

**GENERAL NOTES - ROOF:**

- ELECTRICAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH MECHANICAL, STRUCTURAL, ARCHITECTURAL AND LANDSCAPE DRAWINGS, AND COMPLY WITH ALL APPLICABLE NOTES.
- CONTRACTOR SHALL RUN CABLES WITHIN CEILING SLAB OR ENCLOSURES TO RETAIN 2 HOUR FIRE PROTECTION RATING FOR ALL LOADS THAT CONNECT TO EMERGENCY POWER.
- PROVIDE ALARM SPOKE, SMOKE DETECTOR AND RECEPTACLE AT EVERY THIRD FLOOR STAIR WELL.
- STAIRWAY WALL MOUNTED EMERGENCY LIGHT FIXTURES SHALL BE MOUNTED @ 1' AFF.
- FOR STORAGE ROOM VENTILATION SYSTEM, DIV. 16 TO PROVIDE CONDUIT, WIRING AND SWITCH (S) TO START/STOP FAN AND DAMPER. FAN AND 110V ACTUATOR TO BE SUPPLIED AND INSTALLED BY DIV. 15.
- FOR UTILITY ROOM VENTILATION SYSTEM, DIV. 15 WILL PROVIDE LINE VOLTAGE THERMOSTAT (T) TO DIV. 16. DIV. 16 TO PROVIDE CONDUIT AND WIRING TO START/STOP FAN AND DAMPER VIA THERMOSTAT. FAN AND 110V ACTUATOR TO BE SUPPLIED AND INSTALLED BY DIV. 15.
- FOR UNIT HEATER, DIV. 15 TO PROVIDE LINE VOLTAGE THERMOSTAT (T), DIV. 16 TO PROVIDE CONDUIT AND WIRING TO START/STOP UNIT HEATER.
- CONDUITS TO MEDIUM SIZED TRANSFORMERS (300KVA-450KVA), ARE NOT TO BE BURIED IN THE ROOF SLAB RIGHT UP TO THE UNIT. INSTEAD, THEY ARE TO BE ROUTED ACROSS THE CEILING OF THE MECHANICAL PENTHOUSE AND BACK DOWN TO CONNECT TO THE TRANSFORMER.
- ELECTRICAL FEEDS TO THE CHILLER SHOULD BE ROUTED ACROSS THE CEILING AND DOWN TO THE CHILLER PANEL, NOT UP THROUGH THE FLOATING FLOOR.
- ELEVATOR CONTROLLER SUPPLIED AND INSTALLED BY OTHERS. THIS CONTRACTOR SHALL PROVIDE INTERCONNECTION BETWEEN FIRE ALARM CONTROL PANEL AND ELEVATOR CONTROLLER.
- DIV. 16 TO PROVIDE 1" CONDUIT TO AUTOMATIC (TC) TRANSFER SWITCH AND GENERATOR CONTROLLER. REFER TO SINGLE LINE DIAGRAM DUG. E-30 FOR CONDUIT RISER DETAILS.

