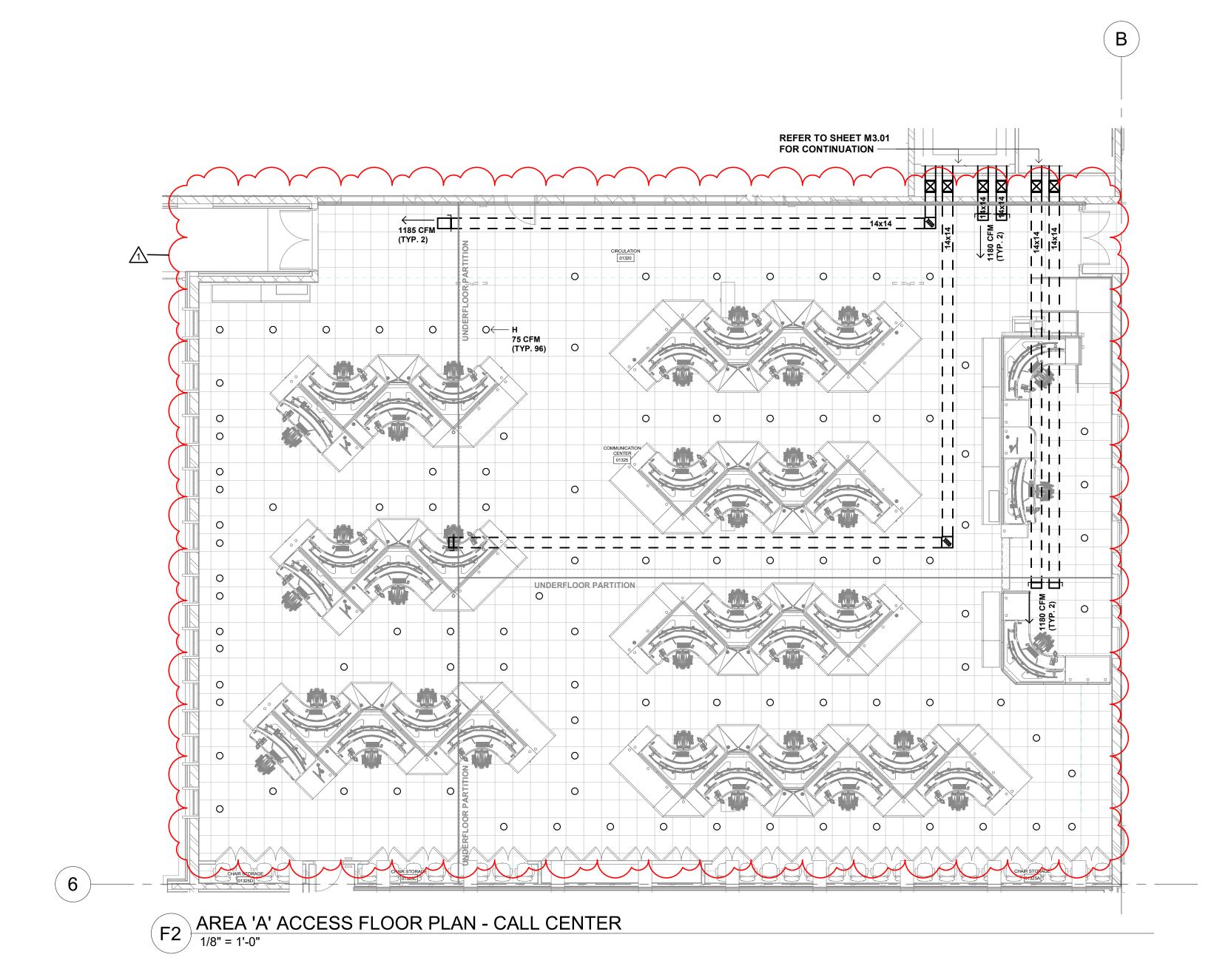
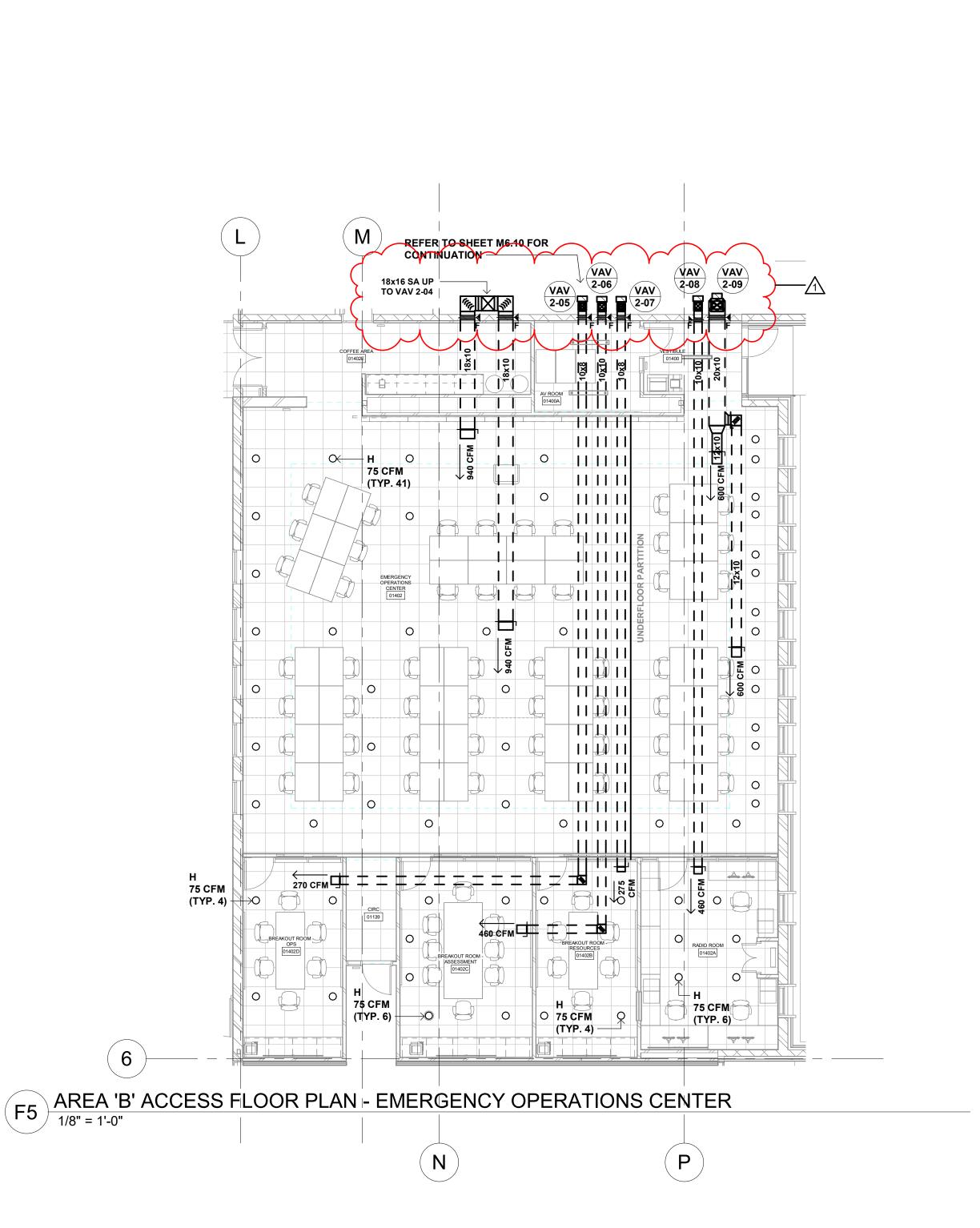
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C2 AREA 'A' ACCESS FLOOR PLAN - SERVER ROOM





ACCESS FLOOR PLAN GENERAL NOTES 1. DO NOT INSTALL FLEXIBLE DUCT CONNECTIONS BELOW ACCESS FLOOR.

2. LOCATE BALANCING DAMPER HANDLES SO THEY ARE ACCESSIBLE THROUGH A FLOOR ACCESS TILE.

3. DUCTWORK SHALL BE LOCATED AS TIGHT TO DEPRESSED FLOOR SLAB AS POSSIBLE.

4. FLOOR DIFFUSER LOCATIONS SHALL BE COORDINATED WITH FINAL FURNITURE LAYOUT AND CABLING RUNS. 5. ALL RISES AND DROPS IN DUCTWORK ARE NOT NECESSARILY SHOWN. LAYOUT ROUTING AND COORDINATE WORK WITH OTHER TRADES BEFORE CONSTRUCTION. 6. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR CUTTING AND PATCHING OF CONSTRUCTION UNLESS OTHERWISE NOTED ON THE PLANS. NO **CUTTING OF STRUCTURAL MEMBERS OR** STRUCTURE WHICH WILL DETERIORATE THE INTEGRITY AND STRENGTH OF THE BUILDING WILL BE ALLOWED WITHOUT WRITTEN APPROVAL FROM THE

STRUCTURAL ENGINEER.

7. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED REINFORCEMENT OF NEW AND EXISTING STRUCTURAL MEMBERS FOR MECHANICAL SYSTEMS. REFER TO "MECHANICAL SUPPORT REINFORCEMENT DETAIL" FOR ADDITIONAL REQUIREMENTS.

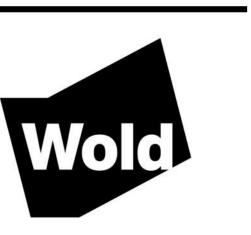
8. CONTRACTOR TO PROVIDE BIM CLASH DETECTION IN ACCORDANCE WITH ALL REQUIREMENTS AS INDICATED IN SPECIFICATION SECTION 01 32 50.

Regional Operations and Communications **Facility**

Lake County Campus Libertyville, IL 60048



656 Winchester Rd, Libertyville, IL 60048

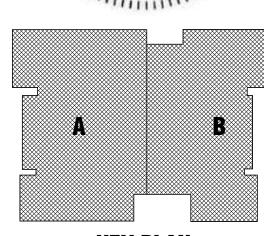


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RosDrulisCusenbery ARCHITECTUR





I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed under the laws of the State of ILLINOIS

Date 12/30/2022

Date: 12/30/2022



ACCESS FLOOR PLANS

M3.03

ROOF PLAN GENERAL NOTES:

1. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR CUTTING AND PATCHING OF CONSTRUCITON UNLESS OTHERWISE NOTED ON THE PLANS. NO CUTTING OF STRUCTURAL MEMBERS OR STRUCTURE WHICH WILL DETERIORATE THE INTEGRITY AND STRENGTH OF THE BUILDING WILL BE ALLOWED WITHOUT WRITTEN APPROVAL FROM THE STRUCTURAL ENGINEER. 2. BUILDING EXHAUST AND PLUMBING VENTS SHALL BE LOCATED A MINIMUM OF 10 FEET FROM ALL VENTILATION INTAKES.

3. ANY MECHANICAL EQUIPMENT REQUIRING MAINTENANCE SHALL BE LOCATED A MINIMUM 10 FEET FROM ALL ROOF EDGES UNLESS A GUARD RAIL IS PROVIDED.

4. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED REINFORCEMENT OF NEW AND EXISTING STRUCTURAL MEMBERS FOR MECHANICAL SYSTEMS. REFER TO "MECHANICAL SUPPORT REINFORCEMENT DETAIL" FOR ADDITIONAL REQUIREMENTS. 5. CONTRACTOR TO PROVIDE BIM CLASH DETECTION IN ACCORDANCE WITH ALL

REQUIREMENTS AS INDICATED IN SPECIFICATION SECTION 01 32 50. **ROOF PLAN KEYED NOTES:**

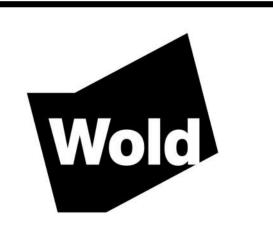
PROVIDE REFRIGERANT PIPING AND SIZE IN ACCORDANCE WITH MANUFACTURER'S **GUIDELINES.**

2 STATIC OUTSIDE AIR PROBE (SOAP) LOCATION. INSTALL A MINIMUM OF 15FT ABOVE FINISHED ROOF LEVEL. INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND PROVIDE 2-PT GUY WIRING. REFER TO STRUCTURAL DRAWINGS FOR INSTALL OF 2-INCH SUPPORT PIPING.

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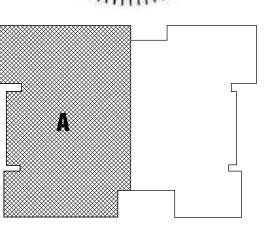


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ROOF PLAN-AREA 'A'

8 ABORT STATION PROVIDED BY DIV. 21 (10) PROVIDE DOUBLE-INTERLOCK PRE-ACTION ZONE #1 AREA: 1,390 SF. **TOTAL ZONE AREA: 19,845 SF.** 4" COMBINED WATER & - 8" COMBINED WATER & FIRE SERVICE LINE FOR FIRE SERVICE LINE STORM SHELTER F3 / M8.10 10 AREA: 110 SF AREA: 6,465 SF(|1) AREA: 3.395 SF (1)11 TOTAL ZONE AREA: 13,416 SF TOTAL ZONE AREA: 19,805 SF TOTAL ZONE AREA: 3,395 SF PROPOSED STORM SHELTER FIRE RISER LOCATION. REFER ELECTRICAL ROOM TO DETAIL F3/M8.10 AREA: 735 SF TOTAL ZONE AREA: 13,416 SF MECHANICAL & FIRE SPRINKLER ROOM . 01650 ROLL CALL ROOM UPS EQUIP. ROOM AREA: 12,270 SF ZONE #2 MEZZANINE (ABOVE), REFER TO **TOTAL ZONE AREA: 13,416 SF** AREA: 12,360 SF PLAN C1/M5.01 TOTAL ZONE AREA: 13,375 SF ZONE #1 AREA: 11,990 SF TOTAL ZONE AREA: 19,805 SF ZONE #2 AREA: 305 SF TOTAL ZONE AREA: 13,416 SF ZONE #1 1 AREA: 11,990 SF TOTAL ZONE AREA: 19,805 SF F3 MAIN LEVEL FIRE PROTECTION PLAN
1/16" = 1'-0"

FIRE PROTECTION PLAN KEYED NOTES: > PROVIDE NEW WET-TYPE FIRE PROTECTION SYSTEM IN ACCORDANCE WITH ALL NFPA AND CODE REQUIREMENTS.

2 PROVIDE CLEAN AGENT FIRE EXTINGUISHING

3 PROVIDE CLEAN AGENT TANK(S).

4 CLEAN AGENT FIRE SUPPRESSION CONTROL **5** VESDA SMOKE DETECTION CONTROL PANEL.

HORN /STROBES PROVIDED BY DIV. 21 CONTRACTOR. ROUGH-IN BY DIV. 28 CONTRACTOR.

VERIFY LOCATION WITH DATA RACK/EQUIPMENT

(7) MANUAL RELEASE PROVIDED BY DIV. 21 CONTRACTOR. ROUGH-IN BY DIV. 28 CONTRACTOR. VERIFY LOCATION WITH DATA RACK/EQUIPMENT LAYOUT.

CONTRACTOR. ROUGH-IN BY DIV. 28 CONTRACTOR. VERIFY LOCATION WITH DATA RACK/EQUIPMENT 9 PROVIDE VESDA SMOKE AIR SAMPLING DETECTION

SYSTEM ABOVE AND BELOW RAISED ACCESS

COVERAGE.

11 STORM SHELTER BOUNDARY.

FIRE PROTECTION PLAN GENERAL NOTES: 1. NO PIPING SHALL BE SUPPORTED FROM JOIST

> BRIDGING OR OTHER PIPING, DUCTWORK, OR 2. ALL PIPING SHALL BE SUPPORTED FROM TOP

CORDS OF JOISTS OR FROM CONCRETE DECKING BY APPROVED MEANS. 3. FIRE PROTECTION CONTRACTOR IS REQUIRED TO

PROVIDE SLEEVES FOR ALL PIPING PENETRATIONS OF FIRE RESISTIVE OR SMOKE TIGHT WALLS AND FLOOR OPENINGS. SEAL ALL PIPE PENETRATION OPENINGS AND FIRE CAULK ALL SLEEVE LOCATIONS AS REQUIRED TO MAINTAIN RATING. REFER TO ARCHTECTURAL CODE PLAN FOR RATING LOCATIONS.

4. ALL SPRINKLER PIPING WITH LAY-IN ACOUSTIC, OR GYPSUM BOARD, CEILINGS SHALL BE ROUTED ABOVE THE CEILING. 5. DO NOT RUN SPRINKLER PIPE NEAR INTAKE

LOUVER OR FRESH AIR INTAKES. 6. PROVIDE AN INSPECTORS TEST AT REMOTE POINT FOR EACH ZONE. ROUTE TEST AND DRAIN PIPES TO GRADE. PIPES ROUTED TO GRADE SHALL TERMINATE WITH A BRASS DRAIN FITTING.

EXPOSED GALVANIZED PIPE IS NOT ACCEPTABLE.

7. FOR BIDDING PURPOSES A FLOW TEST WAS PERORMED ON AUGUST 11, 2022 WITH THE FOLLOWING RESULTS: STATIC PRESSURE = 47 PSI

RESIDUAL PRESSURE = 44 PSI TOTAL FLOW = 1418 GPM

THAN 48" WIDE.

REQUIREMENTS.

REFER TO THE END OF SPECIFICATION SECTION 21 10 00 FOR FLOW TEST DATA ATTACHMENT. THIS FIRE PROTECTION CONTRACTOR SHALL CONDUCT THEIR OWN FLOW TEST AT HYDRANT NEAREST BUILDING AND RECORD WATER MAIN SIZE, STATIC AND RESIDUAL PRESSURES, AND G.P.M. FLOW. CONTACT AND COORDINATE FLOW TIME WITH CITY WATER DEPARTMENT.

8. HEADS SHALL BE LOCATED WITHIN 2" OF CENTER OR QUARTER POINTS OF 2'x4' CEILING TILES AND WITHIN 2" OF CENTER OF 2'x2' CEILING TILES. 9. PROVIDE SPRINKLER HEADS BELOW ALL

DUCTWORK THAT CREATES AN OBSTRUCTION TO

SPRAY PATTERN AND ALL DUCTWORK GREATER

10. FURNISH AND INSTALL PERMANENT PLASTIC LAMINATED SIGNS TO IDENTIFY EACH SPRINKLER VALVE, THE AREA IT CONTROLS, AND HYDRAULIC DESIGN DATA.

11. FURNISH AND INSTALL PERMANENT PLASTIC LAMINATE SIGN TO IDENTIFY INSPECTOR TEST CONNECTIONS AND THE ZONE IT SERVES. 12. THE INSTALLATION OF THE FIRE PROTECTION

13. COORDINATE ALL FIRE PROTECTION PIPING WITH OTHER TRADES. COORDINATION SHALL BE THE RESPONSIBILITY OF THE FIRE PROTECTION CONTRACTOR.

14. ALL AREAS SHALL BE LIGHT HAZARD EXCEPT AS FOLLOWS. REFER TO ARCHITECTURAL FLOOR PLANS FOR ROOM TYPES.

SYSTEM SHALL CONFORM TO I.S.O. AND N.F.P.A.

MECHANICAL ROOMS

BOILER ROOM SHIPPING/RECEIVING 15. ELECTRICAL ROOMS (ALL VOLTAGES) TO BE

17. ALL SPRINKLER HEADS INSTALLED 7'-0" OR LESS SHALL HAVE HEAVY DUTY PROTECTIVE GUARDS. 19. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED REINFORCEMENT OF NEW AND EXISTING STRUCTURAL MEMBERS FOR MECHANICAL SYSTEMS. REFER TO "MECHANICAL SUPPORT REINFORCEMENT DETAIL" FOR ADDITIONAL REQUIREMENTS.

20. CONTRACTOR TO PROVIDE BIM CLASH DETECTION IN ACCORDANCE WITH ALL REQUIREMENTS AS INDICATED IN SPECIFICATION SECTION 01 32 50.

DIVISION 25 BACNET GENERAL NOTES - FIRE PROTECTION

CONTROLLER SHALL BE A BACNET/IP SINGLE DEVICE CONTROLLER TYPE OF BACNET INTERFACE DEVICE. THIRD PARTY GATEWAYS THAT ARE NOT FACTORY AUTHORIZED GATEWAYS ARE NOT ALLOWED IN THE WORK. NOTE THAT THE BACNET/IP GATEWAY SHALL BE A FACTORY AUTHORIZED PRODUCT PROVIDED BY THE EQUIPMENT SUPPLIER. PROVIDE PROOF OF THIS DURING THE SUBMITTAL PROCESS. SEE DIVISION 25 FOR DETAILS ON THE BACNET OBJECT LIST TO BE PROVIDED AS BACNET AVS. BVS AND MSVS BY THE EQUIPMENT SUPPLIER. POINT NAMES AND DEVICE NAMES SHALL BE WRITABLE IN THE EQUIPMENT SUPPLIER'S BACNET INTERFACE DEVICE SO THE NAMES CAN BE CHANGED TO THE LAKE COUNTY STANDARD. DEVICES THAT DO NOT SUPPORT WRITEABLE DEVICE AND POINT NAMES ARE NOT ALLOWED IN THE WORK. IF THERE ARE POINTS IN THE DEVICE THAT DO NOT APPLY TO THE WORK, THE EQUIPMENT SUPPLIER SHALL WORK ON SITE WITH THE LAKE COUNTY CONTROLS CONSULTANT TO IDENTIFY

THESE POINTS THAT DO NOT APPLY TO THE WORK. THEY SHALL BE DELETED FROM THE EQUIPMENT SUPPLIER'S BACNET INTERFACE DEVICE IF THEY ARE NOT USED IN THE WORK. SEE DIVISION 25 FOR BACNET AND NETWORKING DETAILS. ELECTRICAL SHALL PROVIDE AN IP DROP TO THE BACNET/IP DEVICE IN GOLD CONDUIT C/W A PULL WIRE SO DIVISION 27 CAN INSTALL PURPLE CAT 6 CABLE TO THE LAKE COUNTY STANDARD FROM THE DEVICE TO

THE BASIS OF DESIGN IS VESDA. THE VESDA BACNET SINGLE DEVICE CONTROLLER SHALL COME WITH THE EQUIVALENT OF A HLI MODBUS RTU INTERFACE OR APPROVED EQUAL. EQUIPMENT SUPPLIER SHALL PROVIDE A MSA FIELDSERVERFS-8700-43 MODBUS TO BACNET/IP GATEWAY TO MAP THE MODBUS REGISTERS TO BACNET OBJ<u>E</u>CTS. THE <u>SI</u>NGLE DEVIC<u>E</u> CONTROLL<u>ER</u> SHALL CO<u>M</u>E C/W AN E<u>MB</u>EDDED LIN<u>UX</u> WEBSERV<u>E</u>R FOR CONFIGURATION. ALL OTHER DATA SHAKL BE TRANSMITTED OVER THE BACKET/IP NETWORK. SEE DIVISION 25 FOR

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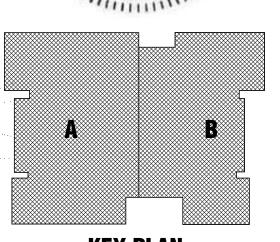
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RosDrulisCusenbery ARCHITECTUR





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Number: **062-059546** Date 12/30/2022

Revisions 02/24/23 Addendum #2 Addendum #3

Date: 12/30/2022

FIRE PROTECTION **PLAN**

SERVER ROOM FIRE PROTECTION PLAN

1/8" = 1'-0"

ALL VFDS SHALL COME WITH A BACNET MS/TP INTERFACE. THIRD PARTY GATEWAYS THAT ARE NOT FACTORY AUTHORIZED PRODUCT PROVIDED BY THE EQUIPMENT SUPPLIER. PROVIDE PROOF OF THIS DURING THE SUBMITTAL PROCESS. SEE DIVISION 25 FOR DETAILS ON THE BACNET OBJECT LIST TO BE PROVIDED AS BACNET AVS, BVS AND MSVS BY THE EQUIPMENT SUPPLIER. POINT NAMES AND DEVICE NAMES SHALL BE WRITABLE IN THE EQUIPMENT SUPPLIER. POINT NAMES AND DEVICE NAMES CAN BE CHANGED TO THE LAKE COUNTY STANDARD. DEVICES THAT DO NOT SUPPORT WRITEABLE DEVICE AND POINT NAMES ARE NOT ALLOWED IN THE WORK. IF THERE ARE POINTS IN THE DEVICE THAT DO NOT APPLY TO THE WORK. THEY SHALL BE DELETED FROM THE EQUIPMENT SUPPLIER'S BACNET INTERFACE DEVICE IF THEY ARE NOT USED IN THE WORK. DIVISION 25 IS RESPONSIBLE FOR NETWORKING TO THIS DEVICE. SEE DIVISION 25 FOR BACNET AND NETWORKING DETAILS. ALL NON-IP BAS WIRING SHALL BE IN BLUE CONDUIT.

THE BASIS OF DESIGN FOR THIS DEVICE IS ABB ACH550. ALL VFDS SHALL COME WITH THE EQUIVALENT OF AN ABB ACH550 ECLIPSE ELECTRONIC BYPASS OR APPROVED EQUAL. PROVIDE A SEPARATE DISCONNECT IF THE ELECTRONIC BYPASS DOES NOT TERMINATE POWER TO THE VFD SO IT CAN BE LOCKED OUT AND TAGGED OUT FOR SERVICE. EACH PUMP AND EACH AHU FAN MOTOR SHALL COME WITH A VFD. APPROVED VFD SUPPLIERS ARE ABB, DANFOSS AND YASKAWA. THE VFD SHALL HAVE UL-APPROVED FIREMAN'S OVERRIDE CONTACTS SO DIVISION 26 CAN LAND FIRE ALARM CONTROL WIRING ON THESE CONTACTS TO MEET THE SMOKE CONTROL SEQUENCE OF OPERATIONS SPECIFIED IN THE CONTRACT DOCUMENTS. DIVISION 25 SHALL CONNECT THESE DEVICES TO A NEW MS/TP TRUNK OF DEVICES TO A NEW BACNET SINGLE LINE DIAGRAM FOR DETAILS. SEE DIVISION 25 BACNET SINGLE LINE DIAGRAM FOR DETAILS. DIVISION 25 SHALL PROVIDE HARDWIRED CONNECTIONS FOR VFD ENABLE, VFD SPEED AND VFD COMMON ALARM. ALL OTHER POINTS ARE TRANSMITTED OVER THE BACNET MS/TP NETWORK. FIRE PUMP VFDS:

SEE DIVISION 25 FOR DETAILS ON THE BACNET OBJECT LIST TO BE PROVIDED AS BACNET AVS, BVS AND MSVS BY THE EQUIPMENT SUPPLIER. POINT NAMES AND DEVICE NAMES CAN BE CHANGED TO THE LAKE COUNTY STANDARD. IF THERE ARE POINTS IN THE DEVICE THAT DO NOT APPLY TO THE WORK, THE EQUIPMENT SUPPLIER SHALL WORK ON SITE WITH THE LAKE COUNTY CONTROLS CONSULTANT TO IDENTIFY THESE POINTS THAT DO NOT APPLY TO THE WORK. THEY SHALL BE DELETED FROM THE EQUIPMENT SUPPLIER'S BACNET INTERFACE DEVICE IF THEY ARE NOT USED IN THE WORK. DIVISION 25 IS RESPONSIBLE FOR NETWORKING TO THIS DEVICE. SEE DIVISION 25 FOR BACNET AND NETWORKING DETAILS. ALL NON-IP BAS WIRING SHALL BE IN BLUE CONDUIT. THE BASIS OF DESIGN FOR THIS DEVICE IS DANFOS ADVANCED BACNET INTERFACE VERSION. ALL VFDS SHALL COME WITH THE EQUIVALENT OF A DANFOS ELECTRONIC BYPASS OR APPROVED EQUAL. PROVIDE A SEPARATE DISCONNECT IF THE ELECTRONIC BYPASS DOES NOT TERMINATE POWER TO THE VFD SO IT CAN BE LOCKED OUT AND TAGGED OUT FOR SERVICE. EACH FIRE PUMP SHALL COME WITH A VFD. DIVISION 25 SHALL CONNECT THESE DEVICES TO A NEW BACNET/IP PANEL. SEE DIVISION 25 BACNET SINGLE LINE DIAGRAM FOR DETAILS. ALL POINTS ON THESE VFDS ARE READ ONLY TO MAINTAIN UL CHAIN OF CUSTODY REQUIREMENTS. ALL POINTS ARE TRANSMITTED OVER THE BACNET MS/TP NETWORK. CONSTANT SPEED EXHAUST AND OTHER FANS:

ALL VFDS SHALL COME WITH A BACNET MS/TP INTERFACE. THIRD PARTY GATEWAYS THAT ARE NOT FACTORY AUTHORIZED PRODUCT PROVIDED BY THE EQUIPMENT SUPPLIER. PROVIDE PROOF OF THIS DURING THE SUBMITTAL PROCESS.

