MOTORS OR VIBRATING EQUIPMENT SHALL BE WITH FLEXIBLE CONDUIT.
- WIRE AND CABLE -
1. ALL CONDUCTORS SHALL BE COPPER, MINIMUM #14 (EXCEPT CONTROL, CONDUCTORS AND LIGHTING TAPS AS PERMITTED BY NEC REQUIREMENTS FOR SWITCHING LIGHTS SHALL NOT BE CONSIDERED CONTROL CONDUCTORS), WITH 600 VOLT TYPE "THIN - THIN" INSULATION. CONDUCTORS #10 AND LARGER SHALL BE STRANDED.
- ALL 120 VOLT CIRCUIT HOMERUNS WHICH ARE OVER 100 LINEAR FEET SHALL BE #10 CONDUCTORS MINIMUM.
- RUN MULTIPLE HOMERUNS TO ALTERNATELY NUMBERED PANELBOARD CIRCUITS (I.E. 1, 3, 5).

- ALL RECEPTACLES, LIGHTING FIXTURES, MOTORS, ETC. SHALL BE GROUNDED TO PRODUCE A COMPLETE AND FUNCTIONING ELECTRICAL SYSTEM.
- THE CONTRACTOR'S RESPONSIBILITY TO BALANCE ALL PHASES IN THE LOADCENTER (BALANCE LOAD).
- ALL MOTOR CONNECTIONS OUTSIDE SHALL BE DONE WITH FLEXIBLE SEALTITE CONDUIT.
- WIRING DEVICES, SWITCHES, RECEPTACLES AND TELEPHONE OUTLETS -
1. THE LOCATION OF ALL WIRING DEVICES AND TELEPHONE/DATA OUTLETS SHALL BE VERIFIED BEFORE INSTALLATION WITH THE ARCHITECT. THE ARCHITECT MAY, AT HIS OPTION, RELOCATE ANY DEVICE 3 FEET AT NO CHARGE TO THE OWNER.
- WHERE TWO OR MORE DEVICES ARE SHOWN TOGETHER ON THE PLANS, A MULTI-GANG BOX AND PLATE SHALL BE USED. DEVICES OF DIFFERENT VOLTAGES SHALL BE SEPARATED BY PERMANENTLY INSTALLED BOX PARTITIONS.
- ALL OUTLETS SHOWN ON A WALL BACK TO BACK SHALL BE OFFSET A MINIMUM OF 4" HORIZONTALLY.
- WALL MOUNTED WIRING DEVICES SHALL BE WHITE IN COLOR EQUAL TO THE FOLLOWING:
- SINGLE POLE SWITCH: LEVITON
 - DUPLEX RECEPTACLE: LEVITON
- DEVICE PLATES AS DIRECTED BY THE ARCHITECT.
- COORDINATE LIGHT SWITCHES SHOWN ON DRAWINGS WITH DOOR SWINGS. LOCATE LIGHT SWITCH ON LOOK SIDE OF DOOR.
- STARTERS AND DISCONNECTS -
1. PROVIDE SAFETY SWITCHES WHERE INDICATED AND AS REQUIRED BY CODE WITH RATINGS AS REQUIRED BY THE SYSTEM VOLTAGE, PHASE AND LOAD SERVED.
2. PROVIDE NON-FUSED SAFETY SWITCHES UNLESS SPECIFICALLY NOTED FUSED AND NEMA 1 ENCLOSURES UNLESS NOTED OTHERWISE. PROVIDE NEMA 3R ENCLOSURES IN ALL EXTERIOR OR DAMP LOCATIONS AND NEMA 4 ENCLOSURES IN ALL WET LOCATIONS.
- LOCATE DISCONNECT SWITCH FOR MECHANICAL EQUIPMENT TO PERMIT SERVICING OF EQUIPMENT. PROVIDE FUSES IF REQUIRED BY MANUFACTURER OF EQUIPMENT FOR U/L, APPROVAL. CHECK MOTORS FOR PROPER ROTATION. CONNECT CONDUCTORS AS REQUIRED BY MANUFACTURER.
- LIGHTING FIXTURES -
1. ALL NEW LIGHTING FIXTURES SHALL BE INSTALLED COMPLETE WITH LAMPS. SEE PLANS FOR SPECIFIC REQUIREMENTS. ALL TRACK AND ACCENT LAMPS TO BE INSTALLED AT END OF JOB.
2. PROVIDE FINISHING FRAMES FOR ALL RECESSED LIGHTING FIXTURES, TYPE TO BE COMPATIBLE WITH CEILING, COORDINATE ALL FIXTURE TYPES WITH CEILING SYSTEM BEFORE ORDERING FIXTURES. PROVIDE ALL MOUNTING ATTACHMENTS FOR A COMPLETE INSTALLATION.
3. PROVIDE A COMPLETE AND OPERABLE LIGHTING SYSTEM, WHICH SHALL INCLUDE IN PART: FLUORESCENT LIGHTING FIXTURES, BALLASTS, LAMPS, LENSES, SUPPORTS, CANOPIES, FRAMES, HARDWARE AND ANY OTHER NECESSARY APPURTENANCES AS MAY BE REQUIRED.
4. PROVIDE ALL NECESSARY ACCESSORY FITTINGS, HANGES, CLAMPS, BRACKETS, YOKES, PLASTER FLANGES AND MISCELLANEOUS DEVICES AS REQUIRED FOR A COMPLETE INSTALLATION.
5. PROVIDE LAMPS FOR EACH TYPE OF LIGHTING FIXTURE IN ACCORDANCE WITH THE FIXTURE MANUFACTURERS LAMP REQUIREMENTS AND RECOMMENDATIONS, UNLESS INDICATED OTHERWISE.
6. FLUORESCENT LIGHTING BALLASTS SHALL BE ELECTRONIC HIGH FREQUENCY TYPE, CLASS P, ENERGY SAVING, CEM AND ETL CERTIFIED AND RATED FOR SYSTEM VOLTAGE AND FREQUENCY WITH THE QUIETEST SOUND LEVEL RATING AVAILABLE FOR THE TYPE REQUIRED.
7. COLOR OF LIGHTING FIXTURES AND LAMP COLOR TEMPERATURE SHALL BE AS SELECTED BY THE ARCHITECT.
- 5.04 EXECUTION -
- A. PROVIDE ALL WORK, EQUIPMENT, AND MATERIALS INDICATED.
- B. INSTALL SUPPORTING DEVICES TO FASTEN ELECTRICAL COMPONENTS SECURELY AND PERMANENTLY IN ACCORDANCE WITH NEC REQUIREMENTS AND ANY ADDITIONAL LOCAL CODES.
- C. ELECTRICAL IDENTIFICATION:
1. PROVIDE COLOR CODING FOR FEEDERS AND BRANCH CIRCUIT CONDUCTORS AS FOLLOWS:
- PHASE A-BLACK
 - PHASE B-BLUE
 - NEUTRAL-WHITE
 - GROUND-GREEN
2. APPLY CIRCUIT/CONTROL/ITEM DESIGNATION LABELS OF ENGRAVED PLASTIC LAMINATE FOR DISCONNECT SWITCHES, BREAKERS, PUSHBUTTONS, PILOT LIGHTS, AND SIMILAR ITEMS FOR POWER DISTRIBUTION AND CONTROL COMPONENTS.
- D. GROUNDING:
1. GROUND ELECTRICAL SYSTEMS AND EQUIPMENT IN ACCORDANCE WITH N.E.C. EXCEPT WHERE GROUNDING IN EXCESS OF NEC REQUIREMENTS IS INDICATED.
2. ALL CIRCUITS SHALL CONTAIN AN INSULATED GROUNDING CONDUCTOR. THIS SHALL APPLY WHETHER INDICATED ON THE DRAWINGS OR NOT.
- E. LIGHTING:
1. COORDINATE LOCATION OF LIGHTING FIXTURES WITH MECHANICAL EQUIPMENT AND ARCHITECTURAL CEILING PLAN.

APARTMENTS NOTES

- NO BACK TO BACK OUTLET INSTALLATIONS IS ALLOWED. ALL OUTLETS SHALL BE INSTALLED IN ACCORDANCE WITH ARTICLE 210-50 OF THE NEC. ADDITIONAL OUTLETS MAY BE REQUIRED IN ORDER TO AVOID BACK TO BACK INSTALLATIONS.
- ALL RECEPTACLES WITHIN AN UNIT SHALL BE LISTED AS TAMPER-RESISTANT AS REQUIRED BY NEC. ART. 480.12
- ALL RECEPTACLES INSTALLED TO SERVE KITCHEN COUNTERTOPS AND LAUNDRY ROOMS SHALL HAVE AFCI PROTECTION.
- RECEPTACLES INSTALLED OUTDOOR IN A WET LOCATION MUST HAVE AN ENCLOSURE THAT IS WEATHERPROOF WHETHER THE ATTACHMENT PLUG IS INSERTED OR REMOVED. NEC 406.8(B)(1).
- HVAC OUTDOOR UNITS LOCATED MORE THAN 100FEET FROM UNIT LOADCENTER SHALL HAVE CONDUCTORS ONE SIZE LARGER.
- MORE THAN ONE SMOKE DETECTOR SHALL BE INTERCONNECTED.
- ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ARCHITECT/OWNER THE NUMBER AND FINAL LOCATION OF TELEPHONE AND CABLE TV OUTLETS PRIOR TO ROUGH-IN.
- ELECTRICAL CONTRACTOR SHALL COORDINATE WITH PROJECT ARCHITECT THE TYPE, EXACT LOCATION, AND MOUNTING HEIGHT OF ALL LIGHTING FIXTURES, PRIOR TO ROUGH-IN.
- ELECTRICAL CONTRACTOR SHALL EXTEND WIRING, AND MAKE FINAL CONNECTIONS TO ALL MECHANICAL AND PLUMBING EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS WHERE IS INDICATED OR NOT.

ABBREVIATIONS

A AMPERES OR AMP
AC ALTERNATING CURRENT
ADA AMENITIES WITH DISABILITIES ACT
AIC AMPERE INTERRUPTING CURRENT
AFF ABOVE FINISHED FLOOR
AFG ABOVE FINISHED GRADE
AWG AMERICAN WIRE GAUGE
BLDG BUILDING
CONDUIT CONDUIT
CU COPPER
CB CIRCUIT BREAKER
C/B CURRENT TRANSFORMER
G/GRND GROUND
GI GROUND FAULT INTERRUPTER
KOML THOUSAND CIRCULAR MILS
KVA KILOWATTS
KVA MINIMUM CIRCUIT AMPACITY
MCB MAIN CIRCUIT BREAKER
MOPC MAXIMUM OVERCURRENT PROTECTION
NOT IN CONTRACT
UNLESS OTHERWISE NOTED
VOLTAGE OR VOLT
V VOLT
W WATTS
W WATERPROOF

ELECTRICAL SYMBOLS

- RECESSED LIGHT FIXTURE
- S SINGLE POLE TOGGLE SWITCH, 125V, 20AMP+48" A.F.F.
- S₃ THREE WAY SWITCH 125V, 20AMP, +48" A.F.F.
- S_{LV} LOW VOLTAGE SWITCH
- PH PHOTOCELL
- CEILING MOUNTED OCCUPANCE SENSOR WITH LOW VOLTAGE WALL MOUNTED SWITCH
- DUPLEX RECEPTACLE, 125V/20 AMP +18" A.F.F.
- DUPLEX RECEPTACLE, 125V/20 AMP +44" A.F.F.
- DUPLEX RECEPTACLE W/ BUILT IN GROUND FAULT PROTECTION, 20 AMP, 125V, +44" U.O.N.
- WEATHERPROOF DUPLEX RECEPTACLE W/ BUILT-IN GROUND FAULT PROTECTION/AND WP COVER, 20 AMP 125V, +24" U.O.N.
- SINGLE RECEPTACLE, 120/240V/50AMP +18" A.F.F.
- SINGLE RECEPTACLE, 120/240V/50AMP +18" A.F.F.
- FLUSH WALL MOUNTED DATA/TELEPHONE COMBINATION OUTLET +18" AFF. U.O.N./PROVIDE (2)CAT-5 CABLE UP TO THE UNIT HUB
- TV OUTLET MOUNT +18" A.F.F. U.O.N. PROVIDE RG-6 CABLE FROM EACH OUTLET TO THE UNIT HUB LOCATION.
- JUNCTION BOX-SIZE AS REQUIRED.
- DISCONNECT SWITCH (FSS=FUSSIBLE; WFS=NON-FUSSIBLE)
- MOTOR RATED SWITCH
- MOTOR CONNECTION
- EXHAUST FAN CONNECTION
- UNIT HEATER CONNECTION
- CONDUIT TURNING UP
- CONDUIT TURNING DOWN
- HOMERUN TO PANELBOARD, ARROWHEADS DENOTE NUMBER OF CIRCUITS. CROSS MARKS DENOTE NUMBER OF CONDUCTOR.
- **RESIDENTIAL COMBINATION SMOKE DETECTOR/ CARBON MONOXIDE DETECTOR, 120VOLT WITH BATTERY BACK-UP.(**)

***ELEC. CONTRACTOR TO USE 15 AMP TOGGLE SWITCHES & RECEPTACLES ONLY IN APART. UNITS AND 20 AMP RECEPTACLES IN COMMON AREAS.

SMOKE DETECTORS ARE HARDWIRED 120V. WITH BATTERY BACK-UP, MORE THAN ONE SMOKE DETECTOR SHALL BE INTERCONNECTED.

NUMERALS SUBSCRIPT ADJACENT TO LIGHTING FIXTURES, WIRING DEVICES, SPECIAL OUTLETS, AND MOTOR CONNECTIONS ON APARTMENT PLAN INDICATES BRANCH CIRCUIT NUMBER TO WHICH ITEM IS TO BE CONNECTED. REFER TO "LOADCENTER SCHEDULE" FOR DESCRIPTION OF CIRCUIT AND WIRE SIZE.