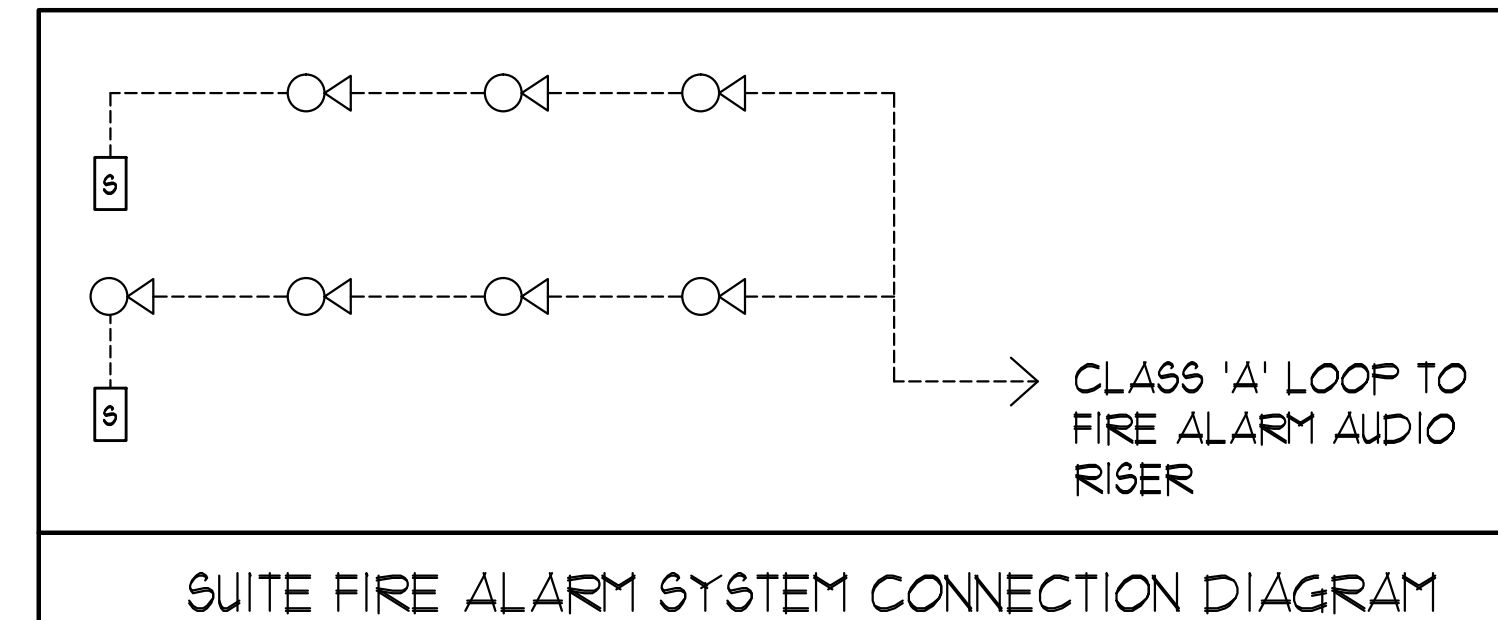
**KEY NOTES - ROOF:**

- FOR CIRCUITING, REFER TO TABLE #1.
- ELECTRICAL CONTRACTOR SHALL PROVIDE THE FOLLOWINGS FOR BOILER:
  - 1) 15V, 3φ, 15A FEEDER FOR BOILER CIRCULATING PUMP.
  - 2) 115V, 1φ, 15A DEDICATED CIRCUIT FOR BOILER IGNITER.
  - 3) BOILER SHUTDOWN PUSHBUTTON AT EXIT OF MECHANICAL ROOM.
- DIV. 16 TO SUPPLY, DIV. 15 TO INSTALL HOSPITAL PLUS GRADE MUFFLER ON THE GENERATOR EXHAUST. MUFFLER AND EXHAUST PIPE SHOULD BE ISOLATED FROM THE BUILDING STRUCTURE USING SPRINGS OR HIGH TEMPERATURE FELT PADS.
- PROVIDE CONDUIT AS PER SECURITY CONDUIT CONNECTION DIAGRAM ON DUG. E-31.
- PROVIDE CONDUIT AS PER TELECOM RISER ON DUG. E-31.
- ALL EXTERIOR LIGHTS SHALL BE CONTROLLED BY A TIMER/CONTACTOR LOCATED NEAR 'LP-R1'. CONNECT LIGHTS TO CIRCUIT AS SHOWN.
- ALLOCATE 2, 120V, 15A, CIRCUITS FROM PANEL 'LP-R1' FOR MECHANICAL CONTROL. CONTRACTOR COORDINATE WITH DIV. 15 FOR EXACT LOCATION. REFER TO PANEL SCHEDULE FOR CCT#R1-, R1- ).

REFER TO SPRINKLER DRAWINGS FOR FIRE PROTECTION DEVICE TO BE CONNECTED TO THE FIRE ALARM SYSTEM. THE DEVICE AND EQUIPMENT SHALL FORM AN INTEGRAL PART OF THE ELECTRICAL CONTRACT.

DIV. 16 SHALL SUPPLY & INSTALL CONDUIT & WIRE AND INTERLOCK FANS TO MOTORIZED DAMPERS AND TO THE THERMOSTAT.

