

ELECTRICAL SYSTEM NOTES:

- LICENSED ELECTRICIANS REGISTERED IN THE MUNICIPALITY SHALL DO ALL WORK IN ACCORDANCE WITH THE LOCAL AND NATIONAL ELECTRICAL CODE. ELECTRICIAN SHALL PROVIDE AN UNDERWRITER'S CERTIFICATE AT THE CONCLUSION OF WORK.
- ELECTRICIAN SHALL COMPLETE HIS PART OF THE BUILDING PERMIT APPLICATION. IF MUNICIPALITY REQUIRES LOAD CALCULATIONS OR DIAGRAMS, THEN ELECTRICAL CONTRACTOR SHALL PROVIDE.
- SOME RECEPTACLES ARE INDICATED TO BE "ISOLATED HOME RUNS" FOR SPECIAL USE. THESE CIRCUITS, GENERALLY FOR AUDIO-VIDEO OR COMPUTER LOCATIONS, SHALL BE LOCATED "FIRST" OR AT THE TOP OF THE DISTRIBUTION PANEL TO MINIMIZE INTERFERENCE OR "ELECTRICAL NOISE".
- THE MINIMUM WIRE SIZE FOR RECEPTACLES SHALL BE 14 GA., HOWEVER CERTAIN CIRCUITS FOR THE REFRIGERATOR, ELECTRIC DRYER, AND OTHER HIGH DRAW APPLIANCES SHALL BE 12 GA. MIN. THE MINIMUM WIRE SIZE FOR LIGHTING SHALL BE 14 GA., ALL COPPER. ALL CIRCUITS SHALL BE GROUNDED.
- LAMPING: ALL NEW FIXTURES SHALL HAVE THE APPROPRIATE LAMP INSTALLED.
- FUTURE GENERATOR INSTALLATION: PROVIDE TWO PANELS, THE NORMAL PANEL AND A SEPARATE "CRITICAL LOAD" PANEL. BETWEEN THE TWO PANELS, INSTALL A MANUAL TRANSFER SWITCH. DO ALL PREP NECESSARY TO MAKE INSTALLATION OF THE GENERATOR EASY.
- THE ELECTRICIAN SHALL DO ALL CIRCUIT & LOAD DISTRIBUTION DESIGN. DISTRIBUTION PANEL SHALL BE CLEARLY LABELED. SEPARATE POWER CIRCUITS FROM LIGHTING CIRCUITS. DO NOT MAXIMIZE CIRCUIT CAPACITY, INSTEAD MAXIMIZE CLARITY OF ORGANIZATION FOR THE OWNER. DESIGN CIRCUITS SUCH THAT THERE IS 1 BREAKER PER ROOM FOR POWER, LIGHTING MAY BE MORE THAN A SINGLE ROOM, BUT SHALL BE INTELLIGENT ZONES. MAJOR EQUIPMENT, INCLUDING REFRIGERATORS, SHOULD HAVE DEDICATED CIRCUITS. PROVIDE PANEL LARGE ENOUGH FOR THE WORK SHOWN, AND PROVIDE MINIMUM 6 SPARE 20 AMP BREAKERS. ALL BREAKERS SHALL BE FULL SIZE, NOT HALF-SIZE.
- FOR OWNER'S APPROVAL, BEFORE WORK BEGINS, SUBMIT CATALOG CUTS FOR ALL FIXTURES, APPLIANCES, DEVICES, SWITCHES, ETC.
- COORDINATE WITH THE HVAC CONTRACTOR AND PLUMBING CONTRACTOR TO PROVIDE SERVICE TO ALL EQUIPMENT AS REQUIRED.
- ALL HOLES DRILLED INTO TOP OR BOTTOM WALL PLATES, INTERIOR AND EXTERIOR, SHALL BE SEALED, USE EXPANDABLE FOAM TO PREVENT VERTICAL PASSAGE OF AIR.

