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# **POWER & SIGNAL GENERAL NOTES**

| VERIFY EXACT LOCATIONS OF HVAC EQUIPMENT, CONDUIT STUB-UPS, AND POWER CONNEC<br>IN. ALL NEW HVAC EQUIPMENT SHALL BE PROVIDED WITH A FACTORY INSTALLED AND WIRED<br>UNLESS NOTED OTHERWISE. |
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| VERIEV EXACT LOCATION, MOUNTING HEIGHTS, AND CONDUIT ROUTING FOR ALL THERMOST  |

- 3. REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL ELECTRICAL REQUIREMENTS. COORDINATE PROVISIONS FOR ALL CONTROL CONDUIT AND WIRING AS REQUIRED FOR INTERLOCKING OF FANS, MOTORS, ETC. REFER TO
- 4. ALL DEVICES INSTALLED ON HVAC EQUIPMENT SHALL BE MOUNTED ON A NON-REMOVABLE PANEL OF THE EQUIPMENT. COORDINATE LOCATION WITH THE MECHANICAL AND/OR PLUMBING CONTRACTOR PRIOR TO COMMENCING ROUGH-IN WORK.
- 5. ALL CONDUITS ON WALL OR COLUMNS SHALL RUN TO ROOF DECK.

SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

- 6. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS OF POWER CONDUIT AT REPAIR COUNTER BEFORE BIDDING AND PROVIDING NEW CONDUIT AND WIRE. CONNECT TO EXISTING CIRCUITS. CONTRACTOR TO STUB-UP (1) 1" CONDUIT AND (1)2" CONDUIT(1" FOR POWER, 2" FOR PHONE/DATA) TO ACCESSIBLE CEILING SPACE OR ROOF STRUCTURE.
- 7. ALL 120 VOLT BRANCH CIRCUITS IN EXCESS OF 75 FEET SHALL HAVE CONDUCTOR SIZE INCREASED A MINIMUM OF ONE CONDUCTOR SIZE. INSTALLING CONTRACTOR SHALL DETERMINE ACTUAL CONDUCTOR SIZE TO BE INSTALLED TO ADHERE TO VOLTAGE DROP REQUIREMENTS.
- 8. REFER TO ARCHITECTURAL ELEVATIONS FOR DIMENSIONS OF OUTLET LOCATIONS. DO NOT SCALE OFF DRAWINGS. 9. ALL PHONE JACKS IN RETAIL SPACE SHALL BE MOUNTED SUCH THAT THEY ARE CENTERED BETWEEN THE DISPLAY PANELS AND NOT IN A SPACE THAT IS SMALLER THAN 12". ALL PHONES AT STRUCTURAL COLUMNS SHALL BE MOUNTED IN A SINGLE-GANG BACK-BOX.
- 10. ALL INTRUSION DEVICES AND CCTV DEVICES REQUIRE BACK-BOX AND 1/2" CONDUIT WITH PULL STRING, TAGGED WITH SOURCE AND DESTINATION BACK TO TDP CLOSET. AT WALL LOCATIONS, STUB CONDUIT INTO ACCESSIBLE CEILING SPACE OR TOP OF WALL. IN RETAIL CEILING AREA, BURGLAR ALARM CONTRACTOR TO RUN WIRING TIGHT TO STRUCTURE. NO CONDUIT NEEDED. VERIFY EXACT DEVICES AND LOCATIONS WITH BURGLAR ALARM CONTRACTOR. KEYPAD, INTERCOM, AND INTERCOM SHROUD ARE INSTALLED BY OWNER.
- 11. TELEPHONE AND DATA OUTLETS: PROVIDE BACKBOX AND CONDUIT WITH PULL CORD TAGGED WITH SOURCE AND DESTINATION, STUBBED UP TO ACCESSIBLE CEILING SPACE. CONDUIT IN WALLS OR ON COLUMNS SHALL BE 1" UNLESS OTHERWISE NOTED. CONDUIT IN SLAB SHALL BE 1" UNLESS OTHERWISE NOTED. REFER TO OWNER DIAGRAMS FOR LOCATIONS OF TERMINALS AND CONDUIT INSIDE OWNER SUPPLIED COUNTERS. CONDUITS AT PARTIAL HEIGHT WALLS SHALL BE ROUTED VIA THE NEAREST FULL HEIGHT WALL.
- 12. ALL CONDUIT STUBS FOR LOW-VOLTAGE CABLING SHALL HAVE PLASTIC BUSHINGS ON ENDS OF CONDUIT.
- 13. NEW RECEPTACLES AND TELE/DATA OUTLETS MOUNTED ON COLUMNS IN RETAIL AREA SHALL BE LOCATED ON THE SIDE OF COLUMNS THAT IS FACING AWAY FROM FRONT ENTRANCE.

# **POWER & SIGNAL KEY NOTES**

- (1) EC TO PROVIDE IN-SLAB CONDUIT RUN FOR EAS PEDESTALS. EC SHALL TRENCH FLOOR FOR CONDUIT RUN TO EAS PEDESTALS AND SHALL ROUTE CONDUIT FROM EAS PANEL TO EAS PEDESTAL LOCATIONS, AND STUB CONDUIT UP 6" AFF FOR PEDESTALS. EC SHALL PROVIDE 3/4" CONDUIT TO EAS PEDESTALS.
- $\langle 2 \rangle$  Location is shown for reference only. Eas panel and duplex receptacle shall be surface mounted NEAR MAIN ENTRANCE. FIELD COORDINATE FINAL LOCATION.
- $\overline{(3)}$  PROVIDE 120V POWER FOR DOOR OPERATOR. COORDINATE EXACT REQUIREMENTS WITH SUPPLIER. (4) PROVIDE PUSHBUTTON FOR HANDICAP DOOR ACCESS. COORDINATE EXACT REQUIREMENTS WITH DOOR SHOP DRAWINGS. VERIFY LOCATION OF DEVICES, MOUNTING AND REQUIREMENTS PRIOR TO CONSTRUCTION. REFER TO
- ARCHITECTURAL DRAWINGS FOR MORE INFORMATION.  $\langle 5 \rangle$  VERIFY LOCATION WITH SECURITY VENDOR. REFER TO GENERAL NOTE 10 THIS SHEET.
- (6) BURGLAR KEYPAD AT +48"AFF TO HIGHEST OPERABLE PART. PROVIDE 1/2" CONDUIT FROM DECK TO 48" AT INSIDE WALL.
- $\langle 7 \rangle$  RECEPTACLES ARE SHOWN FOR REFERENCE ONLY. COORDINATE EXACT LOCATIONS AND REQUIREMENTS WITH CASEWORK VENDOR.
- (8) COORDINATE EXACT LOCATION OF RETAIL COUNTER CONDUIT STUB-UP WITH ARCHITECTURAL SHEETS.
- (9) EXISTING (1) 1" CONDUIT FOR POWER AND (1) 2" CONDUIT FOR TELE/DATA FROM STUB-UP LOCATION TO NEAREST EXTERIOR WALL. E.C. SHALL PROVIDE HOMERUN AND MAKE FINAL CONNECTION TO PANEL. E.C. SHALL PROVIDE JUNCTION BOX IN CASEWORK FOR POWER TO RECEPTACLES. COORDINATE LOCATION OF JUNCTION BOX AND CONNECTION TO RECEPTACLES WITH CASEWORK VENDOR.
- (10) PROVIDE 1/2" CONDUIT WITH CONTROL WIRING FROM THERMOSTAT/SENSORS AT +5'-0" AFF TO CORRESPONDING UNIT. 11> PROVIDE CEILING-MOUNTED RECEPTACLE AT BOTTOM OF STRUCTURE FOR PUBLIC VIEW MONITOR. SEE A-141 FOR
- LOCATION AND MONITOR MOUNTING HEIGHT 12> PROVIDE JUNCTION BOX AND DEDICATED CIRCUIT FOR HAND DRYER. COORDINATE MOUNTING HEIGHT OF JUNCTION
- BOX WITH MANUFACTURER'S RECOMMENDATIONS. (13) PROVIDE (1) 4" CONDUIT FROM TDP RACK TO IDF. VERIFY TERMINATION POINT AND ROUTING PRIOR TO BID. ADD PULL
- BOXES. AT ALL 90 DEGREE TURNS. LAND CONDUIT AT IDF ABOVE PLYWOOD/ENCLOSURE. (14) PROVIDE (2)#12, (1)#12G, 3/4"C FROM AC-1 TO CONDENSATE PUMP, WHICH IS MOUNTED TO AC-1. COORDINATE EXACT
- CONNECTION REQUIREMENTS WITH MANUFACTURER. (15) PROVIDE CEILING-MOUNTED NEMA TYPE L14-20R 208V/1P RECEPTACLE FOR BOAT LIFT. VERIFY EXACT MOUNTING
- LOCATION IN THE FIELD. (16) EXHAUST FAN TO BE CIRCUITED TO LOCAL FITTING ROOM CIRCUIT. EXHAUST FAN SHALL BE CONTROLLED BY LOCAL
- OCCUPANCY SENSOR LOCATED ON THE SPACE IT SERVES. SEE SHEET F-200 FOR OCCUPANCY SENSOR LOCATION. (17) PROVIDE (1) 4" CONDUIT FROM JUNCTION BOX IN TDP ROOM TO JUNCTION BOX IN RPSU STORAGE AREA. ADD PULL
- BOXES AT ALL 90 DEGREE TURNS. (18) PROVIDE 24"x24"x8" PULL BOX FOR TDP CONDUIT.
- (19) PROVIDE (1) 1-1/2" CONDUIT FOR TELE/DATA RECEPTACLES. SEE GENERAL NOTE 11 FOR ADDITIONAL REQUIREMENTS.
- 20> EC TO PROVIDE FLUSH FLOOR MOUNTED FLOOR BOX RECEPTACLE HUBBELL #BA2529 FLOOR BOX, WITH #SA3925 ELECTRICAL PLATE FLOOR BOX. EC SHALL PROVIDE (1) 3/4" CONDUIT FOR POWER TO NEAREST COLUMN OR EXTERIOR WALL. ELECTRICAL CONTRACTOR SHALL PROVIDE HOMERUN AND MAKE FINAL CONNECTION TO PANEL.
- (21) EC SHALL PROVIDE (1) 3/4" CONDUIT FOR POWER TO NEAREST COLUMN OR EXTERIOR WALL. ELECTRICAL CONTRACTOR SHALL PROVIDE HOMERUN AND MAKE FINAL CONNECTION TO PANEL.
- 22 INSTALL TENANT FURNISHED BOAT/BIKE LIFT CONTROLS. COORDINATE LOCATION WITH OWNER'S REPRESENTATIVE. CONTROLS ARE SURFACE MOUNTED. NO CONDUIT REQUIRED. 23) PROVIDE JUNCTION BOX RECESSED IN CEILING FOR TRAFFIC COUNTER. TRAFFIC COUNTER SHALL BE ORIENTED SUCH
- THAT THE LONGEST DIMENSION OF THE TRAFFIC COUNTER IS PARALLEL WITH THE DOOR. VERIFY EXACT MOUNTING LOCATION WITH ARCHITECT PRIOR TO INSTALLATION. PROVIDE A 1" CONDUIT WITH PULLSTRING. (24) MOUNT TIMER SWITCH IN RECESSED 2-GANG BOX AT 46" ON WALL ADJACENT TO ROPE CUTTER. DO NOT MOUNT
- ABOVE ROPE CUTTER.  $\langle \overline{25} 
  angle$  provide junction box for door counter and camera surface mounted adjacent to entry door. Verify
- EXACT MOUNTING LOCATION WITH ARCHITECT PRIOR TO INSTALLATION. PROVIDE A 3/4" CONDUIT WITH PULLSTRING. 26 PROVIDE CONDUIT AND PULL STRING TO ABOVE ACCESSIBLE CEILING FOR ELECTRONIC ARTICLE SURVEILLANCE (EAS)
- SYSTEM. CONDUIT TO STUB OUT TO WALL AT +54" AFF AT LOCATION SHOWN. COORDINATE WITH CHECKPOINT SECURITY DRAWINGS.
- 27> EAS PANEL. PROVIDED 12"X12"X4" ENCLOSURE WITH (2) JUNCTION BOXES MOUNTED IN SIDES OF BOX FOR EAS PEDESTAL POWER SUPPLIES. MOUNT ABOVE CEILING IN LOCATION ACCESSIBLE BY TENANT'S STEP-LADDER. COORDINATE REQUIREMENTS WITH REI CONSTRUCTION MANGER.
- 28> PROVIDE CONDUIT AND WIRING FROM MOTORIZED DOOR TO J-BOX ON INTERIOR OF PREMISES. J-BOX TO BE MOUNTED A MINIMUM OF 16'-0"AFF. TENANT WILL PROVIDE HOME RUN AND FINAL CONNECTION TO PANEL. DOOR INSTALLATION INCLUDES DOOR OPERATOR CONTROLS. PROVIDE A MMTC 3BLM EXTERIOR THREE-BUTTON LOCKOUT SURFACE MOUNT CONTROL STATION. CONTROL STATION SHALL BE LOCATED ADJACENT TO DOOR. PROVIDE WIRING FROM CONTROL STATION TO MOTOR PER MANUFACTURER REQUIREMENTS.
- 29 PROVIDE DUPLEX FOR POWER TO SINK SENSOR. SEE PLUMBING DRAWINGS FOR MORE INFORMATION.
- (30) RECEPTACLE SHALL BE INSTALLED 18" MAX ABOVE THE TOP OF THE WINDOW. REFER TO ARCHITECTURAL SHEETS FOR EXACT LOCATION. (31) PROVIDE 2" CONDUIT WITH PULL STRINGS STUBBED INTO SPACE. COORDINATE EXACT LOCATION WITH
- ARCHITECTURAL ELEVATIONS. PROVIDE ELECTRICAL CONNECTIONS FOR WASHER & DRYER. COORDINATE ELECTRICAL REQUIREMENTS WITH MANUFACTURER'S RECOMMENDATIONS. COORDINATE LOCATION WITH OWNER. PROVIDE (3)#8,(1)#10G,1"C TO ELECTRIC DRYER LOCATION.
- EXISTING DEVICES IN THIS SPACE SHALL BE RECIRCUITED TO NEW PANELS A PROVIDE (2) 50 AMP, 2-POLE NON-FUSED, TOGGLE DISCONNECT SWITCHES FOR INSTANTANEOUS WATER HEATER. VERIFY LOCATION OF DISCONNECTS WITH ARCHITECT. VERIFY ADDITIONAL REQUIREMENTS WITH PLUMBING CONTRACTOR. DISCONNECTS SHALL BE INTEGRALLY LOCKABLE AND SHALL BE CLEARLY AND PERMANENTLY LABELED
- AS "IWH-1" SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONED
- LOCATIONS OF POWER AND SIGNAL DEVICES.

### CTIONS PRIOR TO ROUGH-ED DISCONNECT SWITCH

STATS, TEMPERATURE SENSORS, HUMIDISTATS, AND CO2 SENSORS WITH TEMPERATURE CONTROLS CONTRACTOR PRIOR TO ROUGH-IN.







