

GENERAL ELECTRICAL NOTES

GENERAL: UNLESS SPECIFICALLY INDICATED OTHERWISE, ALL WORK SHOWN ON ELECTRICAL DRAWINGS IS NEW WORK TO BE PROVIDED UNDER THIS CONTRACT.

COORDINATION: COORDINATE AND COOPERATE WITH ALL TRADES ON THE PROJECT.

AS-BUILT DRAWINGS: SECURE AN EXTRA SET OF ELECTRICAL DRAWINGS TO BE KEPT ON SITE AND MARK, DAILY, THE DRAWINGS IN RED AS THE PROJECT PROGRESSES IN ORDER TO KEEP AN ACCURATE RECORD OF ALL DEVIATIONS BETWEEN THE WORK SHOWN ON THE DRAWINGS AND THE WORK WHICH IS ACTUALLY INSTALLED. THESE MARKED DRAWINGS SHALL REFLECT ANY AND ALL CHANGES AND REVISIONS TO THE ORIGINAL DESIGN WHICH EXISTS IN THE COMPLETED WORK. DELIVER THE MARKED DRAWINGS TO THE OWNER'S REPRESENTATIVE AT PROJECT CLOSE-OUT.

TESTS: TEST ALL WIRING FOR CONTINUITY AND GROUNDS BEFORE CONNECTING ANY FIXTURES OR DEVICES. PERFORM INSULATION RESISTANCE TESTS ON ALL WIRING #8 OR LARGER TO INSURE THAT ALL PORTIONS ARE FREE FROM SHORT-CIRCUITS AND GROUNDS.

INSPECTIONS: ARRANGE ALL NECESSARY INSPECTIONS. DELIVER ALL REQUIRED INSPECTION CERTIFICATES TO THE OWNER'S REPRESENTATIVE.

ELECTRICAL SERVICE: PROVIDE THE ELECTRICAL SERVICE, COMMUNICATE WITH THE LOCAL POWER COMPANY, VERIFY ALL REQUIREMENTS, AND COORDINATE ALL EFFORTS.

GROUNDING: PROVIDE GROUNDING IN ACCORDANCE WITH THE NEC FOR THE ENTIRE ELECTRICAL SYSTEM INCLUDING EQUIPMENT FRAMES, CONDUITS, SWITCHES, CONTROLLERS, WIRE-WAYS, NEUTRAL CONDUCTORS, AND OTHER EQUIPMENT. PROVIDE A GROUNDING CONDUCTOR IN ALL POWER CONDUITS.

LABELS: PROVIDE LABELS FOR ALL PANELBOARDS, CABINETS, SAFETY SWITCHES, MOTOR-DISCONNECT SWITCHES, AND MOTOR CONTROLLERS. LABELS SHALL BE MACHINE ENGRAVED, LAMINATED PLASTIC, PERMANENTLY ATTACHED WITH SELF-TAPPING SCREWS OR RIVETS. DO NOT USE SELF-ADHESIVE LABELS.

J-BOX LABELING: LABEL ALL JUNCTION BOXES WITH PERMANENT MARKER IDENTIFYING CIRCUIT NUMBER AND PANELBOARD OF CIRCUITS WITHIN.

PANEL DIRECTORY: PROVIDE TYPEWRITTEN PANELBOARD DIRECTORY CARD IN EACH PANELBOARD WITH CIRCUIT LOAD INFORMATION AND ROOM NUMBER CLEARLY IDENTIFIED. USE ACTUAL ROOM NUMBERS IN THE BUILDING, NOT THE ROOM NUMBERS SHOWN ON THE CONTRACT DRAWINGS, AS THEY ARE OFTEN DIFFERENT.

MOTOR COORDINATION: MOTORS, MOTOR STARTERS, CONTROLLERS, INTEGRAL DISCONNECT SWITCHES, AND CONTACTORS SHALL BE PROVIDED WITH THEIR RESPECTIVE PIECES OF EQUIPMENT BY THE EQUIPMENT SUPPLIER. COMMUNICATE WITH THE TRADES PROVIDING THE EQUIPMENT, VERIFYING ALL REQUIREMENTS, PROVIDE ALL ELECTRICAL CONNECTIONS REQUIRED THEREIN, AND INSTALL MOTOR STARTERS.