DIVISION 25 SHALL PROVIDE A STARTER EQUAL TO FRANKLIN BAS-1P TO ALLOW FOR HOA CONTROL. DIVISION 25 SHALL PROVIDE A BACNET MS/TP THERMOSTAT TO READ THE SPACE TEMPERATURE IN THE ROOM. SEE DRAWINGS FOR LOCATIONS AND QUANTITIES. WHEN THERE IS A CALL FOR HEAT AND THE AMP READING IS ZERO FOR 2 MINUTES (USER SETTABLE), GENERATE AN ALARM AT THE FRONT END. DIVISION 25 WILL USE THE CURRENT TRANSDUCER TO CALCULATE KW AND KWH. REPORT THIS DATA TO THE HEATING SYSTEM ENERGY DASHBOARD FOR THE PROJECT. CONNECT THE MS/TP TRUNK OF DEVICES TO A NEW NON UL-LISTED BACNET/IP PANEL. SEE DIVISION 25 BACNET SINGLE LINE DIAGRAM FOR DETAILS. ALL NON-IP BAS WIRING SHALL BE IN BLUE CONDUIT. UNIT HEATERS:

DIVISION 25 SHALL PROVIDE A STARTER FOR EACH UNIT HEATER EQUAL TO FRANKLIN BAS-1P TO ALLOW FOR HOA CONTROL. ELECTRICAL SHALL PROVIDE A CONTACTOR TO START AND STOP THE UNIT HEATER THAT WILL BE CONTROLLED BY THE BAS 1P-HOA. IF THE BAS 1P HOA CAN SWITCH THE FULL LOAD OF THE UNIT HEATER THEN A CONTACTOR IS NOT NECESSARY. DIVISION 25 SHALL PROVIDE A CURRENT TRANSDUCER TO READ AMPS. SEE DIVISION 25 SHALL PROVIDE A BACNET MS/TP THERMOSTAT TO READ THE SPACE TEMPERATURE IN THE ROOM. SEE DRAWINGS FOR LOCATIONS AND QUANTITIES. WHEN THERE IS A CALL FOR HEAT AND THE AMP READING IS ZERO FOR 2 MINUTES (USER SETTABLE), GENERATE AN ALARM AT THE FRONT END. DIVISION 25 WILL USE THE CURRENT TRANSDUCER TO CALCULATE KW AND KWH. REPORT THIS DATA TO THE HEATING SYSTEM ENERGY DASHBOARD FOR THE PROJECT. CONNECT THE MS/TP TRUNK OF DEVICES TO A NEW NON UL-LISTED BACNET/IP PANEL AS LOCATED ON THE MECHANICAL DRAWINGS. SEE DIVISION 25 BACNET SINGLE LINE DIAGRAM FOR DETAILS.

DIVISION 25 SHALL PROVIDE A STARTER FOR EACH UNIT HEATER EQUAL TO FRANKLIN BAS-1P TO ALLOW FOR ENABLE/DISABLE CONTROL. ELECTRICAL SHALL PROVIDE A CONTACTOR TO START AND STOP THE HOT WATER HEATER THAT WILL BE CONTROLLED BY THE BAS 1P-HOA. IF THE BAS 1P HOA CAN SWITCH THE FULL LOAD OF THE UNIT HEATER THEN A CONTACTOR IS NOT NECESSARY. DIVISION 25 SHALL PROVIDE A CURRENT TRANSDUCER TO READ AMPS. SEE DIVISION 25 FOR DETAILS. PROVIDE AN IMMERSION SENSOR TO SENSE HOT WATER TEMPERATURE. PROVIDE AN ALARM POINT IF TEMPERATURE FALLS BELOW SETPOINT AFTER TWO MINUTES. ALL NON-IP BAS WIRING SHALL BE IN BLUE CONDUIT. SEE DRAWINGS FOR LOCATIONS AND QUANTITIES. WHEN THERE IS A CALL FOR HEAT AND THE AMP READING IS ZERO FOR 2 MINUTES (USER SETTABLE), GENERATE AN ALARM AT THE FRONT END. DIVISION 25 WILL USE THE CURRENT TRANSDUCER TO CALCULATE KW AND KWH. REPORT THIS DATA TO THE HEATING SYSTEM ENERGY DASHBOARD FOR THE PROJECT. CONNECT THE MS/TP TRUNK OF DEVICES TO A NEW NON UL-LISTED BACNET/IP PANEL AS LOCATED ON THE MECHANICAL DRAWINGS. SEE DIVISION 25 BACNET SINGLE LINE DIAGRAM FOR DETAILS.

ALL BTU METERS SHALL COME WITH A BACNET MS/TP INTERFACE. THIRD PARTY GATEWAYS THAT ARE NOT FACTORY AUTHORIZED PRODUCT PROVIDED BY THE EQUIPMENT SUPPLIER. PROVIDE PROOF OF THIS DURING THE SUBMITTAL PROCESS. SEE DIVISION 25 FOR DETAILS ON THE BACNET OBJECT LIST TO BE PROVIDED AS BACNET AVS, BVS AND MSVS BY THE EQUIPMENT SUPPLIER. POINT NAMES AND DEVICE NAMES SHALL BE WRITABLE IN THE EQUIPMENT SUPPLIER'S BACNET INTERFACE DEVICE SO THE NAMES CAN BE CHANGED TO THE LAKE COUNTY STANDARD. DEVICES THAT DO NOT SUPPORT WRITEABLE DEVICE AND POINT NAMES ARE NOT ALLOWED IN THE WORK. IF THERE ARE POINTS IN THE LAKE COUNTY CONTROLS CONSULTANT TO IDENTIFY THESE POINTS THAT DO NOT APPLY TO THE WORK. THEY SHALL BE DELETED FROM THE EQUIPMENT SUPPLIER'S BACNET INTERFACE DEVICE IF THEY ARE NOT USED IN THE WORK. DIVISION 25 IS RESPONSIBLE FOR NETWORKING TO THIS DEVICE. SEE DIVISION 25 FOR BACNET AND NETWORKING DETAILS. ALL NON-IP BAS WIRING SHALL BE IN BLUE CONDUIT. THE BASIS OF DESIGN FOR THIS DEVICE IS ONICON. ALL BTU METERS SHALL COME WITH THE EQUIVALENT OF AN ONICON SYSTEM-10 BTU METER BACNET INTERFACE DEVICE, OR APPROVED EQUAL. DIVISION 25 SHALL CONNECT THESE DEVICES TO A NEW MS/TP TRUNK OF DEVICES THAT IS IN TURN CONNECTED TO A NEW BACNET/IP PANEL. SEE DIVISION 25 BACNET SINGLE LINE DIAGRAM FOR DETAILS. THERE IS NO HARDWIRED CONNECTION TO THIS DEVICE. ALL DATA SHALL BE TRANSMITTED OVER THE BACNET MS/TP NETWORK.

ALL AFSS SHALL COME WITH A BACNET MS/TP INTERFACE. THIRD PARTY GATEWAYS THAT ARE NOT FACTORY AUTHORIZED PRODUCT PROVIDED BY THE EQUIPMENT SUPPLIER. PROVIDE PROOF OF THIS DURING THE SUBMITTAL PROCESS. SEE DIVISION 25 FOR DETAILS ON THE BACNET OBJECT LIST TO BE PROVIDED AS BACNET AVS, BVS AND MSVS BY THE EQUIPMENT SUPPLIER. POINT NAMES AND DEVICE NAMES SHALL BE WRITABLE IN THE EQUIPMENT SUPPLIER. POINT NAMES AND DEVICE NAMES SHALL BE WRITABLE IN THE EQUIPMENT SUPPLIER. NOT SUPPORT WRITEABLE DEVICE AND POINT NAMES ARE NOT ALLOWED IN THE WORK. IF THERE ARE POINTS IN THE LAKE COUNTY CONTROLS CONSULTANT TO IDENTIFY THESE POINTS THAT DO NOT APPLY TO THE WORK. THEY SHALL BE DELETED FROM THE EQUIPMENT SUPPLIER'S BACNET INTERFACE DEVICE IF THEY ARE NOT USED IN THE WORK. DIVISION 25 IS RESPONSIBLE FOR NETWORKING TO THIS DEVICE. SEE DIVISION 25 FOR BACNET AND NETWORKING DETAILS. ALL NON-IP BAS WIRING SHALL BE IN BLUE CONDUIT THE BASIS OF DESIGN FOR THIS DEVICE IS EBTRON. ALL AFSS SHALL COME WITH THE EQUIVALENT OF AN EBTRON GOLD GTC116 AFS OR APPROVED EQUAL. DIVISION 25 SHALL CONNECT THESE DEVICES TO A NEW MS/TP TRUNK OF DEVICES THAT IS IN TURN CONNECTED TO A NEW BACNET/IP PANEL. SEE DIVISION 25 BACNET SINGLE LINE DIAGRAM

FOR DETAILS. THERE IS NO HARDWIRED CONNECTION TO THIS DEVICE. ALL DATA SHALL BE TRANSMITTED OVER THE BACNET MS/TP NETWORK. CONTROLLER SHALL BE A BACNET/IP PLANT CONTROLLER TYPE OF BACNET INTERFACE DEVICE. THIRD PARTY GATEWAYS ARE NOT ALLOWED IN THE WORK. NOTE THAT THE BACNET/IP GATEWAY SHALL BE A FACTORY AUTHORIZED PRODUCT PROVIDED BY THE EQUIPMENT SUPPLIER. PROVIDE PROOF OF THIS DURING THE SUBMITTAL PROCESS. SEE DIVISION 25 FOR DETAILS ON THE BACNET OBJECT LIST TO BE PROVIDED AS BACNET AVS, BVS AND MSVS BY THE EQUIPMENT SUPPLIER. POINT NAMES AND DEVICE NAMES SHALL BE WRITABLE IN THE EQUIPMENT SUPPLIER'S BACNET INTERFACE DEVICE SO THE NAMES CAN BE CHANGED TO THE LAKE COUNTY STANDARD. DEVICES THAT DO NOT SUPPORT WRITEABLE DEVICE AND POINT NAMES ARE NOT ALLOWED IN THE WORK. IF THERE ARE POINTS IN THE DEVICE THAT DO NOT APPLY TO THE WORK. THE EQUIPMENT SUPPLIER SHALL WORK ON SITE WITH THE LAKE COUNTY CONTROLS CONSULTANT TO IDENTIFY THESE POINTS THAT DO

NOT APPLY TO THE WORK. THEY SHALL BE DELETED FROM THE EQUIPMENT SUPPLIER'S BACNET INTERFACE DEVICE IF THEY ARE NOT USED IN THE WORK. SEE DIVISION 25 FOR BACNET AND NETWORKING DETAILS. ELECTRICAL SHALL PROVIDE AN IP DROP TO THE BACNET/IP DEVICE IN GOLD CONDUIT C/W A PULL WIRE SO DIVISION 27 CAN INSTALL PURPLE CAT 6 CABLE TO THE LAKE COUNTY STANDARD FROM THE DEVICE TO DESIGNATED PATCH PANEL. ALL NON-IP BAS WIRING SHALL BE IN BLUE CONDUIT. THE BASIS OF DESIGN IS MULTISTACK. THE HEAT PLANT CONTROLLER SHALL COME WITH THE EQUIVALENT OF A MULTISTACK CONTROLLER OR APPROVED EQUAL. THE PLANT CONTROLLER SHALL RECEIVE A SINGLE PLANT SETPOINT FROM THE BAS VIA A HARDWIRED CONNECTION. THE PLANT CONTROLLER SHALL SUPPORT THE MANUAL MODULE CONTROL THROUGH THE BAS BY MEANS OF THE PROVIDED FLOW SWITCH (EVAP AND COND) AND PHASE MONITOR PER EACH MODULE. PLE PLANT CONTROLLER SHALL COME C/W AN EMBEDDED LINUX WEBSERVER FOR CONFIGURATION. ALL OTHER DATA SHALL BE TRANSMITTED OVER THE BACNET/IP NETWORK. SEE DIVISION 25 FOR DETAILS!

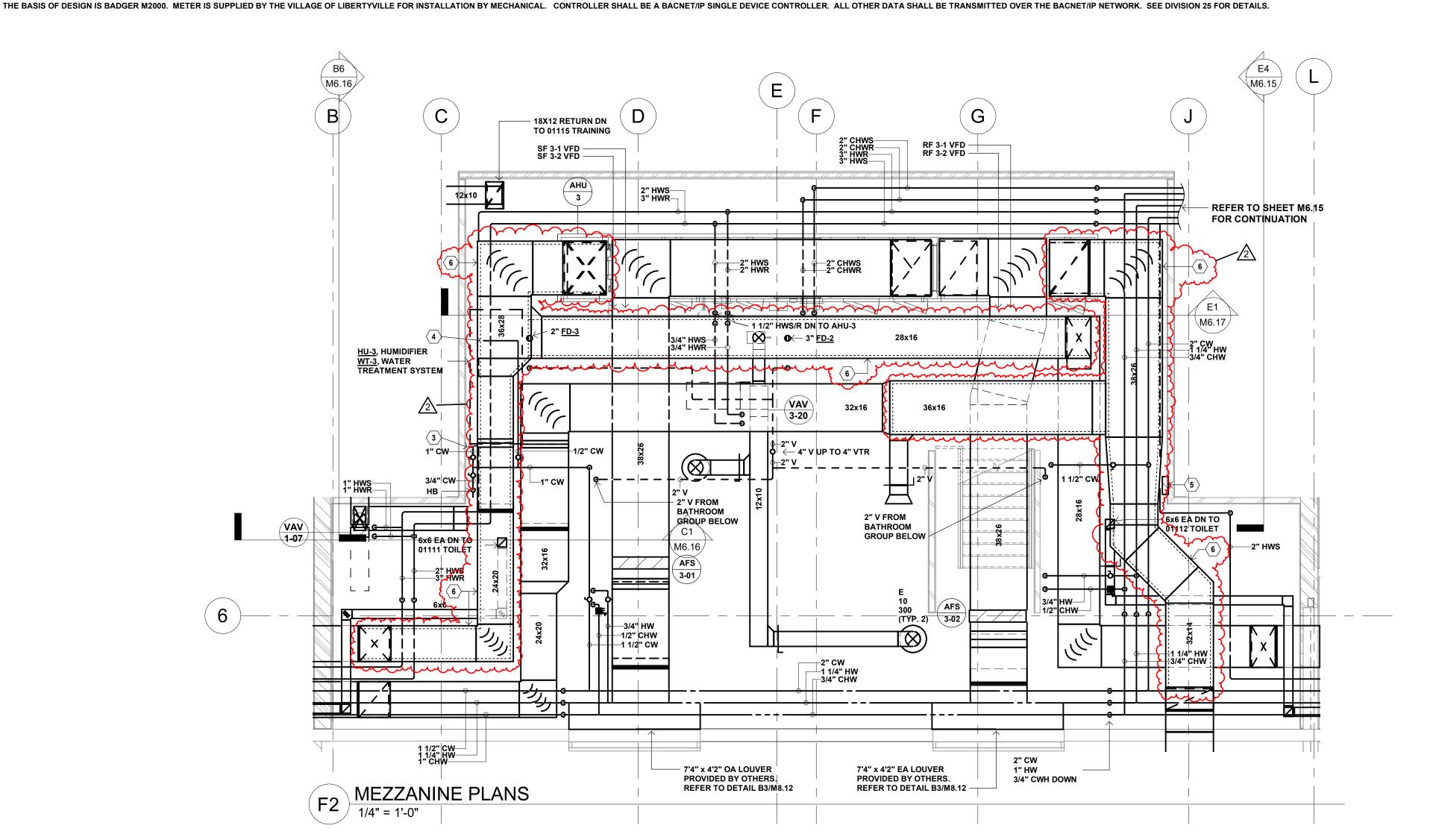
CONTROLLER SHALL BE A BACNET/IP SINGLE DEVICE CONTROLLER TYPE OF BACNET INTERFACE DEVICE. THIRD PARTY GATEWAYS ARE NOT ALLOWED IN THE BACNET/IP GATEWAY SHALL BE A FACTORY AUTHORIZED PRODUCT PROVIDED BY THE EQUIPMENT SUPPLIER.

PROVIDE PROOF OF THIS DURING THE SUBMITTAL PROCESS. SEE DIVISION 25 FOR DETAILS ON THE BACNET OBJECT LIST TO BE PROVIDED AS BACNET AVS, BVS AND MSVS BY THE EQUIPMENT SUPPLIER'S BACNET INTERFACE DEVICE SO THE NAMES CAN BE CHANGED TO THE LAKE COUNTY STANDARD. DEVICES THAT DO NOT SUPPORT WRITEABLE DEVICE AND POINT NAMES ARE NOT ALLOWED IN THE WORK, THE EQUIPMENT SUPPLIER SHALL WORK ON SITE WITH THE LAKE COUNTY CONTROLS CONSULTANT TO IDENTIFY THESE POINTS THAT DO NOT APPLY TO THE WORK. THEY SHALL BE DELETED FROM THE EQUIPMENT SUPPLIER'S BACNET INTERFACE DEVICE IF THEY ARE NOT USED IN THE WORK. SEE DIVISION 25 FOR BACNET AND NETWORKING DETAILS. ELECTRICAL SHALL PROVIDE AN IP DROP TO THE BACNET/IP DEVICE IN GOLD CONDUIT C/W A PULL WIRE SO DIVISION 27 CAN INSTALL PURPLE CAT 6 CABLE TO THE LAKE COUNTY STANDARD FROM THE DEVICE TO DESIGNATED PATCH PANEL. ALL NON-IP BAS WIRING SHALL BE IN BLUE CONDUIT. THE BASIS OF DESIGN IS FULTON. THE ELECTRIC BOILER BACNET SINGLE DEVICE CONTROLLER SHALL COME WITH THE EQUIVALENT OF A PRECISION BOILER PCW COMPAC CONTROLLER SHALL RECEIVE THE SETPOINT FROM THE BAS VIA A HARDWIRED CONNECTION. THE SINGLE DEVICE

CONTROLLER SHALL COME C/W AN EMBEDDED LINUX WEBSERVER FOR CONFIGURATION. ALL OTHER DATA SHALL BE TRANSMITTED OVER THE BACNET/IP NETWORK. SEE DIVISION 25 FOR DETAILS. CONTROLLER SHALL BE A BACNET/IP SINGLE DEVICE CONTROLLER TYPE OF BACNET INTERFACE DEVICE. THIRD PARTY GATEWAYS ARE NOT ALLOWED IN THE BACNET/IP GATEWAY SHALL BE A FACTORY AUTHORIZED PRODUCT PROVIDED BY THE EQUIPMENT SUPPLIER. PROVIDE PROOF OF THIS DURING THE SUBMITTAL PROCESS. SEE DIVISION 25 FOR DETAILS ON THE BACNET OBJECT LIST TO BE PROVIDED AS BACNET AVS. BVS AND MSVS BY THE EQUIPMENT SUPPLIER. POINT NAMES AND DEVICE NAMES SHALL BE WRITABLE IN THE EQUIPMENT SUPPLIER'S BACNET INTERFACE DEVICE SO THE NAMES CAN BE CHANGED TO THE LAKE COUNTY STANDARD. DEVICES THAT DO NOT SUPPORT WRITEABLE DEVICE AND POINT NAMES ARE NOT ALLOWED IN THE WORK, THE EQUIPMENT SUPPLIER SHALL WORK ON SITE WITH THE LAKE COUNTY CONTROLS CONSULTANT TO IDENTIFY THESE

POINTS THAT DO NOT APPLY TO THE WORK. THEY SHALL BE DELETED FROM THE EQUIPMENT SUPPLIER'S BACNET INTERFACE DEVICE IF THEY ARE NOT USED IN THE WORK. SEE DIVISION 25 FOR BACNET AND NETWORKING DETAILS. ELECTRICAL SHALL PROVIDE AN IP DROP TO THE BACNET/IP DEVICE IN GOLD CONDUIT C/W A PULL WIRE SO DIVISION 27 CAN INSTALL PURPLE CAT 6 CABLE TO THE LAKE COUNTY STANDARD FROM THE DEVICE TO DESIGNATED PATCH PANEL. THE BASIS OF DESIGN IS DRI-STEEM. CONTROLLER SHALL BE A BACNET/IP SINGLE DEVICE CONTROLLER SHALL COME WITH THE EQUIVALENT OF A DRI-STEEM VAPORLOGIC CONTROLLER OR APPROVED EQUAL. THE SINGLE DEVICE CONTROLLER SHALL RECEIVE THE SETPOINT FROM THE BAS VIA A HARDWIRED CONNECTION. THE SINGLE DEVICE CONTROLLER SHALL COME C/W AN EMBEDDED LINUX WEBSERVER FOR CONFIGURATION. ALL OTHER DATA SHALL BE TRANSMITTED OVER THE BACNET/IP NETWORK. SEE DIVISION 25 FOR DETAILS.

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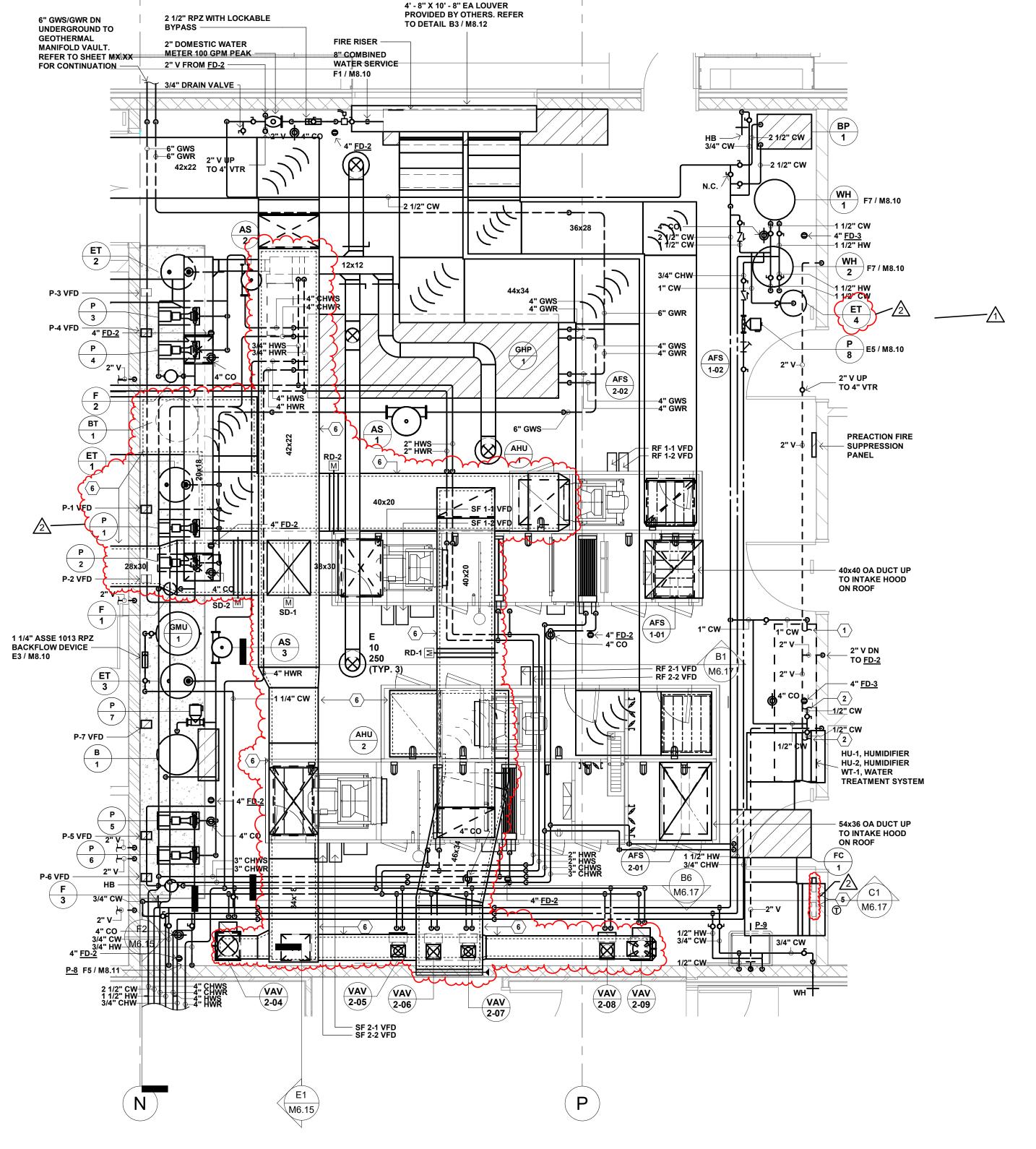


BOILER ROOM PLAN GENERAL NOTES: CONNECT 1" CW TO WT-1 SOFTENER SYSTEM. 1. ALL RISES AND DROPS IN DUCTWORK ARE NOT THEN CONNECT SOFT CW TO WT-1 R.O. SYSTEM, NECESSARILY SHOWN. LAYOUT ROUTING AND THEN CONNECT R.O. WATER TO HU-1 AND HU-2 COORDINATE WORK WITH OTHER TRADES BEFORE **HUMIDIFIERS. ROUTE ALL EQUIPMENT DRAINS TO** 2. MECHANICAL CONTRACTOR SHALL BE CONNECT 1/2" CW TO HU-1 AND HU-2 HUMIDIFIER RESPONSIBLE FOR CUTTING AND PATCHING OF DRAIN WATER TEMPERING SYSTEM. ROUTE CONSTRUCITON UNLESS OTHERWISE NOTED ON HUMIDIFIER DRAINS TO FLOOR DRAIN. THE PLANS. NO CUTTING OF STRUCTURAL MEMBERS OR STRUCTURE WHICH WILL CONNECT 1" CW TO WT-3 SOFTENER SYSTEM, DETERIORATE THE INTEGRITY AND STRENGTH OF THEN CONNECT SOFT CW TO WT-3 R.O. SYSTEM. THE BUILDING WILL BE ALLOWED WITHOUT WRITTEN THEN CONNECT R.O. WATER TO HU-3 HUMIDIFIER. APPROVAL FROM THE STRUCTURAL ENGINEER. ROUTE ALL EQUIPMENT DRAINS TO FLOOR DRAIN. 3. VERIFY EXACT LOCATIONS OF FLOOR DRAINS CONNECT 1/2" CW TO HU-3 HUMIDIFIER DRAIN WITH ARCHITECTURAL PLANS. WATER TEMPERING SYSTEM. ROUTE HUMIDIFIER DRAIN TO FLOOR DRAIN. 4. REFER TO ARCHITECTURAL PLANS FOR CONCRETE CURBS AND PADS. COORDINATE EXACT SIZES AND LOCATIONS. BACnet IP BAS PANEL. COORDINATE FINAL LOCATION WITH DIV. 23/25/26/27 CONTRACTORS 5. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED REINFORCEMENT 6 DUCTWORK SHOWN WITH INNER DASHED LINE OF NEW AND EXISTING STRUCTURAL MEMBERS FOR SHALL BE CONSTRUCTED FROM PERFORATED MECHANICAL SYSTEMS. REFER TO "MECHANICAL DOUBLE-WALL DUCTWORK. SUPPORT REINFORCEMENT DETAIL" FOR ADDITIONAL REQUIREMENTS. 6 CONTRACTOR TO PROVIDE BIM CLASH **DETECTION IN ACCORDANCE WITH ALL**

REQUIREMENTS AS INDICATED IN SPECIFICATION

Regional **Operations and BOILER ROOM PLAN KEYED NOTES: Communications** Lake County Campus

WOLD ARCHITECTS AND ENGINEERS 220 North Smith Street, Suite 310 Palatine, Illinois 60067 woldae.com | 847 241 6100