ALL 120 VOLT SINGLE PHASE, 15 AND 20 AMPERE BRANCH CIRCUITS SUPPLYING OUTLETS INSTALLED IN DWELLING UNIT FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DEN, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSET, HALLWAYS, OR SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER COMBINATION TYPE, INSTALLED TO PROVIDE PROTECTION OF THE BRANCH CIRCUIT PER NEC 210.12

LIGHTING FIXTURE SCHEDULE

SYMBOL	DESCRIPTION	MANUFACTURER	CATALOG NO.	LAMP						FIXTURE WATTAGE
				NO.	TYPE	FX. VOLTAGE	COLOR	CR	LUMENS	
●	4" DIAMETER ROUND RECESSED DOWNLIGHT	ELCO	EL48B4W HOUSING WITH SQUARE BATTLE TROW	1	LED	120V	3000 °K	80	1,234	16 W
●EM	4" DIAMETER ROUND RECESSED DOWNLIGHT WITH EMERGENCY BATTERY BACKUP	ELCO	EL48B4W HOUSING WITH SQUARE BATTLE TROW	1	LED	120V	3000 °K	80		16 W
●	RECESSED BATHROOM FAN/LIGHT	BROAN	07X080RPLT	1	LED	120V	3000 °K	80	1,866	18 W
○	FLUSH MOUNT AT BEDROOMS	ACCESS LIGHTING	RADIANT LED FLUSHMOUNT	1	LED	120V	3000 °K	80	1,859	21 W
○	BATHROOM BAR SCENE	MAJULUM LIGHTING	SPEC VANITY LED BATH BAR/ MWLP271275	1	LED	120V	3000 °K	80	2,000	16 W
●-EM	EXTERIOR WALL SCENE EMERGENCY BATTERY BACKUP	OXYGEN LIGHTING	OXYPI40964	1	LED	120V	3000 °K	80	1,500	11 W

1. ALL LIGHTING FIXTURES TO BE APPROVED BY THE ARCHITECT PRIOR TO ORDERING AND INSTALLING.
2. ARCHITECT TO SELECT COLOR OF LIGHTING FIXTURES
3. REFER TO ARCHITECTURAL REFLECTED CEILING AND ELEVATION PLANS FOR EXACT LOCATION AND MOUNTING HEIGHT.
4. LISTED FOR INSTALLATION IN RATED FLOOR-CEILING ASSEMBLIES.
5. A MINIMUM OF 85 PERCENT OF THE LAMPS IN PERMANENTLY INSTALLED LIGHTING FIXTURES SHALL BE HIGH-EFFICIENCY LAMPS.
- LAMP EFFICIENCY
- 15W-40W 50 LUMENS PER WATT
 - 40W OR MORE 80 LUMENS PER WATT
6. EXTERIOR LIGHTING SHALL COMPLY WITH THE REQUIREMENTS OF TABLE 408.3.3 FOR THE EXTERIOR LIGHTING ZONE (L2) APPROPRIATE TO THE BUILDING SITE.
7. INTERNALLY ILLUMINATED EXIST SIGNS SHALL NOT EXCEED 5 WATTS PER SIDE.
8. IC RATED RECESSED LIGHTING FIXTURES SEALED AT HOUSING/INTERIOR FINISH AND LABELED TO INDICATE < OR EQUAL TO 2.0 GFW LEAKAGE AT 75 PA.



5122 CATHEDRAL AVE. NW
SINGLE-FAMILY HOME

DATE	DESCRIPTION

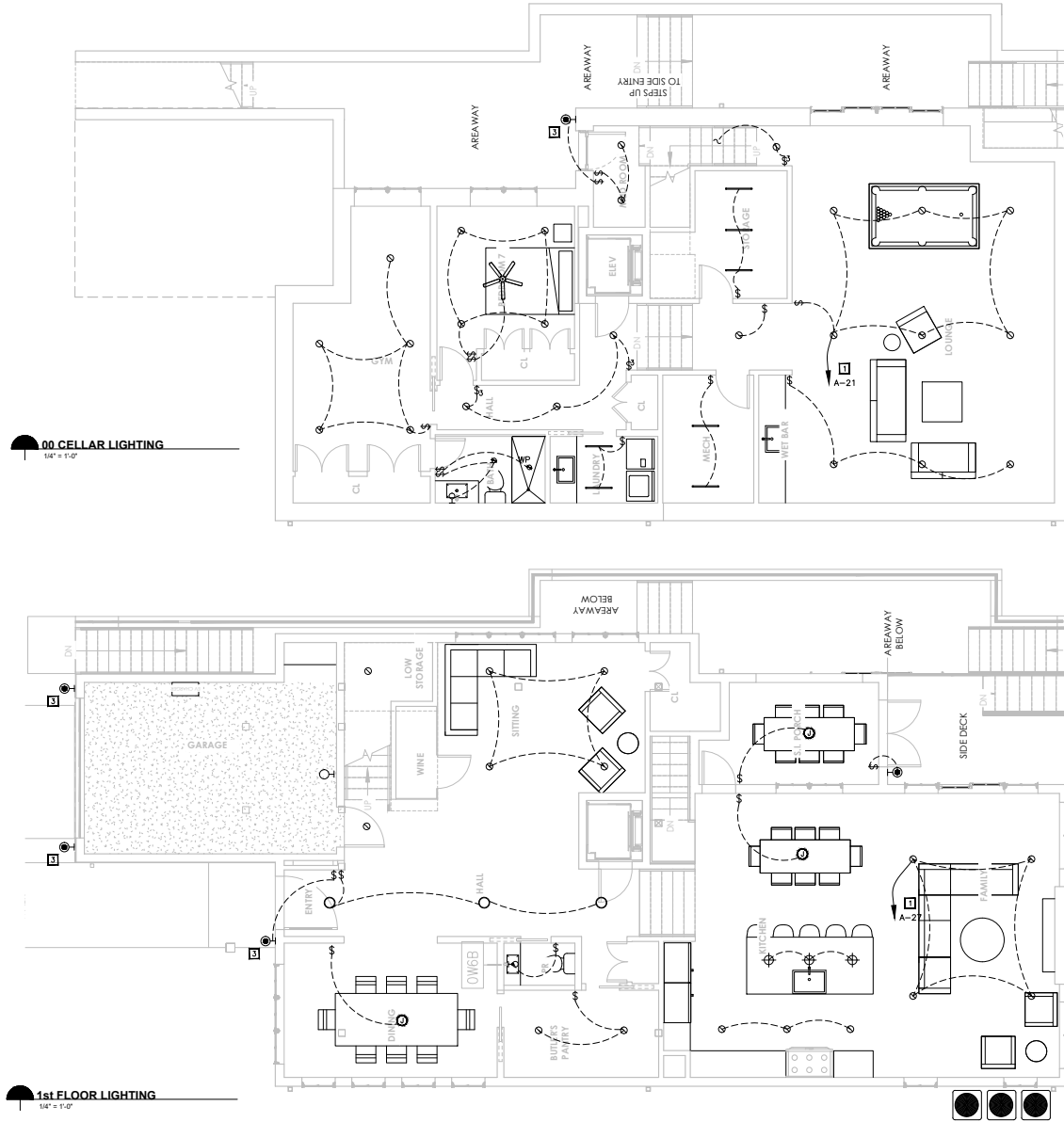
2024-0510



ELECTRICAL COVERSHEET

E000

Board of Zoning Adjustment
District of Columbia
CASE NO.20944
EXHIBIT NO.57A2



- NEW WORK GENERAL NOTES:**
1. REFER TO COVER SHEET DRAWING FOR ELECTRICAL LEGENDS & ADDITIONAL INFORMATION.
 2. COORDINATE WITH ARCHITECT FOR EXACT LOCATION OF ALL ELECTRICAL DEVICES SUCH AS SWITCHES, POWER/TELE/ DATA OUTLETS, EQUIPMENT, ETC. PRIOR TO INSTALLATION.
 3. CIRCUIT NUMBERS INDICATED ON BRANCH CIRCUIT HOMERUNS ARE FOR DESIGN PURPOSES ONLY. CONTRACTOR SHALL COORDINATE ACTUAL CIRCUIT NUMBERS AT THE TIME OF INSTALLATION AND SHALL PROVIDE AN ACCURATE, TYPED PANEL ABOARD DIRECTORY FOR EACH PANELBOARD. ANY UNUSED BREAKER SHALL BE TURNED TO THE "OFF" POSITION, AND LABELED AS SPARE.

- NEW WORK LIGHTING NOTES:**
1. CONTRACTOR SHALL CONNECT TO DESIGNATED PANEL RUN 2#12+1#10G AC CABLE. CONTRACTOR SHALL CONNECT NO MORE THAN 1800 WATTS PER 1-1P-20A-120V C/A.
 2. ALL CLOSETS TO RECEIVE LIGHT FIXTURE ABOVE. HEADER OF DOOR WITH MOTION SENSOR ON CEILING DIRECTLY ABOVE.
 3. ALL EXTERIOR LIGHTING FIXTURES TO BE CONTROLLED DUSK & DAWN PHOTOCELL ELECTRIC SENSOR. WIRE ACCORDINGLY TO PANEL. USE WIRE #12 LOCATE PHOTO ELECTRIC CONTROL AS NECESSARY FOR PROPER FUNCTION OF LIGHTING.



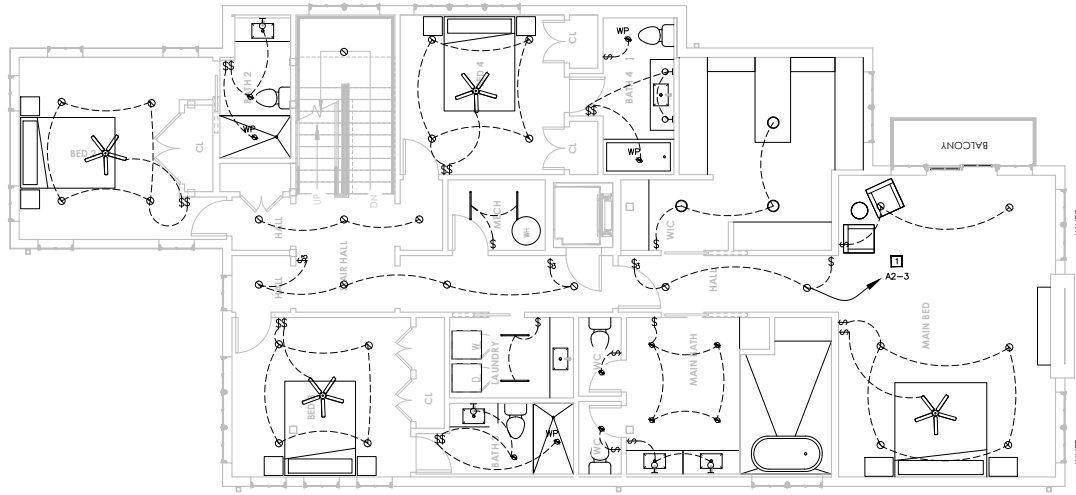
5122 CATHEDRAL AVE. NW
SINGLE-FAMILY HOME

PERMIT SUBMISSION	
NO.	DATE

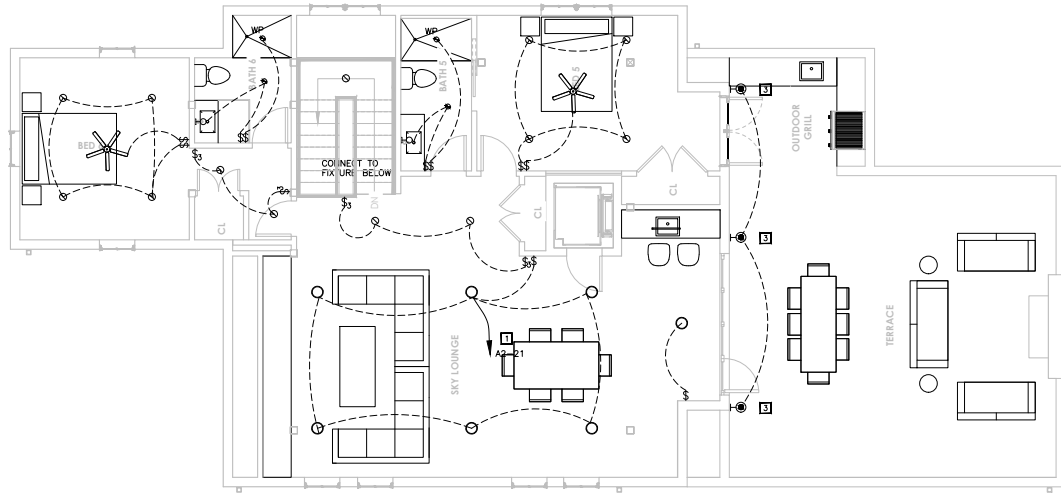
2024-0510

ELEC. LIGHTING
FLOOR PLANS

E100



2nd FLOOR LIGHTING
1/4" = 1'-0"



3rd FLOOR LIGHTING
1/4" = 1'-0"

- NEW WORK GENERAL NOTES:
1. REFER TO COVER SHEET DRAWING FOR ELECTRICAL LEGENDS & ADDITIONAL INFORMATION
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 3. CIRCUIT NUMBERS INDICATED ON BRANCH CIRCUIT HOMERUNS ARE FOR DESIGN PURPOSES ONLY. CONTRACTOR SHALL COORDINATE ACTUAL CIRCUIT NUMBERS AT THE TIME OF INSTALLATION AND SHALL PROVIDE AN ACCURATE, TYPED PANEL ABOARD DIRECTORY FOR EACH PANELBOARD. ANY UNUSED BREAKER SHALL BE TURNED TO THE "OFF" POSITION, AND LABELED AS SPARE.

- NEW WORK LIGHTING NOTES:
1. CONTRACTOR SHALL CONNECT TO DESIGNATED PANEL RUN 2#12-1#120 AC CABLE. CONTRACTOR SHALL CONNECT NO MORE THAN 1800 WATTS PER 1-1P-20A-120V C/A.
 2. ALL CLOSETS TO RECEIVE LIGHT FIXTURE ABOVE HEADER OF DOOR WITH MOTION SENSOR ON CEILING DIRECTLY ABOVE.
 3. ALL EXTERIOR LIGHTING FIXTURES TO BE CONTROLLED DUSK & DAWN PHOTOCELL ELECTRIC SENSOR. WIRE ACCORDINGLY TO PANEL USE WIRE #12. LOCATE PHOTO ELECTRIC CONTROL AS NECESSARY FOR PROPER FUNCTION OF LIGHTING.