MOTOR DISCONNECTS: ALL MOTORS SHALL HAVE DISCONNECTING MEANS. **MOTOR CONTROLLERS:** ALL 3-PHASE MOTORS SHALL HAVE MAGNETIC MOTOR CONTROLLERS WITH SOLID STATE OVERLOAD RELAY PROTECTION. THE SOLID STATE OVERLOAD RELAY SHALL HAVE PHASE LOSS AND PHASE OVERCURRENT PROTECTION WITH AUTOMATIC RESET UPON RETURN OF NORMAL POWER.

MOTOR FUSE PROTECTION: WHERE FUSE PROTECTION IS SPECIFICALLY REQUIRED BY THE EQUIPMENT MANUFACTURER, PROVIDE FUSED SWITCHES IN LIEU OF NON-FUSED SWITCHES OR IN LIEU OF ENCLOSED CIRCUIT BREAKERS, OR OTHER DEVICES INDICATED.

CONNECTION DETAILS: SECURE APPROVED SHOP DRAWINGS SHOWING WIRING DIAGRAMS, ROUGH-IN AND HOOK UP DETAILS FROM OTHER INVOLVED CONTRACTORS FOR EQUIPMENT WHICH MUST BE CONNECTED ELECTRICALLY.

CONNECTION DETAILS: MECHANICAL EQUIPMENT WILL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR. THE LOCATIONS SHOWN ON THE ELECTRICAL DRAWINGS ARE APPROXIMATE. COORDINATE WITH THE MECHANICAL CONTRACTOR TO DETERMINE THE EXACT LOCATION OF EACH PIECE OF EQUIPMENT AND DETERMINE THE EXACT ROUGH-IN AND CONNECTION REQUIREMENTS.

WORKING CLEARANCE: COORDINATE FINAL LOCATIONS OF ELECTRICAL EQUIPMENT WITH MECHANICAL DUCTWORK, PIPING, ETC., AND ASSURE WORKING CLEARANCE REQUIRED BY N.E.C. WILL BE MET.

STARTER MOUNTING: WHERE AN INDIVIDUALLY MOUNTED SAFETY SWITCH, STARTER OR CIRCUIT BREAKER IS SHOWN ADJACENT TO ITS RESPECTIVE LOAD AND NOT MOUNTED ON A WALL, PROVIDE ALL SUPPORTS, BRACKETS, ANCHORING, ETC. NECESSARY TO PROPERLY SUPPORT THE DEVICE.

LIGHTING ARRANGEMENT: ARRANGE LIGHTING FIXTURES IN ACCORDANCE WITH THE ARCHITECTURAL REFLECTED CEILING PLANS.

LIGHTING COORDINATION: COORDINATE LIGHTING FIXTURES WITH GRILLES, DIFFUSERS, SPRINKLER HEADS, AND ACCESS PANELS, ETC.

MATERIAL COORDINATION: VERIFY CEILING AND WALL CONSTRUCTION AND MATERIAL PRIOR TO ORDERING LIGHT FIXTURES OR OTHER DEVICES TO INSURE PROPER FIXTURE OR DEVICE IS FURNISHED TO MATCH CONSTRUCTION. ALL DEVICE COVER PLATES SHALL BE STAINLESS STEEL.

MOUNTING HEIGHTS: MOUNTING HEIGHTS INDICATED ARE FROM THE FINISHED FLOOR TO THE CENTERLINE OF THE WIRING DEVICE UNLESS OTHERWISE NOTED. MOUNTING HEIGHTS OF LIGHTING FIXTURES ARE TO THE BOTTOM OF THE FIXTURE UNLESS OTHERWISE NOTED.

DEVICE LOCATIONS: COORDINATE LOCATIONS OF SWITCHES, RECEPTACLES, AND TILE/DATA OUTLETS WITH OTHER WALL MOUNTED DEVICES SUCH AS THERMOSTATS AND CONTROL STATIONS.

DEVICE COORDINATION: THOROUGHLY REVIEW AND COORDINATE ALL CASTERWORK AND CABINET DRAWINGS AND ARCHITECTURAL ELEVATIONS WITH DEVICE LOCATIONS PRIOR TO ROUGH-IN OF OUTLET BOXES.

BARRIERS: WHERE A MULTIPLE-GANG BOX HAS CIRCUITS OF DIFFERENT VOLTAGES OR SYSTEMS WHICH ARE REQUIRED TO BE SEPARATED, PROVIDE THE CODE-REQUIRED SEPARATION USING A FULL HEIGHT AND DEPTH BARRIER PLATE.