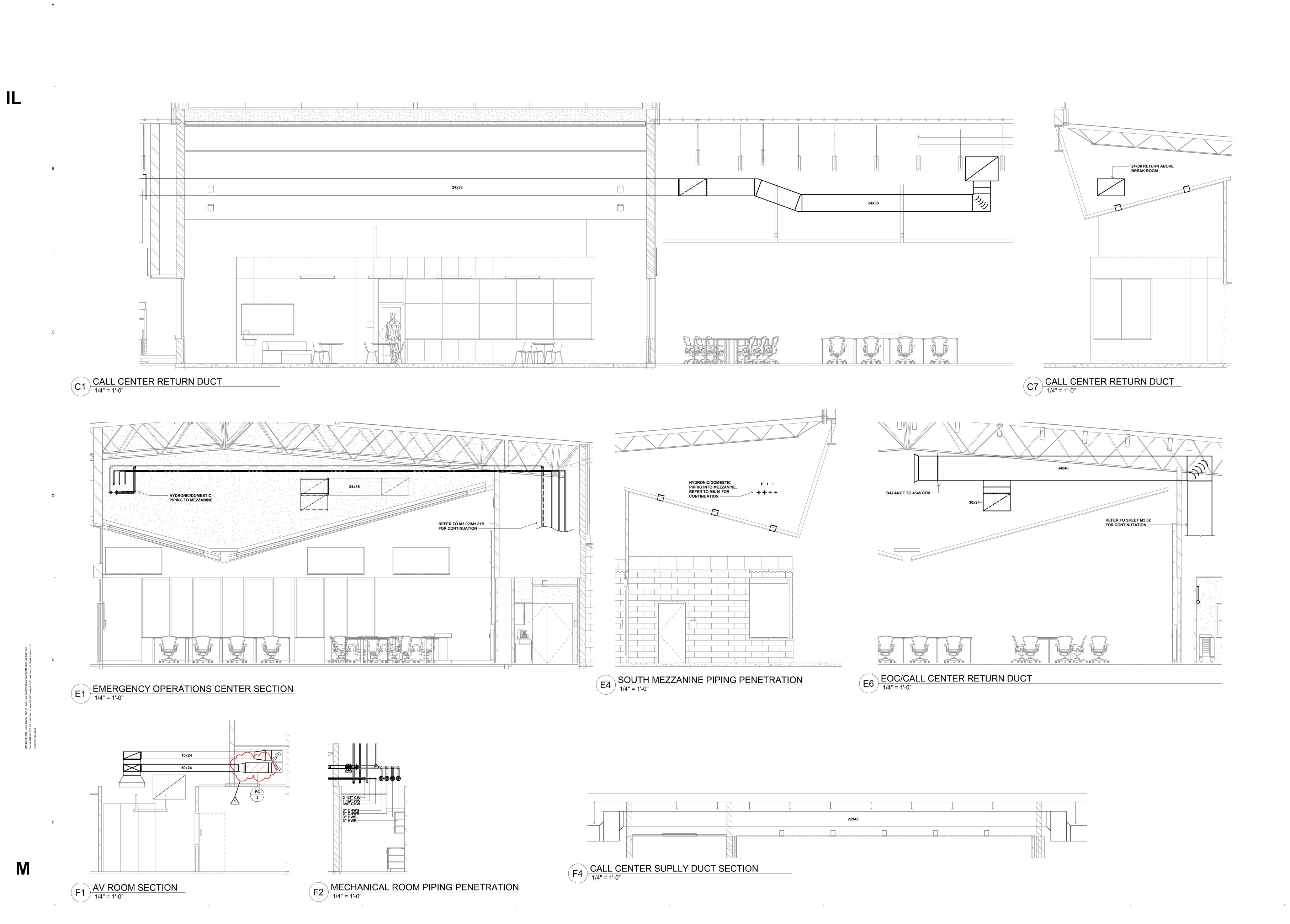


BOILER/MECHANICAL ROOM PLAN

hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed PROFESSIONAL ENGINEER under the laws of the State of ILLINOIS Date 12/30/2022 Addendum #2

Date: 12/30/2022

BOILER AND MECHANICAL ROOM PLAN

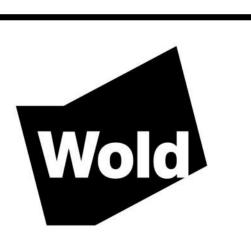


Regional
Operations and
Communications
Facility

Lake County Campus Libertyville, IL 60048



656 Winchester Rd, Libertyville, IL 60048



WOLD ARCHITECTS
AND ENGINEERS

220 North Smith Street, Suite 310
Palatine, Illinois 60067

woldae.com | 847 241 6100

RossDrulisCusenbery ARCHITECTUR



I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed PROFESSIONAL ENGINEER
under the laws of the State of ILLINOIS

License Matthew T. Verdun
Number: 062-059546 Date 12/30/2022

Revisions

Description

Addendum #3

03/03/23

Comm: 213106

Date: 12/30/2022

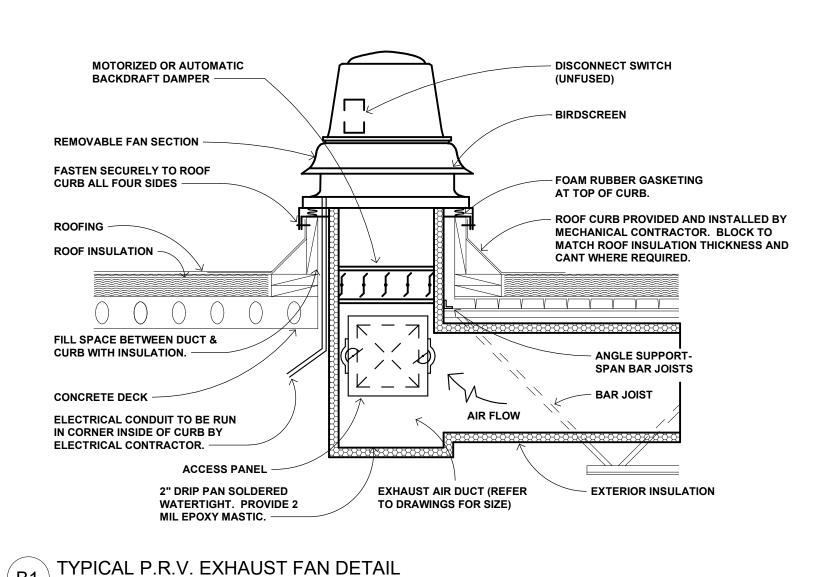
Drawn: KO

Check: RP

SECTION VIEWS

Scale: **1/4" = 1'-0"**

M6.15



HEATING COIL, MOTORIZED DAMPER,

MEASURING STATION, AND INLINE FAN.

FIRE/SMOKE DAMPER, AIR FLOW

PROVIDE AIR TIGHT GASKET

AROUND ENTIRE PERIMETER

──12" MIN.—

1. ACCESS PANEL SHALL BE AS DIMENSIONED ABOVE W/ 12" MIN.

MOTORIZED DAMPERS, SMOKE/FIRE DAMPERS, INTAKE LOUVERS AND

PROVIDE 4 LATCHES ON DIMENSIONS LARGER THAN 12 INCHES.

2. PROVIDE ACCESS PANELS AT ALL IN-DUCT HEATING COILS,

AIRFLOW MEASURING STATIONS, AND INLINE FANS.

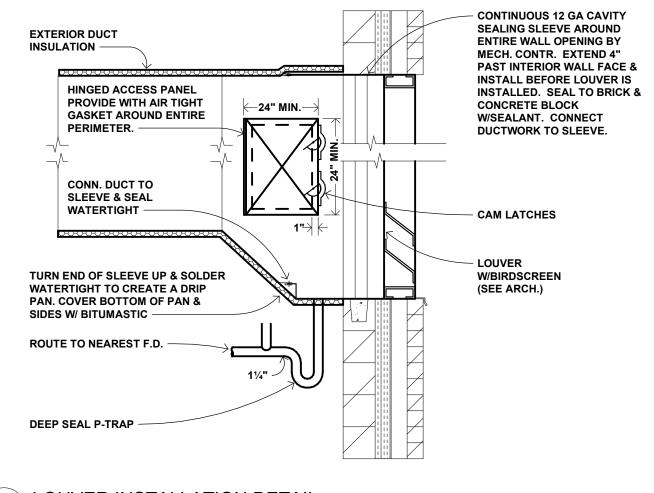
OF ACCESS PANEL -

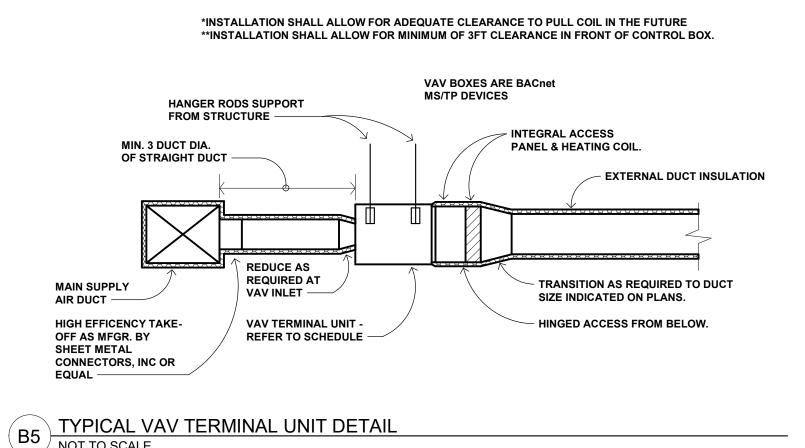
DUCT OPENING -

AIR FLOW

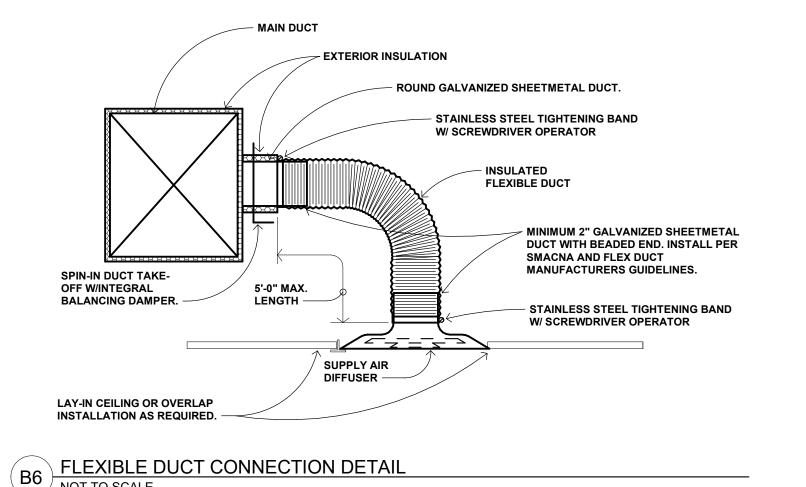
C1 ACCESS PANEL DETAIL

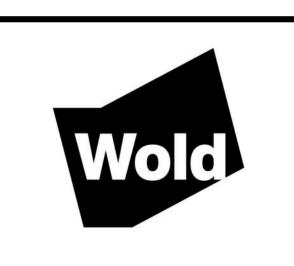
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656 Winchester Rd, Libertyville, IL

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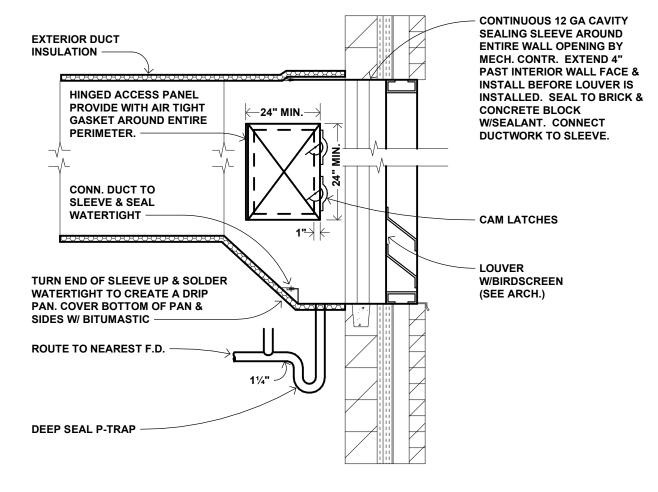
Libertyville, IL 60048

Operations and

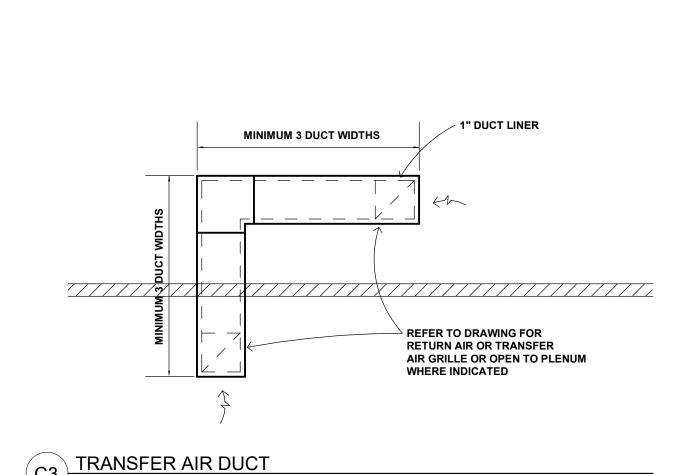
Communications

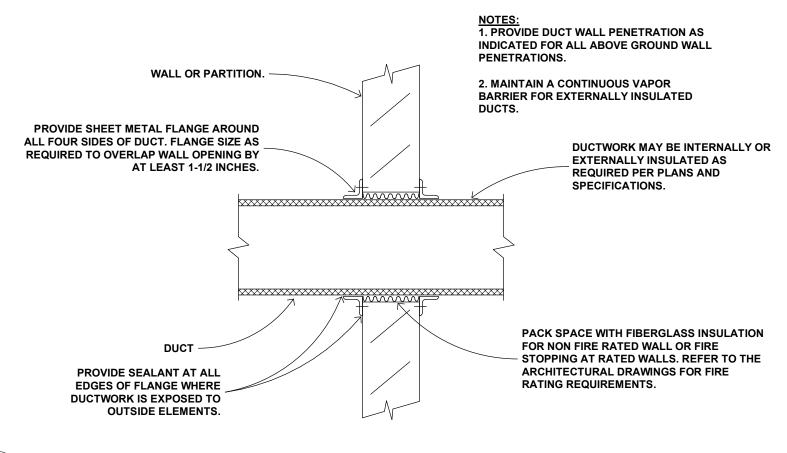
WOLD ARCHITECTS AND ENGINEERS 220 North Smith Street, Suite 310 Palatine, Illinois 60067 woldae.com | 847 241 6100

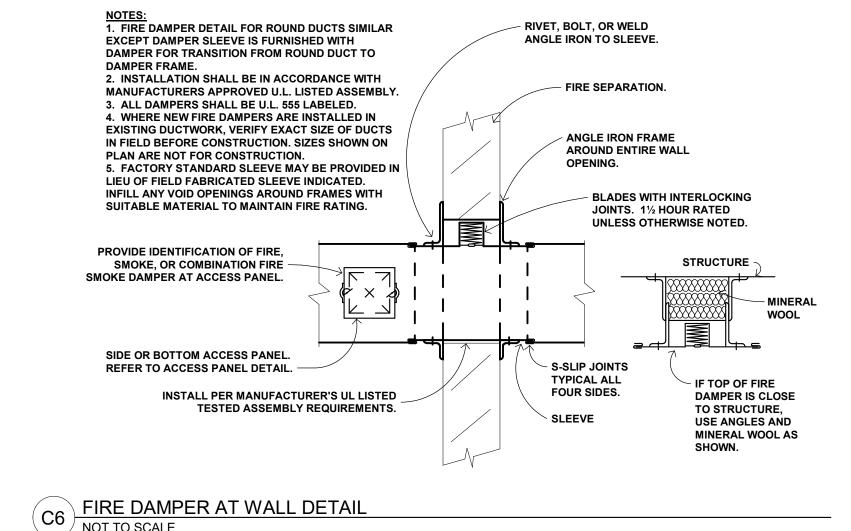
RosDrulisCusenbery ARCHITECTUR





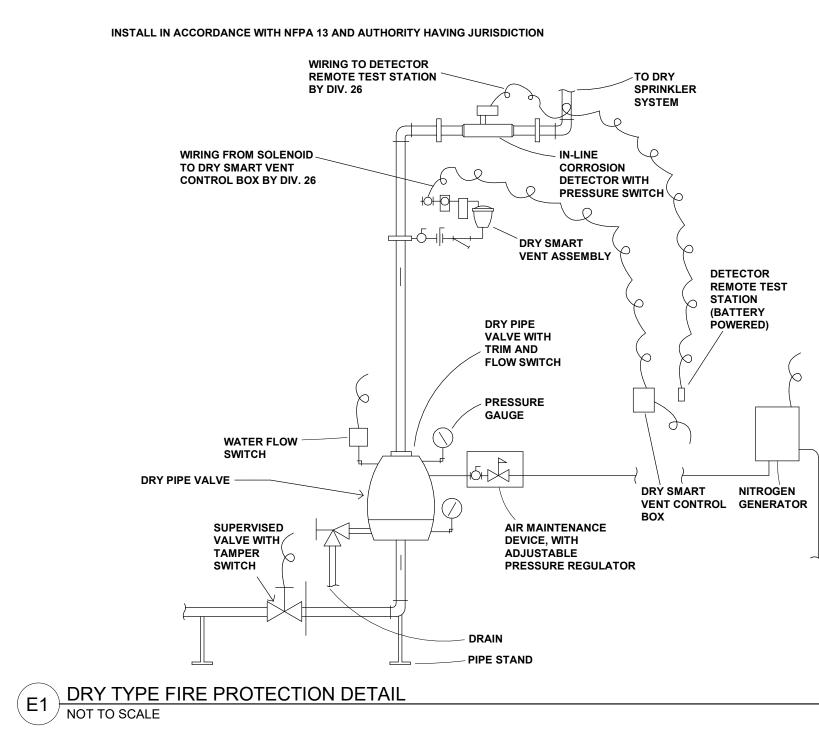


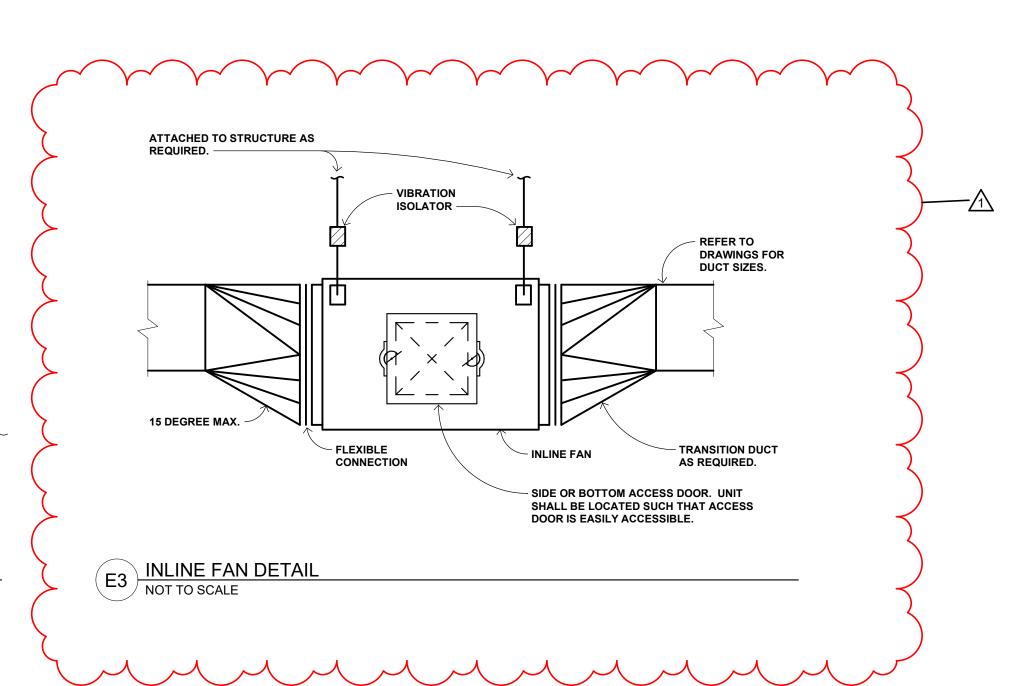




/ NOT TO SCALE









I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed PROFESSIONAL ENGINEER under the laws of the State of ILLINOIS Number: **062-059546** Date 12/30/2022 Revisions Addendum #3

MECHANICAL DETAILS

Comm: **213106** Date: 12/30/2022

8" 55.0 85.7 20.0 3.0 125.0 110.5 1.44

2-WAY 1,2,3,4,5,6,7,8,9,10

NOTES:

1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.

2. SMOKE DETECTORS ARE PROVIDED BY ELECTRICAL CONTRACTOR AND INSTALLED BY ELECTRICAL CONTRACTOR. COORDINATE EXACT LOCATIONS.

3. REFER TO DETAIL SHEETS FOR COIL PIPING CONNECTIONS.

REFER TO SECTIONS OF UNITS ON MECHANICAL ROOM SHEETS FOR UNIT COMPONENTS.
 ENTERING HOT WATER TEMPERATURE IS 125° F, LEAVING TEMPERATURE IS 105° F. UNIT IS SELECTED BASED ON 35% PROPYLENE GLYCOL.
 ENTERING CHILLED WATER TEMPERATURE IS 42° F, LEAVING TEMPERATURE IS 58° F. UNIT IS SELECTED BASED ON 35% PROPYLENE GLYCOL.

7. PROVIDE ACCESS SECTION BETWEEN HEATING AND COOLING COILS.

8. SUPPLY AND RETURN FANS INDICATED ARE CONTROLLED BY VARIABLE FREQUENCY DRIVES PROVIDED BY THE BUILDING AUTOMATION SYSTEM CONTRACTOR. ALL VARIABLE FREQUENCY DRIVES FOR THE ENTIRE PROJECT SHALL BE BY THE SAME MANUFACTURER.

9. PROVIDE INIT WITH MINIMUM 6" PASSEAUL BEEER TO THE DIAMS FOR THE CONCRETE PARTIE CONCRETE PARTIE DRAIN RIPING DETAIL

9. PROVIDE UNIT WITH MINIMUM 6" BASERAIL. REFER TO THE PLANS FOR THE CONCRETE PAD HEIGHT. REFER TO THE CONDENSATE DRAIN PIPING DETAIL.

1. REFER TO THE ENERGY REGOVERY UNIT SCHEDULE FOR THE ASSOCIATED ENERGY REGOVERY SECTION OF THE AIR HANDLING UNIT.

12. SEE MECHANICAL ROOM PLAN AND DIV. 25 FOR BACNET INTERFACE DEVICE REQUIREMENTS.

13. TOP OF UNIT SHALL BE NO MORE THAN 92" ABOVE FINISHED FLOOR.
14. TOP OF UNIT SHALL BE NO MORE THAN 98" ABOVE FINISHED FLOOR.
15. TOP OF UNIT SHALL BE NO MORE THAN 91" ABOVE FINISHED FLOOR.

ENERGY RECOVERY SECTION SCHEDULE COOLING SEASON REMARKS ASSOCIATED TYPE SUPPLY AIR DATA EXHAUST AIR DATA SUPPLY AIR DATA EXHAUST AIR DATA AIR HANDLING UNIT (HX/WHEEL) VOLTS/PH CEM EAT LAT CEM EAT LAT CFM EAT (DB/WB) LAT (DB/WB) CFM EAT (DB/WB) LAT (DB/WB) 1,700 -10 56.8 1,700 70 5.2 0.82 1,700 90/76 76.6/65.1 1,700 74/62 87.1/73.4 0.82 NOTES:

1. REFER TO THE AIR HANDLING UNIT SCHEDULE FOR THE ASSOCIATED AHU.
2. THIS DEVICE IS A STICK BUILT BACNET INTERFACE DEVICE WITH NO FACTORY MOUNTED CONTROLS. SEE DRAWINGS AND SPECIFICATIONS FOR SITE POINTS TO BE SUPPLIED AND INSTALLED BY DIV. 25.