# **POWER & SIGNAL GENERAL NOTES**

- 1. VERIFY EXACT LOCATIONS OF HVAC EQUIPMENT, CONDUIT STUB-UPS, AND POWER CONNECTIONS PRIOR TO ROUGH-IN. ALL NEW HVAC EQUIPMENT SHALL BE PROVIDED WITH A FACTORY INSTALLED AND WIRED DISCONNECT SWITCH UNLESS NOTED OTHERWISE.
- SENSORS, HUMIDISTATS, AND CO2 SENSORS WITH TEMPERATURE CONTROLS CONTRACTOR PRIOR TO ROUGH-IN. 3. REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL ELECTRICAL REQUIREMENTS. COORDINATE PROVISIONS FOR ALL CONTROL CONDUIT AND WIRING AS REQUIRED FOR INTERLOCKING OF FANS, MOTORS, ETC. REFER TO
- 4. ALL DEVICES INSTALLED ON HVAC EQUIPMENT SHALL BE MOUNTED ON A NON-REMOVABLE PANEL OF THE EQUIPMENT. COORDINATE LOCATION WITH THE MECHANICAL AND/OR PLUMBING CONTRACTOR PRIOR TO COMMENCING ROUGH-IN WORK.
- 5. ALL CONDUITS ON WALL OR COLUMNS SHALL RUN TO ROOF DECK.

SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

- 6. RECESSED FLOOR BOXES (PCF). CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS OF POWER CONDUIT BEFORE BIDDING AND PROVIDING NEW CONDUIT, WIRE, TRIM PLATES, ELECTRICAL COVER PLATES, RECEPTACLES, ADAPTER PLATES AND ADAPTER COLLARS. CONNECT TO CIRCUITS AND INSTALL ADDITIONAL CONDUIT AS REQUIRED AND AS INDICATED BY HOMERUNS. CONTRACTOR TO STUB-UP (2) 3/4" CONDUITS (1 FOR POWER, 1 FOR PHONE/DATA) TO ACCESSIBLE CEILING SPACE OR ROOF STRUCTURE.
- 7. ALL 120 VOLT BRANCH CIRCUITS IN EXCESS OF 75 FEET SHALL HAVE CONDUCTOR SIZE INCREASED A MINIMUM OF ONE CONDUCTOR SIZE. INSTALLING CONTRACTOR SHALL DETERMINE ACTUAL CONDUCTOR SIZE TO BE INSTALLED TO ADHERE TO VOLTAGE DROP REQUIREMENTS.
- OFF DRAWINGS.
- PANELS AND NOT IN A SPACE THAT IS SMALLER THAN 12". ALL PHONES AT STRUCTURAL COLUMNS SHALL BE MOUNTED IN A SINGLE-GANG BACK-BOX. 10. ALL INTRUSION DEVICES AND CCTV DEVICES REQUIRE BACK-BOX AND 1/2" CONDUIT WITH PULL STRING, TAGGED WITH
- SOURCE AND DESTINATION BACK TO TDP CLOSET. AT WALL LOCATIONS, STUB CONDUIT INTO ACCESSIBLE CEILING SPACE OR TOP OF WALL. IN RETAIL CEILING AREA, BURGLAR ALARM CONTRACTOR TO RUN WIRING TIGHT TO STRUCTURE. NO CONDUIT NEEDED. VERIFY EXACT DEVICES AND LOCATIONS WITH BURGLAR ALARM CONTRACTOR. KEYPAD, INTERCOM, AND INTERCOM SHROUD ARE INSTALLED BY OWNER.
- 11. TELEPHONE AND DATA OUTLETS: PROVIDE BACKBOX AND CONDUIT WITH PULL CORD TAGGED WITH SOURCE AND DESTINATION, STUBBED UP TO ACCESSIBLE CEILING SPACE. CONDUIT IN WALLS OR ON COLUMNS SHALL BE 1" UNLESS NOTED OTHERWISE. CONDUIT IN SLAB SHALL BE 1" UNLESS NOTED OTHERWISE. REFER TO OWNER DIAGRAMS FOR LOCATIONS OF TERMINALS AND CONDUIT INSIDE OWNER SUPPLIED COUNTERS. CONDUITS AT PARTIAL HEIGHT WALLS SHALL BE ROUTED VIA THE NEAREST FULL HEIGHT WALL.

## **BIKE ASSEMBLY KEY NOTES**

- PROVIDE LOCAL SWITCH FOR EXHAUST FAN, WHICH IS LOCATED ON ROOF. SEE SHEET F-400 FOR LOCATION. REFER TO MECHANICAL PLANS AND SCHEDULES FOR MORE INFORMATION.
- (2) PROVIDE CONNECTION TO IWH-1 FROM DISCONNECTS LOCATED NEAR IFS USING CIRCUITING AS SHOWN ON DETAIL 3/E101. E.C. SHALL PERMANENTLY LABEL IWH-1 WITH FINAL LOCATION OF DISCONNECTS.
- PROVIDE A 20A, 120V/1P NEMA 5-20R DUPLEX RECEPTACLE IN CAST METAL BOX W/COVER. PROVIDE SO CORD HARDWIRED TO JUNCTION BOX TIGHT TO DECK. PROVIDE KELLUM GRIPS, SPRING & 3' LOOP FROM CEILING J-BOX. MOUNT SUCH THAT DUPLEX RECEPTACLE HANGS @7'-0" AFF.
- > PROVIDE A 30A, 208V/1P DEDICATED TWISTLOCK RECEPTACLE IN CAST METAL BOX W/COVER. PROVIDE SO CORD HARDWIRED TO JUNCTION BOX TIGHT TO DECK. PROVIDE KELLUM GRIPS, SPRING & 3' LOOP FROM CEILING J-BOX. MOUNT SUCH THAT RECEPTACLE HANGS @7'-0" AFF.
- $\overline{(5)}$  PROVIDE A 20A, 120V/1P DEDICATED TWISTLOCK RECEPTACLE IN CAST METAL BOX W/COVER. PROVIDE SO CORD HARDWIRED TO JUNCTION BOX TIGHT TO DECK. PROVIDE KELLUM GRIPS, SPRING & 3' LOOP FROM CEILING J-BOX. MOUNT SUCH THAT DUPLEX RECEPTACLE HANGS @7'-0" AFF.

# LOCKER KEY NOTES

- (1) PROVIDE JUNCTION BOX AND DEDICATED CIRCUIT FOR HAND DRYER. COORDINATE MOUNTING HEIGHT OF JUNCTION BOX WITH MANUFACTURER'S RECOMMENDATIONS
- (2) PROVIDE DUPLEX FOR POWER TO SINK SENSOR. SEE PLUMBING DRAWINGS FOR MORE INFORMATION.

# **OFFICE KEY NOTES**

- (1) EC TO PROVIDE CONDUIT STUB-UPS AT CASHWRAP DESK AS INDICATED. ROUTE CONDUIT FROM TDP PANEL TO STUB-UP LOCATION UNDER COUNTER. E.C. SHALL LABEL RECEPTACLES WITH THE CIRCUIT NUMBER & AFFIX TO DEVICE COVERPLATES.
- RECEPTACLES ARE SHOWN FOR REFERENCE ONLY. CASEWORK IS PRE-WIRED WITH PRE-INSTALLED OUTLETS. CONTRACTOR IS ONLY RESPONSIBLE FOR CONNECTING POWER TO FIRST CONNECTION POINT AT CASHWRAP AND FOR MAKING CONNECTIONS BETWEEN EACH SECTION OF CASHWRAP CASEWORK.
- > PROVIDE 12"x12"x6" JUNCTION BOX IN STORAGE AREA. MOUNT BOTTOM OF BOX AT 18"AFF. PROVIDE SCREW COVER FOR BOX ACCESS. RUN 4" CONDUIT FOR DATA AND TELEPHONE TIGHT TO CEILING TO TDP RACK. SEE SHEET F-100 FOR MORE INFORMATION REGARDING CONDUIT ROUTING.
- PROVIDE (1) 4" CONDUIT TO THE STRUCTURE DIRECTLY ABOVE THE IDF. CONNECT TO OWNER PROVIDED & INSTALLED IDF CABINET. LOCATE IDF CABINET AT 11'-6" AFF. PROVIDE 48" X 48" X 3/4" FIRE RESISTANT PLYWOOD MOUNTED SECURELY TO WALL STARTING AT 10'-0" FOR IDF CABINET. COORDINATE INSTALLATION OF GROUND BAR WITH VENDOR. PROVIDE A #6G FOR IDF. RECEPTACLE TO BE INSTALLED ON PLYWOOD BACKBOARD NEAR THE TOP RIGHT CORNER. COORDINATE EXACT HEIGHT AND LOCATION OF DUPLEX WITH ARCHITECT.

### UTILITY KEY NOTES

- $\langle 1 
  angle$  provide 2" conduit with pull string from novar section in switchgear to security panel.
- angle owner to provide and contractor to install integrated facility systems switchboard. See sheet F-300 FOR DETAILS AND MORE INFORMATION REGARDING INTEGRATED FACILITY SYSTEMS SWITCHBOARD NOT USED.

## **TDP KEY NOTES**

- 1 PROVIDE NEMA L5-30 DEDICATED TWISTLOCK RECEPTACLE WITH (3)#10 IN 3/4"C. STACK RECEPTACLES AT +19"AFF AND +27"AFF.
- $\langle 2 \rangle$  PROVIDE SIGNAL WIRE FROM FACP TO TDP.
- (3) NEW LOCATION OF REI DEMARC. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH UTILITY COMPANY.  $\langle 4 
  angle$  provide fire resistant plywood covering all walls up to 8'-0". Extend existing tele/data service  $\langle$ CONDUIT WITH PULL STRING TO BACKBOARD EDGE. VERIFY TERMINATION POINT AND ROUTING OF EXISTING CONDUIT
- PRIOR TO BID. (5) PROVIDE GROUND BAR. REFER TO GROUND BAR DETAIL 11 ON SHEET **F-102** FOR ADDITIONAL INFORMATION.
- $\langle \overline{6} \rangle$  PROVIDE 2" CONDUIT WITH PULLSTRING FROM NOVAR SECTION IN SWITCHGEAR TO SECURITY PANEL.
- (7) PROVIDE 12X12 BOX FOR SECURITY. COORDINATE EXACT LOCATION WITH OWNER'S REQUIREMENTS AND INSTALL AS REQUIRED.
- $\langle 8 \rangle$  PROVIDE (3) RECEPTACLES FOR ALARM CONTROL PANELS. VERIFY REQUIREMENTS AND INSTALL AS REQUIRED.
- (9) MAIN TELEPHONE SERVICE LINE TRENCH FLOOR TO EXTEND EXISTING (1) 4" CONDUIT TO NEW LOCATION SHOWN.
- (10) PROVIDE 4" CONDUIT WITH PULL STRING FROM IDF PANEL FOR PHONE/DATA CABLING (IF APPLICABLE). 11> PROVIDE 4" DIA. CONDUIT WITH PULL STRING FROM UNDERSIDE PLANE OF ROOF STRUCTURE OF RETAIL AREA FOR
- PHONE/DATA CABLING.
- (12) PROVIDE 4" DIA. CONDUIT WITH PULL STRING FROM GENERAL OFFICE AREA FOR PHONE/DATA CABLING.
- (13) 2" CONDUIT WITH PULL STRING FROM UNDERSIDE OF STRUCTURE OF FIRST FLOOR STRUCTURE FOR AUDIO SYSTEM LINES.
- $\langle 14 \rangle$  2" CONDUIT WITH PULL STRING FROM UNDERSIDE OF ROOF STRUCTURE FOR AUDIO SYSTEM LINES.
- (15) 4" DIA. CONDUIT WITH PULL STRING FROM UNDERSIDE PLANE OF FIRST FLOOR ROOF STRUCTURE OF RETAIL AREA FOR SECURITY SYSTEM.

