

ELECTRICAL LEGEND:

RECEPTACLES AND OUTLETS:

TYPICAL OUTLET NOTATIONS:

- "s" = SWITCHED OUTLET, "g" - INDICATES SWITCH CONTROL
- "CLG" = CEILING MOUNTED
- "GFI" = GROUND FAULT INTERRUPTER RECEPTACLE
- "IG" = ISOLATED GROUND RECEPTACLE WITH SEPARATE GREEN GROUND CONDUCTOR WITH YELLOW STRIPE TO PANEL ISOLATED GROUND BUS
- "WP" = WEATHERPROOF RECEPTACLE WITH "NRTL" LISTED COVERPLATE FOR WET LOCATION WITH PLUG INSTALLED. MTD. 48" AFF UOI.

- DUPLEX RECEPTACLE
- DOUBLE DUPLEX RECEPTACLE
- SINGLE RECEPTACLE
- JUNCTION BOX
- DUPLEX ISOLATED GROUND RECEPTACLE
- PHONE OUTLET
- DATA OUTLET
- CATV OUTLET

SWITCHING SYMBOLS:

- SINGLE POLE SWITCH

TYPICAL SWITCH NOTATIONS:

- "2" = DOUBLE POLE SWITCH
- "3" = THREE WAY SWITCH
- "4" = FOUR WAY SWITCH
- "L" = LOW VOLTAGE SWITCH
- "LM" = LOW VOLTAGE MASTER SWITCH
- "MC" = MOMENTARY CONTACT SWITCH

- OCCUPANCY SENSOR, WALL MOUNTED WITH OFF - AUTO OVERRIDE SWITCH

MOTORS, EQUIPMENT AND CONTROLS:

- MOTOR, NUMERAL INDICATES HORSEPOWER, "M" INDICATES REFER TO MECHANICAL SCHEDULES AND PLANS, "G" INDICATES GENERATOR

- TOGGLE DISCONNECT SWITCH
- DISCONNECT SWITCH, UNFUSED TYPE, SIZE AS INDICATED ON DRAWINGS (30AMP, 3POLE)
- DISCONNECT SWITCH, FUSED TYPE, SIZE AS INDICATED ON DRAWINGS (30AMP, 20AMP, FUSE, 3POLE)

- THERMOSTAT, BY DIVISION 15, PROVIDE JUNCTION BOX WITH 3/4" C. TO MECHANICAL UNIT SERVED

- MOTORIZED DAMPER, BY DIVISION 15. PROVIDE WIRING

THIS SHEET IS A GENERAL LIST OF SYMBOLS AND ABBREVIATIONS AND SHALL BE USED AS A DICTIONARY TO DEFINE ITEMS INDICATED ON DRAWINGS. NOT ALL SYMBOLS OR ABBREVIATIONS ARE NECESSARILY USED ON THIS PROJECT.

APPLICABLE CODE LIST:

THE WORK SHALL BE EXECUTED IN STRICT CONFORMITY WITH BASE BUILDING SPECIFICATION AND WITH THE LATEST EDITION OF THE STATE MECHANICAL CODE, STATE AND LOCAL PLUMBING CODE AND BUILDING CODE AND ALL LOCAL REGULATIONS THAT MAY APPLY. IN CASE OF CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND A GOVERNING CODE OR ORDINANCE THE MORE STRINGENT STANDARD SHALL APPLY.

REGULATIONS INCLUDING BUT NOT LIMITED TO:

- THE BUILDING SHALL BE CONSTRUCTED TO BE IN COMPLIANCE WITH THE 2015 INTERNATIONAL RESIDENTIAL CODE (W/ NJ EDITS).
- OTHER APPLICABLE CODES ARE:
 - 2015 NATIONAL STANDARD PLUMBING CODE (W/ NJ EDITS)
 - 2015 INTERNATIONAL MECHANICAL CODE (W/ NJ EDITS)
 - 2014 NATIONAL ELECTRICAL CODE (W/ NJ EDITS)
 - 2015 INTERNATIONAL FUEL GAS CODE (W/ NJ EDITS)

PANELBOARD AND TERMINAL CABINETS:

- LIGHTING OR POWER PANEL, 240Y/120V RECESSED
- LIGHTING OR POWER PANEL, 240Y/120V SURFACE

- PANELBOARD DESIGNATIONS
PANELBOARD NUMBER
"L" - LIGHTING, "P" - POWER,
"IG" - ISOLATED GROUND, "M" - MECHANICAL EQUIPMENT
"DP" - DISTRIBUTION, "D" - DIMMER PANEL
"E" - EMERGENCY LIFE SAFETY
"SB" - STANDBY POWER ON GENERATOR
"EQ" - EMERGENCY EQUIPMENT BRANCH
"EC" - EMERGENCY CIRCUIT BRANCH
- PLYWOOD BACKBOARD (MDO TYPE)

ONE LINE SCHEMATIC DIAGRAM SYMBOLS:

- CIRCUIT BREAKER
- SHUNT TRIP

MISCELLANEOUS:

- GROUND BAR - 2"W x 1/8" THICK COPPER BUS, U.O.I.
- SMOKE DETECTOR, AREA TYPE UNLESS OTHERWISE INDICATED
- CARBON MONOXIDE DETECTOR
- COMBINATION CARBON MONOXIDE SMOKE DETECTOR
- METER SOCKET AND METER
- MECHANICAL EQUIPMENT TAG NUMBER, REFER TO MECHANICAL EQUIPMENT SCHEDULE
- SECTION IDENTIFIER, INDICATING SECTION "B" ON DRAWING E003
- DETAIL IDENTIFIER, INDICATING DETAIL NO. 2 ON DRAWING E003

THIS SHEET IS A GENERAL LIST OF SYMBOLS AND ABBREVIATIONS AND SHALL BE USED AS A DICTIONARY TO DEFINE ITEMS INDICATED ON DRAWINGS. NOT ALL SYMBOLS OR ABBREVIATIONS ARE NECESSARILY USED ON THIS PROJECT.

RACEWAYS/CABLES:

- CONCEALED IN CONSTRUCTION IN FINISHED AREAS EXPOSED IN UNFINISHED AREAS
- CONCEALED IN OR UNDER FLOOR SLAB, UNLESS OTHERWISE INDICATED
- CONDUIT EXTENDED TO ABOVE ACCESSIBLE CEILING TERMINATE WITH BUSHING
- BRANCH CIRCUIT, DIAGONAL LINES INDICATE NUMBER OF WIRES. NO DIAGONAL LINES INDICATES THREE WIRES. GROUND WIRE(S) NOT INDICATED, MINIMUM SIZE #14AWG AND 1/2" CONDUIT UNLESS OTHERWISE INDICATED

GENERAL NOTES:

- A. REFER TO SPECIFICATIONS FOR ADDITIONAL ELECTRICAL REQUIREMENTS.
- B. VISIT THE SITE TO DETERMINE ALL PRE-EXISTING CONDITIONS AND WORK NECESSARY PRIOR TO SUBMISSION OF BID PRICE.
- C. THE SCOPE OF WORK SHALL INCLUDE PROVIDING ALL WORK INDICATED, AND COORDINATION WITH ALL TRADES. SCOPE OF WORK IS INDICATED ON THE CONTRACT DOCUMENTS INCLUDING THE DRAWINGS AND THE SPECIFICATIONS, WHICH ARE COMPLIMENTARY. WORK INDICATED IN ANY CONTRACT DOCUMENT SHALL BE CONSIDERED PART OF THE SCOPE OF WORK. IN GENERAL, WORK REQUIREMENTS ARE NOT INDICATED IN BOTH DOCUMENTS. WHERE DOCUMENTS CONFLICT WITHIN THEMSELVES OR WITH CODES AND REGULATIONS, PROVIDE THE HIGHER QUANTITY AND QUALITY AND FOLLOW THE STRICTER REQUIREMENTS.
- D. COORDINATE WITH THE GENERAL CONTRACTOR, OTHER TRADES AND MANUFACTURER'S SHOP DRAWINGS. COORDINATE EXACT LOCATIONS AND ROUGHING IN DIMENSIONS OF ALL EQUIPMENT AND MAKE ALL FINAL CONNECTIONS AS REQUIRED, I.E., POWER, CONTROL, INTERLOCK, ETC.
- E. ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH OSHA, NFPA STANDARDS, THE ELECTRIC CODE AND THE LOCAL GOVERNING AUTHORITIES. THE DRAWINGS AND SPECIFICATIONS DO NOT ATTEMPT TO INDICATE ALL WORK REQUIRED BY CODES AND AUTHORITIES.
- F. TEST ALL EQUIPMENT AND SYSTEMS INSTALLED TO CERTIFY COMPLIANCE WITH DRAWINGS, SPECIFICATIONS, CODES, LOCAL AUTHORITIES AND REGULATIONS. INCLUDE LABOR AND COSTS FOR TESTING, REVIEWS, APPROVALS AND CERTIFICATIONS.
- G. PROVIDE TRAINING TO OWNER ON ALL EQUIPMENT AND SYSTEMS INSTALLED.
- H. DRAWINGS ARE DIAGRAMMATIC ONLY. EXACT LOCATION, MOUNTING HEIGHTS OF EQUIPMENT AND ROUTING OF RACEWAYS SHALL BE COORDINATED WITH THE EQUIPMENT REQUIREMENTS AND FIELD CONDITIONS.
- I. PROVIDE ALL INCIDENTAL ACCESSORIES NECESSARY TO MAKE THE ELECTRICAL WORK COMPLETE AND READY FOR OPERATION.
- J. ELECTRIC METALLIC TUBING SHALL BE USED FOR BRANCH CIRCUIT HOMERUNS IN EXPOSED, UNFINISHED AREAS. MINIMUM SIZE SHALL BE 3/4 INCH. PROVIDE RIGID STEEL CONDUIT BELOW 8 FEET AND IN AREAS SUBJECT TO ABUSE. FLEXIBLE METAL CONDUIT WITH PVC COATING SHALL BE USED FOR CONNECTIONS TO MOTORS AND VIBRATING EQUIPMENT.
- K. STEEL SET SCREW TYPE FITTINGS MAY BE USED ON EMT OR FLEXIBLE METAL CONDUITS, UNLESS OTHERWISE INDICATED. TELECOMMUNICATIONS CONDUIT SHALL USE COMPRESSION TYPE STEEL FITTINGS.
- L. TYPE MC OR AC CABLE WITH A FULL SIZE, INSULATED, SEPERATE GREEN GROUND WIRE MAY BE USED AS PERMITTED BY LOCAL AUTHORITIES AND STATE AND LOCAL CODES FOR BRANCH CIRCUIT WIRING IN CONCEALED AREAS.
- M. SUPPORT ALL WORK FROM THE BUILDING STRUCTURE.
- N. ELECTRICAL WORK SHALL BE INSTALLED CONCEALED IN FINISHED AREAS RECESSED INTO WALLS OR INSTALLED ABOVE HUNG CEILINGS UNLESS OTHERWISE INDICATED.
- O. DO NOT INSTALL OUTLETS BACK TO BACK. PROVIDE 24 INCH SPACING IN FIRE RATED WALLS.
- P. PROVIDE ELECTRICAL OUTLET PLATE GASKETS SEALS AT RECEPTACLES, SWITCHES AND OTHER ELECTRICAL BOXES ON EXTERIOR WALLS AND INTERIOR WALLS BETWEEN CONDITIONED AND NON-CONDITIONED SPACES.
- Q. WIRE AND CONDUIT SIZES INDICATED ON HOMERUNS SHALL BE CONTINUOUS THROUGHOUT CIRCUIT.
- R. PROVIDE CODE REQUIRED STARTERS AND DISCONNECTS THAT ARE NOT FURNISHED BY THE HVAC OR PLUMBING CONTRACTORS.
- S. INSTALL A GREEN GROUNDING CONDUCTOR WITHIN EACH RACEWAY SIZED IN ACCORDANCE WITH THE ELECTRIC CODE.
- T. INSTALLATION OF RACEWAYS BELOW THE FLOOR SLAB WILL NOT BE ACCEPTABLE UNLESS SPECIFICALLY INDICATED OTHERWISE.
- U. PROVIDE WATERTIGHT AND GASTIGHT SEALS INSIDE AND OUTSIDE OF CONDUITS THAT PENETRATE THE BUILDING BELOW GRADE, O.Z. GEDNEY OR APPROVED EQUAL. PROVIDE WEATHERTIGHT SEAL AT PENETRATIONS ABOVE GRADE.
- V. PROVIDE NRTL LISTED SMOKE AND FIRE SEALS AT ALL PENETRATIONS THROUGH FLOORS OR FULL HEIGHT (FLOOR TO FLOOR) WALLS.
- W. USE CAUTION TO AVOID DAMAGE TO EXISTING UTILITY LINES AND/OR HARM TO PERSONNEL WORKING IN THESE AREAS.
- X. ALL BRANCH CIRCUIT CONDUCTORS SHALL BE COPPER MINIMUM #12 AWG SIZE UNLESS OTHERWISE INDICATED.
- Y. TEMPORARY LIGHTING AND POWER SHALL BE PROVIDED AS REQUIRED BY OSHA, CODES AND LOCAL AUTHORITIES. REMOVE ALL TEMPORARY FACILITIES PROVIDED AT PROJECT COMPLETION.

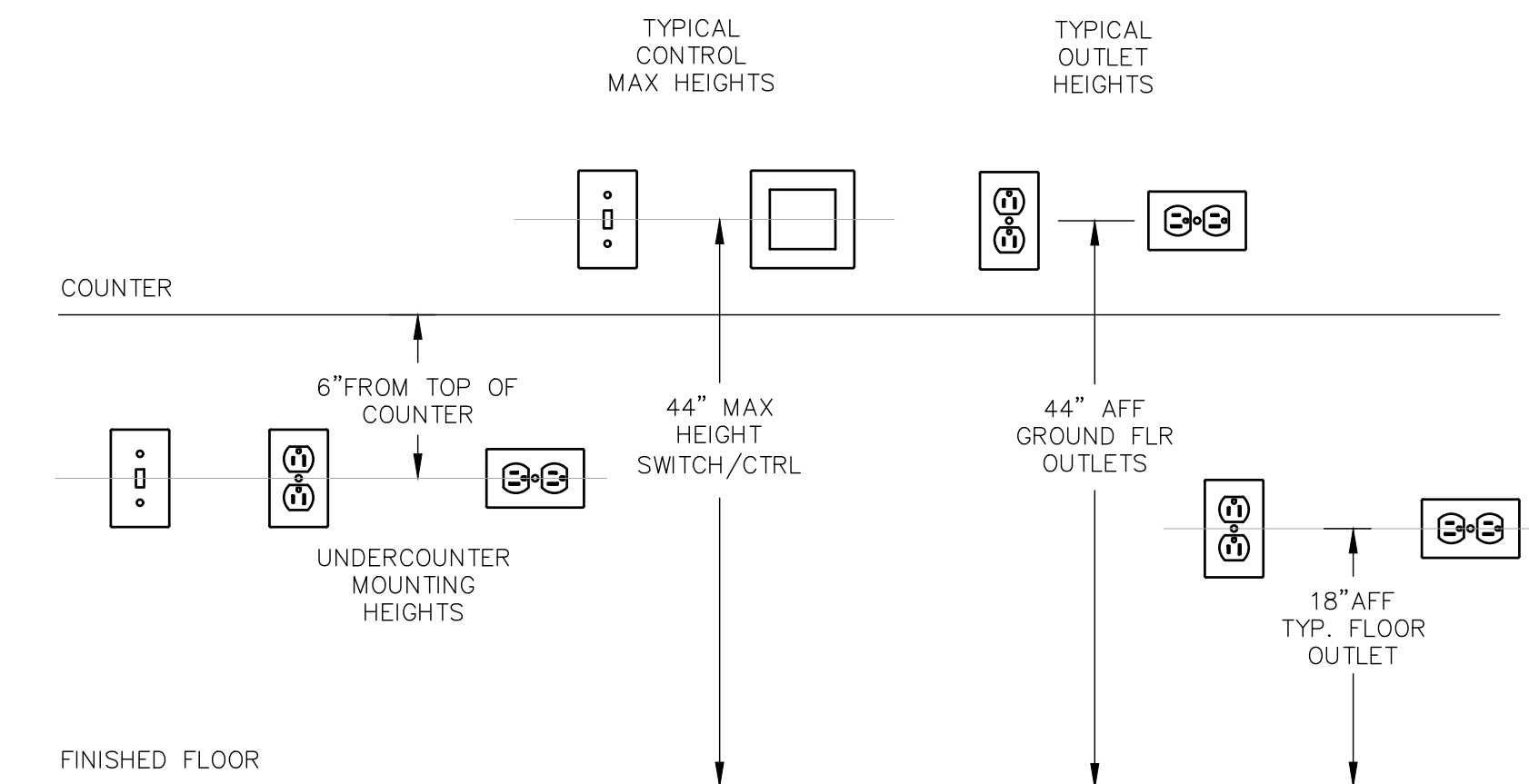
EQUIPMENT COORDINATION NOTES:

- A. PRIOR TO ROUGH-IN OF ELECTRICAL PROVISIONS FOR OWNER FURNISHED EQUIPMENT AND EQUIPMENT PROVIDED BY OTHER TRADES, COORDINATE WITH THE GENERAL CONTRACTOR, EQUIPMENT SHOP DRAWINGS AND APPLICABLE EQUIPMENT INSTALLER FOR EXACT LOCATION AND WIRING REQUIREMENTS. PROVIDE ALL NECESSARY EQUIPMENT, WIRING AND ACCESSORIES FOR A COMPLETE INSTALLATION.
- B. NOT USED.
- C. IF EXACT MOUNTING OR RACEWAY ROUTINGS ARE NOT INDICATED (LOCATION OR HEIGHT) COORDINATE WITH OTHER TRADES AND REQUEST CLARIFICATION PRIOR TO ROUGHING, OR INSTALLATION.

WIRING NOTES:

- A. WIRING IS INDICATED ON DRAWINGS ONLY FOR SPECIFIC ROUTES OR SPECIAL CONDITIONS.
- B. WIRING AND CONDUIT SHALL BE REQUIRED FOR ALL OUTLETS INDICATED WITH CIRCUIT NUMBERS. PROVIDE 3/4" C., 3#12 UNLESS OTHERWISE INDICATED.
- C. ALL SWITCH CONTROLS SHALL BE PROVIDED WITH WIRING AND CONDUIT AS REQUIRED.
- D. ALTHOUGH ALL BRANCH CIRCUIT WIRE AND CONDUIT IS NOT SHOWN, IT IS THE INTENT OF THESE DOCUMENTS THAT A COMPLETE BRANCH CIRCUIT WIRING SYSTEM BE INSTALLED.
- E. RACEWAYS SHALL BE LIMITED TO SIX CURRENT CARRYING CONDUCTORS (PHASE AND NEUTRALS) AND GROUNDING CONDUCTOR, UNLESS OTHERWISE INDICATED. PROVIDE A DEDICATED NEUTRAL CONDUCTOR FOR EACH SINGLE PHASE CIRCUIT, EXCEPT FOR LIGHTING CIRCUITS, UNLESS AN OVERSIZED NEUTRAL IS SPECIFICALLY INDICATED.
- F. WIRING INDICATED BY CIRCUIT NUMBER SYMBOL SHALL INCLUDE A NEUTRAL WHEN THE LOAD SERVED HAS PROVISIONS FOR, OR REQUIRES A NEUTRAL.
- G. GROUND FALUT (GFI) CIRCUITS AND ARC FAULT CIRCUITS (AFCI) SHALL HAVE DEDICATED NEUTRALS.
- H. MARK ALL CONDUITS AND JUNCTION BOXES WITH PERMANENT MARKER INDICATING PANEL AND CIRCUIT NUMBER OF CONDUCTORS CONTAINED WITHIN. LABEL WHERE CONDUITS ENTER PANELS, WIREWAYS, PULLBOXES, ETC. LABEL EMPTY CONDUITS WITH SYSTEM (VOICE, DATA, SECURITY, ETC.) AND SOURCE OF CONDUIT.

MOUNTING HEIGHTS AND NOTES:



- A. INSTALL NEARBY DEVICES ON ONE COMMON VERTICAL CENTERLINE.
- B. INSTALL ADJACENT DEVICES LINED UP WITH A COMMON BOTTOM LINE.
- C. INSTALL BOTTOM OF DEVICES AT INDICATED HEIGHT AS APPLICABLE UNLESS OTHERWISE INDICATED. COORDINATE WITH ARCHITECTURAL AND EQUIPMENT DRAWINGS.
- D. ON MASONRY WALLS LINE UP THE BOTTOM OF THE DEVICE WITH A MASONRY JOINT AS CLOSE TO INDICATED HEIGHT AS PRACTICABLE.
- E. INSTALL DEVICES IN SAME AREA AT THE SAME HEIGHT.
- F. LOCATE CONTROL DEVICES AT LEAST 18" INCHES FROM AN INSIDE CORNER.

DRAWING LIST:

ID	DRAWING TITLE	ISSUES AND REVISIONS			
		100% REVIEW SET	100% REVIEW SET		
E1.00	ELECTRICAL GENERAL INFORMATION	X	X		
E2.00	ELECTRICAL SPECIFICATIONS SHEET 1	X	X		
E3.00	ELECTRICAL SPECIFICATIONS SHEET 2	X	X		
E4-0.00	ELECTRICAL GROUND FLOOR POWER PLAN	X	X		
E4-1.00	ELECTRICAL MAIN FLOOR POWER PLAN	X	X		
E4-2.00	ELECTRICAL SECOND FLOOR POWER PLAN	X	X		
E4-3.00	ELECTRICAL ROOF DECK POWER PLAN	X	X		
E4-4.00	ELECTRICAL KITCHEN & SITTING AREA APPLIANCE POWER PLAN	X	X		
E6.00	ELECTRICAL PANEL SCHEDULES AND DETAILS	X	X		

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 PRINCETON, NJ 08540
 T: 609.924.6409 F: 609.924.1795

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 149 YELLOWBROOK ROAD
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 T: 732.938.2661 F: 732.938.2661

MECHANICAL/ELECTRICAL/PLUMBING ENGINEER

 1800 ROUTE 34, SUITE 209
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 FOR ALL QUESTIONS, PLEASE CONTACT
 STEVE FOX - PROJECT MANAGER
 T: 732.280.5623 F: 732.280.3980

CIVIL ENGINEER
INSITE ENGINEERING, LLC
 1913 ATLANTIC AVE.
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 T: 732.531.7100 F: 732.531.7344

REVISIONS:

NO.	DESCRIPTION:
-	-
-	-

PROJECT NUMBER
21507-00

PROJECT NAME
MEYER RESIDENCE

1 LORI ROAD
MONMOUTH BEACH, NJ 07750

PHASE
BUILDING PERMIT & CONSTRUCTION

N.J. CERTIFICATE OF AUTHORIZATION: 24628150800

SEAL

Stephen A. Bray
 PROFESSIONAL ENGINEER
 NJ LICENSE: GE44144 101016

DRAWING TITLE
ELECTRICAL GENERAL INFORMATION

DATE: 10/10/2016 SCALE: AS NOTED

SHEET NUMBER

E1.00

PART 1 – GENERAL


- 1.01 THE GENERAL CONDITIONS AS DESCRIBED IN DIVISION 1 SHALL APPLY TO WORK OF THIS SECTION. WHERE PARAGRAPHS OF THIS SECTION CONFLICT WITH SIMILAR PARAGRAPHS OF DIVISION 1, REQUIREMENTS OF THIS SECTION SHALL PREVAIL.
- 1.02 THE SCOPE OF WORK UNDER THIS SECTION, WITHOUT LIMITING THE GENERALITY THEREOF, INCLUDES THE FURNISHING OF ALL LABOR, MATERIALS, EQUIPMENT, SERVICES, AND INCIDENTALS NECESSARY TO COMPLETE ALL ELECTRICAL WORK IN ACCORDANCE WITH THE INTENT OF THE SPECIFICATIONS AND DRAWINGS. CONTRACTOR SHALL SUBMIT FOR AND OBTAIN ALL PERMITS, CERTIFICATIONS, REVIEWS AND APPROVALS REQUIRED FOR INSTALLATION OF ANY MATERIAL OR SYSTEM AS PART OF THE WORK INCLUDING ALL FEES OR EXPENSES INCURRED. THE WORK SHALL CONSIST OF BUT NOT NECESSARY BE LIMITED TO THE FOLLOWING:
- A. ELECTRIC DEMOLITION
 - B. POWER DISTRIBUTION SYSTEM
 - C. BRANCH CIRCUIT WIRING SYSTEMS
 - D. NORMAL LIGHTING SYSTEM
 - E. TESTING, O&M MANUALS & RECORD DRAWINGS
- 1.03 THE DRAWING ARE DIAGRAMMATIC AND ARE INTENDED TO CONVEY THE SCOPE OF WORK; INDICATE THE GENERAL ARRANGEMENT OF EQUIPMENT CONDUIT, AND THE LIKE; SHOW THE APPROXIMATE SIZES OF EQUIPMENT. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS PRACTICAL IN LAYING OUT WORK AND VERIFY ALL SPACES IN WHICH THE WORK UNDER THIS SECTION IS TO BE INSTALLED.
- A. IT IS THE INTENT OF THE CONTRACT DOCUMENTS TO PROVIDE COMPLETE OPERATING SYSTEMS. OMISSION FROM THE SPECIFICATIONS OR DRAWINGS OF ANY DETAIL OF CONSTRUCTION, INSTALLATION, MATERIAL OR SPECIALISTS NECESSARY FOR A SAFELY OPERABLE SYSTEM SHALL NOT RELIEVE THIS CONTRACTOR OF FURNISHING AND INSTALLING THE MATERIALS, FITTINGS OR ACCESSORIES REQUIRED FOR THE FURNISHING AND INSTALLATION OF COMPLETE AND OPERATIONAL SYSTEMS.
 - B. DISCREPANCIES BETWEEN THE DRAWINGS AND SPECIFICATIONS SHALL BE REFERRED TO THE ARCHITECT FOR INTERPRETATION BEFORE PROCEEDING WITH THE WORK. IF THIS CONTRACTOR PROCEEDS WITH THE WORK WITHOUT REFERRING DISCREPANCIES TO THE ARCHITECT FOR INTERPRETATION, HE SHALL DO SO AT HIS OWN RISK AND MAKE ALL CHANGES TO MEET THE ARCHITECT'S INTERPRETATION OF THE BID DOCUMENTS WITHOUT REQUESTING ADDITIONAL COMPENSATION.
- 1.04 THE INSTALLATION SHALL COMPLY WITH THE REGULATIONS OF THE STATE AND LOCAL ELECTRICAL CODES, LOCAL BUILDING DEPARTMENT, NATIONAL ELECTRICAL SAFETY CODE, THE REQUIREMENTS OF THE LOCAL FIRE DEPARTMENT, AND WIRE INSPECTOR, AND ALL LEGALLY CONSTITUTED AUTHORITIES HAVING JURISDICTION, WHERE THE DRAWINGS AND/OR SPECIFICATION REQUIREMENTS EXCEED THE REQUIREMENTS OF THE APPLICABLE CODES THE REQUIREMENTS SPECIFIED IN THE CONTRACT DOCUMENTS SHALL TAKE PRECEDENCE.
- 1.05 MATERIALS AND EQUIPMENT SHALL BE NEW AND COMPLY WITH THE APPLICABLE STANDARDS OF THE FOLLOWING AUTHORITIES, EXCEPT WHERE THE CONTRACT DOCUMENTS PRESCRIBE MORE RIGOROUS QUALIFICATIONS, THE DOCUMENTS SHALL GOVERN:
- UNDERWRITERS' LABORATORIES, INC. (UL)
 - NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION (NEMA)
 - INSTITUTE OF ELECTRIC AND ELECTRONIC ENGINEERS (IEEE)
 - AMERICAN SOCIETY FOR TESTING MATERIALS (ASTM)
 - AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
 - NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
 - INSULATED POWER CABLE ENGINEERS ASSOCIATION (IPCEA)
 - OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)
 - AMERICAN WITH DISABILITIES ACT (ADA)
- 1.06 THE SUBMISSION OF A PROPOSAL SHALL BE CONSTRUED AS EVIDENCE THAT THIS CONTRACTOR HAS VISITED THE SITE AND HAS MADE A THOROUGH EXAMINATION OF THE EXISTING CONDITIONS. CLAIMS FOR LABOR, EQUIPMENT OR MATERIALS REQUIRED FOR DIFFICULTIES ENCOUNTERED SHALL BE BORNE BY THE BIDDER.
- 1.07 SUBMITTALS
- A. SUBMIT THE FOLLOWING INFORMATION AS APPLICABLE AND AS REQUIRED FOR ALL WORK SPECIFIED:
 - 1. MANUFACTURER'S PRODUCT DATA SHEETS AND SAMPLES WHERE REQUIRED. SHOP DRAWINGS INCLUDING DIMENSIONED EQUIPMENT LAYOUTS, POINT-TO-POINT WIRING DIAGRAMS AND SEQUENCES OF OPERATION, TO CONFIRM ALL DIMENSIONS, QUANTITIES, AND COORDINATE MATERIALS AND PRODUCTS SUPPLIED BY WITH OTHER TRADES.
 - 2. AS-BUILT DRAWINGS.
 - 3. OPERATION AND MAINTENANCE MANUALS. (THREE COPIES)
 - 4. CERTIFIED FACTORY AND FIELD TEST REPORTS.
 - 5. MANUFACTURERS CERTIFICATIONS, WARRANTIES, SPARE PARTS AND LISTS.
 - 6. REFER TO THE GENERAL CONDITIONS AND SPECIAL REQUIREMENTS FOR REQUIREMENTS ALL OF WHICH SHALL BE INCLUDED AS PART OF THIS SPECIFICATION.
 - 7. SHOP DRAWINGS FOR EQUIPMENT SUBMITTED FOR REVIEW SHALL INCLUDE COMPLETE SPECIFICATIONS, INCLUDING TYPE OF MATERIALS, OPERATING PRESSURES AND TEMPERATURES, CAPACITIES, PERFORMANCE AND POWER REQUIREMENTS TO DETERMINE COMPLIANCE WITH CONTRACT DOCUMENTS. WIRING DIAGRAM SUBMITTED SHALL BE COMPLETE FOR ALL EQUIPMENT AND SHALL BE SPECIFIC AND APPLY ONLY TO THIS SPECIFIC PROJECT.
 - B. SUBMITTALS SHALL BE CLEARLY ANNOTATED TO DEMONSTRATE COMPLIANCE WITH CONTRACT REQUIREMENTS AND TO SPECIFICALLY IDENTIFY PRODUCTS BEING PROVIDED. IF NOT SPECIFICALLY INDICATED ARCHITECT RESERVES THE RIGHT TO IDENTIFY THE PRODUCTS TO BE PROVIDED. REFER TO OTHER SECTIONS FOR ADDITIONAL SUBMITTAL REQUIREMENTS.
 - C. SUBSTITUTIONS TO SPECIFIED ITEMS MUST COMPLY WITH ALL SPECIFICATION REQUIREMENTS AND WILL ONLY BE PERMITTED WHERE SUBMITTED AND APPROVED IN WRITING.
 - D. IT IS NOT TO BE ASSUMED THAT THE ARCHITECT HAS READ THE TEXT NOR REVIEWED THE TECHNICAL DATA OF AN ITEM OR ITS COMPONENTS EXCEPT WHERE DIFFERENCES BETWEEN THE SUBSTITUTED PRODUCT AND THE SPECIFIED MODEL HAVE BEEN SPECIFICALLY IDENTIFIED IN WRITING. REVIEW OF SHOP DRAWINGS CONTAINING ERRORS DOES NOT RELIEVE THE INSTALLER FROM MAKING CORRECTIONS AT INSTALLER'S EXPENSE.
- 1.08 EXCHANGE OF INFORMATION:
- A. ALL INFORMATION RELATIVE TO REQUIRED OPENINGS, EQUIPMENT SIZES, SEQUENCE OF INSTALLATION AND INTERFACING REQUIREMENTS WITH OTHER TRADES SHALL BE PROVIDED SUFFICIENTLY IN ADVANCE TO ALLOW FOR PROPER PLANNING IN THE OVERALL CONSTRUCTION SCHEDULE.
 - B. THE WORK MUST BE PERFORMED SO THAT THE PROGRESS OF THE ENTIRE CONSTRUCTION PROJECT INCLUDING THE WORK BY OTHER TRADES WILL NOT BE DELAYED OR INTERFERED WITH. MATERIALS AND EQUIPMENT SHALL BE INSTALLED AS FAST AS CONSTRUCTION CONDITIONS OF THE PROJECT WILL PERMIT AND SHALL BE INSTALLED PROMPTLY.
 - C. COORDINATE THE ROUTING AND TERMINATION POINTS OF ALL ELECTRICAL WORK WITH APPROVED SHOP DRAWINGS OF OTHER TRADES REQUIRING ELECTRICAL CONNECTIONS TO ALLOW FOR THE PROPER INTERFACING OF SAME.
 - D. THIS CONTRACTOR SHALL COORDINATE HIS INSTALLATIONS PRIOR TO COMMENCEMENT OF WORK WITH ALL OTHER TRADE CONTRACTORS TO AVOID CONFLICTS AND INTERFERENCES.
- 1.09 SUBMIT TWO COPIES OF OPERATION AND MAINTENANCE DATA BOOKS TO THE ARCHITECT FOR APPROVAL.
- A. PROVIDE DATA FOR POWER DISTRIBUTION EQUIPMENT, LIGHTING FIXTURES AND CONTROLS, MOTOR CONTROLS, WIRING DEVICES AND ANY OTHER ELECTRIC SYSTEMS OR EQUIPMENT PROVIDED UNDER THIS CONTRACT.
 - B. PROVIDE EACH DATA BOOK WITH THE ELECTRICAL AS-BUILT DRAWINGS IN AUTOCAD FORMAT. ALSO PROVIDE EACH DATA BOOK WITH THE ELECTRICAL AS-BUILT DRAWINGS ON CD.

PART 2 – PRODUCTS

- 2.01 MATERIALS AND EQUIPMENT INCLUDED UNDER THIS PART AND REQUIRED FOR THE PROPER INSTALLATION AND OPERATION OF THE ELECTRICAL SYSTEM SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS OF PART A OF THIS SPECIFICATION.
- 2.02 RACEWAYS:
- A. RIGID STEEL CONDUIT SHALL BE HOT DIPPED STEEL CONFORMING TO UL STANDARD NO. 6 AS MANUFACTURED BY REPUBLIC STEEL, ALLIED TUBE OR EQUAL.
 - B. INTERMEDIATE METAL CONDUIT SHALL BE HOT DIPPED GALVANIZED STEEL CONFORMING TO UL STANDARD NO. 1242. CONDUIT SHALL BE AS MANUFACTURED BY REPUBLIC STEEL, ALLIED TUBE OR EQUAL.
 - C. ELECTRIC METALLIC TUBING SHALL BE HOT DIPPED STEEL CONFIRMING TO UL STANDARD NO. 797. TUBING SHALL BE AS MANUFACTURED BY REPUBLIC STEEL, ALLIED TUBE OR EQUAL.

- D. NON-METALLIC CONDUIT AND FITTINGS SHALL BE SCHEDULE 40 PVC 90° C CONFORMING TO NEMA STANDARD TC2 AND UL STANDARD NO. 651. NON-METALLIC CONDUIT SHALL BE AS MANUFACTURED BY CARLON ELECTRICAL PRODUCTS CO., OR EQUAL.
 - E. FLEXIBLE METAL CONDUIT SHALL BE SINGLE STRIP, CONTINUOUS, FLEXIBLE, INTERLOCKED DOUBLE WRAPPED STEEL, GALVANIZED INSIDE AND OUTSIDE, FORMING SMOOTH WIRING CHANNEL. FLEXIBLE METAL CONDUIT SHALL BE AS MANUFACTURED BY PYLE-NATIONAL, AMERICAN FLEXIBLE CONDUIT OR EQUAL.
 - F. LIQUIDTIGHT FLEXIBLE METAL CONDUIT SHALL BE SIMILAR TO FLEXIBLE METAL CONDUIT, BUT WITH EXTRUDED MOISTURE AND OIL-PROOF OUTER JACKET OF POLYVINYL CHLORIDE PLASTIC AND BE AS MANUFACTURED BY LIQUIDTITE, ANACONDA SEALTITE OR EQUAL.
 - G. RIGID STEEL AND INTERMEDIATE METAL CONDUIT FITTINGS, COUPLINGS, BUSHINGS, LOCKNUTS AND CONNECTORS SHALL BE THREADED AND GALVANIZED OR CADMIUM PLATED AND SHALL BE AS MANUFACTURED BY O/Z GEDNEY, THOMAS & BETTS OR EQUAL.
 - H. COUPLINGS AND CONNECTORS FOR ELECTRIC METALLIC TUBING SHALL BE GALVANIZED STEEL COMPRESSION TYPE WITH INSULATED THROAT AND SHALL BE AS MANUFACTURED BY O/Z GEDNEY, THOMAS & BETTS OR EQUAL.
 - I. FITTINGS FOR FLEXIBLE METALLIC CONDUIT SHALL BE STEEL OR MALLEABLE IRON ZINC PLATED WITH CENTER STOP & INSULATED THROAT AS MANUFACTURED BY O/Z GEDNEY, THOMAS & BETTS OR EQUAL.
 - J. FITTINGS FOR LIQUIDTIGHT FLEXIBLE METAL CONDUIT SHALL BE MALLEABLE IRON ZINC PLATED SUITABLE FOR GROUNDING AND BE AS MANUFACTURED BY O/Z GEDNEY, THOMAS & BETTS OR EQUAL.
 - K. SURFACE METAL RACEWAY, FITTINGS, COUPLINGS, SUPPORTS AND BOXES SHALL BE AS MANUFACTURED BY WIREMOLD.
 - L. SURFACE NON-METALLIC RACEWAY, FITTINGS COUPLINGS, SUPPORTS AND BOXES SHALL BE AS MANUFACTURED BY WIREMOLD.
 - M. CABLE TRAY SHALL BE OF THE ALUMINUM LADDER TYPE. CABLE TRAY SHALL BE A COMPLETE CONTINUOUS SYSTEM WITH ALL FITTINGS SUPPORTS AND ACCESSORIES. CABLE TRAY SHALL BE AS MANUFACTURED BY THOMAS & BETTS, B-LINE SYSTEMS OR EQUAL.
- 2.03 PULL, JUNCTION, OUTLET BOXES AND WIREWAYS:
- A. EACH OUTLET, JUNCTION OR PULL BOX SHALL BE OF THE PROPER TYPE, CLASS AND CONSTRUCTION TO SUIT THE SPECIFIC CONDITIONS ENCOUNTERED.
 - B. PULL AND JUNCTION BOXES SHALL BE CODE GAUGE MINIMUM THICKNESS GALVANIZED STEEL WITH SCREW- ON COVERS, UNLESS OTHERWISE NOTED. PROVIDE CABLE SUPPORT FOR THE SUPPORT OF ALL TIERS OF CABLES AND CONDUCTORS WITHIN THE PULL OR JUNCTION BOXES. HOFFMAN, LEE PRODUCTS OR EQUAL SHALL MANUFACTURE PULL AND JUNCTION BOXES.
 - C. INTERIOR CONCEALED OUTLET BOXES SHALL BE CODE GAUGE GALVANIZED STEEL AND SHALL BE OF THE SHAPES AND SIZES TO SUIT THEIR RESPECTIVE LOCATIONS AND INSTALLATIONS, AND SHALL BE PROVIDED WITH COVERS TO SUIT THEIR FUNCTION AND INSTALLATION. BOXES SHALL BE RACO, APPLETON ELECTRIC COMPANY OR EQUAL.
 - D. INTERIOR EXPOSED OR SURFACE MOUNTED OUTLET AND JUNCTION BOXES SHALL BE OF CAST METAL WITH THREADED HUBS, KILLRACK, O/Z GEDNEY OR CROUSE HINDS CONDULET TYPE. COVERS SHALL BE CAST METAL.
 - E. EXTERIOR SURFACE MOUNTED OUTLET AND JUNCTION BOXES SHALL BE OF CAST METAL WITH THREADED HUBS, O/Z GEDNEY, CROUSE-HINDS OR EQUAL. COVERS SHALL BE CAST METAL AND SHALL BE GASKETED RAIN-TIGHT EXTERIOR TYPE.
 - F. WIREWAYS SHALL BE OF THE TOTALLY ENCLOSED TYPE, CONSTRUCTED OF CODE GAUGE SHEET METAL WITH HINGED COVER. PROVIDE ALL FITTINGS, TEES, ELBOWS, WIRE RETAINERS, CLOSURE PLATES, HANGERS AND COMPONENT PARTS REQUIRED FOR A COMPLETE INSTALLATION. WIREWAYS SHALL BE AS MANUFACTURED BY HOFFMAN, LEE PRODUCTS OR EQUAL.
- 2.04 WIRE AND CABLE
- A. ALL CONDUCTORS RATED FOR 600 VOLT FOR THE WIRING OF BRANCH CIRCUITS, MOTORIZED CIRCUITS, AUXILIARY SYSTEM WIRING AND DISTRIBUTION FEEDER CONDUCTORS SHALL BE SOFT DRAWN COPPER AND SHALL HAVE A CONDUCTIVITY OF NOT LESS THAN 98 PERCENT OF THE ANSI STANDARD ANNEALED COPPER. CONDUCTORS SHALL BEAR THE MARKINGS OF THE UNDERWRITERS' LABORATORIES, THE AWG SIZE, TYPE INSULATION, MAXIMUM PERMISSIBLE VOLTAGE, THE MANUFACTURER'S NAME AND TRADE MARK AND SHALL BE TAGGED FOR THE YEAR OF THE AWARDED OF THE CONTRACT. WIRING SHALL BE A MINIMUM OF #12 AWG SOLID, EXCEPT MOTOR CONTROL CIRCUIT WIRING AND FIRE ALARM SYSTEM WIRING MAY BE #14 AWG. WIRE SIZE #8 AWG AND LARGER SHALL BE STRANDED. WIRE OF SIZE SMALLER THAN #8 AWG SHALL BE SOLID. WIRE AND CABLE SHALL BE TYPE THWN-THHN BUILDING WIRE, 600V, RATED FOR 75 DEGREES C IN WET LOCATIONS AND 90 DEGREES C IN DRY LOCATIONS. WIRE AND CABLES SHALL BE UL LISTED, BEAR THE UL LABEL AND BE MANUFACTURED BY ROME CABLE CORPORATION, GENERAL CABLE CORPORATION OR EQUAL.
 - B. METAL CLAD TYPE MC CABLE IS TO HAVE GALVANIZED STEEL ARMORED JACKET WITH SOLID COPPER CONDUCTORS IN SIZES #12 AWG THROUGH #8 AWG AND STRANDED FOR SIZES #6 AWG THROUGH #1 AWG. INSULATION IS TO BE TYPE THHN 90° C, RATED FOR 600V. AN INSULATED INTERNAL GREEN GROUND CONDUCTOR IS TO BE PROVIDED. INTERIOR CONDUCTORS ARE TO BE WRAPPED WITH A MOISTURE AND FUNGI RESISTANT PAPER. MC CABLE IS TO BE AS MANUFACTURED BY AFC OR EQUAL.
 - C. ARMORED CABLE IS TO BE TYPE ACTHW WITH A GALVANIZED STEEL ARMOR JACKET WITH AN INTERNAL BONDING WIRE. CONDUCTORS ARE TO BE SOLID COPPER IN SIZES #12 AWG THROUGH #8 AWG AND STRANDED FOR SIZES #6 AWG THOUGH #1 AWG. INSULATION IS TO BE TYPE THHN 90° C, RATED FOR 600V. AN INSULATED INTERNAL GREEN GROUND CONDUCTOR IS TO BE PROVIDED. INTERIOR CONDUCTORS ARE TO BE WRAPPED WITH A MOISTURE AND FUNGI RESISTANT PAPER. ARMORED CABLE IS TO BE TYPE HCF-90 AS MANUFACTURED BY AFC OR EQUAL.
 - D. MINERAL INSULATED CABLE SHALL BE A FACTORY ASSEMBLY OF ONE OR MORE COPPER CONDUCTORS CORRESPONDING TO STANDARD AWG SIZES. CONDUCTORS ARE TO BE CONTAINED WITHIN HIGHLY COMPACTED MAGNESIUM OXIDE INSULATION AN ENCLOSED WITHIN A SEAMLESS, LIQUID-AND-GAS TIGHT CONTINUOUS COPPER SHEATH. CABLE TO BE 2 HOUR FIRE RATED AND BE AS MANUFACTURED BY PYROTEX OR EQUAL.
 - E. METAL CLAD TYPE MC, ARMORED CABLE, AND FIRE ALARM CABLE ARE TO USE 2-SCREW MALLEABLE IRON, ZINC PLATED CONNECTORS. CONNECTORS TO BE PROVIDED WITH INSULATED THROAT AND BE MANUFACTURED BY RACO, O/Z GEDNEY OR EQUAL.
 - F. MI CABLE TERMINATIONS AND SLICES ARE TO BE AS MANUFACTURED BY THE CABLE MANUFACTURER. ALL SPLICES ARE TO BE 2-HOUR FIRE RATED.
- 2.05 TOGGLE SWITCHES SHALL BE OF THE TOTALLY ENCLOSED, FLUSH TUMBLER TYPE AND SHALL BE SPECIFICATION GRADE RATED 20A, 120/277V. TOGGLE SWITCH FINISH SHALL BE OF THE WHITE PHENOLIC COMPOUND, QUIET INDICATING TYPE WITH SCREW TYPE TERMINALS TOGGLE SWITCH FINISH SHALL BE OF THE WHITE PHENOLIC COMPOUND TYPE UNLESS OTHERWISE DIRECTED BY THE ARCHITECT.
- 2.06 WALL DIMMERS TOGGLE SWITCH PRESET DIMMER, COLOR SELECTED BY ARCHITECT LUTRON LUMEA OR EQUAL. 120 VOLT INCANDESCENT LUTRON AY-10P - (RATED 1000 WATTS SINGLE, 800 WATTS DUAL GANG, 65 WATTS MULTI-GANG, 120 OR 277 VOLT FLUORESCENT LUTRON AYF-103P - RATED 8A AT 120 VOLT AND 6A AT 277 VOLT. PROVIDE LUTRON COMPATIBLE DIMMING BALLASTS. PROVIDE NEUTRAL WIRE AT CONTROL. 120 VOLT ELECTRIC LOW VOLTAGE - LUTRON AYF-103P WITH ELV-1000 INTERFACE-RATED 600 WATTS SINGLE GANG, 500 WATTS DUAL GANG, 400 WATTS TRIPLE GANG, 120 VOLT MAGNETIC LOW VOLTAGE - LUTRON AYL-600P-RATED 600VA (450 WATTS) SINGLE GANG, 500VA (400 WATTS) DUAL GANG AND 400VA (300 WATTS) TRIPLE GANG. PROVIDE LAMP DE BUZZING COILS (LDC)ON EACH INCANDESCENT AND MAGNETIC 10W VOLTAGE LOAD SIDE OF CIRCUIT IN LOCATE LDC ON REMOTE AREA TO MINIMIZE NOISE (NOT IN PLENUM). PROVIDE BALLAST INTERFACE CONTROLS AND POWER BOOSTERS AS REQUIRED FOR INDICATED CIRCUITS, FIXTURES AND CONTROL POINTS. PROVIDE A SEPARATE NEUTRAL WIRE FOR EACH DIMMING CIRCUIT.