| VAV | TERMINAL UNIT SCHEDULE (x) | | | | | | | | | | | | | | | | | |
|----------|---|--------------|---------|---------|---------|---------|----------------------------------|------------|------|------|------|-------|----------|-------|-----------|--------------|---------|----------------------|
| | | | coo | LING | HEA | TING | MAY AID D D | | | | RI | EHEAT | COIL DA1 | Α | | | CONTROL | |
| UNIT NO. | SERVES | MANUFACTURER | MAX CFM | MIN CFM | MAX CFM | MIN CFM | MAX AIR P.D. W/COIL (IN W.G.) | INLET SIZE | EAT | LAT | МВН | 1 | <u> </u> | i | P.D. (FT) | MINIMUM ROWS | VALVE | REMARKS |
| VAV 1-01 | 01316 - STAFF LOCKERS | PRICE | 500 | 150 | 500 | 250 | 0.50 | 8'' | 55.0 | 91.8 | 20.0 | 5.2 | 125.0 | 116.7 | 2.19 | 4 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| VAV 1-02 | 01315 - ROLL CALL ROOM | PRICE | 930 | 280 | 930 | 470 | 0.34 | 10" | 55.0 | 84.7 | 30.0 | 4.3 | 125.0 | 109.8 | 3.28 | 3 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| VAV 1-03 | 01310C/01310/01311/01312 - STORAGE/CORRIDOR/M-F TOILETS | PRICE | 580 | 180 | 580 | 290 | 0.22 | 8'' | 55.0 | 83.5 | 18.0 | 3.7 | 125.0 | 114.5 | 3.90 | 2 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| VAV 1-04 | 01313/01314A - TRAINING MANAGER'S OFFICE/BREAKOUT ROOM | PRICE | 175 | 60 | 175 | 90 | 0.09 | 4" | 55.0 | 83.5 | 5.5 | 0.5 | 125.0 | 102.5 | 0.13 | 3 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| VAV 1-05 | 01310A/01310B - OPS WORK ROOM/QUIET ROOM | PRICE | 240 | 80 | 240 | 120 | 0.13 | 6'' | 55.0 | 83.5 | 7.5 | 1.7 | 125.0 | 115.5 | 0.61 | 2 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| VAV 1-06 | 01314 - OPERATIONS MANAGER'S OFFICE | PRICE | 240 | 80 | 240 | 120 | 0.15 | 6'' | 55.0 | 85.4 | 8.0 | 1.1 | 125.0 | 108.8 | 0.27 | 3 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| VAV 1-07 | 01115/01115A - TRAINING/TRAINING AV | PRICE | 620 | 190 | 620 | 310 | 0.25 | 8" | 55.0 | 81.7 | 18.0 | 3.4 | 125.0 | 113.5 | 3.35 | 2 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| VAV 1-08 | 01318/01318A - IT WORK ROOM/IT MANAGER'S OFFICE | PRICE | 270 | 90 | 270 | 140 | 0.18 | 6'' | 55.0 | 83.8 | 8.5 | 1.1 | 125.0 | 108.3 | 0.41 | 3 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| VAV 1-09 | 01317/01502 - TECH WORKSHOP/CORRIDOR | PRICE | 450 | 140 | 450 | 230 | 0.42 | 8'' | 55.0 | 85.6 | 15.0 | 1.7 | 125.0 | 106.2 | 0.24 | 4 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| VAV 1-10 | 01120/01125/01510/01510A/01510C - TEAMING AREA/BREAKROOM/CORRIDOR/NURSE/BUNK ROOM | PRICE | 2670 | 810 | 2670 | 1340 | 0.53 | 16" | 55.0 | 86.1 | 90.0 | 6.9 | 125.0 | 96.7 | 3.73 | 4 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| VAV 1-11 | 01504/01504A - FITNESS CENTER/LOCKERS | PRICE | 600 | 180 | 600 | 300 | 0.28 | 8" | 55.0 | 88.7 | 22.0 | 4.7 | 125.0 | 114.9 | 3.18 | 3 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| VAV 1-12 | 01511/01512 - MEN'S TOILET ROOM/WOMEN'S TOILET ROOM | PRICE | 680 | 210 | 680 | 340 | 0.34 | 8'' | 55.0 | 83.4 | 21.0 | 2.9 | 125.0 | 109.4 | 1.38 | 3 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| VAV 1-13 | 01610/01122/01620 - CORRIDOR/LOADING & STORAGE/SHIPPING & RECEIVING | PRICE | 330 | 100 | 330 | 170 | 0.34 | 6'' | 55.0 | 91.1 | 13.0 | 2.4 | 125.0 | 113.3 | 0.79 | 4 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| VAV 1-14 | 01450/01451/01402F/01620A - STORAGE ROOMS/FACILITY OPERATIONS OFFICE | PRICE | 250 | 80 | 250 | 130 | 0.14 | 6'' | 55.0 | 84.2 | 8.0 | 2.4 | 125.0 | 117.8 | 1.12 | 2 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| VAV 1-15 | 01650 - MECHANICAL & FIRE SPRINKLER ROOM | PRICE | 750 | 230 | 750 | 380 | 0.53 | 10" | 55.0 | 85.7 | 25.0 | 2.7 | 125.0 | 105.1 | 0.86 | 4 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| | | | | | | | | | | | | | | | | | | |
| VAV 2-01 | 01325 - COMMUNICATION CENTER (EXTERIOR) | PRICE | 2370 | 720 | 2370 | 1190 | 0.33 | 16" | 55.0 | 87.7 | 84.0 | 9.0 | 125.0 | 104.8 | 6.70 | 3 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| VAV 2-02 | 01325 - COMMUNICATION CENTER (NORTHERN INTERIOR) | PRICE | 2360 | 710 | 2360 | 1180 | 0.32 | 16" | 55.0 | 84.3 | 75.0 | 6.8 | 125.0 | 101.1 | 4.09 | 3 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| VAV 2-03 | 01325 - COMMUNICATOIN CENTER (SOUTHERN INTERIOR) | PRICE | 2360 | 710 | 2360 | 1180 | 0.32 | 16" | 55.0 | 84.3 | 75.0 | 6.8 | 125.0 | 101.1 | 4.09 | 3 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| VAV 2-04 | 01402/01402E - EMERGENCY OPERATIONS CENTER (INTERIOR)/COFFEE AREA | PRICE | 1880 | 570 | 1880 | 940 | 0.43 | 14" | 55.0 | 81.5 | 54.0 | 6.3 | 125.0 | 106.4 | 3.10 | 3 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| VAV 2-05 | 01402D - BREAKOUT ROOM (OPS) | PRICE | 270 | 90 | 270 | 140 | 0.24 | 6'' | 55.0 | 88.9 | 10.0 | 1.2 | 125.0 | 107.5 | 0.20 | 4 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| VAV 2-06 | 01402C - BREAKOUT ROOM (ASSESSMENT) | PRICE | 460 | 140 | 460 | 230 | 0.44 | 8'' | 55.0 | 86.9 | 16.0 | 2.1 | 125.0 | 108.1 | 0.29 | 4 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| VAV 2-07 | 01402B - BREAKOUT ROOM (RESOURCES) | PRICE | 275 | 90 | 275 | 140 | 0.25 | 6'' | 55.0 | 86.6 | 9.5 | 1.0 | 125.0 | 105.2 | 0.17 | 4 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| VAV 2-08 | 01402A - RADIO ROOM | PRICE | 460 | 140 | 460 | 230 | 0.44 | 8'' | 55.0 | 89.0 | 17.0 | 2.6 | 125.0 | 110.6 | 0.64 | 4 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| VAV 2-09 | 01402 - EMERGENCY OPERATIONS CENTER (EXTERIOR) | PRICE | 1200 | 360 | 1200 | 600 | 0.29 | 12" | 55.0 | 88.8 | 44.0 | 7.0 | 125.0 | 111.3 | 5.01 | 3 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| | | | | | | | | | | | | | | | | | | |
| VAV 3-01 | 01245/01210/01213 - ADMIN CONFERENCE ROOM/CORRIDOR/GENERAL STORAGE | PRICE | 670 | 210 | 670 | 340 | 0.44 | 10" | 55.0 | 87.9 | 24.0 | 2.8 | 125.0 | 106.3 | 0.89 | 4 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| VAV 3-02 | 01240G - EXECUTIVE DIRECTOR'S OFFICE | PRICE | 290 | 90 | 290 | 150 | 0.27 | 6'' | 55.0 | 92.9 | 12.0 | 2.2 | 125.0 | 113.4 | 0.70 | 4 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| VAV 3-03 | 01240F - DEPUTY DIRECTOR'S OFFICE | PRICE | 140 | 50 | 140 | 70 | 0.05 | 4" | 55.0 | 90.6 | 5.5 | 1.4 | 125.0 | 116.3 | 0.41 | 2 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| VAV 3-04 | 01240C/01240D/01240E - SPECIAL PROJECTS OFFICE/HUMAN RESOURCES MANAGER/FINANCE OFFICE | PRICE | 420 | 130 | 420 | 210 | 0.38 | 8'' | 55.0 | 90.0 | 16.0 | 2.4 | 125.0 | 110.5 | 0.57 | 4 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| VAV 3-05 | 01240 - OPEN OFFICE | PRICE | 675 | 210 | 675 | 340 | 0.33 | 10" | 55.0 | 80.9 | 19.0 | 2.1 | 125.0 | 105.4 | 0.78 | 3 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| VAV 3-06 | 01240B - TECH SERVICE MANAGER | PRICE | 135 | 50 | 135 | 70 | 0.05 | 4'' | 55.0 | 88.5 | 5.0 | 1.0 | 125.0 | 113.9 | 0.17 | 2 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| VAV 3-07 | 01220F - ETSB EXECTUIVE DIRECTOR | PRICE | 185 | 60 | 185 | 100 | 0.10 | 4'' | 55.0 | 89.4 | 7.0 | 1.0 | 125.0 | 110.1 | 0.25 | 3 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| VAV 3-08 | 01220G/01220H - IT DIRECTORS OFFICE/STORAGE | PRICE | 115 | 40 | 115 | 60 | 0.03 | 4'' | 55.0 | 82.2 | 3.5 | 0.5 | 125.0 | 109.7 | 0.08 | 2 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| VAV 3-09 | 01220B - CONFERENCE ROOM | PRICE | 220 | 70 | 220 | 110 | 0.11 | 6'' | 55.0 | 81.9 | 6.5 | 1.1 | 125.0 | 112.7 | 0.30 | 2 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| VAV 3-10 | 01220 - ETSB OFFICE | PRICE | 360 | 110 | 360 | 180 | 0.25 | 6'' | 55.0 | 81.7 | 10.5 | 3.6 | 125.0 | 118.6 | 2.20 | 2 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| VAV 3-11 | 01220C - SHARED OFFICE | PRICE | 210 | 70 | 210 | 110 | 0.16 | 6'' | 55.0 | 91.9 | 8.5 | 1.1 | 125.0 | 107.8 | 0.17 | 4 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| VAV 3-12 | 01220D/01220E - IT SERVICES SHARED OFFICE/G.I.S. SHARED OFFICE | PRICE | 400 | 120 | 400 | 200 | 0.46 | 6'' | 55.0 | 87.1 | 14.0 | 2.2 | 125.0 | 111.4 | 0.69 | 4 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| VAV 3-13 | 01110 - PUBLIC LOBBY | PRICE | 1080 | 330 | 1080 | 540 | 0.24 | 12" | 55.0 | 89.2 | 40.0 | 6.0 | 125.0 | 110.5 | 3.85 | 3 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| VAV 3-14 | 01420 - OPEN OFFICE | PRICE | 620 | 190 | 620 | 310 | 0.29 | 8'' | 55.0 | 87.6 | 22.0 | 4.4 | 125.0 | 114.3 | 2.86 | 3 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| VAV 3-15 | 01420F/01420G - DHS OFFICE/LCDH COORD. OFFICE | PRICE | 290 | 90 | 290 | 150 | 0.27 | 6'' | 55.0 | 89.7 | 11.0 | 1.5 | 125.0 | 109.5 | 0.25 | 4 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| VAV 3-16 | 01420E - LCEMA MANAGER'S OFFICE | PRICE | 270 | 90 | 270 | 140 | 0.24 | 6'' | 55.0 | 95.7 | 12.0 | 2.8 | 125.0 | 115.8 | 1.04 | 4 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| VAV 3-17 | 01150/01420A/01420B - CORRIDOR/COPY CENTER/STORAGE | PRICE | 440 | 140 | 440 | 220 | 0.30 | 8'' | 55.0 | 84.2 | 14.0 | 2.0 | 125.0 | 110.0 | 1.55 | 3 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| VAV 3-18 | 01410/01410B/01410C - CORRIDOR/LOCKERS/JANITOR CLOSET | PRICE | 400 | 120 | 400 | 200 | 0.46 | 6'' | 55.0 | 89.4 | 15.0 | 3.1 | 125.0 | 114.6 | 1.23 | 4 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |
| VAV 3-19 | 01410D - LCEMA ASSISTANT MANAGER'S OFFICE | PRICE | 125 | 40 | 125 | 70 | 0.05 | 4" | 55.0 | 91.3 | 5.0 | 0.6 | 125.0 | 107.6 | 0.15 | 3 | 2-WAY | 1,2,3,4,5,6,7,8,9,10 |

600 180 600 300

0.28

1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
2. ALL COILS SELECTED AT 125 °F ENTERING WATER TEMPERATURE AND 105 °F LEAVING WATER TEMPERATURE.
3. ALL COILS SHALL HAVE TYPE B COIL CONNECTIONS.

SOUTHERN MEZZANINE

4. HEATING COIL CAPACITIES ARE SELECTED AT MAXIMUM CFM.
5. PROVIDE FOR MULTIPLE ROW COILS AS REQUIRED TO MEET COIL DATA. UPSIZE BOX IF REQUIRED TO NOT EXCEED THE MAXIMUM PRESSURE DROP AS SCHEDULED.
6. COIL CONNECTIONS AND CONTROL BOX FOR EACH VAV TERMINAL SHALL BE PROVIDED IN LOCATION INDICATED ON THE HVAC FLOOR PLAN DRAWINGS.

7. PROVIDE EQUIVALENT OVAL SIZE CONNECTION TO ACCOMODATE SPECIFIC MANUFACTURER'S BOX SIZES.
8. COILS ARE SIZED WITH 35% PROPYLENE GLYCOL.
9. SEE DIV. 25 FOR BACNET INTERAFCE REQUIREMENTS.

10. DIV. 25 SHALL USE THE LIGHTING CONTROLLER OCCUPANCY/VACANCY SESNORS TO PROVIDE STANDBY OCCUPANCY TEMPERATURE SETBACK AND SET-UP CONTROL PER CALIFORNIA TITLE 24 REQ'S. IMPLEMENT THE -2-DEG F SETBACK AND +2-DEG SET-UP STRATEGY WHEN THE ROOM IS DEEMED TO BE UNOCCUPIED FOR A MINIMUM OF 30 MINUTES. RETRUN TO THE USER SPECIFIED SETPOINT WHEN THE OCCUPANCY/VACANCY SENSOR INDICATES THAT

| PUMP SCHEDULE ® | | | | | | | | | | | | | | | | | | | | |
|-----------------|-----------------------|-----------|----------------|------------|--------|--------------|--------|--------|----------|---------|---------|-------|------|--------|------|------|-------|-------|-----|---------|
| UNIT | SERVES | LOCATION | MANUFACTURER | SERIES | MODEL | TYPE | DESIGN | DESIGN | 50% FLOW | SHUTOFF | IMP. | EFF. | SUC. | DISCH. | | MO | ΓOR | | | REMARKS |
| NO. | | | | | NUMBER | | GPM | HEAD | HEAD | HEAD | SIZE | | SIZE | SIZE | RPM | H.P. | VOLTS | PHASE | VFD | |
| P-1 | GEOTHERMAL WELL FIELD | MECH ROOM | BELL & GOSSETT | e-1510 | 3GB | BASE MOUNTED | 275 | 95 | 104 | 105 | 10.375" | 63.9% | 4'' | 3" | 1800 | 15 | 460 | 3 | YES | 1,2,3,4 |
| P-2 | GEOTHERMAL WELL FIELD | MECH ROOM | BELL & GOSSETT | e-1510 | 3GB | BASE MOUNTED | 275 | 95 | 104 | 105 | 10.375" | 63.9% | 4" | 3" | 1800 | 15 | 460 | 3 | YES | 1,2,3,4 |
| P-3 | CHILLED WATER SYSTEM | MECH ROOM | BELL & GOSSETT | e-1510 | 2BD | BASE MOUNTED | 187 | 75 | 86 | 87.2 | 9.25" | 69.5% | 2.5" | 2" | 1800 | 7.5 | 460 | 3 | YES | 1,2,3,4 |
| P-4 | CHILLED WATER SYSTEM | MECH ROOM | BELL & GOSSETT | e-1510 | 2BD | BASE MOUNTED | 187 | 75 | 86 | 87.2 | 9.25" | 69.5% | 2.5" | 2" | 1800 | 7.5 | 460 | 3 | YES | 1,2,3,4 |
| P-5 | HEATED WATER SYSTEM | MECH ROOM | BELL & GOSSETT | e-1510 | 2BD | BASE MOUNTED | 174 | 80 | 87 | 89.2 | 9.5" | 74.4% | 2.5" | 2" | 1800 | 7.5 | 460 | 3 | YES | 1,2,3,4 |
| P-6 | HEATED WATER SYSTEM | MECH ROOM | BELL & GOSSETT | e-1510 | 2BD | BASE MOUNTED | 174 | 80 | 87 | 89.2 | 9.5" | 74.4% | 2.5" | 2" | 1800 | 7.5 | 460 | 3 | YES | 1,2,3,4 |
| P-7 | BOILER CIRC PUMP | MECH ROOM | BELL & GOSSETT | e-80 | 3x3x7C | INLINE | 76 | 20 | 22 | 23 | 5" | 63.9% | 3" | 3" | 1800 | 1 | 460 | 3 | YES | 1,2,3,4 |
| P-8 | DOMESTIC HOT WATER | MECH ROOM | BELL & GOSSETT | ECOCIRC XL | 20-35 | INLINE | 1.25 | 15 | | | | | 3/4" | 3/4" | - | 1/12 | 120 | 1 | NO | 1,4 |
| | | | | | | | | | | | | | | | | | | | | |

NOTES:

VAV 3-20

NOTES:

INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
 VARIABLE FREQUENCY DRIVES SHALL BE PROVIDED BY THE BUILDING AUTOMATION SYSTEM CONTRACTOR. ALL VARIABLE FREQUENCY DRIVES FOR THE ENTIRE PROJECT SHALL BE BY THE SAME MANUFACTURER.
 SELECT AT 35% PROPYLENE GLYCOL.

4. SEE MECHANICAL ROOM PLAN AND DIV. 25 FOR THE PUMP BACNET INTERFACE DEVICE REQUIREMENTS.

| FIF | RE PUMP SCHEDULE | FP 'X' | | | | | | | | | | | | | | | |
|-------------|---------------------------|--|--------------|-----------------|------------------|---------------|----------------------|-----------------------|--------------|-------|--------------|----------------|------|-----|--------------|-------|---------|
| UNIT NO. | SERVES | LOCATION | MANUFACTURER | MODEL NUMBER | TYPE | DESIGN GPM | DESIGN HEAD (psi) | SHUTOFF HEAD (psi) | IMP. SIZE | EFF. | SUC. SIZE | DISCH. SIZE | RPM | | TOR VOLTS | PHASE | REMARKS |
| FP-1 | FIRE PROTECTION - PRIMARY | MECHANICAL AND FIRE SPRINKLER ROOM - 01650 | PENTAIR | 4-383-7C | VERTICAL INLINE | 500 | 50 | 61 | 6" | 67.3% | 4" | 4" | 3560 | 25 | 460 | 3 | 1,2,3 |
| FP-2 | FIRE PROTECTION - JOCKEY | MECHANICAL AND FIRE SPRINKLER ROOM - 01650 | PENTAIR | PVM1-10 | STACKABLE JOCKEY | 10 | 90 | 125 | <u>.</u> | 52.4% | 1.25" | 1.25" | 3500 | 1.5 | 208 | 3 | 1,2,3 |

INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
 PROVIDE WITH FIRE PUMP AND JOCKEY PUMP CONTROLLERS. CONTROLLERS TO BE SOLID STATE SOFT START.
 SEE MECHANICAL ROOM PLAN AND DIV. 25 FOR THE PUMP BACNET INTERFACE DEVICE REQUIREMENTS.

| GEC | THERMAL HEAT | PUMP SCH | EDULE | GHP 'X' | | | | | | | | | | | | | | | | | | |
|----------|-----------------------|--------------|-------------|-----------------|------------------|----------------------|--------|----------------------------|-----------------|------------------------------|-----|------|------|-----------------|-----------------------------|------|--------|------|-----|-------|-----|---------|
| UNIT NO. | SERVES | MANUFACTURER | MODEL NO. | COMPRESSOR TYPE | REFRIGERANT TYPE | NUMBER OF MODULES | MODULE | PIPE CONNECTION SIZE | LOAD EWT/LWT | COOLING SOURCE EWT/LWT | | TONS | СОР | LOAD EWT/LWT | HEATIN SOURCE EWT/LWT | GPM, | OUTPUT | СОР | | PHASE | MCA | REMARKS |
| GHP-1 | GEOTHERMAL WELL FIELD | MULTISTACK | (3) MSH030X | HERMETIC SCROLL | R410A | 3 | 30 | 6" | 58/42 | 90/100 | 143 | 88.8 | 4.27 | 105/125 | 30/25 | 99 | 924.8 | 3.17 | 460 | 3 | 199 | 1,2,3,4 |
| | | | | | | | | | | | | | | | | WW. | سسر | | | | | |

1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
2. SELECT AT 35% PROPYLENE GLYCOL.+

PLUMBING FIXTURE SCHEDULE FIXTURE TYPE WASTE **VENT** CW HW REMARKS P-1 WATER CLOSET 1 1/4" 4" 2" ADA COMPLIANT P-1H WATER CLOSET (ADA) 4" 2" 1 1/4" URINAL 1 1/2" ADA COMPLIANT P-2H URINAL (ADA) 1 1/2" **ADA COMPLIANT** P-3H LAVATORY (ADA) 1 1/2" P-4H SHOWER (ADA) 1/2" ADA COMPLIANT 1 1/2" 1 1/2" P-5AH 1-COMPARTMENT SINK (ADA) **ADA COMPLIANT** P-5BH 1-COMPARTMENT SINK - WIDE (ADA) 1 1/2" 1 1/2" **ADA COMPLIANT** P-5CH 2-COMPARTMENT SINK (ADA) 1 1/2" 1 1/2" P-6 MOP BASIN 1 1/2" **ADA COMPLIANT** P-7 ELECTRIC WATER COOLER (ADA) 1 1/2" 1 1/2" 1/2" 3/4" 3/4" P-8 EMERGENCY EYEWASH 2" 1 1/2" 1/2" 1/2" P-9 SERVICE SINK

| | UTILITY AND END USE ME | | | |
|-------------------------------|--|--|------------------|--------------------|
| END USE | METERS/DEVICE/CALCULATION | SYMBOL/DESCRIPTION | INTERVAL | VALUE(S) |
| FANS | SUM OF FAN VFD OUTPUTS | AHU-1: SF-1 VFD | 15 MIN | KW, KWH |
| | | AHU-1: SF-2 VFD | 15 MIN | KW, KWH |
| | | AHU-1: RF-1 VFD | 15 MIN | KW, KWH |
| | | AHU-1: RF-2 VFD | 15 MIN | KW, KWH |
| | | AHU-2: SF-1 VFD | 15 MIN | KW, KWH |
| | | AHU-2: SF-2 VFD | 15 MIN | KW, KWH |
| | | AHU-2: RF-1 VFD | 15 MIN | KW, KWH |
| | | AHU-2: RF-2 VFD | 15 MIN | KW, KWH |
| | | AHU-2: EW-2 VFD | 15 MIN | KW, KWH |
| | | AHU-3: SF-1 VFD | 15 MIN | KW, KWH |
| | | AHU-3: SF-2 VFD | 15 MIN | KW, KWH |
| | | AHU-3: RF-1 VFD | 15 MIN | KW, KWH |
| | | AHU-3: RF-2 VFD | 15 MIN | KW, KWH |
| | SUM OF DEDICATED FAN COIL BREAKERS | FC BREAKERS IN PANEL CL10 | 15 MIN | KW, KWH |
| | SUM OF COMPUTER ROOM UNIT FAN BREAKERS | CRU BREAKERS IN PANELS DP-CUH1A & 1B | 15 MIN | KW, KWH |
| | SUM OF DEDICATED EXHAUST FAN BREAKERS | EF BREAKERS IN PANELS CL13 & PL20 | 15 MIN | KW, KWH |
| PUMPING | SUM OF PUMP VFD OUTPUTS | GEOTHERMAL PUMP P-1 VFD | 15 MIN | KW, KWH |
| | | GEOTHERMAL PUMP P-2 VFD | 15 MIN | KW, KWH |
| | | CHILLED WATER PUMP P-3 VFD | 15 MIN | KW, KWH |
| | | CHILLED WATER PUMP P-4 VFD | 15 MIN | KW, KWH |
| | | HEATING WATER PUMP P-5 VFD | 15 MIN | KW, KWH |
| | | HEATING WATER PUMP P-6 VFD | 15 MIN | KW, KWH |
| | | BOILER CIRC PUMP P-7 VFD | 15 MIN | KW, KWH |
| | | DOM. HOT WATER PUMP P-8 ECM | 15 MIN | KW, KWH |
| INTERIOR LIGHTING | SUM OF DEDICATED LIGHTING PANELS | BREAKER FEEDING PANEL LS-H10 | 15 MIN | KW, KWH |
| | (MINUS SUM OF EXTERIOR LIGHTING SUBPANEL) | BREAKER FEEDING PANEL CH10 | 15 MIN | KW, KWH |
| | | BREAKER FEEDING PANEL PH21 | 15 MIN | KW, KWH |
| | | MINUS BREAKER FEEDING PANEL LS-H11 | 15 MIN | KW, KWH |
| | | | | |
| EXTERIOR LIGHTING | DEDICATED EXTERIOR LIGHTING PANEL | BREAKER FEEDING PANEL LS-H11 | 15 MIN | KW, KWH |
| HEATING/COOLING | SUM OF DEDICATED HEAT PUMP BREAKERS | HP BREAKERS IN PANEL DP-CH11 | 15 MIN | KW, KWH |
| TIE/TIIVO/COOLIIVO | HEAT PUMP EFFICIENCY | HEAT PUMP HP-1 | 60 MIN | COP |
| | CHILLED WATER BTU METER | BTU METER IN MECH ROOM 01650 | 15 MIN | KBTU |
| | HEATING WATER BTU METER | BTU METER IN MECH ROOM 01650 | 15 MIN | KBTU |
| | GEOTHERMAL BTU METER | BTU METER IN MECH ROOM 01650 | 15 MIN | KBTU |
| | SUM OF DEDICATED BOILER BREAKERS | HP BREAKERS IN PANEL DP-CH11 | 15 MIN | KW, KWH |
| OMESTIC HOT WATER | SUM OF DEDICATED WATER HEATER BREAKERS | WH BREAKERS IN PANEL OF CL10 | 15 MIN | KW, KWH |
| OWED HOT WATER | SOLVE OF BEBIEF WEEK THEFT EN BILLE WEEK | J THE PRESIDENCE OF SELECTION O |) | 1000,100011 |
| HEAT TRACE | SUM OF DEDICATED HEAT TRACE BREAKERS | HT BREAKERS IN PANEL CL10 & PL20 | 15 MIN | KW, KWH |
| PLUG LOAD | SUM OF UPS SYSTEMS AND | BREAKER FEEDING TC1 (CL10, CL11, CL12, CL14) | 15 MIN | KW, KWH |
| | DEDICATED RECEPTACLE PANELS | BREAKER FEEDING TC2 (CL13) | 15 MIN | KW, KWH |
| | | BREAKER PEEDING TP20 (PL10, PL11, PL20) | 15 MIN | KW, KWH |
| | | UPS A | 15 MIN | KW, KWH |
| | | UPS B | 15 MIN | KW, KWH |
| | | | | |
| HUMIDIFICATION | SUM OF DEDICATED HUMIDIFICATION EQUIPMENT BREAKERS | HUMIDIFIER BREAKERS IN PANEL DP-CH10 HUMIDIFIER BREAKER IN PANEL PH20 | 15 MIN 15 MIN | KW, KWH KW, KWH |
| | CONVERT VENTILATION VENTILATION, PUMPING, | | | |
| HVAC SYSTEMS | COOLING, HEATING, AND HUMIDIFICATION END USES TO | N/A | 60 MIN | KBTU |
| | BTU'S AND SUM TO PROVIDE TOTAL HVAC SYSTEM ENERGY | • | | |
| TOTAL ELECTRICITY | DEDICATED ELECTRICITY METER | UTILITY PROVIDED METER | 15 MIN | KW, KWH |
| · · | ADD MAIN SERVICE AND GENERATOR TOGETHER | OWNER METER AT MAIN SERVICE | 15 MIN | KW, KWH |
| | PV + UTILITY IS EQUIVALENT TO OWNER METER | METER AT GENERATOR BREAKER | 15 MIN | KW, KWH |
| | | METER AT PHOTOVOLTAIC BREAKER | 15 MIN | KW, KWH |
| | | | | |
| POTABLE WATER | DEDCIATED WATER METER | UTILITY PROVIDED METER | 15 MIN | GAL |
| | WATER SUBMETER | UTILITY PROVIDED METER | 15 MIN | GAL |
| IRRIGATION | | FUEL METER PROVIDED WITH INTEGRAL | 15 MIN | GAL |
| GENERATOR FUEL CONSUMPTION | FUEL SUBMETER | GENERATOR BELLY TANK | 13 141114 | O/ (E |
| GENERATOR FUEL CONSUMPTION | | GENERATOR BELLY TANK | | |
| GENERATOR FUEL | GLOBAL OA TEMP SENSOR GLOBAL OA HUMIDITY SENSOR | | 15 MIN 15 MIN | TEMP (OF |

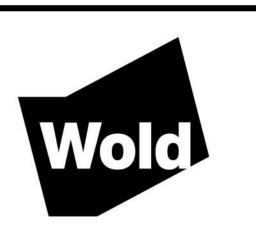
1. DIV. 23 AND DIV. 25 SHALL COORDINATE WITH DIV. 26 CONTRACTOR. REFER TO DRAWING E5.01 FOR RISER DIAGRAM.

Regional Operations and Communications Facility

Lake County Campus Libertyville, IL 60048



656 Winchester Rd, Libertyville, IL



WOLD ARCHITECTS
AND ENGINEERS

220 North Smith Street, Suite 310
Palatine, Illinois 60067

woldae.com | 847 241 6100

RosDrulisCusenbery ARCHITECTURE



I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed **PROFESSIONAL ENGINEER** under the laws of the State of **ILLINOIS**

Addendum #3 03/03/23

Comm: 213106

Date: 12/30/2022

Drawn: KO

Check: RP

SCHEDULES

M9 10

ACCEPTANCE

VOLUME

PEAK FLOW MINIMUM

(GPM)

PER PUMP SUCTION

I PRESSURE

TANK

HEIGHT

DIAMETER

PRESSURE

REQUIRED AT

DISCHARGE HEADER

(INCHES) (INCHES)

62-3/8" 4"/4" BT-1 CHILLED WATER SYS. AMTROL CWBT200-4 1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. AIR FLOW STATION SCHEDULE UNIT SERVES LOCATION **FACE VELOCITY** MANUF. REMARKS NO. (FPM) MECHANICAL ROOM 01650 AHU-1 OUTSIDE AIR **AHU-1 RELIEF AIR EBTRON** MECHANICAL ROOM 01650 0-8,500 0 - 1,214 **AHU-2 OUTSIDE AIR EBTRON** GTx116E-P+ MECHANICAL ROOM 01650 690-11,800 42x36 66 - 1,124

INLET/OUTLET

0-11,800

480-7,200

HIGH 60 81.3 18.5 2.0 0.3 125 105 2

EAT LAT EWT LWT ROWS GPM TOTAL CAP. SENSIBLE CAP. FLUID P.D. (FT) Control Valve VOLTS PHASE HZ FLA (MOTORS) HP TYPE

1.52

COORDINATE REQUIREMENTS WITH AHU MANUF. 480/3/60

COORDINATE REQUIREMENTS WITH AHU MANUF. 480/3/60

420 HIGH 60 92.6 14.7 1.6 0.8 125 105 1 120/60/1 PSC STD

40x38

32x28

HEIGHT

MECHANICAL ROOM 01650

MECHANICAL ROOM 01650

GTx116E-P+ MECHANICAL ROOM 01650

BLOWDOWN

REMARKS

0 - 1,124

77 - 1,161

ELECTRICAL

120/60/1 PSC STD

120/60/1 PSC STD

2-WAY 120 1 60 9.6 (2) 1/3 ECM 3 SPD

2-WAY 120 1 60 9.6 (2) 1/3 ECM 3 SPD

AMPS

18.0

18.0 | 1,<mark>2</mark>,

VOLTS

1/15

1/15

REMARKS

SPEED EAT LAT (F) MBH GPM WPD EWT LWT MOTOR WOTOR TYPE MOTOR HP MOTOR HP FLA REMARKS

1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. 2. SEE MECHANICAL ROOM PLAN AND DIVISION 25 FOR THE AIRFLOW STATION CONTROLLER BACNET INTERFACE DEVICE REQUIREMENTS.