2. VERIFY EXACT LOCATION, MOUNTING HEIGHTS, AND CONDUIT ROUTING FOR ALL THERMOSTATS, TEMPERATURE

8. REFER TO ARCHITECTURAL AND ELECTRICAL ELEVATIONS FOR DIMENSIONS OF OUTLET LOCATIONS. DO NOT SCALE

9. ALL PHONE JACKS IN RETAIL SPACE SHALL BE MOUNTED SUCH THAT THEY ARE CENTERED BETWEEN THE DISPLAY





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|               | <ol> <li>2.</li> <li>3.</li> <li>4.</li> <li>5.</li> <li>6.</li> <li>7.</li> <li>8.</li> <li>9.</li> <li>10.</li> </ol> | <ul> <li>ALL LIGHTING IN SALES AREA TO BE CONTROLLED BY NOVAR CONTROL SYSTEM UNLESS SHOWN OTHERWISE.</li> <li>ALL TRACK SHALL BE MOUNTED TO FULL LENGTH STEEL CHANNEL FOR SUPPORT. ALL TRACK SHALL BE LOCATED FROM THE WALL UNLESS NOTED OTHERWISE. VERIFY EXACT LOCATIONS WITH ARCHITECT. REFER TO PLAN FOR MOUNTING HEIGHTS. VERIFY EXACT MOUNTING HEIGHT WITH ARCHITECT. CONTRACTOR SHALL PAINT STRUT TO MATCH TRACK.</li> <li>EXIT LIGHTS SHALL BE MOUNTED &amp;'-0" ABOVE FINISHED FLOOR (BOTTOM OF FIXTURE) OR JUST ABOVE THE TOP OF THE DOOR IF WALL MOUNTED ABOVE TOP OF A DOOR THAT IS TALLER THAN 8'-0". COORDINATE WITH ARCHITECT ALL MOUNTING HEIGHTS.</li> <li>ALL WALL PENETRATIONS SHALL BE NEATLY CORE-DRILLED, CAULKED, AND SEALED TO MAINTAIN FIRE AND WATERPROOF RATING. PATCH, REPAIR, AND PAINT TO MATCH EXISTING.</li> <li>TESTING OF EMERGENCY LIGHTING IS REQUIRED. CALL FOR TESTING PRIOR TO FINAL INSPECTION (TESTING MUSE BY DISCONNECTING MAIN).</li> <li>BRANCH CIRCUIT CONDUCTORS TO BE TYPE THHN WHERE THERE ARE 6 OR MORE CONDUCTORS IN A CONDUIT.</li> <li>ALL 'C2' &amp; 'C2E' LED LIGHT FIXTURES HAVE DIMMABLE DRIVERS &amp; DAYLIGHT CONTROLS.</li> <li>"IN DAYLIGHT ZONES" <ul> <li>a = CIRCUITS FOR CONTROL OF TYPES 'C2' &amp; 'C2E' LIGHTING - FOR EMPLOYEE LIGHTS, CUSTOMER LIGHTS, AND DAYLIGHT CONTROLS</li> </ul> </li> </ul> |
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|               | 3.<br>4.<br>5.<br>6.<br>7.<br>8.<br>9.  | <ul> <li>ALL TRACK SHALL BE MOUNTED TO FULL LENGTH STEEL CHANNEL FOR SUPPORT. ALL TRACK SHALL BE LOCATED FROM THE WALL UNLESS NOTED OTHERWISE. VERIFY EXACT LOCATIONS WITH ARCHITECT. REFER TO PLAN FOR MOUNTING HEIGHTS. VERIFY EXACT MOUNTING HEIGHT WITH ARCHITECT. CONTRACTOR SHALL PAINT STRUT TO MATCH TRACK.</li> <li>EXIT LIGHTS SHALL BE MOUNTED 8'-0" ABOVE FINISHED FLOOR (BOTTOM OF FIXTURE) OR JUST ABOVE THE TOP OF THE DOOR IF WALL MOUNTED ABOVE TOP OF A DOOR THAT IS TALLER THAN 8'-0". COORDINATE WITH ARCHITECT ALL MOUNTING HEIGHTS.</li> <li>ALL WALL PENETRATIONS SHALL BE NEATLY CORE-DRILLED, CAULKED, AND SEALED TO MAINTAIN FIRE AND WATERPROOF RATING. PATCH, REPAIR, AND PAINT TO MATCH EXISTING.</li> <li>TESTING OF EMERGENCY LIGHTING IS REQUIRED. CALL FOR TESTING PRIOR TO FINAL INSPECTION (TESTING MUS) BE BY DISCONNECTING MAIN).</li> <li>BRANCH CIRCUIT CONDUCTORS TO BE TYPE THHN WHERE THERE ARE 6 OR MORE CONDUCTORS IN A CONDUIT.</li> <li>ALL 'C2' &amp; 'C2E' LED LIGHT FIXTURES HAVE DIMMABLE DRIVERS &amp; DAYLIGHT CONTROLS.</li> <li>"IN DAYLIGHT ZONES"</li> <li>a = CIRCUITS FOR CONTROL OF TYPES 'C2' &amp; 'C2E' LIGHTING - FOR EMPLOYEE LIGHTS, CUSTOMER LIGHTS, AND DAYLIGHT CONTROLS</li> </ul>   |
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|               | 5.<br>6.<br>7.<br>8.<br>9.  | ALL WALL PENETRATIONS SHALL BE NEATLY CORE-DRILLED, CAULKED, AND SEALED TO MAINTAIN FIRE AND<br>WATERPROOF RATING. PATCH, REPAIR, AND PAINT TO MATCH EXISTING.<br>TESTING OF EMERGENCY LIGHTING IS REQUIRED. CALL FOR TESTING PRIOR TO FINAL INSPECTION (TESTING MUS<br>BE BY DISCONNECTING MAIN).<br>BRANCH CIRCUIT CONDUCTORS TO BE TYPE THHN WHERE THERE ARE 6 OR MORE CONDUCTORS IN A CONDUIT.<br>ALL 'C2' & 'C2E' LED LIGHT FIXTURES HAVE DIMMABLE DRIVERS & DAYLIGHT CONTROLS.<br>*IN DAYLIGHT ZONES<br>a = CIRCUITS FOR CONTROL OF TYPES 'C2' & 'C2E' LIGHTING -<br>FOR EMPLOYEE LIGHTS, CUSTOMER LIGHTS, AND DAYLIGHT CONTROLS  |
|               | 6.<br>7.<br>8.<br>9.  | TESTING OF EMERGENCY LIGHTING IS REQUIRED. CALL FOR TESTING PRIOR TO FINAL INSPECTION (TESTING MUS<br>BE BY DISCONNECTING MAIN).<br>BRANCH CIRCUIT CONDUCTORS TO BE TYPE THHN WHERE THERE ARE 6 OR MORE CONDUCTORS IN A CONDUIT.<br>ALL 'C2' & 'C2E' LED LIGHT FIXTURES HAVE DIMMABLE DRIVERS & DAYLIGHT CONTROLS.<br>*IN DAYLIGHT ZONES<br>a = CIRCUITS FOR CONTROL OF TYPES 'C2' & 'C2E' LIGHTING -<br>FOR EMPLOYEE LIGHTS, CUSTOMER LIGHTS, AND DAYLIGHT CONTROLS  |
|               | 7.<br>8.<br>9.  | BRANCH CIRCUIT CONDUCTORS TO BE TYPE THHN WHERE THERE ARE 6 OR MORE CONDUCTORS IN A CONDUIT.<br>ALL 'C2' & 'C2E' LED LIGHT FIXTURES HAVE DIMMABLE DRIVERS & DAYLIGHT CONTROLS.<br>*IN DAYLIGHT ZONES<br>a = CIRCUITS FOR CONTROL OF TYPES 'C2' & 'C2E' LIGHTING -<br>FOR EMPLOYEE LIGHTS, CUSTOMER LIGHTS, AND DAYLIGHT CONTROLS  |
|               | 8.<br>9.<br>10.   | ALL 'C2' & 'C2E' LED LIGHT FIXTURES HAVE DIMMABLE DRIVERS & DAYLIGHT CONTROLS.<br>*IN DAYLIGHT ZONES<br>a = CIRCUITS FOR CONTROL OF TYPES 'C2' & 'C2E' LIGHTING -<br>FOR EMPLOYEE LIGHTS, CUSTOMER LIGHTS, AND DAYLIGHT CONTROLS  |
|               | 9.<br>10.   | FOR EMPLOYEE LIGHTS, CUSTOMER LIGHTS, AND DAYLIGHT CONTROLS   |
|               | 10.   | FIXTURES 'F5E', 'F7E', AND 'A1E' ARE FURNISHED WITH A SWITCHABLE EMERGENCY BATTERY BALLAST. CONTRACT<br>SHALL PROVIDE HOT WIRE FROM AHEAD OF LOCAL CONTROL FOR CIRCUIT SERVING LIGHT FIXTURE TO ALLOW<br>BATTERY BALLAST TO BE POWERED AT ALL TIMES.  |
|               |   | FIXTURES WITH 'NL' DESIGNATION SHALL OPERATE AS NIGHT LIGHT. CONTRACTOR SHALL PROVIDE HOT WIRE FRO  |
|               | 11.   | SEE DETAIL '5/(-102' FOR TRACK LIGHTING DETAIL.   |
|               | 12.   | PROVIDE 9155 PAIR SPECIAL AUDIO, COMMUNICATION, AND INSTRUMENTATION CABLE TO ALL C2 FIXTURES FOR  |
|               | LI  | GHTING KEY NOTES  |
|               | $\langle 1 \rangle$   | DOCK LIGHT SUPPLIED WITH CORD AND PLUG AND SWITCH. SEE SHEET E-100 FOR RECEPTACLE LOCATION.   |
|               | $\langle 2 \rangle$   | NOVAR CONTROLS OVERRIDE KEYPAD.   |
|               | $\langle \overline{3} \rangle$  | MOUNT OCCUPANCY SENSOR ON UNI-STRUT, SUCH THAT BOTTOM OF SENSOR IS LEVEL WITH BOTTOM OF LIGHT<br>FIXTURE. ENSURE SENSORS IN SHIPPING/RECEIVING ARE MOUNTED BELOW AND CLEAR OF BIKE AND BOAT LIFTS.  |
|               | <u>(4)</u>  | PROVIDE JUNCTION BOX WITH TOGGLE DISCONNECT SWITCH FOR EACH POWER REQUIRED FOR SIGNAGE ELECTR<br>ROUGH-IN REQUIREMENTS. REFER TO ARCHITECTURAL DRAWINGS FOR ELEVATIONS. COORDINATE WITH BUILDING<br>MANAGEMENT ON SIGNAGE OPERATING SCHEDULES. CONTRACTOR SHALL PROVIDE JUNCTION BOX AND 1" EMPTY<br>CONDUIT STUBBED INTO SPACE. COORDINATE WORK WITH SIGNAGE VENDOR PRIOR TO BID. SEE DETAIL '3/(1-102' F<br>MORE INFORMATION.   |
|               | $\langle 5 \rangle$   | REMOTE BALLAST TO BE MOUNTED WITHIN 15'-0" OF FIXTURE (IF REQUIRED).  |
|               | <u>(6)</u>  | IF DAYLITE IS PRESENT, PROGRAM THE BUILT-IN DAYLIGHT SENSOR FOR PHOTO CONTROL.  |
|               | (7)   | LIGHT FIXTURE IN FRONT OF DESK TO BE SWITCHED SEPARATELY FROM REMAINDER OF WAREHOUSE.   |
|               | <u>(</u> )  | CONTRACTOR TO PROVIDE ROUGH-IN AND MAKE FINAL CONNECTION TO LED/MIRKOR ASSEMBLY (PROVIDED BY GO<br>COORDINATE EXACT CONNECTION REQUIREMENTS WITH MANUFACTURER.  |
|               | <b>9</b>  | A1 FIXTURES USED IN FITTING ROOM AREA WITH OPEN STRUCTURE SHALL ALIGN WITH BOTTOM OF JOISTS. HOUSI<br>AND SUPPORT OF FIXTURES WILL BE COMPLETELY EXPOSED. COORDINATE MOUNTING OF FIXTURE WITH<br>ARCHITECTURAL PLANS.   |
|               | (10)  | MOUNT ONE PHOTOCELL 18" BENEATH SKYLIGHT ON SOUTH OR WEST SIDE OF SKYLIGHT. MOUNT BRACKET TO RO<br>JOIST AND SECURE PHOTOCELL TO IT WITH THE LENS OF SENSOR FACING NORTH. MOUNT SECOND PHOTOCELL TO<br>NORTH SIDE OF COLUMN AT 6'-0" AFF TO BOTTOM OF DEVICE, BETWEEN LIGHT FIXTURES AND SKYLIGHT.  |
| $\rightarrow$ | (11)  | LIGHT FIXTURES IN BIKE ASSEMBLY ROOM TO BE MOUNTED 16'-0" A.F.F.  |
|               | <12>  | TIME CLOCK.   |
|               | < <u>13</u> >   | CONTRACTOR TO PROVIDE JUNCTION BOX MOUNTED TO UNISTRUT FOR EACH 'B2' FIXTURE. 'W' FIXTURES AT CASHWRAP SHALL NOT BE PERMITTED TO BE MOUNTED TO SAME UNISTRUT AS 'B2' FIXTURES. SEE ARCHITECTURA ELEVATIONS FOR MORE INFORMATION.  |
|               | $\langle 14 \rangle$  | PROVIDE EXTERIOR LIGHTING AND STUB CONDUIT AND WIRING TO JUNCTION BOX ON INTERIOR OF REI SPACE.<br>PROVIDE HOMERUN AND MAKE FINALY CONNECTION TO PANEL.   |
|               | <u>&lt;15</u> >   | PROVIDE EMERGENCY BATTERY PACK WITH WIRING AND CONDUIT TO JUNCTION BOX LOCATED ON BUILDING INTERIOR. PRIOR TO FINAL CONNECTION TO JUNCTION BOX.   |
|               | <u>&lt;16</u> >   | CONTRACTOR TO PROVIDE JUNCTION BOX MOUNTED TO UNISTRUT FOR EACH 'B2' FIXTURE. SEE ARCHITECTURAL   |
|               | $\langle \overline{17} \rangle$   | LIGHTING AND CONTROLS IN THIS SPACE ARE EXISTING TO REMAIN. RECIRCUIT TO SPARE BREAKER ON NEW PANE  |
|               | (18)  | COORDINATE CONNECTION REQUIREMENTS WITH MANUFACTURER. COORDINATE FAN CONTROL REQUIREMENTS A LOCATION WITH ARCHITECT AND MANUFACTURER.   |
|               |   | SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONED<br>LOCATIONS OF LIGHTING DEVICES & FIXTURES.   |

:16e.14EN

LIGHTING GENERAL NOTES

| ROOM                            | CONTROL TYPE               | OCCUPANCY SENSOR DESCRIPTION   | OS TIME SETTING | NOTES |
|---------------------------------|----------------------------|--|-----------------|-------|
| SALES                           | NOVAR                      | NA   | NA              | -     |
| BIKE<br>ASSEMBLY                | NOVAR                      | NA   | NA              | -     |
| COMMUNITY<br>ROOM               | NOVAR                      | NA   | NA              | -     |
| FITTING ROOM<br>AREA            | OCCUPANCY SENSOR<br>/NOVAR | 052 DUAL TECHNOLOGY, LINE VOLTAGE CEILING MTD.;<br>WATTSTOPPER #DT-355.                    | 15 MIN          | -     |
| LOCKER ROOM                     | OCCUPANCY SENSOR           | UUAL TECHNOLOGY, LINE VOLTAGE CEILING MTD.;<br>WATTSTOPPER #DT-355.                        | 15 MIN          | -     |
| SHIPPING &<br>RECEIVING         | OCCUPANCY SENSOR           | OS3 PASSIVE INFRA-RED HIGH-BAY;<br>WATTSTOPPER #HB-300 WITH HBL3 LENS.                     | 15 MIN          | 1     |
| STORAGE<br>ROOMS                | OCCUPANCY SENSOR           | VS3 PASSIVE INFRA-RED HIGH-BAY; WATTSTOPPER<br>#HB-300 WITH HBL3 LENS. MANUAL-ON/AUTO-OFF. | 15 MIN          | 1     |
| SMALL OFFICES<br>& BREAK ROOM   | OCCUPANCY SENSOR           | WALL MOUNTED, +3'-10" OR AS NOTED;<br>WATTSTOPPER #DT-100. MANUAL-ON/AUTO-OFF.             | 15 MIN          | -     |
| CONFERENCE<br>ROOM              | OCCUPANCY SENSOR           | WALL MOUNTED, +3'-10" OR AS NOTED;<br>WATTSTOPPER #DT-100. MANUAL-ON/AUTO-OFF.             | 15 MIN          | -     |
| RESTROOMS                       | OCCUPANCY SENSOR           | ULTRASONIC CEILING MOUNTED;<br>WATTSTOPPER #UT-300-1.                                      | 15 MIN          | -     |
| <u>NOTE</u><br>1. SENSITIVITY A | DJUSTMENT TO BE SET T      | O HIGH AT EMPLOYEE ENTRANCES TO STOCK AND RECIVING   | AREAS.          |       |

### WN OTHERWISE. SHALL BE LOCATED 6'-6" EFER TO PLAN FOR L PAINT STRUT TO

# ST ABOVE THE TOP OF TE WITH ARCHITECT ON

TION (TESTING MUST

### BALLAST. CONTRACTOR XTURE TO ALLOW

VIDE HOT WIRE FROM

### BOTTOM OF LIGHT AND BOAT LIFTS.

OR SIGNAGE ELECTRICAL NATE WITH BUILDING N BOX AND 1" EMPTY SEE DETAIL '3/<mark>L-102' F</mark>OR

# EHOUSE. Y (PROVIDED BY GC).

M OF JOISTS. HOUSING URE WITH

JNT BRACKET TO ROOF COND PHOTOCELL TO SKYLIGHT.

UTED THROUGH THE

W' FIXTURES AT S. SEE ARCHITECTURAL

AKER ON NEW PANEL. REQUIREMENTS AND

![](_page_9_Picture_24.jpeg)

![](_page_9_Figure_25.jpeg)

# **NOVAR CONTROL NOTES:**

NOTE: NOT ALL OF THE FOLLOWING WILL BE USED AT EVERY LOCATION.