DATA & TV WIRING:

- DATA AND TV: DATA AND TV PROBABLY COME FROM THE SAME HIGH SPEED SOURCE. EACH LOCATED "DATA JACK" TO BE A DEDICATED HOME RUN CONDUIT WITH PULL WIRE TO A CENTRAL BACKBOARD WHERE THE SOURCE ROUTER/MODEM WILL BE LOCATED. CONDUIT IS RECOMMENDED BECAUSE DATA WIRING IS ALSO THE MOST SUBJECT TO FUTURE CHANGE. CONDUIT MAY BE AS SIMPLE AS GARDEN HOSE.
- MAINTAIN SEPARATION BETWEEN NORMAL ELECTRICAL LINE VOLTAGE WIRING AND ALL TYPES OF DATA, TV, LOW VOLTAGE WIRING TO PREVENT "NOISE" BETWEEN SYSTEMS.

SMOKE DETECTION SYSTEM:

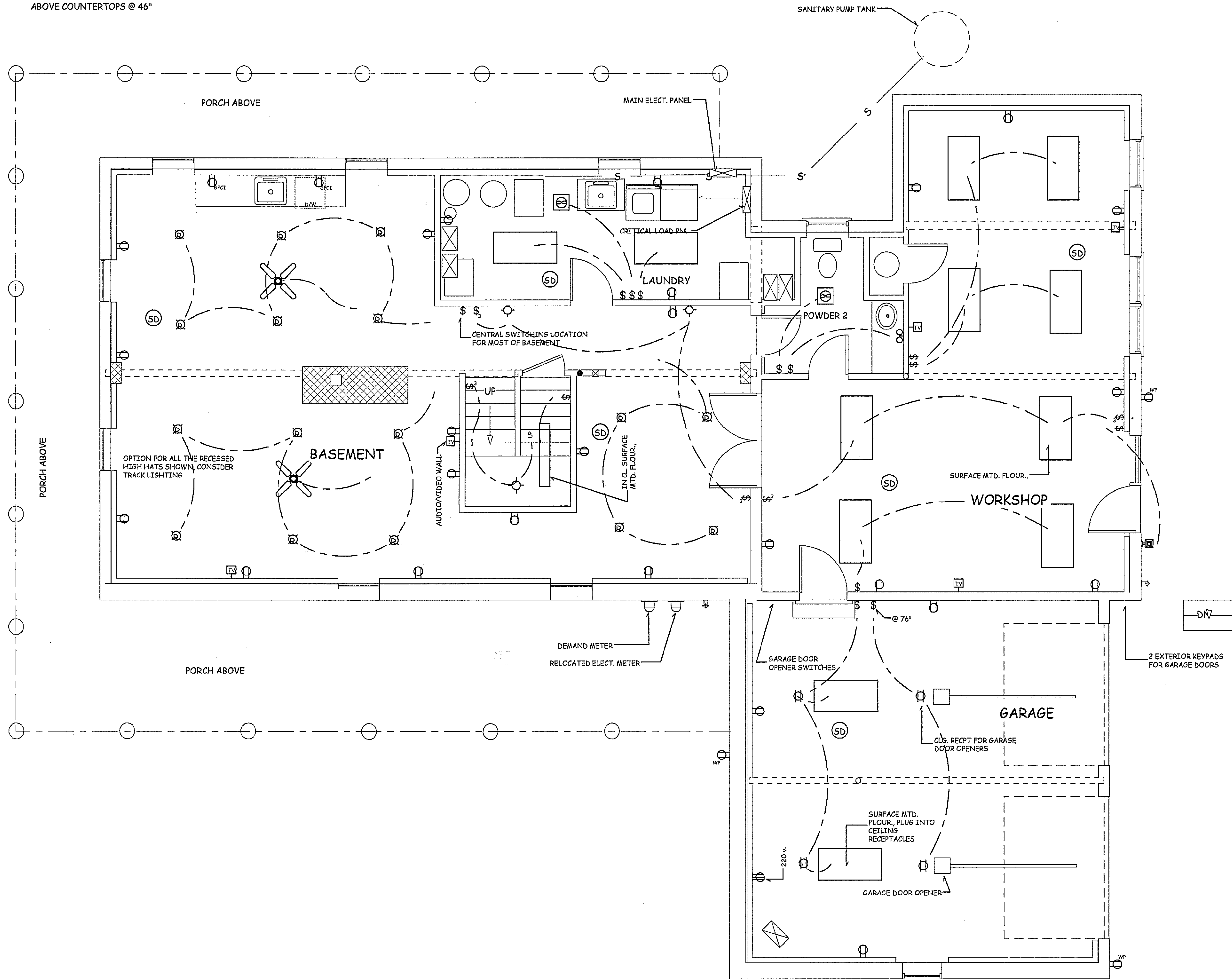
- LOCATIONS SHOWN ARE THE GENERALLY PERCEIVED CODE MINIMUM TO SECURE A BUILDING PERMIT. MANY MUNICIPALITIES HAVE ADDED SPECIAL LOCAL AMENDMENTS NOT PUBLISHED IN THE NATIONAL CODES. THEREFORE, THE LOCAL PLAN REVIEWER MAY REQUIRE ADDITIONAL LOCATIONS AND REQUIREMENTS.
- INTERNATIONAL RESIDENTIAL CODE SECTION R313 REQUIRED LOCATIONS: IN EACH SLEEPING ROOM AND OUTSIDE EACH SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS, PLUS ONE ON EACH ADDITIONAL STORY.
- SYSTEM SPECIFICATIONS: DETECTORS MUST BE HARDWIRED TO A CONSTANT POWER SOURCE AND MUST BE ELECTRONICALLY INTERCONNECTED, SO THAT IF ANY DETECTOR SENDS AN ALARM SIGNAL, THEN ALL DETECTORS SOUND THE ALARM. DETECTORS SHALL HAVE AN EMERGENCY BACKUP POWER SOURCE, GENERALLY BATTERIES. SYSTEMS ARE AVAILABLE USING EITHER 100V DEDICATED LINE VOLTAGE CIRCUITS OR LOW VOLTAGE.