- 2.07 RECEPTACLES SHALL BE SPECIFICATION GRADE TYPE. RECEPTACLES SHALL BE SIDE OR BACK WIRED WITH SCREW TERMINALS. ALL RECEPTACLES SHALL BE OF THE GROUNDING TYPE. A TERMINAL SHALL BE PROVIDED FOR GROUND WIRE ON ALL RECEPTACLES. RECEPTACLES FINISH SHALL BE OF THE WHITE PHENOLIC COMPOUND TYPE, UNLESS OTHERWISE DIRECTED BY THE ARCHITECT.
- 2.08 SPECIAL PURPOSE RECEPTACLES SHALL BE SPECIFICATION GRADE TYPE. SPECIAL PURPOSE RECEPTACLES SHALL CORRESPOND TO THE AMPERAGE, VOLTAGE, AND PHASE REQUIRED AND OF THE INDICATED NEMA CONFIGURATION.
- 2.09 PROVIDE SPECIFICATION GRADE DEVICE PLATES. FINISH OF THE DEVICE PLATES IS TO BE WHITE HIGH IMPACT SMOOTH NYLON, UNLESS OTHERWISE DIRECTED BY THE ARCHITECT. PLATES SHALL BE OF APPROPRIATE TYPE AND SIZE FOR WIRING AND CONTROL DEVICES.
- 2.10 WIRE AND CABLE CONNECTIONS FOR #8 AWG AND SMALLER SHALL BE OF THE PRESSURE INDENT TYPE WITH AN INSULATING COVER EQUAL TO BUCHANAN ELECTRIC PRODUCTS. CONNECTIONS TO MOTOR LEADS SHALL BE MADE WITH SOLDER LESS LUGS SIMILAR TO BURNDY ENGINEERING COMPANY. WIRE AND CABLE CONNECTORS FOR #6 AWG AND LARGER SHALL BE OF THE BOLTED PRESSURE TYPE EQUAL TO O/Z GEDNEY MANUFACTURING COMPANY OR BURNDY ENGINEERING COMPANY. COPPER CABLES #1/0 AWG AND LARGER SHALL BE FASTENED WITH A CONNECTOR REQUIRING TWO (2) BOLTS. JOINTS, TAPS AND SPLICES SHALL BE COVERED WITH SCOTCH BRAND TYPE ELECTRICAL TAPE #33 OR EQUAL.
- 2.11 FIRE STOP SEALANTS USED TO SEAL ALL OPENINGS AROUND ELECTRICAL RACEWAY SYSTEMS PASSING THROUGH FLOORS AND FIRE RATED WALLS SHALL BE OF HE FIRE RETARDANT SILICONE FOAM TYPE. THE SEALANT SHALL BE PLIABLE IN CHARACTER CAPABLE OF ADHERING ITSELF TO THE SURROUNDING SURFACES WITHIN THE VOID BEING FILLED. THE SEALANT SHALL REMAIN IN THE PLIABLE STATE PERMITTING NORMAL BUILDING VIBRATION AND ALLOWING FOR MATERIAL EXPANSION AND CONTRACTION WITHOUT CRACKING OR CRUMBLING. FIRE STOP SEALANTS SHALL BE FLAME SAFE AS MANUFACTURED BY THOMAS & BETTS OR EQUAL.
- 2.12 FURNISH ACCESS PANELS FOR ACCESS TO ALL CONCEALED PARTS OF THE ELECTRICAL SYSTEM THAT REQUIRED ACCESSIBILITY FOR THE PROPER OPERATING AND MAINTENANCE OF THE SYSTEM. THE ACCESS PANELS WILL BE INSTALLED BY THE CONTRACTOR UNDER THE APPROPRIATE SECTION OF THE SPECIFICATIONS FOR THE SURFACE IN WHICH THE PANELS ARE LOCATED. COORDINATE LOCATION OF ALL ACCESS PANELS WITH THE ARCHITECT. MINIMUM SIZE ACCESS PANEL IS TO BE 12 INCHES BY 24 INCHES. ACCESS PANELS SHALL BE PRIME PAINTED WITH CYLINDER LOCK AND TWO KEYS AS MANUFACTURED BY "MILCOR", MIAMI CAREY OR EQUAL.
- 2.13 SEALING COMPOUNDS FOR RACEWAYS, DUCTS AND FITTINGS SHALL BE PUTTY-LIKE CONSISTENCY WORKABLE WITH THE HANDS AND SHALL NOT HARDEN MATERIALLY WHEN EXPOSED TO AIR. THE SEALING COMPOUNDS SHALL BE MANUFACTURED BY THOMAS & BETTS, JOHNS-MANVILLE OR EQUAL.
- 2.14 CONDUIT SEALING BUSHINGS TO BE USED AT ALL CONDUIT LOCATIONS WHERE MOISTURE CAN TRAVEL THROUGH THE CONDUIT TO ELECTRICAL EQUIPMENT. CONDUIT SEALING BUSHINGS ARE TO BE O/Z GEDNEY TYPE CSB OR EQUAL.
- 2.15 THRUWALL AND FLOOR SEALS ARE TO BE USED AROUND ALL CONDUITS FOR POWER, COMMUNICATIONS OR AUXILIARY SYSTEMS PASSING THROUGH FOUNDATION WALL. THRUWALL AND FLOOR SEALS ARE TO BE O/Z GEDNEY TYPE WSK OR EQUAL.
- 2.16 FURNISH AND INSTALL ALL SUPPLEMENTARY STEEL, CHANNELS AND SUPPORTS REQUIRED FOR THE PROPER INSTALLATION, MOUNTING AND SUPPORT OF ALL LIGHTING FIXTURES, AND ELECTRICAL EQUIPMENT TO BE INSTALLED UNDER THIS CONTRACT. SUPPLEMENTARY STEEL, CHANNELS AND SUPPORTS RODS AND APPURTENANCES REQUIRED FOR A COMPLETE SUPPORT OR MOUNTING SYSTEM AND SHALL BE UL LISTED, BE GALVANIZED STEEL, AND BE MANUFACTURED BY UNISTRUT, KINDORF, OR EQUAL.
- 2.17 NAMEPLATES SHALL BE THREE-PLY BLACK BAKELITE WITH ¼ INCH HIGH-ENGRAVED WHITE LETTERS AND TWO (2) MOUNTING HOLES, NAMEPLATES SHALL BE SECURELY ATTACHED TO EQUIPMENT WITH GALVANIZED SCREWS OR RIVETS. WORDING OF THE NAMEPLATES SHALL BE IN CONFORMANCE WITH THE RESPECTIVE SCHEDULES AND NOTES ON THE DRAWINGS. NAMEPLATES SHALL BE PROVIDED ON THE FOLLOWING EQUIPMENT, MOTOR CONTROLS, PANELBOARDS, DISTRIBUTION BOARD, REMOTE OPERATING STATION, TIME CLOCK, SAFETY SWITCH, PILOT LIGHT AND CONTROL DEVICE IDENTIFYING THE UNITS CONTROLLED OR PROTECTED. NAMEPLATES SHALL BE PROVIDED FOR ALL AUXILIARY SYSTEM AND FIRE ALARM EQUIPMENT AS INDICATED AND INCLUDED UNDER OTHER PARAGRAPHS OF THIS SECTION.
- 2.18 PROVIDE DISCONNECT SWITCHES FUSED OR UNFUSED AS SHOWN ON DRAWINGS. SWITCHES SHALL BE NEMA TYPE HD SAFETY SWITCHES FOR HEAVY DUTY WITH INTERLOCKING COVER, SIDE OPERATED. SWITCHES EXPOSED TO WEATHER SHALL HAVE RAIN-TIGHT ENCLOSURES. SWITCH ENCLOSURE SHALL BE NEMA LISTED FOR LOCATION AND ATMOSPHERE IN WHICH THEY ARE MOUNTED. CURRENT CARRYING PARTS SHALL BE SILVER-PLATED. DISCONNECT SWITCHES SHALL BE AS MANUFACTURED BY ONE OF THE GENERAL ELECTRIC, SQUARE D, OR EQUAL.
- 2.19 PANELBOARDS:
- A. PROVIDE DEAD FRONT PANELBOARDS, ARRANGED FOR 120/208V, 1 PHASE, 3-WIRE SYSTEM, WITH SOLID NEUTRAL. PANELBOARDS SHALL MEET OR EXCEED ALL REQUIREMENTS OF NEMA PB-1 AND UL 67. PANELBOARDS SHALL BE MINIMUM 20 INCHES WIDE.
 - B. PROVIDE BOLT-ON, MOLDED CASE, CIRCUIT BREAKERS WITH THERMAL MAGNETIC TRIPS. MULTIPLE POLE BREAKERS SHALL BE SINGLE HANDLES, COMMON TRIP. PROVIDE HANDLE LOCKS FOR EMERGENCY LIGHTING CIRCUITS, FIRE ALARM, SECURITY, OR OTHER SIMILAR FUNCTIONS. MAIN BREAKERS SHALL BE VERTICALLY MOUNTED, SEPARATE FROM BRANCH BREAKERS. CIRCUIT BREAKERS SHALL BE AS FOLLOWS:
 - 1. 120/208V PANELBOARDS: 10,000 SYMMETRICAL RMS AMPERES FOR ONE POLE BREAKERS; 10,000 SYMMETRICAL RMS AMPERES AT RATED SYSTEM VOLTAGE FOR TWO-POLE AND THREE POLE BREAKERS UNLESS OTHERWISE NOTED.
 - 2. CIRCUIT BREAKERS USED IN 120/208V LIGHTING PANELBOARDS SHALL BE UL LISTED FOR SWITCHING OF SINGLE POLE LIGHTING CIRCUITS.
 - C. PROVIDE 98 % CONDUCTIVITY COPPER BUS BARS AND FULL SIZE INSULATED NEUTRAL BUS. PANELBOARD BUS WORK SHALL BE RATED TO CARRY, AS MINIMUM, AMPERE RATING OF OVER CURRENT DEVICE THAT SERVES THE PANELBOARD. PROVIDE ANTI-TURN, SOLDER LESS LUGS SUITABLE FOR COPPER OR ALUMINUM WIRE. PROVIDE 200% RATED NEUTRALS ON 120/208V PANELBOARDS AS INDICATED ON THE DRAWINGS.
 - D. PROVIDE SEPARATE EQUIPMENT GROUND BUS FOR EACH PANELBOARD. GROUND BUS SHALL BE BONDED TO ENCLOSURE. PROVIDE SEPARATE ISOLATED GROUND BUS FOR 120/208V PANELBOARDS AS INDICATED ON THE DRAWINGS.
 - E. PROVIDE "DOOR-IN-DOOR" TRIM CONSTRUCTION FOR EACH PANELBOARD WITH HEAVY-DUTY DOOR CONTINUOUSLY HINGED VERTICALLY TO BOX SECTION OF PANELBOARD FOR ACCESS TO WRING GUTTERS.
 - F. PROVIDE GALVANIZED CODE GAUGE STEEL SURFACE METAL BOXES READY FOR PAINTING. PROVIDE TWO COATS OF FACTORY-APPLIED PAINT ON TRIMS OF PANELBOARDS. PROVIDE COMBINATION FLUSH CATCH AND LOCK WITH TWO KEYS. ALL KEYS TO BE KEYED ALIKE.
 - G. PANELBOARDS SHALL BE PROVIDED WITH DIRECTORIES ON INSIDE SURFACE OF DOORS. DIRECTORIES SHALL IDENTIFY PANELBOARDS AND INDICATE CLEARLY CIRCUIT NUMBER AND DESCRIPTION OF THE ASSOCIATED BRANCH CIRCUIT.
 - H. PANELBOARDS BOXES, COVERS AND INTERIORS SHALL BE BY ONE MANUFACTURER, SQUARE D, GENERAL ELECTRIC, OR EQUAL.
- I. UNLESS OTHERWISE NOTED PANELBOARD SHORT CIRCUIT RATING SHALL CONFORM TO U.L. STANDARDS FOR FULLY RATED SYSTEMS ONLY (SERIES RATED PANELS WILL NOT BE ACCEPTABLE UNLESS SPECIFICALLY INDICATED). INTERRUPTING RATINGS SHALL BE AS INDICATED ON DRAWINGS OR SPECIFICATIONS AT A MINIMUM MATCH OR EXCEEDING EXISTING BUILDING SYSTEM RATING.
- J. ALL PANELBOARDS SHALL BE PHASE BALANCED TO WITHIN ±10% OF THE AVERAGE AMPS PER PHASE UPON COMPLETION OF WORK.

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DRAWING TITLE ELECTRICAL SPECIFICATIONS SHEET 1	
DATE 10/10/2016	SCALE AS NOTED
SHEET NUMBER E2.00	

2.21 FURNISH NEW LAMPS FOR EACH LIGHTING FIXTURE. REFER TO FIXTURE SCHEDULE FOR LAMP TYPE, WATTAGE, VOLTAGE AND SIZE. LAMPS SHALL BE MANUFACTURED BY OSRAM/SYLVANIA.

2.22 LIGHTING FIXTURES:

- A. LIGHTING FIXTURES AND/OR LIGHTING EQUIPMENT SHALL CONSIST OF ALL NECESSARY PARTS, BALLASTS AND HARDWARE FACTORY ASSEMBLED TO PROVIDE A COMPLETE AND OPERABLE LUMINOUS ELEMENT TO MEET THE SPECIFICATIONS AND APPROVAL OF THE ARCHITECT.
- B. LIGHTING FIXTURES (STANDARD AND SPECIAL) SHALL BE UL LISTED. NO EXCEPTIONS SHALL BE MADE. FIXTURE MANUFACTURING SHALL FURNISH TO THE ARCHITECT VIA THIS CONTRACTOR-NOTARIZED LETTERS SUBSTANTIATING THE VALIDITY OF THE UL LABEL ON THEIR FIXTURE IF REQUIRED. THE LETTER SHALL INCLUDE THE UL TEST NUMBER AND DATE WHEN FIXTURE WAS ACCEPTED BY UL.
- C. THE EXTERIOR FINISH (COLOR) OF ALL LIGHTING FIXTURES DESIGNATED IN THE SPECIFICATIONS OR ON THE DRAWINGS AS HAVING A SPECIAL FINISH, THE COLOR SHALL BE SELECTED BY THE ARCHITECT DURING THE CONSTRUCTION PERIOD AT THE TIME OF SHOP DRAWING REVIEW.
- D. LIGHTING FIXTURES SHALL BE AS SHOWN ON THE LIGHTING PLAN. THE FIXTURES LISTED UNDER EACH TYPE SHALL BE BY SAME MANUFACTURER. IF IT IS ELECTED TO FURNISH OTHER THAN THE FIXTURES MANUFACTURED BY THOSE SPECIFIED, THEN THE FIXTURE PROPOSED SHALL BE EQUAL, IN EVERY ASPECT, TO THE PRODUCT SPECIFIED, INCLUDING DIMENSIONS, FINISH PHOTOMETRIC CURVES, MATERIAL AND OPERATING CHARACTERISTICS.

2.23 FUSES

- A. SECONDARY SYSTEM FUSES, RATED AT 600V OR LESS, SHALL BE UNDERWRITERS' LABORATORIES LISTED WHEN SUCH LISTINGS ARE PUBLISHED COVERING THE TYPES OF FUSES BEING USED, AND BE CONSTRUCTED IN CONFORMANCE WITH THE APPLICABLE STANDARDS SET FORTH BY NEMA AND ANSI. FUSES 600V OR LESS SHALL BE MANUFACTURED BY BUSSMAN, SHAWMUT, LITTLE-FUSE OR EQUAL AND SHALL BE AS FOLLOWS:

1. FUSES, EXCEPT AS SPECIFICALLY NOTED ON THE DRAWINGS OR UNDER OTHER SECTIONS SHALL BE OF THE ONE TIME, NEMA J OR L, NON-RENEWABLE CARTRIDGE TYPE.
2. FUSES INSTALLED IN DISCONNECT SWITCHES OR COMBINATION DISCONNECT SWITCH/STARTER FOR THE PROTECTION OF MOTOR BRANCH CIRCUITS SHALL BE OF THE DUAL ELEMENT, RK-5 SERIES, CURRENT LIMITING, TIME DELAY TYPE.
3. FUSES SHALL BE INSTALLED WITH THE PROPER NEMA TYPE MOUNTING CLIPS. ADAPTERS USED IN CONJUNCTION WITH STANDARD NEC FUSE CLIPS FOR THE MOUNTING OF CURRENT LIMITING OR DUAL ELEMENT FUSES WILL NOT BE ACCEPTED.

PART 3 – EXECUTION

3.01 RACEWAYS AND WIRING METHODS FOR FEEDERS, BRANCH CIRCUITS AND AUXILIARY SYSTEM WIRING, UNLESS OTHERWISE SPECIFIED SHALL BE AS FOLLOWS:

- A. RACEWAYS BURIED DIRECTLY IN THE EARTH – RIGID STEEL OR INTERMEDIATE METAL CONDUIT PAINTED WITH TWO COATS OF BLACK ASPHALT PAINT. PVC SCHEDULE 40 CONDUIT MAY BE USED WHEN PROVIDED WITH A MINIMUM CONCRETE ENVELOPE OF 3" ON ALL SIDES.
- B. RACEWAYS CONCEALED IN THE CONCRETE SLAB-RIGID STEEL OR INTERMEDIATE METAL CONDUIT.
- C. RACEWAYS INSTALLED EXPOSED IN MECHANICAL AND UNFINISHED SPACES-RIGID STEEL, INTERMEDIATE CONDUIT OR EMT.
- D. RACEWAYS INSTALLED EXPOSED IN FINISHED AREAS-SURFACE METAL RACEWAY
- E. RACEWAYS INSTALLED IN WET OR DAMP AREAS-RIGID STEEL CONDUIT OR LIQUIDTIGHT.
- F. FLEXIBLE TAPS FROM JUNCTION BOXES ABOVE HUNG CEILINGS TO RECESSED FLUORESCENT LIGHTING FIXTURES SHALL BE IN FLEXIBLE METAL CONDUIT.
- G. BRANCH CIRCUIT WIRING INSTALLED CONCEALED IN CEILINGS, FURRED OR STUD WALLS – EMT OR METAL CLAD CABLE TYPE MC.

3.02 EQUIPMENT AND SYSTEMS INSTALLED AND CONNECTED UNDER THIS CONTRACT SHALL BE BONDED AND GROUNDED IN ACCORDANCE WITH THE STANDARDS OF THE LATEST NATIONAL ELECTRICAL SAFETY CODE AND ALL STATE AND LOCAL CODES AND REGULATIONS AS A MINIMUM. GROUNDING AND BONDING REQUIREMENTS SPECIFIED OR INDICATED ON THE DRAWINGS THAT EXCEED THE REQUIREMENTS OF THE AGENCIES INDICATED ABOVE SHALL BE ADHERED TO. GROUNDING CONDUCTORS AND THE GROUNDING OF PANELBOARDS AND MOTORS SHALL BE AS FOLLOWS:

- A. A MINIMUM CAPACITY OF 15 PERCENT OF THE RATED CAPACITY OF THE FEEDER TO THE EQUIPMENT IT GROUNDS, UNLESS OTHERWISE INDICATED OR REQUIRED BY THE MEC. REFER TO THE DRAWINGS FOR THE SIZE OF THE MAIN SECONDARY GROUND CONDUCTOR.
- B. MINIMUM SIZE OF GROUNDING CONDUCTORS SHALL BE NOT LESS THAN NO. 14 AWG COPPER.
- C. INSTALL GROUNDING CONDUCTORS IN SAME RACEWAYS AS PHASE CONDUCTORS. BOND AT EACH END OF RACEWAY, IF NECESSARY, TO ACCOMMODATE GROUNDING WIRE.

3.03 LIGHTING SYSTEM

- A. OBTAIN ALL INFORMATION RELATIVE TO THE EXACT TYPE OF CEILING AND SUSPENSION SYSTEMS THAT ARE TO BE INSTALLED IN THE VARIOUS AREAS OF THE BUILDING BEFORE ORDERING ANY RECESSED FIXTURES. FURNISH THAT PROPER TYPE FIXTURES APPLICABLE TO THE CEILING FRAMING SYSTEM USED. IF OTHER THAN THE TYPE OF FIXTURES SPECIFIED ARE REQUIRED FOR INSTALLATION TO THE TYPE OF CEILING CONSTRUCTION, FURNISH AND INSTALL THE PROPER TYPE FIXTURES COMPATIBLE FOR USE WITH THE CEILING SYSTEM.
- B. COORDINATE THE EXACT LOCATIONS OF ALL LIGHTING FIXTURES WITH THE CEILING PATTERN DURING THE CONSTRUCTION PERIOD AND BEFORE INSTALLING THE FIXTURES. REFER TO THE ARCHITECTURAL REFLECTED CEILING PLAN FOR THE EXACT LOCATION OF ALL CEILING FIXTURES LOCATED IN AREAS WHERE THERE ARE HUNG CEILINGS. INTERFERENCES BETWEEN LIGHTING FIXTURES, HVAC DIFFUSERS AND OTHER EQUIPMENT SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER.
- C. EACH LIGHT OUTLET SHOWN ON THE ELECTRICAL DRAWINGS AND/OR SHOWN ON THE ARCHITECT AND THE ENGINEER REFLECTED CEILING PLANS SHALL BE PROVIDED WITH A FIXTURE OR OTHER LIGHTING EQUIPMENT OF THE TYPE INDICATED AND SPECIFIED. IN THE EVENT A TYPE DESIGNATION IS OMITTED AT ANY OUTLET, FURNISH AND INSTALL A UNIT TYPICAL OF THOSE IN SIMILAR AREAS AT NO ADDITIONAL COST TO THE OWNER.
- D. ALL SURFACE AND PENDANT MOUNTING FIXTURES AS WELL AS RECESSED HID AND INCANDESCENT FIXTURES SHALL BE HUNG AND SUPPORTED FROM THE STRUCTURE COMPLETELY INDEPENDENT OF ANY HUNG CEILING SYSTEMS, DUCTWORK AND PIPING. FURNISH AND INSTALL STEEL CHANNELS WHERE REQUIRED TO SPAN DUCTWORK AND PIPING. DUCTWORK AND PIPING THAT HAS BEEN INSTALLED BY THE OTHER TRADES SHALL NOT BE USED TO SUPPORT LIGHTING FIXTURES. SURFACE AND PENDANT MOUNTED FLUORESCENT FIXTURES IN FINISHED AREAS OF THE BUILDING SHALL BE PROVIDED WITH TWO SUPPORT RODS PER FOUR FOOT FIXTURES; THREE PER EIGHT FOOT FIXTURE.
- E. RECESSED FLUORESCENT FIXTURES, COMPLETE WITH STANDARD OR RECESSED FLUORESCENT FIXTURES SHALL BE SUPPORTED INDEPENDENTLY OF THE HUNG CEILING SYSTEM. PROVIDE CHAIN OR THREADED ROD OF SUFFICIENT STRENGTH TO INSURE THAT PROPER SUPPORT IS PROVIDED FOR THE LIGHTING FIXTURES. SUPPORT IS TO BE PROVIDED AT EACH CORNER OF THE FIXTURE.
- F. FURNISH AND INSTALL ALL LIGHTING FIXTURES, COMPLETE WITH STANDARD OR SPECIAL TILE MOUNTING FRAMES, AND SUPPORTING ATTACHMENTS, PLASTER FRAMES FOR ALL FIXTURES RECESSED IN PLASTER, LAMPS, BALLASTS, SELF-ALIGNING HANGERS AND ALL OTHER APPURTENANCES REQUIRED FOR A FIRST-CLASS INSTALLATION.
- G. ALL INSTALLATION FITTINGS THAT ARE NORMALLY CONSIDERED FIXTURE PARTS, INCLUDING HANGERS, YOKES, CHANNELS, FRAMES, STEMS AND OTHER APPURTENANCES ESSENTIAL TO A SATISFACTORY INSTALLATION OF ALL LIGHTING FIXTURES AND EQUIPMENT SHALL BE FURNISHED AND POSITIONED UNLESS SPECIALLY NOTED OTHERWISE.
- H. UNLESS OTHERWISE SPECIFIED OR ACCEPTED, WALL FIXTURES THAT MOUNT ON OUTLET BOXES SHALL BE FASTENED RIGIDLY BY STUD ATTACHMENTS. ALL CEILING OR WALL MOUNTED ITEMS WHETHER CANOPIES, FRAMES, FLANGES OR OTHER SPECIAL MOUNTING ATTACHMENT SHALL BE CORRECTLY ALIGNED AND FIRMLY POSITIONED.
- I. ALL INSTALLED LIGHTING FIXTURES AND/OR LIGHTING EQUIPMENT SHALL BE FREE OF LIGHT LEAKS, WARPS, DENTS, JUTS, PAINT IMPERFECTIONS, OR OTHER FAULTS THAT ARE A RESULT OF POOR WORKMANSHIP IN INSTALLATION.

3.04 COLOR CODING SHALL BE MAINTAINED FOR ALL FEEDERS AND BRANCH CIRCUIT WIRING THROUGHOUT THE PROJECT. COLOR IMPREGNATE INSULATION SHALL BE USED FOR ALL CONDUCTORS UP TO AND INCLUDING NO. 6 AWG. CONDUCTORS LARGER THAN NO. 6 SHALL BE IDENTIFIED BY COLOR BANDING TAPES AT ALL TERMINATION POINTS, JUNCTION PULL AND OUTLET BOXES.

A. PHASES, NEUTRAL AND GROUND CONDUCTORS FOR THE SYSTEM SHALL BE COLOR CODES AS FOLLOWS:

	480Y/277V	240Y/120V
PHASE A	BROWN	BLACK
PHASE B	ORANGE	RED
PHASE C	YELLOW	BLUE
GROUND/NEUTRAL	GREY	WHITE
GROUND CONDUCTOR	GREEN	GREEN

3.05 PHASE ORIENTATION AND ROTATION SHALL BE VERIFIED PRIOR TO PLACING EQUIPMENT INTO OPERATION. ALL MOTORS SHALL BE CHECKED FOR PROPER ROTATION WITH ADJUSTMENTS BEING MADE AS REQUIRED FOR THE PROPER OPERATION OF MOTORIZED EQUIPMENT.

3.06 TEST:

- A. THIS SECTION SHALL INCLUDE THE MAKING OF THE NECESSARY TESTS REFERRED TO HEREIN IN THE PRESENCE OF THE ARCHITECT TO SHOW THAT THE PARTICULAR SYSTEM OR EQUIPMENT HAS BEEN PROPERLY INSTALLED AND IS IN GOOD OPERATING CONDITION. THE ARCHITECT SHALL BE NOTIFIED TWO (2) WEEKS IN ADVANCE OF THE DATE FOR ALL TESTS.
- B. COMPLETE TEST AND INSPECTION RECORDS SHALL BE MADE AND INCORPORATED INTO THE O & M MANUAL FOR EACH PIECE OF EQUIPMENT TESTED.
- C. FURNISH NECESSARY METERS, INSTRUMENTS, TEMPORARY WIRING AND LABOR TO PERFORM ALL REQUIRED TESTS AND ADJUSTMENTS OF EQUIPMENT AND WIRING INSTALLED AND/OR CONNECTED UNDER THIS CONTRACT.
- D. FOLLOWING ESTABLISHED PROCEDURES, EQUIPMENT SHALL BE ENERGIZED AFTER IT HAS BEEN DETERMINED BY THIS TRADE THAT THE INSTALLATION HAS SATISFACTORILY BEEN TESTED AND READY TO BE PLACED IN OPERATION.
- E. WIRING:
 1. SYSTEM AND EQUIPMENT GROUNDS WILL BE CHECKED FOR PROPER VALUE OF RESISTANCE USING THE MEGGER GROUND TESTER IN ACCORDANCE WITH MANUFACTURER'S STANDARD INSTRUCTIONS.
 2. OVERALL RESISTANCE OF THE GROUND SYSTEM SHALL BE NO GREATER THAN 25 OHMS.
- F. LIGHTING: CHECK ALL LIGHTING FIXTURES FOR PROPER OPERATION AND REPLACE ALL NOISY OR DEFECTIVE BALLASTS AND LAMPS.

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REVISIONS:

DATE: NO. DESCRIPTION:

DATE:	NO.	DESCRIPTION:
-	-	-

PROJECT NUMBER
21507-00

PROJECT NAME
MEYER RESIDENCE

1 LORI ROAD
MONMOUTH BEACH, NJ 07750

PHASE
BUILDING PERMIT &
CONSTRUCTION

N.J. CERTIFICATE OF AUTHORIZATION: 2462815080
SEAL

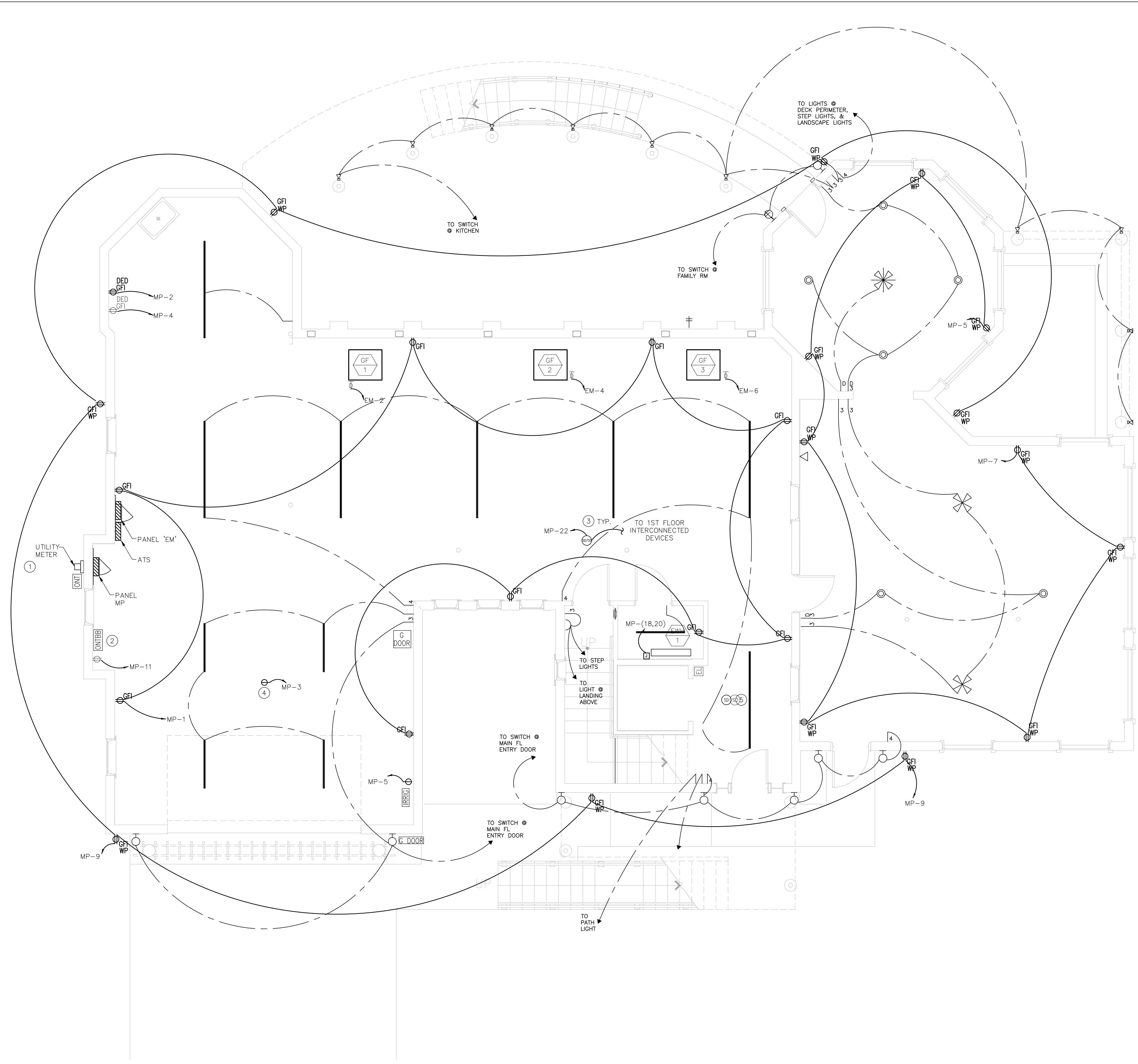
Stephen A. Bray
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NJ LICENSE: GE44144 101016

DRAWING TITLE
ELECTRICAL
SPECIFICATIONS
SHEET 2

DATE 10/10/2016 SCALE AS NOTED

SHEET NUMBER

E3.00




GENERAL NOTES:

- REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR COLORS AND FINISHES OF EQUIPMENT AND DEVICES.
- REFER TO ARCHITECTURAL DRAWINGS FOR EXACT EQUIPMENT AND DEVICE LOCATIONS AND MOUNTING HEIGHTS.
- ALL WIRE SHALL BE COPPER WITH THHN OR THWN INSULATION RATED AT REQUIRED VOLTS. MINIMUM #14 AWG FOR POWER CIRCUITS AND MINIMUM #14 AWG FOR SIGNAL AND CONTROL CIRCUITS. NEUTRALS SHALL NOT BE SHARED.
- PROVIDE UPDATED PANEL SCHEDULES FOR ALL PANELS IDENTIFYING ALL NEW AND SPARE CIRCUITS.
- PROVIDE CIRCUIT IDENTIFICATION TAGS TO ALL BRANCH CIRCUIT WIRING RECEPTACLES AND DEVICES. PANEL DESIGNATION AND CIRCUIT NUMBER SHALL BE TYPE WRITTEN BLACK LETTERS ON A CLEAR, SELF ADHESIVE TAPE STRIP. LABEL SHALL PLACED ON BACKSIDE OF DEVICE COVER
- CONDUIT ROUTING, IF SHOWN, IS SHOWN FOR DIAGRAMMATIC PULLUSES ONLY. CONTRACTOR SHALL DETERMINE MOST ADEQUATE ROUTING PATH OF CONDUIT BASED UPON FIELD CONDITIONS.

KEY NOTES:

- UTILITY METER LOCATION AND SERVICE REQUIREMENTS SHALL BE COORDINATED WITH JCPD.
- ONT LOCATION TO BE COORDINATED WITH VERIZON PRIOR TO INSTALLATION OF DEDICATED RECEPTACLE AND CIRCUITING.
- GROUND FLOOR AND 1ST FLOOR SMOKE/CO ALARMS SHALL BE CIRCUITED TO 'MP-22'. 3-WIRE CONNECTION SHALL BE INSTALLED BETWEEN ALL DEVICES FOR POWER AND SIGNAL.
- CEILING MOUNTED RECEPTACLE FOR GARAGE DOOR. COORDINATE FINAL LOCATION WITH DOOR INSTALLER.
- ELEVATOR LANDING SMOKE DETECTOR FOR ELEVATOR RECALL. COORDINATE DEVICE AND RECALL WIRING WITH FIRE ALARM AND ELEVATOR MANUFACTURER/INSTALLER.