5122 CATHEDRAL AVE. NW
SINGLE-FAMILY HOME

1 SQ. 489 LT 0060

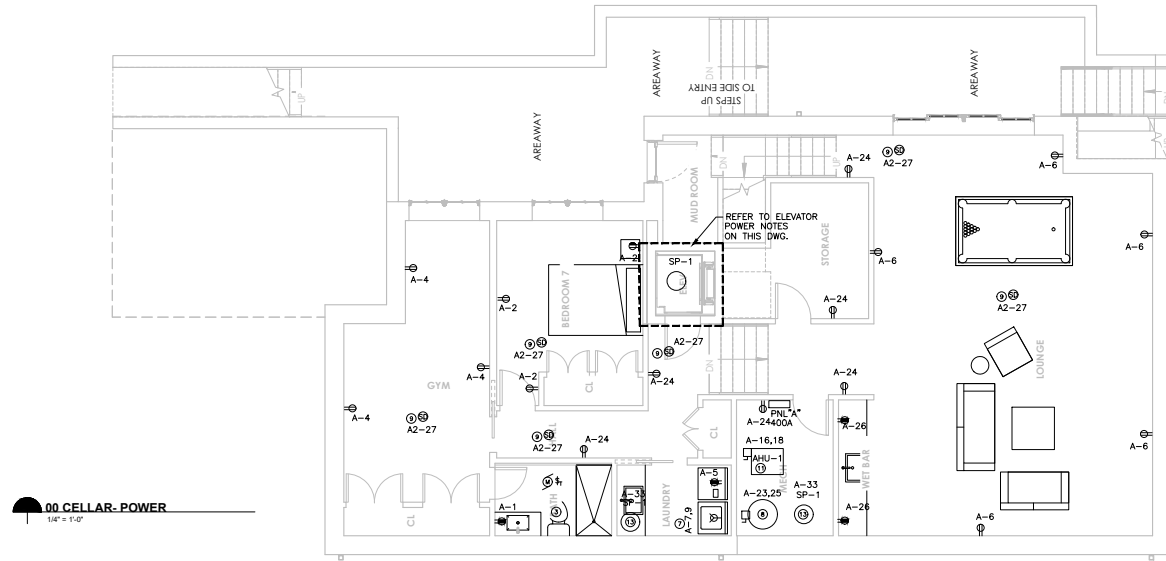
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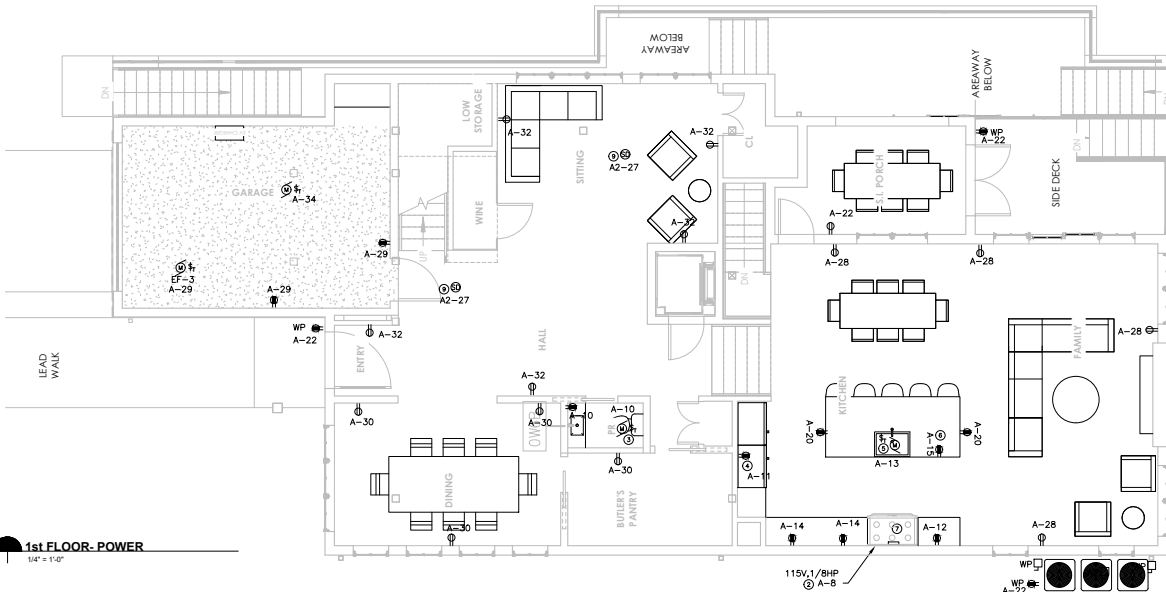


ELEC. LIGHTING
FLOOR PLANS

E101



00 CELLAR-POWER
1/4" = 1'-0"



1st FLOOR-POWER
1/4" = 1'-0"

NEW WORK POWER NOTES ①

1. PROVIDE CONNECTION FOR DRYER NEMA RATED 240V, 1PH, 30A C/B. COORDINATE WITH OWNERS FOR REQUIREMENTS. DRYER TO BE ENERGY STAR. CONNECT TO HOUSE PANEL.
2. PROVIDE CONNECTION FOR KITCHEN DUCTED HOOD FAN. PROVIDE MEANS OF DISC. TO COMPLY WITH NEC REQUIREMENTS. FAN TO BE CONTROLLED VIA WALL-MOUNTED SWITCH FURNISHED BY HVAC CONTRACTOR. HOOD TO BE ENERGY STAR.
3. PROVIDE CONNECTION FOR BATHROOM EXHAUST FAN. PROVIDE MEANS OF DISC. TO COMPLY WITH NEC REQUIREMENTS. EXHAUST FAN TO BE ENERGY STAR.
4. PROVIDE DED. RECEPTACLE FOR FULL HEIGHT REFRIGERATOR 120V-1PH. PROVIDE GFI CIRCUIT BREAKER. REFRIGERATOR TO BE ENERGY STAR.
5. CONNECTION FOR GARAGE DISPOSER WITH PNEUMATIC SWITCH IN COUNTER. FHP-120V-1PHASE PROVIDE MEANS OF DISCONNECT TO COMPLY WITH NEC REQUIREMENTS.
6. PROVIDE DED. GFI RECEPTACLE FOR DISHWASHER. COORDINATE EXACT LOCATION AND HEIGHT PRIOR TO ROUGH-IN. DISHWASHER TO BE ENERGY STAR.
7. PROVIDE CONNECTION FOR GAS RANGE. COORDINATE WITH OWNER FOR REQUIREMENTS.
8. PROVIDE CONNECTION FOR ELECTRIC TANK TYPE WATER HEATER WH-1, 240V, 1PH, 4.5KW. PROVIDE DISCONNECT PER NEC REQUIREMENTS. ALL EQUIPMENT TO BE ENERGY STAR.
9. WIRE UNIT SMOKE DETECTORS/CO SENSOR SUCH THAT ACTUATION OF ONE ALARM WILL ACTIVATE ALL OF THE ALARMS IN THE INDIVIDUAL UNIT. PROVIDE HARDWARE COMBINATION UNIT SMOKE DETECTOR/CO SENSOR WITH BATTERY BACKUP. DEVICE SHALL BE LOCATED 3 FEET AWAY FROM HVAC DIFFUSER AND BATHROOM OR KITCHEN ENTRANCE. DEVICES SHALL BE INSTALLED 20 FEET FROM KITCHEN COOKING EQUIPMENT OR SHALL BE A PHOTOELECTRIC TYPE.
10. PROVIDE CONNECTION FOR OUTDOOR UNIT. HP-1 19.3MCA, 3MOSCP, HP-2 & HP-3 240V, 1PH, 11.8MCA, 23MOSCP. PROVIDE NEMA TYPE 3R-1-240V-3ØA HP NF DISC. SW FUSED (UL CLASS RK5).
11. PROVIDE CONNECTION FOR INDOOR UNIT. AHU-1, 240V, 1PH, 120KW. AHU-2, 240V, 1PH, 100K. AHU-3, 240V, 1PH, 3KW OF AUXILIARY HEAT. PROVIDE DISC. SW PER NEC REQUIREMENTS.
12. WP/GFI RECEPTACLE ADJACENT TO THE UNIT TO COMPLY WITH NEC REQUIREMENTS. RECEPT. TO BE FEED FROM HOUSE PANEL.
13. PROVIDE 120V, FHP. CONNECTION FOR SUMP PUMP SP-1. CONNECT TO HOUSE PANEL.

ALL EQUIPMENT PROVIDED TO BE ENERGY STAR RATED.

SPECIAL NOTES

ALL 120 VOLT SINGLE PHASE, 15 AND 20 AMPERE BRANCH CIRCUITS SUPPLYING OUTLETS INSTALLED IN DWELLING UNIT FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DEN, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSET, HALLWAYS OR SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY A LISTED ARC-Fault Circuit Interrupter, COMBINATION TYPE, INSTALLED TO PROVIDE PROTECTION OF THE BRANCH CIRCUIT PER NEC 210.12. PROVIDE TAMPER RECEPTACLES AT ALL LOCATIONS WHERE THEY ARE MOUNTED NO HIGHER THAN 5'-10" FEET AFF OR IN A SPACE DEDICATED TO A SPECIFIC APPLIANCE.

ELEVATOR POWER NOTES:

1. PROVIDE CONNECTION FOR TRACTION ELEVATOR (IN LINE GEAR DRIVE SYSTEM) WITH REMOTE CONTROLLER MACHINE ROOM 240V, 1PH, 20A C/B. PROVIDE LOCKABLE SAFETY DISCONNECT DEVICE.
2. PROVIDE DED. BRANCH CIRCUIT 15AMP FOR CAR LIGHT LUMINAIRES. PROVIDE FUSIBLE AND LOCKABLE DISCONNECT SW.
3. PROVIDE 115V, 15AMP DEDICATED SINGLE PHASE, FOR CONTROLLER. FEEDING BREAKER MUST NOT BE A GFI TYPE. (CONTROLLER).
4. RUN TELEPHONES CABLES TO THE CONTROL PANEL.
5. PROVIDE DED BRANCH CIRCUIT 15A FOR SERVICE LIGHT. LUMINAIRES MUST BE EQUIPPED WITH WIRE GUARD.
6. PROVIDE WP/GFI DUPLEX RECEPTACLE (MUST BE SEPARATE FROM ELEVATOR CIRCUITS).
7. PROVIDE A BATTERY BACKUP UNIT TO POWER LIGHTS.



5122 CATHEDRAL AVE. NW
SINGLE-FAMILY HOME

150 489 LT 0060

PERMIT SUBMISSION

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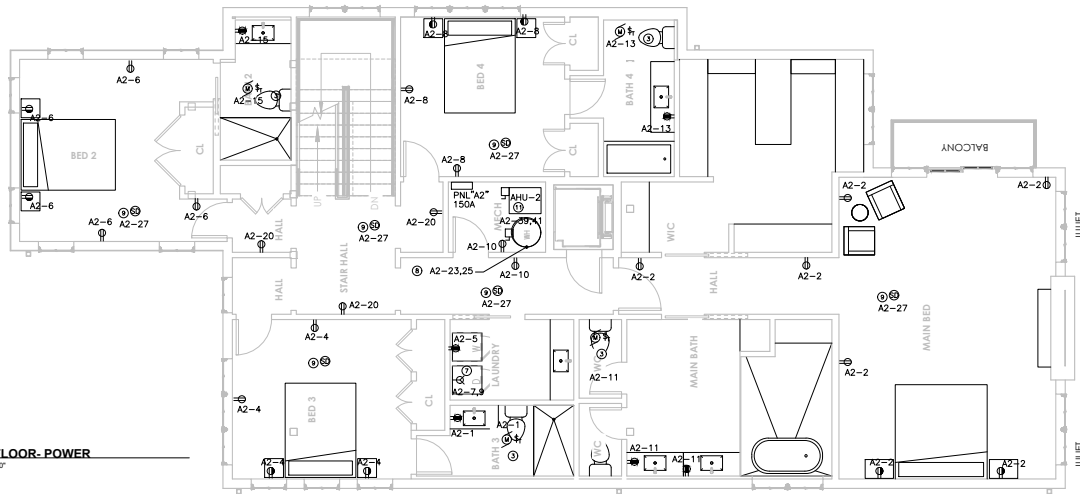
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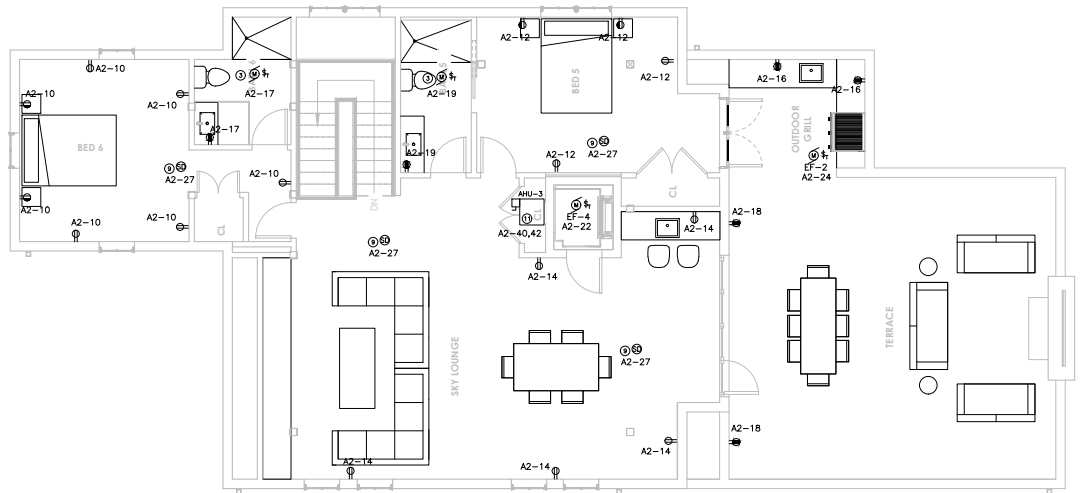
ELEC. POWER
FLOOR PLANS-

E200

2nd FLOOR-POWER
1/4" = 1'-0"



3RD FLOOR-POWER
1/4" = 1'-0"



NEW WORK POWER NOTES: ①

1. PROVIDE CONNECTION FOR DRIVER NEMA RATED 240V, 1PH, 30A C/2. COORDINATE WITH OWNERS FOR REQUIREMENTS. OWNER TO BE ENERGY STAR. CONNECT TO HOUSE PANEL.
2. PROVIDE CONNECTION FOR KITCHEN DUCTED HOOD FAN. PROVIDE MEANS OF DISC. TO COMPLY WITH NEC REQUIREMENTS. FAN TO BE CONTROLLED VIA WALL-MOUNTED SWITCH FURNISHED BY HVAC CONTRACTOR. HOOD TO BE ENERGY STAR.
3. PROVIDE CONNECTION FOR BATHROOM EXHAUST FAN. PROVIDE MEANS OF DISC. TO COMPLY WITH NEC REQUIREMENTS. EXHAUST FAN TO BE ENERGY STAR.
4. PROVIDE DED. RECEPTACLE FOR FULL HEIGHT REFRIGERATOR 120V-1PH. PROVIDE GFI CIRCUIT BREAKER. REFRIGERATOR TO BE ENERGY STAR.
5. CONNECTION FOR GARBAGE DISPOSER WITH PNEUMATIC SWITCH IN COUNTER. FHP-120V-1PHASE PROVIDE MEANS OF DISCONNECT TO COMPLY WITH NEC REQUIREMENTS.
6. PROVIDE DED. GFI RECEPTACLE FOR DISHWASHER. COORDINATE EXACT LOCATION AND HEIGHT PRIOR TO ROUGH-IN. DISHWASHER TO BE ENERGY STAR.
7. PROVIDE CONNECTION FOR GAS RANGE. COORDINATE WITH OWNER FOR REQUIREMENTS.
8. PROVIDE CONNECTION FOR ELECTRIC TANK TYPE TYPE WATER HEATER WH-1, 240V, 1PH, 4.5KW. PROVIDE DISCONNECT PER NEC REQUIREMENTS. ALL EQUIPMENT TO BE ENERGY STAR.
9. WIRE UNIT SMOKE DETECTORS/CO SENSOR SUCH THAT ACTUATION OF ONE ALARM WILL ACTIVATE ALL OF THE ALARMS IN THE INDIVIDUAL UNIT. PROVIDE HARDWARE COMBINATION UNIT SMOKE DETECTOR/CO SENSOR WITH BATTERY BACKUP. DEVICE SHALL BE LOCATED 3 FEET AWAY FROM HVAC DIFFUSERS AND BATHROOM OR KITCHEN ENTRANCE. DEVICES SHALL BE INSTALLED 20 FEET FROM KITCHEN COOKING EQUIPMENT OR SHALL BE A PHOTOELECTRIC TYPE.
10. PROVIDE CONNECTION FOR OUTDOOR UNIT. HP-1 13.8MCA, 30MOP, HP-2 & HP-3, 240V, 1PH, 11.8MCA, 20MOP. PROVIDE NEMA TYPE 3R 1-240V-30A WP DISC. SW. FUSED (UL CLASS RGS).
11. PROVIDE CONNECTION FOR INDOOR UNIT. AHU-1, 240V, 1PH, 10KW, AHU-2, 240V, 1PH, 40W, AHU-3, 240V, 1PH, 3KW OF AUXILIARY HEAT. PROVIDE DISC. SW PER NEC REQUIREMENTS.
12. WP/GFI RECEPTACLE ADJACENT TO THE UNIT TO COMPLY WITH NEC REQUIREMENTS. RECEPT. TO BE FEED FROM HOUSE PANEL.
13. PROVIDE 120V, FHP, CONNECTION FOR SLUMP PUMP SP-1. CONNECT TO HOUSE PANEL.