CLEAN UP: ON PROJECT CLOSE-OUT CLEAN ALL ELECTRICAL DEVICES, LIGHTING FIXTURES, LAMPS AND LENSES, AND REMOVE ALL PAINT SPATTERS FROM DEVICES, FIXTURES AND PLATES. REPLACE ALL NONPERMATIVE LAMPS.

ELECTRICAL LEGEND

LIGHTING	
	FLUORESCENT LIGHTING FIXTURE
	DOWNLIGHT OR SURFACE MOUNTED FIXTURE
	WALL MOUNTED LIGHTING FIXTURE
	CEILING FAN
	EXIT LIGHTING FIXTURE, WITH DIRECTIONAL ARROWS AS INDICATED WITH BATTERY PACK – CONNECT AHEAD OF LOCAL SWITCH.
	LIGHTING FIXTURE TYPE SYMBOL. SEE LIGHTING FIXTURE DETAILS.
	SINGLE POLE SWITCH, 20A, 120/277V, 48" AFF UON
	DUAL SWITCH (SINGLE POLE OR TYPE AS INDICATED BY SUBSCRIPT), 20A, 120/277V, 48" AFF UON. CONNECT ONE SWITCH TO LIGHT FIXTURE AND CONNECT THE OTHER SWITCH TO THE CEILING FAN MOTOR.
	DIMMING SWITCH, 20A, 120/277V, 48" AFF UON
	THREE-WAY SWITCH, 20A, 120/277V, 48" AFF UON
POWER	
	DUPLEX CONVENIENCE RECEPTACLE 20A, 120V, 18" AFF, UON
	TWO DUPLEX RECEPTACLES IN COMMON BOX, EACH 20A, 120V, 18" AFF, UON
	DUPLEX CONVENIENCE RECEPTACLE 20A, 120V, MOUNT HORIZONTALLY IN CENTER OF 6" BACKSPASH.
	DUPLEX RECEPTACLE, GROUND FAULT INTERRUPTING TYPE, 20A, 120V, 48" AFF, UON (OR MOUNT HORIZONTALLY IN CENTER OF 6" BACKSPASH).
	DUPLEX GFI RECEPTACLE 20A, 120V W/ WEATHERPROOF COVER, 18" ABOVE GRADE, UON
	SPECIAL RECEPTACLE, AS NOTED ON PLANS
	EQUIPMENT CONNECTION
	JUNCTION BOX
	MOTOR CONNECTION
	MOTOR RATED SWITCH WITH THERMAL OVERLOADS 20A, 120V, UON, MOUNT WITHIN SIGHT OF MOTOR.
	DOOR CHIME

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POWER (CONT.)

	SWITCH RATING
	NEMA ENCLOSURE IF OTHER THAN NEMA 1
	DISCONNECT SWITCH
	FUSE RATING (NF INDICATES NON-FUSED)
	NUMBER OF POLES
	ELECTRICAL PANELBOARD
	PAD MOUNTED TRANSFORMER
	INDICATES FRONT

ELECTRICAL CIRCUIT AND CIRCUIT HOMERUN TO PANELBOARD (PANEL AND CIRCUIT DESIGNATION AS INDICATED). AS A MINIMUM CONDITION, EACH SINGLE PHASE CIRCUIT SHALL HAVE 1 #12 PHASE CONDUCTOR, 1 #12 NEUTRAL CONDUCTOR AND 1 #12 GROUNDING CONDUCTOR, NM CABLE. PROVIDE ADDITIONAL PHASE CONDUCTORS AS REQUIRED FOR "MULTIPLE PHASED" ELECTRICAL LOADS. PROVIDE ADDITIONAL "SWITCH LEG" CONDUCTORS TO PROVIDE THE LIGHT FIXTURE CONTROL. INDICATED NEUTRAL AND GROUNDING CONDUCTORS SHALL BE SHARED AS ALLOWED BY THE NEC. CONDUCTORS LARGER THAN #12 SHALL BE AS INDICATED.

TELECOMMUNICATIONS

	TELE/DATA OUTLET, 18" AFF, UON, WITH 3/4"O STUBBED ABOVE CEILING.
	TELECOMMUNICATIONS BACKBOARD – 4"W x 8"H x 3/4"THICK
	TV OUTLET WITH 3/4" CONDUIT STUBBED ABOVE CEILING (INTO ATTIC SPACE), 18" AFF, UON.