- 1. ZONE 'a' EMPLOYEE AND CUSTOMER LIGHTING (NOVAR OUTPUT #1) = TYPE 'C2' FIXTURES SHALL TURN ON TO 50% DURING EMPLOYEE HOURS AND RAISE TO 100% DURING CUSTOMER HOURS. TYPE 'C2' FIXTURES SHALL DIM CONTINUOUSLY BASED ON PHOTOSENSOR READINGS. DIMMING SYSTEM TO BE PROVIDED WITH DEMAND RESPONSE CONTROL INPUT TO REDUCE TOTAL LIGHTING LOAD BY 15% WHEN SIGNAL IS RECEIVED.
- 2. ZONE 'a1' EMPLOYEE HOURS 1 (NOVAR OUTPUT #2) = CONTROLLED BY NOVAR TIME SCHEDULE WHEN EMPLOYEES ONLY ARE IN THE FACILITY. THIS OUTPUT SHALL CONTROL ALL LAMPS IN THE FIXTURE. DIMMING SYSTEM TO BE PROVIDED WITH DEMAND RESPONSE CONTROL INPUT TO REDUCE TOTAL LIGHTING LOAD BY 15% WHEN SIGNAL IS RECEIVED.
- 3. ZONE 'a2' EMPLOYEE HOURS 2 (RETAIL SPACE) (NOVAR OUTPUT #3) = CONTROLLED BY NOVAR TIME SCHEDULE WHEN EMPLOYEES ONLY ARE IN THE FACILITY. THIS OUTPUT SHALL CONTROL ALL LAMPS IN THE FIXTURE. ALL FIXTURES ON THIS FUNCTION SHALL BE CONTROLLED THROUGH A DIMMABLE OVERRIDE SWITCH LOCATED IN EMPLOYEE OFFICE.
- 4. ZONE 'b' EMPLOYEE AND CUSTOMER LIGHTING (NOVAR OUTPUT #1) = TYPE 'C2' FIXTURES SHALL TURN ON TO 50% DURING EMPLOYEE HOURS AND RAISE TO 100% DURING CUSTOMER HOURS. DIMMING SYSTEM TO BE PROVIDED WITH DEMAND RESPONSE CONTROL INPUT TO REDUCE TOTAL LIGHTING LOAD BY 15% WHEN SIGNAL IS RECEIVED.
- 5. ZONE 'c' SPARE.
- 6. ZONE 'd' CUSTOMER LIGHTING (NOVAR OUTPUT #5) = 100% OF ALL TRACK LIGHT FIXTURES (TYPES 'B2', 'H2', & 'W').
- 7. ZONE 'e' SIGNS AND EXTERIOR LIGHTS: (NOVAR OUTPUT #8) CONTROLLED BY 'NOVAR' TIME SCHEDULE AND OUTDOOR PHOTOCELL.
- 8. ZONE 'f' SHOW WINDOWS: (NOVAR OUTPUT #9) CONTROLLED BY 'NOVAR' TIME SCHEDULE
- 9. ZONE 's' SITE LIGHTING: (NOVAR OUTPUT #10) CONTROLLED BY NOVAR TIME SCHEDULE AND OUTDOOR PHOTOCELL.
- 10. EGRESS AND SECURITY LIGHTING = 'ON' 24-HOURS (NOT CONTROLLED BY 'NOVAR').
- 11. FIXTURES LABELED 'C2E' SHALL HAVE AN INTEGRAL BATTERY PACK, CIRCUITED TO THE REMOTELY OPERATED CIRCUIT BREAKER FOR EMERGENCY CONTROL.
- 12. FIXTURES LABELED 'NL' SHALL HAVE A CONTINUOUS HOT TO OPERATE 24 HOURS AND NOT ON NOVAR CONTROL.

# PANEL SCHEDULE GENERAL NOTES

1. OVERCURRENT DEVICE ENCLOSURE SHALL BE IDENTIFIED AS SERIES RATED AND LABELED IN ACCORDANCE WITH N.E.C. 110-22 AND DEVICES SHALL BE A.I.C. RATED PER MANUFACTURER.

2. SEE SHEET E-501 FOR WIRE SIZES OF ALL NEW CIRCUITS.

# PANEL SCHEDULE KEY NOTES

- $\langle 1 \rangle$  All Circuit Breakers on Novar Control Shall be type PL Breaker.
- (2) EMERGENCY LIGHTS FED BY THIS CIRCUIT SHALL HAVE BOTH A CONTROLLED AND UNCONTROLLED CIRCUIT ROUTED
- TO IT. (3) PROVIDE (6) SPARE CONTROLLABLE 'PL' BREAKERS IN PANELS 'L' AND 'L1'.
- $\langle 4 \rangle$  provide GFCI rated circuit breaker for equipment indicated.

|           |     | Branch Panel: L                     |                         |           |            |         |          |         |           |         |         |       |      |                         |                                 |
|-----------|-----|-------------------------------------|-------------------------|-----------|------------|---------|----------|---------|-----------|---------|---------|-------|------|-------------------------|---------------------------------|
|           |     | Location: Space                     | 318                     |           |            |         |          | Volts:  | 480/277 V | Vve     |         |       |      | A.I.C                   | . Rating: 42 KAIC               |
|           |     | Supply From: SEE S                  | INGLE LINE [            | DIAGRAM   |            |         |          | Phases: | 3         | ,       |         |       |      | Main                    | s Rating: 200 A                 |
|           |     | Mounting: RECE                      | SSED                    |           |            |         | Wires:   | 4       |           |         |         |       | MC   | B Rating: 200 A         |                                 |
|           | СКТ | Circuit Description                 | (1)<br>Novar<br>Control | Trip      | Poles      |         | Δ        |         | 3         |         |         | Poles | Trip | (1)<br>Novar<br>Control | Circuit Description             |
|           | 1   | EXIT SIGNS LO                       |                         | 20 A      | 1          | 40 VA   | 730 VA   | •       | _         |         |         | 1     | 20 A |                         | SHUNT TRIP - SHIPPING/REC, I TG |
| _         | 3   | SHUNT TRIP - RETAIL 110 EM LIGHTING |                         | 20 A      | 1          | 10 171  | 100 111  | 1346 VA | 2269 VA   |         |         | 1     | 20 A | a1                      | SHIPPING/REC., STORAGE LTG      |
| 2)        | 5   | RETAIL - EMERGENCY LIGHTING         | а                       | 20 A      | 1          |         |          |         |           | 1460 VA | 116 VA  | 1     | 20 A |                         | SHUNT TRIP - BIKE ASSEMBLY LTG  |
|           | 7   | RETAIL 110 - LIGHTING               | a                       | 20 A      | 1          | 1672 VA | 812 VA   |         |           |         | -       | 1     | 20 A | a1                      | BIKE ASSEMBLY LTG               |
|           | 9   | RETAIL 110 - LIGHTING               | а                       | 20 A      | 1          |         |          | 2464 VA | 146 VA    |         |         | 1     | 20 A |                         | SHUNT TRIP - BATHROOM, EMP LTG  |
|           | 11  | RETAIL 110 - NIGHT LIGHTING         |                         | 20 A      | 1          |         |          |         |           | 288 VA  | 542 VA  | 1     | 20 A |                         | BATHROOM, EMPLOYEE, OFFICE LTG  |
| X         | 13  | SPARE                               |                         | 20 A      | 1          | 0 VA    | 552 VA   |         |           |         |         | 1     | 20 A |                         | SHUNT TRIP - EXTERIOR LIGHTING  |
|           | 15  | SPARE                               |                         | 20 A      | 1          |         |          | 0 VA    | 528 VA    |         |         | 1     | 20 A | е                       | EXTERIOR LIGHTING               |
|           | 17  | SPARE                               |                         | 20 A      | 1          |         |          |         |           | 0 VA    | 10000   | 1     | 50 A |                         | IWH-1 (CRKT 1)                  |
|           | 19  | SPARE                               |                         | 20 A      | 1          | 0 VA    | 10000    |         |           |         |         | 1     | 50 A |                         | IWH-1 (CRKT 2)                  |
| D         | 21  | SPARE                               |                         | 20 A      | 1          |         |          | 0 VA    | 0 VA      |         |         | 1     | 20 A |                         | SPARE                           |
| $\rangle$ | 23  | SPARE                               |                         | 20 A      | 1          |         |          |         |           | 0 VA    | 0 VA    | 1     | 20 A |                         | SPARE                           |
|           | 25  | SPACE                               |                         |           |            | 0 VA    | 6000 VA  |         |           |         |         | 1     | 30 A |                         | EWH-1 (6 KW)                    |
|           | 27  | SPACE                               |                         |           |            |         |          | 0 VA    | 8000 VA   |         | (       |       |      | r r r                   |                                 |
|           | 29  | SPACE                               |                         |           |            |         |          |         |           | 0 VA    | 8000 VA | 3     | 40 A |                         | DRYER UNIT (GFCI)               |
|           | 31  | SPACE                               |                         |           |            | 0 VA    | 8000 VA  |         |           |         |         |       |      |                         |                                 |
|           | 33  | SPACE                               |                         |           |            |         |          | 0 VA    | 0 VA      |         |         |       |      |                         | SPACE                           |
|           | 35  | SPACE                               |                         |           |            |         |          |         |           | 0 VA    | 0 VA    |       |      |                         | SPACE                           |
|           | 37  | SPACE                               |                         |           |            | 0 VA    | 0 VA     |         |           |         |         |       |      |                         | SPACE                           |
|           | 39  | SPACE                               |                         |           |            |         |          | 0 VA    | 0 VA      |         |         |       |      |                         | SPACE                           |
|           | 41  | SPACE                               |                         |           |            |         |          |         |           | 0 VA    | 0 VA    |       |      |                         | SPACE                           |
|           |     |                                     |                         | Т         | otal Load: | 2776    | 67 VA    | 1431    | 4 VA      | 2040    | 4 VA    |       |      |                         |                                 |
|           |     |                                     | То                      | tal Amps: | 10         | 4 A     | 52       | 2 A     | 77        | Ϋ́Α     |         |       |      |                         |                                 |
|           |     |                                     | Total Amps:             |           |            |         | ps: 75 A |         |           |         |         |       |      |                         |                                 |

|     | Branch Panel: R1<br>Location: Space 318<br>Supply From: SEE SINGLE LIN<br>Mounting: RECESSED |      | 1           |         | Volts:<br>Phases:<br>Wires: | 120/208 V<br>3<br>4 | Vye    |         | A.I.C. Rating: 22 KAIC<br>Mains Rating: 100 A<br>MLO Rating: 100 A |                     |                 |                               |    |  |
|-----|--|------|-------------|---------|-----------------------------|---------------------|--------|---------|--|---------------------|-----------------|-------------------------------|----|--|
| СКТ | Circuit Description  |      | 4           |         | 3                           |                     | 2      | Poles   | Trip   | Circuit Description | СКТ             |                               |    |  |
| 1   | RETAIL COLUMN RECEPTACLES  | 20 A | 1           | 900 VA  | 720 VA                      | -                   |        |         | -  | 1                   | 20 A            | CASHWRAP RECEPTACLES (FUTURE) | 2  |  |
| 3   | RETAIL COLUMN RECEPTACLES  | 20 A | 1           |         | -                           | 540 VA              | 720 VA |         |  | 1                   | 20 A            | CASHWRAP RECEPTACLES          | 4  |  |
| 5   | EMPLOYEE ROOM - COMPUTER REC.  | 20 A | 1           |         |                             |                     |        | 360 VA  | 720 VA   | 1                   | 20 A            | CASHWRAP RECEPTACLES          | 6  |  |
| 7   | EMPLOYEE ROOM - ELEC WATER COOLER  | 20 A | 1           | 180 VA  | 720 VA                      |                     |        |         |  | 1                   | 20 A            | CASHWRAP RECEPTACLES          | 8  |  |
| 9   | EMPLOYEE ROOM - ABOVE COUNTER REC.   | 20 A | 1           |         |                             | 180 VA              | 360 VA |         |  | 1                   | 20 A            | BACK OF CASHWRAP RECEPTACLE   | 10 |  |
| 11  | EMPLOYEE ROOM - MICROWAVE  | 20 A | 1           |         |                             |                     |        | 1500 VA | 180 VA   | 1                   | 20 A            | OFFICE - COMPUTER REC.        | 12 |  |
| 13  | EMPLOYEE ROOM - TOASTER  | 20 A | 1           | 1500 VA | 180 VA                      |                     |        |         |  | 1                   | 20 A            | OFFICE - COMPUTER REC.        | 14 |  |
| 15  | EMPLOYEE ROOM - MICROWAVE  | 20 A | 1           |         |                             | 1500 VA             | 180 VA |         |  | 1                   | 20 A            | OFFICE - COMPUTER REC.        | 16 |  |
| 17  | EMPLOYEE ROOM - REFRIGERATOR   | 20 A | 1           |         |                             |                     |        | 800 VA  | 180 VA   | 1                   | 20 A            | OFFICE - COMPUTER REC.        | 18 |  |
| 19  | EMPLOYEE ROOM - TIMECLOCK  | 20 A | 1           | 180 VA  | 180 VA                      |                     |        |         |  | 1                   | 20 A            | OFFICE - PRINTER REC.         | 20 |  |
| 21  | EMPLOYEE ROOM - CONV. REC.   | 20 A | 1           |         |                             | 540 VA              | 360 VA |         |  | 1                   | 20 A            | RPSU - CAGE REC.              | 22 |  |
| 23  | TDP - ALARM CONTROL PANELS   | 20 A | 1           |         |                             |                     |        | 540 VA  | 360 VA   | 1                   | 20 A            | RPSU - CAGE REC.              | 24 |  |
| 25  | TDP - DEDICATED QUADRECEPTACLE   | 20 A | 1           | 360 VA  | 360 VA                      |                     |        |         |  | 1                   | 20 A            | RPSU - CAGE REC.              | 26 |  |
| 27  | TDP - DEDICATED DUPLEX RECEPTACLE  | 20 A | 1           |         |                             | 180 VA              | 180 VA |         |  | 1                   | 20 A            | RPSU - ERGOTRON REC.          | 28 |  |
| 29  | TDP - TWISTLOCK RECEPTACLE   | 30 A | 1           |         |                             |                     |        | 500 VA  | 180 VA   | 1                   | 20 A            | RPSU STORAGE - IDF RACK       | 30 |  |
| 31  | TDP - TWISTLOCK RECEPTACLE   | 30 A | 1           | 500 VA  | 360 VA                      |                     |        |         |  | 1                   | 20 A            | RSPU , OFFICE - RECEPTACLES   | 32 |  |
| 33  | TDP - TELEPHONE BACKBOARD RECEPTACLE   | 20 A | 1           |         |                             | 720 VA              | 42 VA  |         |  | 2                   | 1E A            |                               | 34 |  |
| 35  | TDP - TELEPHONE BACKBOARD RECEPTACLE   | 20 A | 1           |         |                             |                     |        | 720 VA  | 42 VA  | 2                   | 15 A            | AC-1 (0.5 MCA)                | 36 |  |
| 37  | TDP - FACP RECEPTACLE 20 A 1   |      |             |         | 1716 VA                     |                     |        |         |  | 0                   | 00.4            |                               | 38 |  |
| 39  | ROOFTOP CONVENIENCE REC.   | 1    |             |         | 540 VA                      | 1716 VA             |        |         | 2  | 20 A                | CU-1 (10.5 MCA) | 40                            |    |  |
| 41  | SPARE  | 20 A | 1           |         |                             |                     |        | 0 VA    | 0 VA   | 1                   | 20 A            | SPARE                         | 42 |  |
|     |  | To   | otal Load:  | 8036    | 6 VA                        | 7758                | 8 VA   | 6082    | 2 VA   |                     |                 |                               | ·  |  |
|     |  | То   | Total Amps: |         | A                           | 67                  | ' A    | 51      | А  | 1                   |                 |                               |    |  |
|     |  | То   | tal Amps:   | 61 A    |                             |                     |        |         |  | 1                   |                 |                               |    |  |