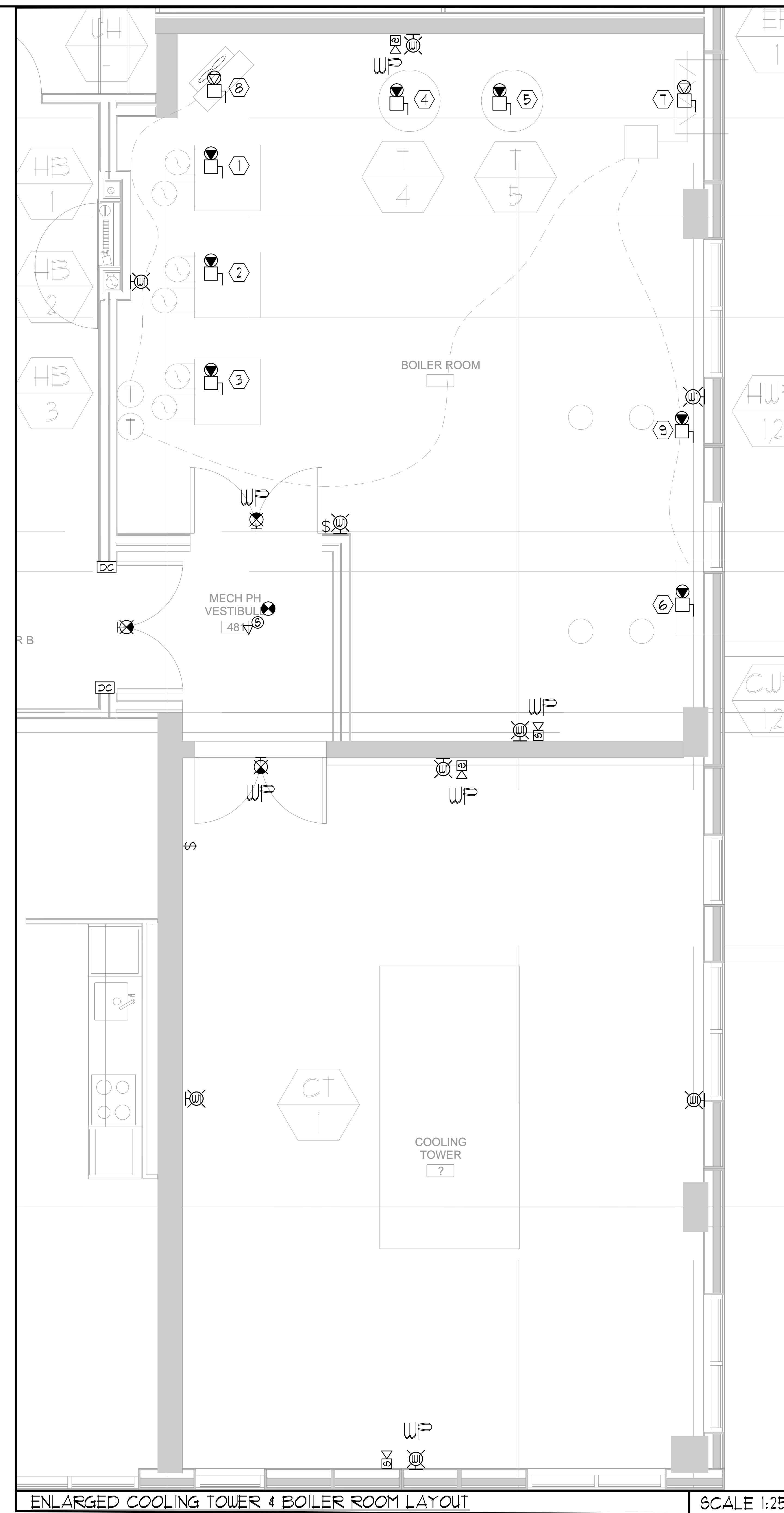
DIV. 16 SHALL SUPPLY & INSTALL CONDUIT & WIRING TO ALL BOILER CONTROLS (HIGH LIMIT SWITCH, FLOW SWITCH, VALVES ETC.).