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REVISIONS:

DATE	NO.	DESCRIPTION
-	-	-

PROJECT NUMBER
 21507-00
 PROJECT NAME
 MEYER RESIDENCE
 1 LORI ROAD
 MONMOUTH BEACH, NJ 07750

PHASE
 BUILDING PERMIT & CONSTRUCTION

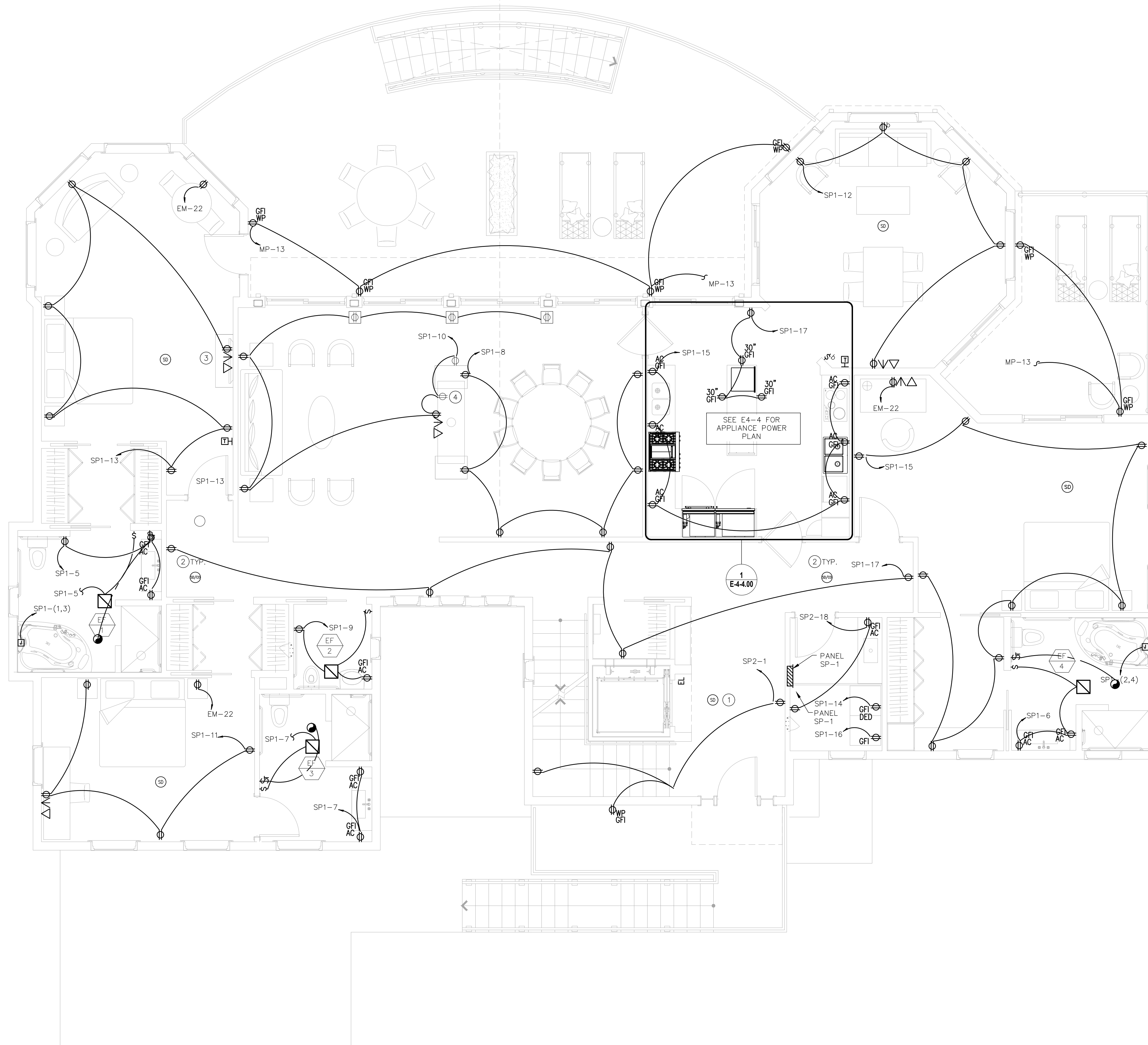
N.J. CERTIFICATE OF AUTHORIZATION: 2462815000
 SEAL

Stephen A. Bray
 PROFESSIONAL ENGINEER
 NJ LICENSE: GE44144 101016
 DRAWING TITLE
 ELECTRICAL
 GROUND FLOOR
 POWER PLAN

DATE
 10/10/2016
 SCALE
 AS NOTED

SHEET NUMBER
E4-0.00

1 ELECTRICAL GROUND FLOOR POWER PLAN
 SCALE: 1/4" = 1'-0"



GENERAL NOTES:

- REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR COLORS AND FINISHES OF EQUIPMENT AND DEVICES.
- REFER TO ARCHITECTURAL DRAWINGS FOR EXACT EQUIPMENT AND DEVICE LOCATIONS AND MOUNTING HEIGHTS.
- ALL WIRE SHALL BE COPPER WITH THHN OR THWN INSULATION RATED AT REQUIRED VOLTS. MINIMUM #14 AWG FOR POWER CIRCUITS AND MINIMUM #14 AWG FOR SIGNAL AND CONTROL CIRCUITS. NEUTRALS SHALL NOT BE SHARED.
- PROVIDE UPDATED PANEL SCHEDULES FOR ALL PANELS IDENTIFYING ALL NEW AND SPARE CIRCUITS.
- PROVIDE CIRCUIT IDENTIFICATION TAGS TO ALL BRANCH CIRCUIT WIRING RECEPTACLES AND DEVICES. PANEL DESIGNATION AND CIRCUIT NUMBER SHALL BE TYPE WRITTEN BLACK LETTERS ON A CLEAR, SELF ADHESIVE TAPE STRIP. LABEL SHALL PLACED ON BACKSIDE OF DEVICE COVER
- CONDUIT ROUTING, IF SHOWN, IS SHOWN FOR DIAGRAMMATIC PURPOSES ONLY. CONTRACTOR SHALL DETERMINE MOST ADEQUATE ROUTING PATH OF CONDUIT BASED UPON FIELD CONDITIONS.

KEY NOTES:

- ELEVATOR LANDING SMOKE DETECTOR FOR ELEVATOR RECALL. COORDINATE DEVICE AND RECALL WIRING WITH FIRE ALARM AND ELEVATOR MANUFACTURER/INSTALLER.
- GROUND FLOOR AND 1ST FLOOR SMOKE/CO ALARMS SHALL BE CIRCUITED TO 'MP-22'. DEVICES ON ALL FLOORS SHALL BE INTERCONNECTED VIA SEPARATE 2-WIRE COMMUNICATIONS CIRCUIT.
- FINAL DEVICE HEIGHTS FOR TELEVISIONS SHALL BE COORDINATED WITH ARCHITECT, HOMEOWNER OR AV INSTALLER.
- GAS FIREPLACE RECEPTACLE LOCATION TO BE VERIFIED WITH INSTALLER PRIOR TO FINAL INSTALLATION.

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REVISIONS:
 DATE: NO. DESCRIPTION:

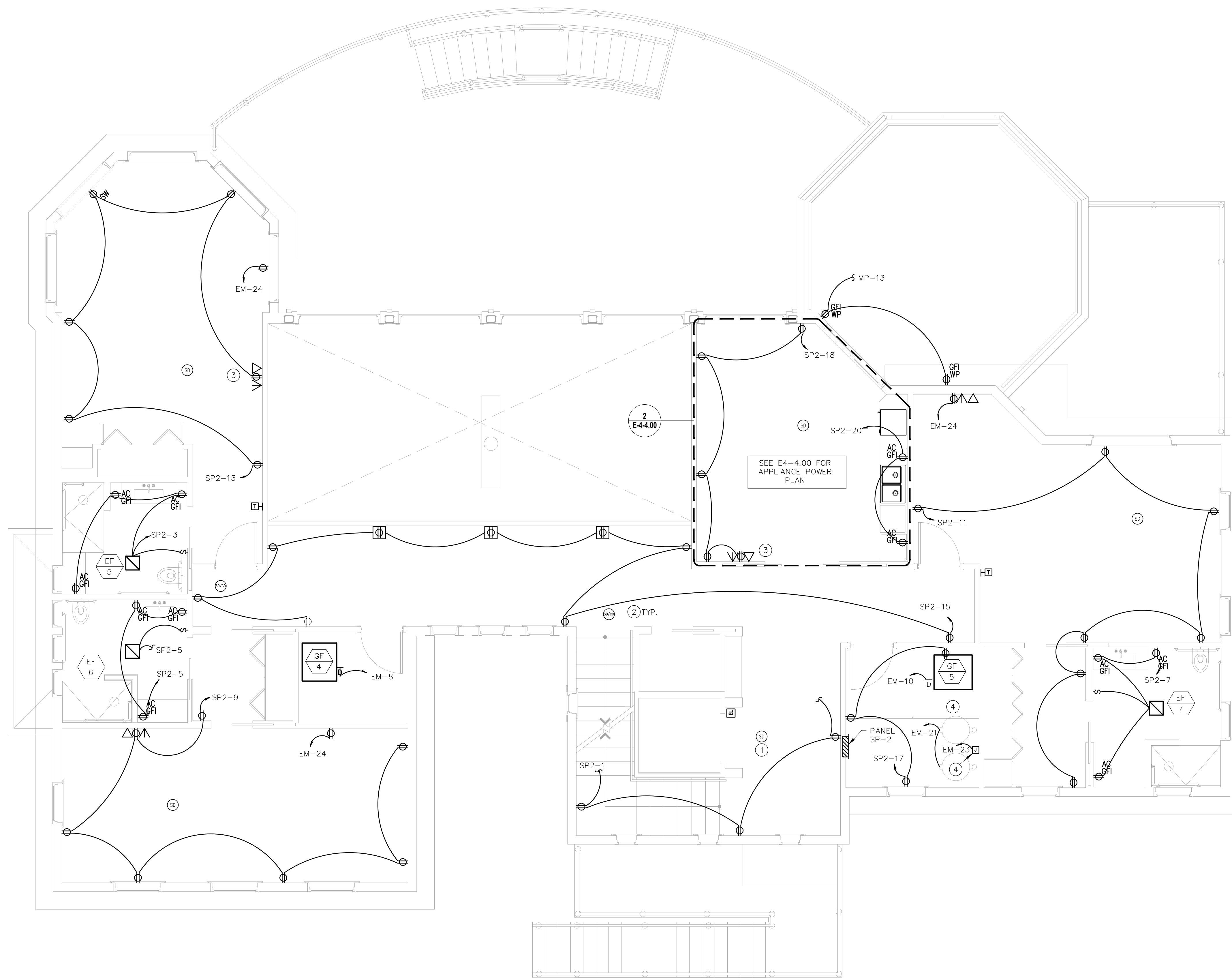
PROJECT NUMBER
 21507-00
 PROJECT NAME
 MEYER RESIDENCE
 1 LORI ROAD
 MONMOUTH BEACH, NJ 07750
 PHASE
 BUILDING PERMIT & CONSTRUCTION

N.J. CERTIFICATE OF AUTHORIZATION: 2462815000
 SEAL
Stephen A. Bray
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DRAWING TITLE
 ELECTRICAL MAIN FLOOR POWER PLAN

DATE
 10/10/2016
 SCALE
 AS NOTED

SHEET NUMBER
 E4-1.00



GENERAL NOTES:

- REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR COLORS AND FINISHES OF EQUIPMENT AND DEVICES.
- REFER TO ARCHITECTURAL DRAWINGS FOR EXACT EQUIPMENT AND DEVICE LOCATIONS AND MOUNTING HEIGHTS.
- ALL WIRE SHALL BE COPPER WITH THHN OR THWN INSULATION RATED AT REQUIRED VOLTS. MINIMUM #14 AWG FOR POWER CIRCUITS AND MINIMUM #14 AWG FOR SIGNAL AND CONTROL CIRCUITS. NEUTRALS SHALL NOT BE SHARED.
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- CONDUIT ROUTING, IF SHOWN, IS SHOWN FOR DIAGRAMMATIC PURPOSES ONLY. CONTRACTOR SHALL DETERMINE MOST ADEQUATE ROUTING PATH OF CONDUIT BASED UPON FIELD CONDITIONS.

KEY NOTES:

- ELEVATOR LANDING SMOKE DETECTOR FOR ELEVATOR RECALL. COORDINATE DEVICE AND RECALL WIRING WITH FIRE ALARM AND ELEVATOR MANUFACTURER/INSTALLER.
- 2ND FLOOR SMOKE/CO ALARMS SHALL BE CIRCUITED TO 'SP2-19'. DEVICES ON ALL FLOORS SHALL BE INTERCONNECTED VIA SEPARATE 2-WIRE COMMUNICATIONS CIRCUIT.
- FINAL DEVICE HEIGHTS FOR TELEVISIONS SHALL BE COORDINATED WITH ARCHITECT, HOMEOWNER OR AV INSTALLER.
- COORDINATE RECIRC PUMP POWER REQUIREMENTS WITH PLUMBING CONTRACTOR.

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REVISIONS:

DATE	NO.	DESCRIPTION
-	-	-

PROJECT NUMBER
 21507-00

PROJECT NAME
 MEYER RESIDENCE

1 LORI ROAD
 MONMOUTH BEACH, NJ 07750

PHASE
 BUILDING PERMIT & CONSTRUCTION

N.J. CERTIFICATE OF AUTHORIZATION: 2462815000
 SEAL

Stephen A. Bray
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 NJ LICENSE: GE44144 101016

DRAWING TITLE
 ELECTRICAL SECOND FLOOR POWER PLAN

DATE
 10/10/2016

SCALE
 AS NOTED

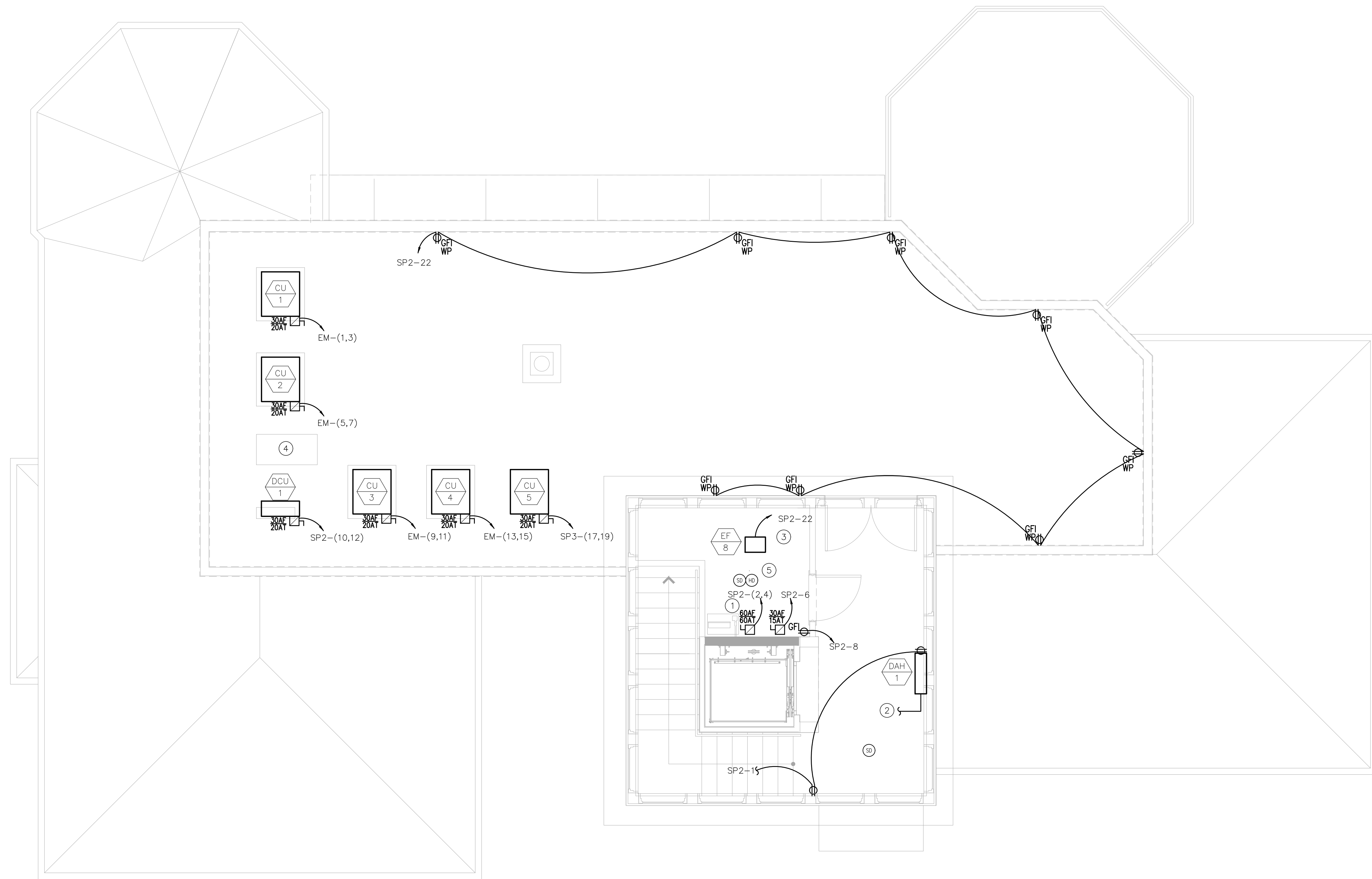
SHEET NUMBER
 E4-2.00

GENERAL NOTES:

- A. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR COLORS AND FINISHES OF EQUIPMENT AND DEVICES.
- B. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT EQUIPMENT AND DEVICE LOCATIONS AND MOUNTING HEIGHTS.
- C. ALL WIRE SHALL BE COPPER WITH THHN OR THWN INSULATION RATED AT REQUIRED VOLTS. MINIMUM #14 AWG FOR POWER CIRCUITS AND MINIMUM #14 AWG FOR SIGNAL AND CONTROL CIRCUITS. NEUTRALS SHALL NOT BE SHARED.
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- G. CONDUIT ROUTING, IF SHOWN, IS SHOWN FOR DIAGRAMMATIC PULLOSES ONLY. CONTRACTOR SHALL DETERMINE MOST ADEQUATE ROUTING PATH OF CONDUIT BASED UPON FIELD CONDITIONS.

KEY NOTES:

- ① ELEVATOR DISCONNECT SHALL BE 60A LOCKABLE, FUSED DISCONNECT WITH N/O AUX CONTACTS. DISCONNECT SHALL BE LOCATED NEXT TO THE ELEVATOR CONTROLLER.
- ② AC INDOOR UNIT 'DAH-1' IS WIRED FROM OUTDOOR UNIT. INTER-UNIT WIRE SHALL BE PROVIDED WITH THE UNIT AND RUN WITH THE REFRIGERANT PIPING AS SHOW IN THE INSTALLATION MANUAL.
- ③ EXHAUST FAN IN ELEVATOR ROOM SHALL BE CONTROLLED VIA THERMOSTAT. SEE HVAC DRAWINGS FOR LOCATION & DETAILS.
- ④ 22KW, GENERAC, AIR-COOLED, NATURAL-GAS, EMERGENCY STANDBY GENERATOR. SEE SLD ON E6.00 FOR LINE AND CONTROL POWER WIRING REQUIREMENTS.
- ⑤ ELEVATOR MACHINE SPACE SMOKE DETECTOR AND HEAT DETECTOR. COORDINATE DEVICE AND RECALL WIRING WITH FIRE ALARM AND ELEVATOR MANUFACTURER/INSTALLER.



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REVISIONS:

DATE:	NO.	DESCRIPTION:
-	-	-

PROJECT NUMBER
 21507-00

PROJECT NAME
 MEYER RESIDENCE
 1 LORI ROAD
 MONMOUTH BEACH, NJ 07750

PHASE
 BUILDING PERMIT &
 CONSTRUCTION

N.J. CERTIFICATE OF AUTHORIZATION: 2462815000
 SEAL

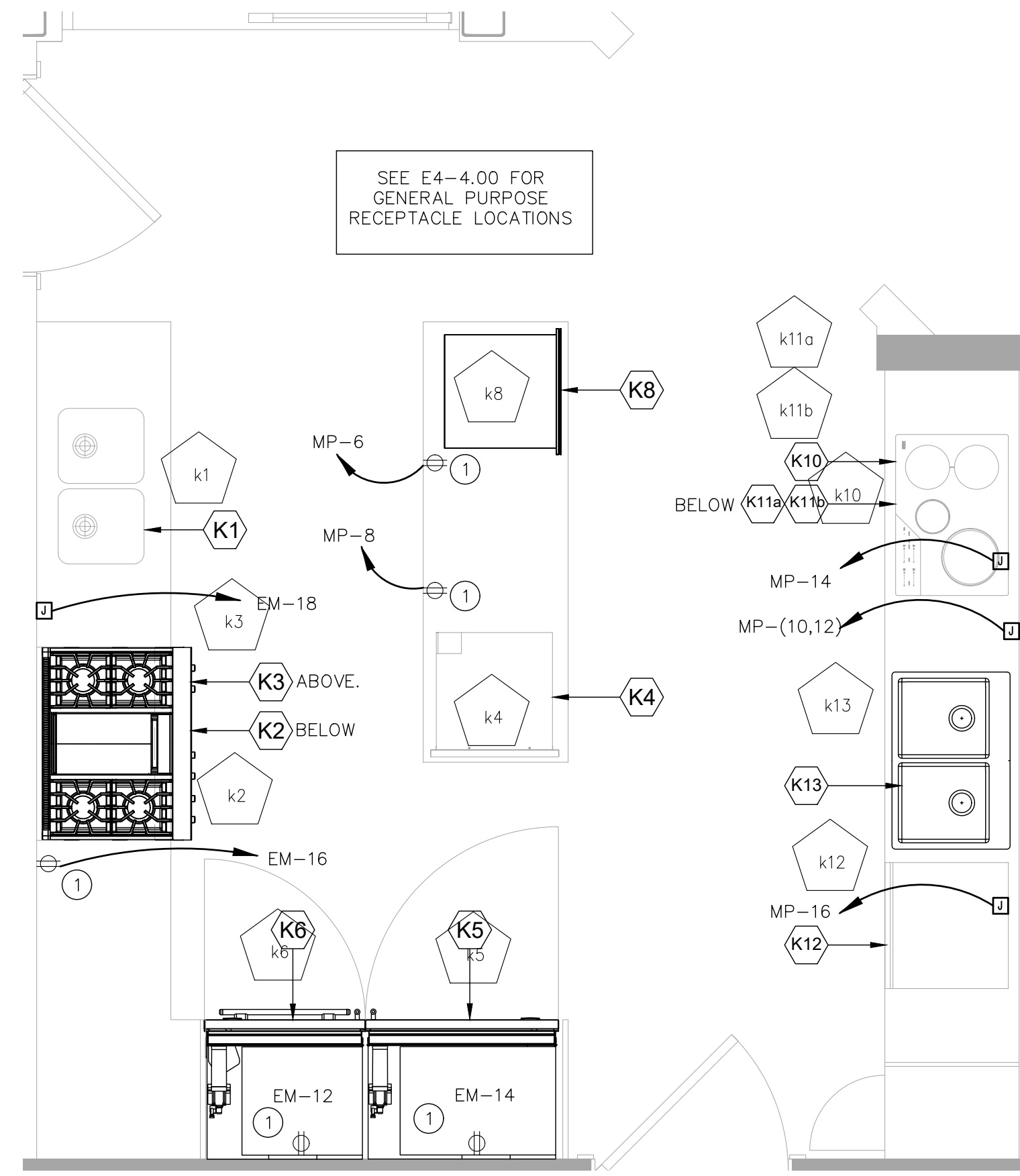
Stephen A. Bray
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 NJ LICENSE: GE44144 101016

DRAWING TITLE
 ELECTRICAL
 ROOF DECK
 POWER PLAN

DATE
 10/10/2016 SCALE
 AS NOTED

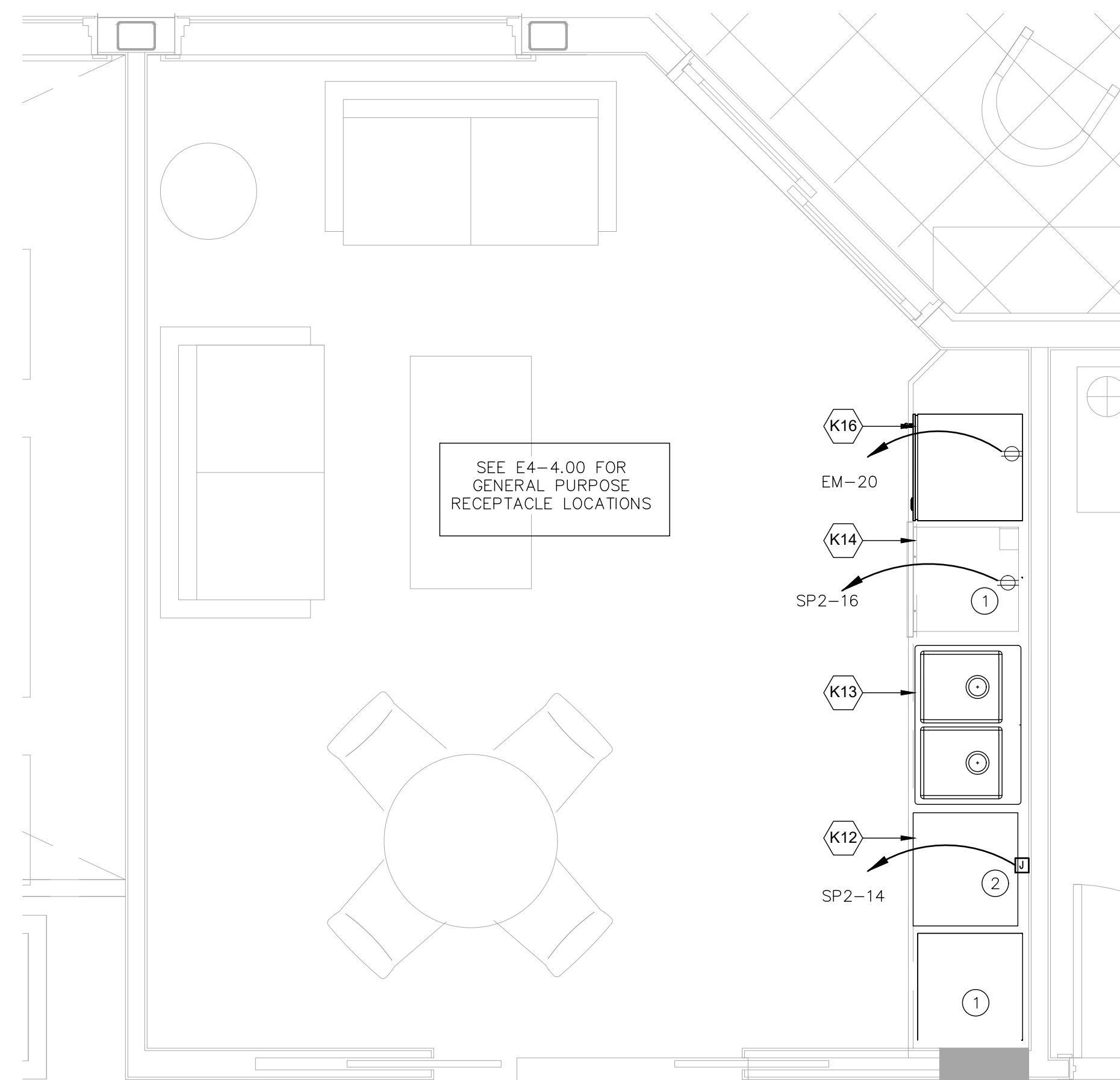
SHEET NUMBER

E4-3.00



1 ELECTRICAL MAIN FLOOR KITCHEN APPLIANCE POWER PLAN

SCALE: 1/2" = 1'-0"



2 ELECTRICAL SECOND FLOOR SITTING ROOM APPLIANCE POWER PLAN

SCALE: 1/2" = 1'-0"

GENERAL NOTES:

- A. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR COLORS AND FINISHES OF EQUIPMENT AND DEVICES.
- B. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT EQUIPMENT AND DEVICE LOCATIONS AND MOUNTING HEIGHTS.
- C. ALL WIRE SHALL BE COPPER WITH THHN OR THWN INSULATION RATED AT REQUIRED VOLTS. MINIMUM #14 AWG FOR POWER CIRCUITS AND MINIMUM #14 AWG FOR SIGNAL AND CONTROL CIRCUITS. NEUTRALS SHALL NOT BE SHARED.
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- G. CONDUIT ROUTING, IF SHOWN, IS SHOWN FOR DIAGRAMMATIC PULLUSES ONLY. CONTRACTOR SHALL DETERMINE MOST ADEQUATE ROUTING PATH OF CONDUIT BASED UPON FIELD CONDITIONS.

APPLIANCE SCHEDULE:

- (K1) SINK A
- (K2) GAS RANGE
- (K3) EXHAUST HOOD
- (K4) DRAWER MICROWAVE
- (K5) REFRIGERATOR
- (K6) FREEZER
- (K8) WARMING DRAWER
- (K10) INDUCTION COOKTOP
- (K11a) DOWNDRAFT RECIRC MODULE
- (K11b) DOWNDRAFT VENTILATION FAN
- (K12) DISHWASHER
- (K13) SINK B
- (K14) MICROWAVE
- (K16) BAR REFRIGERATOR
- (K17) FAUCET

KEY NOTES:

- 1 COORDINATE UNDERCOUNTER APPLIANCE RECEPTACLE LOCATION WITH EQUIPMENT MANUAL AND MILLWORK CONTRACTOR.
- 2 HARD-WIRED DISHWASHER CONNECTIONS SHALL BE LONG ENOUGH TO ALLOW FOR REMOVAL OF UNIT FOR SERVICING.

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REVISIONS:

DATE	NO.	DESCRIPTION
-	-	-

PROJECT NUMBER
21507-00

PROJECT NAME
MEYER RESIDENCE
1 LORI ROAD
MONMOUTH BEACH, NJ 07750

PHASE
BUILDING PERMIT & CONSTRUCTION

N.J. CERTIFICATE OF AUTHORIZATION: 2462815000
SEAL

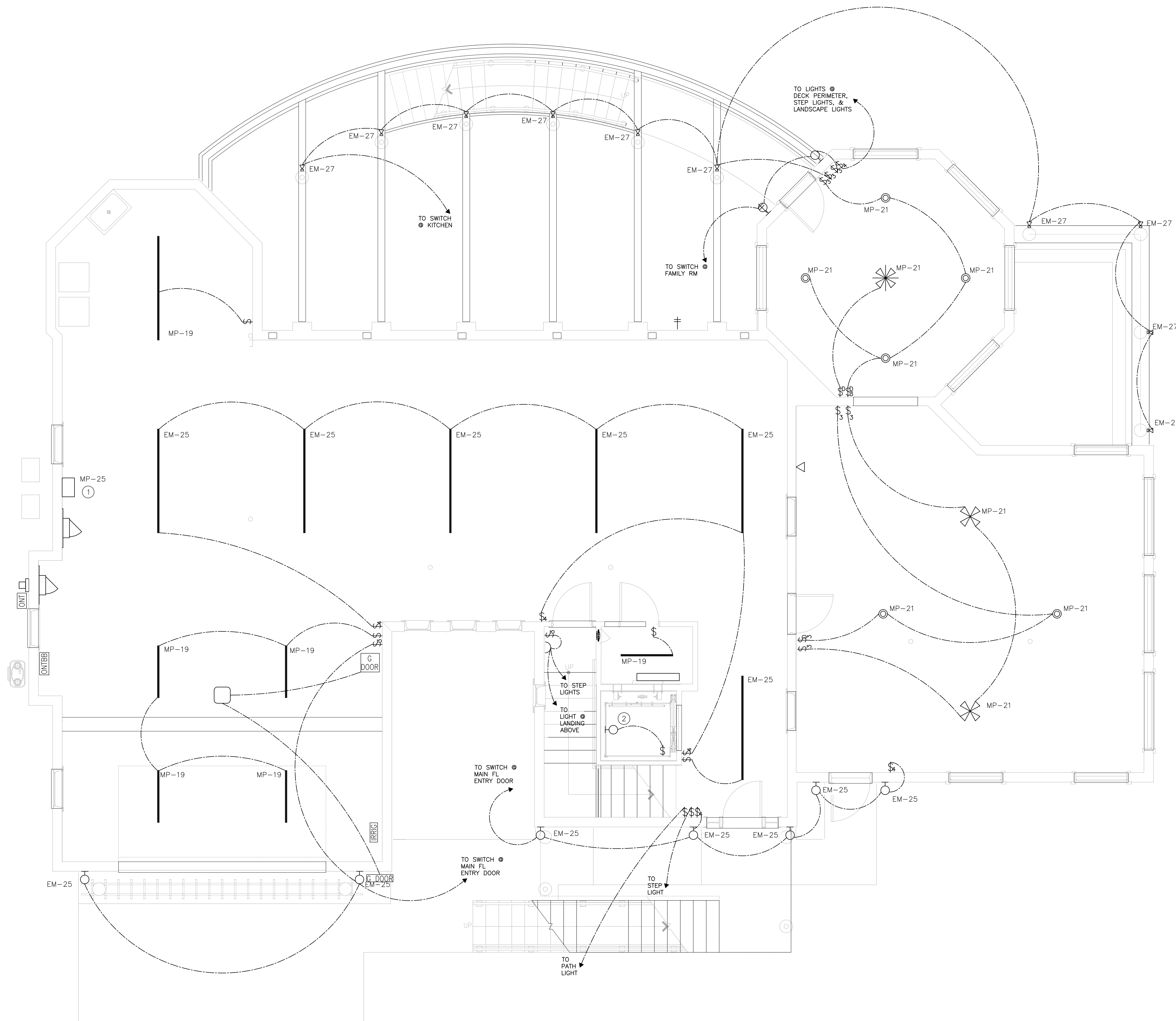
Stephen A. Bray
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DRAWING TITLE
ELECTRICAL
KITCHEN & SITTING AREA
APPLIANCE POWER PLAN

DATE 10/10/2016 SCALE AS NOTED

SHEET NUMBER

E4-4.00



GENERAL NOTES:

- REFER TO DRAWING E001 FOR GENERAL ELECTRICAL NOTES.
- CONTRACTOR SHALL PROVIDE TYPED PANEL DIRECTORIES FOR ALL REVISED ELECTRICAL PANELS.
- FOR ALL BRANCH CIRCUITING, CONTRACTOR SHALL USE ELECTRONIC LABEL MAKER AND LABEL EACH JUNCTION BOX AND RECEPTACLE COVER PLATE WITH THE PANEL NAME AND CIRCUIT NUMBER (EXAMPLE: LPD-2).
- COORDINATE EXACT LOCATION FOR FIXTURES AND DEVICES WITH ARCHITECTURAL PLANS AND ELEVATIONS.
- CIRCUIT WATTAGE NOT TO EXCEED 1800W FOR A 20A CIRCUIT AND 1400W FOR A 15A CIRCUIT.
- CONTRACTOR SHALL PROVIDE #10 WIRE FOR 120 VOLT CIRCUITS THAT EXCEED APPROXIMATELY 100 FEET TO THE FARTHEST ELECTRICAL CONNECTION (SUCH AS AN OUTLET). CONTRACTOR SHALL PROVIDE #8 WIRE FOR 120 VOLT CIRCUITS THAT EXCEED APPROXIMATELY 200 FEET TO THE FARTHEST ELECTRICAL CONNECTION.

LIGHTING SYMBOLS:

- 120V INTERIOR WALL SCONCE (60W MAX)
- 120V EXTERIOR WALL SCONCE (60W MAX)
- 120V CEILING FAN (150W MAX)
- 120V PENDANT FIXTURE (100W MAX)
- 120V RECESSED LED DOWNLIGHT (25W MAX)
- 120V RECESSED LED WALL WASH (25W MAX)
- 120V LED EXTERIOR SPOT LIGHT (15W MAX)
- LED RECESSED CHANNEL (3W PER FT)
- LED TAPE LIGHT (3W PER FT)
- STEP LIGHT

KEY NOTES:

- TRANSFORMER FOR LOW VOLTAGE EXTERIOR LIGHTS. COORDINATE FINAL LOCATION WITH INSTALLER BASED ON LANDSCAPE LIGHT LOCATIONS AND VOLTAGE DROP REQUIREMENTS OF SYSTEM.
- PROVIDE 100W LAMPHOLDER WITH GUARD AND SWITCH IN ELEVATOR PIT. COORDINATE EXACT LOCATION REQUIREMENTS WITH ELEVATOR INSTALLER PRIOR TO ROUGH-IN.

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REVISIONS:

DATE:	NO.	DESCRIPTION:
-	-	-

PROJECT NUMBER
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PROJECT NAME
 MEYER RESIDENCE

1 LORI ROAD
 MONMOUTH BEACH, NJ 07750

PHASE
 BUILDING PERMIT & CONSTRUCTION

N.J. CERTIFICATE OF AUTHORIZATION: 2462815000
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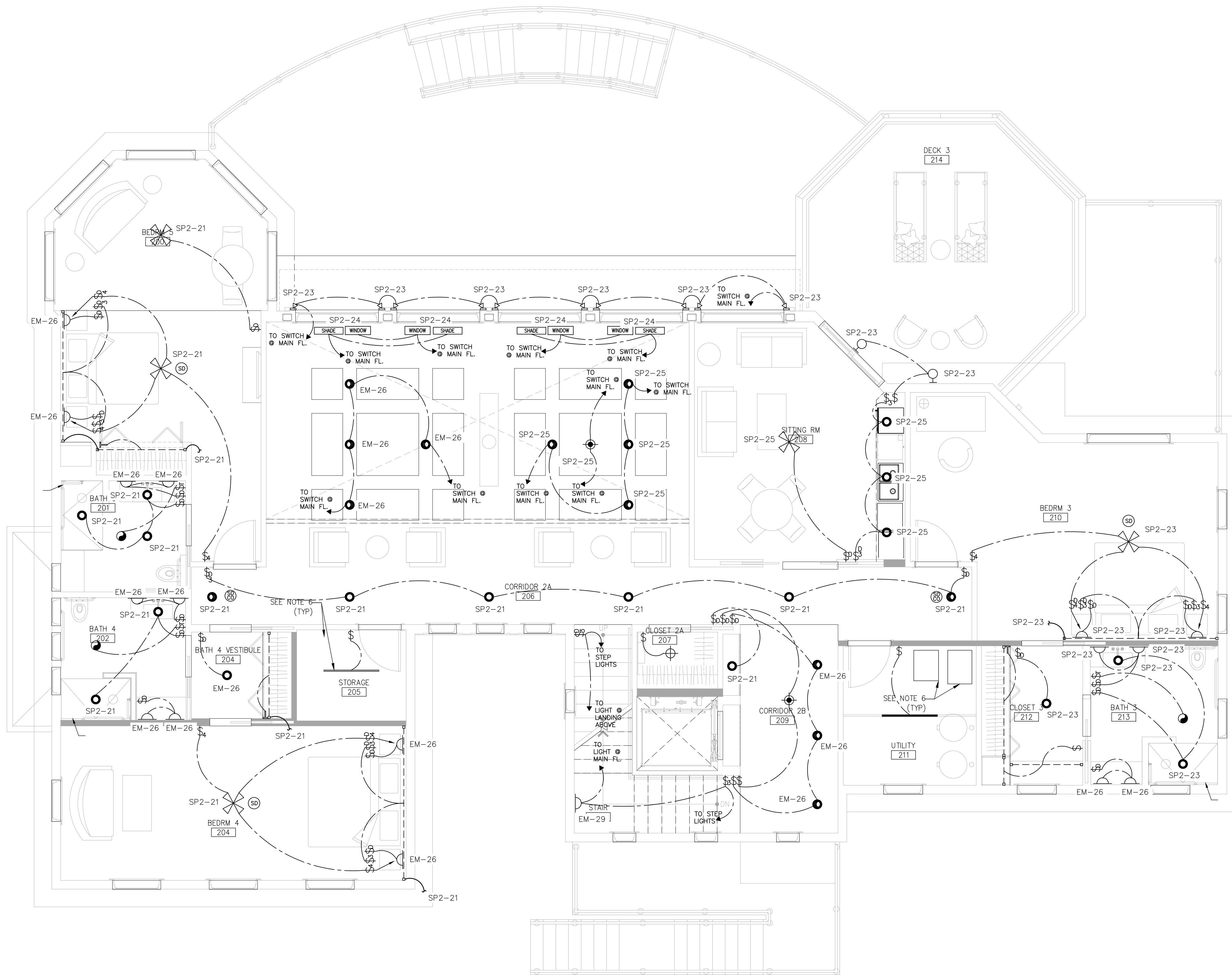
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DRAWING TITLE
 ELECTRICAL
 GROUND FLOOR
 LIGHTING PLAN

DATE
 10/10/2016

SCALE
 AS NOTED

SHEET NUMBER
E5-0.00



GENERAL NOTES:

- A. REFER TO DRAWING E001 FOR GENERAL ELECTRICAL NOTES.
- B. CONTRACTOR SHALL PROVIDE TYPED PANEL DIRECTORIES FOR ALL REVISED ELECTRICAL PANELS.
- C. FOR ALL BRANCH CIRCUITING, CONTRACTOR SHALL USE ELECTRONIC LABEL MAKER AND LABEL EACH JUNCTION BOX AND RECEPTACLE COVER PLATE WITH THE PANEL NAME AND CIRCUIT NUMBER (EXAMPLE: LPD-2).
- D. COORDINATE EXACT LOCATION FOR FIXTURES AND DEVICES WITH ARCHITECTURAL PLANS AND ELEVATIONS.
- E. CIRCUIT WATTAGE NOT TO EXCEED 1800W FOR A 20A CIRCUIT AND 1400W FOR A 15A CIRCUIT.
- F. CONTRACTOR SHALL PROVIDE #10 WIRE FOR 120 VOLT CIRCUITS THAT EXCEED APPROXIMATELY 100 FEET TO THE FARTHEST ELECTRICAL CONNECTION (SUCH AS AN OUTLET). CONTRACTOR SHALL PROVIDE #8 WIRE FOR 120 VOLT CIRCUITS THAT EXCEED APPROXIMATELY 200 FEET TO THE FARTHEST ELECTRICAL CONNECTION.