GTx116E-P+

GTx116E-P+

CFM

810

PRESSURE DROP

HOT WATER FULLY RECESSED WALL, INVERTED 1180 HIGH 60 88.5 36.1 3.8 1.1 125 105 2

REMARKS

1, 2, 3

1, 2, 3

1, 2, 3

(MBH)

BUFFER TANK SCHEDULE

SERVES

AHU-2 RELIEF AIR

AHU-3 OUTSIDE AIR

AHU-3 RELIEF AIR

MANUFACTURER

EBTRON

EBTRON

EBTRON

CABINET

FULLY RECESSED WALL, INVERTED

FULLY RECESSED CEILING

FULLY RECESSED CEILING

SIZE

COOLING DATA

RX-42-1

| 1500 | CHILLED WATER | 75 | 58.2 | 42 | 58 | 6 | 4.10 | 28.8 | 27.5

| 1500 | CHILLED WATER | 75 | 58.2 | 42 | 58 | 6 | 4.10 | 28.8 | 27.5

MODEL

NUMBER

~~~SELEGT-UNITS-AF 35%PROPYCEME-GLYGQL. 3. SEE DIV 25 FOR BACnet REQUIREMENTS. SIDE STREAM FILTER SCHEDULE (F) UNIT SERVES

PHASE / HZ

VOLTS

1

0-60 GEOTHERMAL SOURCE WESSELS BAG 0-60 **CHILLED WATER** WESSELS 4NBF12-2F WESSELS HEATED WATER 4NBF12-2F 0-60 1. FIELD INSTALLED ACCESSORIES INCLUDE AT A MINIMUM PRESSURE GAUGES ON THE INLET/OUTLET, ISOLATION SHUTOFF VALVES, UNION CONNECTIONS, AND A BALANCING VALVE FOR THE FLOW INDICATED. THE MECHANICAL CONTRACTOR SHALL VERIFY INLET AND OUTLET CONFIGURATION.

MANUFACTURER | MODEL NUMBER | HIGH

HPP14

HPP14

HU-1 MECH ROOM 01650

HU-2 MECH ROOM 01650

MANUFACTURER | MODEL NO.

MODEL NUMBER

RFRC-420

RFRWI-350 12

FILTER

SIZE

HOT WATER

FLOW RATE | FLOW RATE

COIL TYPE

SPEED

4 5

FAN COIL UNIT SCHEDULE (FC) UNIT NO. REMARKS FC-1 01650C - UPS EQUIP. ROOM 460 3 / 60 HZ 1, 2, 3,4 FC-2

1. INSTALL IN ACCORDANGE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS 2. SEE DIV 25 FOR BACnet REQUIREMENTS.

3. MAXIMUM PRESSURE DROP IS BASED UPON A 5 MICRON CLEAN FILTER.

GRILLES, REGISTERS AND DIFFUSERS SCHEDULE **REMARKS** TYPE SERVICE MANUF. & MODEL NO. 24" x 24" STEEL 3 CONE LOUVERED FACE SUPPLY AIR DIFFUSER WITH ROUND INLET NECK, HEAVY GAUGE TITUS MODEL TMS SUPPLY AIR DIFFUSER STEEL BACK PAN, AND FACTORY BAKED WHITE ENAMEL FINISH. **BORDER TYPE 3** (LAY-IN CEILING MOUNT) ALUMINUM  $\frac{1}{2}$ " x  $\frac{1}{2}$ " EGG CRATE GRILLE OF THE SIZE INDICATED ON THE PLANS. PROVIDE WITH BORDER **RETURN GRILLE** TITUS MODEL 50F **BORDER TYPE 7** CHANNEL, AND FACTORY BAKED WHITE ENAMEL FINISH. B (LAY-IN CEILING MOUNT) ALL STEEL EXHAUST REGISTER OF THE SIZE AS INDICATED ON THE PLANS. PROVIDE WITH SINGLE EXHAUST REGISTER (SURFACE **TITUS MODEL 350RL** DEFLECTION HORIZONTAL BLADES AT A FIXED 35° PATTERN AT 3/4" SPACING, OPPOSED BLADE DAMPER, AND FACTORY BAKED WHITE ENAMEL FINISH. ALL STEEL SUPPLY REGISTER OF THE SIZE AS INDICATED ON THE PLANS. PROVIDE WITH DOUBLE DEFLECTION HORIZONTAL FRONT BLADES, ¾" SPACING, OPPOSED BLADE DAMPER, AND BAKED WHITE SUPPLY REGISTER (SURFACE TITUS MODEL 300RL ENAMEL FINISH. STEEL ROUND LOUVERED FACE SUPPLY AIR DIFFUSER OF THE SIZE AS INDICATED ON THE PLANS. PROVIDE **ROUND SUPPLY AIR** TITUS MODEL TMR WITH REMOVABLE INNER CORE, GASKETING AROUND EDGE WHEN CEILING MOUNTED, AND WHITE ENAMEL DIFFUSER FINISH. PROVIDE WITH SAFETY CABLES TO SECURE DIFFUSER TO THE DUCT IN GYMS OR SIMILAR AREAS WHERE DIFFUSER IS SUBJECT TO ABUSE. EXTRUDED ALUMINUM 3/4" SLOT WITH LENGTH AND NUMBER OF SLOTS AS INDICATED ON THE PLANS. PROVIDE TITUS MODEL ML-38 WITH END PLATES, OPTIONAL PLENUM WITH INLET AS INDICATED ON DRAWINGS, BLANK-OFF PLATES AS LINEAR SUPPLY DIFFUSER REQUIRED. STEEL PATTERN CONTROLLERS (PAINTED BLACK) CAPABLE OF 180° AIR FLOW ADJUSTMENT, AND (LAY-IN CEILING MOUNT) **BORDER TYPE 9A FACTORY BAKED WHITE ENAMEL FINISH.** EXHAUST REGISTER (SURFACE TITUS MODEL 350FL SAME AS TYPE C EXCEPT ALL ALUMINUM CONSTRUCTION ROUND SUPPLY AIR DIFFUSER TITUS MODEL TAF-R(-FR) POLYMETRIC ROUND FACE SUPPLY DIFFUSER OF THE SIZE AS INDICATED ON THE PLANS. PROVIDE WITH (ACCESS FLOOR MOUNT) MANUALLY ADJUSTABLE FLOW REGULATOR, DUST RECEPTACLE, TRIM RING WITH SPACER FLANGES, GASKETED UNDER-FLOOR RING, AND STANDARD BLACK COLOR. ALL STEEL EXHAUST REGISTER OF THE SIZE AS INDICATED ON THE PLANS. PROVIDE WITH SINGLE RETURN REGISTER (SURFACE TITUS MODEL 350RL DEFLECTION HORIZONTAL BLADES AT A FIXED 35° PATTERN AT ¾" SPACING, OPPOSED BLADE DAMPER, AND FACTORY BAKED WHITE ENAMEL FINISH.

| INTAI       | KE AND R | ELIEF HOOI   | D SCHEI         | DULE THE TENT | RH     |                       |             |                                 |         |
|-------------|----------|--------------|-----------------|---------------|--------|-----------------------|-------------|---------------------------------|---------|
| UNIT<br>NO. | SERVES   | MANUFACTURER | MODEL<br>NUMBER | TYPE          | СҒМ    | MAX.<br>SP<br>IN W.C. | THROAT SIZE | MOTORIZED<br>DAMPER<br>(YES/NO) | REMARKS |
| IH-1        | AHU-1    | GREENHECK    | FGI-40x40       | GRAVITY       | 9,285  | 0.1                   | 40" x 40"   | YES                             | 1, 2    |
| IH-2        | AHU-2    | GREENHECK    | FGI-36x54       | GRAVITY       | 11,635 | 0.1                   | 36" x 54"   | YES                             | 1, 2    |

1

1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. 2. ALL INTAKE AND RELIEF HOODS ARE SHALL HAVE LOCKABLE HINGED OPENINGS.

3. PROVIDE WITH SINGLE POINT ELECTRICAL CONNECTION.

EXPANSION TANK SCHEDULE

ET-1 GEOTHER. WELLFIELD BELL & GOSSETT

ET-4 DOMESTIC HOT WATER WATTS

SERVES

4. SEE DIV 25 FOR BACnet REQUIREMENTS.

CHILLED WATER SYS. BELL & GOSSETT

HEATING WATER SYS. BELL & GOSSETT

UNIT

UNIT NO.

NOTES:

SERVES

4. 41 GPH RECOVERY IN EFFICIENCY MODE, 50 GPM RECOVERY IN ELECTRIC MODE, 90 GPH RECOVERY IN HYBRID MODE.

MODEL NUMBER

B165

MANUFAC. SERIES

2. EACH OF TWO SYSTEM PUMPS SHALL BE SELECTED FOR 100% CAPACITY AT CORRECT DESIGN CONDITIONS. ACSYSTEM SHALL BE FACTORY PACKAGED INCLUDING CONTROLLER WITH HANDS-OFF-AUTO CONTROL.

B & G TECHNOFORCE e-MTX e-SH

TYPE

WATER

PUMP SERIES

BLADDER 50 DEG. F.

BLADDER 50 DEG. F.

BLADDER 115 DEG. F.

DIAPHRAGM 60 DEG. F.

MINIMUM

PRECHARGE

PRESS. (PSIG) (PSIG)

PUMP TYPE

MAXIMUM

OPER. PRESS

CONTROL

END SUCTION VSD, DUPLEX 100

VOLUME

(GALLONS)

5. SEE MECHANICAL ROOM PLAN AND DIV. 25 STICK BUILT POINTS AND CONTROL REQUIREMENTS.

6. PROVIDE WITH CONTACT SO DIV.25 CONTRACTOR CAN ENABLE/DISABLE HEATER

MANUFACTURER

1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.

DOMESTIC WATER BOOSTER PUMP SCHEDULE 👺

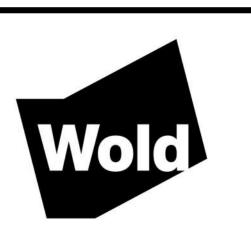
2. PROVIDE AUTOMATIC AIR VENT PIPED TO NEAREST FLOOR DRAIN.

1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.

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Libertyville, IL 60048

656 Winchester Rd, Libertyville, IL



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RosDrulisCusenbery ARCHITECTUR

woldae.com | 847 241 6100



I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed PROFESSIONAL ENGINEER under the laws of the State of ILLINOIS Number: **062-059546** Date 12/30/2022

|             | Revisions | Revisions |  |  |  |  |  |  |  |  |  |
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**SCHEDULES** 

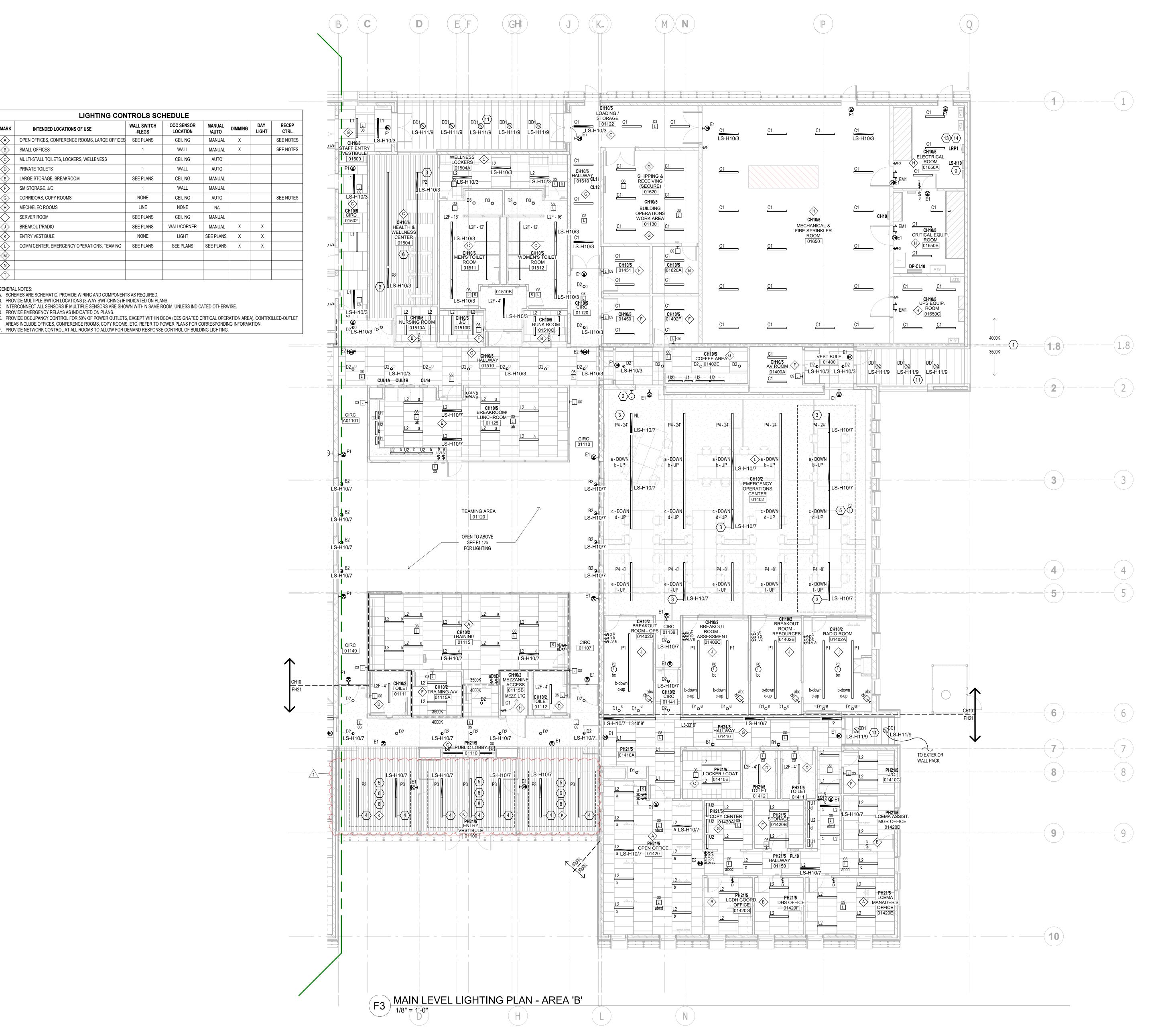
ENVIRO-TEC

**ENVIRO-TEC** 

HUMIDIFIER SCHEDULE CAPACITY MANUFACTURER MODEL TYPE MANIFOLD LENGTH AND QUANTITY

ELEC.

HU-3 MEZZANINE RX-24-1 ELEC. COORDINATE REQUIREMENTS WITH AHU MANUF. 480/3/60 10.8 1,2 1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. 2, PROVIDE WITH WATER TREATMENT SYSTEM PRE-PIPED ON A SKID PER 23 84 13. SIZE ONE WATER TREATMENT SYSTEM TO SERVE HU-1 AND HU-2, SIZE THE OTHER WATER TREATMENT SYSTEM TO SERVE HU-3. 3. SEE DIV 25 FOR BACnet REQUIREMENTS.



LOCATION

CEILING

WALL

CEILING

WALL

CEILING

WALL

CEILING

NONE

CEILING

WALL/CORNER

/AUTO

MANUAL

AUTO

AUTO

AUTO

SEE PLANS

T.

1

1

SEE PLANS | SEE PLANS | X

LIGHTING CONTROLS SCHEDULE

#LEGS

SEE PLANS

NONE

LINE

SEE PLANS

SEE PLANS

INTENDED LOCATIONS OF USE

MULTI-STALL TOILETS, LOCKERS, WELLENESS

SMALL OFFICES

PRIVATE TOILETS

SM STORAGE, J/C

MECH/ELEC ROOMS

SERVER ROOM

BREAKOUT/RADIO

ENTRY VESTIBULE

LARGE STORAGE, BREAKROOM

CORRIDORS, COPY ROOMS

OPEN OFFICES, CONFERENCE ROOMS, LARGE OFFICES SEE PLANS

COMM CENTER, EMERGENCY OPERATIONS, TEAMING SEE PLANS

A. SCHEMES ARE SCHEMATIC. PROVIDE WIRING AND COMPONENTS AS REQUIRED.

. PROVIDE EMERGENCY RELAYS AS INDICATED ON PLANS.

B. PROVIDE MULTIPLE SWITCH LOCATIONS (3-WAY SWITCHING) IF INDICATED ON PLANS.

C. INTERCONNECT ALL SENSORS IF MULTIPLE SENSORS ARE SHOWN WITHIN SAME ROOM, UNLESS INDICATED OTHERWISE.

PROVIDE NETWORK CONTROL AT ALL ROOMS TO ALLOW FOR DEMAND RESPONSE CONTROL OF BUILDING LIGHTING.

**GENERAL SHEET NOTES** 

- SOME NOTES MAY NOT APPLY TO THIS SHEET. CIRCUIT NUMBERS AT DEVICES CORRESPOND TO PANELBOARD BREAKERS (SEE PANELBOARD SCHEDULE). BRANCH CIRCUITS SHALL BE SIZED ACCORDING TO THE CIRCUIT BREAKER RATING, UNLESS INDICATED OTHERWISE ON THE ELECTRICAL
- EQUIPMENT SCHEDULE. ALL BOXES, CONDUIT AND WIRING TO BE CONCEALED. NO EXPOSED BOXES, CONDUIT AND WIRING SHALL BE ALLOWED UNLESS NOTED
- OTHERWISE. NO MULTI-BRANCH CIRCUIT ALLOWED. PROVIDE A SEPARATE NEUTRAL WITH EACH CIRCUIT.
- COORDINATE LUMINAIRE LOCATIONS WITH OTHER TRADES INCLUDING HVAC EQUIPMENT, DUCTWORK, SPRINKLER PIPING AND BUILDING STRUCTURAL MEMBERS.

PROVIDE SEPARATED CONDUITS FOR ALL

- EMERGENCY AND EGRESS LIGHTING CIRCUITS, DO NOT COMBINE WITH NORMAL BUILDING WIRING. 6. ALL EXIT SIGNS AND BATTERY EGRESS FIXTURES TO BE CONNECTED TO NEAREST EMERGENCY LIGHTING CIRCUIT AHEAD OF ANY SWITCHING.
- ALL EXTERIOR LIGHTING TO BE CONNECTED TO LIGHTING CONTROL RELAY SYSTEM UNLESS NOTED OTHERWISE.

LIGHT FIXTURE WHIPS OF TYPE AC AND TYPE MC WITH GROUND WIRE SHALL BE ALLOWED ONLY ABOVE ACCESSIBLE GRID-TYPE SUSPENDED CEILING. MAX LENGTH OF 6 FEET. MAXIMUM OF 4 WHIPS PER JUNCTION BOX. DIRECT FIXTURE TO FIXTURE CONNECTIONS ARE NOT ALLOWED.

REFER TO LAKE COUNTY CONDUIT COLOR REQUIREMENTS, SEE SYMBOL SHEET AND CONDUIT SPECIFICATIONS.

> NORMAL OPERATING LIGHT SWITCHED EMERGENCY LIGHT. FEED FIXTURE FROM PANEL LS-H10 VIA EMERGENCY RELAY AS INDICATED ON PLAN.

FIXTURE. FEED FIXTURE USING EXISTING LIGHTING CIRCUITRY FROM NORMAL PANEL.

UNSWITCHED EMERGENCY LIGHT (NIGHT LIGHT). FEED FIXTURE FROM UNSWITCHED CIRCUIT IN PANEL LS-H10.

EXIT LIGHT. FEED FROM

/ PANEL CIRCUIT #

- SWITCHING SCHEME

UNSWITCHED CIRCUIT IN PANEL

— FIXTURE TYPE NL <del>→</del> FIXTURE NOTES RELAY #/

rl-1 <del>-----</del>

1. MAXIMUM ALLOWABLE WATTAGE FOR A LIGHTING CIRCUIT WILL NOT EXCEED 3500 (277V) OR 1600 (120V) WATTS.

CONTRACTOR TO PROVIDE BIM CLASH DETECTION IN ACCORDANCE WITH ALL REQUIREMENTS AS INDICATED IN SEPCIFICATION SECTION 01 32 50.

#### **KEYED SHEET NOTES**

- PROVIDE 4000K COLOR TEMPERATURE FOR NORTH SIDE AND CENTER (LOBBY / ATRIUM) AREAS OF BUILDING. PROVIDE 3500K COLOR TEMPERATURE FOR OTHER AREAS AS INDICATED.
- 2. TOUCH SCREEN LIGHTING CONTROL PANEL.
- 3. INTEGRAL OCCUPANCY SENSOR.
- 4. INTEGRAL OCCUPANCY AND DAYLIGHT SENSOR. 5. PROVIDE DIMMING DAYLIGHT HARVESTING ZONE

WITHIN DASHED LINES.

- 6. MOUNT PENDANTS BETWEEN WOOD SLATS WITH BOTTOM FLUSH TO BOTTOM OF SLATS.
- DESIGNATED STORM SHELTER. FEED EMERGENCY POWER WITHIN DASHED AREA
- FROM LIGHTING INVERTER. 8. LIGHTS TO DIM TO 50% WHEN UNOCCUPIED ALLOW FOR BACNET/IP LIGHTING PANEL (BY DIV

25) TO BE LOCATED IN THIS ROOM TO NETWORK

- ALL LIGHTING DEVICES. THE BASE PANEL DROP AND A CLIENT DROP ARE CO-LOCATED IN THIS ROOM. REFER TO BAS NOTES ON E5.02 FOR MORE INFORMATION. 10. LOCATE REMOTE DRIVER FOR TEAMING AREA IN
- ACCESSIBLE LOCATION IN MECHANICAL SPACE. 11. CIRCUIT CANOPY EXTERIOR LIGHTING VIA RELAY PANEL LRP1. REFER TO LIGHTING RELAY

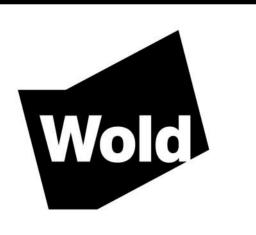
26 33 56 EMERGENCY LIGHTING INVERTER.

- SCHEDULE. ALL EXTERIOR LIGHTS SHALL BE 12. PROVIDE 2800W INVERTER FOR STORM SHELTER LIGHTING (277V) AND LOUVERS (120V). REFER TO
- 13. PROVIDE NETWORK LIGHTING CONTROL SYSTEM FOR WIRED CONTROL OF ALL INTERIOR LIGHTING. PROVIDE WIRELESS CONTROL OF EXTERIOR POLE LIGHTS AND RELAY CONTROL OF SELECT EXTERIOR LIGHTS AS SHOWN ON SITE PLAN. PROVIDE ALL PARS AND COMPONENTS, FIELD COORDINATE LOCATIONS AS REQUIRED.
- 14. PROVIDE LIGHTING RELAY PANEL FOR CONTROL OF SELECT EXTERIOR LIGHTS. TIE INTO NETWORK LIGHTING CONTROLS. PROVIDE NETWORKED PHOTOCELL AT BUILDING EXTERIOR AND MOUNT PER MANUFACTURER'S RECOMMENDATIONS.

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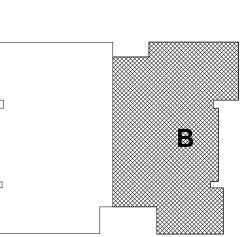


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RossDrulisCusenbery

18294 Sonoma Highway Sonoma, CA 95476 rdcarchitecture.com | tel 707 996 8448



**KEY PLAN** 

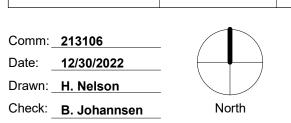
BRADLEY ROBERT **JOHANNSEN** 062-060077

hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed PROFESSIONAL ENGINEER under the laws of the State of ILLINOIS

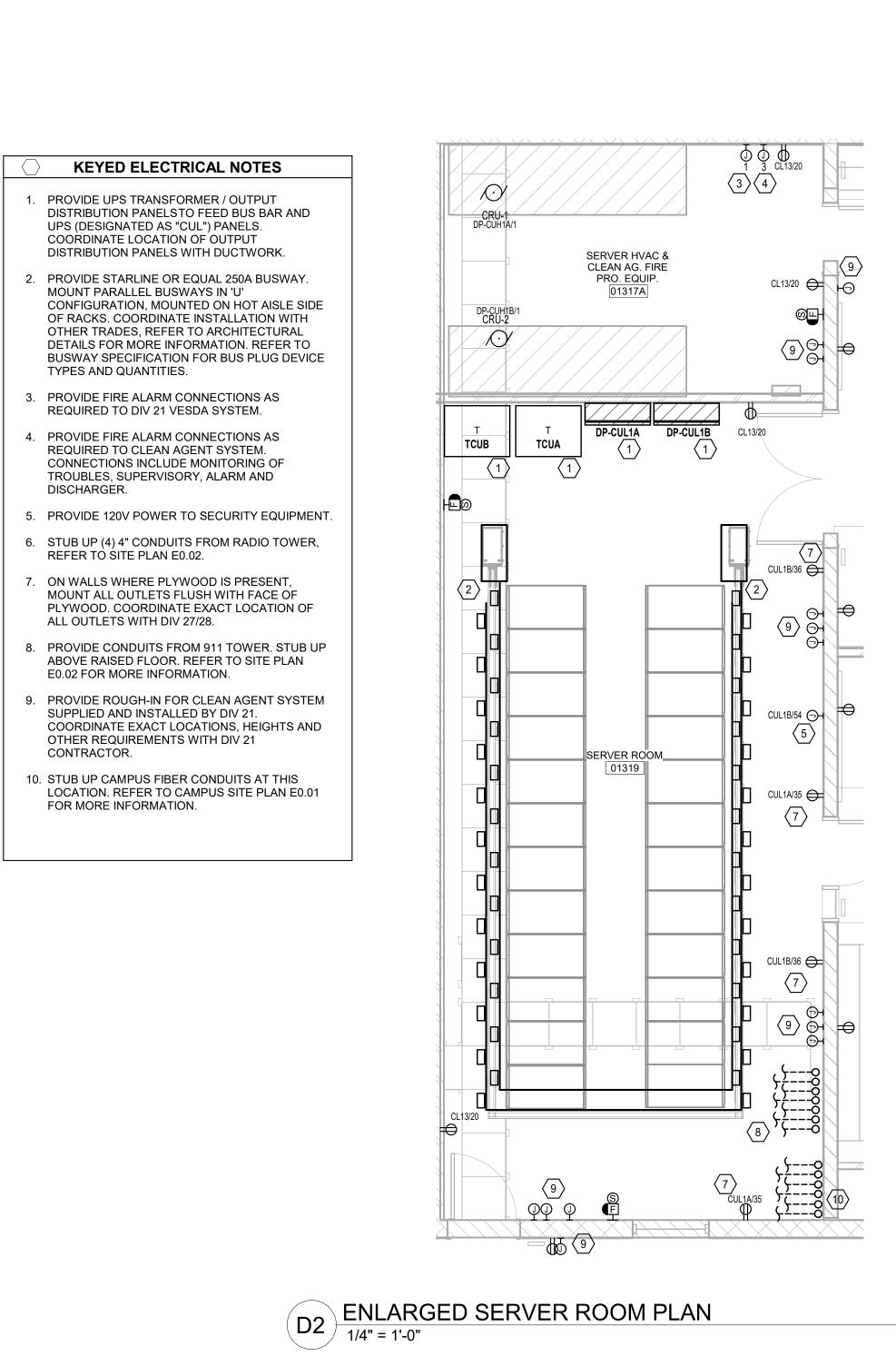
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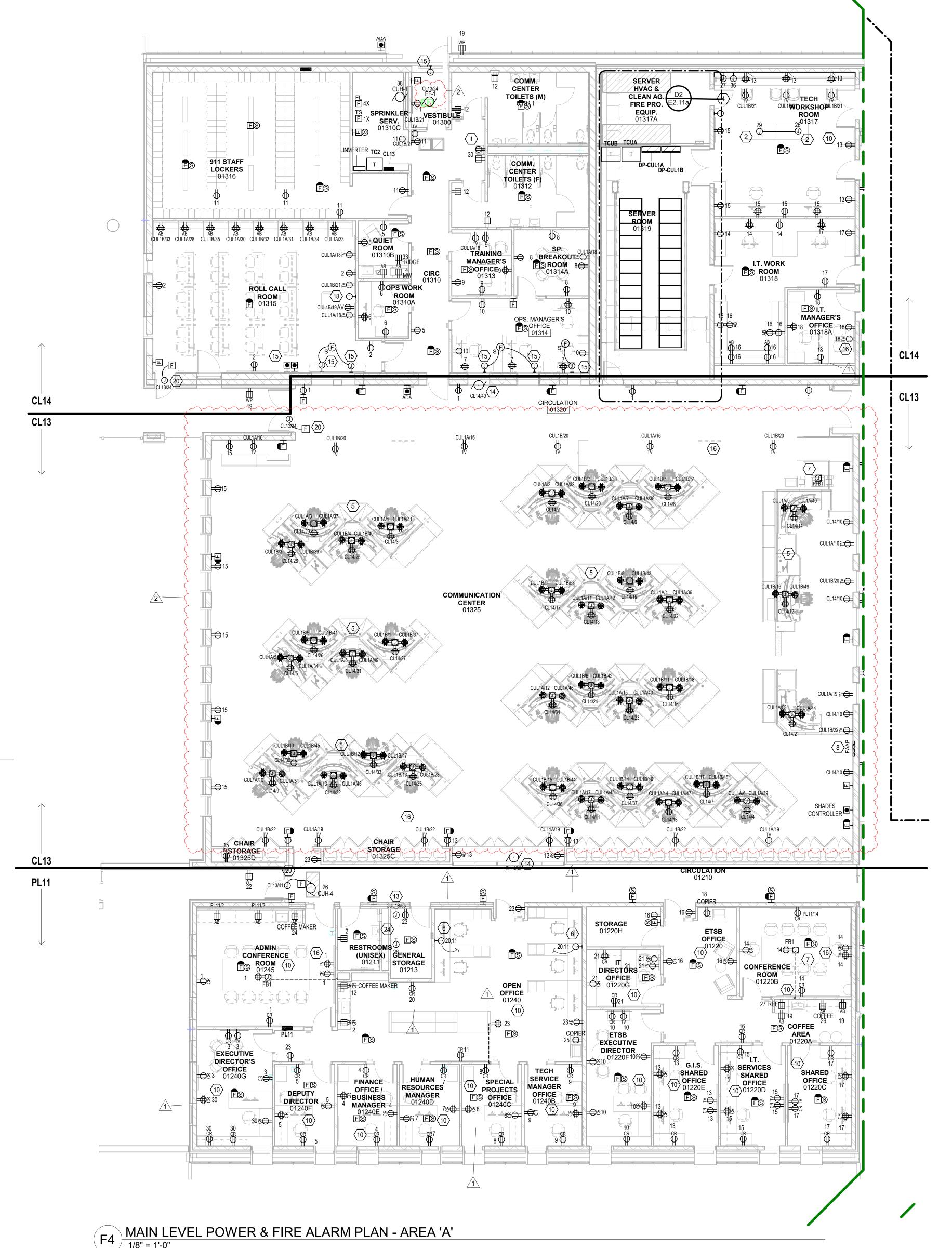
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Comm: 213106 Date: 12/30/2022



**MAIN LEVEL LIGHTING PLANS -AREA 'B'** 





**GENERAL SHEET NOTES** 

- A. PROVIDE ADDITIONAL ROUGH-IN FOR SYSTEMS AS INDICATED, REFER TO TECHNOLOGY AND AV SHEETS AND ASSOCIATED DETAILS.
- B. ALL BOXES, CONDUIT AND WIRING TO BE CONCEALED. NO EXPOSED BOXES, CONDUIT AND WIRING SHALL BE ALLOWED UNLESS NOTED OTHERWISE.
- OTHERWISE.

  C. COORDINATE DEVICE LOCATIONS WITH OTHER TRADES INCLUDING HVAC EQUIPMENT,

DUCTWORK, SPRINKLER PIPING AND BUILDING

D. NO MULTI-BRANCH CIRCUIT ALLOWED. PROVIDE A SEPARATE NEUTRAL WITH EACH CIRCUIT.

STRUCTURAL MEMBERS.

E. VERIFY LOCATIONS AND ROUGH-IN REQUIREMENTS OF ALL DOWNER FURNISHED

SWITCHING INTENT OF FIXTURES AND CONTROL

- EQUIPMENT PRIOR TO ROUGH-IN.

  CIRCUIT WIRING IS NOT SHOWN EXCEPT FOR
- OF DEVICES.

  G. GFCI RECEPTACLES SHALL BE WIRED TO PROTECT ONLY THE DEVICES IN THAT OUTLET
- BOX. DOWNSTREAM DEVICES SHALL NOT BE PROTECTED BY GFCI.

  H. CIRCUIT NUMBERS SHOWN ARE FOR SCHEMATIC

PURPOSES AND ARE FOR DISTINGUISHING

CIRCUITS. RECORD AS-BUILT CIRCUITING IN A

TYPED AND DATED PANELBOARD SCHEDULE.

- PROVIDE SEPARATED CONDUITS FOR ALL EMERGENCY CIRCUITS, DO NOT COMBINE WITH
- NORMAL BUILDING WIRING.

  J. COORDINATE HEIGHTS OF ALL DEVICES WITH MILLWORK AND MODULAR FURNITURE SHOP

DRAWINGS PRIOR TO ROUGH-IN.

K. REFER TO LAKE COUNTY CONDUIT COLOR REQUIREMENTS, SEE SYMBOL SHEET AND CONDUIT SPECIFICATIONS.

CONTRACTOR TO PROVIDE BIM CLASH DETECTION IN ACCORDANCE WITH ALL

REQUIREMENTS AS INDICATED IN

SEPCIFICATION SECTION 01 32 50.

**KEYED SHEET NOTES** 

I. PROVIDE UPSTREAM GFCI PROTECTION DEVICE FOR ELECTRIC WATER COOLER. SEE DETAIL

2. PROVIDE RETRACTABLE CORD REEL, MOUNT IN JOIST SPACE. COORDINATE LOCATION WITH LIGHTING AND OTHER SYSTEMS. REFER TO 26 27

ALLOW FOR BACNET/IP FIRE ALARM PANEL TO BE LOCATED IN THIS ROOM TO NETWORK ALL FIRE ALARM DEVICES. THE BASE PANEL DROP AND A CLIENT DROP ARE CO-LOCATED IN THIS ROOM. REFER TO BAS NOTES ON E5.02 FOR MORE

PROVIDE DUAL CHANNEL SURFACE RACEWAY
ABOVE WORKBENCH AND ALSO ABOVE
SHELVING, WITH SIMPLEX OUTLETS ON 8-INCH
CENTERS. REFER TO SYSTEMS PLANS FOR DATA