MOUNTING HEIGHT SCHEDULE (DIMENSIONS ARE FROM FINISH FLOOR TO TOP OF WALL BOX)		
OUTLET	SUITES	PUBLIC AREA
RECEPTACLE	18" FFF	18" FFF
KITCHEN COUNTER SPLIT RECEPTACLE	46" FFF	46" FFF
TV/TELEPHONE (MULTI-PORT) OUTLET	18" FFF	18" FFF
LIGHT SWITCH	38" FFF	38" FFF
SECURITY PANEL	62" F.F.F	62" F.F.F
WALL THERMOSTAT	62" F.F.F	62" F.F.F
FRIDGE RECEPTACLE	TO SUIT EQUIPMENT	
MICROWAVE/FAN UNIT RECEPTACLE	LOCATE IN UPPER CABINET ABOVE	
UNDER CABINET LIGHTING RECEPTACLE	LOCATE IN UPPER CABINET ABOVE MICROWAVE / FAN UNIT	
INTERCOM	41" FFF	
FIREFIGHTER'S HANDSET	41" FFF	
PULL STATION	41" FFF	

**EQUIPMENT & CONNECT LIST**

- HB-1, XXXV, 3φ, XXXMCA CONN. TO 'XXX'.
- HB-2, XXXV, 3φ, XXXMCA CONN. TO 'XXX'.
- HB-3, XXXV, 3φ, XXHP CONN. TO 'XXX'.
- T-4, XXXV, 3φ, XXHP CONN. TO 'XXX'.
- T-5, XXXV, 3φ, XXHP CONN. TO 'XXX'.
- CLIP-12, XXV, Xφ, XXHP CONN. TO 'XXX'.
- EF - X 4 MD, XXV, Xφ, XXHP CONN. TO 'XXX'.
- UH - X, XXV, Xφ, XXHP CONN. TO 'XXX'.
- HUT-12, XXV, Xφ, XXHP CONN. TO 'XXX'.



ENLARGED COOLING TOWER & BOILER ROOM LAYOUT SCALE 1:25

**GENERAL NOTES - RESIDENTIAL:**

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- CONTRACTOR SHALL RUN CABLES WITHIN CEILING SLAB OR ENCLOSURES TO RETAIN 2 HOUR FIRE PROTECTION RATING FOR ALL LOADS THAT CONNECT TO EMERGENCY POWER.
- STAIRWAY WALL MOUNTED EMERGENCY LIGHT FIXTURES SHALL BE MOUNTED @ 1' AFF.
- EMERGENCY LIGHT FIXTURES IN LOCKERS, STORAGE, GARBAGE, UTILITY AND SERVICE ROOMS SHALL BE CONNECTED TO BOTH NORMAL AND EMERGENCY POWER AS PER DETAIL #1 OF DUG. E-35.
- FOR STORAGE ROOM VENTILATION SYSTEM, DIV. 16 TO PROVIDE CONDUIT, WIRING AND SWITCH (S) TO START/STOP FAN AND DAMPER. FAN AND 110V ACTUATOR TO BE SUPPLIED AND INSTALLED BY DIV. 15.
- FOR UTILITY ROOM VENTILATION SYSTEM, DIV. 15 WILL PROVIDE LINE VOLTAGE THERMOSTAT (T) TO DIV. 16. DIV. 16 TO PROVIDE CONDUIT AND WIRING TO START/STOP FAN AND DAMPER VIA THERMOSTAT. FAN AND 110V ACTUATOR TO BE SUPPLIED AND INSTALLED BY DIV. 15.
- REFER TO SPRINKLER DRAWINGS FOR FIRE PROTECTION DEVICE TO BE CONNECTED TO THE FIRE ALARM SYSTEM. THE DEVICE AND EQUIPMENT SHALL FORM AN INTEGRAL PART OF THE ELECTRICAL CONTRACT.
- REFER TO SUITE PANEL SCHEDULES FOR INSUITE CIRCUIT ARRANGEMENT.
- ALL DUELLING UNIT RECEPTACLES EXCEPT IN KITCHEN SHALL BE TAMPER PROOF.
- PROVIDE GROUND FAULT PROTECTION FOR SUITE KITCHEN AND WASHROOM RECEPTACLES WITHIN 1500mm OF SINK.
- PROVIDE TELECOMMUNICATION BOX C/W BUILT-IN RECEPTACLE FOR TELECOMMUNICATION. TELECOMMUNICATION BOX SHALL BE COMPLIANT WITH THE TELECOM SERVICE PROVIDER SPECIFICATION. REFER TO DETAIL #9 ON DUG. E-35 FOR TELECOM JUNCTION BOX INSTALLATION.
- DRYER SENSOR TO START DRYER VENTILATION FAN AUTOMATICALLY WHEN DRYER IS RUNNING.
- ALL SMOKE ALARMS WITHIN THE SUITE SHALL BE HARDWIRED TOGETHER AND TO A 15A, 1P CIRCUIT BREAKER AHEAD OF OTHER LOADS.
- ALL DUELLING UNIT RECEPTACLES, INCLUDING KITCHEN COUNTER RECEPTACLES, OF CSA CONFIGURATION 5-15R AND 5-20R SHALL BE TAMPER RESISTANT RECEPTACLES WITH EXCEPTION OF RECEPTACLES DEDICATED FOR STATIONARY APPLIANCES SUCH THAT THE RECEPTACLE IS RENDERED INACCESSIBLE OR THOSE LOCATED ABOVE 2m FROM THE FLOOR OR FINISHED GRADE. RULE 26-112(g) 26-112(h), BULLETIN 26-25-11.
- ALL BEDROOM RECEPTACLES SHALL BE CONNECTED TO ARC-FAULT CIRCUIT BREAKERS (AFGI).
- RECEPTACLES INSTALLED IN A DINING AREA FORMING PART OF A KITCHEN OF A DUELLING UNIT SHALL BE SUPPLIED BY A BRANCH CIRCUIT THAT DOES NOT SUPPLY ANY OTHER OUTLETS. RULE 26-112(e).