ALL EQUIPMENT PROVIDED TO BE ENERGY STAR RATED.

SPECIAL NOTES:

ALL 120 VOLT SINGLE PHASE, 15 AND 20 AMPERE BRANCH CIRCUITS SUPPLYING OUTLETS INSTALLED IN DWELLING UNIT FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DEN, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSET, HALLWAYS, OR SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER, COMBINATION TYPE, INSTALLED TO PROVIDE PROTECTION OF THE BRANCH CIRCUIT PER NEC 210.12. PROVIDE TAMPER RECEPTACLES AT ALL LOCATIONS WHERE THEY ARE MOUNTED NO HIGHER THAN 5'-1/2 FEET AFF OR IN A SPACE DEDICATED TO A SPECIFIC APPLIANCE.



5122 CATHEDRAL AVE. NW
SINGLE-FAMILY HOME

150 149 LT 0060

NO.	DESCRIPTION	DATE

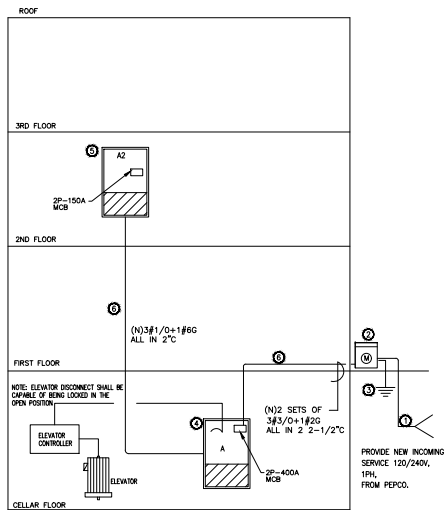
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ELEC. POWER
FLOOR PLANS-

E201



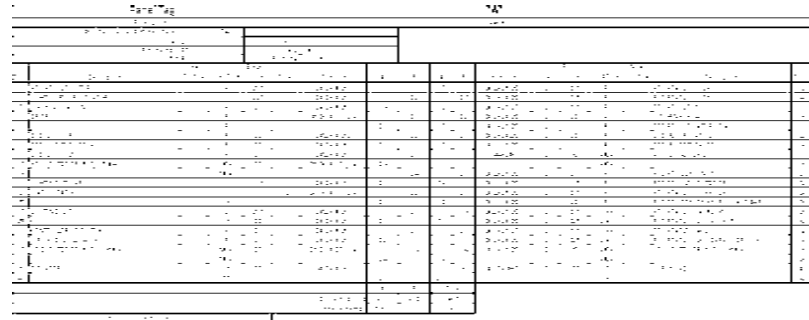
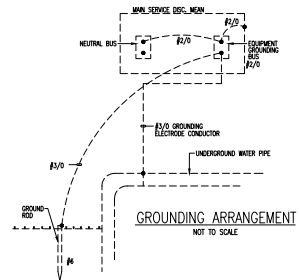
1 NEW POWER RISER DIAGRAM
SCALE: NO SCALE

ELECTRICAL RISER NOTES:

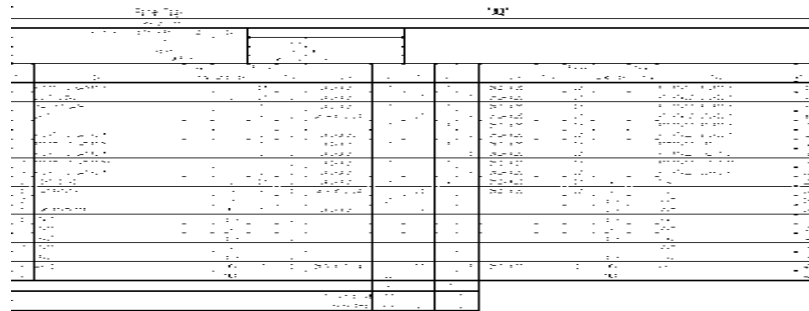
1. PROVIDE NEW SERVICE 400A, 120/240V, 1ø, 3W, FROM PEPCO, RUN 2 SETS OF 3/4"Ø+GROUND ALL IN (2)2-1/2" CONDUIT.
2. PROVIDE NEW METER CENTER WITH METERS/SOCKETS BREAKER. INSTALL PER PEPCO REQUIREMENTS.
3. PROVIDE NEW GROUNDING #1/0 PER NEC.
4. PROVIDE NEW TENANT PANEL "A" 400A MCB, 120/240V, 1ø, 3W, - SEE PANEL SCHEDULE.
5. PROVIDE NEW SUB PANEL "AZ" 150A MCB, 120/240V, 1ø, 3W, - SEE PANEL SCHEDULE.
6. PROVIDE NEW FEEDER

ALL ELECTRICAL WIRING, BOXES, CONDUITS, RACEWAYS, CATV AND TELEPHONE WIRING PENETRATING FIRE RESISTANCE RATED MEMBRANCES MUST BE PROPERLY SEALED TO ASSURE THAT THE REQUIRED FIRE RATED RATING IS NOT REDUCE.
UL 263 FIRE TESTS OF BUILDING CONSTRUCTION AND MATERIAL.
SIMILAR TO ASTM E119

UL 1479 FIRE TESTS OF THROUGH-PENETRATION FIRESTOPS.
COMPLEMENTARY TO UL 263. SIMILAR TO ASTM E 814

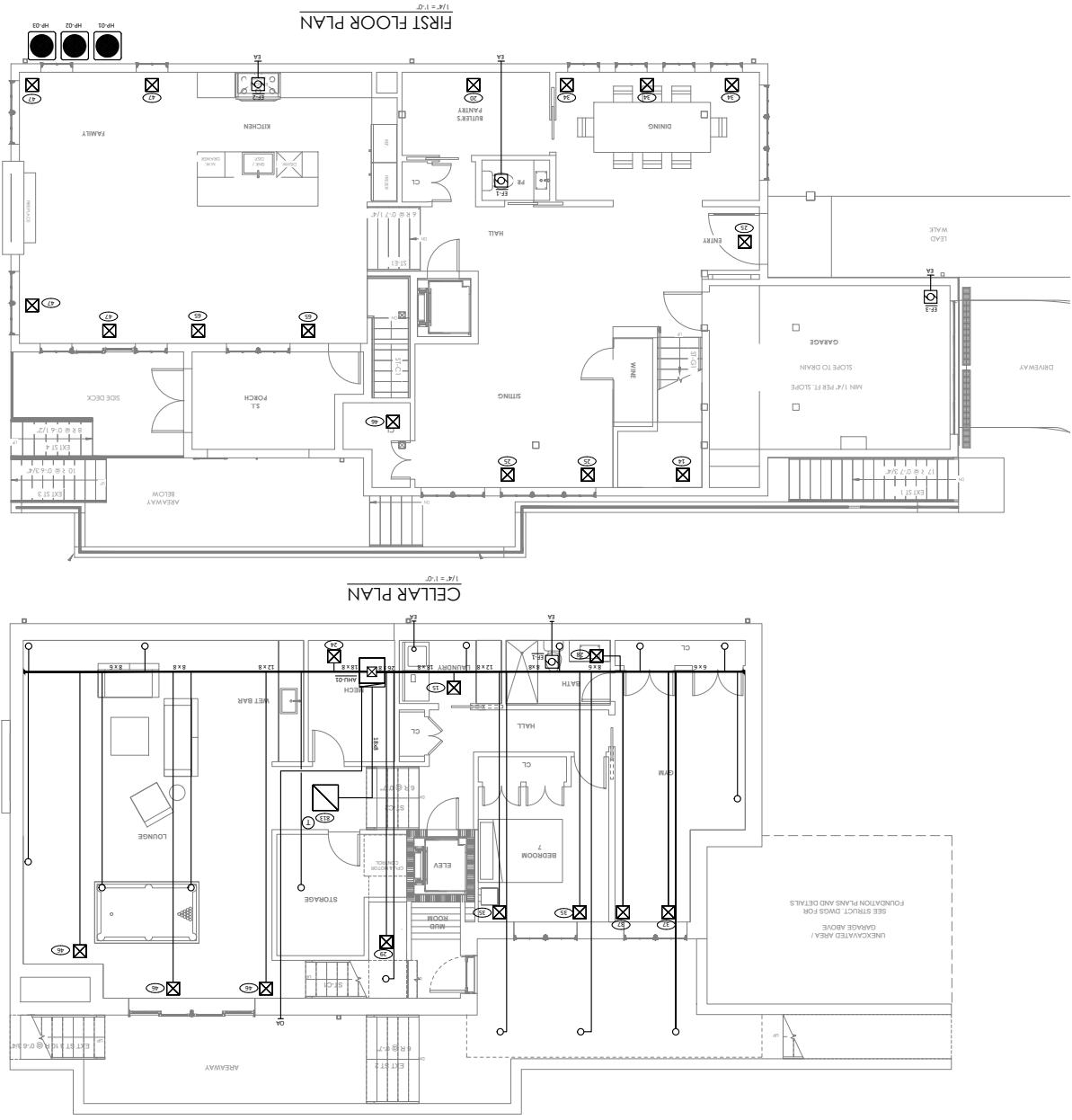


* POWER RANKING: 19



* ABOVE THE LINE :





BTM ENGINEERS
4712 BARBARA BROOK DR
CROFTON, MD 21114
410-791-1871

MECHANICAL GENERAL NOTES		
EQUIPMENT	DUCT SIZE	NOTES
EXHAUST FAN, FT	4" Ø	ROUTE TO EXTERIOR WALL/ROOF. EXHAUST IS NOT ALLOWED AT ROOF TERMINATION.
KITCHEN HOOD FAN, HT	7" Ø	ROUTE TO EXTERIOR WALL/ROOF.
OA DUCT	4" Ø	ROUTE OA DUCT TO EXTERIOR WALL/ROOF.
ROOMS/OUTDOOR UNIT	-	REF REFRIGANT PIPING ROUTE TO BE DETERMINED IN FIELD. SEE PER MANUFACTURER REQUIREMENTS. REFRIGANT PIPING TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. REFRIGANT PIPING TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
THERMOSTAT	-	THAT HAS ABILITY TO AUTOMATICALLY DETECT AND HEAT TEMPERATURE SETPOINT. SEEN MODEL 575.

5122 CATHEDRAL AVE. NW

SINGLE-FAMILY HOME

2PLYS

PERMIT SUBMISSION

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5122 CATHEDRAL AVE. NW

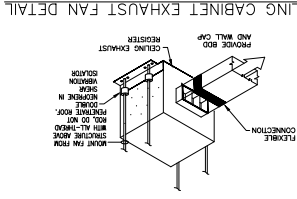
SINGLE-FAMILY HOME

2PLYS

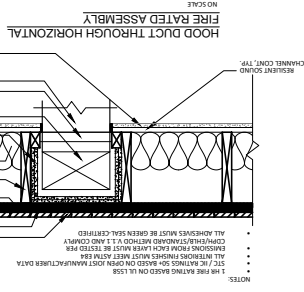
FLOOR PLANS

NEW WORK

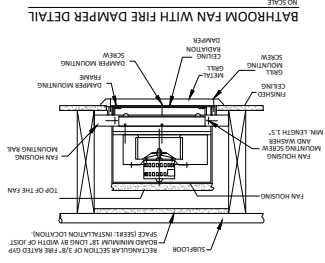
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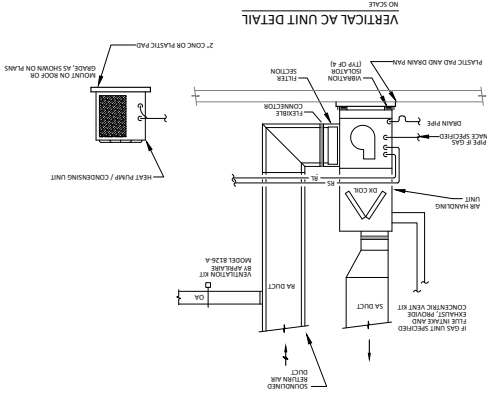
CEILING CABINET EXHAUST FAN DETAIL



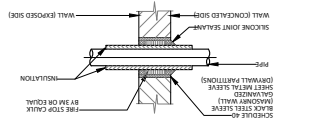
HOOD DUCT THROUGH HORIZONTAL



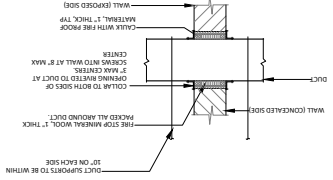
BATHROOM FAN WITH FIRE DAMPER DETAIL



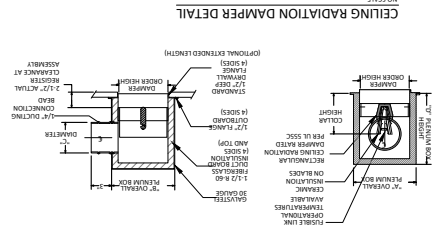
VERTICAL AC UNIT DETAIL



PIPE/CONDUIT AND ROOF PENETRATION DETAIL



DUCT/PIPE PENETRATION THROUGH
FIRE RATED WALL.