. PROVIDE POWER CONNECTIONS TO DISPATCH FURNITURE. PROVIDE RECESSED RAISED FLOOR

INFRASTRUCTURE AS REQUIRED FOR DATA CABLING AND DEVICES, REFER TO SIGNAL

6. PROVIDE WHIP AND POWER CONNECTION TO FURNITURE WITH 50% PREWIRED CONTROLLED OUTLETS. PROVIDE TWO SEPARATE POWER

CONNECTIONS, ONE TIED TO LIGHTING

 PROVIDE FLOOR BOX, REFER TO FLOOR BOX SCHEDULE FOR MORE INFORMATION.
 COORDINATE EXACT LOCATIONS OF SYSTEM STATUS EQUIPMENT AT DISPATCH MANAGER'S STATION. EQUIPMENT INCLUDES ANNUNCIATORS

FOR GENERATOR, TRANSFER SWITCHES, UPS

. FIRE PUMP, PROVIDE FIRE ALARM CONNECTIONS

10. PROVIDE PLUG LOAD CONTROL OF SPLIT

OUTLETS (DESIGNATED BY "CR"). UTILIZE OCCUAPNCY SENSOR CONTROLLING LIGHTS

11. REFER TO BAS NOTES ON E5.02 FOR MORE INFORMATION PERTAINING TO ELECTRICAL

12. PROVIDE OUTLETS AS REQUIRED FOR VIDEO WALL. WALL CONTAINS 8x3 GRID OF (24) MONITORS. PROVIDE OUTLET FOR EACH

MONITOR, SIX OUTLETS PER CIRCUIT, WIRE

13. PROVIDE HARDWIRED CONNECTION FOR BAS

MECHOSHADES AS REQUIRED. REFER TO

ROUGH-IN AND CABLING FOR ROOM WALL

15. PROVIDE 120V POWER FROM STORM SHELTER

DOOR. PROVIDE RACEWAY AND BOXES FOR

INVERTER TO MOTORIZED LOUVER / COILING

ARCHITECTURAL CLERESTORY MEZZANINE PLAN FOR EXACT LENGTH AND LOCATIONS. PROVIDE

14. PROVIDE ELECTRICAL CONNECTION TO

SUCH THAT COLUMNS ARE ON ALTERNATING

DISTRIBUTION EQUIPMENT.

UPS PANEL (A/B/A/B/A/B/A/B).

THIS AREA. REFER TO CONTROLLED OUTLET

BOX TYPE RFB3 (REFER TO FLOOR BOX SCHEDULE). ROUTE UNDERFLOOR POWER VIA CONDUIT AND CONNECT TO BOX VIA WHIP. COORDINATE EXACT LOCATIONS OF BOXES WITH

FINAL FURNITURE LAYOUT. PROVIDE

26 WIRING DEVICES.

INFORMATION.

REQUIREMENTS.

OCCUPANCY SENSOR.

AND FIRE ALARM.

AS REQUIRED.

EQUIPMENT.

CONTROLS BY DIV 12.

## RosDrulisCusenbery

Regional

**Facility** 

**Operations and** 

Communications

656 Winchester Rd, Libertyville, IL

18294 Sonoma Highway Sonoma, CA 95476 rdcarchitecture.com | tel 707 996 8448

**WOLD ARCHITECTS** 

AND ENGINEERS

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A

KEY PLAN



I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed PROFESSIONAL ENGINEER

**BRADLEY R. JOHANNSEN** 

062.060077 Date 12/30/2022

under the laws of the State of ILLINOIS

RELEASE BUTTON CONTROLS LOCATED IN ROLL CALL 01315. WHERE SMOKE DETECTORS ARE INDICATED, PROVIDE FIRE ALARM INTERCONNECTION TO AUTOMATICALLY RELEASE EQUIPMENT.

16. PROVIDE 16" X 16" RECESSED TV BOX AND MOUNT RECEPTACLE WITHIN. CHIEF PAC526F OR EQUAL. TYPICAL ALL TV OUTLETS. COORDINATE EXACT HEIGHT/LOCATION WITH ARCHITECTURAL

- EXACT HEIGHT/LOCATION WITH ARCHITECTURAL ELEVATIONS AND AV EQUIPMENT SUPPLIER.

  17. UPS SYSTEM. BASE BID: PROVIDE 30 MINUTE BATTERY. ALTERNATE #1 (DEDUCT): PROVIDE 20 MINUTE BATTERY.
- 18. PROVIDE 4"X4" JUNCTION BOX AT 18" AFF WITH 1-1/4" CONDUIT TO ACCESSIBLE CEILING SPACE FOR AV CABLING.
  19. PROVIDE (2) 120V CONNECTIONS AT AHU (FOR UV LIGHTS AND ALIXII LIARY FOLLIPMENT)
- LIGHTS AND AUXILLIARY EQUIPMENT).

  20. PROVIDE 120V POWER AND FIRE ALARM MODULE AT DELAYED EGRESS DOOR.

  21. PROVIDE 120V CONNECTION TO FIRE PUMP AND
- JOCKEY PUMP CONTROL PANELS.

  22. PROVIDE 120V AND FIRE ALARM CONNECTION TO PREACTION PANEL AS REQUIRED.
- 23. PROVIDE 120V CONNECTION TO NITROGEN GENERATOR. PROVIDE ADDITIONAL CONDUIT AND FIRE ALARM CONNECTIONS AS REQUIRED. REFER TO DRY TYPE SYSTEM DETAIL
- REFER TO DRY TYPE SYSTEM DETAIL.

  24. PROVIDE DEDICATED CIRCUIT FOR SOUND MASKING EQUIPMENT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH DIV 2:
- MASKING EQUIPMENT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH DIV 27.

  25. PROVIDE WHIP AND POWER CONNECTION TO FURNITURE AS INDICATED.

Revisions

Description
Date
Num
Addendum #2
2/24/2023
1
Addendum #3
3/3/2023
2

 Comm:
 213106

 Date:
 12/30/2022

 Drawn:
 I.SHENO

 Check:
 B.JOHANNSEN

MAIN LEVEL
POWER & FIR

POWER & FIRE ALARM PLAN -AREA 'A'

Scale: As indicated

E2.11a

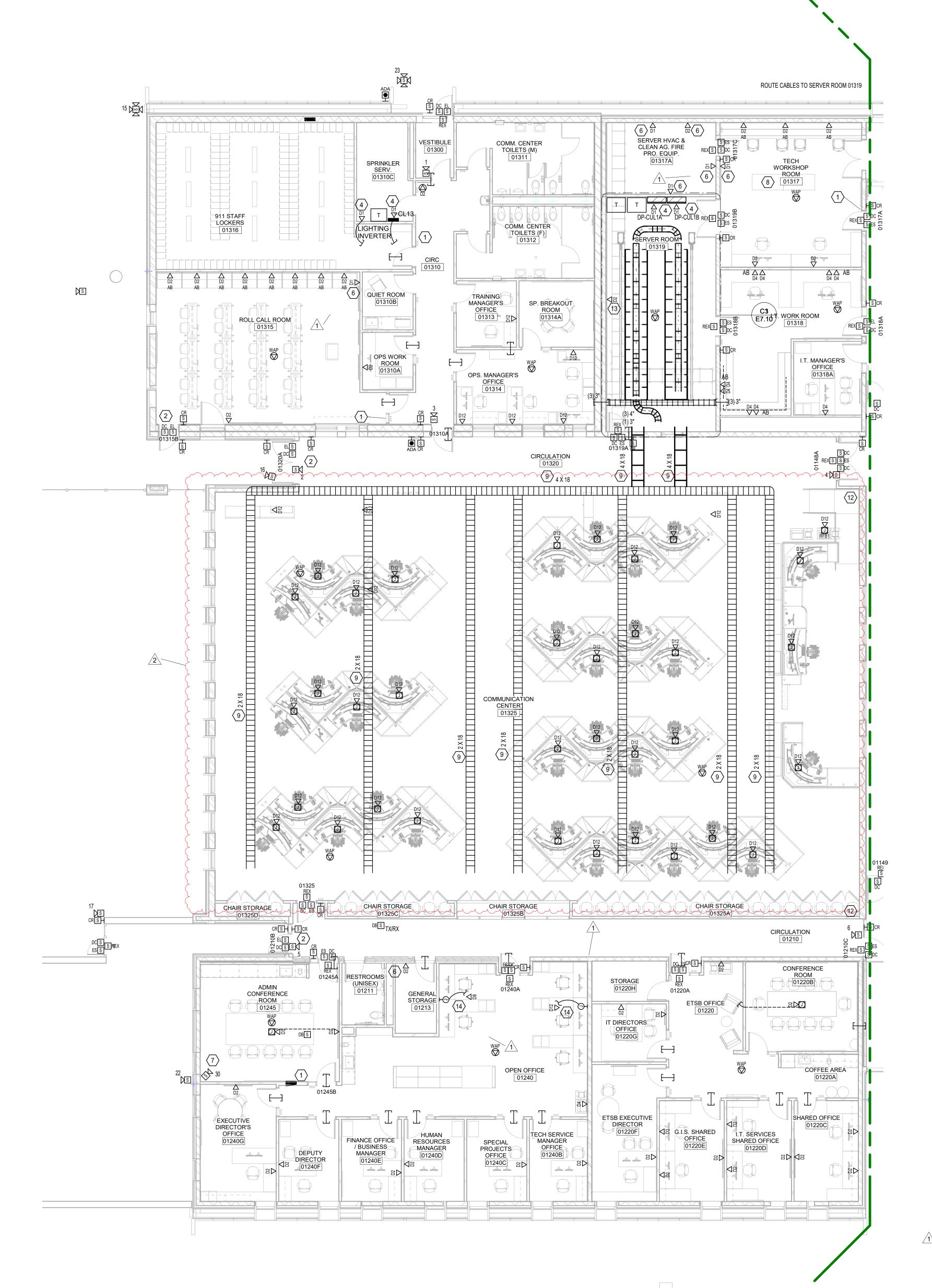
|          | SUR       | VEILLANCE CAMERA | SCHEDULE |                        |
|----------|-----------|------------------|----------|------------------------|
| Camera # | Model     | Description      | Camera   | Mounting               |
| 1        | P3245-LV  | Interior         | 8'-0"    | Wall                   |
| 2        | P3245-LV  | Interior         | n/a      | Ceiling                |
| 3        | P3245-LV  | Interior         | n/a      | Ceiling                |
| 4        | P3245-LV  | Interior         | n/a      | Ceiling                |
| 5        | P3245-LV  | Interior         | n/a      | Ceiling                |
| 6        | P3245-LV  | Interior         | n/a      | Ceiling                |
| 7        | P3245-LV  | Interior         | 9'-0"    | Wall                   |
| 8        | P3245-LV  | Interior         | 9'-0"    | Wall                   |
| 9        | P3717-PLE | Interior         | n/a      | Back box / gyp ceiling |
| 10       | P3245-LV  | Interior         | 9'-0"    | Wall                   |
| 11       | P3717-PLE | Interior         | n/a      | Back box / gyp ceiling |
| 12       | P3717-PLE | Interior         | n/a      | Ceiling                |
| 13       | P3245-LV  | Interior         | n/a      | Ceiling                |
| 14       | P3245-LV  | Interior         | n/a      | Ceiling                |
| 15       | P3717-PLE | Exterior         | 16'-0"   | Roof Mount Goose Neck  |
| 16       | P3245-LVE | Exterior         | n/a      | Ceiling                |
| 17       | P3807-PVE | Exterior         | 9'-0"    | Wall                   |
| 18       | P3807-PVE | Exterior         | 10'-6"   | Soffet                 |
| 19       | P3717-PLE | Exterior         | 10'-0"   | Wall                   |
| 20       | P3245-LVE | Exterior         | 9'-0"    | Wall                   |
| 21       | P3807-PVE | Exterior         | n/a      | Wall                   |
| 22       | P3807-PVE | Exterior         |          |                        |
| 23       | P3717-PLE | Exterior         |          |                        |
| 24       | P3717-PLE | Interior         | n/a      | Back box / gyp ceiling |
| 25       | P3245-LV  | Interior         | n/a      | Ceiling                |
| 26       | P3245-LV  | Interior         | n/a      | Ceiling                |
| 27       | P3807-PVE | Exterior         | n/a      | Wall                   |
| 28       | P3717-PLE | Exterior         | n/a      | Wall                   |
| 29       | P3245-LVE | Exterior         | n/a      | Wall                   |
| 30       | P3245-LVE | Exterior         | n/a      | Ceiling                |
| 31       | P3245-LVE | Exterior         |          |                        |
| 32       | P3717-PLE | Exterior         |          |                        |
| 33       | P3717-PLE | Exterior         |          |                        |
| 34       | P3717-PLE | Exterior         |          |                        |
| 35       | P3717-PLE | Exterior         |          |                        |
| 36       | P3717-PLE | Exterior         |          |                        |
|          |           |                  |          | 1                      |

Exterior

on Talk-A-Phone

P3717-PLE

1 4 5



#### **GENERAL SHEET NOTES**

- A. SOME NOTES MAY NOT APPLY TO THIS SHEET.
- B. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR WIRING ALL ELECTRICAL ITEMS SHOWN ON THE DRAWINGS, EXCEPT ITEMS LISTED ON SHEET E0.01 GENERAL ELECTRICAL NOTES.
- C. ROUTE ALL LOW VOLTAGE CABLING TO TELECOMMUNICATIONS ROOM AS INDICATED ON
- D. INSTALL DATA/SYSTEMS CONDUIT WITH NO MORE THAN (2) 90° BENDS BETWEEN PULL BOXES, AND NO MORE THAN 100'-0" BETWEEN

FOR STRAIGHT THRU PULLS ONLY.

PULL BOXES. PULL BOXES SHALL BE INSTALLED

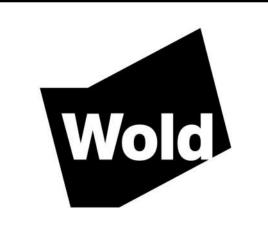
- E. ALL COMMUNICATIONS CABLES SHALL BE INSTALLED IN CONDUIT, CABLE TRAY, OR SUPPORTED BY CABLE HOOKS. PROVIDE BUSHINGS AT THE ENDS OF ALL CONDUIT WHERE STUBBED ABOVE ACCESSIBLE CEILINGS OR WHERE DROPPED INTO CABLE TRAY. PROVIDE CABLE HOOKS ABOVE ACCESSIBLE CEILINGS FOR CABLE INSTALLATION WHERE NOT INSTALLED IN CONDUIT OR CABLE TRAY.
- F. COORDINATE WITH OTHER TRADES AND REFER TO DIV 27 & 28 SPECIFICATIONS FOR FULL REQUIREMENTS.
- G. REFER TO FLOORBOX AND POKE-THRU SCHEDULE FOR FULL REQUIREMENTS AT EACH LOCATION. COORDINATE LOCATIONS PRIOR TO ROUGH-IN AS REQUIRED.
- H. ROUTE NEW LOW VOLTAGE CABLING TO TELECOMMUNICATIONS ROOM (TR#/MER) AS INDICATED ON SHEET E3.10.
- INSTALL DATA/SYSTEMS CONDUIT WITH NO MORE THAN (2) 90° BENDS BETWEEN PULL BOXES, AND NO MORE THAN 100'-0" BETWEEN PULL BOXES. PULL BOXES SHALL BE INSTALLED FOR STRAIGHT THRU PULLS ONLY.
- . PROVIDE VIDEO SURVEILLANCE SYSTEM CAMERAS AT THE INDICATED LOCATIONS. LOCATIONS ARE APPROXIMATE AND SHALL BE FIELD COORDINATED WITH OWNER FOR FINAL LOCATION. REFER TO SPECIFICATIONS.
- K. COORDINATE RECESSED CASEWORK DEVICES AND ABOVE COUNTER (AB) DEVICES WITH ARCHITECTURAL ELEVATION DRAWINGS AND DETAILS. MATCH ELEVATIONS WITH DIVISION 26
- DEVICES UNLESS NOTED OTHERWISE. FOR BIDDING PURPOSES, ASSUME CABLES TO BE ROUTED TO THE FARTHEST CABINET IN THE ASSOCIATED TELECOMMUNICATIONS ROOM PLUS 10'-0" OF SERVICE LOOP. FINAL CABINET TERMINATION POINT AND CONNECTIVITY COLOR SCHEME SHALL BE COORDINATED WITH OWNER AT A LATER DATE UNLESS NOTED OTHERWISE IN THE SYSTEMS DETAILS.
- M. REFER TO LAKE COUNTY CONDUIT COLOR REQUIREMENTS, SEE SYMBOL SHEET AND CONDUIT SPECIFICATIONS.
- N. PROVIDE ADDITIONAL LOW VOLTAGE CONDUIT AND BOX ROUGH-IN AS INDICATED ON AV

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CONTRACTOR TO PROVIDE BIM CLASH DETECTION IN ACCORDANCE WITH ALL REQUIREMENTS AS INDICATED IN SEPCIFICATION SECTION 01 32 50.

#### **KEYED SHEET NOTES**

1. DOOR SHALL BE PREPARED FOR FUTURE CARD READER. PROVIDE ROUGH-IN FOR FUTURE CARD READER, BUT DO NOT PROVIDE CARD READER DEVICE IN LOCATION INDICATED.. 2. DELAYED EGRESS DOOR. PROVIDE LOCAL POWER

3. SHALL OPERATE BOTH INTERIOR VESTIBULE DOORS. PROVIDE DOOR RELEASE CAPABILITIES THROUGH THE VIDEO INTERCOM ACCESS SYSTEM OR ACCESS CONTROL SYSTEM. COORDINATE WITH 4. PROVIDE DEDICATED DATA DROP FOR BAS SYSTEM AT INDICATED ELECTRICAL EQUIPMENT.PROVIDE PURPLE CABLE ROUTED IN BLUE CONDUIT. (VERIFY COLORS WITH OWNER PRIOR TO COMMENCING INSTALLATION). ROUTE TO THE NEAREST TR. PROVIDE ENOUGH CABLE LENGTH TO TERMINATE IN

ANY CABINET/RACK IN THE ROOM. FINAL TERMINATION LOCATION INFORMATION TO BE GIVEN BY OWNER. TERMINATE ON PATCH PANEL DEDICATED TO BAS DESIGNATED CABLES. REFER TO E2 SERIES FOR EQUIPMENT LOCATIONS, AND E5.01 ELECTRICAL ONE-LINE DIAGRAM AND E5.02 BAS DETAILS FOR MORE DETAILED INFORMATION. 5. PROVIDE PHONE CONNECTION AS REQUIRED FOR FACP DIALER. 6. PROVIDE DEDICATED DATA DROP(S) FOR BAS SYSTEM AT INDICATED MECHANICAL EQUIPMENT. PROVIDE PURPLE CABLE ROUTED IN BLUE CONDUIT

(VERIFY COLORS WITH OWNER PRIOR TO COMMENCING INSTALLATION). ROUTE TO THE NEAREST TR. PROVIDE ENOUGH CABLE LENGTH TO TERMINATE IN ANY CABINET/RACK IN THE ROOM. FINAL TERMINATION LOCATION INFORMATION TO BE GIVEN BY OWNER. TERMINATE ON PATCH PANEL DEDICATED TO BAS DESIGNATED CABLES.REFER TO M2 AND M6 SERIES FOR EQUIPMENT LOCATIONS. REFER TO M8 AND M9 SERIES FOR DETAILS, SCHEMATICS, AND SCHEDULES FOR MORE DETAILED INFORMATION. COORDINATE WITH DIV. 23/25/26

CONTRACTORS. 7. CAMERA TO COMMENCE RECORDING UPON ACTIVATION OF THE DURESS BUTTON LOCATED IN

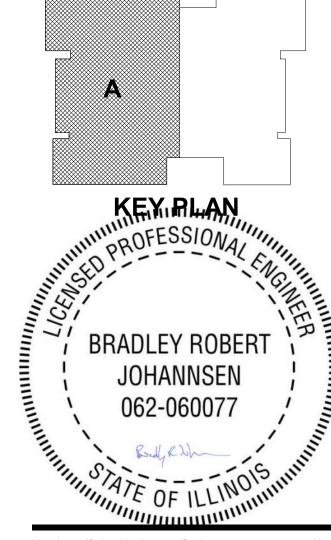
8. PROVIDE (2) DATA CABLE CORD REELS 9. UNDER FLOOR CABLE TRAY. SEPARATE CABLES BY COLOR WITHIN CABLE TRAY. TYPICAL 10. UNDER FLOOR SLEEVE. RETURN PENETRATION TO RATING REQUIRED FOR FLOOR PRESSURIZATION 11. PROVIDE BRAIDED SLEEVING AROUND CABLES AS THEY ROUTE FROM WORKSTATION TO CABLE TRAY. 12. CABLE ROUTING SOFFIT/CHASE. COORDINATE SPACE USE WITH MECHANICAL. 13. PROVIDE DROP FOR MOTOROLA REMOTE

CONNECTION, COORDINATE EXACT LOCATION WITH MOTOROLA VENDOR. 14. PROVIDE FURNITURE WHIP AND CONNECTION FROM WALL OR FLOOR BOX AS INDICATED.

#### **COUNTY CONDUIT STANDARDS** CONDUIT COLORS:

RED - FIRE BLUE - BAS NON-IP WIRING BLACK - SECURITY

ORANGE - COMMUNICATION / ALL CAT6 CABLING YELLOW - EMERGENCY LIGHTING POWER GREEN - NORMAL LIGHTING POWER



I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed PROFESSIONAL ENGINEER under the laws of the State of ILLINOIS

> **BRADLEY R. JOHANNSEN** 062.060077 Date 12/30/2022

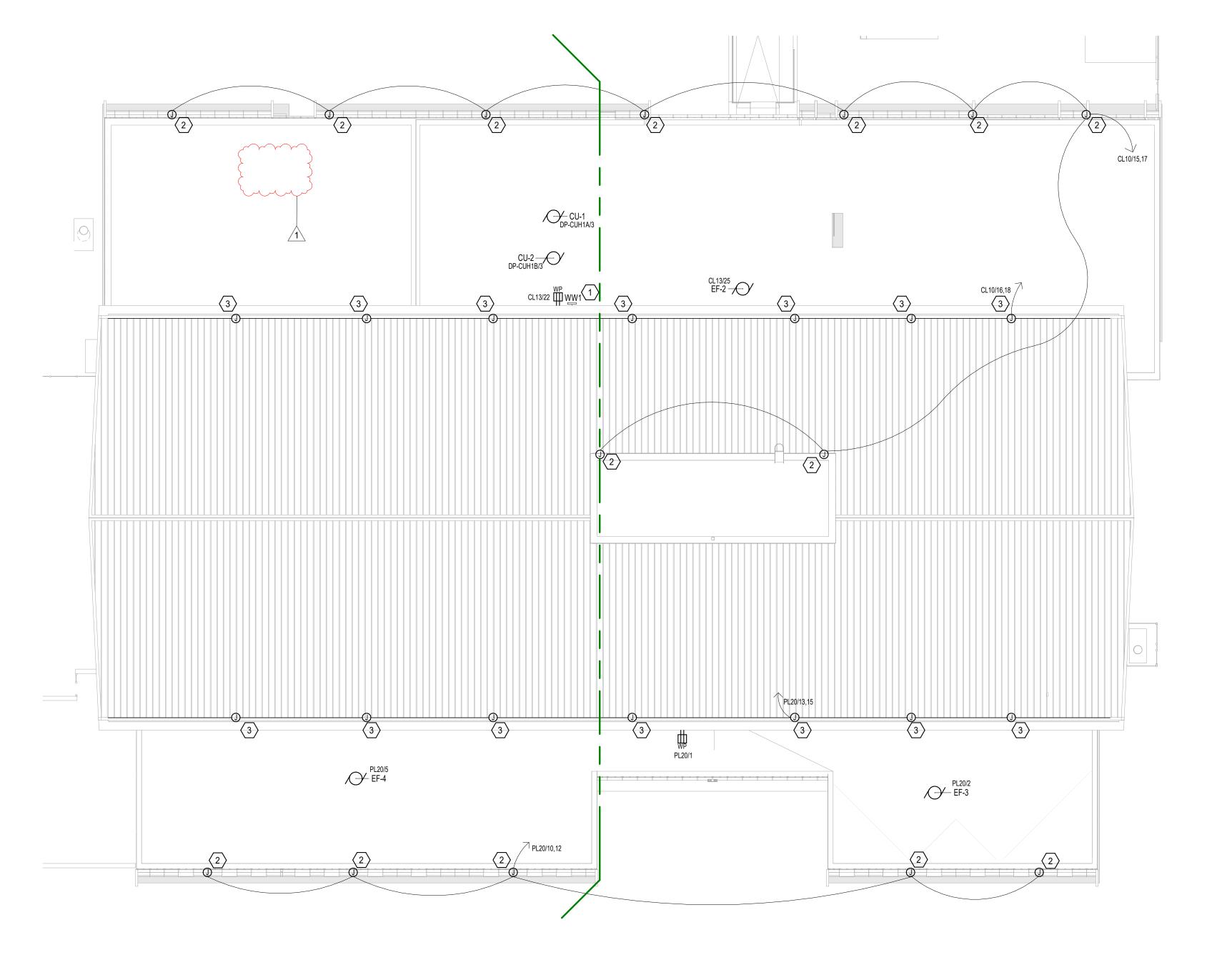
Addendum #2 2/24/2023 Addendum #3

Comm: 213106 Date: 12/30/2022 Drawn: S. GARRISON

AREA 'A'

Check: M. KLEIN **MAIN LEVEL SYSTEMS PLANS -**

F3 MAIN LEVEL SYSTEMS PLANS- AREA 'A'



D3 ROOF PLAN - ELECTRICAL

#### **GENERAL SHEET NOTES**

- A. ALL BOXES, CONDUIT AND WIRING TO BE CONCEALED. NO EXPOSED BOXES, CONDUIT AND WIRING SHALL BE ALLOWED UNLESS NOTED OTHERWISE.
- B. NO MULTI-BRANCH CIRCUIT ALLOWED. PROVIDE A SEPARATE NEUTRAL WITH EACH CIRCUIT.
- C. PROVIDE SEPARATED CONDUITS FOR ALL EMERGENCY AND EGRESS CIRCUITS. DO NOT COMBINE WITH NORMAL BUILDING WIRING.
- D. ALL MOUNTING HEIGHTS FOR LIGHTING FIXTURES ARE TO THE BOTTOM OF THE FIXTURES UNLESS INDICATED OTHERWISE.
- SCHEDULE ON SHEET E0.00. F. VERIFY LOCATIONS AND ROUGH-IN

E. SEE BRANCH CIRCUIT CONDUCTOR SIZING

- REQUIREMENTS OF ALL OWNER FURNISHED EQUIPMENT PRIOR TO ROUGH-IN.
- G. GFCI RECEPTACLES SHALL BE WIRED TO PROTECT ONLY THE DEVICES IN THAT OUTLET BOX. DOWNSTREAM DEVICES SHALL NOT BE PROTECTED BY GFCI.
- H. INSTALL DATA/SYSTEMS CONDUIT WITH NO MORE THAN (2) 90° BENDS BETWEEN PULL BOXES, AND NO MORE THAN 100'-0" BETWEEN PULL BOXES. PULL BOXES SHALL BE INSTALLED FOR STRAIGHT THRU PULLS ONLY.
- I. ALL COMMUNICATIONS CABLES SHALL BE INSTALLED IN CONDUIT, CABLE TRAY, OR SUPPORTED BY J-HOOKS. PROVIDE BUSHINGS AT THE ENDS OF ALL CONDUIT WHERE STUBBED ABOVE ACCESSIBLE CEILINGS OR WHERE DROPPED INTO CABLE TRAY. PROVIDE J-HOOKS ABOVE ACCESSIBLE CEILINGS FOR CABLE INSTALLATION WHERE NOT INSTALLED IN CONDUIT OR CABLE TRAY.

#### **KEYED SHEET NOTES**

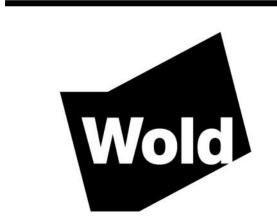
- CONTROL WALL PACK WITH TOGGLE SWITCH IN WEATHERPROOF ENCLOSURE LOCATED BELOW FIXTURE.
- 2. PROVIDE 208V/1P HEAT TRACE WITHIN DOWNSPOUT, DOWN AND UP, ASSUME 30' TOTAL HEAT TRACE LENGTH PER DOWNSPOUT. REFER TO HEAT TRACE SPECIFICATIONS AND DETAIL. PROVIDE MOISTURE SENSORS. FEED FROM INDICATED PANEL AND PROVIDE CONTROLS AS REQUIRED ADJACENT TO PANEL. POWER CONNECTIONS ARE DIAGRAMMATIC, COORDINATE EXACT REQUIREMENTS WITH SELECTED HEAT TRACE EQUIPMENT.
- 3. PROVIDE HEAT TRACE IN DOWNSPOUTS SIMILAR TO NOTE 2. PROVIDE ALSO HEAT TRACE ALONG LENGTH OF GUTTERS AS INDICATED.

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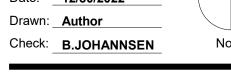
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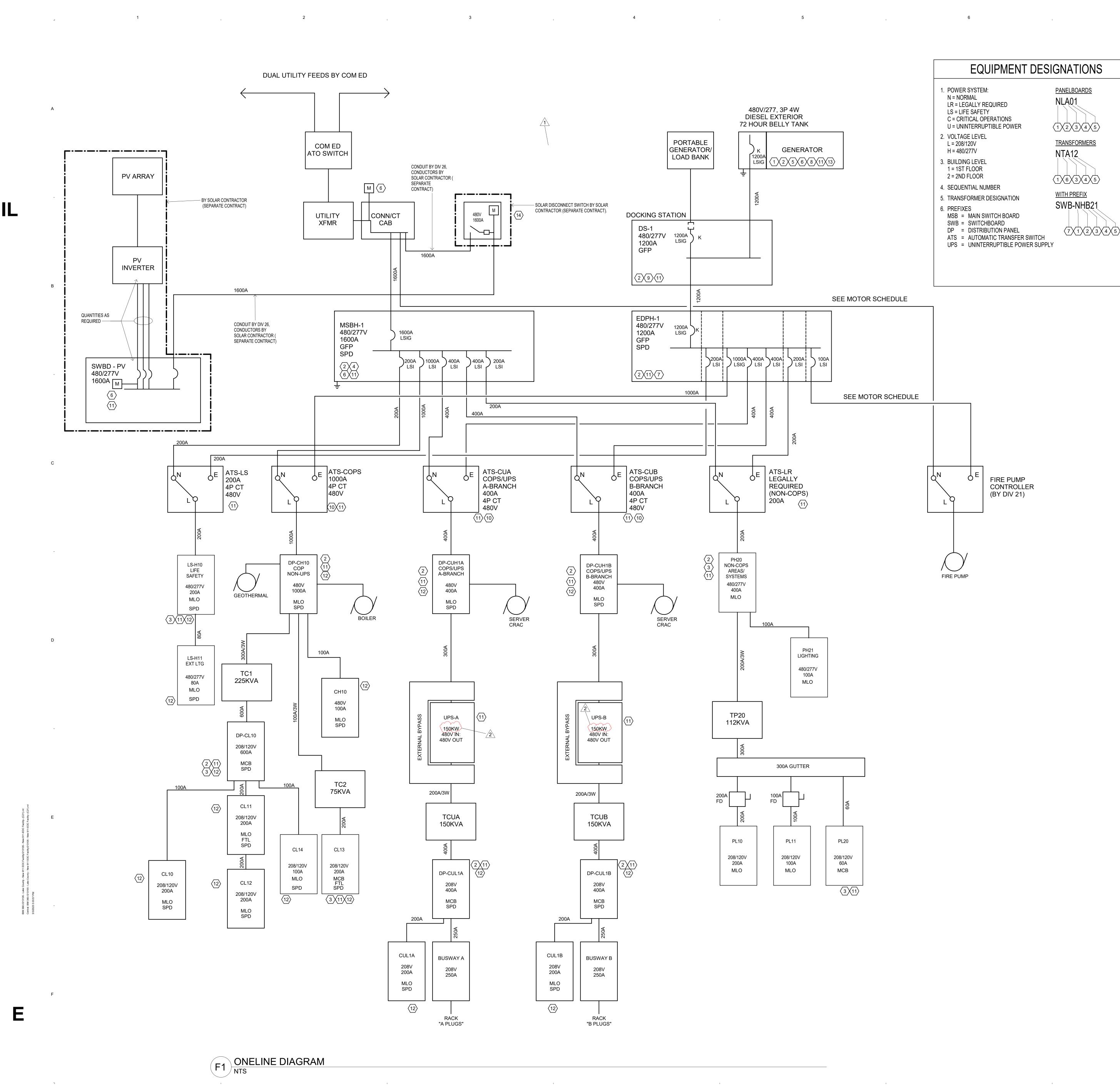
I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed PROFESSIONAL ENGINEER under the laws of the State of ILLINOIS

License Number: BRADLEY R. JOHANNSEN Date 12/30/2022

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| Description  | Date     | Num |  |  |  |  |