LIGHTING SYMBOLS:

- 120V INTERIOR WALL SCONCE
- 120V EXTERIOR WALL SCONCE (60W MAX)
- 120V CEILING FAN
- 120V PENDANT FIXTURE (100W MAX)
- 120V RECESSED LED DOWNLIGHT (25W MAX)
- 120V RECESSED LED WALL WASH (25W MAX)
- 120V LED EXTERIOR SPOT LIGHT (15W MAX)
- LED RECESSED CHANNEL (3W PER FT)
- LED TAPE LIGHT (3W PER FT)
- STEP LIGHT

KEY NOTES:

DESIGN ARCHITECT
MICHAEL GRAVES ARCHITECTURE & DESIGN
 341 NASSAU STREET
 PRINCETON, NJ 08540
 T: 609.924.6409 F: 609.924.1795

STRUCTURAL ENGINEER
KSI PROFESSIONAL ENGINEERS, LLC
 149 YELLOWBROOK ROAD
 FARMINGDALE, NJ 07727
 T: 732.938.2661 F: 732.938.2661

MECHANICAL/ELECTRICAL/PLUMBING ENGINEER

 1800 ROUTE 34, SUITE 209
 WALL, NJ 07719
 FOR ALL QUESTIONS, PLEASE CONTACT
 STEVE FOX - PROJECT MANAGER
 T: 732.280.5623 F: 732.280.3980

CIVIL ENGINEER

INSITE ENGINEERING, LLC
 1913 ATLANTIC AVE.
 SUITE F4
 WALL, NJ 08736
 T: 732.531.7100 F: 732.531.7344

REVISIONS:	NO.	DESCRIPTION:

PROJECT NUMBER
21507-00

PROJECT NAME
MEYER RESIDENCE

1 LORI ROAD
MONMOUTH BEACH, NJ 07750

PHASE
BUILDING PERMIT & CONSTRUCTION

N.J. CERTIFICATE OF AUTHORIZATION: 2462815000
SEAL

Stephen A. Bray
PROFESSIONAL ENGINEER
NJ LICENSE: GE44144 101016

DRAWING TITLE
ELECTRICAL SECOND FLOOR LIGHTING PLAN

DATE 10/10/2016 SCALE AS NOTED

SHEET NUMBER

E5-2.00

GENERAL NOTES:

- REFER TO DRAWING E001 FOR GENERAL ELECTRICAL NOTES.
- CONTRACTOR SHALL PROVIDE TYPED PANEL DIRECTORIES FOR ALL REVISED ELECTRICAL PANELS.
- FOR ALL BRANCH CIRCUITING, CONTRACTOR SHALL USE ELECTRONIC LABEL MAKER AND LABEL EACH JUNCTION BOX AND RECEPTACLE COVER PLATE WITH THE PANEL NAME AND CIRCUIT NUMBER (EXAMPLE: LPD-2).
- COORDINATE EXACT LOCATION FOR FIXTURES AND DEVICES WITH ARCHITECTURAL PLANS AND ELEVATIONS.
- CIRCUIT WATTAGE NOT TO EXCEED 1800W FOR A 20A CIRCUIT AND 1400W FOR A 15A CIRCUIT.
- CONTRACTOR SHALL PROVIDE #10 WIRE FOR 120 VOLT CIRCUITS THAT EXCEED APPROXIMATELY 100 FEET TO THE FARTHEST ELECTRICAL CONNECTION (SUCH AS AN OUTLET); CONTRACTOR SHALL PROVIDE #8 WIRE FOR 120 VOLT CIRCUITS THAT EXCEED APPROXIMATELY 200 FEET TO THE FARTHEST ELECTRICAL CONNECTION.

DESIGN ARCHITECT
MICHAEL GRAVES ARCHITECTURE & DESIGN
 341 NASSAU STREET
 PRINCETON, NJ 08540
 T: 609.924.6409 F: 609.924.1795


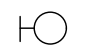







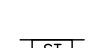
STRUCTURAL ENGINEER
KSI PROFESSIONAL ENGINEERS, LLC
 149 YELLOWBROOK ROAD
 FARMINGDALE, NJ 07727
 T: 732.938.2661 F: 732.938.2661

MECHANICAL/ELECTRICAL/PLUMBING ENGINEER

 1800 ROUTE 34, SUITE 209
 WALL, NJ 07719
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 STEVE FOX - PROJECT MANAGER
 T: 732.280.5623 F: 732.280.3980

CIVIL ENGINEER
INSITE ENGINEERING, LLC
 1913 ATLANTIC AVE.
 SUITE F4
 WALL, NJ 08736
 T: 732.531.7100 F: 732.531.7344

LIGHTING SYMBOLS:

-  120V INTERIOR WALL SCONCE
-  120V EXTERIOR WALL SCONCE (60W MAX)
-  120V CEILING FAN
-  120V PENDANT FIXTURE (100W MAX)
-  120V RECESSED LED DOWNLIGHT (25W MAX)
-  120V RECESSED LED WALL WASH (25W MAX)
-  120V LED EXTERIOR SPOT LIGHT (15W MAX)
-  LED RECESSED CHANNEL (3W PER FT)
-  LED TAPE LIGHT (3W PER FT)
-  STEP LIGHT

KEY NOTES:

REVISIONS:

DATE:	NO.	DESCRIPTION:
-	-	-

PROJECT NUMBER
21507-00

PROJECT NAME
MEYER RESIDENCE

1 LORI ROAD
MONMOUTH BEACH, NJ 07750

PHASE
BUILDING PERMIT & CONSTRUCTION

N.J. CERTIFICATE OF AUTHORIZATION: 2462815000
SEAL

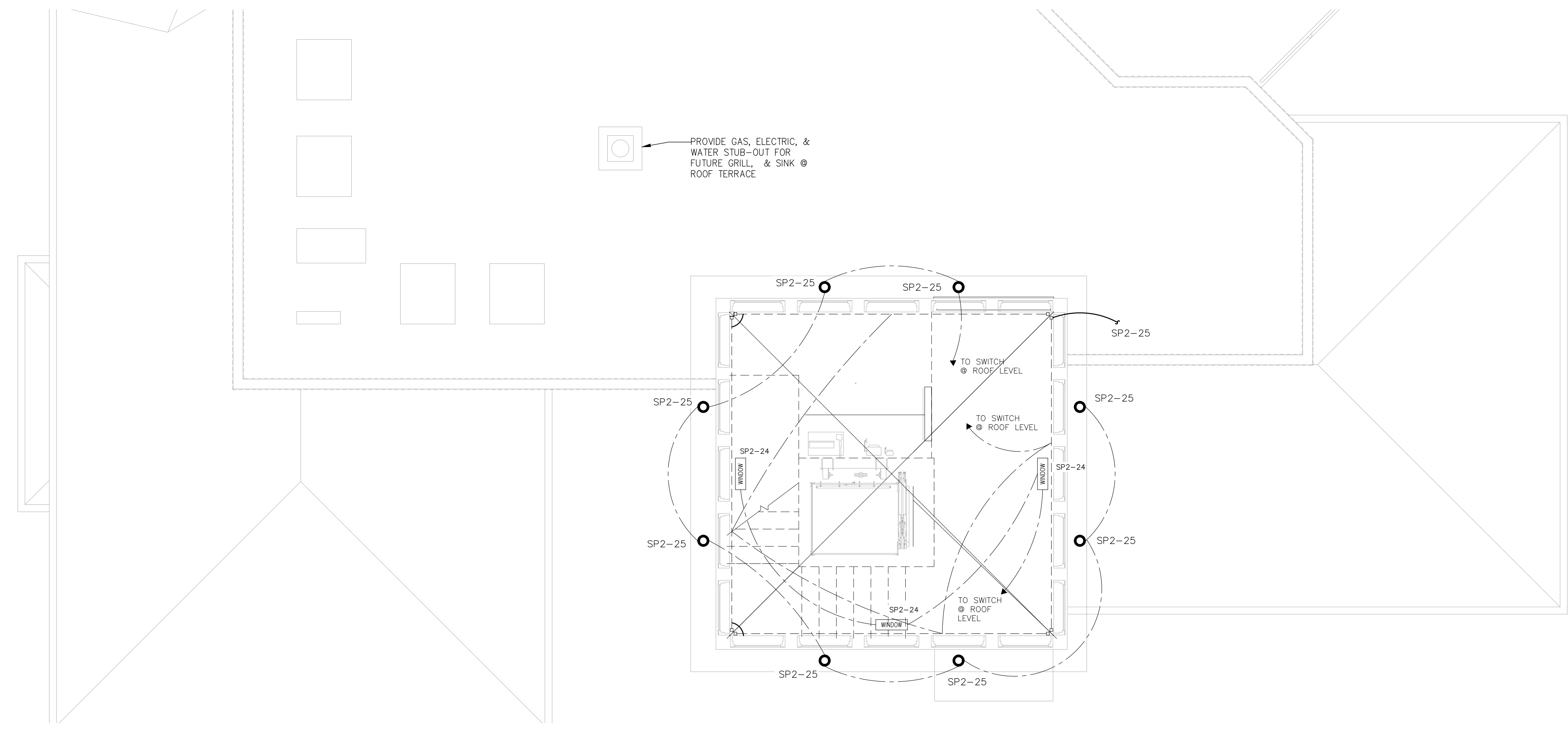
Stephen A. Bray
PROFESSIONAL ENGINEER
NJ LICENSE: GE44144 101016

DRAWING TITLE
ELECTRICAL ROOF DECK LIGHTING PLAN

DATE
10/10/2016

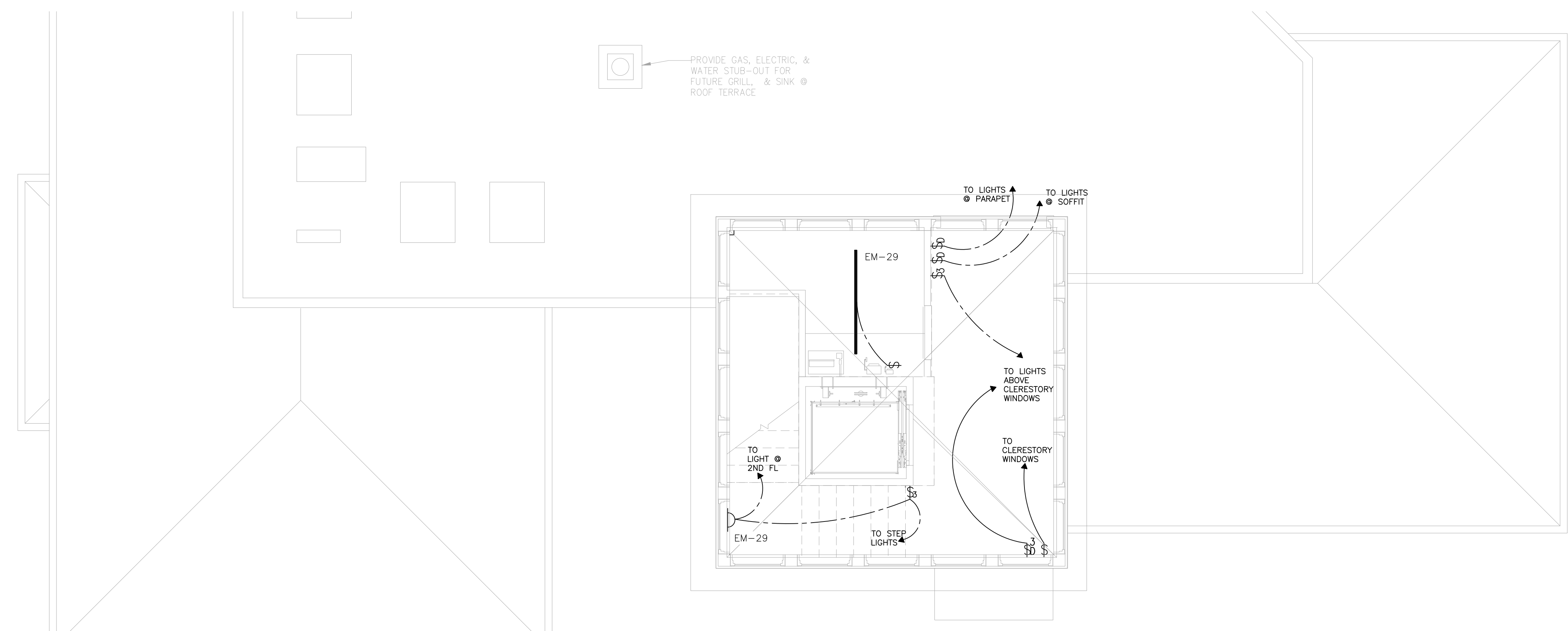
SCALE
AS NOTED

SHEET NUMBER
E5-3.00



1 ELECTRICAL ROOF DECK LIGHTING PLAN-UPPER

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



1 ELECTRICAL ROOF DECK LIGHTING PLAN-LOWER

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

PANEL: MP LOCATION: GARAGE FED FROM: UTILITY SERVICE		Voltage: 120/240V, 1 PHASE 3W MOUNTING: SURFACE □ FLUSH ■ ▲ DENOTES ARC FAULT INTERRUPTER C.B. S DENOTES SHUNT TRIP BREAKER G DENOTES GFI C.B. REQ'D										BUS: 400A AMPS LUGS ONLY MCB 300 AMPS COPPER BUS ONLY		MAINS AIC				
CIR #	EQUIPMENT SERVED	FEEDER SIZE		Breaker		Load		Breaker		FEEDER SIZE		EQUIPMENT SERVED		CIR #				
		Wire	GND	I.G.	Amps	Poles	VA	B	A	VA	Amps	Poles	Wire		GND	I.G.		
1	GROUND FLR RECEPTS	12	12	-	20	1	1620			500	20	1	12	12	-	GROUND FLOOR WASHER	2	
3	GARAGE DOOR	14	14	-	15	1	300		800	500	20	1	12	12	-	GROUND FLOOR DRYER	4	
5	IRRIGATION CONTROL	14	14	-	15	1	25		475	450	15	1	14	14	-	WARNING DRAWER	6	
7	SCREENED PORCH RECEPT	12	12	-	20	1	1440		2500	1460	20	1	12	12	-	ISLAND MICROWAVE	8	
9	OUTDOOR RECEPTS	12	12	-	20	1	1260			4860	3600	40	2	8	8	-	INDUCTION COOKTOP	10
11	CONT BACKBOARD	14	14	-	15	1	180		3780	3600	40	2	8	8	-		12	
13	1ST FLOOR DECK RECEPTS	12	12	-	15	1	1080		2160	1080	15	1	14	14	-	DOWNDRAFT VENTILATOR	14	
15	MAIN FLOOR KITCHEN RECEPT	12	12	-	20	1	1080		2580	1500	15	1	14	14	-	DISHWASHER	16	
17	MAIN FLOOR KITCHEN RECEPT	12	12	-	20	1	720		1470	750	20	2	12	12	-	EMH-1	18	
19	GARAGE LIGHTS	12	12	-	20	1	150		900	750	20	1	12	12	-		20	
21	GROUND FLOOR PORCH LIGHTS	12	12	-	20	1	600			700	200	15	1	14	14	-	GROUND & 1ST FV SD	22
23	1ST FLOOR PORCH LIGHTS	12	12	-	20	1	750		750						-	SPACE	24	
25	LV. EXT. TRANSFORMER	12	12	-	20	1	300		300						-	SPACE	26	
27	SPACE	-	-	-	-	-	-		0					-	SPACE	28		
29	SPACE	-	-	-	-	-	-		0					-	SPACE	30		
31	SPACE	-	-	-	-	-	-		0					-	SPACE	32		
33	SPACE	-	-	-	-	-	-		0					-	SPACE	34		
35	SPACE	-	-	-	-	-	-	8055	8055	60	2	SLD	-	-	SPACE	36		
37	SPACE	-	-	-	-	-	-	7420	7420					-	SPACE	38		
39	PANEL 'EM'	SLD	-	-	-	-	15446	27493	12047	100	2	SLD	-	-	SUBPANEL 'SP1'	40		
41	PANEL 'EM'	SLD	-	-	-	-	12094	26286	14172					-	SUBPANEL 'SP2'	42		
Remarks:		LINE TOTAL				47258		45771		PANEL SHALL BE EQUIPPED WITH BUSES FOR ALL CB'S AND SPACES SHOWN								
		TOTAL CONN. KVA				93				□ 200% NEUTRAL BUS		□ FEED THRU LUGS						
		TOTAL CONN. AMPS				388				□ ISOLATED GROUND BUS		SLD = Refer to Single Line for wire size						
										■ GROUND BUS								

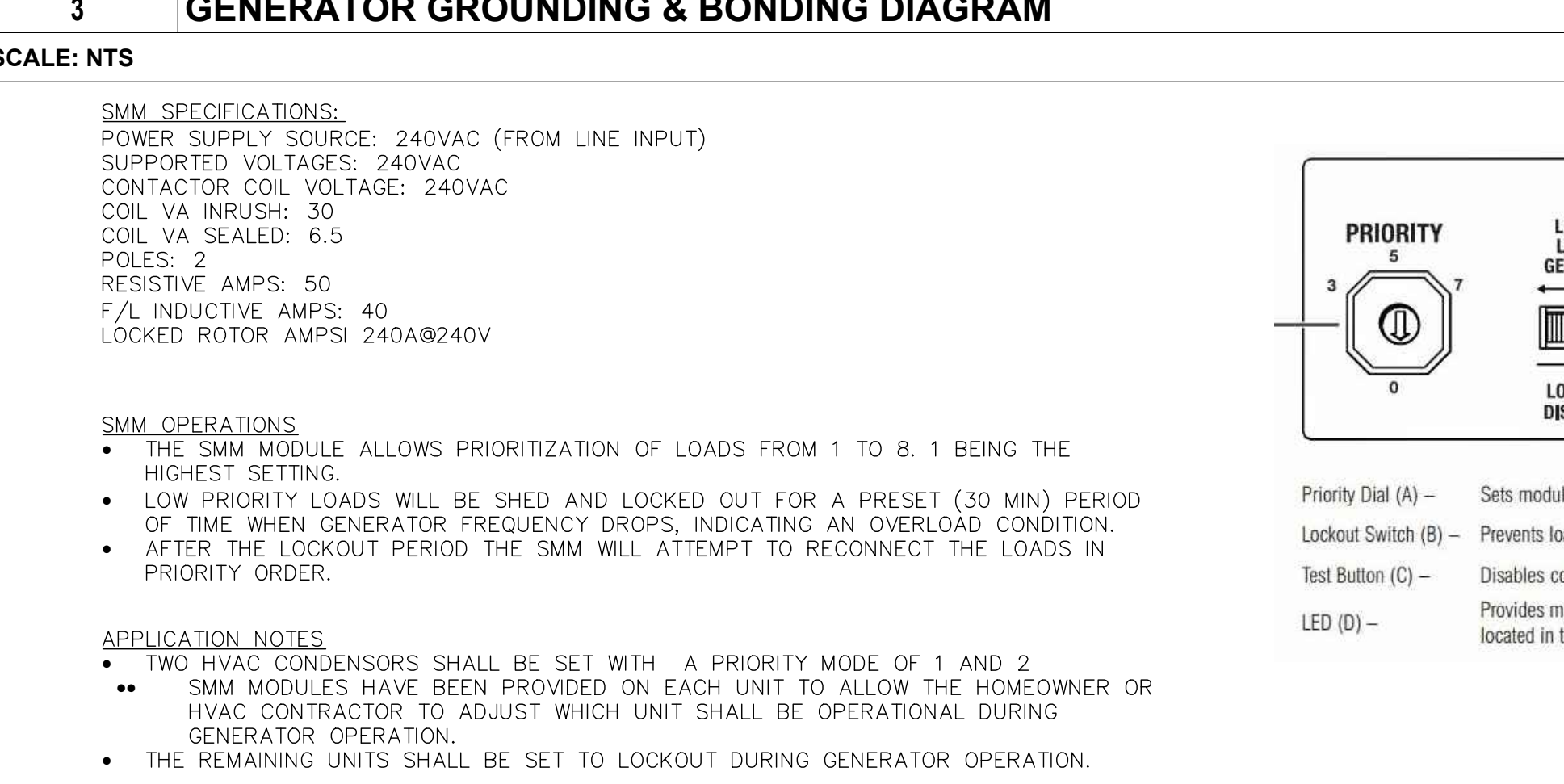
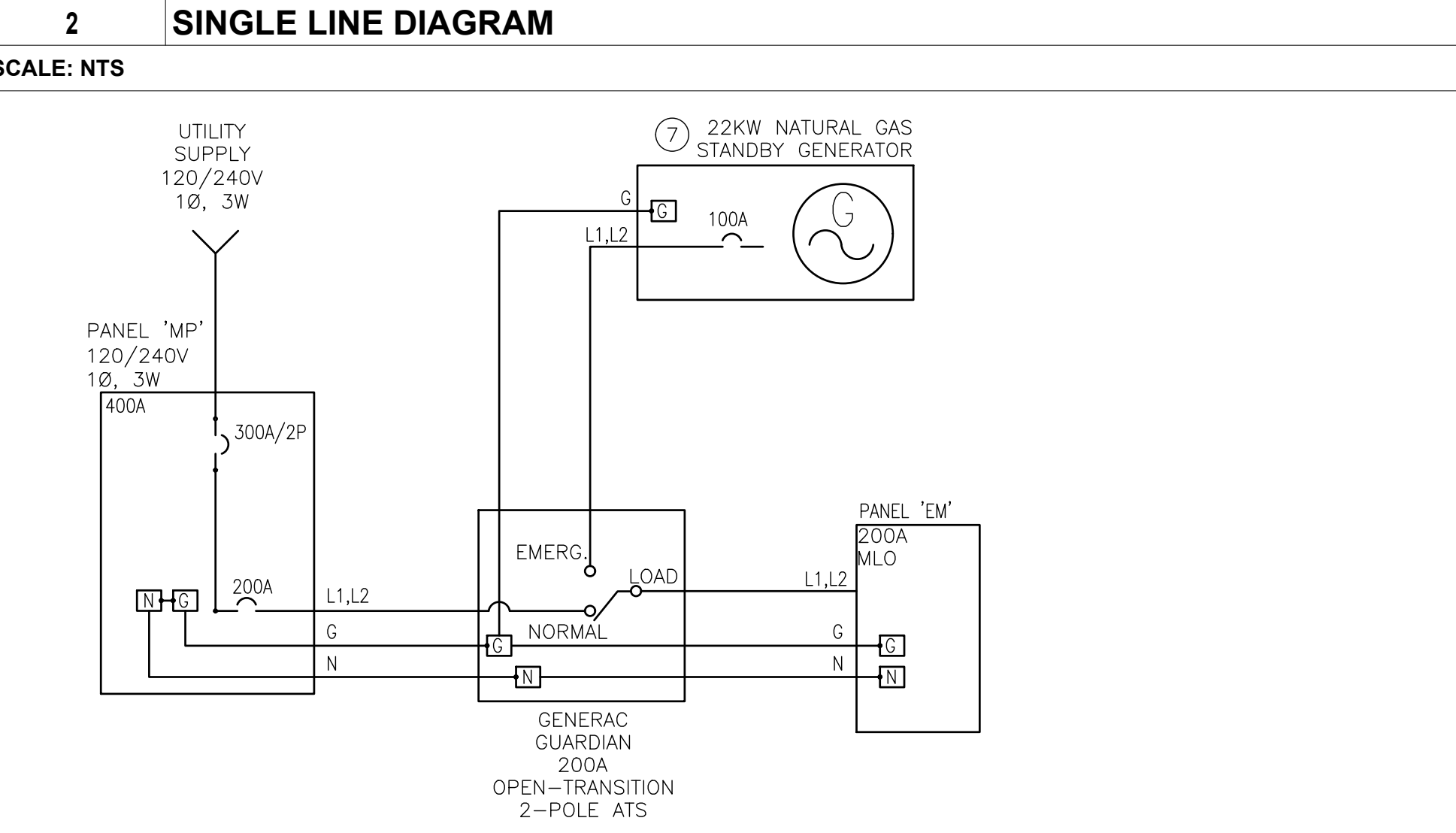
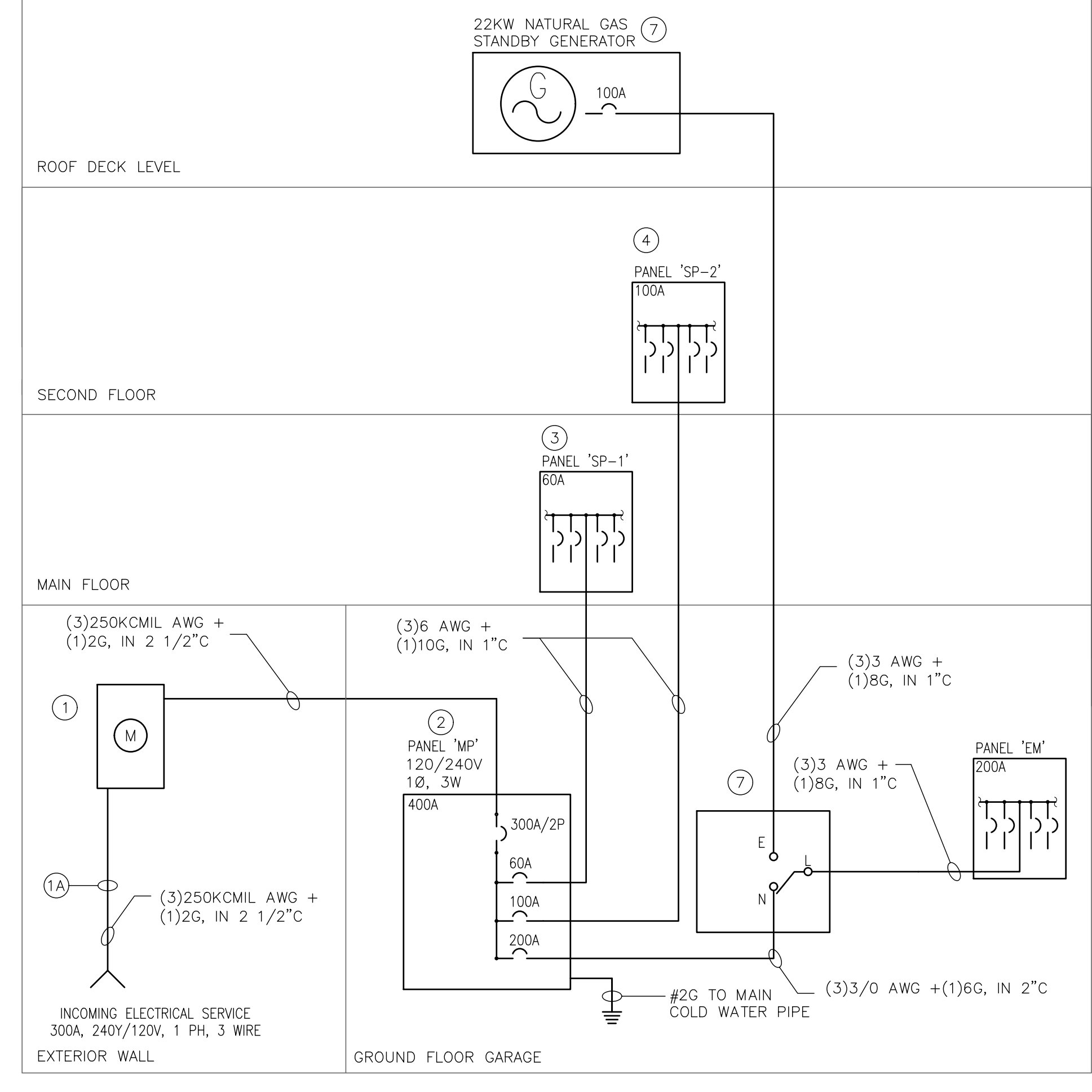
PANEL: SP1 LOCATION: LAUNDRY ROOM FED FROM: PANEL MP		Voltage: 120/240V, 1 PHASE 3W MOUNTING: SURFACE □ FLUSH ■ ▲ DENOTES ARC FAULT INTERRUPTER C.B. S DENOTES SHUNT TRIP BREAKER G DENOTES GFI C.B. REQ'D										BUS: 125A AMPS LUGS ONLY MCB AMPS COPPER BUS ONLY		MAINS AIC			
CIR #	EQUIPMENT SERVED	FEEDER SIZE		Breaker		Load		Breaker		FEEDER SIZE		EQUIPMENT SERVED		CIR #			
		Wire	GND	I.G.	Amps	Poles	VA	B	A	VA	Amps	Poles	Wire		GND	I.G.	
1	WHIRLPOOL - MASTER	12	12	-	20	2	600		600	1200	20	2	12	12	-	WHIRLPOOL	2
3	MASTER BATH	12	12	-	20	1	720		1200	540	20	1	12	12	-	BATHROOM	4
5	BATHROOM	12	12	-	20	1	540		1620	1080	20	1	12	12	-	DINING ROOM RECEPTS	6
7	BATHROOM	12	12	-	20	1	540		1260	720	20	1	12	12	-	LIVING ROOM RECEPTS	8
9	POWDER ROOM	12	12	-	20	1	540		1620	900	20	1	12	12	-	FAMILY ROOM RECEPTS	10
11	BEDROOM RECEPTS	12	12	-	20	1	720		1620	900	20	1	12	12	-	MAIN FLOOR WASHER	12
13	MASTER BEDROOM RECEPTS	12	12	-	20	1	1080		1580	500	20	1	12	12	-	MAIN FLOOR DRYER	14
15	BEDROOM RECEPTS	12	12	-	20	1	1440		1940	500	20	1	12	12	-	LAUNDRY RECEPTS	16
17	HALLWAY RECEPTS	12	12	-	20	1	900		1400	500	20	1	12	12	-	1ST FLOOR LIGHTS	18
19	1ST FLOOR LIGHTS	12	12	-	20	1	500		1675	1175	20	1	12	12	-	1ST FLOOR LIGHTS	20
21	1ST FLOOR LIGHTS	12	12	-	20	1	720		720						-	SPACE	22
23	SPACE	-	-	-	-	-	-		0					-	SPACE	24	
25	SPACE	-	-	-	-	-	-		0					-	SPACE	26	
27	SPACE	-	-	-	-	-	-		0					-	SPACE	28	
29	SPACE	-	-	-	-	-	-		0					-	SPACE	30	
Remarks:		LINE TOTAL				8055		7420		PANEL SHALL BE EQUIPPED WITH BUSES FOR ALL CB'S AND SPACES SHOWN							
		TOTAL CONN. KVA				15				□ 200% NEUTRAL BUS		□ FEED THRU LUGS					
		TOTAL CONN. AMPS				64				□ ISOLATED GROUND BUS							
										■ GROUND BUS							

PANEL: SP2 LOCATION: STORAGE ROOM FED FROM: PANEL MP		Voltage: 120/240V, 1 PHASE 3W MOUNTING: SURFACE □ FLUSH ■ ▲ DENOTES ARC FAULT INTERRUPTER C.B. S DENOTES SHUNT TRIP BREAKER G DENOTES GFI C.B. REQ'D										BUS: 100A AMPS LUGS ONLY MCB AMPS COPPER BUS ONLY		MAINS AIC			
CIR #	EQUIPMENT SERVED	FEEDER SIZE		Breaker		Load		Breaker		FEEDER SIZE		EQUIPMENT SERVED		CIR #			
		Wire	GND	I.G.	Amps	Poles	VA	B	A	VA	Amps	Poles	Wire		GND	I.G.	
1	RECEPTACLES	12	12	-	20	1	1620		3485	1865	60	2	-	-	-	ELEVATOR	2
3	BATHROOM	12	12	-	20	1	720		2585	820	15	1	12	12	-	ELEVATOR LIGHTING	4
5	BATHROOM	12	12	-	20	1	720		900	180	15	1	12	12	-	ELEVATOR GFI	6
7	BATHROOM	12	12	-	20	1	720		2862	1782	20	2	12	12	-	DCU-1	8
9	BEDROOM RECEPTS	12	12	-	20	1	1080		2862	1782	20	2	12	12	-	BAR DISHWASHER	10
11	BEDROOM RECEPTS	12	12	-	20	1	1080		2930	1670	20	1	12	12	-	BAR MICROWAVE	12
13	BEDROOM RECEPTS	12	12	-	20	1	1260		3110	1670	20	1	12	12	-	BAR MICROWAVE	14
15	GENERAL RECEPTS	12	12	-	20	1	1440		1260	720	20	1	12	12	-	SITTING ROOM RECEPTS	16
17	UTILITY ROOM RECEPTS	12	12	-	20	1	540		840	540	20	1	12	12	-	SITTING ROOM RECEPTS	18
19	2ND FLOOR SMOKE DET.	12	12	-	20	1	300		2315	1440	20	1	12	12	-	ROOF DECK RECEPTS	20
21	2ND FLOOR LITES	12	12	-	20	1	875		1000	20	1	12	12	-	ROOF DECK RECEPTS	22	
23	2ND FLOOR LITES	12	12	-	20	1	750		500						-	MOTORIZED SHADES	24
25	2ND FLOOR LITES	12	12	-	20	1	500		0						-	SPACE	26
27	SPACE	-	-	-	-	-	-		0					-	SPACE	28	
29	SPACE	-	-	-	-	-	-		0					-	SPACE	30	
Remarks:		LINE TOTAL				12047		14172		PANEL SHALL BE EQUIPPED WITH BUSES FOR ALL CB'S AND SPACES SHOWN							
		TOTAL CONN. KVA				28				□ 200% NEUTRAL BUS		□ FEED THRU LUGS					
		TOTAL CONN. AMPS				109				□ ISOLATED GROUND BUS							
										■ GROUND BUS							

PANEL: EM LOCATION: GROUND FLOOR GARAGE AREA FED FROM: PANEL MP		Voltage: 120/240V, 1 PHASE 3W MOUNTING: SURFACE □ FLUSH ■ ▲ DENOTES ARC FAULT INTERRUPTER C.B. S DENOTES SHUNT TRIP BREAKER G DENOTES GFI C.B. REQ'D										BUS: 200A AMPS LUGS ONLY MCB AMPS COPPER BUS ONLY		MAINS AIC			
CIR #	EQUIPMENT SERVED	FEEDER SIZE		Breaker		Load		Breaker		FEEDER SIZE		EQUIPMENT SERVED		CIR #			
		Wire	GND	I.G.	Amps	Poles	VA	B	A	VA	Amps	Poles	Wire		GND	I.G.	
1	CU-1	10	10	-	25	2	1560		2376	816	20	1	12	12	-	GF-1	2
3	CU-2	10	10	-	25	2	1846		2662	816	20	1	12	12	-	GF-2	4
5	CU-3	10	10	-	25	2	1846		2662	816	20	1	12	12	-	GF-3	6
7	CU-4	10	10	-	25	2	1846		2662	816	20	1	12	12	-	GF-4	8
9	CU-5	10	10	-	25	2	1846		2662	816	20	1	12	12	-	GF-5	10
11	WATER HEATER IGNITER	14	14	-	15	1	100		640	540	20	1	12	12	-	REFRIGERATOR - KITCHEN	12
13	RECIRC PUMP	14	14	-	15	1	100		1896	1200	20	1	12	12	-	FREEZER - KITCHEN	14
15	GARAGE LIGHTS	12	12	-	20	1	686		150						-	GAS RANGE	16
17	GRND FLR EXT LITES	12	12	-	20	1	150		1140						-	RANGE HOOD	18
19	1ST FLOOR LITES	12	12	-	20	1	1140								-	SITTING ROOM REFRIG.	20
21	SPACE	-	-	-	-	-	-		0					-	SPACE	22	
23	SPACE	-	-	-	-	-	-		0					-	SPACE	24	
25	SPACE	-	-	-	-	-	-		0					-	SPACE	26	
27	SPACE	-	-	-	-	-	-		0					-	SPACE	28	
29	SPACE	-	-	-	-	-	-		0					-	SPACE	30	
31	SPACE	-	-	-	-	-	-		0					-	SPACE	32	
Remarks:		LINE TOTAL				12094		15446		PANEL SHALL BE EQUIPPED WITH BUSES FOR ALL CB'S AND SPACES SHOWN							
		TOTAL CONN. KVA				28				□ 200% NEUTRAL BUS		□ FEED THRU LUGS					
		TOTAL CONN. AMPS				115				□ ISOLATED GROUND BUS							
										■ GROUND BUS							

CIRCUITS SUPPLYING HVAC CONDENSING UNITS SHALL HAVE GENERAC SMART MANAGEMENT MODULES (SMM)

NOTE:
ONLY TWO CONDENSERS SHALL BE SET TO PRIORITY LEVELS. THE REMAINDER SHALL BE SET TO LOCKOUT ON GENERATOR.



GENERAL NOTES:

- E.C. SHALL COORDINATE WITH ACTUAL FIELD CONDITIONS.
- MANUFACTURER AND AIC RATING OF ALL NEW EQUIPMENT SHALL BE COORDINATED BY E.C.
- CONTRACTOR SHALL VISIT THE SITE AND BECOME TOTALLY FAMILIAR WITH THE SCOPE OF WORK PRIOR TO SUBMISSION OF BID. ANY LATER CLAIMS FOR EXTRAS SHALL BE DENIED.

KEY NOTES:

- NEW 320A UTILITY METER SOCKET CONFIGURED FOR UNDERGROUND SERVICE ENTRANCE.
- PROVIDE NEW UG SERVICE LATERAL FROM UTILITY POLE. COORDINATE UNDERGROUND WITH SITE PLANS AND JCIPL.
- NEW 240/120V, 60A, 1Ø, 3W MAIN PANEL, 'MP'. LOCATED IN GROUND FLOOR GARAGE.
- NEW 240/120V, 60A, 1Ø, 3W SUB PANEL, 'SP1'. LOCATED IN MAIN FLOOR LAUNDRY ROOM '114'.
- NEW 240/120V, 60A, 1Ø, 3W SUB PANEL, 'SP2'. LOCATED IN 2ND FLOOR STORAGE ROOM '205'.
- NEW

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

ALL APPLICABLE REQUIREMENTS OF OTHER PORTIONS OF THE CONTRACT DOCUMENTS APPLY TO THE WORK OF THIS SECTION INCLUDING, BUT NOT LIMITED TO, ALL DRAWINGS, ALL SPECIFICATIONS, GENERAL CONDITIONS, AND GENERAL REQUIREMENTS INCLUDING SUBMITTALS.

1.2 WORK INCLUDED

THESE DRAWING SPECIFICATIONS AND THE EQUIPMENT SCHEDULES ON THE DRAWINGS ARE INTENDED TO PROVIDE THAT ALL MATERIAL AND LABOR BE FURNISHED TO INSTALL A COMPLETE HEATING, VENTILATION AND AIR CONDITIONING SYSTEM FOR THE PROJECT. THE CONSTRUCTION DOCUMENTS ARE PROVIDED TO ILLUSTRATE THE DESIGN AND GENERAL TYPE OF CONSTRUCTION DESIRED, AND IMPLY THE FINEST QUALITY OF CONSTRUCTION, MATERIAL, AND WORKMANSHIP.

1.3 APPLICABLE CODES AND STANDARDS

APPLICABLE CODES: ALL LOCAL AND STATE BUILDING CODES.

APPLICABILITY OF STANDARDS: EXCEPT WHERE THE CONTRACT DOCUMENTS INCLUDE MORE STRINGENT REQUIREMENTS, APPLICABLE CONSTRUCTION INDUSTRY STANDARDS HAVE THE SAME FORCE AND EFFECT AS IF BOUND OR COPIED DIRECTLY INTO THE CONTRACT DOCUMENTS. SUCH STANDARDS ARE MADE A PART OF THE CONTRACT DOCUMENTS BY REFERENCE.

CONFLICTING REQUIREMENTS: WHERE COMPLIANCE WITH TWO OR MORE STANDARDS IS SPECIFIED, AND THE STANDARDS ESTABLISH DIFFERENT OR CONFLICTING REQUIREMENTS FOR MINIMUM QUANTITIES OR QUALITY LEVELS, REFER REQUIREMENTS THAT ARE DIFFERENT, BUT APPARENTLY EQUAL, AND UNCERTAINTIES TO THE A/E FOR A DECISION BEFORE PROCEEDING.

PUBLICATION DATES: WHERE THE DATE OF ISSUE OF A REFERENCED STANDARD IS NOT SPECIFIED, COMPLY WITH THE STANDARD IN EFFECT AS OF DATE OF CONTRACT DOCUMENTS.

ABBREVIATIONS AND NAMES: TRADE ASSOCIATION NAMES AND TITLES OF GENERAL STANDARDS ARE FREQUENTLY ABBREVIATED. THE FOLLOWING ACRONYMS OR ABBREVIATIONS AS REFERENCED IN CONTRACT DOCUMENTS ARE DEFINED TO MEAN THE ASSOCIATED NAMES. NAMES AND ADDRESSES ARE SUBJECT TO CHANGE AND ARE BELIEVED TO BE BUT ARE NOT ASSURED TO BE ACCURATE AND UP TO DATE AS OF DATE OF CONTRACT DOCUMENTS.

- ANSI – AMERICAN NATIONAL STANDARDS INSTITUTE
- ARI – AIR CONDITIONING AND REFRIGERATION INSTITUTE
- ASHRAE – AMERICAN SOCIETY OF HEATING, REFRIGERATING
- ASME – AMERICAN SOCIETY OF MECHANICAL ENGINEERS
- ASTM – AMERICAN SOCIETY FOR TESTING AND MATERIALS
- AWS – AMERICAN WELDING SOCIETY
- AWWA – AMERICAN WATER WORKS ASSOCIATION
- NEC – NATIONAL ELECTRIC CODE
- NFPA – NATIONAL FIRE PROTECTION ASSOCIATION
- UL – UNDERWRITERS LABORATORIES
- EPA – ENVIRONMENTAL PROTECTION AGENCY
- OSHA – OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

1.4 SUBMITTALS

PRIOR TO THE PERFORMANCE OF ANY WORK OR INSTALLATION OF ANY MATERIALS, OBTAIN APPROVAL FROM THE A/E BY SUBMITTING SHOP DRAWINGS AND DATA SHEETS.

SUBMITTAL OF SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES WILL BE ACCEPTED ONLY WHEN SUBMITTED BY THE CONTRACTOR. DATA SUBMITTED FROM SUBCONTRACTORS AND MATERIAL SUPPLIERS DIRECTLY TO THE ENGINEER OF RECORD WILL NOT BE PROCESSED. CERTIFIED DRAWINGS AND CATALOG DATA SHEETS SHALL SHOW:

1. APPLICABLE SPECIFICATION SECTION NUMBER AND EQUIPMENT TAG NUMBER.
2. PRINCIPAL DIMENSIONS AND DETAILS OF CONSTRUCTION.
3. WEIGHTS: INFORMATION REQUIRED FOR THE DESIGN OF SUPPORTS AND FOUNDATIONS.
4. SIZES AND LOCATIONS OF PIPING AND CONNECTIONS.
5. PERFORMANCE DATA CERTIFIED BY THE MANUFACTURER FOR THE EQUIPMENT FURNISHED.
6. SUBMIT SCHEDULE OF PROPOSED PIPING, VALVES, SPECIALTIES, ETC.