|     | Branch Panel: MDP   |           |            |         |          |                             |                     |          |          |       |       |  |     |
|-----|---|-----------|------------|---------|----------|-----------------------------|---------------------|----------|----------|-------|-------|--|-----|
|     | Location: Space 318<br>Supply From: SEE SINGLE LINE<br>Mounting: RECESSED | DIAGRAM   |            |         |          | Volts:<br>Phases:<br>Wires: | 480/277 \<br>3<br>4 | Vye      |          |       |       | A.I.C. Rating: 65 KAIC<br>Mains Rating: 600 A<br>MCB Rating: 600 A |     |
| скт | Circuit Description   | Trip      | Poles      |         | <b>4</b> |                             | В                   | (        | 2        | Poles | Trip  | Circuit Description  | СКТ |
| 1   | -   |           |            | 3680 VA | 5827 VA  |                             |                     |          |          | -     |       |  | 2   |
| 3   | RTU-1 (12MCA)   | 15 A      | 3          |         |          | 3680 VA                     | 5827 VA             | 00001/4  | 50071/4  | 3     | 25 A  | RTU-2 (19 MCA)   | 4   |
| 5   |   |           |            | 00001/4 | 00001/4  |                             |                     | 3680 VA  | 5827 VA  |       |       |  | 6   |
| /   |   | 20.4      | 2          | 8280 VA | 8280 VA  | 02001/4                     | 00001/4             |          |          | 2     | 20.4  |  | 8   |
| 9   | RTU-3 (27 MCA)  | 30 A      | 3          |         |          | 0200 VA                     | 0200 VA             | 8280 \/A | 8280 \/A | 3     | 30 A  | RT0-4 (27 MCA)   | 10  |
| 13  |   |           |            | 6747 VA | 8280 VA  |                             |                     | 0200 VA  | 0200 VA  |       |       |  | 12  |
| 15  | RTU-5 (22 MCA)  | 25 A      | 3          |         | 0200 111 | 6747 VA                     | 8280 VA             |          |          | 3     | 30 A  | RTU-6 (27 MCA)   | 16  |
| 17  |   |           |            |         |          | •••••                       |                     | 6747 VA  | 8280 VA  |       |       |  | 18  |
| 19  |   |           |            | 6747 VA | 21868    |                             |                     |          |          |       |       |  | 20  |
| 21  | RTU-7 (22 MCA)  | 25 A      | 3          |         |          | 6747 VA                     | 15943               |          |          | 3     | 175 A | T-1  | 22  |
| 23  |   |           |            |         |          |                             |                     | 6747 VA  | 19094    |       |       |  | 24  |
| 25  |   |           |            | 0 VA    | 27767    |                             |                     |          |          |       |       |  | 26  |
| 27  | TVSS  | 60 A      | 3          |         |          | 0 VA                        | 14314               |          |          | 3     | 200 A | PANEL "L   | 28  |
| 29  |   |           |            |         |          |                             |                     | 0 VA     | 20404    |       |       |  | 30  |
|     |   | Т         | otal Load: | 9745    | 54 VA    | 7791                        | 7 VA                | 8721     | 6 VA     |       |       |  |     |
|     |   | tal Amps: | 35         | 7 A     | 28       | 1 A                         | 32                  | 0 A      | -        |       |       |  |     |
|     |   | То        | tal Amps:  |         |          | 31                          | 6 A                 |          |          |       |       |  |     |

|                 |                     |          |    | Branch Panel: L1                    |              |         |            |                 |         |         |               |         |         |       |      |                   |                                    |
|-----------------|---------------------|----------|----|-------------------------------------|--------------|---------|------------|-----------------|---------|---------|---------------|---------|---------|-------|------|-------------------|------------------------------------|
|                 |                     |          |    | Location: Space 3                   | 318          |         |            |                 |         | Volts:  | 120/208 V     | Vye     |         |       |      | A.I.C             | C. Rating: 22 KAIC                 |
|                 |                     |          |    | Supply From: SEE SI                 | NGLE LINE D  | DIAGRAM |            |                 |         | Phases: | 3             |         |         |       |      | Main              | s Rating: 225 A                    |
|                 |                     |          |    | Mounting: RECES                     | SED          |         |            |                 |         | Wires:  | 4             |         |         |       |      | MCI               | B Rating: 225 A                    |
|                 |                     |          |    |                                     | (1)<br>Novar |         |            |                 |         |         |               |         |         |       |      | (1)<br>Novar      |                                    |
| CKT             |                     | 0        | KT | Circuit Description                 | Control      | Trip    | Poles      | 0001/4          | A       | E       | 3             | (       | 3       | Poles | Trip | Control           | Circuit Description                |
| 2               | $\langle 2 \rangle$ |          | 1  | RETAIL 110 - CASHWRAP DISPLAY TRACK | d            | 20 A    | 1          | 302 VA          | 260 VA  | 10751/4 | 0001/4        |         |         | 1     | 20 A |                   | SHUNT TRIP - HALLWAY LIGHTING      |
| 4               |                     |          | 3  | RETAIL 110 - PERIMETER LIGHTING     | d            | 20 A    | 1          |                 |         | 1275 VA | 862 VA        |         |         | 1     | 20 A | a1                | FITTING RM LIGHTING & EF-4,5,6     |
| 6               | $\langle 2 \rangle$ |          | 5  | RETAIL 110 - PERIMETER LIGHTING     | d            | 20 A    | 1          |                 |         |         |               | 1250 VA | 200 VA  | 1     | 20 A | a1                | EF-3 (1/10HP)                      |
| 8               |                     |          | 7  | RETAIL 110 - TRACK LIGHTING         | d            | 20 A    | 1          | 1150 VA         | 360 VA  |         |               |         |         | 1     | 20 A | a1                | AUTOMATIC DOOR (a1)                |
| 10              | $\langle 2 \rangle$ |          | 9  | RETAIL 110 - TRACK LIGHTING         | d            | 20 A    | 1          |                 |         | 1400 VA | 360 VA        |         |         | 1     | 20 A | a1                | SHIP/REC 160 - LOADING DOCK LIGHTS |
| 12              |                     |          | 11 | RETAIL 110 - TRACK LIGHTING         | d            | 20 A    | 1          |                 |         |         |               | 1200 VA | 930 VA  | 1     | 20 A | a1                | SHIP/REC 160 - LOADING DOCK FANS   |
| 14              | $\langle 2 \rangle$ |          | 13 | RETAIL 110 - PENDANT LIGHTING       | d            | 20 A    | 1          | 36 VA           | 180 VA  |         |               |         |         | 1     | 20 A | е                 | EXTERIOR SIGNAGE                   |
| 16              | <u> </u>            |          | 15 | RETAIL 110 - FLOOR RECEPTACLES      | 20 A         | 1       |            |                 | 360 VA  | 60 VA   |               |         | 1       | 20 A  | е    | EXTERIOR LIGHTING |                                    |
| 18              | _                   |          | 17 | SHOWCASE WINDOWS                    | 20 A         | 1       |            |                 |         |         | 360 VA 200 VA |         | 1       | 20 A  |      | EF-1 (1/3 HP)     |                                    |
| 20              |                     | <u>}</u> | 19 | SPARE                               |              | 20 A    | 1          | 0 VA            | 696 VA  |         |               |         |         | 1     | 20 A |                   | UH-1 (1/4 H.P.)                    |
| 22              |                     | <u> </u> | 21 | SPARE                               |              | 20 A    | 1          |                 |         | 0 VA    | 1997 VA       |         |         | 2     | 25 A |                   | FUH-1 (19.2 MCA)                   |
| 24              | (3                  | <u> </u> | 23 | SPARE                               |              | 20 A    | 1          |                 |         |         |               | 0 VA    | 1997 VA | 2     | 2077 |                   |                                    |
| 26              | $\sim$ $\langle$    | <u> </u> | 25 | SPARE                               |              | 20 A    | 1          | 0 VA            | 1800 VA |         |               |         |         | 1     | 20 A |                   | CP-1 (45W)                         |
| 28 <sup>°</sup> | _ \ <               | 3>       | 27 | SPARE                               |              | 20 A    | 1          |                 |         | 0 VA    | 0 VA          |         |         |       |      |                   | SPACE                              |
| 30              | <u>4</u> { <:       | 3>       | 29 | SPARE                               |              | 20 A    | 1          |                 |         |         |               | 0 VA    | 0 VA    |       |      |                   | SPACE                              |
| ,32             | $\sum$              | _        | 31 | SPACE                               |              |         |            | 0 VA            | 0 VA    |         |               |         |         |       |      |                   | SPACE                              |
| 34              | 4                   |          | 33 | SPACE                               |              |         |            |                 |         | 0 VA    | 0 VA          |         |         |       |      |                   | SPACE                              |
| 36              |                     |          | 35 | SPACE                               |              |         |            |                 |         |         |               | 0 VA    | 0 VA    |       |      |                   | SPACE                              |
| 38              |                     |          | 37 | SPACE                               |              |         |            | 0 VA            | 0 VA    |         |               |         |         |       |      |                   | SPACE                              |
| 40              |                     |          | 39 | SPACE                               |              |         |            |                 |         | 0 VA    | 0 VA          |         |         |       |      |                   | SPACE                              |
| 42              |                     |          | 41 | SPACE                               |              |         |            |                 |         |         |               | 0 VA    | 0 VA    |       |      |                   | SPACE                              |
|                 |                     |          |    | 1                                   | 1            | Т       | otal Load: | 381             | 2 VA    | 4516    | 5 VA          | 442     | 7 VA    |       | 1    | 1                 | 1                                  |
|                 |                     |          |    |                                     |              | То      | tal Amps:  | Amps: 32 A 38 A |         |         |               | 38      | 3 A     |       |      |                   |                                    |
|                 |                     |          |    |                                     |              | То      | tal Amps:  | I Amps: 35 A    |         |         |               |         |         |       |      |                   |                                    |

|        | Location: Space 318<br>Supply From: SEE SINGLE LIN<br>Mounting: RECESSED | E DIAGRAM    |            |         |         | Volts:<br>Phases:<br>Wires: | 120/208 \<br>3<br>4 | Wye     |                       |       |        | A.I.C. Rating: 22 KAIC<br>Mains Rating: 100 A<br>MLO Rating: 100 A |
|--------|--|--------------|------------|---------|---------|-----------------------------|---------------------|---------|-----------------------|-------|--------|--|
| СКТ    | Circuit Description  | Trip         | Poles      |         | A       |                             | В                   |         | C                     | Poles | Trip   | Circuit Description  |
| 1      | BIKE ASSEMBLY 150 - CONV. RECS.  | 20 A         | 1          | 900 VA  | 540 VA  |                             |                     |         |                       | 1     | 20 A   | SHIPPING/RECEIVING 160 - DESK RECS.                                |
| 3      | BIKE ASSEMBLY 150 - COMPRESSOR   | 20 A         | 1          |         |         | 360 VA                      | 540 VA              |         |                       | 1     | 20 A   | SHIPPING/RECIEVING 160 - DESK RECS.                                |
| 5<br>7 | BIKE ASSEMBLY 150 - BENCH RECEPTACLE<br>BIKE ASSEMBLY 150 - GRINDER      | 20 A<br>20 A | 1          | 180 VA  | 1664 VA |                             |                     | 360 VA  | 1664 VA               | 2     | 20 A   | SHIPPING/RECIEVING 160 - BOAT LIFT                                 |
| 9      | BIKE ASSEMBLY 150 - BENCH RECEPTACLE                                     | 20 A         | 1          |         |         | 360 VA                      | 180 VA              |         |                       | 1     | 20 A   | SHIPPING/RECEIVING 160 - MOTORIZED DOOR                            |
| 11     | BIKE ASSEMBLY 150 - GRINDER  | 20 A         | 1          |         |         |                             |                     | 180 VA  | 900 VA                | 1     | 20 A   | ALL GENDER 141 - HAND DRYER  |
| 13     | BIKE ASSEMBLY 150 - BENCH RECEPTACLE                                     | 20 A         | 1          | 360 VA  | 900 VA  |                             |                     |         |                       | 1     | 20 A   | ALL GENDER 141 - HAND DRYER  |
| 15     | BIKE ASSEMBLY 150 - GRINDER  | 20 A         | 1          |         |         | 180 VA                      | 720 VA              |         |                       | 1     | 20 A   | ALL GENDER - ABV. COUNTER. RECS.                                   |
| 17     | BIKE ASSEMBLY 150 - BENCH RECEPTACLE                                     | 20 A         | 1          |         |         |                             |                     | 360 VA  | 360 VA                | 1     | 20 A   | SHOWER 146 - ABV COUNTER REC.                                      |
| 19     | BIKE ASSEMBLY 150 - ERGOTRON   | 20 A         | 1          | 180 VA  | 900 VA  |                             |                     |         |                       | 1     | 20 A   | SHOWER 146 - HAND DRYER  |
| 21     | BIKE ASSEMBLY 150 - BIKE STAND DROP                                      | 20 A         | 1          |         |         | 180 VA                      | 360 VA              |         |                       | 1     | 20 A   | HALLWAY 140 - EAS PANEL  |
| 23     | BIKE ASSEMBLY 150 - CASHWRAP RECEPTACLES                                 | 20 A         | 1          |         |         |                             |                     | 1080 VA | 180 VA                | 1     | 20 A   | HALLWAY 140 - EWC (GFCI)   |
| 25     | BIKE ASSEMBLY 150 - PARTS WASHER   | 20 A         | 1          | 180 VA  | 180 VA  |                             |                     |         |                       | 1     | 20 A   | HALLWAY 125 - CONV. REC.   |
| 27     | BIKE ASSEMBLY 150 - WAX JET  | 20 A         | 1          |         |         | 180 VA                      | 900 VA              |         |                       | 1     | 20 A   | CONFERENCE 170 - RECS.   |
| 29     |  | 20.4         | 0          |         |         |                             |                     | 2500 VA | 180 VA                | 1     | 20 A   | UTILITY REC.   |
| 31     | BIKE ASSEMBLY 150 - SKI MACHINE  | 30 A         | 2          | 2500 VA | 180 VA  |                             |                     |         |                       | 1     | 20 A   | PUBLIC VIEWING MONITOR   |
| 33     | HALLWAY 120 - CONV. REC.   | 20 A         | 1          |         |         | 180 VA                      | 180 VA              |         |                       | _1_   | _20 A_ | VESTIBULE EAS PANEL  |
| 35     | ACTION SPORTS - ROPE CUTTER & EF-2                                       | 20 A         | 1          |         |         |                             |                     | 260 VA  | 1144 VA               |       |        |  |
| 37     | STORAGE 164 - ERGOTRONS  | 20 A         | 1          | 360 VA  | 1144 VA |                             |                     |         | $\left \right\rangle$ | 2     | 15 A   | WASHER UNIT (GFCI)   |
| 39     | SPARE  | 20 A         | 1          |         |         | 0 VA                        | 0 VA                |         | 1                     | 1     | 20 A   | SPARE  |
| 41     | SPARE  | 20 A         | 1          |         |         |                             |                     | 0 VA    | 0 VA                  | 1     | 20 A   | SPARE  |
|        | 1  | Тс           | otal Load: | 1016    | 58 VA   | 432                         | 0 VA                | 916     | 8 VA                  |       | I      |  |
|        |  | То           | tal Amps:  | 91      | 1 A     | 36                          | 5 A                 | 83      | 3 A                   |       |        |  |