| Addendum #3  | 3/3/2023 | 1   |  |  |  |  |
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**ROOF PLAN -ELECTRICAL** 



**GENERAL NOTES:** 

- A. PROVIDE XHHW INSULATION FOR UNDERGROUND CONDUCTORS.
- B. PROVIDE GALVANIZED RIGID STEEL CONDUIT FOR EXPOSED EXTERIOR CONDUITS C. ROUTE HORIZONTAL CONDUITS ABOVE BOTTOM CHORD OF BAR JOISTS UNLESS NOTED
- OTHERWISE. ROUTE CONDUITS FROM WALL MOUNTED DEVICES VERTICALLY TO JOIST SPACE UNLESS NOTED OTHERWISE. D. OBTAIN SHOP DRAWINGS OF EQUIPMENT AND COMPARE CONNECTION, LOAD, AND VOLTAGE INFORMATION TO CONTRACT DOCUMENTS BEFORE INSTALLING FEEDER
- POWER CONNECTIONS, COMPARE EQUIPMENT NAMEPLATE DATA TO SHOP DRAWINGS AND CONTRACT DOCUMENTS. NOTIFY ARCHITECT OF ANY DISCREPANCIES. E. MOTOR FEEDERS SHOWN ON DIAGRAM FOR REFERENCE. REFER TO MOTOR SCHEDULE

CONDUITS. NOTIFY ARCHITECT OF ANY DISCREPANCIES. BEFORE MAKING EQUIPMENT

- FOR MORE INFORMATION.
- F. REFER TO SITE PLAN FOR EXACT LOCATIONS OF EXTERIOR EQUIPMENT.

G. REFER TO GROUNDING SHEETS AND DETAILS FOR ADDITIONAL INFORMATION.

H. PROVIDE CONCRETE BASES FOR ALL FLOOR MOUNTED EQUIPMENT.

SCHEDULES FOR MORE DETAILED INFORMATION.

**KEYED NOTES:** 

1. PROVIDE 1" CONDUIT WITH CONTROL WIRING FROM GENERATOR TO EACH ATS. COORDINATE EXACT REQUIREMENTS WITH ATS AND GENERATOR MANUFACTURER.

DATA IS AGGREGATED BY DIV 25 BAS. REFER TO EQUIPMENT AND METERING

4. PROVIDE WITH OWNER SWITCHBOARD LEVEL OWNER-METERING, REFER TO

- 2. PROVIDE EQUIPMENT WITH LSIG BREAKERS (800A AND ABOVE) AND LSI BREAKERS (100A TO 600A). INCLUDE METERING AND BACNET PROVISIONS WITH EACH SUCH BREAKER. METERING REQUIRED TO MEET REQUIREMENTS OF LEED V4. METERING
- 3. PROVIDE BRANCH CIRCUIT METERING WHERE INDICATED ON EQUIPMENT SCHEDULES.
- SPECIFICATIONS.
- 5. PROVIDE RAISED PLATFORM WITH RAILING AND STAIRS IN FRONT OF CONTROL PANEL. COORDINATE LOCATION WITH CLEARANCES OF OTHER EQUIPMENT IN EQUIPMENT
- 6. PROVIDE METERING IN MANNER INDICATED ON METERING MATRIX, SEE SHEET E5.02.

REFER TO EQUIPMENT AND METERING SPECIFICATIONS AND BAS NOTES ON SHEET

- E5.02 FOR ADDITIONAL METERING INFORMATION. 7. PROVIDE SEPARATE VERTICAL SECTIONS FOR LIFE SAFETY, COPS, LEGALLY REQUIRED,
- AND FIRE PUMP. 8. PROVIDE 208V/1PH 60A CONNECTION FROM PANEL CL10 FOR GENERATOR LOAD CENTER. GENERATOR ACCESSORIES FED FROM LOAD CENTER. COORDINATE EXACT
- LOCATION OF GENERATOR REMOTE SHUT OFF WITH OWNER PRIOR TO ROUGH-IN. VERIFY AMPACITY OF LOAD CENTER PRIOR TO CONDUIT ROUGH-IN. 9. PROVIDE DOCKING STATION WITH CAM LOCKS FOR BOTH PORTABLE GENERATOR AND

PORTABLE LOAD BANK. PROVIDE KIRK KEY BREAKER AND INTERLOCK WITH KIRK KEYS

AT GENERATOR AND EMERGENCY SWITCHBOARD. PROVIDE SHORE POWER OUTLETS FED FROM PANEL CL10 AS NOTED ON SITE PLAN. VERIFY SHORE POWER AMPACITIES WITH COUNTY PRIOR TO ROUGH-IN. 10. REFER TO RACEWAY AND BOXES SPECIFICATIONS FOR HARDENING REQUIREMENTS

RELATED TO COPS/DCOA AREA. REFER TO E0.04 OVERALL PLAN FOR DCOA BOUNDARY

11. CONTRACTOR TO DAISY CHAIN MODBUS OR PROPRIETARY NETWORK CABLE FROM THE TRIP UNITS AND/OR BRANCH CIRCUIT METERING IN THE SWITCHBOARD TO THE BACNET INTERFACE DEVICE. THE COMMS WIRING ARRANGEMENT IN THE SWITCHBOARD WILL BE REVIEWED AS PART OF THE COMPARTMENTATION REVIEW SHOWING THE SEPARATE 480, 208, 120 AND 24 V RUNS. PROVIDE A SEPARATE LOW VOLTAGE (120 V)

ENCLOSURE FOR BACNET INTERFACE DEVICE(S). REFER TO BAS NOTES ON SHEET

E0.04 FOR MORE INFORMATION. REFER TO BAS NOTES ON SHEET E5.02 FOR MORE

12. PROVIDE SURGE PROTECTION DEVICE WITH AUXILIARY CONTACT. REFER TO BAS

NOTES ON SHEET E5.02 FOR MORE INFORMATION.

FEEDER 3W

DEFINITION. TYPICAL FOR ALL EQUIPMENT WITHIN DCOA AREA.

- 13. PROVIDE ANNUNCIATORS FOR GENERATOR, TRANSFER SWITCHES AND UPS'S IN DISPTACH. REFER TO POWER PLANS FOR LOCATIONS.
- 14. BACNET COMPATIBLE METER PROVIDED BY SOLAR CONTRACTOR (SEPARATE CONTRACT). PROVIDE CONDUIT AND BACNET CONNECTION FROM SOLAR DISCONNECT TO BUILDING AS REQUIRED.

3 PHASE FEEDER SCHEDULE (COPPER)

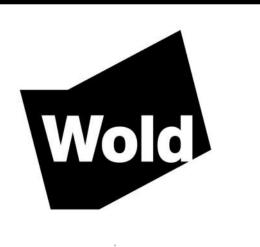
FEEDER 4W

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## RossDrulisCusenbery

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Comm: **213106** 

Date: 12/30/2022

Drawn: I.SHENO Check: **B.JOHANNSEN** 

ONE-LINE

**DIAGRAM** 

| ID     | (NO NEUTRAL)            | (WITH NEUTRAL)          | BRADLEY ROBERT  JOHANNSEN  062-060077  Dereby certify that this plan specification or report was prepared by                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------|-------------------------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (AMPS) | CONDUIT-PHASE-GROUND    | CONDUIT-PHASE-GROUND    | THIN PROFESSIONAL THIN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 20A    | (1) 1/2"C, 3#12+1#12G   | (1) 1/2"C, 4#12+1#12G   | THE SELL OF THE PROPERTY OF THE PARTY OF THE |
| 30A    | (1) 3/4"C, 3#10+1#10G   | (1) 3/4"C, 4#10+1#10G   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 40A    | (1) 3/4"C, 3#8+1#10G    | (1) 3/4"C, 4#8+1#10G    | BRADLEY ROBERT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 50A    | (1) 1"C, 3#6+1#10G      | (1) 1"C, 4#6+1#10G      | JOHANNSEN ;                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 60A    | (1) 1.25"C, 3#4+1#8G    | (1) 1.25"C, 4#4+1#8G    | ( 062-0600// / )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 80A    | (1) 1.25"C, 3#3+1#8G    | (1) 1.25"C, 4#3+1#8G    | Body Rich C. Brillian                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 100A   | (1) 1.5"C, 3#1+1#6G     | (1) 1.5"C, 4#1+1#6G     | THE OF ILLINOISHIN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 125A   | (1) 1.5"C, 3#1+1#6G     | (1) 1.5"C, 4#1+1#6G     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 150A   | (1) 1.5"C, 3#1/0+1#6G   | (1) 1.5"C, 4#1/0+1#6G   | I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed  PROFESSIONAL ENGINEER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 175A   | (1) 1.5"C, 3#2/0+1#6G   | (1) 2"C, 4#2/0+1#6G     | under the laws of the State of ILLINOIS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 200A   | (1) 2"C, 3#3/0+1#6G     | (1) 2"C, 4#3/0+1#6G     | bridg K DV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 225A   | (1) 2"C, 3#4/0+1#4G     | (1) 2.5"C, 4#4/0+1#4G   | License BRADLEY R. JOHANNSEN Number: 062.060077 Date 12/30/2022                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 250A   | (1) 2"C, 3#250+1#4G     | (1) 2.5"C, 4#250+1#4G   | Revisions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 300A   | (1) 2.5"C, 3#350+1#4G   | (1) 3"C, 4#350+1#4G     | Description   Date   Num                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 400A   | (2) 2"C, 3#3/0+1#3G     | (2) 2"C, 4#3/0+1#3G     | Addendam #3 State 22 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 500A   | (2) 2"C, 3#250+1#2G     | (2) 2.5"C, 4#250+1#2G   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 600A   | (2) 2.5"C, 3#350+1#1G   | (2) 3"C, 4#350+1#1G     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 800A   | (3) 2.5"C, 3#300+1#1/0G | (3) 2.5"C, 4#300+1#1/0G |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 1000A  | (3) 3"C, 3#400+1#2/0G   | (3) 3"C, 4#400+1#2/0G   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|        |                         |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

GENERAL NOTES: A. THE ABOVE FEEDER SCHEDULE IS A SCHEDULE OF TYPICAL FEEDERS AND SOME SIZES MAY NOT BE UTILIZED. B. CONDUCTOR AMPACITIES ARE BASED ON TABLE 310-15 OF THE NEC FOR COPPER CONDUCTOR AT 60 DEG C FOR 100A AND BELOW. AMPACITIES ARE BASED ON 75 DEG C FOR 125A AND ABOVE.

(4) 3"C, 3#350+1#3/0G

(5) 3"C, 3#400+1#4/0G

(6) 3"C, 3#400+1#250G

(7) 3"C, 3#500+1#350G

(8) 3"C, 3#500+1#400G

1200A

2000A

2500A

C. FEEDER SIZES SHOWN ON THE RISER DIAGRAM INDICATE FEEDER AMPACITIES AND DO NOT NECESSARILY CORRESPOND TO CIRCUIT BREAKER AMPACITIES. CERTAIN FEEDERS MAY BE SIZED FOR THE DURATION FACTORS REQUIRED BY CODE AND/OR ARE OVERSIZED FOR VOLTAGE DROP.

D. WHERE PARALLEL CONDUITS ARE INDICATED FOR A SINGLE FEEDER, EACH CONDUIT SHALL CONTAIN PHASE, NEUTRAL, AND GROUND CONDUCTORS INDICATED.

F. EMT USED FOR PURPOSES OF SIZING CONDUIT. CONTRACTOR TO UPSIZE CONDUIT IF DIFFERENT THAN EMT.

Scale: As indicated E. CONDUIT ABOVE GRADE INDOORS SHALL BE EMT. CONDUIT ABOVE GRADE OUTDOORS SHALL BE GALVANIZED IMC OR

(4) 3"C, 4#350+1#3/0G

(5) 3"C, 4#400+1#4/0G

(6) 3"C, 4#400+1#250G

(7) 3"C, 4#500+1#350G

(8) 3.5"C, 4#500+1#400G

220 N Smith Street, Suite 310 Short Circuit Study Prepared by B. Johannsen Palatine, IL 60067 Electrical Distribution System 39,376
24,787
5,526
38,255
37,817
36,736
5,006
30,545
29,054
33,562
26,558
3,840
32,003
11,226
31,272
24,862
7,709
7,409
27,993
5,856
9,447
9,887
8,968
28,188
22,635
6,625
3,020
5,208
5,506
6,034
27,637
8,366
7,101
6,644
5,017
3,925
4,851
4,640
24,544
19,702
9,859
8,992
3,520
2,323
4,875 SOLAR ARRAY
GENERATOR
CONNCAB
DISC-SOLAR
MSBH-1
EDPH-1
ATS-LR
ATS-LS ATS-COPS/UPS B FIRE PUMP CONTROLLER DP-CH10 DP-CL10 DP-CUH1A DP-CUH1B DP-CUL1A DP-CUL1B 6,960 20,798 15,206 5,787 5,587 1,519 4,529 4,788 5,247 20,003 6,308 5,085 4,640 4,362 2,313 3,676 3,508 16,962 12,432 5,653 5,089 2,544 1,448 4,060 UPS-A
UPS-B
BUSWAY A
BUSWAY B
FIRE PUMP
PL11 DISC
PL10 DISC
TP20 GUTTE 7,819 3,061 2,020 4,239 7,819 3,061 2,020 4,239 
 480
 22,830
 17,796
 22,830
 3,424
 26,254
 35
 6

 480
 19,854
 15,293
 19,854
 2,978
 22,832
 25
 6

 480
 7,125
 4,262
 7,125
 1,069
 8,194
 10
 6

 480
 7,125
 4,262
 7,125
 1,069
 8,194
 10
 6

 480
 4,454
 2,660
 4,454
 668
 5,122
 10
 6

 480
 2,643
 1,542
 2,643
 396
 3,040
 5
 6

 480
 6,674
 3,996
 6,674
 1,001
 7,676
 10
 0
 CALCULATION ASSUMPTIONS: A. "Available Fault Current" is the larger of three-phase and line-to-ground faults. B. "Selection Current" is "Available Fault Current" multiplied by an arbitrary safety factor of 1.15. C. Utility short circuit data from ComEd (34,240A @ 480V). D. Feeder lengths for equipment are measured per plans along probable routes.

L:\COU\_Lake IL\911-EOC Facility\213105 - New 911-EOC Facility\06\_ELEC\Short Circuit Study\LC ROCF ISC Study

Lake County New ROCF

Wold Architects Engineers

Page 1 of 1

Project Number: 213106

 $\frac{1}{2}$ 

END USE

FANS

GLOBAL DATA

AHU-2: RF-1 VFD 15 MIN KW, KWH AHU-2: RF-2 VFD 15 MIN KW, KWH AHU-2: EW-2 VFD 15 MIN KW, KWH AHU-3: SF-1 VFD 15 MIN KW, KWH 15 MIN KW, KWH AHU-3: SF-2 VFD AHU-3: RF-1 VFD 15 MIN KW, KWH AHU-3: RF-2 VFD 15 MIN KW, KWH SUM OF DEDICATED FAN COIL BREAKERS FC BREAKERS IN PANEL CL10 15 MIN KW, KWH CRU BREAKERS IN PANELS DP-CUH1A & 1B 15 MIN KW, KWH SUM OF COMPUTER ROOM UNIT FAN BREAKERS SUM OF DEDICATED EXHAUST FAN BREAKERS EF BREAKERS IN PANELS CL13 & PL20 15 MIN KW, KWH PUMPING SUM OF PUMP VFD OUTPUTS GEOTHERMAL PUMP P-1 VFD 15 MIN KW, KWH GEOTHERMAL PUMP P-2 VFD 15 MIN KW, KWH CHILLED WATER PUMP P-3 VFD 15 MIN KW, KWH CHILLED WATER PUMP P-4 VFD 15 MIN KW, KWH HEATING WATER PUMP P-5 VFD 15 MIN KW, KWH HEATING WATER PUMP P-6 VFD 15 MIN KW, KWH 15 MIN KW, KWH BOILER CIRC PUMP P-7 VFD DOM. HOT WATER PUMP P-8 ECM 15 MIN KW, KWH BREAKER FEEDING PANEL LS-H10 15 MIN INTERIOR LIGHTING SUM OF DEDICATED LIGHTING PANELS KW, KWH (MINUS SUM OF EXTERIOR LIGHTING SUBPANEL) BREAKER FEEDING PANEL CH10 15 MIN KW, KWH BREAKER FEEDING PANEL PH21 15 MIN KW, KWH MINUS BREAKER FEEDING PANEL LS-H11 15 MIN KW, KWH 15 MIN KW, KWH EXTERIOR LIGHTING DEDICATED EXTERIOR LIGHTING PANEL BREAKER FEEDING PANEL LS-H11 SUM OF DEDICATED HEAT PUMP BREAKERS HP BREAKERS IN PANEL DP-CH11 15 MIN HEATING/COOLING 60 MIN HEAT PUMP EFFICIENCY HEAT PUMP HP-1 15 MIN CHILLED WATER BTU METER BTU METER IN MECH ROOM 01650 KBTU 15 MIN KBTU HEATING WATER BTU METER BTU METER IN MECH ROOM 01650 15 MIN KBTU GEOTHERMAL BTU METER BTU METER IN MECH ROOM 01650 15 MIN KW, KWH SUM OF DEDICATED BOILER BREAKERS HP BREAKERS IN PANEL DP-CH11 SUM OF DEDICATED WATER HEATER BREAKERS WH BREAKERS IN PANEL DP-CL10 15 MIN KW, KWH DOMESTIC HOT WATER HT BREAKERS IN PANELS CL10 & PL20 HEAT TRACE SUM OF DEDICATED HEAT TRACE BREAKERS 15 MIN KW, KWH BREAKER FEEDING TC1 (CL10, CL11, CL12, CL14) PLUG LOAD SUM OF UPS SYSTEMS AND 15 MIN KW, KWH DEDICATED RECEPTACLE PANELS BREAKER FEEDING TC2 (CL13) 15 MIN KW, KWH BREAKER FEEDING TP20 (PL10, PL11, PL20) 15 MIN KW, KWH UPS A 15 MIN KW, KWH UPS B 15 MIN KW, KWH HUMIDIFIER BREAKERS IN PANEL DP-CH10 SUM OF DEDICATED HUMIDIFICATION EQUIPMENT BREAKERS 15 MIN KW, KWH HUMIDIFICATION 15 MIN KW, KWH HUMIDIFIER BREAKER IN PANEL PH20 CONVERT VENTILATION VENTILATION, PUMPING, COOLING, HEATING, AND **HVAC SYSTEMS** N/A 60 MIN KBTU HUMIDIFICATION END USES TO BTU'S AND SUM TO PROVIDE TOTAL HVAC SYSTEM... TOTAL ELECTRICITY DEDICATED ELECTRICITY METER UTILITY PROVIDED METER 15 MIN KW, KWH 15 MIN KW, KWH ADD MAIN SERVICE AND GENERATOR TOGETHER OWNER METER AT MAIN SERVICE PV + UTILITY IS EQUIVALENT TO OWNER METER 15 MIN KW, KWH METER AT GENERATOR BREAKER 15 MIN KW, KWH METER AT PHOTOVOLTAIC BREAKER POTABLE WATER DEDCIATED WATER METER UTILITY PROVIDED METER 15 MIN GAL IRRIGATION WATER SUBMETER UTILITY PROVIDED METER 15 MIN GAL 15 MIN GAL GENERATOR FUEL **FUEL SUBMETER** FUEL METER PROVIDED WITH INTEGRAL CONSUMPTION GENERATOR BELLY TANK

GLOBAL OA TEMP SENSOR

GLOBAL OA HUMIDITY SENSOR

GLOBAL CO2 SENSOR

UTILITY AND END USE METERING MATRIX

SYMBOL/DESCRIPTION

AHU-1: SF-1 VFD

AHU-1: SF-2 VFD

AHU-1: RF-1 VFD

AHU-1: RF-2 VFD

AHU-2: SF-1 VFD

AHU-2: SF-2 VFD

METERS/DEVICE/CALCULATION

SUM OF FAN VFD OUTPUTS

#### **BUILDING AUTOMATION SYSTEM NOTES:**

INTERVAL VALUE(S)

15 MIN KW, KWH

15 MIN TEMP (OF)

% RH

15 MIN

15 MIN

SENSOR

SENSOR

GENERAL (TYPICAL FOR ALL EQUIPMENT LISTED BELOW): POINT NAMES AND DEVICE NAMES SHALL BE WRITABLE IN THE EQUIPMENT SUPPLIER'S BACNET INTERFACE DEVICE SO THE NAMES CAN BE CHANGED TO THE LAKE COUNTY STANDARD. DEVICES THAT DO NOT SUPPORT WRITEABLE DEVICE AND POINT NAMES ARE NOT ALLOWED IN THE WORK. IF THERE ARE POINTS IN THE DEVICE THAT DO NOT APPLY TO THE WORK, THE EQUIPMENT SUPPLIER SHALL WORK ON SITE WITH THE LAKE COUNTY CONTROLS CONSULTANT TO IDENTIFY THESE POINTS THAT DO NOT APPLY TO THE WORK. THEY SHALL BE DELETED FROM THE EQUIPMENT SUPPLIER'S BACNET INTERFACE DEVICE IF THEY ARE NOT USED IN THE WORK. SEE DIVISION 25 FOR BACNET AND NETWORKING DETAILS. ELECTRICAL SHALL PROVIDE AN IP DROP TO THE BACNET/IP DEVICE IN GOLD CONDUIT C/W A PULL WIRE SO DIVISION 27 CAN INSTALL PURPLE CAT 6 CABLE TO THE LAKE COUNTY STANDARD FROM THE DEVICE TO DESIGNATED PATCH PANEL. ALL NON-IP BAS WIRING SHALL BE IN BLUE CONDUIT.