APPROVAL OF SHOP DRAWINGS DOES NOT RELEASE CONTRACTOR FROM RESPONSIBILITY OF COORDINATING HIS WORK AT JOB SITE AND TAKING FIELD MEASUREMENTS. IN CASES WHERE INTERFERENCES BECOME APPARENT, THE CONTRACTOR SHALL NOTIFY A/E SO THAT SUCH INTERFERENCES MAY BE RESOLVED PRIOR TO PROCEEDING WITH SHOP WORK. NO CLAIM WILL BE ALLOWED FOR WORK THAT MIGHT HAVE TO BE MOVED OR REPLACED BASED ON A CLAIM THAT WORK WAS PLACED IN ACCORDANCE WITH DIMENSIONS SHOWN ON AN APPROVED SHOP DRAWING.

1.5 COORDINATION

COORDINATE WITH THE BUILDING TRADES:

1. STRUCTURAL MEMBERS, PADS, AND BUILDING OPENINGS FOR FIXTURES, EQUIPMENT, PIPING, ETC., FOR USE BY THIS CONTRACTOR SHOWN ON THE ARCHITECTURAL AND STRUCTURAL PLANS ARE THE COORDINATION RESPONSIBILITY OF THIS CONTRACTOR. THIS CONTRACTOR WILL PAY FOR ANY CHANGES IN THE ABOVE REQUIREMENTS AFTER LETTING AND ACCEPTING THE CONTRACT.
2. THE DRAWINGS SHOW THE GENERAL ARRANGEMENT, DIRECTIONS AND SIZES OF EQUIPMENT, PIPING, ETC. IT IS NOT INTENDED TO SHOW EVERY OFFSET AND FITTING OF EVERY SITE DIFFICULTY THAT MAY BE ENCOUNTERED, BUT THIS CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIALS AND PERFORM ALL LABOR NECESSARY TO MAKE COMPLETE WORKING SYSTEMS, READY FOR USE, WITHOUT EXTRA CHARGE TO THE OWNER OR A/E. ALL MEASUREMENTS MUST BE VERIFIED ON THE JOBSITE.
3. EXAMINE THE SITE AND ALL DRAWINGS BEFORE PROCEEDING WITH THE LAYOUT AND INSTALLATION OF THIS TO SUIT ACTUAL CONDITIONS. CONFER AND COOPERATE WITH OTHER TRADES ON THE JOB SO THAT ALL WORK WILL BE INSTALLED IN PROPER RELATIONSHIP. PRECISE LOCATION OF PARTS TO COORDINATE WITH OTHER WORK IS THE RESPONSIBILITY OF THIS CONTRACTOR. ALL SYSTEMS SHALL BE INSTALLED TO PROVIDE MAXIMUM HEADROOM, EXCEPT WHERE DIMENSIONED OTHERWISE ON THE DRAWINGS.

1.6 RECORD DOCUMENTS

RECORD DRAWINGS: MAINTAIN A CLEAN, UNDAMAGED SET OF PRINTS OF CONTRACT DRAWINGS AND SHOP DRAWINGS. MARK THE SET TO SHOW THE ACTUAL INSTALLATION WHERE THE INSTALLATION VARIES SUBSTANTIALLY FROM THE WORK AS ORIGINALLY SHOWN. MARK WHICHEVER DRAWING IS MOST CAPABLE OF SHOWING CONDITIONS FULLY AND ACCURATELY; WHERE SHOP DRAWINGS ARE USED, RECORD A CROSS-REFERENCE AT THE CORRESPONDING LOCATION ON THE CONTRACT DRAWINGS. GIVE PARTICULAR ATTENTION TO CONCEALED ELEMENTS THAT WOULD BE DIFFICULT TO MEASURE AND RECORD LATER.

1. MARK NEW INFORMATION THAT IS IMPORTANT TO THE OWNER, BUT WAS NOT SHOWN ON CONTRACT DRAWINGS OR SHOP DRAWINGS.
2. ORGANIZE RECORD DRAWING SHEETS INTO MANAGEABLE SETS, BIND WITH DURABLE PAPER COVER SHEETS, AND PRINT SUITABLE TITLES, DATES AND OTHER IDENTIFICATION ON THE COVER OF EACH SET.
3. MAINS AND BRANCHES OF PIPING SYSTEMS, WITH VALVES AND CONTROL DEVICES LOCATED AND NUMBERED, CONCEALED UNIONS LOCATED, AND WITH ITEMS REQUIRING MAINTENANCE LOCATED (I.E., TRAPS, STRAINERS, EXPANSION COMPENSATORS, TANKS, ETC.).
4. EQUIPMENT LOCATIONS (EXPOSED AND CONCEALED), DIMENSIONED FROM PROMINENT BUILDING LINES.
5. APPROVED SUBSTITUTIONS, CONTRACT MODIFICATIONS, AND ACTUAL EQUIPMENT AND MATERIALS INSTALLED.
6. INCLUDE ALL "CORRECTED FOR RECORD" SHOP DRAWINGS TO REFLECT APPROVALS RECEIVED.

1.7 MAINTENANCE MANUALS

ORGANIZE OPERATING AND MAINTENANCE DATA INTO SUITABLE SETS OF MANAGEABLE SIZE. BIND PROPERLY INDEXED DATA IN INDIVIDUAL HEAVY-DUTY 2-INCH, 3-RING VINYL-COVERED BINDERS, WITH POCKET FOLDERS FOR FOLDED SHEET INFORMATION. MARK APPROPRIATE IDENTIFICATION ON FRONT AND SPINE OF EACH BINDER. INCLUDE THE FOLLOWING TYPES OF INFORMATION:

1. COPIES OF WARRANTIES.
2. WIRING DIAGRAMS.
3. INSPECTION PROCEDURES.
4. APPROVED SHOP DRAWINGS AND PRODUCT DATA.
5. DESCRIPTION OF FUNCTION, NORMAL OPERATING CHARACTERISTICS AND LIMITATIONS, PERFORMANCE CURVES, ENGINEERING DATA AND TESTS, AND COMPLETE NOMENCLATURE AND COMMERCIAL NUMBERS OF REPLACEMENT PARTS.
6. MANUFACTURER'S PRINTED OPERATING PROCEDURES TO INCLUDE START-UP, BREAK-IN, AND ROUTINE AND NORMAL OPERATING INSTRUCTIONS; REGULATION, CONTROL, STOPPING, SHUTDOWN, AND EMERGENCY INSTRUCTIONS; AND SUMMER AND WINTER OPERATING INSTRUCTIONS.
7. MAINTENANCE PROCEDURES FOR ROUTINE PREVENTATIVE MAINTENANCE AND TROUBLESHOOTING; DISASSEMBLY, REPAIR, AND REASSEMBLY; ALIGNING AND ADJUSTING INSTRUCTIONS.
8. SERVICING INSTRUCTIONS AND LUBRICATION CHARTS AND SCHEDULES.

THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL INTERIOR DETAILS, FLOOR PLANS, ELEVATIONS, AND OTHER CONTRACT DRAWINGS AND HE SHALL COORDINATE HIS WORK WITH THAT OF THE OTHER TRADES TO AVOID INTERFERENCE, ASSURE ALL SCHEDULES ARE MET, AND ALL WORK IS DONE IN CONFORMANCE TO MANUFACTURER'S REQUIREMENTS. THE PLANS ARE DIAGRAMMATIC AND SHOW GENERALLY THE LOCATIONS OF THE EQUIPMENT AND OR NOT TO BE SCALED, ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AT THE BUILDING.

1.8 REGULATIONS AND PERMITS

THE CONTRACTOR SHALL GIVE NOTICES, FILE PLANS, OBTAIN PERMITS AND LICENSES, PAY FEES, AND OBTAIN NECESSARY APPROVALS FROM AUTHORITIES HAVING JURISDICTION.

1.9 CUTTING AND PATCHING

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING AS REQUIRED FOR PROPER INSTALLATION OF THE MATERIAL AND EQUIPMENT. PROTECT THE STRUCTURE, FURNISHINGS, FINISHES, AND ADJACENT MATERIALS NOT INDICATED OR SCHEDULED TO BE REMOVED. PROVIDE AND MAINTAIN TEMPORARY PARTITIONS OR DUST BARRIERS ADEQUATE TO PREVENT THE SPREAD OF DUST AND DIRT TO ADJACENT AREAS.

1.10 CLEANING AND CLOSEOUT

ALL WORK SHALL BE INSPECTED, TESTED AND APPROVED BEFORE BEING CONCEALED OR PLACED IN OPERATION. UPON COMPLETION OF THE WORK, ALL EQUIPMENT INSTALLED AS SPECIFIED IN THIS SECTION, AND ALL AREAS WHERE WORK WAS PERFORMED, SHALL BE CLEANED TO PROVIDE OPERATING CONDITIONS SATISFACTORY TO THE A/E.

1.11 DAMAGE AND RESTORATION

DURING CONSTRUCTION AND UNTIL EXPIRATION OF THE GUARANTEE PERIOD, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE TO THE PREMISES DUE TO POOR WORKMANSHIP, FAULTY MATERIAL OR EQUIPMENT.

PART 2 – PRODUCTS

2.0 SPLIT SYSTEM HEATING/COOLING UNITS

SPLIT SYSTEM HEATING/COOLING UNITS SHALL BE MANUFACTURED WITH DIMENSIONS, CAPACITIES, AND ELECTRICAL CHARACTERISTICS AS SCHEDULED. THE EQUIPMENT SHALL COMPLY WITH THE REQUIREMENTS AND TERMS OF ETL'S LISTING, LABELING AND FOLLOW-UP SERVICE AGREEMENT. ALL APPLICABLE SECTIONS OF THE UNIT SHALL BEAR THE ETL LABEL. THE ETL LISTING SHALL BE INCLUSIVE OF ALL HEATING OPTIONS INCORPORATED IN THE EQUIPMENT DESIGN.

PROTECT UNITS FROM PHYSICAL DAMAGE BY STORING OFF SITE UNTIL ROOF MOUNTING CURBS ARE IN PLACE, READY FOR IMMEDIATE INSTALLATION OF UNITS.

PROVIDE A 1 YEAR EQUIPMENT WARRANTY EFFECTIVE FROM THE OPENING DAY OF THE FACILITY. PROVIDE AN ADDITIONAL 5 YEAR WARRANTY ON COMPRESSORS, 15 YEAR WARRANTY ON HEAT EXCHANGERS.

CONTRACTOR SHALL INCLUDE MAINTENANCE ITEMS AS OUTLINED MANUFACTURER'S OPERATING AND MAINTENANCE DATA. INCLUDE MINIMUM OF: (6) FILTER REPLACEMENTS, (1) FAN BELT REPLACEMENT, AND CONTROLS CHECK-OUT, ADJUSTMENTS, AND RECALIBRATION.

2.1 DUCTWORK

THE TERM "DUCTWORK" SHALL MEAN: DUCTS, DAMPERS, FRAMES, RODS, HANGERS, AUXILIARY STEEL AND OTHER MATERIALS USED IN THE COMPLETE INSTALLATION.

DUCT DIMENSIONS ARE CLEAR INSIDE DIMENSIONS.

DUCTWORK CONSTRUCTION AND INSTALLATION SHALL CONFORM TO THE LATEST EDITIONS OF THE APPLICABLE HVAC DUCT CONSTRUCTION STANDARDS, PUBLISHED BY SMACNA, FOR LOW PRESSURE DUCT SYSTEMS.

GALVANIZED SHEET STEEL SHALL BE LOCK FORMING QUALITY, ASTM A 527, COATING DESIGNATION G 90. PROVIDE MILL PHOSPHATIZED FINISH FOR EXPOSED SURFACES OF DUCTS EXPOSED TO VIEW.

SEAL ALL TRANSVERSE JOINTS WITH WATER AND FIRE RESISTANT SEALER EQUAL TO 3M DUCT SEALER 800. LONGITUDINAL JOINTS, WHICH LEAK, SHALL ALSO BE TAPED.

TAPE ALL TRANSVERSE JOINTS (AFTER SEALING) WITH 3M DUCT TAPE OR APPROVED EQUAL. LONGITUDINAL JOINTS, WHICH HAVE BEEN SEALED, SHALL ALSO BE TAPED.

DUCTWORK SHALL BE AIRTIGHT, BRACED AND STIFFENED. DUCTWORK SHALL NOT BREATHE, RATTLE, VIBRATE OR SAG.

TURNING VANES IN SQUARE ELBOWS SHALL BE AIRFOIL TYPE. TURNING VANES IN ACOUSTICALLY LINED DUCTWORK SHALL BE AIRFOIL TYPE OF PERFORATED METAL AND FILLED WITH FIBERGLASS.

ACCESS PANELS SHALL BE INSTALLED IN DUCTWORK AT ALL DAMPERS, FIRE DAMPERS, COILS, AUTOMATIC TEMPERATURE CONTROL AND OTHER DEVICES REQUIRING PERIODIC ATTENTION AND CLEANING. DUCT ACCESS SHALL BE BY A LATCHED AND HINGED, 1 INCH THICK INSULATED DOUBLE PANEL BY C. E. SPARROW CO. OR APPROVED EQUAL. MINIMUM DOOR SIZE SHALL BE 12"x12" OR LARGEST STOCK SIZE WHICH WILL FIT IN CASES WHERE DUCTS ARE TOO SMALL FOR 12"x12" ACCESS DOORS.

FLEXIBLE CONNECTIONS SHALL BE NEOPRENE COATED GLASS FIBER CLOTH, SUITABLE FOR 15 INCH W.G. PRESSURE AND ABSOLUTELY AIR TIGHT.

FLEXIBLE DUCT RUNOUTS TO CEILING DIFFUSERS SHALL BE AS STRAIGHT AS POSSIBLE AND FREE OF SAGS AND KINKS. FLEX DUCT SHALL BE THE SAME SIZE AS THE DIFFUSER NECK IT SERVES AND A MAXIMUM OF FIVE FEET IN LENGTH.

FLEXIBLE DUCTWORK, CONNECTING TO UNINSULATED OR UNLINED DUCT SHALL BE VINYL COATED FIBERGLASS CLOTH 0.0057" MINIMUM THICKNESS 25 STRANDS PER INCH MINIMUM THREAD COUNT WITH CORROSION-RESISTANT HELICAL WIRE REINFORCEMENT. FLEX DUCT SHALL BE UL RATED FOR 1/2" W.C. POSITIVE PRESSURE, 2" W.C. NEGATIVE PRESSURE WITH A VELOCITY OF 4000 FPM. FLEXDUCT MUST BE LISTED AS A CLASS 1 CONNECTOR ACCORDING TO UL 181 AND SHALL MEET THE REQUIREMENTS OF NFPA 90A – MAXIMUM ASTM-B4 AND SHALL MEET THE FLAME SPREAD, 50 FUEL CONTRIBUTED AND 50 SMOKE DEVELOPED. UNINSULATED FLEXIBLE DUCT SHALL BE EQUIVALENT TO FLEXMASTER TYPE 4.

2.2 INSULATION

A. SUPPLY AIR DUCTWORK SHALL BE INSULATED WITH 1-1/2 INCH FLEXIBLE FIBERGLASS INSULATION CONFORMING LOCATED IN CEILING PLENUMS TO ASTM C 553, TYPE I, CLASS B4, 1.5 LB. PER CUBIC FOOT, 'K' VALUE OF A 0.3 AT 75 F, FSK JACKET, 25 FLAME / 50 SMOKE PLENUM RATED.

2.3 DIFFUSERS AND GRILLES

A. PROVIDE DIFFUSERS, REGISTERS AND GRILLES MATCHING BUILDING STANDARD FOR SUPPLY, RETURN AND EXHAUST APPLICATIONS. REFER TO SCHEDULE AND DRAWINGS FOR TYPE, NECK SIZE, AIR PATTERNS AND QUANTITIES.

B. MANUFACTURER SHALL SUBMIT AIR AND SOUND PERFORMANCE DATA FOR ALL TYPES OF DIFFUSERS. APPROVED MANUFACTURERS ARE: NAILOR, TITUS, METAL-AIRE, TUTTLE & BAILEY, OR APPROVED EQUAL.

PART 3 – HVAC GENERAL NOTES

INSTALL ALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. INSTALL UNITS PLUMB AND LEVEL, FIRMLY ANCHORED IN LOCATIONS INDICATED, AND MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCES.

ALL MATERIAL SHALL BE SUBMITTED TO THE A/E VERIFYING IT IS ADEQUATE FOR INSTALLATION PER THE SPECIFICATIONS AND DRAWING. VERIFY DIMENSIONS AND CLEARANCES AT BUILDING BEFORE COMMENCING WORK.

MECHANICAL CONTRACTOR SHALL PROVIDE TWO FILTER CHANGES PRIOR TO GRAND OPENING.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE ACTUAL LOCATION OF EXISTING STRUCTURAL MEMBERS AND COORDINATE INSTALLATION OF THE EQUIPMENTS ACCORDINGLY.

THE CONTRACTOR SHALL FULFILL ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS AND SHALL COMPLETE THE IMPROVEMENTS SHOWN ON THE DRAWINGS. ALL SYSTEMS SHALL BE FINISHED, TESTED, AND BALANCED, ADJUSTED, AND PROVEN FULLY OPERATIONAL AND USEABLE.

TRANSITION RECTANGULAR DUCTWORK ON BOTTOM AND SIDES. MAINTAIN TOP OF DUCTWORK LEVEL AND AS HIGH AS POSSIBLE. PROVIDE VOLUME DAMPER AT EACH BRANCH DUCTWORK.

CONTRACTOR SHALL COORDINATE VOLTAGE AND PHASE OF EACH PIECE OF EQUIPMENT WITH THE ELECTRICAL CONTRACTOR PRIOR TO ORDERING.

MOUNT THERMOSTATS AND FAN SWITCHES WHERE INDICATED ON PLANS WITH CENTERLINE AT 3'-8" AFF UNLESS NOTED OTHERWISE.

COORDINATE DUCTWORK AND PIPING WITH PLUMBING, FIRE PROTECTION AND ELECTRICAL.

MAKE OFFSETS AND TRANSITIONS TO COORDINATE WITH OTHER TRADES WITHOUT ADDITIONAL EXPENSE TO THE OWNER.

PROVIDE FIRE DAMPERS IN DUCT PENETRATIONS THROUGH RATED WALLS.

EXACT LOCATIONS OF ALL CEILING AIR DEVICES SHALL BE COORDINATED WITH LIGHT FIXTURES, SPRINKLER HEADS AND OTHER CEILING MOUNTED FIXTURES AT JOB SITE. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN.

2.4 TESTING, ADJUSTING AND BALANCING

AN INDEPENDENT BALANCING CONTRACTOR WHICH HAS EXPERIENCE IN AND REGULARLY PRACTICES BALANCING AND WHICH HAS ALL EQUIPMENT REQUIRED FOR TESTS, ADJUSTMENTS AND RECORDING, SHALL DO BALANCING OF AIR HANDLING SYSTEM. THE BALANCING CONTRACTOR SHALL COORDINATE ITS WORK WITH THAT OF ALL OTHER TRADES PRIOR TO AND DURING THE CONSTRUCTION PERIOD. THE BALANCING CONTRACTOR SHALL RETURN AFTER THE SYSTEMS HAVE BEEN IN OPERATION TO READJUST AIR DEVICES AND ALL OTHER COMPONENTS AS REQUIRED.

TEST AND BALANCE CONTRACTOR SHALL BE CERTIFIED BY EITHER THE NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB) OR THE ASSOCIATED AIR BALANCING COUNCIL (AABC) IN THOSE TESTING AND BALANCING DISCIPLINES REQUIRED FOR THIS PROJECT, AND HAVING AT LEAST ONE PROFESSIONAL ENGINEER REGISTERED IN THE STATE IN WHICH THE SERVICES ARE TO BE PERFORMED, CERTIFIED BY NEBB AS A TEST AND BALANCE ENGINEER.

DURING THE FINAL BALANCING PERIOD, THE CONTRACTOR SHALL MAKE PERSONNEL AVAILABLE (SHEET METAL AND CONTROL TRADES) TO WORK WITH THE BALANCING CONTRACTOR.

THE BALANCING CONTRACTOR SHALL ACQUIRE A COMPLETE SET OF DRAWINGS (LATEST REVISIONS) BEFORE START OF FINAL BALANCING.

AIR SYSTEMS AND COMPONENTS SHALL BE BALANCED TO WITHIN 10% OF THE INDICATED AIR FLOWS. THE SHEET METAL CONTRACTOR SHALL REPAIR LEAKS IN DUCT SYSTEMS.

THE BALANCING CONTRACTOR SHALL RECOGNIZE THAT THE DRAWINGS ARE SCHEMATIC AND THAT ALL BALANCING DEVICES REQUIRED (DAMPERS, ETC.) MAY NOT BE SHOWN. COORDINATION BETWEEN THE MECHANICAL CONTRACTOR AND THE BALANCING CONTRACTOR SHALL INCLUDE PROVIDING LABOR AND MATERIAL TO SUPPLY AND INSTALL BALANCING DEVICES WHERE REQUIRED TO COMPLETE THE WORK SATISFACTORILY WHETHER OR NOT SUCH DEVICES ARE SHOWN ON THE DRAWINGS.

THE BALANCING CONTRACTOR SHALL PREPARE A LIST OF INFORMATION IN BOOKLET FORM (4 COPIES REQUIRED) INCLUDING PERTINENT ITEMS SUCH AS:

1. NAME, NUMBER, SYSTEM SERVICE AND/OR LOCATION, ETC.
2. DESIGN AND ACTUAL CFM
3. DESIGN AND ACTUAL STATIC PRESSURES.
4. MOTOR HP, AMPS PER PHASE, VOLTS, PHASE, HZ AND RPM
6. BELTS AND SHEAVES, NAMES AND NUMBERS

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DATE: NO. DESCRIPTION:

- - -

PROJECT NUMBER
21507-00

PROJECT NAME
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1 LORI ROAD
MONMOUTH BEACH, NJ 07750

PHASE
BUILDING PERMIT &
CONSTRUCTION

NJ CERTIFICATE OF AUTHORIZATION: 2462815000
SEAL

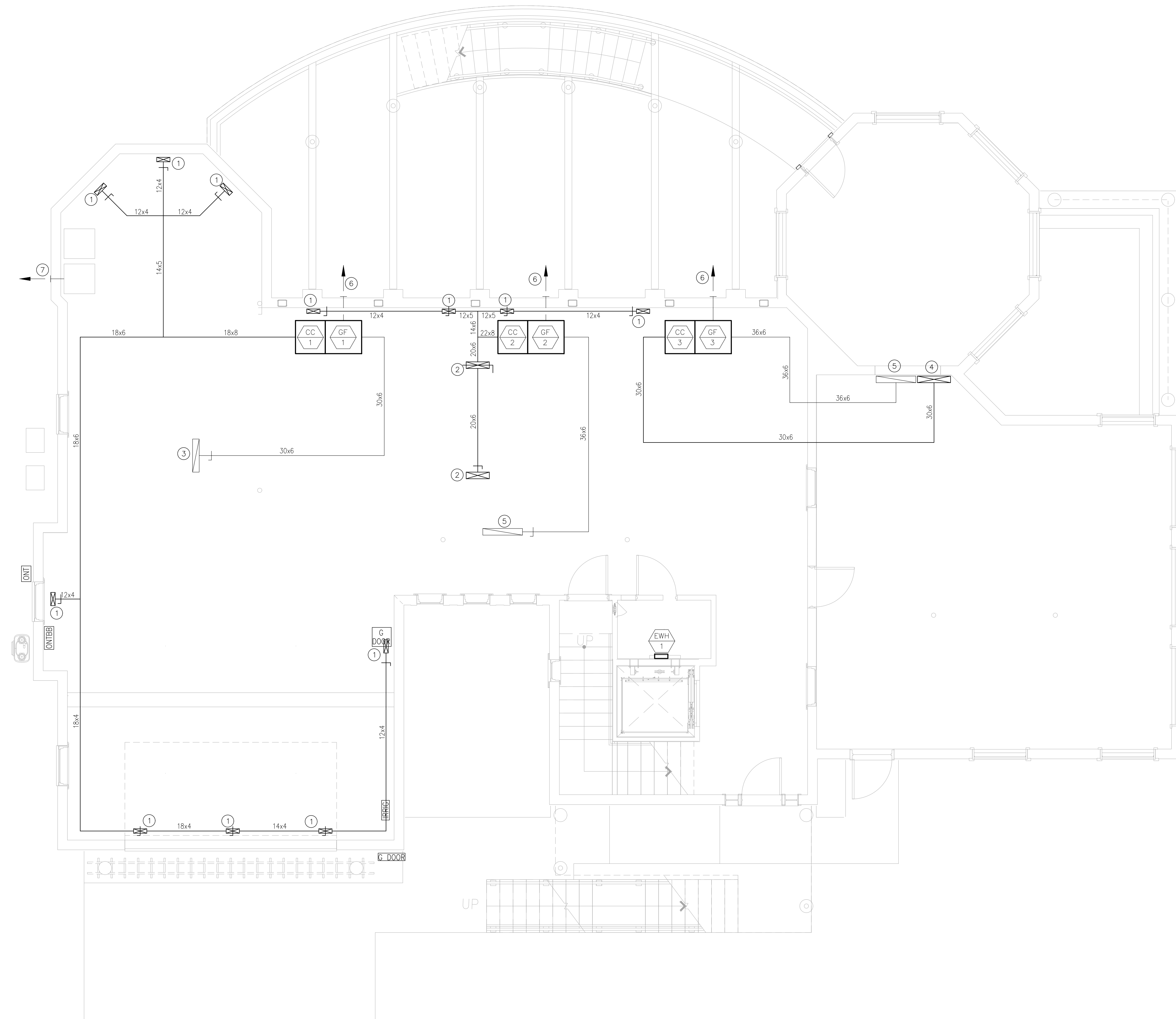
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DRAWING TITLE
MECHANICAL
SPECIFICATIONS

DATE: 10/10/2016 SCALE: AS NOTED

SHEET NUMBER

M2.00



1 MECHANICAL GROUND FLOOR PLAN

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

GENERAL NOTES:


- A. COORDINATE ALL ROOFTOP MECHANICAL EQUIPMENT LOCATIONS WITH ARCHITECTURAL & STRUCTURAL DRAWINGS.
- B. ALL ENVIRONMENTAL EXHAUST AIR OUTLETS ARE TO BE LOCATED A MINIMUM OF 10'-0" AWAY FROM ALL MECHANICAL OUTDOOR AIR INLETS & A MINIMUM OF 3'-0" FROM OPERABLE WINDOWS AND DOORS.
- C. THE ENTIRE MECHANICAL INSTALLATION AND OPERATION SHALL COMPLY WITH ALL OWNERSHIP REQUIREMENTS.
- D. CONTRACTOR SHALL VISIT THE SITE AND BECOME TOTALLY FAMILIAR WITH THE SCOPE OF WORK PRIOR TO SUBMISSION OF BID. ANY LATER CLAIMS FOR EXTRAS SHALL BE DENIED.
- E. ALL NEW MECHANICAL SYSTEMS LOCATED ABOVE CEILINGS SHALL BE INSTALLED AS HIGH AS POSSIBLE, INCLUDING BEING LOCATED BETWEEN STRUCTURAL MEMBERS WHERE POSSIBLE.
- F. FULLY INSULATED LIQUID/SUCTION REFRIGERANT PIPING SHALL BE RUN FROM ALL ROOFTOP CONDENSING UNITS TO THEIR CORRESPONDING AIR HANDLING UNITS. PIPING SHALL BE RUN CONCEALED WITHIN WALL CAVITIES TO THE GREATEST EXTENT POSSIBLE. PIPING SHALL BE SIZED AND INSTALLED PER ALL MANUFACTURERS REQUIREMENTS.

KEY NOTES:

- ① 12"x4" SUPPLY UP TO FLOOR MOUNTED SUPPLY REGISTER ON MAIN FLOOR
- ② 20"x6" SUPPLY WITHIN FIREPLACE ENCLOSURE ON MAIN FLOOR.
- ③ 30"x6" RETURN UP TO MAIN FLOOR
- ④ 30"x6" SUPPLY UP TO MAIN FLOOR
- ⑤ 36"x6" RETURN UP TO MAIN FLOOR
- ⑥ 4"Ø SIDEWALL TERMINATION FOR CONCENTRIC COMBUSTION AIR INTAKE AND OUTLET
- ⑦ 4"Ø SIDEWALL TERMINATION FROM DRYER EXHAUST

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N.J. CERTIFICATE OF AUTHORIZATION: 2462815000
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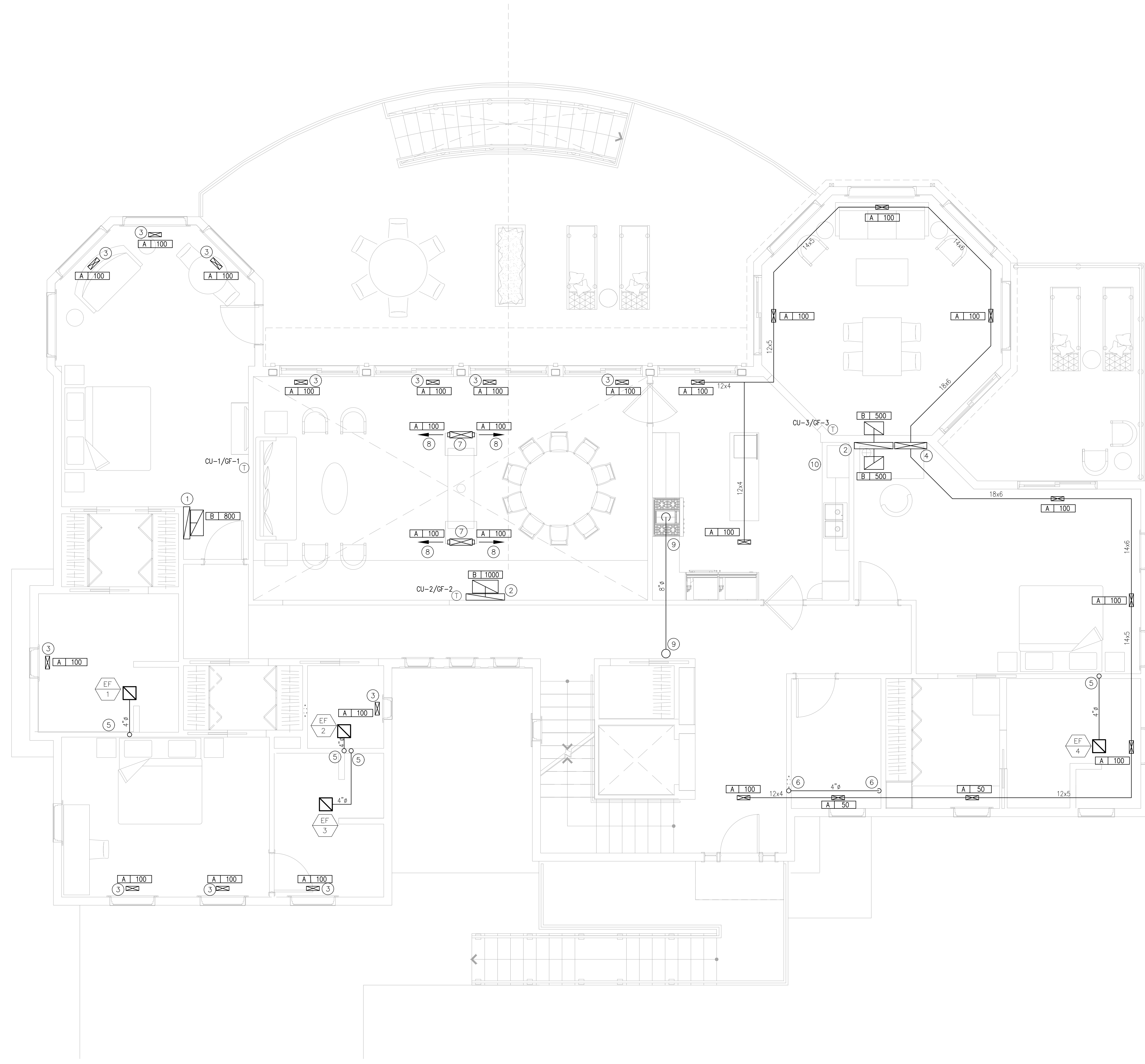
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DRAWING TITLE
MECHANICAL GROUND FLOOR PLAN

DATE: 10/10/2016 SCALE: AS NOTED

SHEET NUMBER

M3-0.00



1 MECHANICAL MAIN FLOOR PLAN
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

- A. COORDINATE ALL ROOFTOP MECHANICAL EQUIPMENT LOCATIONS WITH ARCHITECTURAL & STRUCTURAL DRAWINGS.
- B. ALL ENVIRONMENTAL EXHAUST AIR OUTLETS ARE TO BE LOCATED A MINIMUM OF 10'-0" AWAY FROM ALL MECHANICAL OUTDOOR AIR INLETS & A MINIMUM OF 3'-0" FROM OPERABLE WINDOWS AND DOORS.
- C. THE ENTIRE MECHANICAL INSTALLATION AND OPERATION SHALL COMPLY WITH ALL OWNERSHIP REQUIREMENTS.
- D. CONTRACTOR SHALL VISIT THE SITE AND BECOME TOTALLY FAMILIAR WITH THE SCOPE OF WORK PRIOR TO SUBMISSION OF BID. ANY LATER CLAIMS FOR EXTRAS SHALL BE DENIED.
- E. ALL NEW MECHANICAL SYSTEMS LOCATED ABOVE CEILINGS SHALL BE INSTALLED AS HIGH AS POSSIBLE, INCLUDING BEING LOCATED BETWEEN STRUCTURAL MEMBERS WHERE POSSIBLE.
- F. FULLY INSULATED LIQUID/SUCTION REFRIGERANT PIPING SHALL BE RUN FROM ALL ROOFTOP CONDENSING UNITS TO THEIR CORRESPONDING AIR HANDLING UNITS. PIPING SHALL BE RUN CONCEALED WITHIN WALL CAVITIES TO THE GREATEST EXTENT POSSIBLE. PIPING SHALL BE SIZED AND INSTALLED PER ALL MANUFACTURERS REQUIREMENTS.

KEY NOTES:

- ① 30"x6" RETURN AIR INTAKE DOWN TO LOWER LEVEL
- ② 36"x6" RETURN AIR INTAKE DOWN TO LOWER LEVEL
- ③ FLOOR MOUNTED 12"x4" SUPPLY REGISTER
- ④ 30"x6" SUPPLY MAIN DOWN TO LOWER LEVEL
- ⑤ 4"Ø TOILET EXHAUST VENT UP TO 2ND FLOOR.
- ⑥ 4"Ø DRYER EXHAUST VENT UP TO 2ND FLOOR.
- ⑦ 20"x6" SUPPLY RISER WITHIN FIREPLACE ENCLOSURE
- ⑧ 4"x12" SIDEWALL SUPPLY REGISTER MOUNTED INSIDE OF FIREPLACE ENCLOSURE AT 6'-0" AFF.
- ⑨ 8"Ø 'VENT-A-HOOD' EXHAUST DUCT FROM 'VENT-A-HOOD' UP TO SECOND FLOOR.
- ⑩ PROVIDE AND INSTALL MANUFACTURER PROVIDED BLOWER AND DUCTING FOR FULL DOWNDRAFT/RECIRCULATION OPERATION FOR INDUCTION COOKING EQUIPMENT.

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DRAWING TITLE
MECHANICAL MAIN FLOOR PLAN

DATE
10/10/2016
SCALE
AS NOTED

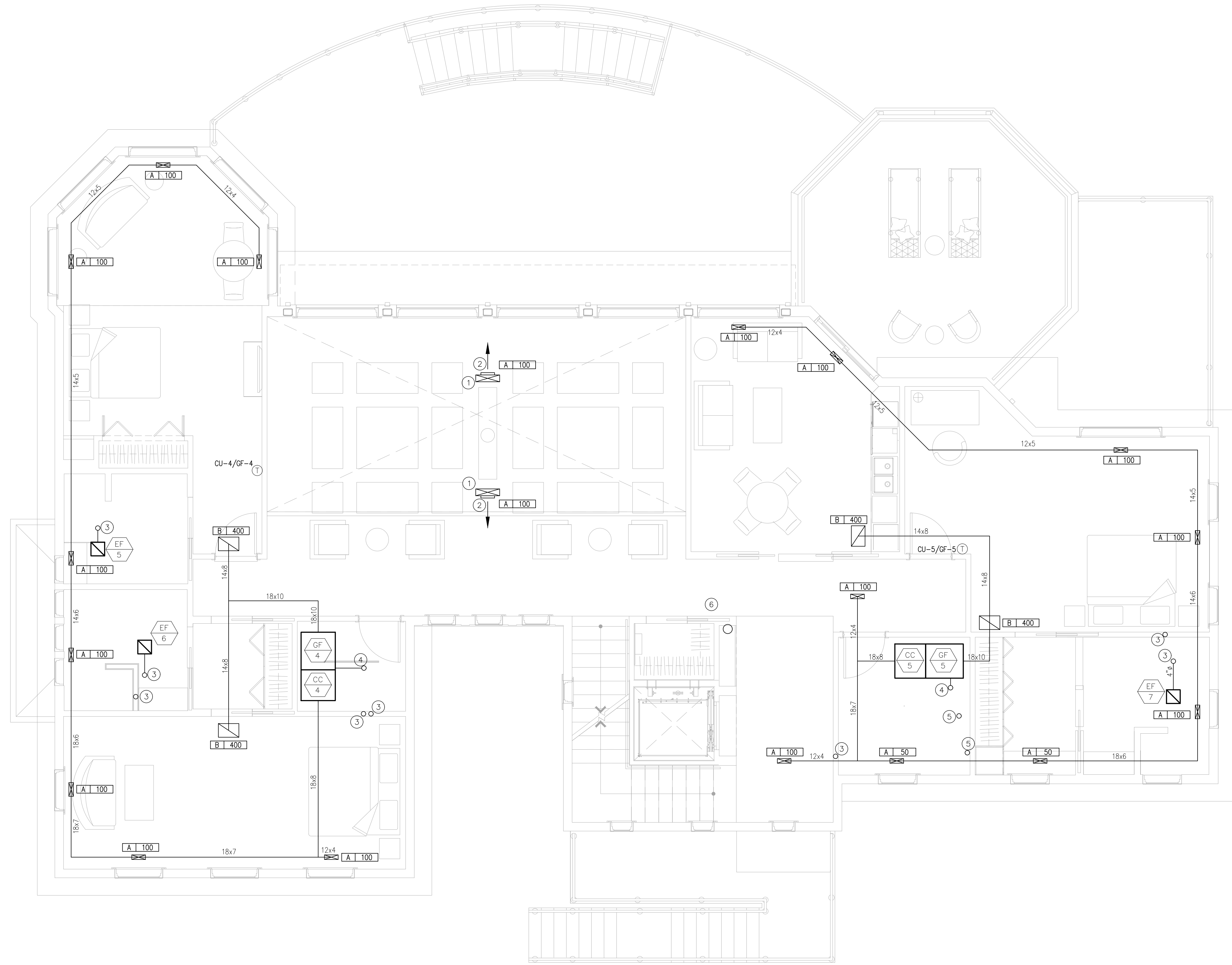
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GENERAL NOTES:

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- F. FULLY INSULATED LIQUID/SUCTION REFRIGERANT PIPING SHALL BE RUN FROM ALL ROOFTOP CONDENSING UNITS TO THEIR CORRESPONDING AIR HANDLING UNITS. PIPING SHALL BE RUN CONCEALED WITHIN WALL CAVITIES TO THE GREATEST EXTENT POSSIBLE. PIPING SHALL BE SIZED AND INSTALLED PER ALL MANUFACTURERS REQUIREMENTS.


KEY NOTES:

- ① 20"x6" SUPPLY DUCT WITHIN FIREPLACE ENCLOSURE
- ② 12"x4" SIDEWALL SUPPLY REGISTER MOUNTED INSIDE OF FIREPLACE ENCLOSURE AT HIGHEST POINT.
- ③ 4" TOILET EXHAUST VENT UP THROUGH ROOF
- ④ 4" TERMINATION FOR CONCENTRIC COMBUSTION AIR INTAKE AND OUTLET UP THROUGH ROOF.
- ⑤ 4" VENT FROM GAS FIRED HOT WATER HEATERS UP THROUGH ROOF.
- ⑥ 8" 'VENT-A-HOOD' EXHAUST DUCT DOWN TO FIRST FLOOR AND UP THROUGH ROOF.