|               | Branch Panel:<br>Location:<br>Supply From:<br>Mounting: | LDP<br>Space 318<br>SEE SINGLE LINE DIAGRAM<br>RECESSED |            |         |         | Volts:<br>Phases:<br>Wires: | 120/208 \<br>3<br>4 | Wye     |         |       |       | A.I.C. Rating: 22 KAIC<br>Mains Rating: 400 A<br>MCB Rating: 350 A |
|---------------|---|---|------------|---------|---------|-----------------------------|---------------------|---------|---------|-------|-------|--|
| СКТ           | Circuit Description                                     | Trip  | Poles      |         | A       | E                           | 3                   | C       | ;       | Poles | Trip  | Circuit Description  |
| 1             |   | 100.4   |            | 8036 VA | 3812 VA | 7750\/A                     | 45403/4             |         |         | 0     | 000 4 |  |
| <u>ა</u><br>5 | PANEL RT  | 100 A   | 3          |         |         | 7758 VA                     | 4516 VA             | 6082 VA | 4427 VA | 3     | 200 A | PANEL 'L'I'  |
| 7             |   |   |            | 10168   | 0 VA    |                             |                     |         |         |       |       | SPACE  |
| 9             | PANEL 'R2'  | 100 A   | 3          |         |         | 4320 VA                     | 0 VA                |         |         |       |       | SPACE  |
| 11            |   |   |            |         |         |                             |                     | 9168 VA | 0 VA    |       |       | SPACE  |
|               |   | Te  | otal Load: | 2186    | 68 VA   | 1594                        | 3 VA                | 1909    | 4 VA    |       |       |  |
|               |   | То  | tal Amps:  | 18      | 6 A     | 13                          | 3 A                 | 163     | 3 A     |       |       |  |
|               |   | То  | tal Amps:  |         |         | 15                          | 8 A                 |         |         |       |       |  |

66 A

Total Amps:

![](_page_10_Figure_30.jpeg)

![](_page_10_Figure_31.jpeg)

![](_page_10_Figure_32.jpeg)

![](_page_10_Picture_33.jpeg)

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![](_page_11_Figure_0.jpeg)

![](_page_11_Picture_1.jpeg)

![](_page_11_Figure_3.jpeg)

![](_page_12_Figure_0.jpeg)

![](_page_12_Picture_3.jpeg)

![](_page_13_Figure_0.jpeg)

| FIRE SPRINKLER LEGEND  |        |        |       |        |      |        |       |       |  |  |  |  |  |  |
|--|--------|--------|-------|--------|------|--------|-------|-------|--|--|--|--|--|--|
| SYMBOL   | MANUF. | S.I.N. | STYLE | FINISH | ESC. | TEMP.  | K-FAC | Count |  |  |  |  |  |  |
| $\triangleleft$  |        |        | SDWL  | Brass  | Deep | 200 °F | 5.6   | 7     |  |  |  |  |  |  |
| SSP         Brass         None         200 °F         5.6         27 |        |        |       |        |      |        |       |       |  |  |  |  |  |  |
| SSP         Brass         None         200 °F         11.2         4 |        |        |       |        |      |        |       |       |  |  |  |  |  |  |
| $\bigcirc$   |        |        | SSU   | Brass  | None | 200 °F | 5.6   | 1     |  |  |  |  |  |  |
| $\bigotimes$   |        |        | SSU   | Brass  | None | 286 °F | 11.2  | 39    |  |  |  |  |  |  |
| AND TOTAL:   |        |        |       |        |      |        |       | 78    |  |  |  |  |  |  |

IN ADDITION TO THE SPRINKLER QUANTITIES NOTED, ADDITIONAL SPRINKLERS OF EACH TYPE WILL BE REQUIRED PER NFPA 13 REQUIREMENTS.

ARM-OVER PIPING AND/OR DROPS SHALL BE 1-IN. SCHEDULE-40 PIPING, UNLESS NOTED OTHERWISE. DROPS TO NEW SPRINKLERS SHALL MATCH EXISTING OVERHEAD LINES, UNLESS CONTRACTORS' CALCULATIONS PROVE SMALLER PIPING

WILL SUFFICE. THE CUMULATIVE HORIZONTAL LENGTH OF AN UNSUPPORTED ARM-OVER TO A SPRINKLER, SPRINKLER DROP, OR A SPRIG UP SHALL NOT EXCEED 24-IN. FOR STEEL PIPING.

FIRE PROTECTION CONTRACTOR SHALL COORDINATE ALL PENDENT SPRINKLER LOCATIONS WITH MECHANICAL AND LIGHT/ELECTRICAL CONTRACTORS AS REQUIRED. COORDINATION MAY REQUIRE THE ADJUSTMENT OF EXISTING/NEW SPRINKLERS OR THE RELOCATION OR NEW/EXISTING LIGHTING. A COORDINATION MEETING WITH THE TRADES AND THE GC IS RECOMMENDED.

\*CORRECT SPRINKLER LOCATIONS AND/OR QUANTITIES IS THE RESPONSIBILITY OF THE SPRINKLER CONTRACTOR. CONTRACTOR SHALL PLACE IN THEIR BID AS A SEPARATE LINE ITEM EXTRA QUANTITY OF SPRINKLERS. COST OF EXTRA SPRINKLERS SHALL BE ACCOUNTED FOR AT TIME OF BID, CONTRACTOR WILL NOT BE AWARDED COST OF EXTRA SPRINKLERS AFTER BID APPROVAL, UNLESS OWNER CHANGES INDICATE OTHERWISE.

![](_page_13_Picture_13.jpeg)

![](_page_13_Figure_14.jpeg)

![](_page_14_Figure_0.jpeg)

![](_page_14_Picture_1.jpeg)

2/17/2022 1:46:36 PM

# **MECHANICAL GENERAL NOTES**

- 1. CONTRACTORS AND SUB-CONTRACTORS SHALL CAREFULLY REVIEW THE CONSTRUCTION DOCUMENTS. INFORMATION REGARDING THE COMPLETE WORK IS DISPERSED THROUGHOUT THE DOCUMENT SET AND CANNOT BE ACCURATELY DETERMINED WITHOUT REFERENCE TO THE COMPLETE DOCUMENT SET.
- COORDINATE WITH THE WORK OF OTHER SECTIONS, EQUIPMENT FURNISHED BY OTHERS, REQUIREMENTS OF THE OWNER, AND WITH THE CONSTRAINTS OF THE EXISTING CONDITIONS OF THE PROJECT SITE. PROVIDE DUCT RISES AND DROPS AS REQUIRED FOR FIELD INSTALLATION AND TRADE COORDINATION. NOTIFY ARCHITECT OF ANY DISCREPANCIES BEFORE STARTING WORK.
- 3. DRAWINGS FOR HVAC WORK ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, LAYOUT, AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENT. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS. REFER TO MANUFACTURER'S STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS. PROVIDE DUCTWORK, CONNECTIONS, ACCESSORIES, OFFSETS, AND MATERIALS NECESSARY FOR A COMPLETE SYSTEM.
- 4. ALL WORK SHALL COMPLY WITH STATE AND LOCAL CODE REQUIREMENTS AS APPROVED AND AMENDED BY THE GOVERNING CITY. PURCHASE ALL PERMITS ASSOCIATED WITH THE WORK. OBTAIN ALL INSPECTIONS REQUIRED BY CODE.
- 5. EXHAUST OUTLETS SHALL BE LOCATED A MINIMUM OF 15'-0" FROM ANY OUTSIDE AIR INTAKES.
- 6. PROVIDE LABEL ON EACH ROOFTOP UNIT WHICH CLEARLY STATES "RTU-#A". UNIT NUMBER SHALL MATCH NUMBER SHOWN ON PLAN. TEXT SHALL BE 4" HELV. MED.
- 7. THE LOCATION OF EQUIPMENT SHOWN ON THE DRAWINGS IS BASED ON SITE OBSERVATIONS AND THE BEST AVAILABLE INFORMATION AT THE TIME OF DRAWING PREPARATION AND SOME DISCREPANCIES MAY EXIST. VERIFY EXACT LOCATIONS OF EQUIPMENT TO BE REMOVED IN THE FIELD AND REQUEST CLARIFICATION FROM THE ENGINEER WHEN LOCATION OR EXISTANCE DIFFERS FROM PLANS.
- 8. INSTALL ALL METAL DUCT SUPPORTS AND SPACING ON THE PLANS IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS.

# MECHANICAL KEY NOTES

- (1) EXISTING ROOFTOP UNIT AND ASSOCIATED GAS PIPING TO REMAIN AND BE RE-USED. BALANCE AS PER SCHEDULE. CONTRACTOR TO VERIFY LOCATION IN FIELD AND ADJUST DUCTWORK AS NECESSARY FOR COMPLETE INSTALLATION. PROVIDE ROUTINE MAINTENANCE INCLUDING BUT NOT LIMITED TO, CHANGING FILTERS & BELTS, RECHARGING REFRIGERANT, ETC.
- 2 PROVIDE ROOF MOUNTED EXHAUST FAN ON FACTORY FABRICATED ROOF CURB. REFER TO DETAIL 2/M-300. 3 PROVIDE INLINE EXHAUST FAN. SUPPORT FAN FROM STRUCTURE ABOVE WITH STEEL CHANNEL AND THREADED
- ROD WITH VIBRATION ISOLATORS. PROVIDE FLEXIBLE CONNECTORS ON THE INLET AND DISCHARGE DUCT CONNECTIONS. DISCHARGE DUCT TO HAVE ACOUSTICAL LINER (INSTALL ED PER DETAIL 11, M-300) AND TERMINATE WITH OPEN ENDED DUCT. REFER TO DETAIL 5/M-300.
- $\langle \overline{4} \rangle$  TERMINATE EXHAUST GRILLE AT 10'-7" A.F.F. COORDINATE WITH STRUCTURAL FRAMING.
- (5) PROVIDE RECESSED CEILING MOUNTED UNIT HEATER. MOUNTER HEATER IN CEILING PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- $\langle 6 \rangle$  UNDERCUT DOOR 1".
- 7 DUCT MOUNTED SMOKE DETECTOR FURNISHED BY FIRE ALARM CONTRACTOR AND INSTALLED IN DUCT BY MECHANICAL CONTRACTOR. INTERLOCK WIRING BETWEEN FIRE ALARM SYSTEM RELAY AND UNIT SHUTDOWN CONTACT SHALL BE PROVIDED BY MECHANICAL CONTRACTOR. ALL OTHER WIRING BY FIRE ALARM CONTRACTOR. UPON DETECTION OF SMOKE, UNIT SHALL SHUT DOWN UPON SIGNAL FROM FIRE ALARM SYSTEM.
- $\langle 8 \rangle$  PROVIDE RETURN AIR BOOT WITH ACOUSTICAL DUCT LINER. LINER SHALL BE 1" THICK 3 PCF DENSITY, LONG TEXTILE TYPE FIBER, WITH SURFACE CLEANABLE PER NAIMA DUCT CLEANING GUIDELINES. INSTALL LINER IN ACCORDANCE WITH SMACNA DUCT CONSTRUCTION STANDARDS. LAMINATE LINER TO INTERNAL SURFACES OF DUCT IN ACCORDANCE WITH LINER MANUFACTURER'S INSTRUCTIONS, AND FASTEN WITH MECHANICAL FASTENERS.
- (9) REFER TO DETAIL 11 M-300
- (10) ELBOW END OF RETURN AIR DUCT UP. PROVIDE ONE DUCT DEPTH BETWEEN DECK AND OPENING. REFER TO DETAIL 3/M-300
- (11) REFER TO DETAILS 1/M-300 / ND 7/M-300
- (12) RELOCATED TEMPERATURE SENSOR. ADJUST CONTROL WIRING AS NECESSARY FOR NEW LOCATION.
- (13) INSTALL CO2 SENSOR COMPATIBLE WITH NOVAR SYSTEM. MOUNT SENSOR AT 60" AFF.
- $\langle 14 \rangle$  USE 60° SHOE TAP FOR DUCT CONNECTION.
- (15) PROVIDE RIGID DUCTWORK ALL THE WAY TO DIFFUSER. REFER TO DETAIL 6/M-300.
- $\langle \overline{16} 
  angle$  balance drop box diffuser to CFM indicated in Rooftop unit schedule minus the brach take-off CFM'S.
- $\langle \overline{17} \rangle$  MOUNT TOP OF DUCTWORK TIGHT TO BOTTOM OF JOISTS.
- (18) EXISTING TEMPERATURE SENSOR TO REMAIN AND BE RE-USED.
- (19) NEW SPLIT SYSTEM. ROUTE DX PIPING UP TO ASSOCIATED CU-1 ON ROOF. COORDINATE WITH PLUMBING CONTRACTOR FOR CONDENSATE ROUTING AND CONDENSATE PUMP. MOUNT INDOOR UNIT ON WALL (BOTTOM AT 8'-6" AFF). REFER TO DETAIL 8/M-300 FOR MORE INFORMATION.
- (20) EXISTING UNIT HEATER TO REMAIN AND BE RE-USED.
- (21) MOUNT BOTTOM OF SUPPLY DIFFUSER AT 10'-7" A.F.F. COORDINATE WITH STRUCTURAL FRAMING.
- 22 PROVIDE INLINE EXHAUST FAN. SUPPORT FAN FROM STRUCTURE ABOVE WITH STEEL CHANNEL AND THREADED ROD WITH VIBRATION ISOLATORS. MOUNT BOTTOM OF FAN AT 12'-0" ABOVE FINISHED FLOOR. PROVIDE FLEXIBLE CONNECTORS ON THE INLET AND DISCHARGE DUCT CONNECTIONS. TRANSITION FROM FAN DISCHARGE TO DUCT SIZE SHOWN AND EXTEND UP THRU ROOF TO JACK, STORM COLLAR, AND ALL-WEATHER CAP. REFER TO DETAIL
- $\langle \overline{23} \rangle$  CONNECT DUCT TO OWNER FURNISHED ROPE CUTTER.
- (24) CONDENSATE DRAIN LINE FROM AC-1. PROVIDE WITH CONDENSATE PUMP AND ROUTE 3/4" CONDENSATE DRAIN TO NEAREST SERVICE SINK. COORDINATE WITH MECHANICAL CONTRACTOR FOR INSTALLATION. CONDENSATE LINE TO DROP DOWN INTO WALL AND DISCHARGE INTO SERVICE SINK WITH AIR GAP.
- (25) EXISTING DUCTWORK TO REMAIN AND BE RE-USED.
- (26) INSTALL BAS TEMPERATURE SENSOR AT 60" AFF.
- 27> PROVIDE GAS FIRED UNIT HEATER AND SUSPEND HEATER FROM STRUCTURE ABOVE WITH STEEL CHANNEL AND ALL-THREAD ROD. MOUNT BOTTOM OF UNIT HEATER AT 10'-0" AFF. PROVIDE VENT WITH SIDEWALL VENT TERMINATION KIT AND INSTALL IN ACCORDANCE WITH UNIT HEATER MANUFACTURER'S INSTRUCTIONS. TERMINATE VENT PER CODE, AND A MINIMUM OF 10'-0" ABOVE GRADE.
- (28) THERMOSTAT TO BE SET TO 72 DEGREES F; CONNECT TO NOVAR TO ALLOW FOR MONITORING.
- (29) BALANCE EXISTING DIFFUSER/GRILLE TO PLAN SPECIFICED CFM.
- 30 PROVIDE NEW ROOF MOUNTED EXHAUST FAN ON EXISTING ROOF CURB. PROVIDE ADAPTICE CURB AS NECESSARY.  $\overline{
  m 31}
  angle$  furnish and install 8" vent ductwork from dryer up thru roof. Install and terminate vent per 1
- MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- (32) CAP EXISTING DUCTWORK/GRILLE.
- (33) MOUNT BOTTOM OF GRILLE AT 17' A.F.F.