CEILING RADIATION DAMPER DETAIL



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240-704-7871OLNEY, MD 20832
240-704-7871

GENERAL SPECIFICATIONS

[illegible]

PLUMBING PIPING & INSULATION

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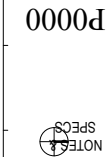
NATURAL GAS PIPING

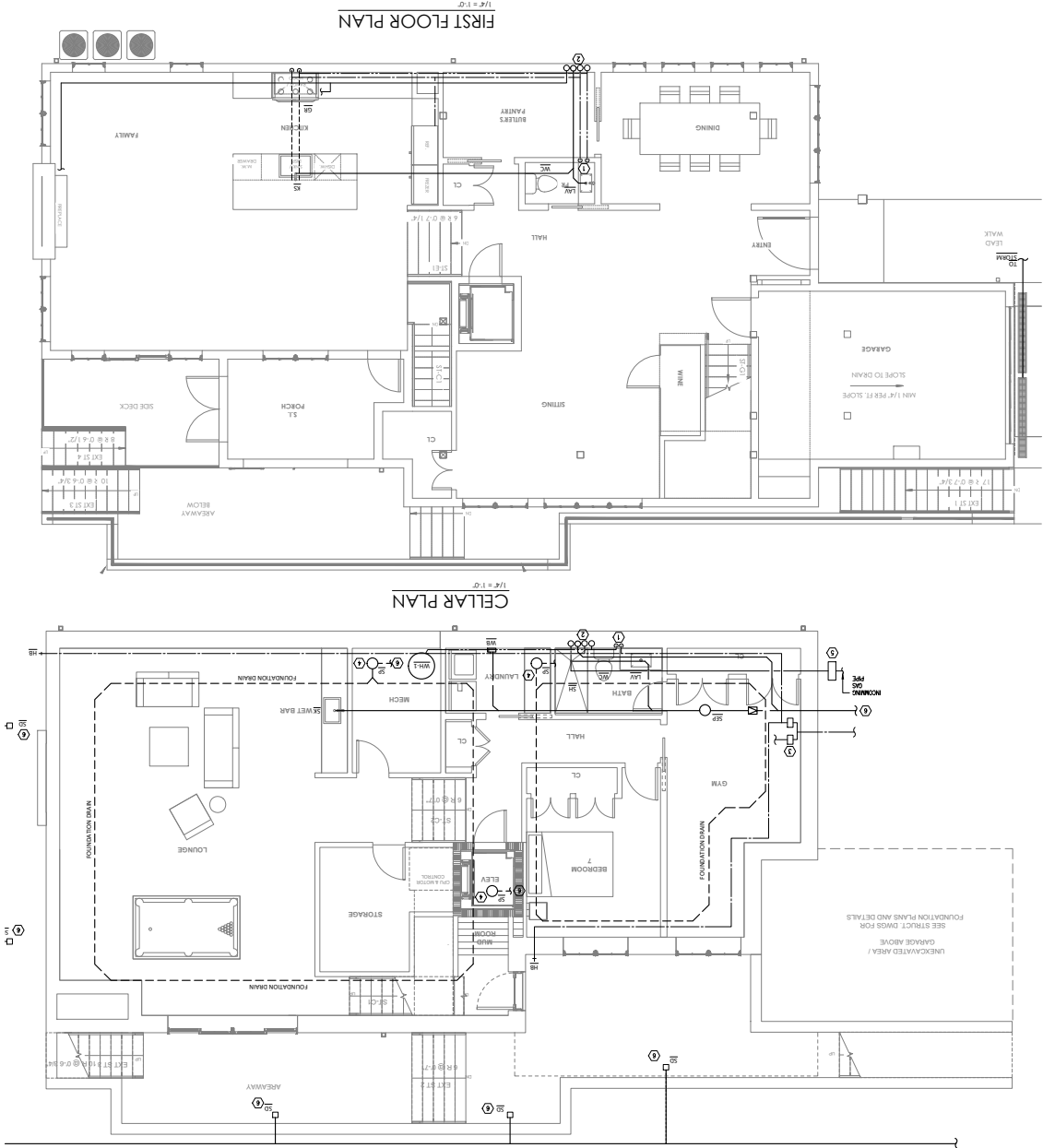
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PLUMBING SYMBOLS

SYMBOL	ABBREVIATION	DESCRIPTION
	WV	SANITARY SOIL AND WASTE
	HWC	DOMESTIC HOT WATER RECIRCULATION
	HW	DOMESTIC HOT WATER
	CW	DOMESTIC COLD WATER
		DEVICES REQUIRING NO ADJUSTMENT TO BE REMOVED
		DEVICES REQUIRING NO ADJUSTMENT TO REMAIN
	VP	SANITARY TRAP
	D	DRAIN LINE
	PO	PUMP DISCHARGE
	G	NATURAL GAS
	ST	STORM WATER
		PIPE THRU-ROOF DRAIN
		PIPE THRU-WALL DRAIN
		PIPE THRU-ROOF VENT
		PIPE THRU-WALL VENT
		PIPE THRU-ROOF DRAIN/VENT
		PIPE THRU-WALL DRAIN/VENT
		PIPE THRU-ROOF DRAIN/VENT WITH TRAP
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		PIPE THRU-WALL DRAIN/VENT WITH TRAP AND VENT AND VENT AND VENT AND VENT AND VENT AND VENT AND VENT
		PIPE THRU-ROOF DRAIN/VENT WITH TRAP AND VENT AND VENT AND VENT AND VENT AND VENT AND VENT AND VENT
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		PIPE THRU-ROOF DRAIN/VENT WITH TRAP AND VENT AND VENT AND VENT AND VENT AND VENT AND VENT AND VENT
		PIPE THRU-WALL DRAIN/VENT WITH TRAP AND VENT AND VENT AND VENT AND VENT AND VENT AND VENT AND VENT
		PIPE THRU-ROOF DRAIN/VENT WITH TRAP AND VENT AND VENT AND VENT AND VENT AND

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- KEYED NOTES - NEW WORK
- 1) HW/OW Serves Bathroom. See Riser Diagram.
 - 2) HW/OW/W/V/S/AS/STORM RISER.
 - 3) Upgrade Water Service. See Riser Diagram.
 - 4) Route Sump Pump to Storm.
 - 5) Upgrade Existing Service and Meter if Necessary.
 - 6) Connect to Storm/Sewer Pipe Outside the Building. Provide Backflow Preventer.

PLUMBING NOTES	
EQUIPMENT	NOTES
SEWAGE LINE	SEE RISER DIAGRAM FOR SAN LINE SIZES AND BACKWATER VALVE INFORMATION.
WATER LINE	SEE RISER DIAGRAM FOR WATER LINE SIZES.
REFRIGERATOR	1" CW LINE TO REFRIGERATOR WITH BACKFLOW PREVENTER.
DISHWASHER	HW AND SAN LINE TO DISHWASHER FROM SINK.
BACKFLOW PREVENTER	PROVIDE BACKFLOW PREVENTER IN CONNECTION AND FIRE WATER LINE. SEE RISER DIAGRAM. INSTALL IN COMMON AREA ON FIRST FLOOR. PROVIDE SERVICE ACCESS DOOR. SPRINKLER SYSTEM BY SPRINKLER CONTRACTOR.
BACKWATER VALVE	SEE RISER DIAGRAM FOR BACKWATER VALVE INSTALLATION.
WATER HEATER	PROVIDE EXPANSION TANK, DRAIN PAN, VENT KIT FROM GAS LINES. ROUTE VENT IN/PAVE TO EXTERIOR.
SEWAGE PUMP	SEE SCHEDULE FOR PUMP SIZING. PUMP DISCHARGE SHALL CONNECT TO STORM OUTSIDE THE BUILDING. PROVIDE CHECK VALVE ON DISCHARGE. PROVIDE ACCESS FOR SERVICE OF UNIT AND VALVES.
ROOF DRAIN	ROOF DRAIN SHALL CONNECT TO STORM OUTSIDE THE BUILDING. OVERFLOW DRAINING SHALL DISCHARGE TO GRADE OUTSIDE THE BUILDING.
GAS LINE	SEE RISER DIAGRAM FOR GAS LINE SIZES.



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FLOOR PLANS
NEW WORK

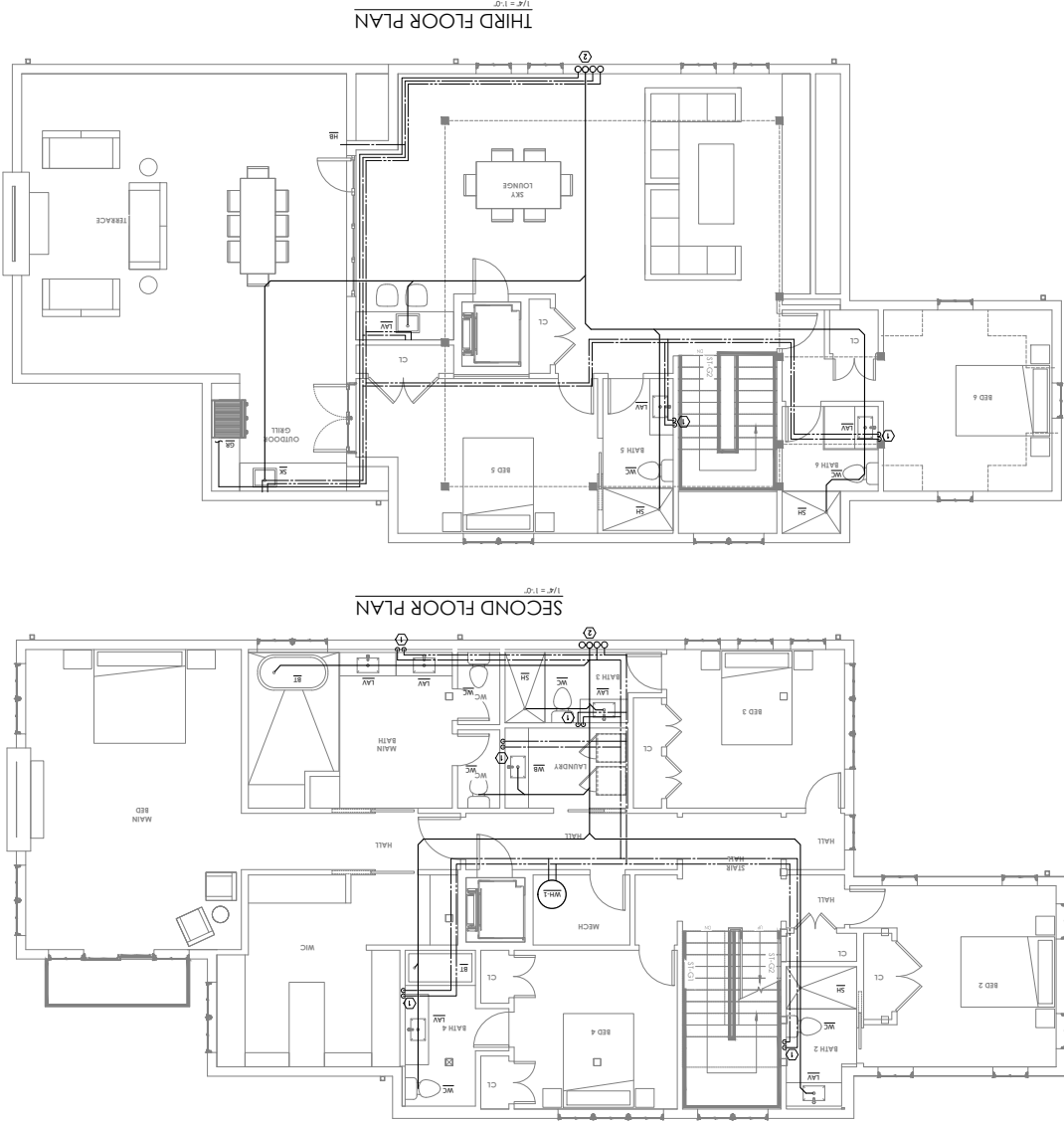


2024-0510

NO.	DESCRIPTION	DATE

5122 CATHEDRAL AVE. NW
SINGLE-FAMILY HOME





KEYED NOTES - NEW WORK

① HIN/CW SERVES BATHROOM. SEE RISES DIAGRAM.
② UPGRADE WATER SERVICE. SEE RISES DIAGRAM. PROVIDE BPP FOR DOMESTIC AND FIRE SERVICE.
③ ROUTE SLUMP PUMP TO STORM.
④ UPGRADE EXISTING SERVICE AND WATER IF NECESSARY.
⑤ CONNECT TO STORM/SEWER PIPE OUTSIDE THE BUILDING. PROVIDE BACKFLOW PREVENTER.

PLUMBING NOTES	
EQUIPMENT	SEE RISES DIAGRAM FOR SAN LINE SIZING AND BACKWATER VALVE INFORMATION
WATER LINE	SEE RISES DIAGRAM FOR WATER LINE SIZING
WATERFLOW	8" CUP LINE TO REINTEGRATION WITH BACKWATER PREVENTER
DISPOSABLE	HAN AND SAN LINE TO DISPOSABLE FROM SINK
BACKFLOW PREVENTER	PROVIDE BACKFLOW PREVENTER IN KITCHEN. AND THE WATER LINE. SEE RISES DIAGRAM. INSTALL IN COMMON AREA ON FIRST FLOOR. PROVIDE SERVICE ACCESS ROOM. SPILLWATER SYSTEM BY SPILLWATER CONTRACTOR.
WATER HEATER	PROVIDE EXHAUSTION FAN. DISHAPE FAN. VENT KIT FROM GAS LINE TO ROUTE VENT/INTAKE TO EXTERIOR
SLUMP PUMP	SEE SCHEDULE FOR PUMP SIZING. PUMP DISCHARGE SHALL CONNECT TO STORM OUTSIDE THE BUILDING. PROVIDE CHECK VALVE ON DISCHARGE. PROVIDE ACCESS FOR SERVICE OF UNIT AND VALVES.
ROOF DRAIN	ROOF DRAIN SHALL CONNECT TO STORM OUTSIDE THE BUILDING. OVERFLOW DRAINING SHALL DISCHARGE TO GRADE OUTSIDE THE BUILDING
GAS LINE	SEE RISES DIAGRAM FOR GAS LINE SIZING



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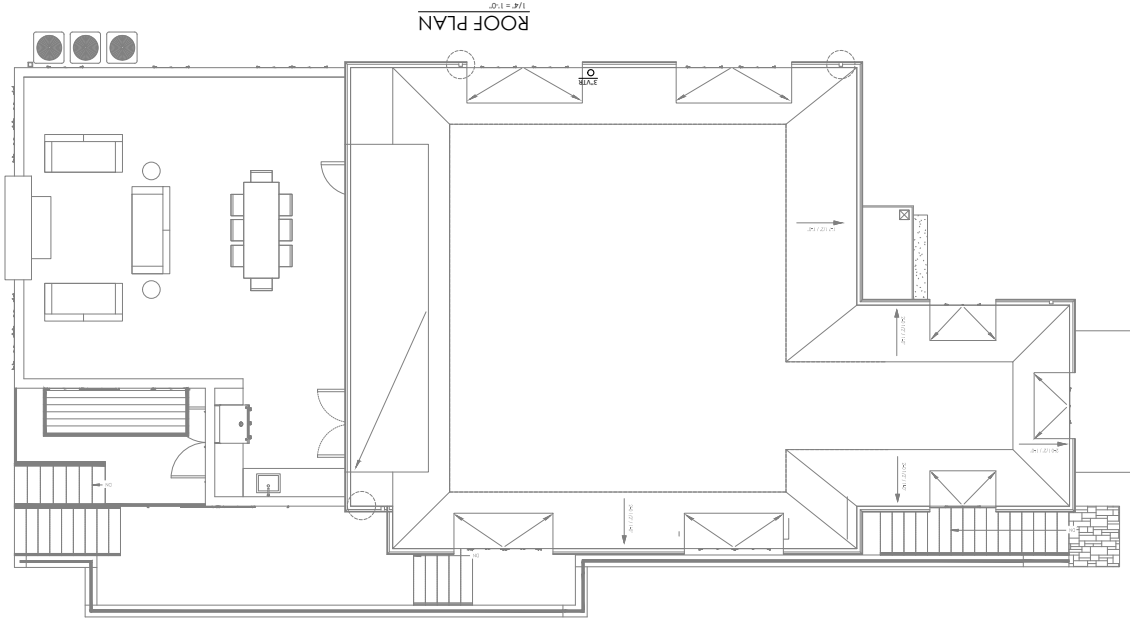
P0101
FLOOR PLANS
NEW WORK

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5122 CATHEDRAL AVE. NW
SINGLE-FAMILY HOME





ROOF PLAN
1/8" = 1'-0"

- 1) HVI/CW SERVES BATHROOM, SEE RISES DIAGRAM.
- 2) HVI/CW/WV/GAS/STORM RISES.
- 3) UPGRADE WATER SERVICE, SEE RISES DIAGRAM, PROVIDE BPP FOR DOMESTIC AND FIRE SERVICE.
- 4) ROUTE SLUMP PUMP TO STORM.
- 5) UPGRADE EXISTING SERVICE AND WATER IF NECESSARY.
- 6) CONNECT TO STORM/SEWER PIPE OUTSIDE THE BUILDING, PROVIDE BACKFLOW PREVENTER.