FIRE ALARM

	FIRE ALARM CONTROL PANEL
	FIRE ALARM MANUAL PULL STATION, 46" AFF TO ACTUATING ARM, UON
	FIRE ALARM AUDIO/VISUAL (HORN/STROBE) APPLIANCE, 80" AFF, OR 6" BELOW FINISHED CEILING, WHICHEVER IS LOWER, UON.
	FIRE ALARM VISUAL (STROBE) APPLIANCE, 80" AFF, OR 6" BELOW FINISHED CEILING, WHICHEVER IS LOWER, UON.
	FINISHED CEILING, WHICHEVER IS LOWER, UON.
	SPRINKLER SYSTEM SUPERVISORY FLOW SWITCH CONNECTION
	SPRINKLER SYSTEM SUPERVISORY VALVE CONNECTION
	FIRE ALARM SYSTEM PHOTOELECTRIC SMOKE DETECTOR, CEILING MOUNTED
	FIRE ALARM SYSTEM HEAT DETECTOR, CEILING MOUNTED

ABBREVIATIONS

A	AMPERE
ACCU	AIR COOLED CONDENSING UNIT
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AC	AVAILABLE INTERRUPTING CURRENT
ATS	AUTOMATIC TRANSFER SWITCH
C	CONDUIT
CB	CIRCUIT BREAKER
DSS	DUCTLESS SPLIT SYSTEM
DVP	DOMINION VIRGINIA POWER
EBU	EMERGENCY BATTERY UNIT
EC	EMPTY CONDUIT
EF	EXHAUST FAN
EQUIP	EQUIPMENT
EMH	ELECTRIC WATER HEATER
FHP	FRACTIONAL AC HORSEPOWER
FLA	FULL LOAD AMPS
GFI	GROUND FAULT INTERRUPTER
GND	GROUND
HP	HORSE POWER/HEAT PUMP
KVA	KILO-VOLT-AMPERES
KW	KILO-WATTS
LITG	LIGHTING
MCA	MINIMUM CIRCUIT AMPS
MCB	MAIN CIRCUIT BREAKER
MED	MEDIUM
MFR	MANUFACTURER
MLO	MAIN LUGS ONLY
MTO	MOUNTED
NEC	NATIONAL ELECTRICAL CODE
NF	NON-FUSED
NIS	NOT TO SCALE
NTS	OWNER FURNISHED, CONTRACTOR INSTALLED
OFCL	OWNER FURNISHED, CONTRACTOR INSTALLED
P	POLE
PNL	PANEL
PNUED	PANELBOARD
ø	PHASE
RECPRT	RECEPTACLE
REOD	REQUIRED
RUI	ROOF TOP UNIT
SE	SERVICE ENTRANCE
TBB	TELEPHONE BACKBOARD
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
V	VOLTS(S)
VAV	VARIABLE AIR VOLUME
VFD	VARIABLE FREQUENCY DRIVE
W	WATTS/WIRE
WG	WIREGUARD
WP	WEATHERPROOF

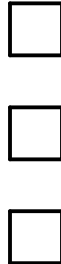
ELECTRICAL LOAD SUMMARY			
LOAD DESCRIPTION	CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD
LIGHTING RECEPTACLES	5.8 KVA	100%	5.8 KVA
AIR CONDITIONING	32.2 KVA	NOTE -2	21.1 KVA
VENTILATION	21.3 KVA	100%	17.0 KVA
COOKING EQUIP.	0.6 KVA	100%	0.6 KVA
KITCHEN EQUIP.	9.6 KVA	80%	7.7 KVA
WATER HEATER	5.6 KVA	70%	3.9 KVA
FUTURE (25%)	0.2 KVA	70%	0.2 KVA
TOTAL	75.3 KVA		70.3 KVA

NOTES:
1. ELECTRICAL SERVICE CHARACTERISTICS:
208Y/120, 3 PHASE, 4 WIRE, 250A
2. 1st 10 KVA @ 100%, REMAINDER @ 50%

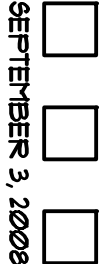


HUDSON ASSOCIATES
A R C H I T E C T S
150 WEST QUEENSWAY SUITE 201
(757) 722-1844
HAMPTON, VA 23669

BROGDEN LANE
ICF/MR HOME
FOR HNN C5B



2712 SOUTHERN BLVD., SUITE 201
VIRGINIA BEACH, VIRGINIA 23462
PHONE: 757.233.3851
FAX: 757.233.3813
EMAIL: info@pm&e.com



ELECTRICAL NOTES
AND LEGEND

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