![](_page_14_Picture_60.jpeg)

![](_page_14_Picture_64.jpeg)

![](_page_15_Figure_0.jpeg)

MECHANICAL

![](_page_15_Figure_5.jpeg)

- 4. ALL WORK SHALL COMPLY WITH STATE AND LOCAL CODE REQUIREMENTS AS APPROVED AND AMENDED BY THE GOVERNING CITY. PURCHASE ALL PERMITS ASSOCIATED WITH THE WORK. OBTAIN ALL INSPECTIONS REQUIRED BY CODE.
- 5. EXHAUST OUTLETS SHALL BE LOCATED A MINIMUM OF 15'-0" FROM ANY OUTSIDE AIR INTAKES.
- PROVIDE LABEL ON EACH ROOFTOP UNIT WHICH CLEARLY STATES "RTU-#A". UNIT NUMBER SHALL MATCH NUMBER SHOWN ON PLAN. TEXT SHALL BE 4" HELV. MED.
- 7. THE LOCATION OF EQUIPMENT SHOWN ON THE DRAWINGS IS BASED ON SITE OBSERVATIONS AND THE BEST AVAILABLE INFORMATION AT THE TIME OF DRAWING PREPARATION AND SOME DISCREPANCIES MAY EXIST. VERIFY EXACT LOCATIONS OF EQUIPMENT TO BE REMOVED IN THE FIELD AND REQUEST CLARIFICATION FROM THE ENGINEER WHEN LOCATION OR EXISTANCE DIFFERS FROM PLANS.
- 8. INSTALL ALL METAL DUCTS SUPPORTS AND SPACING ON THE PLANS IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS.

# MECHANICAL KEY NOTES

- (1) EXISTING ROOFTOP UNIT AND ASSOCIATED GAS PIPING TO REMAIN AND BE RE-USED. BALANCE AS PER SCHEDULE. CONTRACTOR TO VERIFY LOCATION IN FIELD AND ADJUST DUCTWORK AS NECESSARY FOR COMPLETE INSTALLATION. PROVIDE ROUTINE MAINTENANCE INCLUDING BUT NOT LIMITED TO, CHANGING FILTERS & BELTS, RECHARGING REFRIGERANT, ETC.
- 2 PROVIDE ROOF MOUNTED EXHAUST FAN ON FACTORY FABRICATED ROOF CURB REFER TO DETAIL 2/M-300
- (3) PROVIDE CODE APPROVED ROOFTOP STAND SIZED BY MANUFACTURER FOR ROOFTOP EQUIPMENT. INSTALL PER MANUFACTURER'S INSTRUCTION.
- (4) LIQUID/SUCTION LINES DOWN TO AC UNITS. PROVIDE ROOF PENETRATIONS AND BOOT (MODEL TO BE PATE PCC-3) OR SIMILAR).
- (5) PROVIDE NEW ROOF MOUNTED EXHAUST FAN ON EXISTING ROOF CURB. PROVIDE ADAPTIVE CURB AS NEEDED.
- $\overline{(6)}$  EXISTING RELIEF HOOD TO BE ABANDONED IN PLACE. DUCTWORK TO BE DEMO'D BACK TO ROOF AND CAPPED.
- (7) ROUTE 1" GAS DOWN BELOW ROOF TO CONNECT TO UNIT HEATER.

![](_page_15_Figure_19.jpeg)

![](_page_16_Figure_0.jpeg)

![](_page_16_Picture_8.jpeg)

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![](_page_17_Figure_0.jpeg)

![](_page_17_Figure_4.jpeg)

![](_page_17_Figure_5.jpeg)

- 1. CONTRACTORS AND SUB-CONTRACTORS SHALL CAREFULLY REVIEW THE CONSTRUCTION DOCUMENTS. INFORMATION REGARDING THE COMPLETE WORK IS DISPERSED THROUGHOUT THE DOCUMENT SET AND CANNOT BE ACCURATELY DETERMINED WITHOUT REFERENCE TO THE COMPLETE DOCUMENT SET.
- 2. COORDINATE WITH THE WORK OF OTHER SECTIONS, EQUIPMENT FURNISHED BY OTHERS, REQUIREMENTS OF THE OWNER, AND WITH THE CONSTRAINTS OF THE EXISTING CONDITIONS OF THE PROJECT SITE. PROVIDE PIPE RISES, DROPS, AND OFFSETS, AS REQUIRED FOR FIELD INSTALLATION AND TRADE COORDINATION. NOTIFY ARCHITECT OF ANY DISCREPANCIES BEFORE STARTING WORK.
- 3. DRAWINGS FOR PLUMBING WORK ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, LAYOUT, AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENT. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS. REFER TO MANUFACTURER'S STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS. PROVIDE PIPING, CONNECTIONS, FITTINGS, VALVES, OFFSETS, ETCETERA AND ALL MATERIALS NECESSARY FOR A COMPLETE SYSTEM.
- 4. ALL WORK SHALL COMPLY WITH STATE AND LOCAL CODE REQUIREMENTS AS APPROVED AND AMENDED BY THE GOVERNING CITY AND THE AUTHORITY HAVING JURISDICTION. PURCHASE ALL PERMITS ASSOCIATED WITH THE WORK. OBTAIN ALL INSPECTIONS REQUIRED BY CODE. 5. PROVIDE WATER HAMMER ARRESTORS THROUGHOUT WATER SYSTEMS AS REQUIRED. REFER TO DETAIL 5/P-200.
- 6. PROVIDE BACKFLOW PREVENTION DEVICES IN WATER LINES FEEDING PLUMBING FIXTURES AND/OR EQUIPMENT, AS SHOWN ON PLANS AND ELSEWHERE AS REQUIRED BY AUTHORITY HAVING JURISDICTION. USE DEVICES OF APPROVED MANUFACTURER AND TYPE IN ACCORDANCE WITH REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
- 7. CONTRACTOR SHALL VERIFY WATER PRESSURE PRIOR TO CONSTRUCTION. IF PRESSURE AT BUILDING ENTRY PRIOR TO ALL LOCALLY REQUIRED DEVICES IS LESS THAN 60 PSIG STATIC, CONTACT OWNER'S REPRESENTATIVE. IF PRESSURE EXCEEDS 80 PSIG, PROVIDE PRESSURE REDUCING VALVE.
- 8. SUSPEND HORIZONTAL SERVICE PIPING FROM UNDERSIDE OF ROOF OR FLOOR STRUCTURE UNLESS OTHERWISE INDICATED. INSTALL PIPING AS HIGH AS POSSIBLE. EXTEND PIPING DOWN IN WALLS, PARTITIONS, AND CHASES TO
- SERVE FIXTURES AND EQUIPMENT. 9. VERIFY SERVICE CONNECTION POINTS, SIZES, ELEVATIONS, AND METERING LOCATIONS FOR PROJECT WITH LOCAL UTILITY COMPANIES AND/OR CIVIL ENGINEER AS APPLICABLE.
- 10. USE OF COMBUSTIBLE MATERIALS IS NOT ALLOWED IN RETURN AIR PLENUMS. MATERIALS USED IN THE PLENUM SHALL HAVE FLAME SPREAD RATING NOT TO EXCEED 25, AND SMOKE DEVELOPED RATING NOT TO EXCEED 500 WHEN TESTED IN ACCORDANCE WITH ASTM E84.
- 11. INSTANTANEOUS WATER HEATER SHALL NOT ENCROACH INTO ACCESSIBLE CLEARANCE REQUIREMENTS AT THE SINKS/LAVATORIES.
- 12. PROVIDE ACCESS PANELS TO SHUT-OFF/CONTROL VALVES LOCATED ABOVE DRYWALL CEILING OR BEHIND WALL WHERE NECESSARY. COORDINATE LOCATION WITH ARCHITECT.

# PLUMBING KEY NOTES

- (1) 3" SANITARY CONNECTION TO SERVICE MOP BASIN WITH P-TRAP IN WALL. 4" SANITARY DOWN TO BELOW FLOOR AND 2" VENT UP TO ABOVE CEILING.
- $\langle 2 \rangle$  PROVIDE 3/4" COLD WATER AND HOT WATER SUPPLY WITH STOP TO MOP BASIN.
- 3 PROVIDE AND INSTALL WATER HEATER AND EXPANSION TANK PER DETAIL 3/P-200 AND 4/P-200. WATER HEATER TO BE MOUNTED ON A PLATFORM, WITH THE BOTTOM OF THE PLATFORM A MINIMUM OF 10'6" AFF. ROUTE DISCHARGE TO NEAREST MOP BASIN.
- (4) CONDENSATE DRAIN LINE FROM AC-1. PROVIDE WITH CONDENSATE PUMP (DAIKIN PART #DACA-CP3-1) AND ROUTE 3/4" CONDENSATE DRAIN TO NEAREST MOP BASIN. COORDINATE WITH MECHANICAL CONTRACTOR FOR INSTALLATION. CONDENSATE LINE TO DROP DOWN INTO WALL AND DISCHARGE INTO MOP BASIN WITH AIR GAP.
- $\langle 5 \rangle$  EXITING GROUND HYDRANT TO REMAIN.
- (6) INSTALL IMB-2 PER MANUFACTURER'S RECOMMENDATION. EXTEND 1/2" COLD AND HOT WATER SUPPLIES FROM ABOVE AND ROUTE DOWN IN WALL TO WASHER. EXTEND 2" VENT UP TO ABOVE CEILING AND 3" SAN DOWN TO SANITARY MAIN AS SHOWN.

![](_page_17_Figure_39.jpeg)

![](_page_18_Figure_0.jpeg)

### NOTE: SPECIAL INSPECTION APPLIES TO THIS PROJECT PER THE GENERAL NOTES. IF THE SPECIAL INSPECTIONS LISTED ARE NOT PROVIDED, TESTING OR REWORK WILL BE REQUIRED FOR FINAL SIGN OFF.

NOTE:ALL DIMENSIONS SHOWN ON THESE STRUCTURAL PLANSARE FOR GENERAL REFERENCE ONLY. THE CONTRACTORIS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND ANYDISCREPANCIES MUST BE BROUGHT TO THE ATTENTION OFTHE ARCHITECT AND ENGINEER IMMEDIATELY.

PLAN NOTES:

1. (E) NON STRUCTURAL INTERIOR PARTITION WALLS NOT SHOWN, UNO.

2. SEE DET. 1/S-301 FOR REINFORCEMENT BENDING SCHEDULE

4. SEE DET. 4/S-301 FOR TYP. BEAM STIRRUP/HOOP ASSEMBLY
5. SEE DET. 5/S-301 FOR TYP. SLAB ON GRADE JOINTS
6. SEE DET. 6/S-301 FOR TYP. COLUMN BLOCKOUT
7. SEE DET. 8/S-301 FOR TRENCH AT (E) SLAB ON GRADE

8. SEE DET. 13/S-301 FOR REINF. DEVELOPMENT & SPLICE SCHEDULE

9. SEE DET. 15/S-301 FOR TYP. INTERIOR COLUMN TO SPREAD FOOTING CONN.

3. SEE DET. 3/S-301 FOR TYP. ANCHOR BOLTS

NOTE: THESE DRAWINGS ARE BASED ON A LIMITED AMOUNT OF INFORMATION FOR AN EXISTING BUILDING. CONTRACTOR MUST FIELD VERIFY CONDITIONS AND NOTIFY ARCHITECT AND ENGINEER IF CONDITIONS ARE OTHER THAN AS SHOWN PRIOR TO MODIFICATION.

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![](_page_18_Picture_6.jpeg)

![](_page_19_Figure_0.jpeg)

### <u>PLAN NOTES:</u>

| 1. SEE SHEETS S-00<br>AND REQUIRED SF | FOR STRUCTURAL GENERAL NOTES, ABBREVIATIONS<br>PECIAL INSPECTIONS. |
|---------------------------------------|--|
| 2. CONCRETE CURB                      | DETAIL 9/S-301 OCATION PER ARCH.                                   |
| 3. INTERIOR WALL PA                   | ARTITION KEY:  |
| FH XX                                 | FULL HT. PARTITION WALL, DETAIL 6, S-601                           |
| PH XX                                 | PARTIAL HT. WALL, DETAIL 8/3-601                                   |
| PHBB XX                               | PARTIAL HT. WALL BOX BEAM BRACED, DETAIL 16/S-602                  |
| PHS XX                                | PARTIAL HT. STAND-ALONE WALL, DETAIL 19/S-602                      |
| OPNG XX                               | WALL OPENING, DETAIL 12 S-601                                      |

NOTE: SPECIAL INSPECTION APPLIES TO THIS PROJECT PER THE GENERAL NOTES. IF THE SPECIAL INSPECTIONS LISTED ARE NOT PROVIDED, TESTING OR REWORK WILL BE REQUIRED FOR FINAL SIGN OFF.

**NOTE:** ALL DIMENSIONS SHOWN ON THESE STRUCTURAL PLANS ARE FOR GENERAL REFERENCE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND ANY DISCREPANCIES MUST BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER IMMEDIATELY.

**NOTE:** THESE DRAWINGS ARE BASED ON A LIMITED AMOUNT OF INFORMATION FOR AN EXISTING BUILDING. CONTRACTOR MUST FIELD VERIFY CONDITIONS AND NOTIFY ARCHITECT AND ENGINEER IF CONDITIONS ARE OTHER THAN AS SHOWN PRIOR TO MODIFICATION.