KEYED NOTES - NEW WORK

PLUMBING NOTES	
EQUIPMENT	NOTES
SANITARY LINE	SEE RISES DIAGRAM FOR SAN LINE SIZING AND BACKWATER VALVE INFORMATION
WATER LINE	SEE RISES DIAGRAM FOR WATER LINE SIZING
VENTILATION	8" CW LINE TO BE INSTALLED WITH BACKFLOW PREVENTER
DISMANTLER	HV AND SAN LINE TO DISMANTLER FROM SINK
BACKFLOW PREVENTER	PROPOSE BACKFLOW PREVENTER IN KITCHEN, AND THE WATER LINE SEE RISES DIAGRAM, INSTALL IN COMMON AREA ON FIRST FLOOR. PROVIDE SERVICE ACCESS KITCHEN. SPRAWLER SYSTEM BY SPRINKLER CONTRACTOR.
BACKWATER VALVE	SEE RISES DIAGRAM FOR BACKWATER VALVE INSTALLATION
WATER HEATER	PROVIDE EXHASTION FAN, VENT KIT FROM GAS LINE, ROUTE VENT/INTAKE TO EXTERIOR
PUMP PUMP	SEE SCHEDULE FOR PUMP SIZING. PUMP DISCHARGE SHALL CONNECT TO STORM OUTSIDE THE BUILDING. PROVIDE CHECK VALVE ON DISCHARGE. PROVIDE ACCESS FOR SERVICE OF UNIT AND VALVES.
ROOF DRAIN	ROOF DRAIN SHALL CONNECT TO STORM OUTSIDE THE BUILDING. OVERFLOW DRAINING SHALL DISCHARGE TO GRADE OUTSIDE THE BUILDING.
GAS LINE	SEE RISES DIAGRAM FOR GAS LINE SIZING



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P0102

FLOOR PLANS
NEW WORK

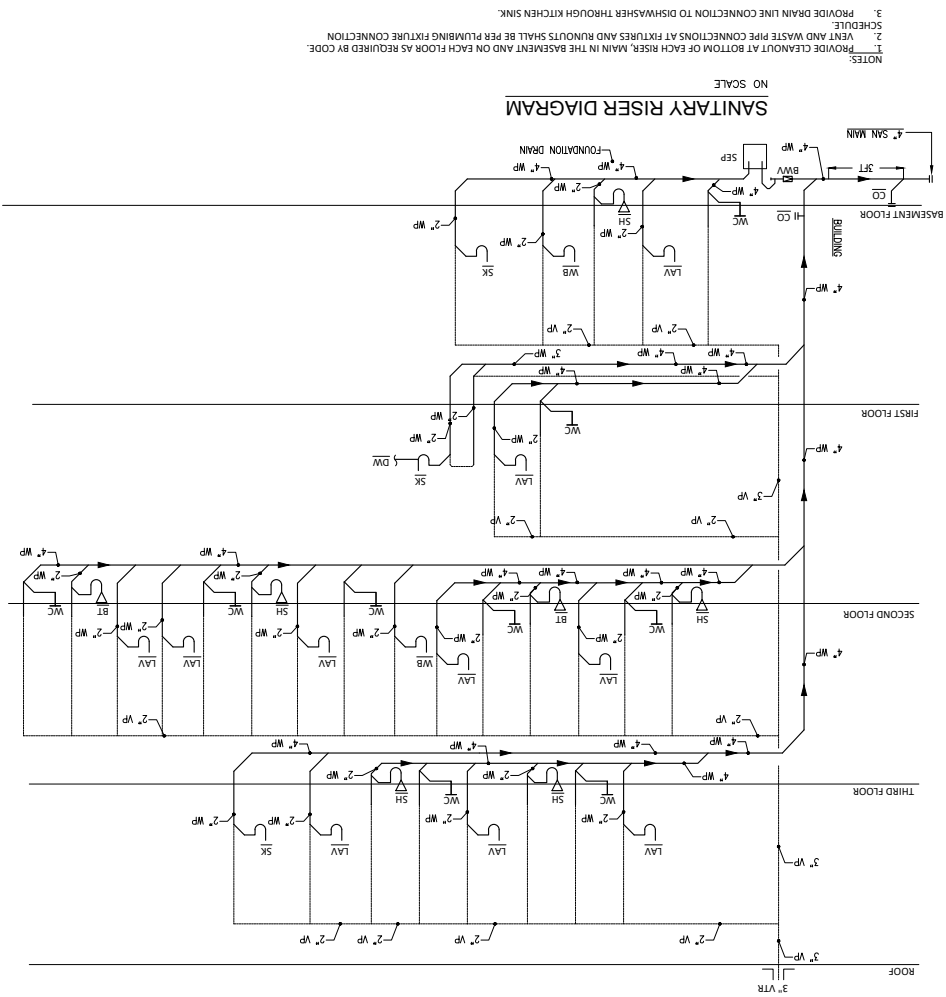
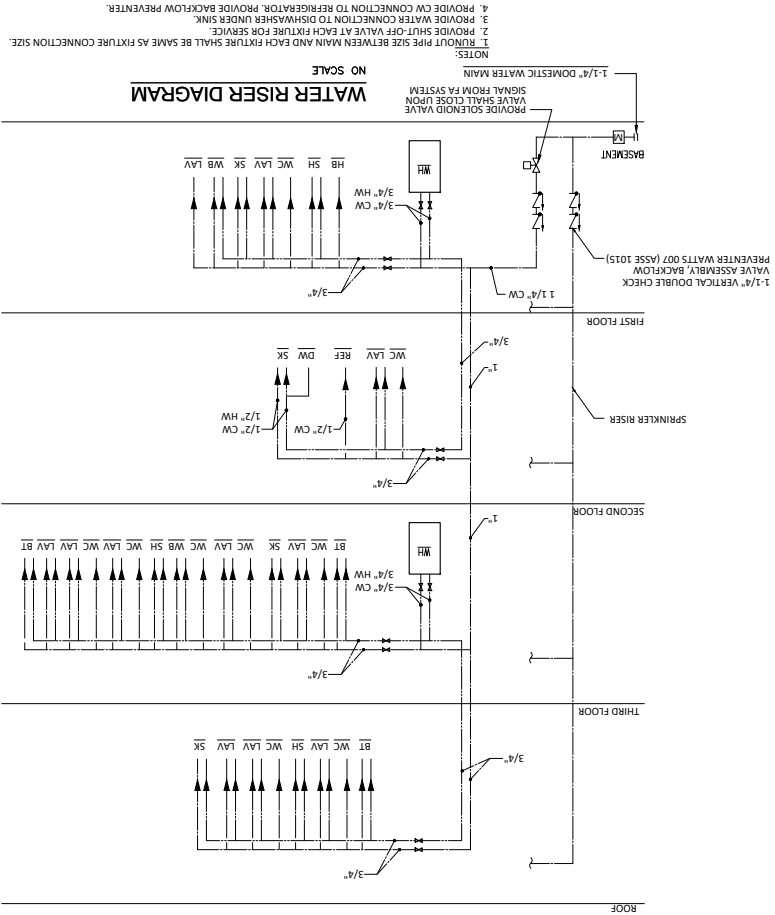
2024-0510

PERMIT SUBMISSION	
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SQ. L&P LT 0060

5122 CATHEDRAL AVE. NW
SINGLE-FAMILY HOME





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CLARK, MO 63032
248-791-1871

P0200

RISERS



2024-0510

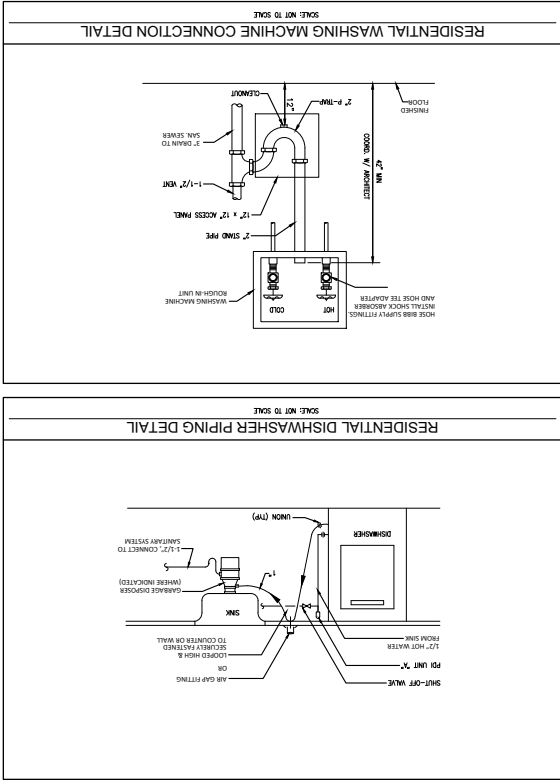
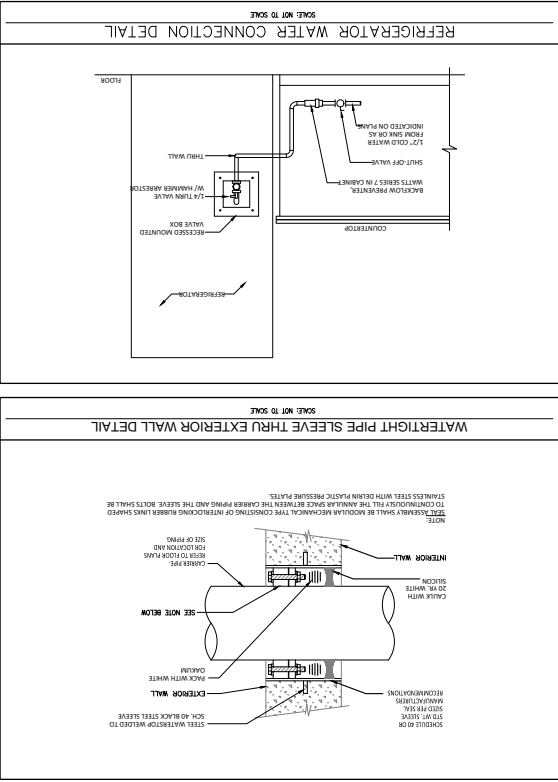
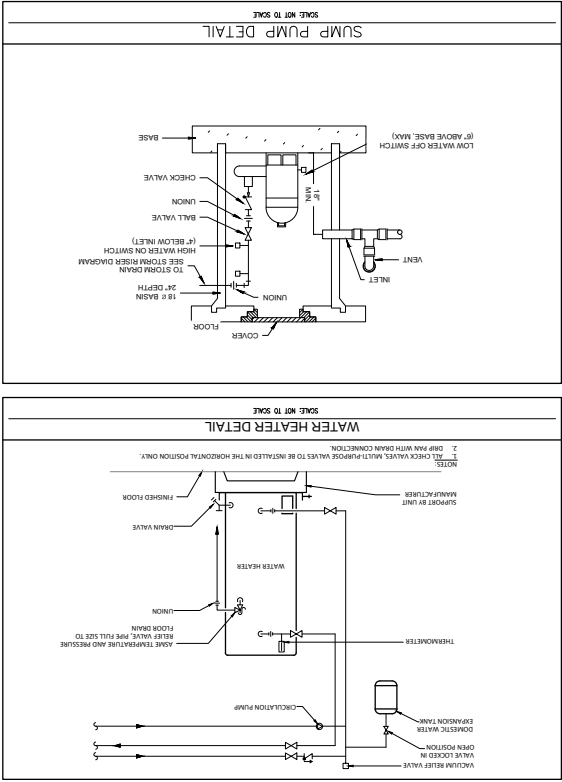
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SQ 1489 LT 0060

5122 CATHEDRAL AVE. NW
SINGLE-FAMILY HOME





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4712 34th Ave NW, Brooklyn
Seattle, WA 98147
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NO.	DESCRIPTION	DATE

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DETAILS



P0300

5122 CATHEDRAL AVE. NW
SINGLE-FAMILY HOME



FLOOR DRAIN SCHEDULE						
ID	DESCRIPTION	QTY	Z	Z"	DFU	NOTES
FD	FLOOR DRAIN			0		

MARK	FIXTURE DESCRIPTION	MOUNTING	WATER FLOW		DRAIN	VENT	CW	HW	REMARKS
			FLOW RATES	VOL. PER USE					
DW	DISHWASHER	N/A	0.00 GPM	1 1/2"	1 1/2"	0"	—	1/2"	MUST BE ENERGY STAR CERTIFIED.
ICE	REFRIGERATOR	WALL	0.00 GPM	0"	0"	1/2"	—	1/2"	MUST BE ENERGY STAR CERTIFIED.
SHWR	SHOWERS	FLOOR	2.00 GPM	1 1/2"	1 1/2"	1 1/2"	1/2"	1/2"	REMOVABLE P-TRAP FOR CLEANOUT SERVICE/
SINK	KITCHEN SINK	WALL	2.20 GPM	2"	1 1/2"	1 1/2"	1/2"	1/2"	MUST BE WATER SENSE LABEL
TUB	BATH TUB	FLOOR	2.00 GPM	0 gal	1 1/2"	1 1/2"	1/2"	1/2"	MUST BE WATER SENSE LABEL
VAN	LAVATORY	COUNTER	1.50 GPM	1 1/2"	1 1/2"	1 1/2"	1/2"	1/2"	MUST BE WATER SENSE LABEL
WC	WATER CLOSET	FLOOR	0.00 GPM	1.28 gal	3"	1 1/2"	1/2"	1/2"	MUST BE WATER SENSE LABEL
WSHR	CLOTHES WASHER	WALL	0.00 GPM	0 gal	2"	1 1/2"	1/2"	1/2"	MUST BE ENERGY STAR CERTIFIED. DISCHARGE THROUGH AIR BREAK

ELECTRIC WATER HEATER SCHEDULE												
DESIGNATION	LOCATION	STORAGE CAPACITY (GALLONS)	# OF ELEMENTS	WATTS PER ELEMENT	RECOVERY @80°F RISE (GPH)	INLET TEMP (°F)	OUTLET TEMP (°F)	ELECTRICAL DATA			BASIS OF DESIGN (OR EQUAL)	REMARKS
								VOLTS	PHASE	HZ		
WH-1,2	SEE FLOOR PLANS	40	2	4,500	23	40	120	240	1	60	RHEM	1
NOTES: 1. ELEMENTS ARE NON-SIMULTANEOUS OPERATION. 2. PROVIDE EXPANSION TANK. PROVIDE ASSE 1017 COMPLIANT MIXING VALVE. POWERS SERIES LFSH OR EQUAL.												