**KEY NOTES - RESIDENTIAL:**

- FOR CIRCUITING, REFER TO TABLE #1.
- PROVIDE ALARM SPOKE, SMOKE DETECTOR AND RECEPTACLE AT EVERY THIRD FLOOR STAIR WELL STARTING FROM TOP FLOOR, AS PER TO DUG. E-32 FOR FIRE ALARM RISER DIAGRAM.
- REFER TO SUPERVISED VALVE AND FLOW SWITCH SCHEDULE ON DUG. E-XX FOR DETAILS ON TYPICAL FLOORS.
- PROVIDE TELECOMMUNICATION BACKBOARD C/W 15V, 1φ, 15A RECEPTACLE AS PER COMMUNICATION RISER DIAGRAM ON DUG. E-31.
- CONTRACTOR SHALL REFER TO ELECTRICAL SINGLE LINE DIAGRAM ON DUG. E-30 AND SDP RISER ON DUG. E-31 FOR SDP LOCATIONS AND DISTRIBUTION.
- PROVIDE CONDUIT AS PER RISER DETAIL #9 ON DUG. E-35 FOR BISORTER/TRISORTER CONTROL SYSTEM.
- ALL SUITE DOOR CONTACTS WILL COMPLETE WITH INTRUSION ALARM SYSTEM THAT CONTACT TO THE CONCIERGE STATION.
- DESIGNATED "LAUNDRY RECEPTACLE" AS DEFINED BY ESA CODE 26-112(e)(1), 26-112(b) AND ESA BULLETIN 26-26-0 (WITHIN 3m RADIUS OF LAUNDRY CLOSET). RECEPTACLE SHALL BE CONNECTED TO A DEDICATED CIRCUIT. SEE DETAIL #4 ON DUG. E-35.
- SWITCHES, RECEPTACLES, ETC. TO BE INSTALLED AS TO NOT INTERFERE WITH THE OPENING AND OPERATION OF SLIDING DOOR.

**GENERAL AREA CIRCUITING - TABLE #1**

LIGHTING FIXTURE LOCATION	CCT.#	RECEPTACLE LOCATION	CCT.#
P4 TO P1 - EXIT SIGNS	EX-XXX	LOBBY (P4 TO P1)	EX-XXX
G/F TO 10/F - EXIT SIGNS	EX-XXX	STAIR 'A1' (S/F, R/F)	EX-XXX
11/F TO ROOF - EXIT SIGNS	EX-XXX	STAIR 'B' (P4,3,2,1,18,15) FLOORS	EX-XXX
LOBBY (P4 TO P1)	EX-XXX	STAIR 'B1' (12,6,3,3,P4) FLOORS	EX-XXX
STAIR 'A1' (P4 TO G/F)	EX-XXX	STAIR 'C1' (M/F,3,2,1,24,2) FLOORS	EX-XXX
	EX-XXX	STAIR 'C2' (18,15,12,6,3) FLOORS	EX-XXX
CORRIDOR	EX-XXX	STAIR 'D1' (P1,P4) FLOORS	EX-XXX
	EX-XXX	STAIR 'E1' (P1) FLOOR	EX-XXX
	EX-XXX	CORRIDOR	EX-XXX