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REVISIONS:

DATE:	NO.	DESCRIPTION:
-	-	-

PROJECT NUMBER
21507-00

PROJECT NAME
MEYER RESIDENCE
1 LORI ROAD
MONMOUTH BEACH, NJ 07750

PHASE
BUILDING PERMIT & CONSTRUCTION

N.J. CERTIFICATE OF AUTHORIZATION: 2462815000
SEAL

Stephen A. Bray
PROFESSIONAL ENGINEER
NJ LICENSE: GE44144 101016

DRAWING TITLE
MECHANICAL SECOND FLOOR PLAN

DATE 10/10/2016 SCALE AS NOTED

SHEET NUMBER

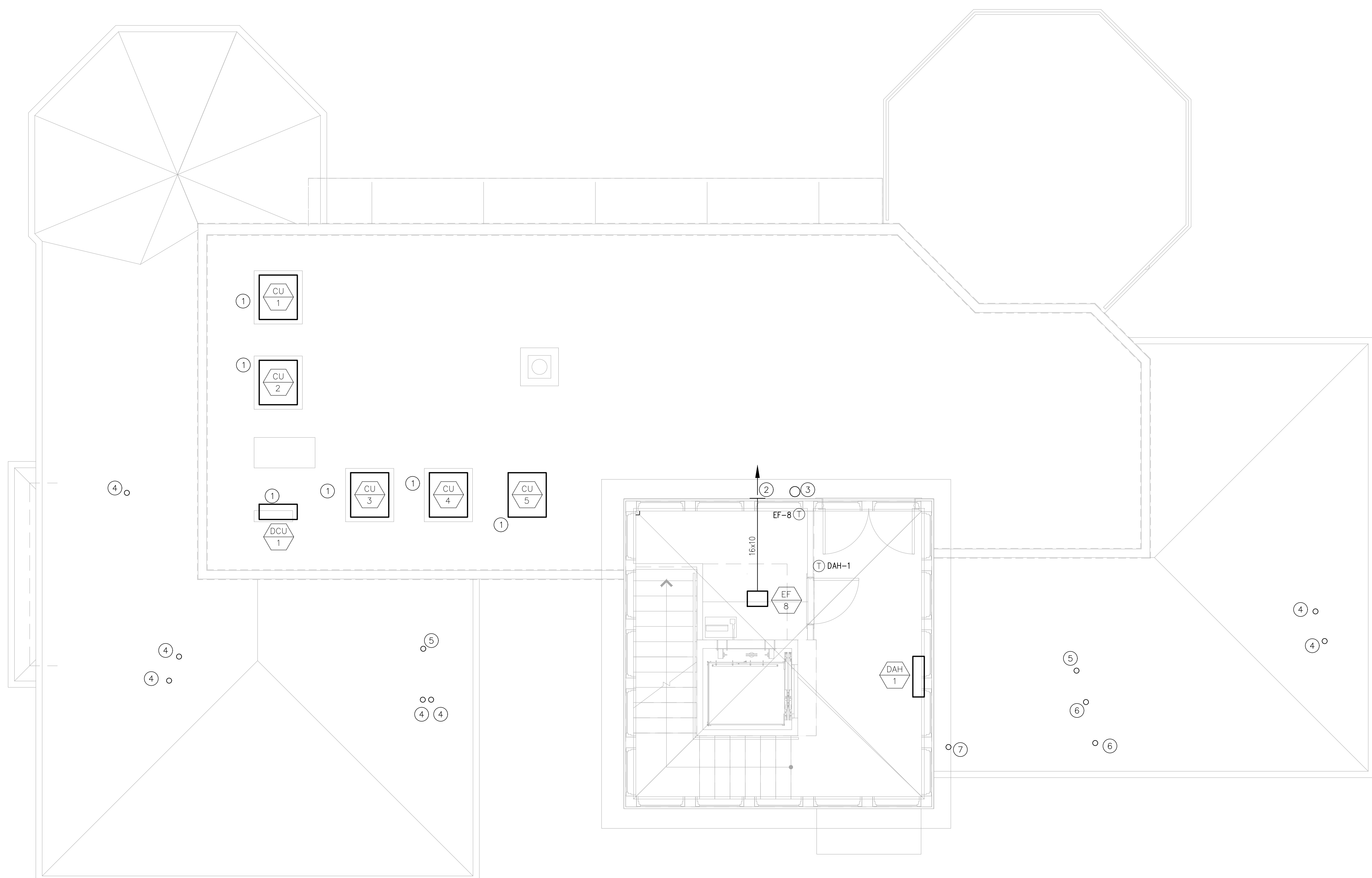
M3-2.00

GENERAL NOTES:

- A. COORDINATE ALL ROOFTOP MECHANICAL EQUIPMENT LOCATIONS WITH ARCHITECTURAL & STRUCTURAL DRAWINGS.
- B. ALL ENVIRONMENTAL EXHAUST AIR OUTLETS ARE TO BE LOCATED A MINIMUM OF 10'-0" AWAY FROM ALL MECHANICAL OUTDOOR AIR INLETS & A MINIMUM OF 3'-0" FROM OPERABLE WINDOWS AND DOORS.
- C. THE ENTIRE MECHANICAL INSTALLATION AND OPERATION SHALL COMPLY WITH ALL OWNERSHIP REQUIREMENTS.
- D. CONTRACTOR SHALL VISIT THE SITE AND BECOME TOTALLY FAMILIAR WITH THE SCOPE OF WORK PRIOR TO SUBMISSION OF BID. ANY LATER CLAIMS FOR EXTRAS SHALL BE DENIED.
- E. ALL NEW MECHANICAL SYSTEMS LOCATED ABOVE CEILINGS SHALL BE INSTALLED AS HIGH AS POSSIBLE, INCLUDING BEING LOCATED BETWEEN STRUCTURAL MEMBERS WHERE POSSIBLE.
- F. FULLY INSULATED LIQUID/SUCTION REFRIGERANT PIPING SHALL BE RUN FROM ALL ROOFTOP CONDENSING UNITS TO THEIR CORRESPONDING AIR HANDLING UNITS. PIPING SHALL BE RUN CONCEALED WITHIN WALL CAVITIES TO THE GREATEST EXTENT POSSIBLE. PIPING SHALL BE SIZED AND INSTALLED PER ALL MANUFACTURERS REQUIREMENTS.


KEY NOTES:

- ① MOUNT ALL ROOFTOP CONDENSING UNITS ON EQUIPMENT RAILS WITH VIBRATION ISOLATION.
- ② PROVIDE 24"x24" SIDEWALL EXHAUST LOUVER.
- ③ PROVIDE ROOF CAP TERMINATION FOR 8"ø 'VENT-A-HOOD' EXHAUST DUCT.
- ④ PROVIDE ROOF CAP TERMINATION FOR 4"ø TOILET EXHAUST VENT
- ⑤ PROVIDE ROOF CAP TERMINATION FOR 4"ø CONCENTRIC COMBUSTION AIR INTAKE AND EXHAUST.
- ⑥ PROVIDE ROOF CAP TERMINATION FROM 4"ø VENT FROM GAS FIRED HOT WATER HEATERS
- ⑦ PROVIDE ROOF CAP TERMINATION FROM 4"ø DRYER VENT.



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DRAWING TITLE
MECHANICAL ROOF DECK PLAN

DATE 10/10/2016 SCALE AS NOTED

SHEET NUMBER

M3-3.00

TAG	SERVICE	LOCATION	ORIENTATION	SUPPLY FAN DATA						HEATING (NAT. GAS)				WEIGHT (lbs.)	MANUFACTURER & MODEL No.	NOTES
				SUPPLY CFM	E.S.P. (IN.)	V/ø/HZ	MOTOR HP	FLA	MOCF	GAS INPUT (MBH)	HEAT OUTPUT (MBH)	TEMP. RISE (°F)	AFUE			
GF-1	FIRST FLOOR BEDROOMS	GARAGE	HORIZONTAL	800	0.50"	120/1/60	1/2	6.8	15.0	66	64	35-65	96.0%	133	LENNOX EL296H070	1,2,3,4
GF-2	KITCHEN/DINING ROOMS	GARAGE	HORIZONTAL	1,000	0.50"	120/1/60	1/2	6.8	15.0	66	64	35-65	96.0%	133	LENNOX EL296H070	1,2,3,4
GF-3	LIVING/BED ROOMS	GARAGE	HORIZONTAL	1,000	0.50"	120/1/60	1/2	6.8	15.0	66	64	35-65	96.0%	133	LENNOX EL296H070	1,2,3,4
GF-4	BEDROOMS	2ND FLOOR	VERTICAL	800	0.50"	120/1/60	1/2	6.8	15.0	66	64	35-65	96.0%	133	LENNOX EL296H070	1,2,3,4
GF-5	BED ROOMS	2ND FLOOR	VERTICAL	800	0.50"	120/1/60	1/2	6.8	15.0	66	64	35-65	96.0%	133	LENNOX EL296H070	1,2,3,4

- NOTES:
- SUSPENSION KIT W/ VIBRATION ISOLATION
 - SEALED COMBUSTION CONCENTRIC VENTING KIT
 - AIR FILTER
 - SECONDARY DRAIN PAN W/ MOISTURE SENSOR

TAG	SERVICE	LOCATION	REFRIG.	COOLING MBH	SEER	ELECTRICAL			MANUFACTURER & MODEL No.	WEIGHT (LBS.)
						V/ø/HZ	M.C.A.	M.O.C.P.		
CU-1	FIRST FLOOR BEDROOMS	ROOF	R-410A	24.0	14.5	230/1/60	15.0	25	LENNOX XC14-024	200
CU-2	KITCHEN/DINING ROOMS	ROOF	R-410A	30.0	15.0	230/1/60	17.1	25	LENNOX XC14-030	215
CU-3	LIVING/BED ROOMS	ROOF	R-410A	30.0	15.0	230/1/60	17.1	25	LENNOX XC14-030	215
CU-4	BEDROOMS	ROOF	R-410A	24.0	14.5	230/1/60	15.0	25	LENNOX XC14-024	200
CU-5	BED ROOMS	ROOF	R-410A	24.0	14.5	230/1/60	15.0	25	LENNOX XC14-024	200

- NOTES:
- MOUNT ON ROOFTOP EQUIPMENT RAILS/CURBS
 - DISCONNECT SWITCH
 - VIBRATION ISOLATION
 - PROVIDE FULLY INSULATED REFRIGERANT LINES FROM CU'S TO CORRESPONDING CC'S

1 GAS FURNACE SCHEDULE

6 CONDENSING UNIT SCHEDULE

SCALE: NONE

SCALE: NONE

TAG	SERVICE	LOCATION	ORIENTATION	REFRIG.	COOLING (MBH)	MANUFACTURER & MODEL No.	WEIGHT (LBS.)
CC-1	FIRST FLOOR BEDROOMS	GARAGE	HORIZONTAL	R-410A	24.0	LENNOX CH33-24	42
CC-2	KITCHEN/DINING ROOMS	GARAGE	HORIZONTAL	R-410A	30.0	LENNOX CH33-30	42
CC-3	LIVING/BED ROOMS	GARAGE	HORIZONTAL	R-410A	30.0	LENNOX CH33-30	42
CC-4	BEDROOMS	GARAGE	HORIZONTAL	R-410A	24.0	LENNOX CH33-24	42
CC-5	BED ROOMS	GARAGE	HORIZONTAL	R-410A	24.0	LENNOX CH33-24	42

- NOTES:
- SUSPENSION KIT W/ VIBRATION ISOLATION
 - EXPANSION VALVE KIT
 - SECONDARY DRAIN PAN W/ MOISTURE SENSOR

TAG	SERVICE	CFM	FAN TYPE	E.S.P. (IN W.G.)	ELECTRICAL DATA				MANUFACTURER & MODEL No.
					VOLTS	ø	HZ	WATTS	
EF 1-7	BATHROOM	110	CEILING	0.1	120	1	60	24.3	PANASONIC FV-11VQCS
EF 8	TOWER	506	INLINE	0.125	120	1	60	218	GREENHECK CSP-A510

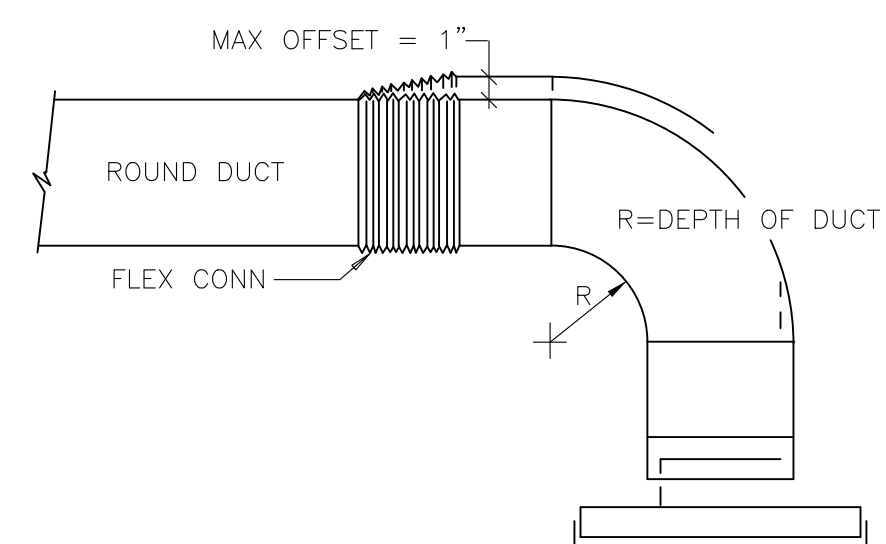
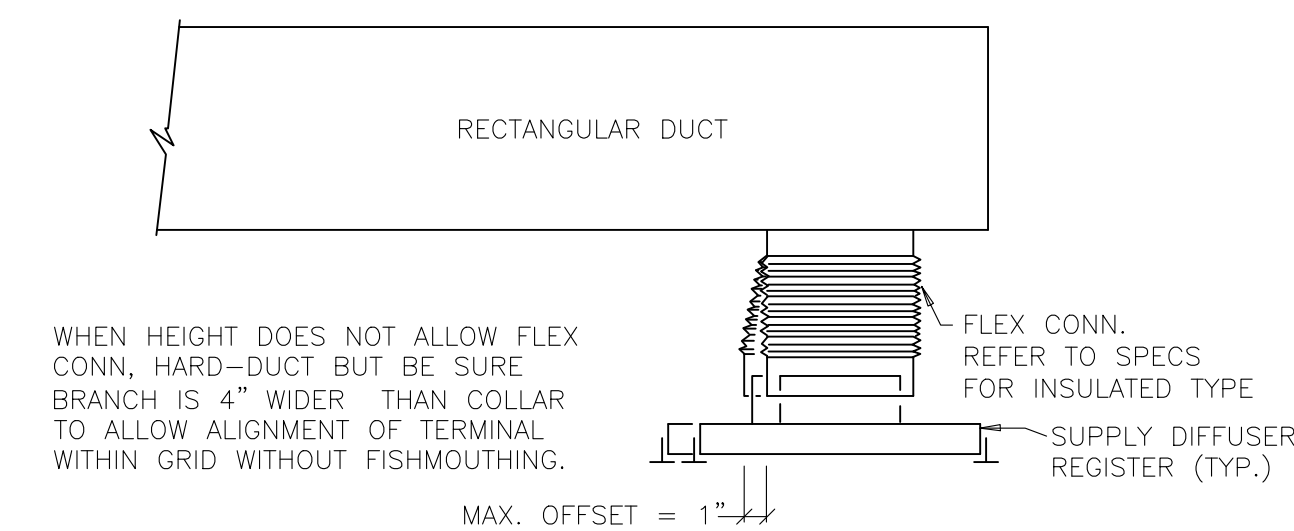
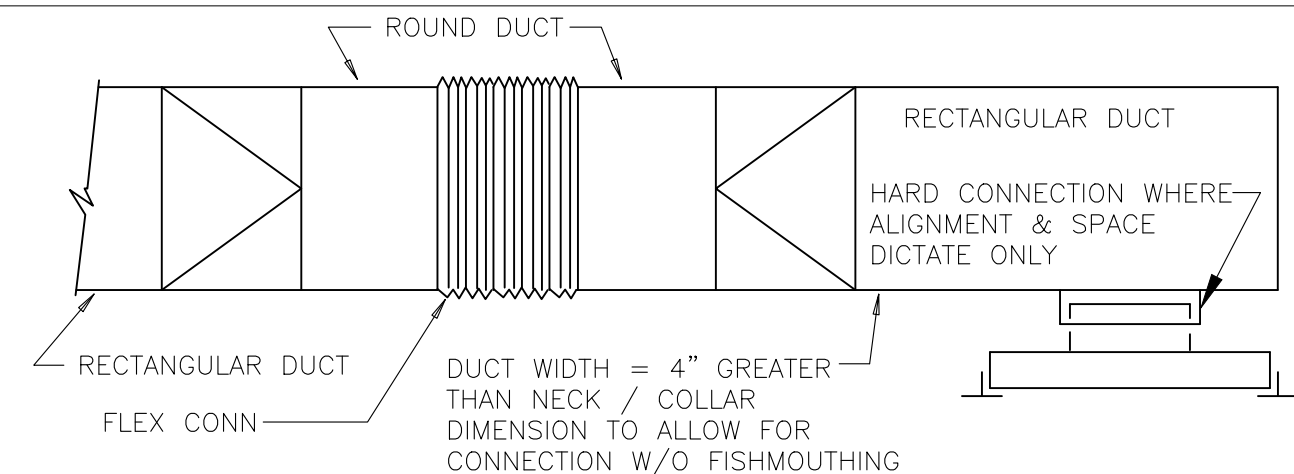
- NOTES:
- MOUNTING/HANGING ACCESSORIES
 - DISCONNECT SWITCH
 - WALL/ROOF VENT CAP
 - WALL SWITCH
 - PROVIDE SEPARATE CONTROL FOR HEATER, FAN & LIGHT COMPONENTS

2 COOLING COIL SCHEDULE

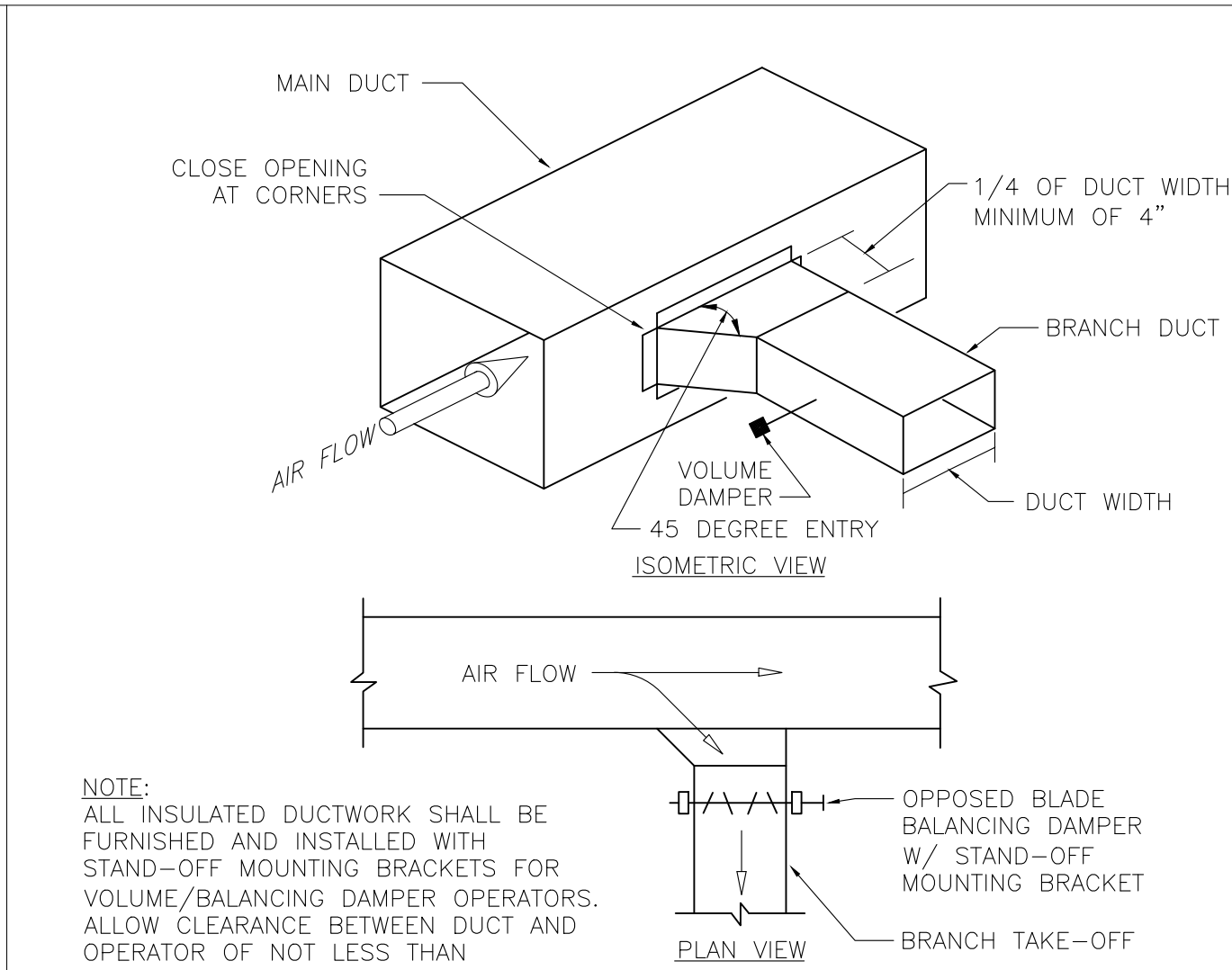
7 EXHAUST FAN SCHEDULE

SCALE: NONE

SCALE: NONE



- NOTES:
- THESE DETAILS ALLOW DUCTWORK TO BE PROVIDED BEFORE CEILING GRID IS INSTALLED THEN DIFFUSER/REGISTER CAN BE POSITIONED INTO GRID.
 - PROVIDE INSULATED TRANSITION ROUND TO SQUARE IF REQUIRED AT DIFFUSER.
 - PROVIDE NYLON TY-WRAP TOOL OR REUSABLE SS DRAW BAND PER SPECS.
 - FLEX DUCT SHALL NOT HAVE MORE THAN 1/2" SAG PER FOOT.
 - LENGTH OF FLEX DUCT SHALL NOT EXCEED 3'-0".
 - PROVIDE DUCT MOUNTED VOLUME DAMPER WHENEVER POSSIBLE. TRY TO AVOID NECK DAMPERS.



- NOTE:
- ALL INSULATED DUCTWORK SHALL BE FURNISHED AND INSTALLED WITH STAND-OFF MOUNTING BRACKETS FOR VOLUME/BALANCING DAMPER OPERATORS. ALLOW CLEARANCE BETWEEN DUCT AND OPERATOR OF NOT LESS THAN INSULATION THICKNESS.

4 BRANCH DUCT TAKE-OFF DETAIL

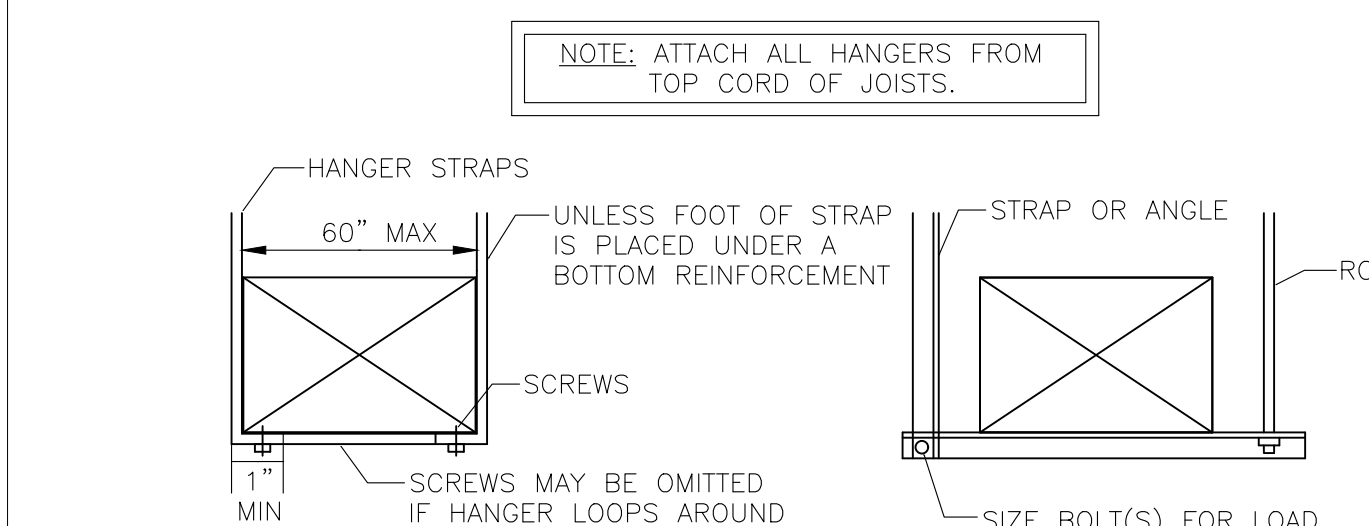
8 DUCTLESS SPLIT SYSTEM SCHEDULE

SCALE: NONE

SCALE: NONE

TAG	SERVICE	LOCATION	CFM	COOLING CAP. (MBH)	HEATING CAP. (MBH)	ELECTRICAL DATA					MANUFACTURER & MODEL No.	WEIGHT (LBS.)
						VOLTS	ø	HZ	MCA	MOP		
DAH-1/DCU-1	TOWER	WALL/ROOF	500	18.0	20.0	230	1	60	16.5	20	DAIKIN FAQ18PVJU/RZQ18PVJU9	31/150

- NOTES:
- PROVIDE ALL MOUNTING/HANGING ACCESSORIES
 - LOW AMBIENT CONTROL
 - CONDENSATE PUMP
 - WIRELESS CONTROLLER



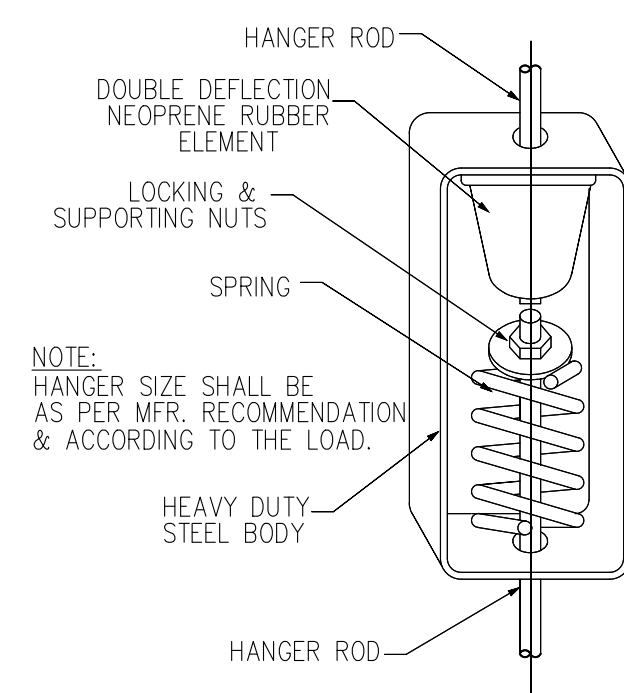
- NOTES:
- ON DUCTS OVER 48" WIDE, BOTTOM SHALL BE BRACED BY ANGLE. FOR CROSS SECTION AREA MORE THAN 8 SQ. FT. DUCT SHALL BE BRACED BY ANGLES ON ALL FOUR SIDES.
 - CUTTING AND PATCHING SHALL BE LIMITED TO A MINIMUM AS REQUIRED FOR PROPER INSTALLATION.
 - SUPPORTS SHALL BE SPACED AND SIZED AS PER SMACNA.

5 DUCT HANGER SUPPORT DETAIL

SCALE: NONE

9 VIBRATION ISOLATION DETAIL

SCALE: NONE



TAG	LOCATION	CAPACITY		ELEC DATA			MANUFACTURER & MODEL No. (OR EQUAL)	
		CFM	KW	VOLT	ø	HZ		AMPS
EWH-1	UTILITY CLOSET	100	1.5	240	1	60	8.3	QMARK LFK204

- NOTES:
- MOUNTING ACCESSORIES
 - INTEGRAL THERMOSTAT
 - DISCONNECT SWITCH

10 ELECTRIC WALL HEATER SCHEDULE

SCALE: NONE

3 TYPICAL SUPPLY DIFFUSER CONNECTION DETAILS

SCALE: NONE

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DRAWING TITLE
MECHANICAL SCHEDULES AND DETAILS

DATE: 10/10/2016 SCALE: AS NOTED

SHEET NUMBER

M4.00

A. SCOPE OF WORK

- THIS CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, EQUIPMENT, SERVICES, TOOLS, TRANSPORTATION AND FACILITIES NECESSARY FOR, REASONABLY IMPLIED AND INCIDENTAL TO, THE FURNISHING, INSTALLATION, COMPLETION AND TESTING OF ALL WORK FOR THE PLUMBING SYSTEMS AS SHOWN ON THE DRAWINGS, CALLED FOR IN THE SPECIFICATIONS, AND AS REQUIRED BY JOB CONDITIONS, TO INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
 - COMPLETE SANITARY PIPING SYSTEMS OF WASTE, DRAINS, AND VENTS.
 - COMPLETE COLD AND HOT WATER PIPING SYSTEMS, APPURTENANCES AND INSULATION.
 - FIXTURES AND EQUIPMENT AS SCHEDULED AND PER OWNER REQUIREMENTS.
 - TESTS AND ADJUSTMENTS.
- BEFORE STARTING WORK, THIS CONTRACTOR SHALL EXAMINE THE ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL PLANS AND SPECIFICATIONS TO SEQUENCE, COORDINATE, AND INTEGRATE THE VARIOUS ELEMENTS OF THE PLUMBING SYSTEM, MATERIALS, AND EQUIPMENT WITH OTHER CONTRACTORS TO AVOID INTERFERENCES AND CONFRONTATIONS.

B. EQUIPMENT AND INSTALLATION

- ALL EQUIPMENT AND MATERIALS, EXCEPT AS OTHERWISE SPECIFIED, SHALL BE NEW, OF CURRENT PRODUCTION, FIRST QUALITY AND OF THE BEST OF EACH CLASS SPECIFIED. MATERIALS, PRODUCTS, AND EQUIPMENT SHALL BE DELIVERED TO JOBSITE WITH FACTORY PACKAGING BEARING MANUFACTURER'S NAME OR LABEL, AND UNION LABEL WHENEVER PRACTICAL.
- SINKS, FAUCETS, DISHWASHER AND CLOTHS WASHER ARE PROVIDED BY OTHER. THE PLUMBING CONTRACTOR SHALL INSTALL AND MAKE ALL FINAL CONNECTIONS. SEE PLANS FOR FURTHER INFORMATION.
- PIPING OF DISSIMILAR METALS MUST BE DIELECTRICALLY SEPARATED.
- TEST WATER PRESSURE TO INSURE MINIMUM PSI MATCHES MOST DEMANDING EQUIPMENT SUPPLIED.
- INSTALL ALL NECESSARY PIPE HANGERS, SADDLES, AND CARRIERS TO PROPERLY SUPPORT ALL PIPING AND FIXTURES. HANGERS SHALL SUIT TYPE OF PIPING PROVIDED AND BE SPACED AT A MAXIMUM SPAN OF 5 FEET. PROVIDE SWAY AND SEISMIC BRACING WHERE REQUIRED BY CODES.
- ESCUTCHEONS SHALL BE CHROME PLATED, SIZE AS REQUIRED AND PLACED AT ALL PIPE PENETRATIONS AT WALLS, FLOORS, AND CEILINGS IN FINISHED AREAS.
- LEAKAGE TESTS SHALL BE PER LOCAL CODES:
- FLASHING SHALL BE SEALED WATERTIGHT AND PERFORMED IN ACCORDANCE TO THE HOME OWNERS CRITERIA. USE A HOME OWNER APPROVED ROOFING CONTRACTOR.

C. REGULATIONS AND PERMITS

- PROVIDE NOTICES, FILE PLANS, OBTAIN PERMITS AND LICENSES, PAY FEES, AND OBTAIN NECESSARY APPROVALS FROM AUTHORITIES HAVING JURISDICTION.
- PAY FOR AND OBTAIN ALL REQUIRED PERMITS & SCHEDULE INSPECTIONS IN A TIMELY MANNER AS TO NOT DELAY THE PROJECT. OBTAIN ALL NECESSARY PERMITS INCLUDING BUT NOT LIMITED TO ENTERING MANHOLES, USE OF WATER FROM LOW PRESSURE HYDRANTS, DEMOLITION AND NEW WORK, ETC. PRIOR TO COMMENCE OF WORK.

D. EXECUTION

- PLUMBING INSTALLATIONS GENERAL: SEQUENCE, COORDINATE, AND INTEGRATE THE VARIOUS ELEMENTS OF PLUMBING SYSTEMS, MATERIALS, AND EQUIPMENT. COMPLY WITH THE FOLLOWING REQUIREMENTS:
 - COORDINATE SYSTEMS, EQUIPMENT, AND MATERIALS INSTALLATION WITH OTHER BUILDING COMPONENTS.
 - VERIFY ALL DIMENSIONS BY FIELD MEASUREMENTS.
 - ARRANGE FOR CHASES, SLOTS, AND OPENINGS IN OTHER BUILDING COMPONENTS DURING PROGRESS OF CONSTRUCTION, TO ALLOW FOR MECHANICAL INSTALLATIONS.
 - COORDINATE THE INSTALLATION OF REQUIRED SUPPORTING DEVICES AND SLEEVES TO BE SET IN POURED-IN-PLACE CONCRETE AND OTHER STRUCTURAL COMPONENTS, AS THEY ARE CONSTRUCTED.
 - INSTALL SYSTEMS, MATERIALS, AND EQUIPMENT LEVEL AND PLUMB, PARALLEL AND PERPENDICULAR TO OTHER BUILDING SYSTEMS AND COMPONENTS, WHERE INSTALLED EXPOSED IN FINISHED SPACES.
 - INSTALL EQUIPMENT TO FACILITATE SERVICING, MAINTENANCE, AND REPAIR OR REPLACEMENT OF EQUIPMENT COMPONENTS. AS MUCH AS PRACTICAL, CONNECT EQUIPMENT FOR EASE OF DISCONNECTING, WITH MINIMUM OF INTERFERENCE WITH OTHER INSTALLATIONS.
 - PROVIDE ACCESS PANELS OR DOORS WHERE UNITS ARE CONCEALED BEHIND FINISHED SURFACES.
 - COMPLY WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS, TO THE EXTENT THAT THOSE INSTRUCTIONS AND RECOMMENDATIONS ARE MORE EXPLICIT OR STRINGENT THAN REQUIREMENTS CONTAINED IN CONTRACT DOCUMENTS.
 - INSPECT MATERIALS OR EQUIPMENT IMMEDIATELY UPON DELIVERY AND AGAIN PRIOR TO INSTALLATION. REJECT DAMAGED AND DEFECTIVE ITEMS.

E. VALVES

- DOMESTIC WATER
 - BALL VALVES SHALL BE APOLLO, 2 PIECE BRONZE, WITH TFE TEFLON SEATS AND SEALS WITH STEEL LEVER HANDLES WITH STOPS. VALVE SHALL ONLY REQUIRE QUARTER TURN TO OPEN & CLOSE

F. DRAINAGE AND VENT SYSTEMS

- SUMMARY THIS SECTION INCLUDES BUILDING SANITARY DRAINAGE AND VENT PIPING SYSTEMS.
- SEQUENCING AND SCHEDULING COORDINATE THE INSTALLATION OF DRAINS IN POURED-IN-PLACE CONCRETE SLABS, TO INCLUDE PROPER DRAIN ELEVATIONS, INSTALLATION OF FLASHING, AND SLOPE OF SLAB TO DRAINS. COORDINATE WITH INSTALLATION OF SANITARY SEWER SYSTEMS AS NECESSARY TO INTERFACE BUILDING DRAINS WITH DRAINAGE PIPING SYSTEMS.
- WASTE, DRAIN AND VENT PIPING SHALL BE SCHEDULE 40 DWV PVC PIPE. ALTERNATE PIPING MATERIALS ARE ACCEPTABLE AS A SUBSTITUTION WHEN THEIR USE IS PERMITTED BY THE HOME OWNER, LOCAL CODES AND BUILDING DEPARTMENT OFFICIALS AND DOES NOT AFFECT OTHER TRADES. SUBSTITUTIONS MUST BE LISTED AND QUALIFIED IN BID.
- CLEAN-OUTS SHALL BE INSTALLED PER LOCAL CODES. WALL COVERS ARE TO BE STAINLESS STEEL AND FLOOR COVERS ARE TO BE BRASS. ALL CLEAN-OUT LOCATIONS SHALL BE APPROVED BY G.C.'S CONSTRUCTION MANAGER.
- TEST DRAIN, WASTE, VENT PIPING BY A 10' WATER COLUMN FOR TWO HOURS.

G. DOMESTIC WATER

- BELOW GRADE: TYPE 'K' HARD COPPER TUBE: ASTM B 88, TYPE K AND L, WATER TUBE, ANNEALED TEMPER.
 - COPPER PRESSURE FITTINGS: ASME B16.18, CAST-COPPER-ALLOY OR ASME B16.22, WROUGHT-COPPER, SOLDER-JOINT FITTINGS. FURNISH WROUGHT-COPPER FITTINGS IF INDICATED.
 - BRONZE FLANGES: ASME B16.24, CLASS 150, WITH SOLDER-JOINT END. FURNISH CLASS 300 FLANGES IF REQUIRED TO MATCH PIPING.
 - COPPER UNIONS: MSS SP-123, CAST-COPPER-ALLOY, HEXAGONAL-STOCK BODY, WITH BALL-AND-SOCKET, METAL-TO-METAL SEATING SURFACES AND SOLDER-JOINT OR THREADED ENDS.
- ABOVE GRADE PEX TUBE: ASTM F 877, SDR 9, WATER TUBE.
 - PEX TUBE FITTINGS: ASTM F 1807, METAL-INSET TYPE WITH COPPER OR STAINLESS-STEEL CRIMP RINGS AND MATCHING PEX TUBE DIMENSION.
 - MANIFOLD: MULTIPLE-OUTLET, PLASTIC OR CORROSION-RESISTANT-METAL ASSEMBLY COMPLYING WITH ASTM F 877; WITH PLASTIC OR CORROSION-RESISTANT-METAL VALVE FOR EACH OUTLET.
 - JOINTS FOR PEX PIPING: JOIN ACCORDING TO ASTM F 1807.
- TEST WATER PIPING AT 100 PSIG FOR SIX HOURS.

H. PIPE INSULATION

- INSULATE ALL DOMESTIC WATER PIPING SYSTEMS. ACCEPTABLE MANUFACTURERS
 - MANUFACTURER: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS OF ONE OF THE FOLLOWING:
 - ARMSTRONG WORLD INDUSTRIES, INC.
 - CERTAINTED CORP.
 - JOHNS MANVILLE INSULATIONS
 - KNAUF FIBER GLASS
 - OWENS-CORNING FIBERGLAS CORP.
 - PIPING INSULATION MATERIALS
 - FIBERGLASS PIPING INSULATION: ASTM C 547; 'K' VALUE OF 0.24 AT 75 DEGREES F; NONCOMBUSTIBLE.
 - JACKETS FOR PIPING INSULATION: ASTM C 921, TYPE I (VAPOR BARRIER) FOR PIPING WITH TEMPERATURES BELOW AMBIENT, TYPE II FOR PIPING WITH TEMPERATURES ABOVE AMBIENT. TYPE I MAY BE USED FOR ALL PIPING AT INSTALLERS OPTION.
 - ENCASE PIPE FITTINGS INSULATION WITH ONE-PIECE PRE MOLDED PVC FITTING COVERS, FASTENED AS PER MANUFACTURER'S RECOMMENDATIONS.
 - STAPLES, BANDS, WIRES, AND CEMENT: AS RECOMMENDED BY INSULATION MANUFACTURER FOR APPLICATIONS INDICATED. USE STAINLESS STEEL STAPLES IF REQUIRED FOR PIPING BELOW AMBIENT TEMPERATURE.
 - ADHESIVES, SEALERS, AND PROTECTIVE FINISHES: AS RECOMMENDED BY INSULATION MANUFACTURER FOR APPLICATIONS INDICATED.

I. SUBMITTALS

PRIOR TO THE PERFORMANCE OF ANY WORK OR INSTALLATION OF ANY MATERIALS, OBTAIN APPROVAL FROM THE ARCHITECT BY SUBMITTING SHOP DRAWINGS AND DATA SHEETS.

SUBMITTAL OF SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES WILL BE ACCEPTED ONLY WHEN SUBMITTED BY THE GENERAL CONTRACTOR. DATA SUBMITTED FROM SUBCONTRACTORS AND MATERIAL SUPPLIERS DIRECTLY TO THE ARCHITECT WILL NOT BE PROCESSED. CERTIFIED DRAWINGS AND CATALOG DATA SHEETS SHALL SHOW:

- SPECIFICALLY WHAT ITEMS AND FEATURES ARE TO BE PROVIDED.
- APPLICABLE SPECIFICATION SECTION NUMBER AND EQUIPMENT TAG NUMBER.
- PRINCIPAL DIMENSIONS AND DETAILS OF CONSTRUCTION.
- WEIGHTS: INFORMATION REQUIRED FOR THE DESIGN OF SUPPORTS AND FOUNDATIONS.
- SIZES AND LOCATIONS OF PIPING AND CONNECTIONS.
- PERFORMANCE DATA CERTIFIED BY THE MANUFACTURER.
- SUBMIT SCHEDULE OF PROPOSED PIPING, VALVES, SPECIALTIES, ETC.
- ANY DEVIATIONS FROM THE CONTRACT DOCUMENTS SHALL BE SEPARATELY IDENTIFIED.

PLUMBING SUBMITTALS SHALL BE PROVIDED FOR THE FOLLOWING ITEMS:

- PIPING AND FITTING MATERIALS.
- PLUMBING VALVES AND SPECIALTIES.
- PIPING HANGER AND ATTACHMENT ASSEMBLIES.
- PIPING INSULATION.
- ALL SCHEDULED PLUMBING FIXTURES, DRAINS, AND CLEANOUTS.
- UTILITY CONNECTION DETAILS REQUIRED BY AUTHORITIES HAVING JURISDICTION.
- RECORD SHOP DRAWINGS TO REFLECT APPROVALS RECEIVED.

NATURAL GAS SYSTEMS

PART 1. - GENERAL

1.1 SUMMARY

A. THIS SECTION INCLUDES DISTRIBUTION PIPING SYSTEMS FOR LP/UNDILUTED PROPANE GAS. PIPING MATERIALS AND EQUIPMENT SPECIFIED IN THIS SECTION INCLUDE:
1. PIPES, FITTINGS, AND SPECIALTIES.
2. SPECIAL DUTY VALVES.

1.2 QUALITY ASSURANCE

REGULATORY REQUIREMENTS: COMPLY WITH THE REQUIREMENTS OF THE LOCAL AND STATE CODES AND REGULATIONS.

PART 2. - PRODUCTS

2.1 PIPE AND TUBING MATERIALS,

STEEL PIPE: ASTM A 106, SCHEDULE 40, BLACK STEEL PIPE, BEVELED ENDS.

2.2 FITTINGS

MALLEABLE-IRON THREADED FITTINGS: ANSI B16.3, CLASS 150, STANDARD PATTERN, FOR THREADED JOINTS. THREADS SHALL CONFORM TO ANSI B1.20.1.
2.3 PIPING SPECIALTIES

UNIONS: ANSI B16.39, CLASS 150 GALVANIZED OR BLACK MALLEABLE IRON; FEMALE PATTERN; BRASS TO IRON SEAT; GROUND JOINT.