HEATING / COOLING SYSTEM PERFORMANCE SPECIFICATION:

- GENERAL: HVAC CONTRACTOR SHALL COMPLETE HIS PART OF THE BUILDING PERMIT APPLICATION. IF MUNICIPALITY REQUIRES SCHEMATICS, CALCULATIONS, DIAGRAMS, OR CATALOG CUTS, THEN HVAC CONTRACTOR SHALL PROVIDE.
- SUBMITTALS: CONTRACTOR WILL PROVIDE HEAT GAIN AND HEAT LOSS CALCULATIONS TO DETERMINE EQUIPMENT AND DUCT SYSTEM SIZING. THE OWNER IS COMPARING STANDARD "FIBERGLASS" AND "SPRAY FOAM INSULATION SYSTEMS" AND RADIANT BARRIERS. SPRAY FOAM SYSTEMS SIGNIFICANTLY REDUCE INFILTRATION, THUS REDUCING EQUIPMENT SIZING. DO HEAT GAIN AND HEAT LOSS CALCULATIONS FOR BOTH TYPES OF INSULATION SYSTEMS TO ASSIST OWNER'S EVALUATIONS.
- REVIEW CALCULATIONS WITH THE ARCHITECT AND OWNER FOR APPROVAL BEFORE PROCEEDING. MARK UP THE ARCHITECT'S DRAWINGS TO PROVIDE SIMPLE SCHEMATICS AND CATALOG CUTS OF ALL EQUIPMENT FOR REVIEW AND APPROVAL BEFORE INSTALLATION. **NO WORK SHALL BE INSTALLED BEFORE REVIEW AND APPROVAL.**
- NEW FURNACE TO HAVE SEALED COMBUSTION AIR INTAKE AND EXHAUST. PROVIDE INTEGRATED AIR CONDITIONING AND HUMIDIFICATION SYSTEM. ALL NEW EQUIPMENT TO HAVE ENERGY STAR RATINGS, WITH MIN AC SEER RATING OF 13 OR BETTER.
- DUCTWORK: ALL DUCTWORK "MAINS" SHALL BE SHEET METAL. BRANCH DUCTWORK IS PREFERRED TO BE SHEET METAL, HOWEVER FLEX DUCT WILL BE ACCEPTED IN LIMITED RUNS DIRECT TO DIFFUSERS. ALL SHEET METAL DUCTWORK SHALL BE CAPABLE OF FUTURE "CLEANING," THUS IT SHALL NOT BE INTERNALLY "LINED" WITH ANY SOFT MATERIALS.
- DUCTWORK: THE IBC ENERGY CONSERVATION CODE REQUIRES THE SEALING OF ALL TRANSVERSE AND LONGITUDINAL DUCT JOINTS TO PREVENT AIR LEAKAGE. USE ROLL PRODUCTS WHICH HAVE VOC FREE BUTYL LAMINATED TO A FACING WHICH HAS A UL 181 LISTING. STANDARD "DUCT TAPE" IS NOT ACCEPTABLE.
- HVAC CLOSET(S) TO BE FULLY ENCLOSED IN FIBERGLASS ACOUSTIC BATT INSULATION.
- THERMOSTATS: PROVIDE LUX MOD# P5P711. THESE ARE DUAL SETBACK, 7-DAY PROGRAMMABLE, HEATING AND COOLING, WITH BATTERY BACKUP. MAKE SURE CONTROL WIRING FOR BOTH HEATING AND COOLING GETS TO STAT LOCATIONS.
- INSULATION OF DUCTWORK: ALL DUCTWORK INSTALLED IN NON-CONDITIONED SPACE SHALL BE WRAPPED WITH FIBERGLASS INSULATION BATTS WITH VAPOR BARRIERS. MIN. INSUL. VALUE SHALL BE R-19. ~~IN CONDITIONED SPACE INSUL. MIN. R-8~~
- AIR HANDLER FILTER RACKS: ALL FILTERS SHALL BE AT THE UNIT, SLIDE IN (LIKE DRAWERS) AND DESIGNED FOR EASY CHANGING. UNIT SHALL HAVE SPACE FOR TWO FILTERS: A) DUST AND PARTICULATE FILTER; B) CARBON FILTER FOR ODOR CONTROL (SEE DAYTON "AIR HANDLER" #6W737, SIZE 16"x25"x1").
- AIR HANDLER FANS: MAKE SURE FANS AND AIR VELOCITY ARE DESIGNED FOR THE ADDITIONAL FILTER RESISTANCE.
- EXHAUST FANS AND VENTS: ALL VENTS SHALL BE DIRECT TO THE EXTERIOR THROUGH WALL OR ROOF VENT CAPS PROVIDED WITH BACK DRAFT PREVENTION. ALL DUCTWORK SHALL BE METALLIC. NO VENTING INTO ATTICS OR SOFFITS IS ALLOWED.

12. ALL PIPING TO BE INSULATED

ELECTRICAL DEVICE MOUNTING HEIGHTS:
 SWITCHES @ 48"
 TYPICAL WALL RECEPTACLE @ 20"
 ABOVE COUNTERTOPS @ 46"



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BASEMENT ELECTRICAL PLAN

REV. #	REVISION DESCRIPTION	DATE
	PROJECT START UP FOR PERMITS	OCT. 25, 2007
	PER PERMIT REVIEW	MAY 01, 2008
		5-25-08

VALID FOR PERMITS ONLY IF IMPRESSED WITH ORIGINAL SEAL & ORIGINAL SIGNATURE IN "RED"

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