**ELECTRICAL LEGEND**

LIGHTING	
FLUORESCENT LIGHT FIXTURE TYPE AS INDICATED	
EMERGENCY LIGHT	
EMERGENCY LIGHT CONNECTED TO EMERGENCY POWER	
CEILING MOUNTED WALL MOUNTED LIGHT FIXTURE	
WALL MOUNTED LIGHT FIXTURE	
POLE MOUNTED LIGHT FIXTURE	
SCRIBED LETTER DENOTES TYPE	
CAPPED CEILING LIGHT OUTLET	
TRACK LIGHT	
STRIP LIGHT	
UNDER CABINET FLUORESCENT LIGHT FIXTURE	
CEILING MOUNTED WALL MOUNTED EXIT SIGN	
EMERGENCY BATTERY PACK	
EMERGENCY BATTERY PACK	
OCCUPANCY SENSOR POWER PACKS	
1/4" x 1/4" SINGLE/THREE POLE SINGLE/THREE PHASE (13" x 1/4" DENOTES 1-HAY-A-HAY/FLY LIGHT, OTHER SWITCHED LIGHT RESPECTIVELY)	
MASTER LIGHTING SWITCH (S)	
SENSOR WALL SWITCH (S) SELF POWERED	
OCCUPANCY SENSOR CEILING MOUNTED	
POWER	
REGULAR DUPLEX RECEPTACLE	
DUPLEX RECEPTACLE GROUND FAULT INTERRUPT	
3-20R T-10T DUPLEX RECEPTACLE	
SINGLE RECEPTACLE TYPE AND CONFIGURATION AS SPECIFIED FOR DRYER	
CONNECTION FOR OVERSICHTOP	
ABOVE COVER DEVICE	
CEILING MOUNTED DEVICES	
FLOOR MOUNTED DEVICES	
DISCONNECT SWITCH, NON-FUSED	
DISCONNECT SWITCH, FUSED	
COMBINATION STARTER	
FRACTIONAL MOTOR/FAN DIRECT CONNECTION	
DIRECT CONNECTION, SINGLE PHASE	
DIRECT CONNECTION, THREE PHASE	
THERMOSTAT	
DRYER SENSOR	
HEAT TRACE	
ELECTRICAL HEATER	
ELECTRICAL PANEL / SECURITY PANEL	
TELECOMMUNICATION	
TV/CABLE OUTLET	
TELEPHONE OUTLET	
TELEPHONE CABLE (MULTI-PORT) OUTLET	
DATA OUTLET	
IN-SITE TELECOM BOX C/W RECEPTACLE	
LIFT LOCATION	
MUSIC SPEAKER / VOLUME CONTROL	
RADIO RECEIVER	
SECURITY	
INTERCOM / INTERPHONE	
INTERCOM WITH CAMERA	
PANIC BUTTON / PANIC INTERCOM STATION	
CARD READER	
AUTOMATIC RELEASE CARD ACCESS/RADIO RECEIVER	
ELECTRIC STRIKE	
MAGLOCK	
DOOR CONTACT / WINDOW CONTACT	
AUTOMATIC DOOR OPERATOR	
MOTION DETECTOR	
PUSH BUTTON	
SECURITY CAMERA	
LIFE SAFETY	
FIRE ALARM SPOKE DETECTOR	
SPOKE ALARM	
FIRE ALARM DUCT TYPE SPOKE DETECTOR	
FIRE ALARM HEAT DETECTOR	
FIXED TEMP. 68 °C SMOKE HEAT DETECTOR	
MOISTURE PROOF HEAT DETECTOR	
CO ALARM	
COMBINATION SPOKE & CO ALARM	
CO SENSOR / NO SENSOR	
FIRE ALARM MANUAL PULL STATION	
PREPAREDNESS HANDSET	
FIRE ALARM STROBE/ALARM WALL MTD.	
FIRE ALARM HORN WALL MTD.	
FIRE ALARM SPEAKER/STROBE CEILING MTD.	
FIRE ALARM SPEAKER CEILING MTD.	
FIRE ALARM ANNUNCIATOR PANEL	
FIRE ALARM CONTROL PANEL	
DRAWINGS ARE NOT TO BE SCALED	

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