PUMP SCHEDULE									
MARK	DESCRIPTION	MANUFACTURER & MODEL NUMBER	LOCATION	FLOW RATE	HEAD PRESSURE	POWER	VOLTAGE	NOTES/ACCESSORIES	
SEP	SEWER EJECTOR PUMP	ZOELLER	J211-0006	MECHANICAL ROOM	32 GPM	4/10 HP	120 VOLT, 1 PHASE	CAST IRON CONSTRUCTION, AUTOMATIC OPERATION, WITH PROVIDED FLOATS, 2" DISCHARGE	
SP	DUPLEX SUMP PUMP	ZOELLER	160 SERIES	BSMT BED RM	60 GPM	(2)1/2 HP	120 VOLT, 1 PHASE	CAST IRON CONSTRUCTION, AUTOMATIC OPERATION, WITH PROVIDED FLOATS, 2" DISCHARGE	
REMARKS: 1. PUMP (SEP) SHALL HAVE CONTROL PANEL 10-1078 AND FLOATS 10-1878.									



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SCHEDULES



2024-0510

SQ 1497 LT 0060

5122 CATHEDRAL AVE. NW
SINGLE-FAMILY HOME



GENERAL NOTES

- ALL WORK TO BE PERFORMED AS PART OF THIS PROJECT SHALL BE IN ACCORDANCE WITH ALL LOCAL AND STATE CODES.
- BEFORE ORDERING ANY MATERIALS OR DOING ANY WORK THE CONTRACTOR SHALL VERIFY, AT THE PROJECT SITE, ALL DIMENSIONS AND ELEVATIONS WHICH ARE REQUIRED FOR CONNECTIONS TO, OR INSTALLATION IN, AREAS COVERED BY THESE DRAWINGS.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY EXISTING CONDITIONS TO ENSURE ALL STRUCTURAL ELEMENTS PROPOSED ON DRAWINGS CAN BE INSTALLED AS DESIGNED BY ENGINEER.
- CONTRACTOR SHALL PERFORM NO WORK THAT MAY COMPROMISE THE STRUCTURAL INTEGRITY OF THE BUILDING WITHOUT WRITTEN APPROVAL FROM ENGINEER.
- THE DRAWINGS ARE INTENDED TO SHOW THE GENERAL CHARACTER AND EXTENT OF THE PROJECT AND ARE NOT INTENDED TO SHOW DETAILS OF THE WORK.
- ALL SIMPSON STRONG-TIE CONNECTORS SHALL BE FASTENED IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.

FLOOR JOISTS

- ALL NEW JOISTS SHALL BE DESIGNED FOR L/360 LIVE LOAD AND L/240 TOTAL LOAD DEFLECTION.
- ALL JOISTS SHALL BE INSTALLED WITH WEB STIFFENERS AT INTERMEDIATE SUPPORTS OF CONTINUOUS SPAN JOISTS WHEN THE INTERMEDIATE BEARING LENGTH IS LESS THAN 5.25-INCHES.
- ALL JOISTS SHALL BE PROPERLY SEATED IN EACH JOIST HANGER.
- REFER TO JOIST MANUFACTURER SPECIFICATIONS FOR DRILLING OF HOLES OR NOTCHING OF JOISTS.
- ALL JOISTS SHALL BE INSTALLED PER MANUFACTURER RECOMMENDATIONS.
- ALL LAMINATED VENEER LUMBER (LVL) MEMBERS SHALL BE 1.75 IN. 2.0E G-P LAM GEORGIA PACIFIC OR APPROVED EQUAL.
- ALL LVL MEMBERS SHALL BE CONNECTED, INSTALLED, STORED AND HANDLED PER MANUFACTURER'S RECOMMENDATIONS.
- ALL NEW LVL MEMBERS SHALL BE FASTENED TOGETHER IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.
- FLOOR JOIST VENDOR TO SUBMIT SHOP DRAWINGS TO ENGINEER-OF-RECORD FOR APPROVAL PRIOR TO FABRICATION.

DIMENSIONAL LUMBER

- ALL DIMENSIONAL LUMBER SHALL BE SPRUCE PINE FIR NO. 2.
- ALL DIMENSIONAL LUMBER SHALL HAVE A MOISTURE CONTENT LESS THAN OR EQUAL TO 19 PERCENT.
- ALL EXTERIOR WOOD FRAMED WALLS SHALL BE 2X6 SPRUCE PINE FIR NO. 2 STUD WALLS WITH STUDS SPACED AT 16-INCHES ON-CENTER UNLESS NOTED OTHERWISE IN 2X6 BEARING WALL SCHEDULE ON SHEET S002.
- ALL INTERIOR WOOD FRAMED WALLS SHALL BE 2X4 SPRUCE PINE FIR NO. 2 STUD WALLS WITH STUDS SPACED AT 16-INCHES ON-CENTER UNLESS NOTED OTHERWISE IN 2X4 BEARING WALL SCHEDULE ON SHEET S002.
- ALL WALL STUDS GREATER THAN 12-FEET IN LENGTH SHALL BE DOUBLED SUCH THAT THE INSTALLED STUD IS A 2-2X.

CAST-IN PLACE CONCRETE

- ALL CONCRETE SHALL BE 4,000-PSI (28 DAY STRENGTH) CONCRETE WITH 4-IN. MAXIMUM SLUMP.
- SAWED CONTROL JOINTS SHALL BE CUT WITHIN 24-HOURS OF SLAB POUR. DEPTH OF CUT SHALL BE 1/3 OF SLAB THICKNESS. MAXIMUM SPACING OF CONTROL JOINTS TO BE 12-FEET.
- CONCRETE WORK SHALL CONFORM TO THE CURRENTLY ADOPTED VERSIONS OF: ACI 318 - STANDARD BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE; ACI 301 - SPECIFICATIONS FOR STRUCTURAL CONCRETE IN BUILDINGS; ACI 302 - RECOMMENDED PRACTICE FOR CONCRETE AND FLOOR SLAB CONSTRUCTION; ASTM E1155 - STANDARD TEST METHOD FOR DETERMINING FLOOR FLATNESS AND LEVELNESS USING THE "F-NUMBER" SYSTEM, INCH-POUND UNITS.
- PROVIDE STANDARD BAR CHAIRS AND SPACERS AS REQUIRED TO MAINTAIN CONCRETE PROTECTION SPECIFIED ON DRAWINGS.
- MINIMUM CONCRETE COVER PROTECTION FOR REINFORCEMENT BARS SHALL BE AS SPECIFIED IN ACI 301.
- PROVIDE ONE NO. 4 REINFORCING BAR X 4-FEET LONG AT RE-ENTRANT CORNERS AND RECTANGULAR HOLES IN SLABS UNLESS NOTED OTHERWISE. PLACE REINFORCING BAR DIAGONAL TO CORNER WITH 1-IN. CLEARANCE AT CORNERS.
- ALL REINFORCING BARS SHALL HAVE A MINIMUM YIELD STRENGTH (FY) 60,000-PSI.
- CONCRETE COVER FOR REINFORCEMENT SHALL BE NOT LESS THAN THE FOLLOWING:
 - CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3 IN.
 - CONCRETE EXPOSED TO EARTH OR WEATHER: 1-1/2 IN.
 - CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND: 3/4 IN.

OSB/GYPSUM/PLYWOOD

- ALL WOOD STRUCTURAL PANELS SHALL BE GEORGIA PACIFIC BLUE RIBBON OSB OR APPROVED EQUAL.
- MINIMUM THICKNESS: 1/2-INCH
- BUILDING CODE PERFORMANCE CATEGORY: 1/2 CAT
- CLASSIFICATION: EXPOSURE 1
- ALL GYPSUM CEILING BOARD SHALL BE FASTENED TO JOISTS WITH TYPE W OR TYPE S SCREWS SPACED AT 12-INCHES ON-CENTER AND SHALL PENETRATE THE WOOD JOIST A MINIMUM OF 5/8-INCH.
- ALL EXTERIOR WOOD OSB OR PLYWOOD PANELS SHALL BE FASTENED WITH RD 0.131 IN. DIA. X 2.5 IN. LONG NAILS @ 6 IN. O.C. AT PANEL EDGE AND 12 IN. O.C. IN PANEL FIELD UNLESS NOTED OTHERWISE IN SHEAR WALL SCHEDULES.
- WOOD STRUCTURAL PANEL ROOF SHEATHING SHALL BE BONDED BY EXTERIOR GLUE IN ACCORDANCE WITH IBC SECTION 2304.7.2 STRUCTURAL ROOF SHEATHING.
- ALL FLOOR AND ROOF SHEATHING SHALL HAVE A MINIMUM THICKNESS OF 3/4-IN. AND BE FASTENED WITH RD 0.131 IN. DIA. X 2.5 IN. LONG NAILS @ 6 IN. O.C. AT PANEL EDGE AND 12 IN. O.C. IN PANEL FIELD EXCEPT 6-IN. AT SUPPORTS WHERE SPANS ARE 48-IN. OR MORE.
- ALL WIND BRACING PANELS SHALL BE CONTINUOUSLY SHEATHED WOOD STRUCTURAL PANELS AND INSTALLED/CONNECTED AS SPECIFIED ON DRAWINGS.

WOOD STAIRCASES

- WOOD STAIRCASES SHALL BE PRE-MANUFACTURED ASSEMBLIES ENGINEERED & CONSTRUCTED IN ACCORDANCE WITH IBC SECTION 1009.3.1, 1009.1.2 & IBC TABLE 1607.1 WITH HAND & GUARD RAILINGS COMPLYING WITH IBC SECTION 1607.8.

DESIGN LOADS

- SOIL BEARING CAPACITY = 3000-PSF (SEE PROJECT GEOTECHNICAL REPORT)
- FLOOR LIVE LOAD = 40-PSF
- FLOOR DEAD LOAD = 10-PSF
- ROOF LIVE LOAD = 20-PSF
- ROOF DEAD LOAD = 10-PSF
- ROOF SNOW LOAD = 30-PSF
- FLAT ROOF SNOW LOAD = 30-PSF
- SNOW EXPOSURE FACTOR (Ce) = 0.9
- SNOW LOAD IMPORTANCE FACTOR (Ib) = 1.0
- THERMAL FACTOR (Ct) = 1.0
- ULTIMATE DESIGN WIND SPEED = 115MPH
- RISK CATEGORY = 2
- INTERNAL PRESSURE COEFFICIENT = 0.18
- VELOCITY PRESSURE AT PARAPET (Cpe) = 20-PSF
- VELOCITY PRESSURE AT ROOF (Cpi) = 20-PSF
- FLOOR MEMBER LIVE LOAD DEFLECTION = L/360
- FLOOR MEMBER DEAD + LIVE LOAD DEFLECTION = L/240
- ROOF LIVE LOAD DEFLECTION = L/240
- ROOF DEAD + LIVE LOAD DEFLECTION = L/180

FOUNDATION DRAINAGE

- A FOUNDATION DRAIN SHALL BE INSTALLED ALONG THE LENGTH OF THE CMU WALL FOOTING, ON THE EXTERIOR SIDE OF THE FOOTING, THAT CONSISTS OF GRAVEL OR CRUSHED STONE CONTAINING NOT MORE THAN 10-PERCENT MATERIAL THAT PASSES THROUGH A NO. 4 SIEVE. THE DRAIN SHALL EXTEND A MINIMUM OF 12-INCHES BEYOND THE OUTSIDE EDGE OF THE FOOTING. THE TOP OF THE DRAIN SHALL BE COVERED WITH AN FILTER MEMBRANE FABRIC MATERIAL. THE TOP OF JOINTS OR THE TOP OF PERFORATIONS SHALL BE PROTECTED WITH A FILTER MEMBRANE FABRIC MATERIAL. THE DRAIN PIPE SHALL BE PLACED ON NOT LESS THAN 2-INCHES OF GRAVEL OR CRUSHED STONE AND SHALL BE COVERED WITH NOT LESS THAN 6-INCHES OF THE SAME MATERIAL. THE DRAIN SHALL DISCHARGE BY GRAVITY INTO AN APPROVED DRAINAGE SYSTEM.
- ALL FOUNDATION DRAIN PIPES SHALL BE PERFORATED SOLID WALL SCHEDULE 40 PVC WITH SOLVENT JOINTS WRAPPED IN GEOTEXTILE FABRIC WITH A STONE DUST BED AND COVER.

SPECIAL INSPECTIONS

- THIS PROJECT SHALL COMPLY WITH ALL SPECIAL INSPECTION REQUIREMENTS IN ACCORDANCE WITH PROJECT'S STATEMENT OF SPECIAL INSPECTIONS.

STRUCTURAL STEEL

- ALL STRUCTURAL STEEL SHALL CONFORM WITH THE REQUIREMENTS SET FORTH IN THE 15TH EDITION AISC STEEL CONSTRUCTION MANUAL.
- STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING:
 - ANCHOR BOLTS: ASTM F1554
 - STRUCTURAL BOLTS: A490-N
 - HARDENED STEEL WASHERS: ASTM F436
 - STEEL BEAMS: ASTM A992 OR S0
 - HOLLOW STEEL SECTIONS: ASTM A500 GRB
 - ANGLES & CHANNELS: ASTM A36
 - MISC. STEEL PLATES & SHAPES: ASTM A36
 - WELDING ELECTRODES: E70XX LOW HYDROGEN
- TEMPORARY BRACING SHALL BE USED WHERE NECESSARY TO ADEQUATELY RESIST ALL LOADS TO WHICH THE STRUCTURE MAY BE SUBJECTED DURING CONSTRUCTION.
- ALL WELDING SHALL MEET THE REQUIREMENTS OF AWS D1.1 AND D1.4 WITH MINIMUM FILLET WELD SIZE TO BE 1/4 IN. UNO. WELDING ELECTRODES TO BE E70XX.

DESIGN CODES & STANDARDS

- INTERNATIONAL BUILDING CODE 2015
- ASCE 7-16 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
- NDS (NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION) 2018
- AWC SDPWS 2015 (SPECIAL DESIGN FOR WIND & SEISMIC)
- ASC 14TH EDITION STEEL CONSTRUCTION MANUAL (AMERICAN INSTITUTE OF STEEL CONSTRUCTION)

CONCRETE MASONRY UNITS

- ALL CONCRETE MASONRY UNITS (CMU) SHALL HAVE THE FOLLOWING PROPERTIES: MEDIUM WEIGHT BLOCKS; Fm = 2,500-PSI; Fv = 32,000-PSI W/TYPE M MORTAR.
- ALL MASONRY CONSTRUCTION SHALL CONFORM TO THE CURRENTLY ADOPTED VERSION OF ACI 530 - BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES AND ACI 530.1-11 SPECIFICATION FOR MASONRY STRUCTURES.
- ALL GROUT SHALL BE SELF-CONSOLIDATING CORE FILL GROUT IN ACCORDANCE WITH ASTM C-476 WITH A 28-DAY STRENGTH OF 3,000-PSI, 24 IN. TO 28 IN. SLUMP FLOW IN ACCORDANCE WITH ASTM C-1611.
- REINFORCING BARS SHALL HAVE A MASONRY COVER NOT LESS THAN THE FOLLOWING:
 - MASONRY FACE EXPOSED TO EARTH OR WEATHER: 2 IN. FOR BARS LARGER THAN NO. 5; 1-1/2 IN. FOR BARS NO. 5 OR SMALLER
 - MASONRY NOT EXPOSED TO EARTH OR WEATHER: 1-1/2 IN.