PROTECTIVE COATING: EXTERIOR PIPING SHALL BE PAINTED WITH ONE COAT OF PRIMER SUITABLE FOR GALVANIZED PIPING SYSTEMS, AND TWO COATS OF RUST-PROOF PAINT.

2.4 VALVES AND STRAINERS

SHUT-OFF VALVES: SHUT-OFF AND BY-PASS VALVES SHALL BE LUBRICATED PLUG COCKS AS MANUFACTURED BY ROCKWELL MANUFACTURING CO., FIG. #142 FOR SIZES THROUGH 2" AND FIG. #143 FOR 2 1/2" AND LARGER.

PART 3. - EXECUTION

3.1 SERVICE APPLICATIONS, ABOVEGROUND GAS PIPING

GENERAL: SELECT FROM ALTERNATE PIPING AND ACCESSORIES AS LISTED BELOW.

- MAXIMUM WORKING PRESSURE: 100 PSIG
- TEMPERATURE RANGE (F): -20 TO 130

SCREWED STEEL PIPE - SIZE RANGE THROUGH 2 INCH
PIPE: STEEL JOINTS: SCREWED
FITTINGS: MALLEABLE-IRON THREADED FITTINGS
FLANGES: STEEL FLANGES
SHUTOFF VALVE: PLUG VALVE

3.2 PIPING INSTALLATIONS

GENERAL: CONFORM TO THE REQUIREMENTS OF FUEL GAS CODE.

DRIPS AND SEDIMENT TRAPS: INSTALL A DRIP LEG AT POINTS WHERE CONDENSATE MAY COLLECT, IN A LOCATION READILY ACCESSIBLE TO PERMIT CLEANING AND EMPTYING.
1. CONSTRUCT DRIPS AND SEDIMENT TRAPS USING A TEE FITTING WITH THE BOTTOM OUTLET PLUGGED OR CAPPED. USE A MINIMUM OF 3 PIPE DIAMETERS IN LENGTH FOR THE DRIP LEG. USE SAME SIZE PIPE FOR DRIP LEG AS THE CONNECTED PIPE.

INSTALL GAS PIPING AT A UNIFORM GRADE OF 1/4 INCH IN 15 FEET, UPWARD TO RISERS, AND FROM THE RISERS TO THE METER, OR SERVICE REGULATOR WHEN METER IS NOT PROVIDED, OR THE EQUIPMENT.

CONNECT BRANCH OUTLET PIPES FROM THE TOP OR SIDES OF HORIZONTAL LINES, NOT FROM THE BOTTOM.

INSTALL UNIONS IN PIPES 2 INCH AND SMALLER, ADJACENT TO EACH VALVE, AT FINAL CONNECTIONS EACH PIECE OF EQUIPMENT, AND ELSEWHERE AS INDICATED. UNIONS ARE NOT REQUIRED ON FLANGED DEVICES.

3.3 FIELD QUALITY CONTROL

PIPING TESTS: INSPECT, TEST, AND PURGE UNDILUTED PROPANE GAS SYSTEMS IN ACCORDANCE WITH CODES AND LOCAL UTILITY REQUIREMENTS.

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REVISIONS:

DATE:	NO.	DESCRIPTION:
-	-	-

PROJECT NUMBER
21507-00

PROJECT NAME
MEYER RESIDENCE
1 LORI ROAD
MONMOUTH BEACH, NJ 07750

PHASE
BUILDING PERMIT & CONSTRUCTION

N.J. CERTIFICATE OF AUTHORIZATION: 24628150800

SEAL

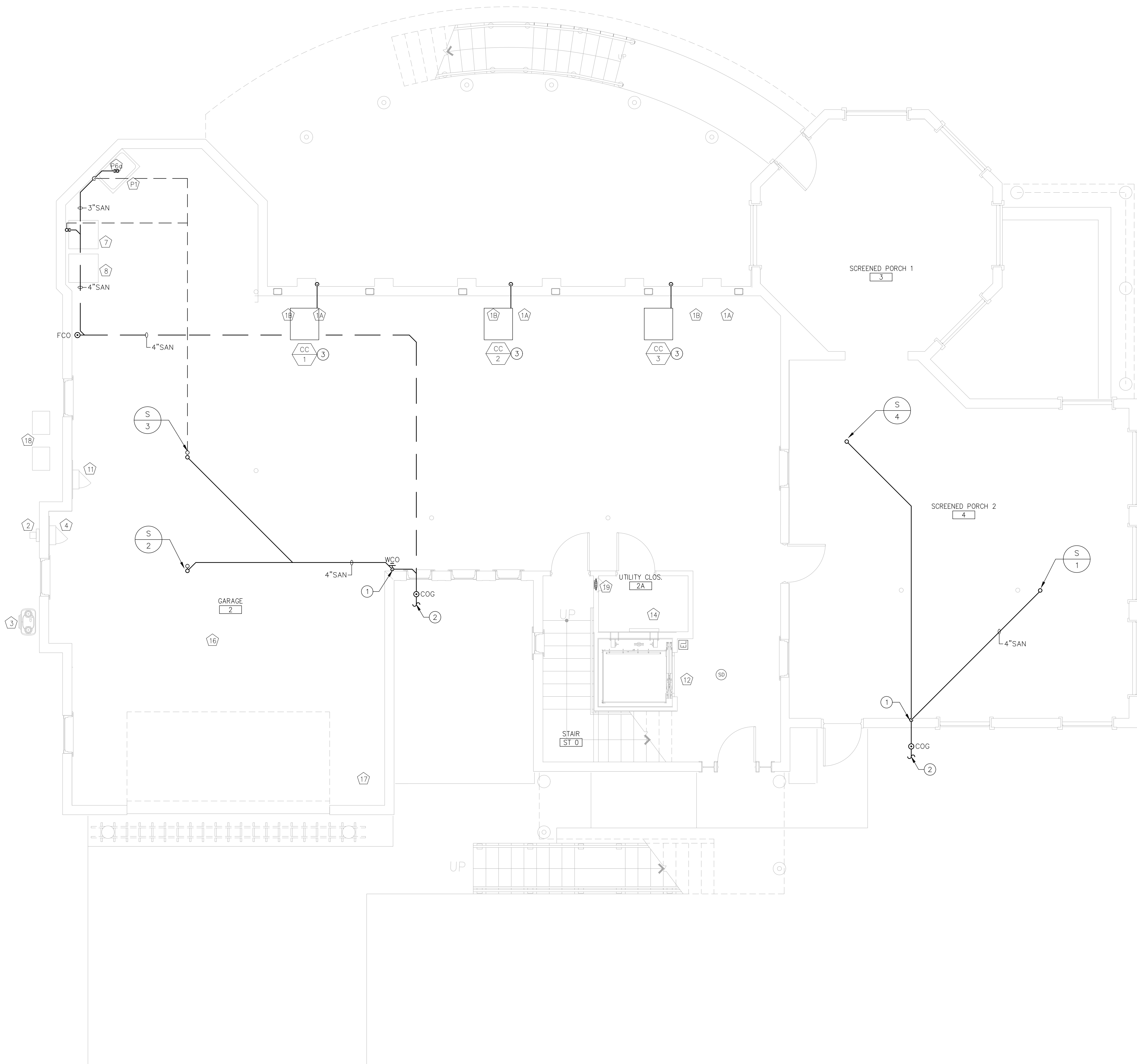
Stephen A. Bray
PROFESSIONAL ENGINEER
NJ LICENSE: GE44144 101016

DRAWING TITLE
PLUMBING SPECIFICATIONS

DATE
10/10/2016 SCALE
AS NOTED


SHEET NUMBER

P2.00



GENERAL NOTES:

- A. PRIOR TO SUBMISSION OF BID THE PLUMBING CONTRACTOR SHALL CAREFULLY INSPECT AND ACQUAINT THEMSELVES WITH EXISTING CONDITIONS IN ORDER THAT HE FULLY UNDERSTANDS THE WORK REQUIRED. ANY LATER CLAIMS FOR EXTRAS SHALL BE DENIED.
- B. THE PLUMBING CONTRACTOR SHALL VERIFY ALL LOCATIONS AND ELEVATIONS OF EXISTING SERVICES AND UTILITIES BEFORE STARTING ANY WORK. REPORT ANY DISCREPANCIES TO THE ARCHITECT AND ENGINEER FOR RESOLUTION.
- C. THE ENTIRE PLUMBING INSTALLATION AND OPERATION SHALL COMPLY WITH ALL HOME OWNER REQUIREMENTS.
- D. PIPING LAYOUTS ARE DIAGRAMMATIC AND INTENDED TO SHOW GENERAL ARRANGEMENT, SIZE, AND CAPACITY. ALL OFFSETS ARE NOT NECESSARILY SHOWN. THE PLUMBING CONTRACTOR SHALL ARRANGE AND COORDINATE THE WORK, FURNISH NECESSARY OFFSETS, VALVES, VENTS, AND FITTINGS TO AVOID CONFLICTS WITH OTHER MECHANICAL AND ELECTRICAL SERVICES AND WITH STRUCTURAL AND ARCHITECTURAL ELEMENTS.

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KEY NOTES:

- ① 4" SAN ON TO BELOW FLOOR. PIPE DROP IN EXTERIOR WALL SHALL BE IN INTERIOR PORTION OF WALL INSULATION TO PROTECT FROM FREEZING TEMPERATURES.
- ② TO CITY SEWER CONNECTION. SEE SITE PLANS FOR MORE INFORMATION.
- ③ CONDENSATE FROM COOLING COILS SHALL SPILL TO GRADE.

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REVISIONS:

DATE:	NO.	DESCRIPTION:
-	-	-

PROJECT NUMBER
21507-00

PROJECT NAME
MEYER RESIDENCE
1 LORI ROAD
MONMOUTH BEACH, NJ 07750

PHASE
BUILDING PERMIT & CONSTRUCTION

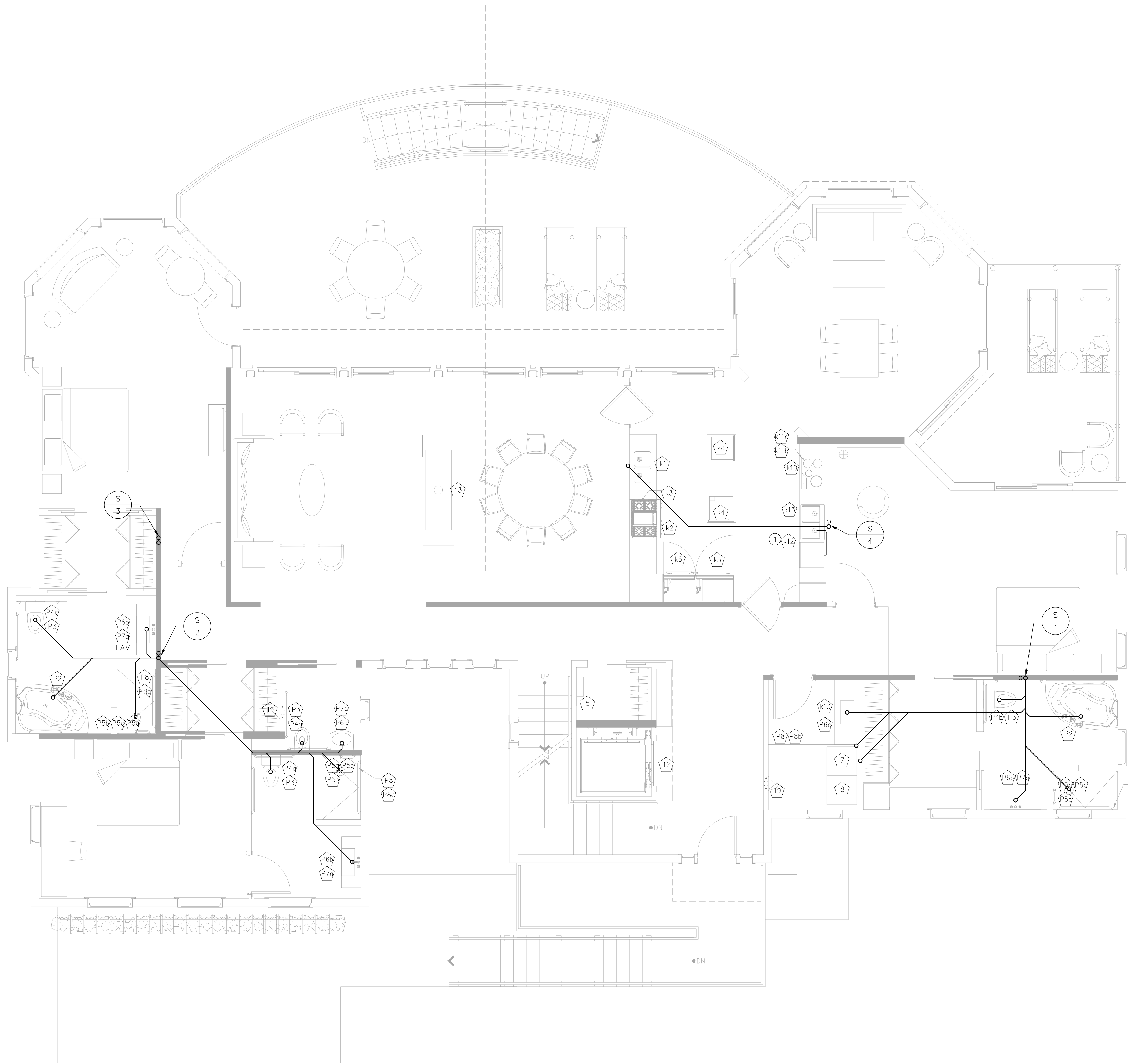
N.J. CERTIFICATE OF AUTHORIZATION: 2462815000
SEAL

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NJ LICENSE: GE44144 101016

DRAWING TITLE
PLUMBING
GROUND FLOOR
SANITARY PLAN

DATE 10/10/2016 SCALE AS NOTED

SHEET NUMBER
P3-0.00



GENERAL NOTES:

- PRIOR TO SUBMISSION OF BID THE PLUMBING CONTRACTOR SHALL CAREFULLY INSPECT AND ACQUAINT THEMSELVES WITH EXISTING CONDITIONS IN ORDER THAT HE FULLY UNDERSTANDS THE WORK REQUIRED. ANY LATER CLAIMS FOR EXTRAS SHALL BE DENIED.
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- THE ENTIRE PLUMBING INSTALLATION AND OPERATION SHALL COMPLY WITH ALL HOME OWNER REQUIREMENTS.
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KEY NOTES:

- DISHWASHER WASTE TO SPILL TO KITCHEN SINK TAILPIECE. DISHWASHER WASTE LINE SHALL RISE AND BE SECURELY FASTENED TO THE UNDERSIDE OF COUNTER, OR SINK RIM, TO PROVIDE AIR BREAK PER LOCAL CODE REQUIREMENTS. DISHWASHER DRAIN LINE INCLUDED WITH EQUIPMENT.

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REVISIONS:

DATE:	NO.	DESCRIPTION:
-	-	-

PROJECT NUMBER
21507-00

PROJECT NAME
MEYER RESIDENCE
1 LORI ROAD
MONMOUTH BEACH, NJ 07750

PHASE
BUILDING PERMIT & CONSTRUCTION

N.J. CERTIFICATE OF AUTHORIZATION: 2462815000
SEAL

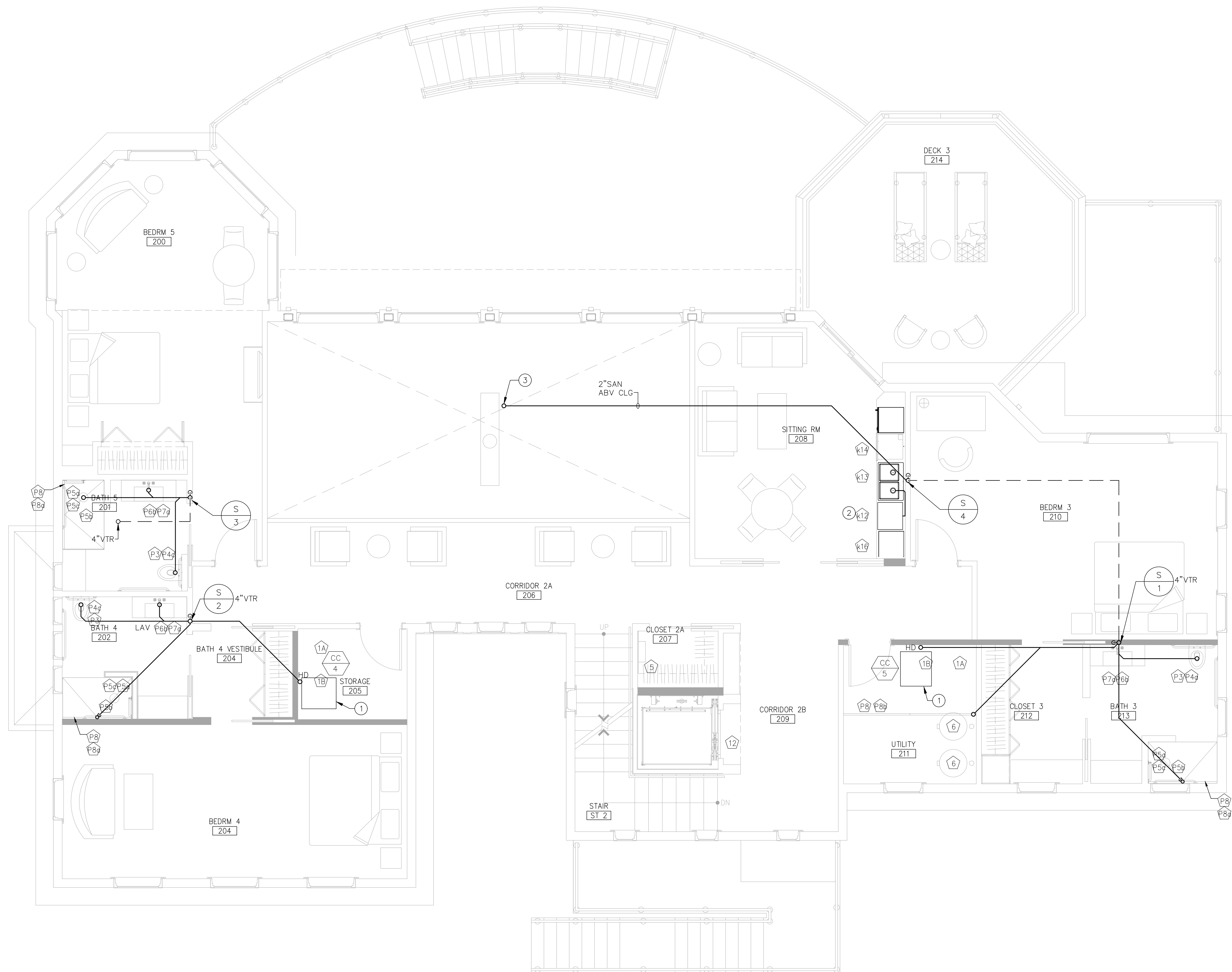
Stephen A. Bray
PROFESSIONAL ENGINEER
NJ LICENSE: GE44144 10/10/16

DRAWING TITLE
PLUMBING MAIN FLOOR SANITARY PLAN

DATE 10/10/2016 SCALE AS NOTED

SHEET NUMBER

P3-1



GENERAL NOTES:

- A. PRIOR TO SUBMISSION OF BID THE PLUMBING CONTRACTOR SHALL CAREFULLY INSPECT AND ACQUAINT THEMSELVES WITH EXISTING CONDITIONS IN ORDER THAT HE FULLY UNDERSTANDS THE WORK REQUIRED. ANY LATER CLAIMS FOR EXTRAS SHALL BE DENIED.
- B. THE PLUMBING CONTRACTOR SHALL VERIFY ALL LOCATIONS AND ELEVATIONS OF EXISTING SERVICES AND UTILITIES BEFORE STARTING ANY WORK. REPORT ANY DISCREPANCIES TO THE ARCHITECT AND ENGINEER FOR RESOLUTION.
- C. THE ENTIRE PLUMBING INSTALLATION AND OPERATION SHALL COMPLY WITH ALL HOME OWNER REQUIREMENTS.
- D. PIPING LAYOUTS ARE DIAGRAMMATIC AND INTENDED TO SHOW GENERAL ARRANGEMENT, SIZE, AND CAPACITY. ALL OFFSETS ARE NOT NECESSARILY SHOWN. THE PLUMBING CONTRACTOR SHALL ARRANGE AND COORDINATE THE WORK, FURNISH NECESSARY OFFSETS, VALVES, VENTS, AND FITTINGS TO AVOID CONFLICTS WITH OTHER MECHANICAL AND ELECTRICAL SERVICES AND WITH STRUCTURAL AND ARCHITECTURAL ELEMENTS.

KEY NOTES:

- ① CONDENSATE DRAIN LINE FROM COOLING COIL SHALL SPILL TO HUB DRAIN WITH APPROVED AIR GAP.
- ② DISHWASHER WASTE TO SPILL TO KITCHEN SINK TAILPIECE. DISHWASHER WASTE LINE SHALL RISE AND BE SECURELY FASTENED TO THE UNDERSIDE OF COUNTER, OR SINK RIM, TO PROVIDE AIR BREAK PER LOCAL CODE REQUIREMENTS. DISHWASHER DRAIN LINE INCLUDED WITH EQUIPMENT.
- ③ 2" SAN UP TO CAPPED CONNECTION AT ROOF DECK FOR FUTURE USE.

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REVISIONS:

DATE	NO.	DESCRIPTION
-	-	-

PROJECT NUMBER
21507-00

PROJECT NAME
MEYER RESIDENCE
1 LORI ROAD
MONMOUTH BEACH, NJ 07750

PHASE
BUILDING PERMIT & CONSTRUCTION

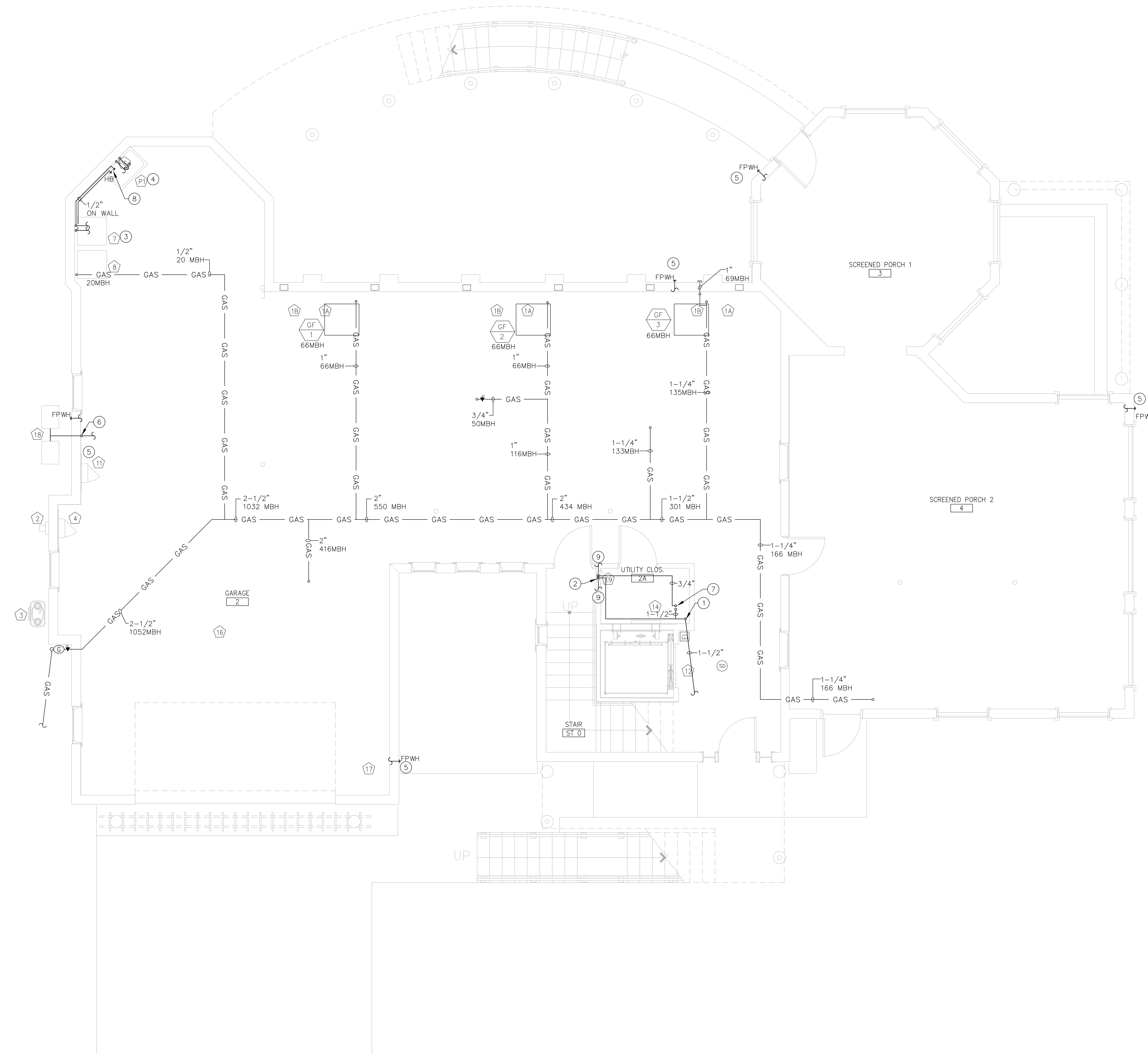
N.J. CERTIFICATE OF AUTHORIZATION: 2462815000
 SEAL

Stephen A. Bray
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 NJ LICENSE: GE44144 101016

DRAWING TITLE
PLUMBING SECOND FLOOR SANITARY PLAN

DATE 10/10/2016 SCALE AS NOTED

SHEET NUMBER
P3-2.00



GENERAL NOTES:

- PRIOR TO SUBMISSION OF BID THE PLUMBING CONTRACTOR SHALL CAREFULLY INSPECT AND ACQUAINT THEMSELVES WITH EXISTING CONDITIONS IN ORDER THAT HE FULLY UNDERSTANDS THE WORK REQUIRED. ANY LATER CLAIMS FOR EXTRAS SHALL BE DENIED.
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KEY NOTES:

- 1-1/2" CW SERVICE DN TO BELOW FLOOR TO SITE DOMESTIC WATER SERVICE MAIN. PROVIDE SHUT-OFF VALVE ON RISER PORTION OF PIPE FOR SYSTEM SHUT DOWN DURING WINTER MONTHS. ANY PORTION OF WATER SERVICE PIPE EXPOSED TO POTENTIAL FREEZING TEMPERATURES SHALL BE PROTECTED VIA INSULATION AND HEAT TRACE.
- 3/4" C&HW INTO MANIFOLD 3 AND SERVING FIXTURES ON GROUND FLOOR AS NOTED. PROVIDE SHUT-OFF VALVES ON C&HW INLET PIPING AHEAD OF CONNECTING TO MANIFOLD. SHUT-OFF VALVES TO BE USED FOR GROUND FLOOR WATER SYSTEM ISOLATION AND WINTERIZATION.
- 1/2" CW AND HW TO WASHER FROM MANIFOLD THREE ON GROUND FLOOR
- 1/2" CW AND HW TO SERVICE SINK FROM MANIFOLD THREE ON GROUND FLOOR
- 3/4" CW TO FPWH FROM MANIFOLD THREE ON GROUND FLOOR
- 3/4" CW DN TO IRRIGATION VALVES SERVED FROM MANIFOLD THREE ON GROUND FLOOR.
- 1-1/2" CW & 3/4" HW RISERS UP TO FLOORS ABOVE
- ROUTE 1/2" C&HW FROM THE BOTTOM OF CLOTHS WASHER SUPPLY RISERS OVER TO WINTERIZATION HOSE BIBBS LOCATED AT MOP SINK BASIN. C&HW HOSE BIBBS SHALL BE USED TO DRAIN GROUND FLOOR C&HW PIPING FOR WINTERIZING.
- PROVIDE INDIVIDUAL C&HW LINES, AS NEEDED, TO GROUND FLOOR FIXTURES. MANIFOLD WITH INTEGRAL C&HW SHUT-OFF VALVES FOR EACH FIXTURE. EACH BRANCH FROM THE MANIFOLD SHALL BE LABELED FOR FIXTURE SERVED.

MANIFOLD 3 FIXTURES: QUANTITIES AS SHOWN ON PLAN

- MOP SINK
- WASHER
- IRRIGATION VALVE BOX
- FPWH FROST PROOF WALL HYDRANT

REVISIONS:

DATE:	NO.	DESCRIPTION:

PROJECT NUMBER
21507-00

PROJECT NAME
MEYER RESIDENCE

1 LORI ROAD
MONMOUTH BEACH, NJ 07750

PHASE
BUILDING PERMIT & CONSTRUCTION

N.J. CERTIFICATE OF AUTHORIZATION: 2462815000
 SEAL

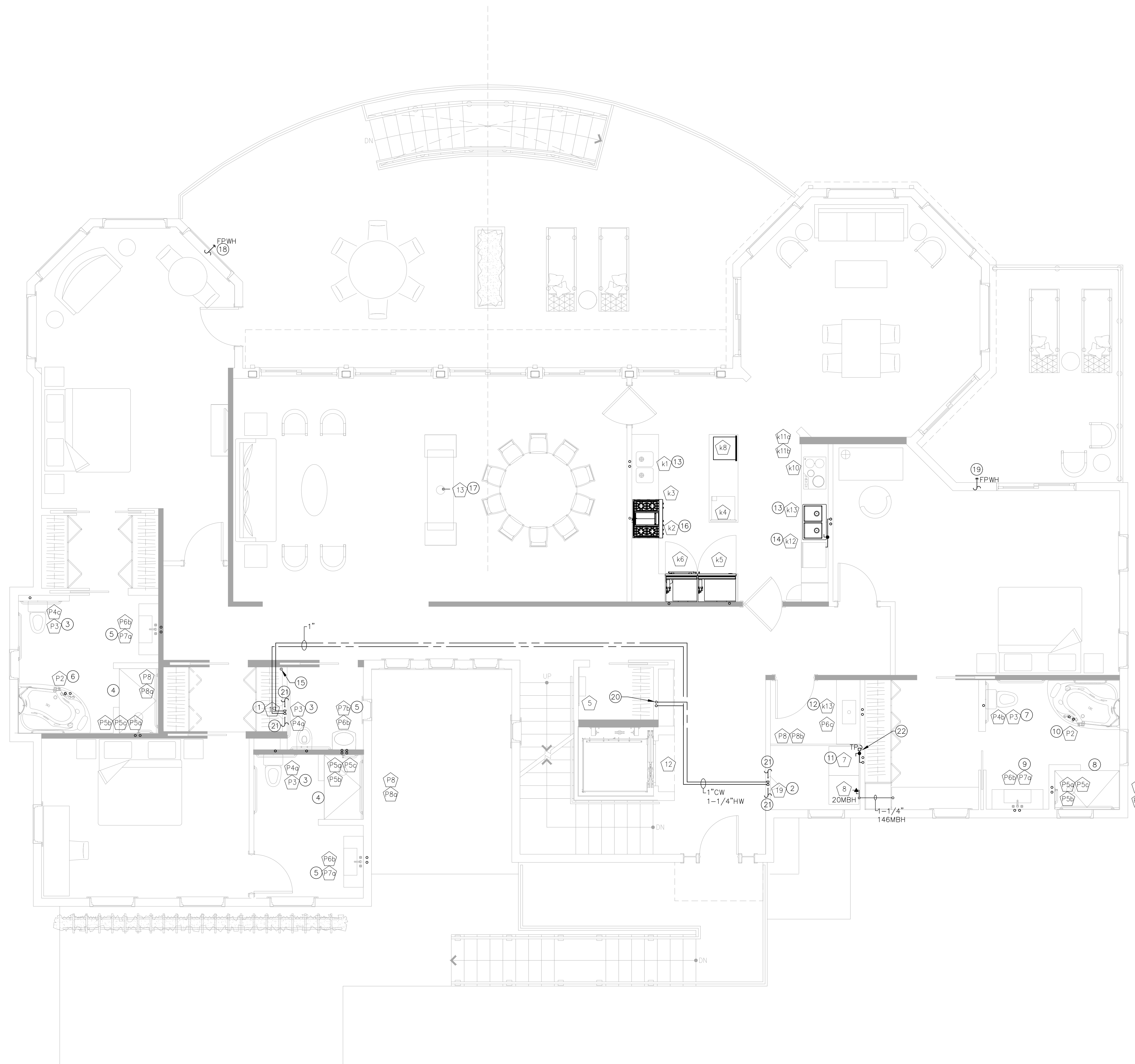
Stephen A. Bray
 PROFESSIONAL ENGINEER
 NJ LICENSE: GE44144 101016

DRAWING TITLE
PLUMBING GROUND FLOOR SUPPLY PLAN

DATE
10/10/2016

SCALE
AS NOTED

SHEET NUMBER
P4-0.00



GENERAL NOTES:

- PRIOR TO SUBMISSION OF BID THE PLUMBING CONTRACTOR SHALL CAREFULLY INSPECT AND ACQUAINT THEMSELVES WITH EXISTING CONDITIONS IN ORDER THAT HE FULLY UNDERSTANDS THE WORK REQUIRED. ANY LATER CLAIMS FOR EXTRAS SHALL BE DENIED.
- THE PLUMBING CONTRACTOR SHALL VERIFY ALL LOCATIONS AND ELEVATIONS OF EXISTING SERVICES AND UTILITIES BEFORE STARTING ANY WORK. REPORT ANY DISCREPANCIES TO THE ARCHITECT AND ENGINEER FOR RESOLUTION.
- THE ENTIRE PLUMBING INSTALLATION AND OPERATION SHALL COMPLY WITH ALL HOME OWNER REQUIREMENTS.
- PIPING LAYOUTS ARE DIAGRAMMATIC AND INTENDED TO SHOW GENERAL ARRANGEMENT, SIZE, AND CAPACITY. ALL OFFSETS ARE NOT NECESSARILY SHOWN. THE PLUMBING CONTRACTOR SHALL ARRANGE AND COORDINATE THE WORK, FURNISH NECESSARY OFFSETS, VALVES, VENTS, AND FITTINGS TO AVOID CONFLICTS WITH OTHER MECHANICAL AND ELECTRICAL SERVICES AND WITH STRUCTURAL AND ARCHITECTURAL ELEMENTS.

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- KEY NOTES:**
- 1" C&HW INTO MANIFOLD 1 AND SERVING FIXTURES AS NOTED
 - 1" CW AND 1-1/4" HW INTO MANIFOLD 2 TO SERVE FIXTURES AS NOTED
 - 1/2" CW TO WATER CLOSET FROM MANIFOLD ONE ON MAIN FLOOR
 - 1/2" CW AND HW TO SHOWER FROM MANIFOLD ONE ON MAIN FLOOR
 - 1/2" CW AND HW TO LAV FROM MANIFOLD ONE ON MAIN FLOOR
 - 1/2" CW AND HW TO TUB FROM MANIFOLD ONE ON MAIN FLOOR
 - 1/2" CW TO WATER CLOSET FROM MANIFOLD TWO ON MAIN FLOOR
 - 1/2" CW AND HW TO SHOWER FROM MANIFOLD TWO ON MAIN FLOOR
 - 1/2" CW AND HW TO LAV FROM MANIFOLD TWO ON MAIN FLOOR
 - 1/2" CW AND HW TO TUB FROM MANIFOLD TWO ON MAIN FLOOR
 - 1/2" CW AND HW TO WASHING MACHINE FROM MANIFOLD TWO ON MAIN FLOOR
 - 1/2" CW AND HW TO LAUNDRY SINK FROM MANIFOLD TWO ON MAIN FLOOR
 - 1/2" CW AND HW TO KITCHEN SINK FROM MANIFOLD TWO ON MAIN FLOOR
 - 1/2" HW TO DISHWASHER FROM KITCHEN SINK HW SUPPLY.
 - 2" GAS UP TO SECOND FLOOR
 - 1/2" GAS SERVING GAS RANGE
 - 1/2" GAS SERVING FIRE PLACE
 - 3/4" COLD WATER CONNECTION FROM MANIFOLD ONE ON MAIN FLOOR TO FROST PROOF HOSE BIB
 - 3/4" COLD WATER CONNECTION FROM MANIFOLD TWO ON MAIN FLOOR TO FROST PROOF HOSE BIB
 - 1-1/2" CW & 2" HW RISERS IN WALL
 - PROVIDE INDIVIDUAL C&HW LINES, AS NEEDED, TO GROUND FLOOR AND SECOND FLOOR FIXTURES. MANIFOLD WITH INTEGRAL C&HW SHUT-OFF VALVES FOR EACH FIXTURE. EACH BRANCH FROM THE MANIFOLD SHALL BE LABELED FOR FIXTURE SERVED.
 - 1/2" CW FROM AUTOMATIC TRAP PRIMER TO FLOOR DRAIN P-TRAP. INSTALL PRIMER PER MANUFACTURER INSTRUCTION CONCEALED BEHIND EQUIPMENT.

REVISIONS:

DATE:	NO.	DESCRIPTION:
-	-	-

PROJECT NUMBER: 21507-00

PROJECT NAME: MEYER RESIDENCE

1 LORI ROAD
 MONMOUTH BEACH, NJ 07750

PHASE: BUILDING PERMIT & CONSTRUCTION

N.J. CERTIFICATE OF AUTHORIZATION: 2462815000
 SEAL:

MANIFOLD 1 FIXTURES: QUANTITIES AS SHOWN ON PLAN

FIRST FLOOR:	SECOND FLOOR:
P2 COMBO WHIRLPOOL TUB/SHOWER	P2 COMBO WHIRLPOOL TUB/SHOWER
P3 TOILET	P3 TOILET
P5 SHOWER	P5 SHOWER
P6b BATHROOM SINK	P6b BATHROOM SINK
FPWH FROST PROOF WALL HYDRANT	

MANIFOLD 2 FIXTURES: QUANTITIES AS SHOWN ON PLAN

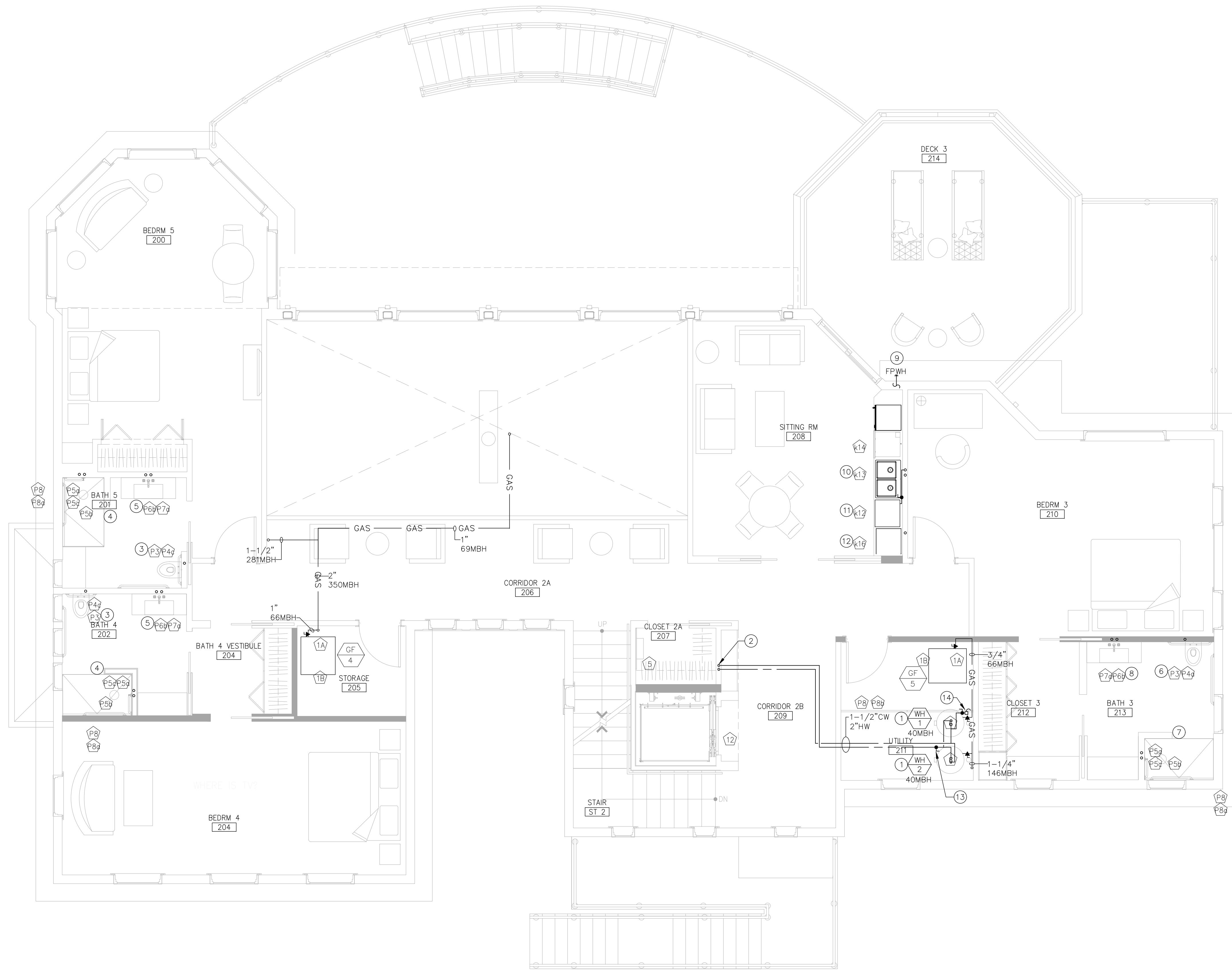
FIRST FLOOR:	SECOND FLOOR:
P2 COMBO WHIRLPOOL TUB/SHOWER	P2 COMBO WHIRLPOOL TUB/SHOWER
P3 TOILET	P3 TOILET
P5 SHOWER	P5 SHOWER
P6b BATHROOM SINK	P6b BATHROOM SINK
P6c LAUNDRY SINK	K13 SINK B
7 WASHER	K16 BAR REFRIGERATOR
K13 SINK B	FPWH FROST PROOF WALL HYDRANT
FPWH FROST PROOF WALL HYDRANT	

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DRAWING TITLE:
PLUMBING MAIN FLOOR SUPPLY PLAN

DATE: 10/10/2016 SCALE: AS NOTED

SHEET NUMBER:
P4-1.00



GENERAL NOTES:

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- THE ENTIRE PLUMBING INSTALLATION AND OPERATION SHALL COMPLY WITH ALL HOME OWNER REQUIREMENTS.
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KEY NOTES:

- (2) 60 GALLON GAS FIRED HOT WATER HEATERS MANIFOLDED TOGETHER SERVING THE ENTIRE HOUSE.
- 1-1/2" CW & 2" HW RISERS DOWN TO MANIFOLD 1 AND 2 LOCATED ON MAIN FLOOR, AND MANIFOLD 3 LOCATED ON THE GROUND LEVEL
- 1/2" CW TO WATER CLOSET FROM MANIFOLD ONE ON MAIN FLOOR
- 1/2" CW AND HW TO SHOWER FROM MANIFOLD ONE ON MAIN FLOOR
- 1/2" CW AND HW TO LAV FROM MANIFOLD ONE ON MAIN FLOOR
- 1/2" CW TO WATER CLOSET FROM MANIFOLD TWO ON MAIN FLOOR
- 1/2" CW AND HW TO SHOWER FROM MANIFOLD TWO ON MAIN FLOOR
- 1/2" CW AND HW TO LAV FROM MANIFOLD TWO ON MAIN FLOOR
- 3/4" COLD WATER CONNECTION FROM MANIFOLD TWO ON MAIN FLOOR TO FROST PROOF HOSE BIB
- 1/2" CW AND HW TO KITCHEN SINK FROM MANIFOLD TWO ON MAIN FLOOR
- 1/2" HW TO DISHWASHER FROM KITCHEN SINK HW SUPPLY
- 1/2" CW TO REF FROM MANIFOLD TWO ON MAIN FLOOR
- SHUT-OFF VALVE ON HW MAIN AFTER WATER HEATER HEADER TO PROVIDE OWNER WITH EASY SEASONAL SHUT-DOWN OF HOT WATER SYSTEM.
- 1/2" CW FROM AUTOMATIC TRAP PRIMER TO FLOOR DRAIN P-TRAP. INSTALL PRIMER PER MANUFACTURER INSTRUCTION CONCEALED BEHIND EQUIPMENT.