![](_page_19_Picture_10.jpeg)

![](_page_20_Figure_0.jpeg)

NOTE: SPECIAL INSPECTION APPLIES TO THIS PROJECT PER THE GENERAL NOTES. IF THE SPECIAL INSPECTIONS LISTED ARE NOT PROVIDED, TESTING OR REWORK WILL BE REQUIRED FOR FINAL SIGN OFF.

NOTE: ALL DIMENSIONS SHOWN ON THESE STRUCTURAL PLANS ARE FOR GENERAL REFERENCE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND ANY DISCREPANCIES MUST BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER IMMEDIATELY.

![](_page_20_Picture_5.jpeg)

![](_page_20_Picture_7.jpeg)

![](_page_21_Figure_0.jpeg)

# PLAN NOTES:

1. (E) NON STRUCTURAL INTERIOR PARTITION WALLS NOT SHOWN, UNO.

![](_page_21_Figure_4.jpeg)

PUMP ROOM ROOF FRAMING PLAN SCALE: 1/8" = 1'-0"

SPECIAL INSPECTION APPLIES TO THIS PROJECT PER THE GENERAL NOTES. IF THE SPECIAL INSPECTIONS LISTED ARE NOT PROVIDED, TESTING OR REWORK WILL BE REQUIRED FOR FINAL SIGN OFF.

NOTE: ALL DIMENSIONS SHOWN ON THESE STRUCTURAL PLANS ARE FOR GENERAL REFERENCE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND ANY DISCREPANCIES MUST BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER IMMEDIATELY.

![](_page_21_Picture_8.jpeg)

![](_page_21_Picture_10.jpeg)

![](_page_22_Figure_0.jpeg)

# FRAMING NOTES: A. PROVIDE L 4X4X1/4 ANGLE BRACE AT TOP FLANGE OF W-BEAMS AS SHOWN, CONN. PER DET. 13/S-401, TYP B. HSS COL. BELOW NOT SHOWN FOR CLARITY C. PROVIDE BRACE PER DET. 6/S-401

NOTE: SPECIAL INSPECTION APPLIES TO THIS PROJECT PER THE GENERAL NOTES. IF THE SPECIAL INSPECTIONS LISTED ARE NOT PROVIDED, TESTING OR REWORK WILL BE REQUIRED FOR FINAL SIGN OFF.

NOTE: ALL DIMENSIONS SHOWN ON THESE STRUCTURAL PLANS ARE FOR GENERAL REFERENCE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND ANY DISCREPANCIES MUST BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER IMMEDIATELY.

![](_page_22_Picture_6.jpeg)

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![](_page_22_Picture_8.jpeg)

![](_page_23_Figure_0.jpeg)

![](_page_23_Picture_3.jpeg)

![](_page_24_Figure_0.jpeg)

|                 |          | Т   | YPICAL STRAIGH            | IT (Ld)            | AND HO   | OKED               | (Ldh) RE | INFOR              | CEMEN    | T DEVE             | ELOPME   | NT LE            | NGTH SO  | CHEDU            | JLE      |                  |          |                  |          |                    |             |      |     |      |      |
|-----------------|----------|---|---------------------------|--------------------|----------|--------------------|----------|--------------------|----------|--------------------|----------|------------------|----------|------------------|----------|------------------|----------|------------------|----------|--------------------|-------------|------|-----|------|------|
|                 |          |   | BAR SIZE:                 |                    | #3       | 1                  | #4       | 1                  | #5       | i                  | #6       |                  | #7       |                  | #8       |                  | #9       | #                | #10      | #                  | 11          |      |     |      |      |
|                 |          |   | BAR DIAMETER, db:         | d <sub>b</sub> = ( | ).375 in | d <sub>b</sub> = ( | ).500 in | d <sub>b</sub> = ( | ).625 in | d <sub>b</sub> = ( | ).625 in | d <sub>b</sub> = | 0.875 in | d <sub>b</sub> = | 1.000 in | d <sub>b</sub> = | 1.128 in | d <sub>b</sub> = | 1.270 in | d <sub>b</sub> = 1 | .410 in     |      |     |      |      |
| DEVLOPMENT TYPE | CATEGORY | DESCRIPTION                                       | N.W. CONCRETE<br>fc (psi) | TOP                | OTHER    | TOP                | OTHER    | TOP                | OTHER    | TOP                | OTHER    | TOP              | OTHER    | TOP              | OTHER    | TOP              | OTHER    | TOP              | OTHER    | TOP                | OTHER       |      |     |      |      |
|                 |          |   | 3,000                     | 13"                | 12"      | 18"                | 14"      | 22"                | 17"      | 26"                | 20"      | 43"              | 33"      | 54"              | 42"      | 66"              | 51"      | 81"              | 63"      | 97"                | 75"         |      |     |      |      |
|                 | 4        | MIN. COVER >= 1 1/2"                              | 4,500                     | 12"                | 12"      | 14"                | 12"      | 18"                | 14"      | 21"                | 17"      | 35"              | 27"      | 44"              | 34"      | 54"              | 42"      | 66"              | 51"      | 79"                | 61"         |      |     |      |      |
|                 | I        | MIN. CLEAR<br>SPACING >= 3"<br>MIN. COVER >= 3/4" | 5,000                     | 12"                | 12"      | 14"                | 12"      | 17"                | 13"      | 20"                | 16"      | 33"              | 26"      | 42"              | 32"      | 52"              | 40"      | 63"              | 49"      | 75"                | 58"         |      |     |      |      |
| OTDAIOUT        |          |   | 6,000                     | 12"                | 12"      | 13"                | 12"      | 16"                | 12"      | 19"                | 14"      | 30"              | 23"      | 38"              | 30"      | 47"              | 36"      | 58"              | 44"      | 69"                | 53"         |      |     |      |      |
| STRAIGHT        |          |   |                           |                    | -        |                    | 3,000    | 13"                | 12"      | 22"                | 17"      | 32"              | 25"      | 43"              | 33"      | 69"              | 53"      | 86"              | 66"      | 104"               | 80"         | 125" | 96" | 146" | 113" |
|                 | 0        |   | 4,500                     | 12"                | 12"      | 18"                | 14"      | 26"                | 20"      | 35"                | 27"      | 57"              | 44"      | 70"              | 54"      | 85"              | 65"      | 102"             | 79"      | 120"               | 92"         |      |     |      |      |
|                 | 2        | MIN. CLEAR<br>SPACING >= 2"                       | 5,000                     | 12"                | 12"      | 17"                | 13"      | 25"                | 19"      | 34"                | 26"      | 54"              | 42"      | 67"              | 51"      | 81"              | 62"      | 97"              | 75"      | 114"               | 87"         |      |     |      |      |
|                 |          |   | 6,000                     | 12"                | 12"      | 16"                | 12"      | 23"                | 18"      | 31"                | 24"      | 49"              | 38"      | 61"              | 47"      | 74"              | 57"      | 88"              | 68"      | 104"               | 80"         |      |     |      |      |
|                 |          |   | 3,000                     |                    | 9"       |                    | 11"      |                    | 14"      |                    | 17"      |                  | 20"      |                  | 22"      |                  | 25"      |                  | 28"      | 3                  | 31"         |      |     |      |      |
|                 |          |   | 4,500                     |                    | 7"       |                    | 9"       |                    | 12"      | ,                  | 14"      |                  | 16"      |                  | 18"      |                  | 21"      |                  | 23"      | 2                  | 26"         |      |     |      |      |
| HOUKED          | STANDARD | ALL OTHERS  | 5,000                     |                    | 7"       |                    | 9"       |                    | 11"      | ,                  | 13"      |                  | 15"      |                  | 17"      | :                | 20"      | :                | 22"      | 2                  | <u>'</u> 4" |      |     |      |      |
|                 |          |   | 6,000                     |                    | 6"       |                    | 8"       | í                  | 10"      | 12"                |          | 14"              |          | 4" 16"           |          | 18"              |          | 20"              |          | 22"                |             |      |     |      |      |

S-301 / NTS

|                                |          |   | TYPICAL                   | REINF                     | ORCEME | ENT LA                    |       | E (Lst)                   | DEVELO | OPMEN                     | IT LENG | TH SCI                    | HEDULE |                           |       |               |       |               |       |               |       |
|--------------------------------|----------|---|---------------------------|---------------------------|--------|---------------------------|-------|---------------------------|--------|---------------------------|---------|---------------------------|--------|---------------------------|-------|---------------|-------|---------------|-------|---------------|-------|
| BAR SIZE:                      |          |   |                           | #3                        |        | #4                        |       | #5                        |        | #6                        |         | #7                        |        | #8                        |       | #9            |       | #10           |       | #11           |       |
| BAR DIAMETER, d <sub>b</sub> : |          |   |                           | d <sub>b</sub> = 0.375 in |        | d <sub>b</sub> = 0.500 in |       | d <sub>b</sub> = 0.625 in |        | d <sub>b</sub> = 0.625 in |         | d <sub>b</sub> = 0.875 in |        | d <sub>b</sub> = 1.000 in |       | d₀ = 1.128 in |       | d₀ = 1.270 in |       | d₀ = 1.410 in |       |
| LAP CLASS                      | CATEGORY | DESCRIPTION   | N.W. CONCRETE<br>fc (psi) | TOP                       | OTHER  | TOP                       | OTHER | TOP                       | OTHER  | TOP                       | OTHER   | TOP                       | OTHER  | TOP                       | OTHER | TOP           | OTHER | TOP           | OTHER | TOP           | OTHEF |
| CLASS B                        | 1        | MIN. COVER >= 1 1/2"<br>MIN. CLEAR<br>SPACING >= 3" | 3,000                     | 17"                       | 16"    | 24"                       | 19"   | 29"                       | 23"    | 34"                       | 26"     | 56"                       | 43"    | 71"                       | 55"   | 86"           | 67"   | 106"          | 82"   | 127"          | 98"   |
|                                |          |   | 4,500                     | 16"                       | 16"    | 19"                       | 16"   | 24"                       | 19"    | 28"                       | 23"     | 46"                       | 36"    | 58"                       | 45"   | 71"           | 55"   | 86"           | 67"   | 103"          | 80"   |
|                                |          |   | 5,000                     | 16"                       | 16"    | 19"                       | 16"   | 23"                       | 17"    | 26"                       | 21"     | 43"                       | 34"    | 55"                       | 42"   | 68"           | 52"   | 82"           | 64"   | 98"           | 76"   |
|                                |          |   | 6,000                     | 12"                       | 12"    | 16"                       | 12"   | 23"                       | 18"    | 31"                       | 24"     | 49"                       | 38"    | 61"                       | 47"   | 74"           | 57"   | 88"           | 68"   | 104"          | 80"   |
|                                | 2        | MIN. COVER >= 3/4" MIN.<br>CLEAR SPACING >= 2"      | 3,000                     | 17"                       | 16"    | 29"                       | 23"   | 42"                       | 33"    | 56"                       | 43"     | 90"                       | 69"    | 112"                      | 86"   | 136"          | 104"  | 163"          | 125"  | 190"          | 147"  |
|                                |          |   | 4,500                     | 16"                       | 16"    | 24"                       | 19"   | 34"                       | 26"    | 46"                       | 36"     | 75"                       | 58"    | 91"                       | 71"   | 111"          | 85"   | 133"          | 103"  | 156"          | 120"  |
|                                |          |   | 5,000                     | 16"                       | 16"    | 23"                       | 17"   | 33"                       | 25"    | 45"                       | 34"     | 71"                       | 55"    | 88"                       | 67"   | 106"          | 81"   | 127"          | 98"   | 149"          | 114"  |
|                                |          |   | 6,000                     | 16"                       | 16"    | 21"                       | 16"   | 30"                       | 24"    | 41"                       | 32"     | 64"                       | 50"    | 80"                       | 62"   | 97"           | 75"   | 115"          | 89"   | 136"          | 104"  |

GENERAL NOTES: 1. ALL DEVELOPMENT AND LAP SPLICE LENGTHS SPECIFIED IN SCHEDULES ARE FOR REINFORCING STEEL WITH A Fy = 60,000 psi. 2. "TOP" - HORIZONTAL BARS PLACED SUCH THAT MORE THAN 12" OF FRESH CONCRETE IS CAST BELOW THE BAR. 3. "OTHER" - ALL VERTICAL BARS AND HORIZONTAL BARS THAT DO NOT MEET THE "TOP" BAR DESIGNATION. 4. UNLESS NOTED OTHERWISE, ALL HOOKED BARS SHALL EXTEND TO THE FAR FACE W/ MIN COVER BEYOND PER "NOTE 5.2" 5. ALL HOOKED BAR LENGTHS SPECIFIED IN SCHEDULE ARE FOR REINFORCING WITH:

5.1 SIDE COVER >= 2 1/2", 5.2 COVER BEYOND >= 2"

LAP SPLICE NOTES: 1. ALL SPLICES SHALL BE WIRED IN CONTACT AND STACKED VERTICALLY. 2. SMALLER BAR LAP LENGTH SHALL BE USED WHEN SPLICING DIFFERENT SIZED BARS. 3. LAP LENGTHS SPECIFICALLY DETAILED IN DRAWINGS SHALL GOVERN IN LIEU OF LAP LENGTHS SCHEDULED.

ADJUSTMENTS TO SPECIFIED STRAIGHT DEVELOPMENT AND LAP SPLICE LENGTHS: 1. LIGHTWEIGHT CONCRETE: MULTIPLY THE LENGTHS SPECIFIED IN THE SCHEDULE BY 1.33 2. EPOXY-COATED REINFORCMENT: 2.1. "TOP" BARS: MULTIPLY THE LENGTHS SPECIFIED IN THE SCHEDULE BY 1.3 2.2. "OTHER" BARS: MULTIPLY THE LENGTHS SPECIFIED IN THE SCHEDULE BY 1.5

 $L_d$  /  $L_{st}$  SHALL BE MULTIPLIED BY EACH FACTOR TO FIN THE CORRECT VALUE

ADJUSTMENTS TO SPECIFIED HOOK DEVELOPMENT LENGTHS: 1. LIGHTWEIGHT CONCRETE: MULTIPLY THE LENGTHS SPECIFIED IN THE SCHEDULE BY 1.33 2. EPOXY-COATED REINFORCMENT: MULTIPLY THE LENGTHS SPECIFIED IN THE SCHEDULE BY 1.2 3. SIDE COVER < 2 1/2": MULTIPLY THE LENGTHS SPECIFIED IN THE SCHEDULE BY 0.7

13 REINFORCEMENT DEVELOPMENT & SPLICE SCHEDULE S-301 / NTS

S-301 NTS

S-301 3/4" = 1'-0"

3. COMBINATIONS OF EFFECTS DUE TO CONCRETE WEIGHT AND EPOXY COATING ARE CUMULATIVE.

![](_page_24_Figure_15.jpeg)

∖S-301 /

3/4" = 1'-0"

![](_page_24_Picture_16.jpeg)

![](_page_24_Picture_19.jpeg)

![](_page_25_Figure_0.jpeg)

![](_page_26_Figure_0.jpeg)

![](_page_27_Figure_0.jpeg)

![](_page_27_Figure_4.jpeg)