SYSTEMATIC
ENGINEERING

STRUCTURAL ENGINEER

SYSTEMATIC ENGINEERING LLC
3803 BARN OWL LANE
GLEN ALLEN VA 23060
804-500-0995
JWATERS@SYSTEMATICENGINEERING.COM

5122 CATHEDRAL AVENUE NW
SINGLE FAMILY DETACHED / ADDITION/ALTERATION

2023-01-13

No.	Description	Date



S001

GENERAL
NOTES

82814-3057A

2X6 BEARING WALL SCHEDULE		
FLOOR	WALL STUD & MAX. SPACING	TOP & BOTTOM PLATES
CELLAR	2X6 @ 12 IN. O.C.	2-2X6 TOP & 2-2X6 BOTTOM
FIRST FLOOR	2X6 @ 16 IN. O.C.	2-2X6 TOP & 2-2X6 BOTTOM
FIRST FLOOR (14.5 FT)	2-2X6 @ 16 IN. O.C.	2-2X6 TOP & 2-2X6 BOTTOM
SECOND FLOOR	2X6 @ 16 IN. O.C.	2-2X6 TOP & 2-2X6 BOTTOM
THIRD FLOOR	2X6 @ 16 IN. O.C.	2-2X6 TOP & 2-2X6 BOTTOM

2X4 BEARING WALL SCHEDULE		
FLOOR	WALL STUD & MAX. SPACING	TOP & BOTTOM PLATES
CELLAR	2-2X4 @ 12 IN. O.C.	2-2X4 TOP & 2-2X4 BOTTOM
FIRST FLOOR	2-2X4 @ 12 IN. O.C.	2-2X4 TOP & 2-2X4 BOTTOM
SECOND FLOOR	2X4 @ 12 IN. O.C.	2-2X4 TOP & 1-2X4 BOTTOM
THIRD FLOOR	2X4 @ 12 IN. O.C.	2-2X4 TOP & 1-2X4 BOTTOM

FIRST FLOOR SHEAR WALL SCHEDULE						
ID	DESCRIPTION	LOCATION	FASTENING	STUDS	BLOCKING	REMARKS
SHEAR WALL 2: SW2	7/16 IN. WOOD STRUCTURAL PANEL - SHEATHING: OSB OR PLYWOOD	EXTERIOR WALL	100 FASTENERS: 1-3/8 IN. MIN. PENETRATION: 3 IN. SPA. @ PANEL EDGES: 12 IN. SPA. @ PANEL FIELDS	SEE WALL SCHEDULE	MID-HEIGHT	DT2Z @ EA. END OF SW: 2-2X POST @ EA. END OF SW
SHEAR WALL 1: SW1	15/32 IN. WOOD STRUCTURAL PANEL - SHEATHING: STRUCTURAL 1	EXTERIOR WALL	100 FASTENERS: 1-3/8 IN. MIN. PENETRATION: 3 IN. SPA. @ PANEL EDGES: 12 IN. SPA. @ PANEL FIELDS	SEE WALL SCHEDULE	MID-HEIGHT	HOU 11 @ EA. END OF SW: 3-2X POST @ EA. END OF SW
SHEAR WALL 3: SW3	3/8 IN. WOOD STRUCTURAL PANELS - SHEATHING: OSB OR PLYWOOD	INTERIOR WALL	100 FASTENERS: 1-3/8 IN. MIN. PENETRATION: 3 IN. SPA. @ PANEL EDGES: 12 IN. SPA. @ PANEL FIELDS	SEE WALL SCHEDULE	MID-HEIGHT	HOU 8 @ EA. END OF SW: 3-2X POST @ EA. END OF SW
SCM 18X13	SIMPSON STRONG-TIE STEEL STRONG-WALL	SEE DETAILS	SEE DETAILS	NA	---	---
PORTAL FRAME: PF	7/16 IN. WOOD STRUCTURAL PANELS - SHEATHING: OSB OR PLYWOOD	EXTERIOR WALL	SEE DETAIL	SEE WALL SCHEDULE	MID-HEIGHT	---

SECOND/THIRD FLOOR SHEAR WALL SCHEDULE						
ID	DESCRIPTION	LOCATION	FASTENING	STUDS	BLOCKING	REMARKS
SHEAR WALL 2: SW2	7/16 IN. WOOD STRUCTURAL PANEL - SHEATHING: OSB OR PLYWOOD	EXTERIOR WALL	60 WALLBOARD NAIL: 0.092 IN. DIA. X 1-7/8 IN. LONG 1/4 IN. HEAD) 4 IN. SPA. @ PANEL EDGES: 12 IN. SPA. @ PANEL FIELDS	SEE WALL SCHEDULE	MID-HEIGHT	BEAM: W/STUBBES @ EA. END OF SW: 2-2X POST @ EA. END OF SW --- EXTERIOR WALL: W/STAB @ END OF SW: 2-2X POST @ EA. END OF SW
SHEAR WALL 1: SW1	15/32 IN. WOOD STRUCTURAL PANEL - SHEATHING: STRUCTURAL 1	EXTERIOR WALL	100 FASTENERS: 1-3/8 IN. MIN. PENETRATION: 3 IN. SPA. @ PANEL EDGES: 12 IN. SPA. @ PANEL FIELDS	SEE WALL SCHEDULE	MID-HEIGHT	BEAM: W/STUBBES @ EA. END OF SW: 2-2X POST @ EA. END OF SW --- EXTERIOR WALL: HOU4 @ END OF SW: 2-2X POST @ EA. END OF SW
PORTAL FRAME: PF	7/16 IN. WOOD STRUCTURAL PANELS - SHEATHING: OSB OR PLYWOOD	EXTERIOR WALL	SEE DETAIL	SEE WALL SCHEDULE	MID-HEIGHT	---

HEADER SPAN & NUMBER JACK STUDS		
SIZE	SPAN (FT-IN)	NO. JACK STUDS
2-2X4	3-1	1
2-2X6	4-6	1
2-2X8	5-9	1
2-2X10	7-0	2
2-2X12	8-1	2
3-2X8	7-2	2
3-2X10	8-9	2
3-2X12	10-2	2
4-2X8	9-0	2
4-2X10	10-1	2
4-2X12	11-9	2

NO. OF FULL-HEIGHT STUDS @ EA. END OF HEADER IN EXTERIOR WALL	
HEADER SPAN (FT.)	MAX. STUD SPACING (16 IN.)
LESS THAN/EQUAL TO 3	1 STUD
4	2 STUDS
8	2 STUDS
12	2 STUDS
16	2 STUDS

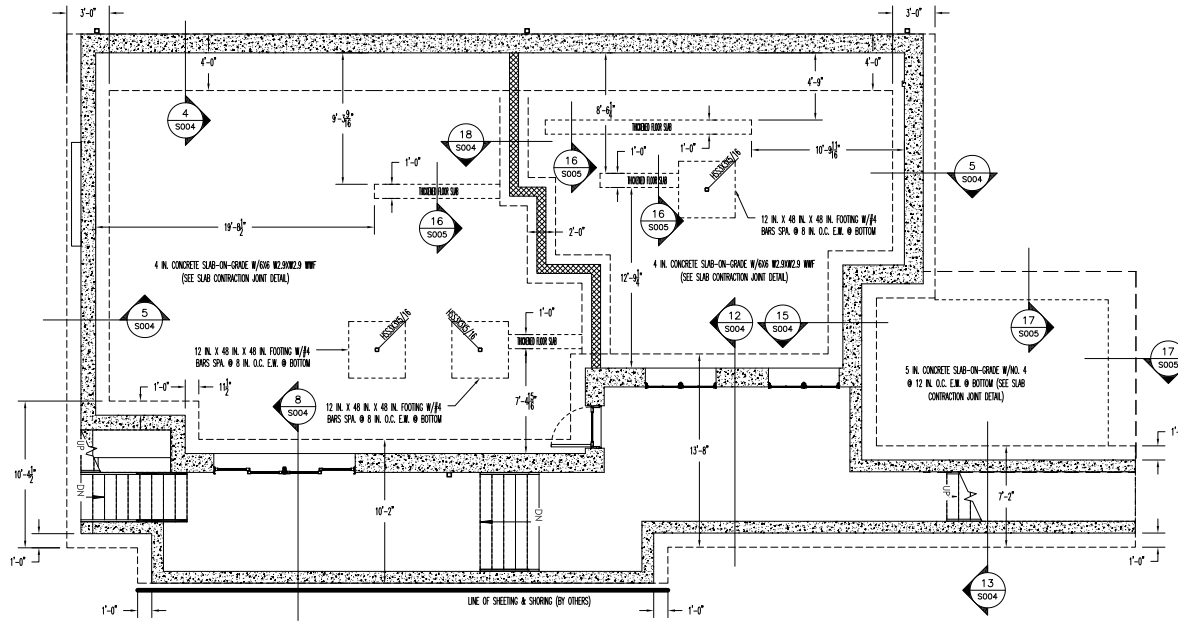
REINFORCEMENT LAP SPLICE SCHEDULE	
BAR NO.	SPLICE LENGTH
4	26 INCHES
5	32 INCHES

FASTENING SCHEDULE		
DESCRIPTION	NUMBER & TYPE OF FASTENER	SPACING AND LOCATION
BLOCKING BETWEEN CEILING JOISTS OR RAFTERS AND TOP PLATE	3-80 COMMON (0.131 IN. X 2.5 IN.)	TOE NAIL
CEILING JOISTS TO TOP PLATE	3-80 COMMON (0.131 IN. X 2.5 IN.)	PER JOIST/TOE NAIL
RAFTER OR ROOF TRUSS TO PLATE	3-100 COMMON (0.148 IN. X 3 IN.)	2 TOE NAILS (ONE SIDE); 1 TOE NAIL OPPOSITE SIDE
ROOF RAFTERS TO RIDGE, VALLEY OR HIP RAFTERS OR ROOF RAFTER	3-100 COMMON (0.148 IN. X 3 IN.)	TOE NAIL
STUD-TO-STUD	160 COMMON (0.162 IN. X 3.5 IN.)	24 IN. O.C. FACE NAIL
STUD-TO-STUD AND ABUTTING STUDS AT INTERSECTING WALL CORNERS	160 COMMON (0.162 IN. X 3.5 IN.)	16 IN. O.C. FACE NAIL
BUILT-UP HEADER	160 COMMON (0.162 IN. X 3.5 IN.)	16 IN. O.C. EA. EDGE FACE NAIL
TOP PLATE TO TOP PLATE	160 COMMON (0.162 IN. X 3.5 IN.)	16 IN. O.C. FACE NAIL
DOUBLE TOP PLATE SPLICE	8-160 COMMON (0.162 IN. X 3.5 IN.)	FACE NAIL, EA. SIDE OF END JOIST (MIN. 24 IN. LAP SPLICE)
BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST OR BLOCKING (NOT AT BRACED WALL PANEL)	160 COMMON (0.162 IN. X 3.5 IN.)	16 IN. O.C. FACE NAIL
TOP OR BOTTOM PLATE TO STUD	4-80 COMMON (0.131 IN. X 2.5 IN.)	TOE NAIL
TOP PLATES, LAPS AT CORNERS AND INTERSECTIONS	2-160 COMMON (0.162 IN. X 3 IN.)	FACE NAIL
JOIST TO SILL, TOP PLATE OR GIRDER	3-80 COMMON (0.131 IN. X 2.5 IN.)	TOE NAIL
RIM JOIST, BAND JOIST OR BLOCKING TO SILL OR TOP PLATE	80 COMMON (0.131 IN. X 2.5 IN.)	6 IN. O.C. TOE NAIL
BAND OR RIM JOIST TO JOIST	3-160 COMMON (0.162 IN. X 3 IN.)	END NAIL
BUILT-UP GIRDERS AND BEAMS	100 COMMON (0.148 IN. IN. X 3 IN.)	24 IN. O.C. FACE NAIL AT TOP AND BOTTOM STAGGERED ON OPPOSITE SIDES
BRIDGING OR BLOCKING TO JOIST	2-80 COMMON (0.131 IN. X 2.5 IN.)	EA. END/TOE NAIL

STRUCTURAL DRAWING INDEX	
DRAWING	DESCRIPTION
S001	GENERAL NOTES
S002	SCHEDULES
S003	FOUNDATION PLAN
S004	FOUNDATION DETAILS
S005	FOUNDATION DETAILS
S006	FRAMING PLANS
S007	FRAMING PLANS
S008	FRAMING PLANS
S009	DETAILS
S010	DETAILS
S011	DETAILS
S011.1	DETAILS
S012	SPECIAL INSPECTIONS

No.	Description	Date
1	ISSN REVIEW	2/9/23





FOUNDATION PLAN

1/4" = 1'-0"

NOTES:

1. SEE S001 FOR GENERAL NOTES
2. SEE THIS SHEET, S004 & S005 FOR TYPICAL FOUNDATION DETAILS TO BE APPLIED TO THE CONSTRUCTION OF THIS PROJECT.
3. SEE S011 FOR REQUIRED SPECIAL INSPECTIONS.
4. SEE ARCHITECTURAL AND MEP PLANS FOR FOUNDATION DRAINAGE REQUIREMENTS.
5. CONTRACTOR SHALL VERIFY WITH ARCHITECTURAL PLANS PRIOR TO PLACEMENT OF UNDERPINNING FOOTINGS FINAL DEPTH REQUIRED FOR UNDERPINNING FOOTINGS.
6. ALL UNDERPINNING FOOTINGS SHALL HAVE BRACKET INSTALLED AS SHOWN IN DETAILS ON THIS SHEET.
7. ALL OPENINGS IN REINFORCED CONCRETE WALLS SHALL HAVE REINFORCED HEADERS AS SHOWN ON SHEET S004.

2023-01-13

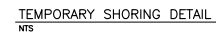
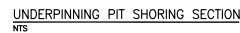
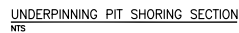
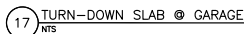
No.	Description	Date
1	ISSUE W/REVISION	2/27/23
2	ISSUE W/REVISION	5/29/23
3	ISSUE W/REVISION	6/27/23
4	ISSUE W/REVISION	10/12/23



S003

FOUNDATION PLAN

82814-3057A



RETAINING WALL DRAINAGE DETAIL

- 
SYSTEMATIC
ENGINEERING LLC
STRUCTURAL ENGINEER:
SYSTEMATIC ENGINEERING LLC
3803 BARN OWL LANE
GLEN ALLEN VA 23060
804-500-0995
JWASTLER@SYSTEMATICENGINEERING.COM

5122 CATHEDRAL AVENUE NW
SINGLE FAMILY DETACHED | ADDITION/ALTERATION

2023-01-13

No.	Description	Date
1	DCRA REVIEW	2/27/23
2	ARCH WALL REVISIONS	4/28/23
3	ARCH WALL REVISIONS	10/07/23
4	ARCH PLAN REVISIONS	07/19/24



S006

FRAMING
PLANS

82814-3057A