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REVISIONS:

DATE:	NO.	DESCRIPTION:
-	-	-

PROJECT NUMBER
21507-00

PROJECT NAME
MEYER RESIDENCE

1 LORI ROAD
MONMOUTH BEACH, NJ 07750

PHASE
BUILDING PERMIT & CONSTRUCTION

N.J. CERTIFICATE OF AUTHORIZATION: 2462815000
 SEAL

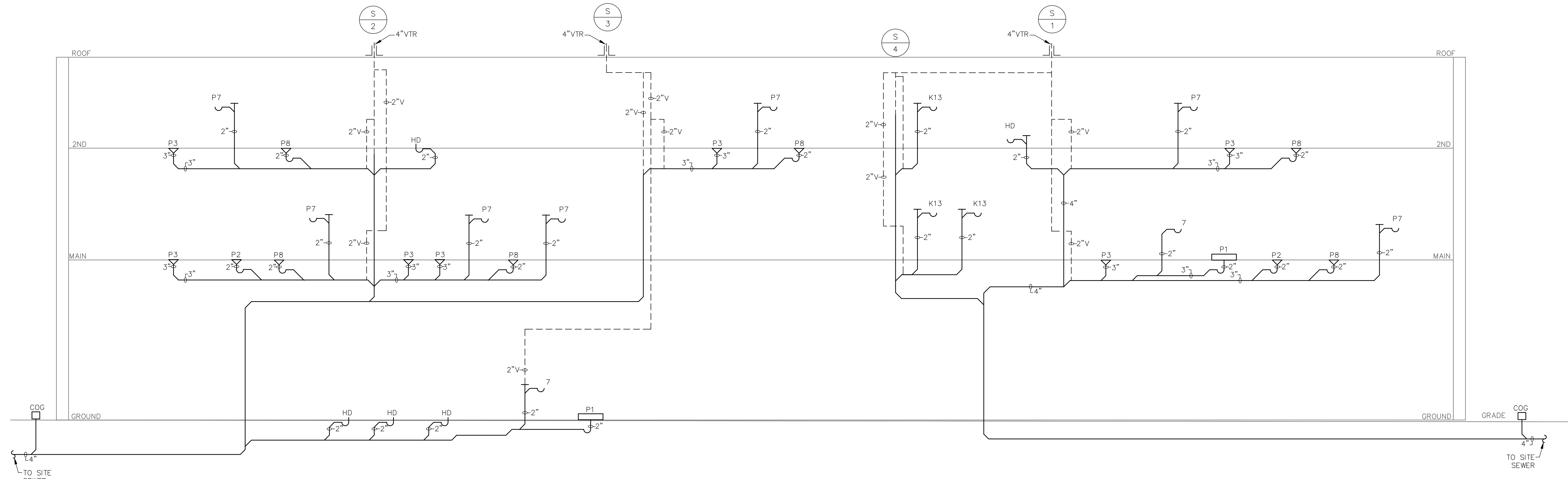
Stephen A. Bray
 PROFESSIONAL ENGINEER
 NJ LICENSE: GE44144 101016

DRAWING TITLE
PLUMBING SECOND FLOOR SUPPLY PLAN

DATE
10/10/2016

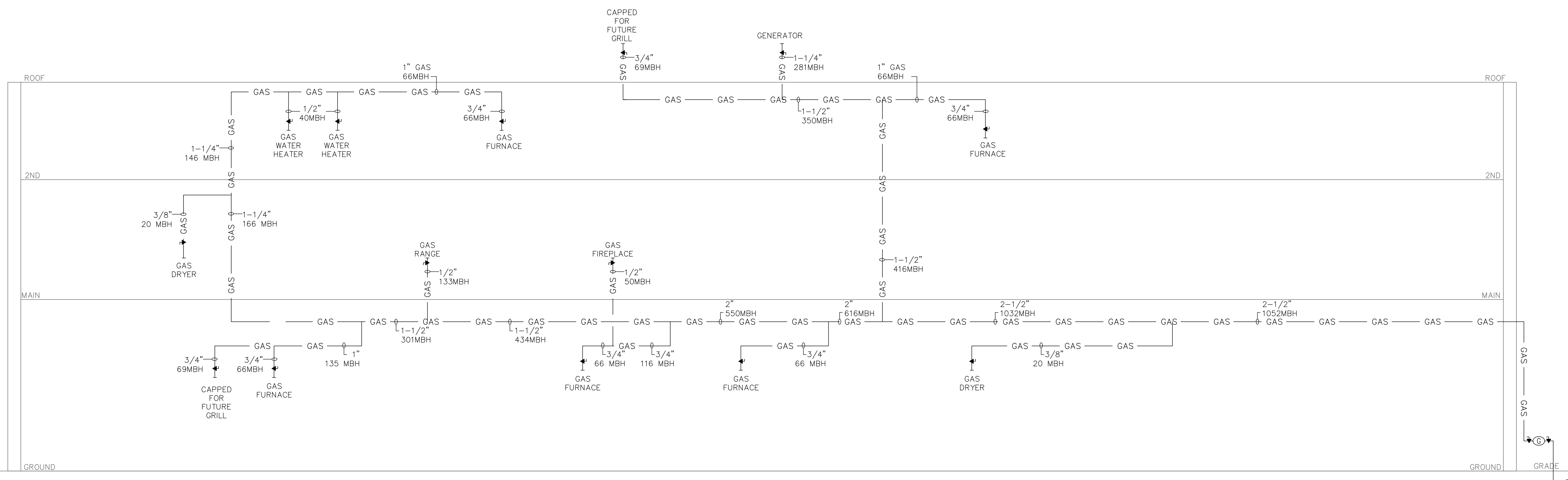
SCALE
AS NOTED

SHEET NUMBER
P4-2.00



1 SANITARY RISER DIAGRAM

SCALE: NTS



2 GAS PIPING RISER DIAGRAM

SCALE: NTS

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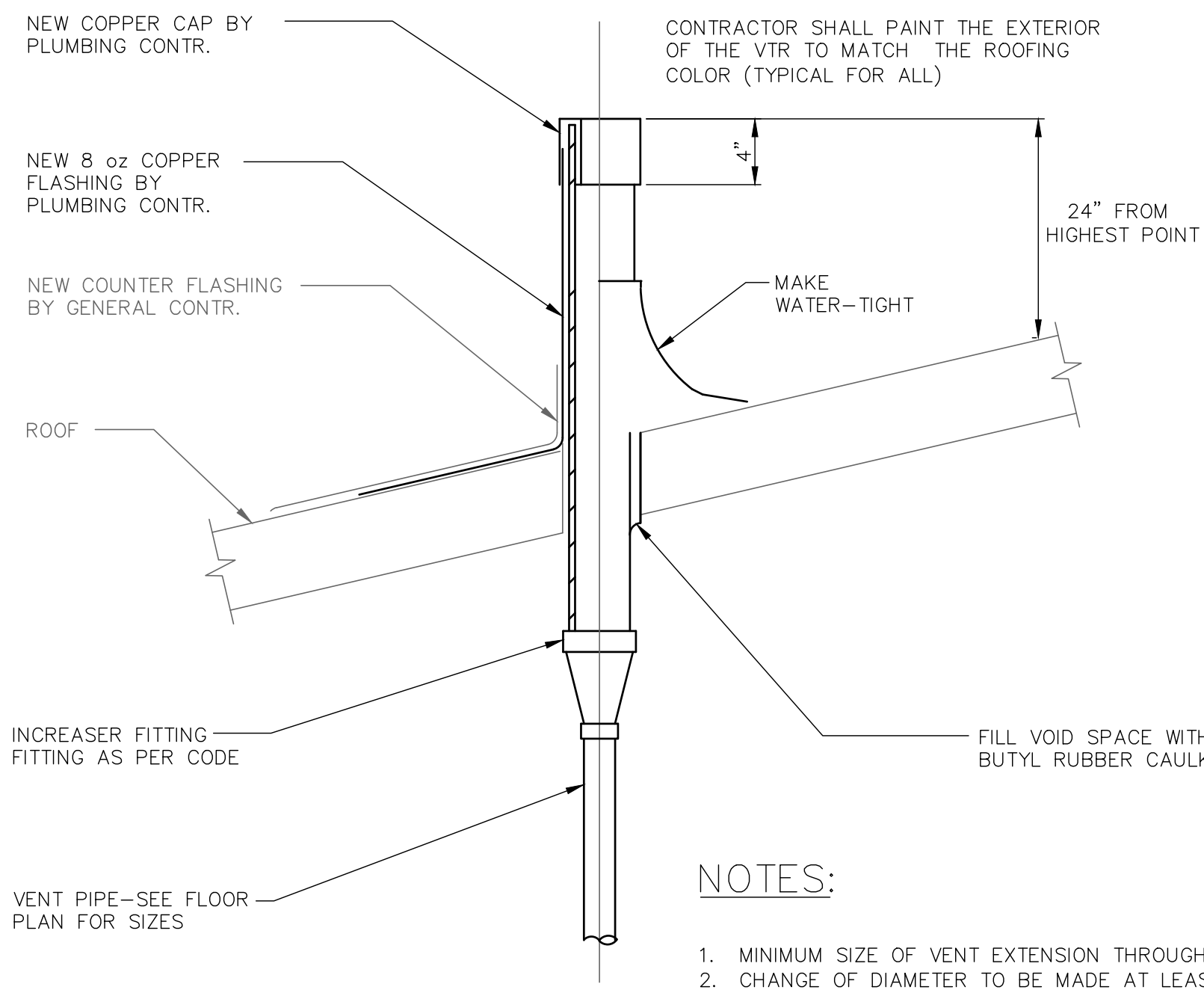
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PLUMBING RISER DIAGRAMS

DATE 10/10/2016 SCALE AS NOTED

SHEET NUMBER

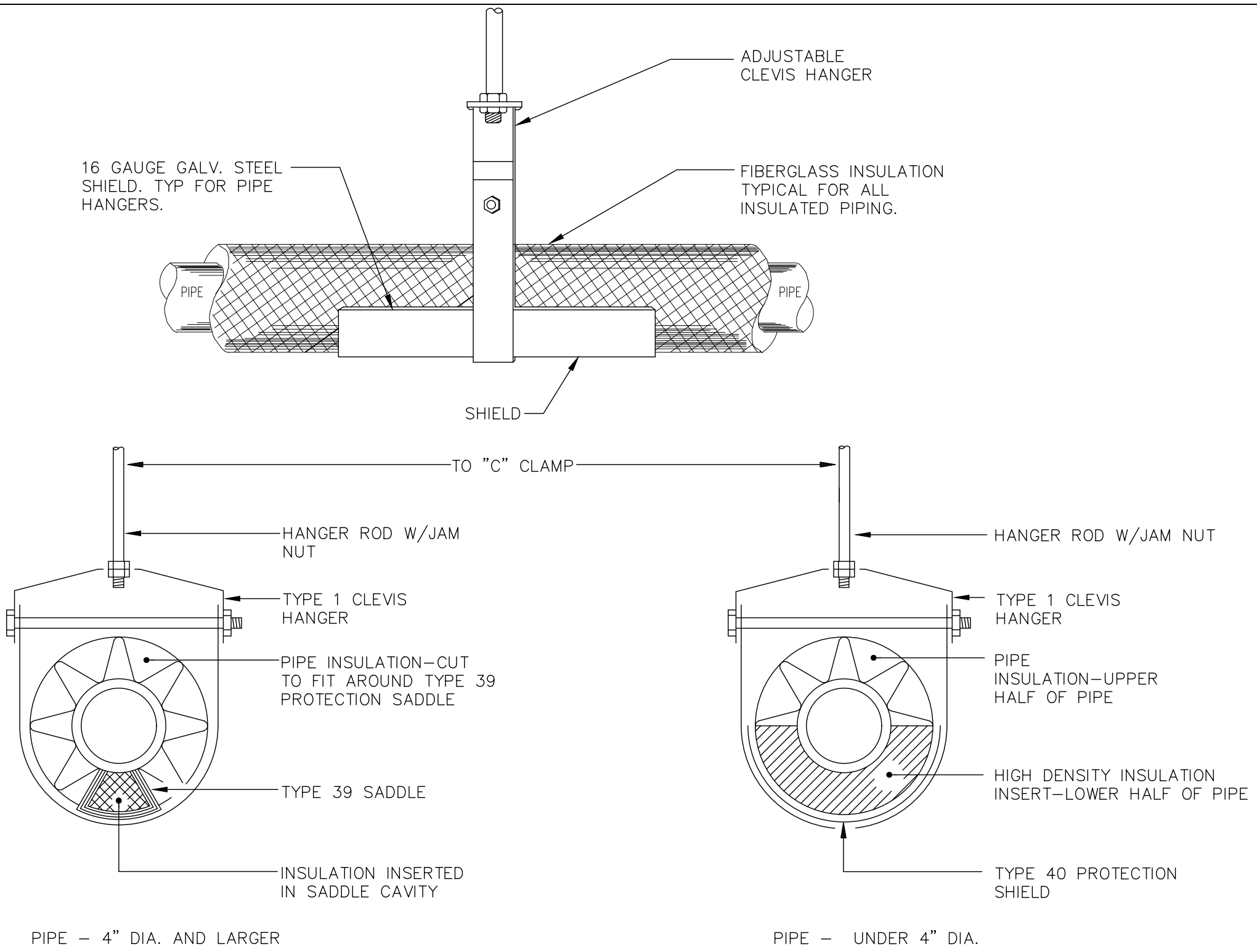
P6.00



NOTE
CONTRACTOR SHALL PAINT THE EXTERIOR OF THE VTR TO MATCH THE ROOFING COLOR (TYPICAL FOR ALL)

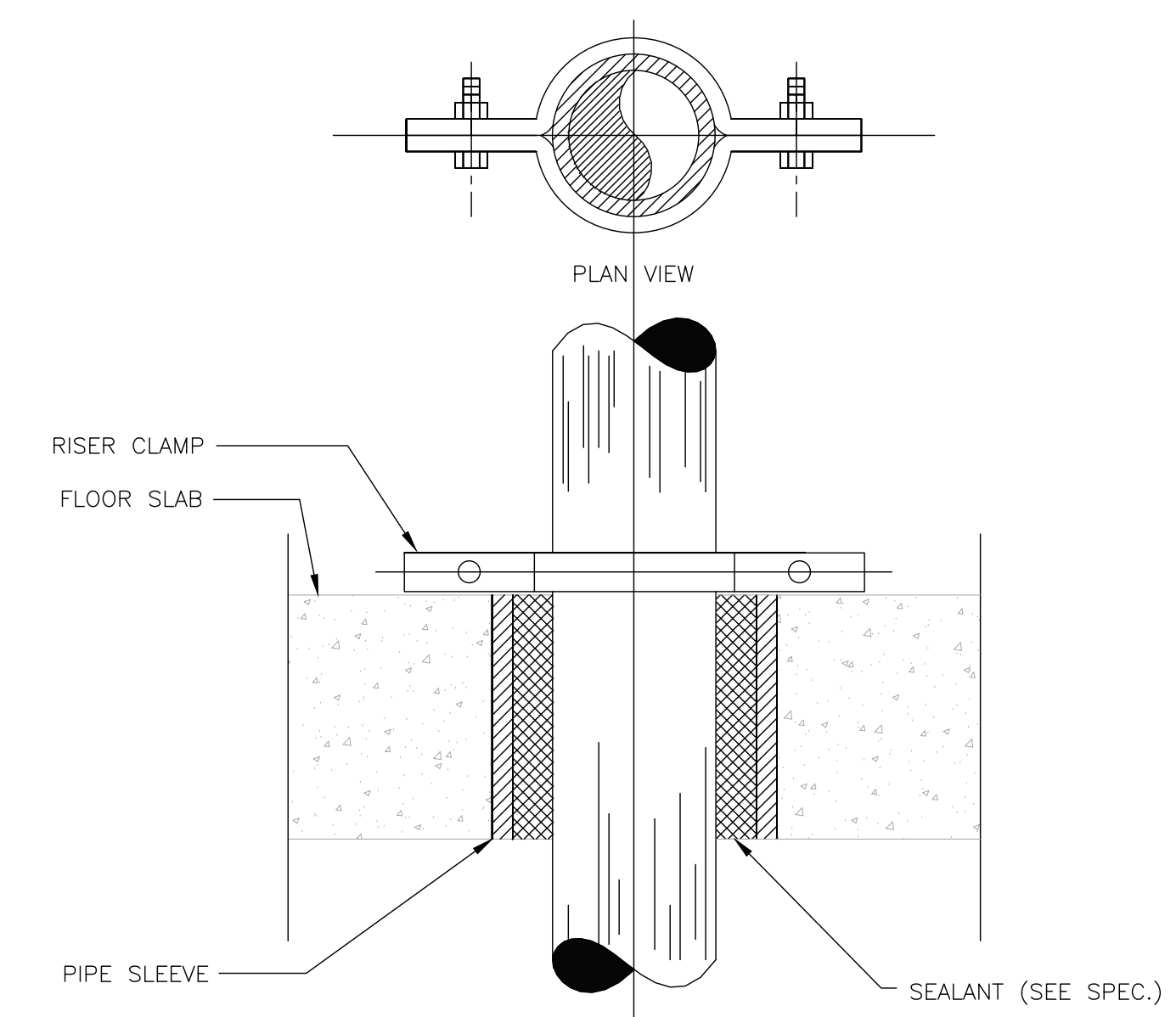
NOTES:

1. MINIMUM SIZE OF VENT EXTENSION THROUGH ROOF TO BE 3".
2. CHANGE OF DIAMETER TO BE MADE AT LEAST 12" BELOW ROOF.
3. VENT PIPE TO EXTEND 24" ABOVE ROOF AND TO BE SEALED WATER-TIGHT BY PROPER FLASHING.
4. ALL VENT RISERS SHALL BE OFFSET AS REQUIRED TO CLEAR ROOF STRUCTURE DUCTWORK.
5. PLUMBING CONTRACTOR TO COORDINATE WITH OTHER TRADES.



PIPE - 4" DIA. AND LARGER

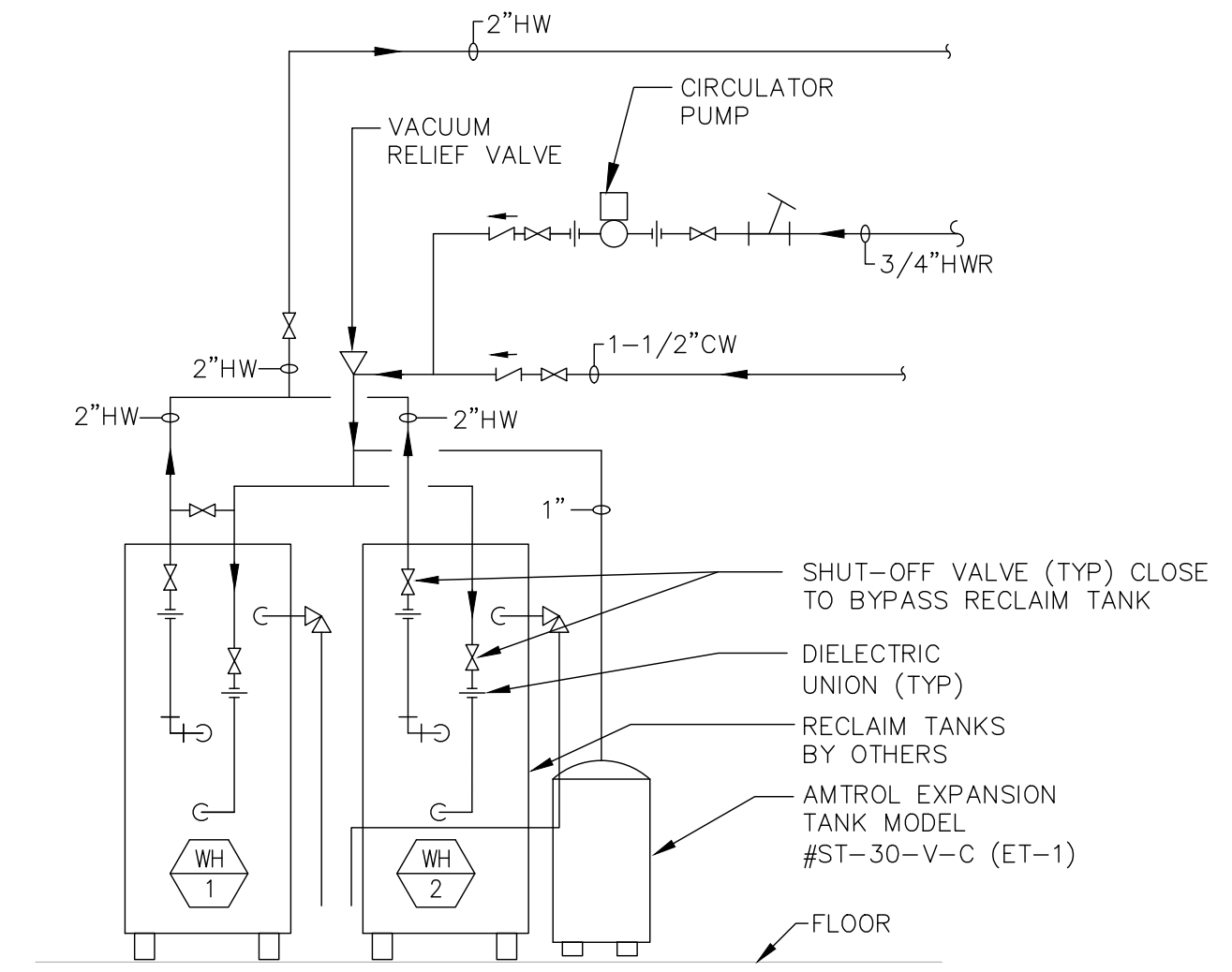
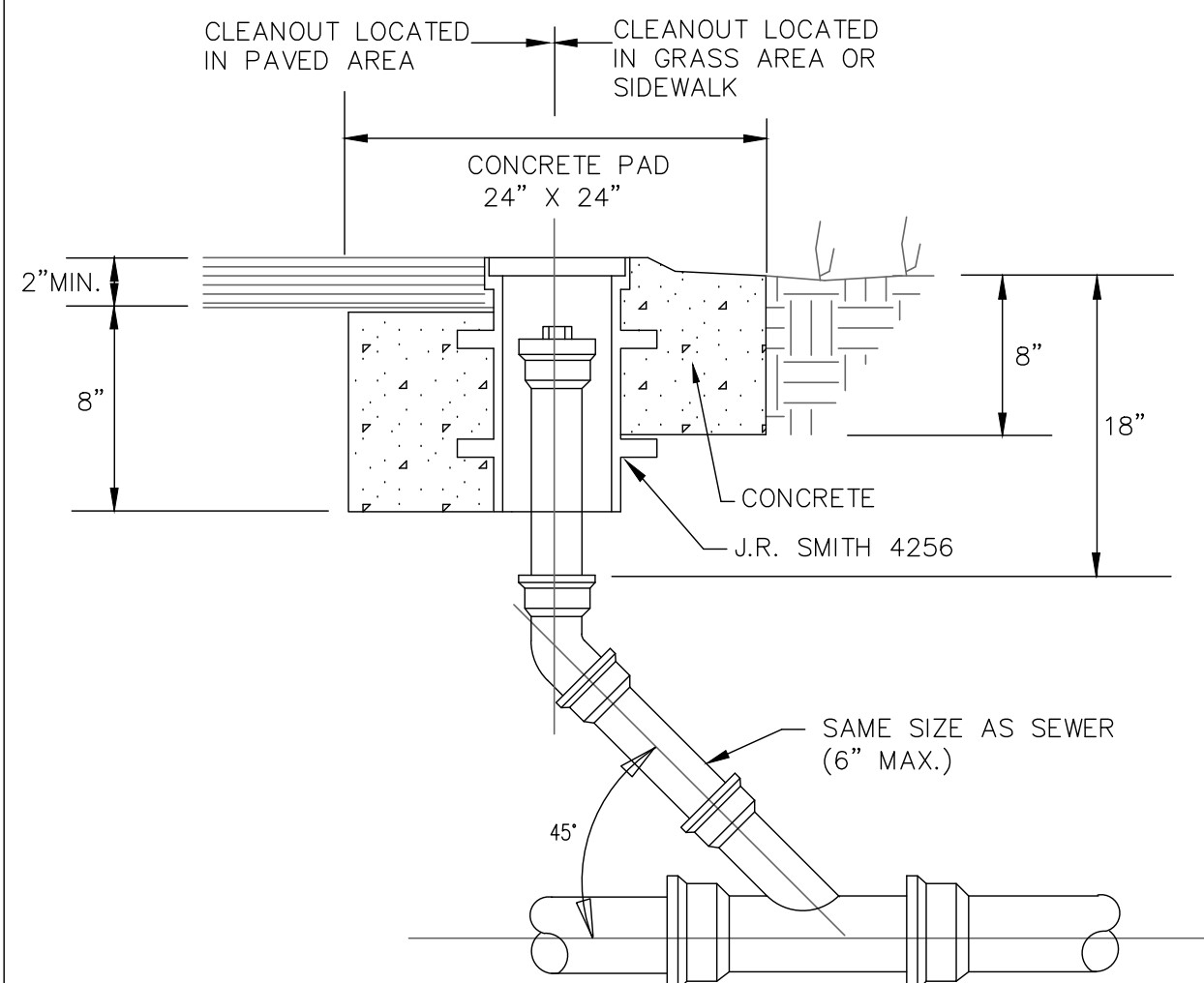
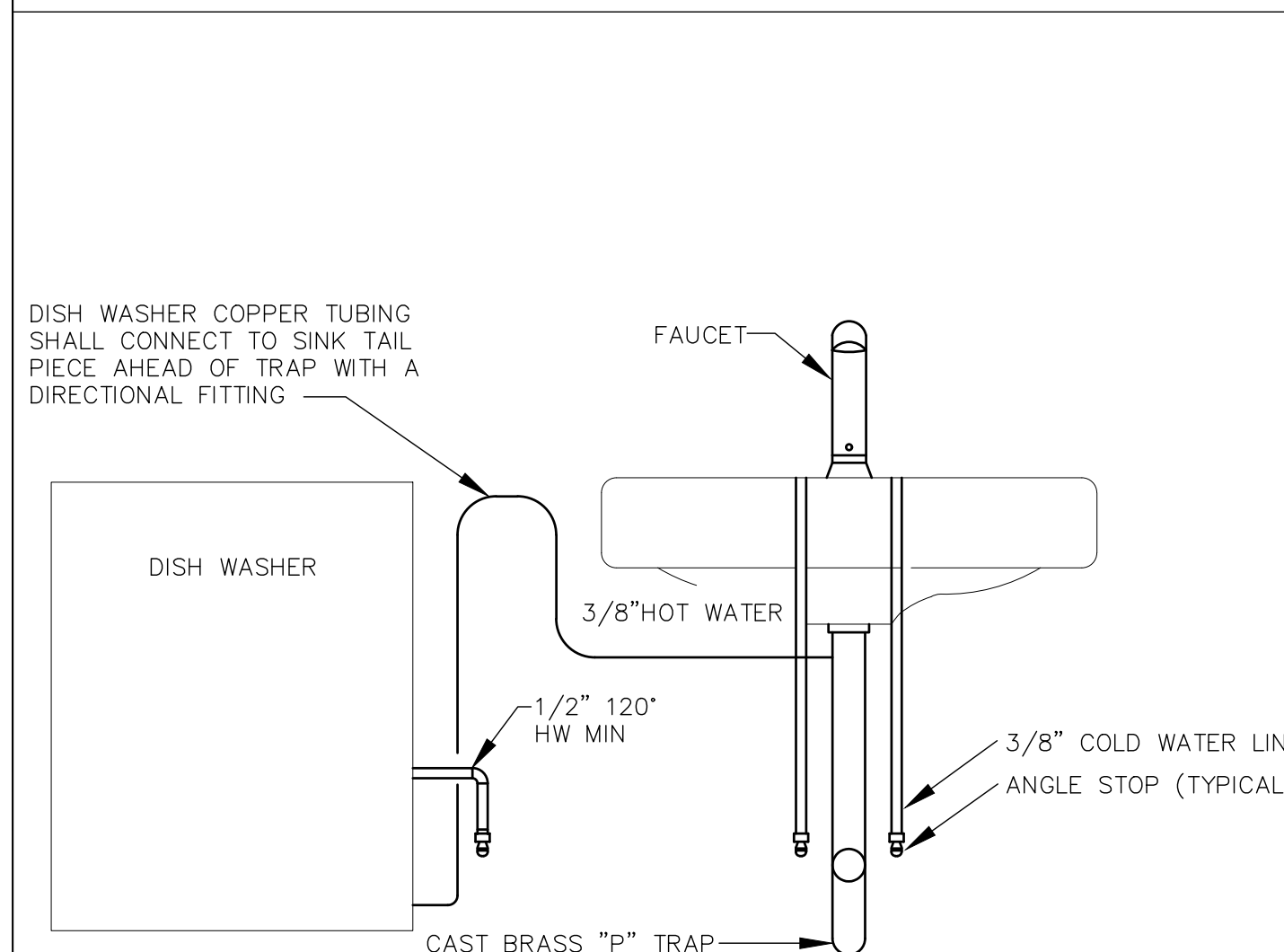
PIPE - UNDER 4" DIA.



1 VENT THRU SLOPED ROOF

2 TYPICAL HANGER DETAILS

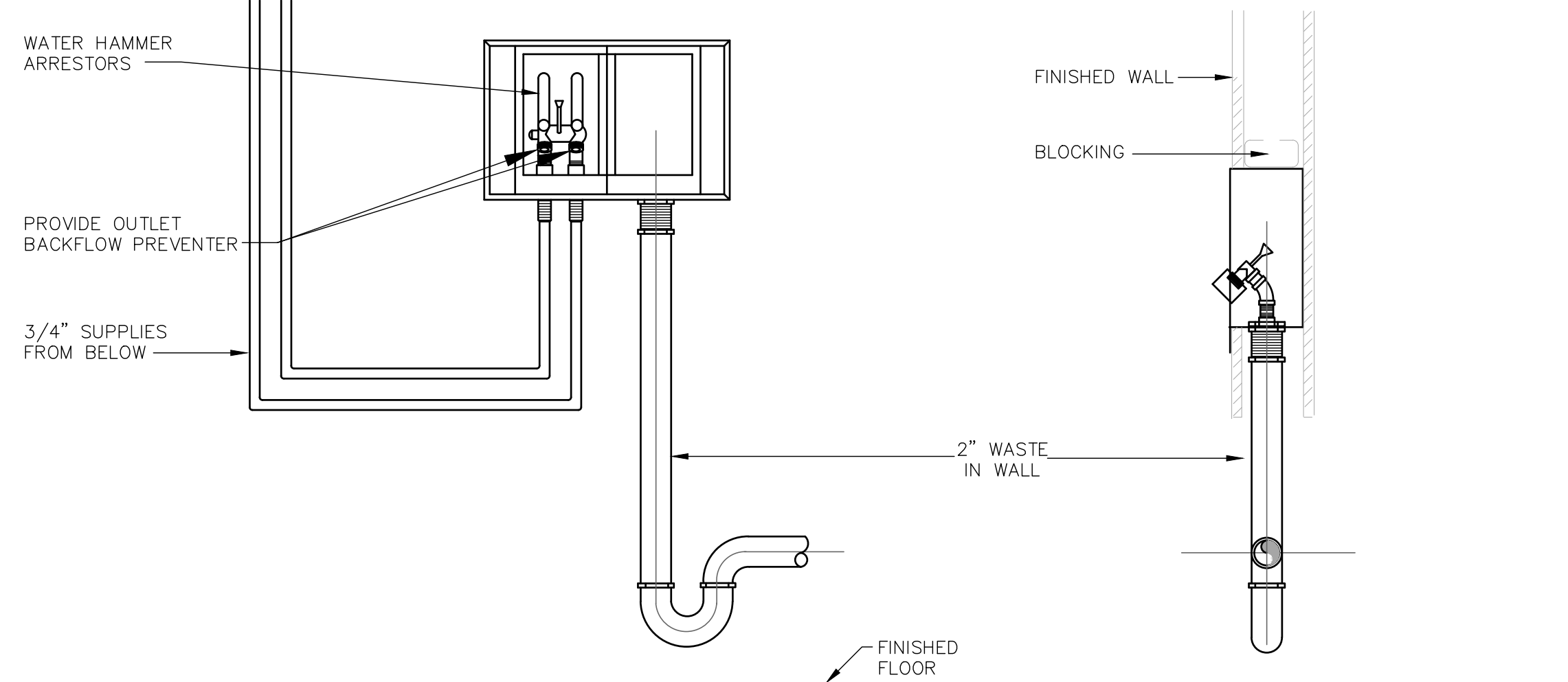
3 PIPE SLEEVE THRU FLOOR SLAB DETAIL



4 DISHWASHER DETAIL

5 EXTERIOR CLEANOUT (C.O.G.)

8 DOUBLE WATER HEATER DETAIL



7 WASHER BOX DETAIL W/ SAN ABOVE FLOOR

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PROJECT NAME
MEYER RESIDENCE

1 LORI ROAD
MONMOUTH BEACH, NJ 07750

PHASE
BUILDING PERMIT & CONSTRUCTION

N.J. CERTIFICATE OF AUTHORIZATION: 2462815000
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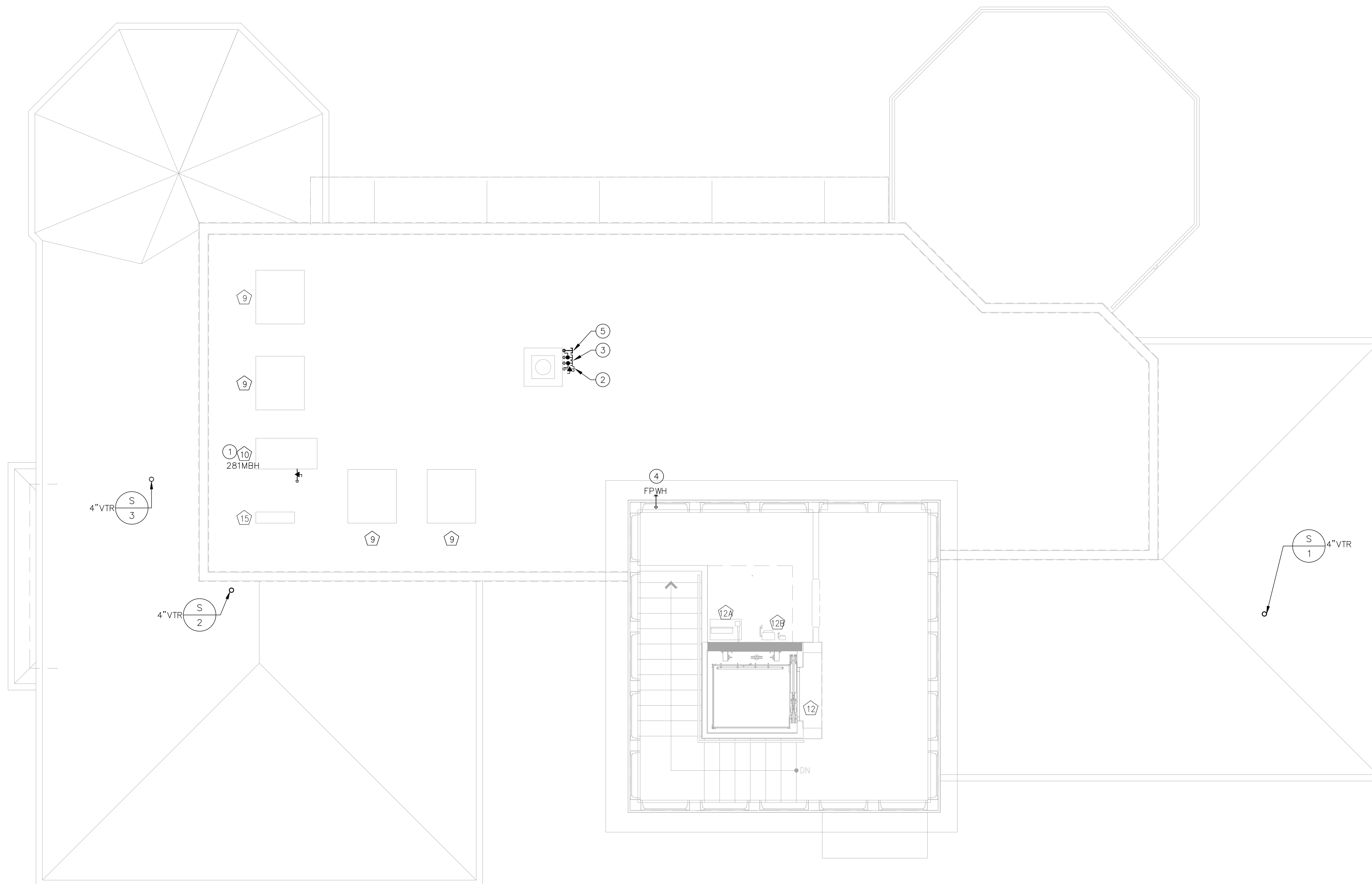
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NJ LICENSE: GE44144 101016

DRAWING TITLE
PLUMBING DETAILS

DATE
10/10/2016 SCALE
AS NOTED

SHEET NUMBER

P7.00



GENERAL NOTES:

- A. PRIOR TO SUBMISSION OF BID THE PLUMBING CONTRACTOR SHALL CAREFULLY INSPECT AND ACQUAINT THEMSELVES WITH EXISTING CONDITIONS IN ORDER THAT HE FULLY UNDERSTANDS THE WORK REQUIRED. ANY LATER CLAIMS FOR EXTRAS SHALL BE DENIED.
- B. THE PLUMBING CONTRACTOR SHALL VERIFY ALL LOCATIONS AND ELEVATIONS OF EXISTING SERVICES AND UTILITIES BEFORE STARTING ANY WORK. REPORT ANY DISCREPANCIES TO THE ARCHITECT AND ENGINEER FOR RESOLUTION.
- C. THE ENTIRE PLUMBING INSTALLATION AND OPERATION SHALL COMPLY WITH ALL HOME OWNER REQUIREMENTS.
- D. PIPING LAYOUTS ARE DIAGRAMMATIC AND INTENDED TO SHOW GENERAL ARRANGEMENT, SIZE, AND CAPACITY. ALL OFFSETS ARE NOT NECESSARILY SHOWN. THE PLUMBING CONTRACTOR SHALL ARRANGE AND COORDINATE THE WORK, FURNISH NECESSARY OFFSETS, VALVES, VENTS, AND FITTINGS TO AVOID CONFLICTS WITH OTHER MECHANICAL AND ELECTRICAL SERVICES AND WITH STRUCTURAL AND ARCHITECTURAL ELEMENTS.

KEY NOTES:

- ① 1-1/2" GAS PIPING CONNECTING TO EMERGENCY GENERATOR
- ② 1" GAS PIPING CAPPED CONNECTION FOR FUTURE CONNECTION TO GAS GRILL.
- ③ 1/2" C&HW CAPPED FOR FUTURE SINK. C&HW FROM MANIFOLD 2 LOCATED AT MAIN FLOOR
- ④ 3/4" COLD WATER CONNECTION FROM MANIFOLD TWO ON MAIN FLOOR TO FROST PROOF HOSE BIB
- ⑤ 2" CAPPED SAN FOR CONNECTION TO FUTURE SINK

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PROJECT NUMBER
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MEYER RESIDENCE

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MONMOUTH BEACH, NJ 07750

PHASE
BUILDING PERMIT & CONSTRUCTION

N.J. CERTIFICATE OF AUTHORIZATION: 2462815000
 SEAL

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DRAWING TITLE
PLUMBING ROOF DECK PLAN

DATE
10/10/2016

SCALE
AS NOTED

SHEET NUMBER
P4-3.00