A. TRIP UNITS: THE BASIS OF DESIGN IS THE SCHNEIDER MICROLOGIC P SERIES. ENERGY ONLY TRIP UNITS ARE NOT ALLOWED IN THE WORK. LOCATE THE BREAKER CONTROL MODULES IN A DISTRIBUTION EQUIPMENT COMPARTMENT THAT IS SUITED FOR LOW VOLTAGE (120 VAC) SO THE MODULES CAN BE SERVICED WITHOUT HAVING TO SHUT DOWN THE DISTRIBUTION EQUIPMENT. THE MODBUS COMMUNICATIONS WIRING FROM THE TRIP UNITS TO THE BREAKER CONTROL MODULES SHALL BE INSTALLED IN A WIRING CHASE BUILT FOR USE IN THE DISTRUBUTION EQUIPMENT. EQUIPMENT SUPPLIER IS ALSO RESPONSIBLE FOR PROVIDING A MODBUS TO BACNET/IP GATEWAY TO CONVERT THE MODBUS REGISTERS TO BACNET AVS, BVS AND MSVS. SEE DIVISION 25 FOR BACNET AND NETWORKING DETAILS. NOTE THAT THE BACNET/IP GATEWAY SHALL BE A FACTORY AUTHORIZED PRODUCT PROVIDED BY THE TRIP UNIT SUPPLIER. PROVIDE PROOF OF THIS DURING THE SUBMITTAL PROCESS. THIRD PARTY GATEWAYS THAT ARE NOT FACTORY AUTHORIZED GATEWAYS ARE NOT ALLOWED

B. ELECTRIC METERS: THE BASIS OF DESIGN IS THE SCHNEIDER ION 7650 WITH SAG/SWELL OPTION. LOCATE THE MODBUS METER MODULES IN A DISTRIBUTION EQUIPMENT COMPARTMENT THAT IS SUITED FOR LOW VOLTAGE (120 VAC) SO THE MODULES CAN BE SERVICED WITHOUT HAVING TO SHUT DOWN THE DISTRIBUTION EQUIPMENT. THE MODBUS COMMUNICATIONS WIRING FROM THE METERS TO THE BREAKER CONTROL MODULES SHALL BE INSTALLED IN A WIRING CHASE BUILT FOR USE IN THE DISTRIBUTION EQUIPMENT. EQUIPMENT SUPPLIER IS ALSO RESPONSIBLE FOR PROVIDING A MODBUS TO BACNET/IP GATEWAY TO CONVERT THE MODBUS REGISTERS TO BACNET AVS, BVS AND MSVS. SEE DIVISION 25 FOR BACNET AND NETWORKING DETAILS. NOTE THAT THE BACNET/IP GATEWAY SHALL BE A FACTORY AUTHORIZED PRODUCT PROVIDED THE METER SUPPLIER. PROVIDE PROOF OF THIS DURING THE SUBMITTAL PROCESS. THIRD PARTY GATEWAYS THAT ARE NOT FACTORY AUTHORIZED GATEWAYS ARE NOT ALLOWED IN THE WORK.

C. ATS'S: THE BASIS OF DESIGN IS THE CATERPILLAR ATC 300+ SERIES. ATS EQUIPMENT SUPPLIER SHALL PROVIDE A MODBUS TO BACNET/IP GATEWAY TO CONVERT THE MODBUS REGISTERS TO BACNET AVS, BVS AND MSVS. SEE DIVISION 25 FOR BACNET AND NETWORKING DETAILS. NOTE THAT THE BACNET/IP GATEWAY SHALL BE A FACTORY AUTHORIZED PRODUCT PROVIDED BY THE EQUIPMENT SUPPLIER. PROVIDE PROOF OF THIS DURING THE SUBMITTAL PROCESS THIRD PARTY GATEWAYS THAT ARE NOT FACTORY AUTHORIZED GATEWAYS ARE NOT ALLOWED IN THE WORK. SEE DIVISION 25 FOR DETAILS ON POINTS LISTS TO BE PROVIDED AND NETWORKING REQUIREMENTS. BACNET INTERFACE DEVICE SHALL BE POWERED FROM THE ATS SUPERCAP CIRCUIT OR SIMILAR DEVICE SO THE BACNET INTERFACE DEVICE STAYS LIVE DURING THE 10 SECOND TRANSFER OF POWER FROM COMMERCIAL TO DEG POWER.

D. UPS'S: THE BASIS OF DESIGN IS THE EATON 9350 SERIES WITH THE ENVIRONMENTAL MONITORING OPTION. UPS EQUIPMENT SUPPLIER SHALL PROVIDE A BACNET/IP GATEWAY TO CONVERT THE PROPRIETARY INCOMM POINTS TO BACNET AVS, BVS AND MSVS. SEE DIVISION 25 FOR BACNET AND NETWORKING DETAILS. NOTE THAT THE BACNET/IP GATEWAY SHALL BE A FACTORY AUTHORIZED PRODUCT PROVIDED BY THE UPS SUPPLIER. PROVIDE PROOF OF THIS DURING THE SUBMITTAL PROCESS. THIRD PARTY GATEWAYS THAT ARE NOT FACTORY AUTHORIZED GATEWAYS ARE NOT ALLOWED IN THE WORK. SEE DIVISION 25 FOR DETAILS ON POINTS LISTS TO BE PROVIDED AND NETWORKING REQUIREMENTS. BACNET INTERFACE DEVICE SHALL BE POWERED FROM THE ATS SUPERCAP CIRCUIT OR SIMILAR DEVICE SO THE BACNET INTERFACE DEVICE STAYS LIVE DURING THE 10 SECOND TRANSFER OF POWER FROM COMMERCIAL TO DEG POWER.

E. SPD'S SPD SHALL COME WITH AN AUX CONTACT TO BE PICKED UP BY DIVISION 25 CONTRACTOR SO SURGE EVENTS CAN BE MONITORED. WIRE CONTACTS FROM SPD TO AN EXTERNAL 1900 BOX SO DIVISION 25 CAN WORK WITHOUT ARC FLASH GEAR. ALL NON-IP BAS WIRING SHALL BE IN BLUE CONDUIT.

F. LIGHTING CONTROLLERS: THE BASIS OF DESIGN IS WATTSTOPPER. LIGHTING EQUIPMENT SUPPLIER SHALL PROVIDE A BACNET/IP GATEWAY TO EXPOSE THE BACNET MS/TP POINTS TO BACNET AVS, BVS AND MSVS IN THE TRIDIUM BACNET/IP DEVICE. SUPPORT FOR THE LIGHTING OUTPUT OBJECT TYPE EXTENSIONS TO SSPC 135 IS NOT REQUIRED. SEE DIVISION 25 FOR BACNET AND NETWORKING DETAILS. NOTE THAT THE BACNET/IP GATEWAY SHALL BE A FACTORY AUTHORIZED PRODUCT PROVIDED BY THE EQUIPMENT SUPPLIER. PROVIDE PROOF OF THIS DURING THE SUBMITTAL PROCESS. THIRD PARTY GATEWAYS THAT ARE NOT FACTORY AUTHORIZED GATEWAYS ARE NOT ALLOWED IN THE WORK. SEE DIVISION 25 FOR DETAILS ON POINTS LISTS TO BE PROVIDED AND NETWORKING REQUIREMENTS. DIVISION 25 SHALL USE THE LIGHTING CONTROLLER OCCUPANCY/VACANCY SENSORS TO PROVIDE STANDBY OCCUPANCY TEMPERATURE SETBACK AND SET-UP CONTROL PER CALIFORNIA TITLE 24 REQUIREMENTS. IMPLEMENT THE - 2 DEG F SETBACK AND + 2DEG SET-UP STRATEGY WHEN THE ROOM IS DEEMED TO BE UNOCCUPIED FOR A MINIMUM OF 30 MINUTES. RETURN TO THE USER SPECIFIED SETPOINT WHEN THE OCCUPANCY/VACANCY SENSOR INDICATES THAT THE ROOM IS OCCUPIED.

G. FIRE ALARM CONTROL PANEL (FACP) UL 864 BACNET/IP GATEWAY: THE BASIS OF DESIGN IS JCI/SIMPLEX 4100U. FACP SUPPLIER SHALL PROVIDE A BACNET/IP GATEWAY TO EXPOSE THE PROPRIETARY POINTS TO BACNET AVS, BVS AND MSVS IN THE FIELDSERVER OR EQUAL BACNET/IP DEVICE. SUPPORT FOR THE LIFE SAFETY OBJECT TYPE EXTENSIONS TO SSPC 135 IS NOT REQUIRED. SEE DIVISION 25 FOR BACNET AND NETWORKING DETAILS. NOTE THAT THE BACNET/IP GATEWAY SHALL BE A FACTORY AUTHORIZED PRODUCT PROVIDED BY THE UPS SUPPLIER. PROVIDE PROOF OF THIS DURING THE SUBMITTAL PROCESS. THIRD PARTY GATEWAYS THAT ARE NOT FACTORY AUTHORIZED GATEWAYS ARE NOT ALLOWED IN THE WORK. SEE DIVISION 25 FOR DETAILS ON POINTS LISTS TO BE PROVIDED AND NETWORKING REQUIREMENTS. ALL POINTS SHALL BE READ ONLY TO MEET UL CHAIN OF CUSTODY REQUIREMENTS.

#### **BUILDING AUTOMATION SYSTEM NOTES (GENERATOR):**

BACNET/IP NETWORK. SEE DIVISION 25 FOR DETAILS.

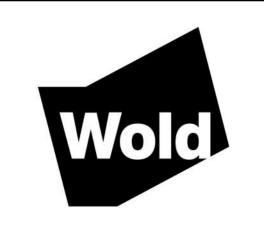
A. DIESEL ENGINE GENERATOR (DEG). CONTROLLER SHALL BE A BACNET/IP SINGLE DEVICE CONTROLLER TYPE OF BACNET INTERFACE DEVICE. THIRD PARTY GATEWAYS THAT ARE NOT FACTORY AUTHORIZED GATEWAYS ARE NOT ALLOWED IN THE WORK. NOTE THAT THE BACNET/IP GATEWAY SHALL BE A FACTORY AUTHORIZED PRODUCT PROVIDED BY THE EQUIPMENT SUPPLIER. PROVIDE PROOF OF THIS DURING THE SUBMITTAL PROCESS. SEE DIVISION 25 FOR DETAILS ON THE BACNET OBJECT LIST TO BE PROVIDED AS BACNET AVS, BVS AND MSVS BY THE EQUIPMENT SUPPLIER. POINT NAMES AND DEVICE NAMES SHALL BE WRITABLE IN THE EQUIPMENT SUPPLIER'S BACNET INTERFACE DEVICE SO THE NAMES CAN BE CHANGED TO THE LAKE COUNTY STANDARD. DEVICES THAT DO NOT SUPPORT WRITEABLE DEVICE AND POINT NAMES ARE NOT ALLOWED IN THE WORK. IF THERE ARE POINTS IN THE DEVICE THAT DO NOT APPLY TO THE WORK, THE EQUIPMENT SUPPLIER SHALL WORK ON SITE WITH THE LAKE COUNTY CONTROLS CONSULTANT TO IDENTIFY THESE POINTS THAT DO NOT APPLY TO THE WORK. THEY SHALL BE DELETED FROM THE EQUIPMENT SUPPLIER'S BACNET INTERFACE DEVICE IF THEY ARE NOT USED IN THE WORK. SEE DIVISION 25 FOR BACNET AND NETWORKING DETAILS. ELECTRICAL SHALL PROVIDE AN IP DROP TO THE BACNET/IP DEVICE IN GOLD CONDUIT C/W A PULL WIRE SO DIVISION 27 CAN INSTALL PURPLE CAT 6 CABLE TO THE LAKE COUNTY STANDARD FROM THE DEVICE TO DESIGNATED PATCH

B. DIESEL ENGINE GENERATOR (DEG) EQUIPMENT SUPPLIER SHALL PROVIDE A MODBUS TO BACNET/IP GATEWAY TO CONVERT THE MODBUS REGISTERS TO BACNET AVS, BVS AND MSVS. THE GENERATOR BACNET SINGLE DEVICE CONTROLLER SHALL COME WITH THE EQUIVALENT OF A CATERPILLAR EMCP-4 CONTROLLER OR APPROVED EQUAL. BACNET INTERFACE DEVICE SHALL BE POWERED FROM THE DEG BATTERY CIRCUIT OR SIMILAR DEVICE SO THE BACNET INTERFACE DEVICE STAYS LIVE DURING THE 10 SECOND STARTUP OF THE DEG. THE CONTROLLER SHALL COME C/W AN EMBEDDED LINUX WEBSERVER FOR CONFIGURATION. ALL OTHER DATA SHALL BE TRANSMITTED OVER THE

#### Regional Operations and Communications **Facility**



656 Winchester Rd, Libertyville, IL

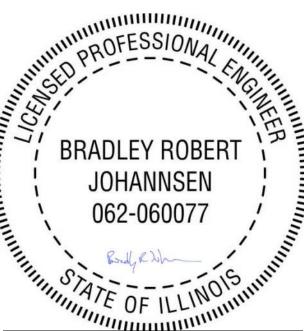


**WOLD ARCHITECTS AND ENGINEERS** 110 North Brockway, Suite 220 Palatine, Illinois 60067

woldae.com | 847 241 6100

## RossDrulisCusenbery

18294 Sonoma Highway Sonoma, CA 95476 rdcarchitecture.com | tel 707 996 8448



I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed PROFESSIONAL ENGINEER under the laws of the State of ILLINOIS

BRADLEY R. JOHANNSEN 062.060077 Date 12/30/2022

|             | Revisions |     |
|-------------|-----------|-----|
| Description | Date      | Num |
| Addendum #1 | 2/17/2023 | 1   |
| Addendum #3 | 3/3/2023  | 2   |
|             |           |     |
|             |           |     |
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|             |           |     |
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|             |           |     |

Date: 12/30/2022 Drawn: N.DEFRANCESCO Check: **B.JOHANNSEN** 

**METERING AND BAS DETAILS** 

GENERAL NOTES:

A. ALL FUSE SIZES/BREAKER TRIPS ARE ESTIMATED. CONTRACTOR TO FIELD VERIFY INSTALLED MOTOR REQUIREMENTS.

01400A AV ROOM

MECH 01650

FAN COIL

NITROGEN GENERATOR COMPRESSOR

2

3

9.6 FLA 120/1 CL10 1 3/4" EMT 2 12 AWG 12 AWG

2 HP 208/3 DP-CL10 1 3/4" EMT 3 12 AWG

12 AWG

12 AWG CU THHN NONE NONE

MECH

NFS

KEYED NOTES:

1. ELEVATOR GROUND SHALL BE FULLY SIZED.

FLOOR BOX (FB) SCHEDULE COVER DESCRIPTION FB1 4-GANG RECESSED DUAL SERVICE FLOORBOX FLUSH. FLANGED LID STANDARD FINISH TBD WIREMOLD RFB4 SERIES OR APPROVED EQUAL REFER TO SIGNAL/AV PLANS FOR SUITABLE FOR CARPET INSTALLATION PROVIDE SILICON BEAD AROUND OUTER EDGE OF CONFERENCE ROOMS SLAB ON GRADE COVER TO SEAL FROM MOISTURE RFB1 4-GANG RECESSED DUAL SERVICE FLOOR BOX (1) QUAD OUTLET FLUSH, FLANGED LID STANDARD FINISH TBD REFER TO SIGNAL/AV PLANS FOR SUITABLE FOR CARPET INSTALLATION WIREMOLD EVOLUTION EFB45 SERIES OR PROVIDE SILICON BEAD AROUND OUTER EDGE OF APPROVED EQUAL COVER TO SEAL FROM AIR PRESSURE CONFERENCE ROOM RAISED PRESSURIZED FLOOR (2) QUAD OUTLET RFB2 8-GANG RECESSED DUAL SERVICE FLOOR BOX FLUSH, FLANGED LID STANDARD FINISH TBD WIREMOLD EVOLUTION EFB8 SERIES OR REFER TO SIGNAL/AV PLANS FOR SUITABLE FOR CARPET INSTALLATION APPROVED EQUAL DEVICES PROVIDE SILICON BEAD AROUND OUTER EDGE OF COVER TO SEAL FROM AIR PRESSURE EOC RAISED PRESSURIZED FLOOR RFB3 10-GANG RECESSED DUAL SERVICE FLOOR BOX (3) QUAD OUTLET FLUSH, FLANGED LID STANDARD FINISH TBD WIREMOLD EVOLUTION EFB10 SERIES OR REFER TO SIGNAL/AV PLANS FOR SUITABLE FOR CARPET INSTALLATION PROVIDE SILICON BEAD AROUND OUTER EDGE OF COVER TO SEAL FROM AIR PRESSURE DISPATCH CONSOLE RAISED PRESSURIZED FLOOR RFB4 2-GANG RECESSED DUAL SERVICE FLOOR FURNITURE FEED COVER STANDARD FINISH TBD FURNITURE FEED SUITABLE FOR CARPET INSTALLATION WIREMOLD EVOLUTION EFBFF SERIES OR PROVIDE SILICON BEAF AROUND OUTER EDGE OF COVER TO SEAL FROM AIR APPROVED EQUAL EOC RAISED PRESSURIZED FLOOR PRESSURE A. CONTRACTOR TO REQUEST DIMENSIONING OF FLOORBOXES FROM ARCHITECT/ENGINEER PRIOR TO INSTALLATION. B. CONTRACTOR TO VERIFY FLOOR TYPE PRIOR TO ORDERING. C. PROVIDE CONDUIT FOR POWER AND ROUTE AS REQUIRED.

D. PROVIDE APPROPRIATE CONDUIT FOR LOW VOLTAGE AND ROUTE TO NEAREST ACCESSIBLE CEILING SPACE ABOVE AS REQUIRED.

F. PROVIDE LABELING FOR EMPTY CONDUITS IN A MANNER THAT INDICATES TO WHICH FLOOR BOX THE CONDUIT IS ASSOCIATED.

E. PROVIDE DEVICES AND PLATES AS INDICATED ON PLANS AND SPECS.

FC-2

NG-1C

MECH

MECH

REFER TO DRY TYPE SYSTEM DETAIL FOR MORE INFORMATION.

MTR

Regional Operation

GENERAL SCHEDULE NOTES

A. OBTAIN SHOP DRAWINGS OF EQUIPMENT

AND COMPARE CONNECTION, LOAD, AND

DOCUMENTS BEFORE INSTALLING FEEDER

COMPARE EQUIPMENT NAMEPLATE DATA TO

DOCUMENTS. NOTIFY ARCHITECT/ENGINEER

**VOLTAGE INFORMATION TO CONTRACT** 

CONDUITS. NOTIFY ARCHITECT OF ANY

DISCREPANCIES. BEFORE MAKING

SHOP DRAWINGS AND CONTRACT

OF ANY DISCREPANCIES.

**EQUIPMENT POWER CONNECTIONS,** 

B. SIZE OVERLOAD PROTECTION BASED ON

C. MANUAL MOTOR STARTERS (MMS) TO BE

SQUARE D FRACTIONAL HP MANUAL

GUARD AND RED PILOT LIGHT.

PILOT LIGHT.

STARTERS WITH MELTING ALLOY TYPE
THERMAL OVERLOAD OR APPROVED EQUAL.

D. WHEN STARTERS ARE PROVIDED BY ELEC

PROVIDE A NON-REVERSING FVNR COMBINATION STARTER WITH FUSIBLE

PROVIDE TOGGLE SWITCH WITH HANDLE

DISCONNECT UNLESS NOTED OTHERWISE. PROVIDE 120V CONTROL CIRCUIT WITH

TRANSFORMER, (2) AUXILIARY CONTACTS,

HOA SELECTOR SWITCH AND RED RUNNING

ACTUAL NAMEPLATE DATA OF EQUIPMENT.

Operations and Communications Facility



656 Winchester Rd, Libertyville, IL



WOLD ARCHITECTS AND ENGINEERS 110 North Brockway, Suite 220 Palatine, Illinois 60067

woldae.com | 847 241 6100

### Ros Druli Cusenbery

18294 Sonoma Highway Sonoma, CA 95476 rdcarchitecture.com | tel 707 996 8448



I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed PROFESSIONAL ENGINEER under the laws of the State of ILLINOIS

Dense BRADLEY R. JOHANNSEN 062.060077 Date 12/30/2022

| Revi        | sions     |     |
|-------------|-----------|-----|
| Description | Date      | Num |
| Addendum #2 | 2/24/2023 | 1   |
| Addendum #3 | 3/3/2023  | 2   |
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Comm: 213106

Date: 12/30/2022

Drawn: I.SHENO

Check: B.JOHANNSEN

MOTOR

MOTOR SCHEDULE

Scale: **As indicated** 

F6 02

Ε

|        | LOCATION:    | ELECTRICAL   | ROOM 01650A                               | ТСНВ    |   |              | E: 480Y/2        |                | · W.           |             |                      |
|--------|--------------|--------------|-------------------------------------------|---------|---|--------------|------------------|----------------|----------------|-------------|----------------------|
|        | IAIN DEVICE: |              | 1100m 01000, 1                            | Δ       | _ |              | <b>G:</b> 65KAIC |                | •••            |             |                      |
|        |              |              |                                           |         |   |              | J. USINAIC       | •              |                |             |                      |
| IVIA   | INS RATING:  |              |                                           |         |   | 005014       |                  | DD 014/41      |                |             |                      |
|        | BUS AMPS:    |              |                                           |         |   | SPECIA       |                  |                | ER METER       |             | EPERATE<br>AGE BACNE |
|        | FED FROM:    | UTILITY TRAN | ISFORMER                                  |         |   |              | COMP             | AIX I IVILIN I | I OK LOW       | VOL 1       | AGE DACINE           |
|        |              |              |                                           |         |   |              |                  |                |                |             |                      |
| СКТ    |              | NAME         |                                           | SWITCH  | Р | FUSE<br>SIZE | PHASE<br>A KVA   | PHASE<br>B KVA | PHASE<br>C KVA |             | NOTES                |
| 1      | LS-H10       |              |                                           | 200 A   | 3 | 200 A        | 4282 VA          |                | 1900 VA        | <u> </u>    | 1                    |
| 2      | DP-CH10      |              |                                           | 1000 A  | 3 |              | 208251           |                | 195598         | <b></b>     | 1                    |
| 3      | DP-CUH1A     |              |                                           | 400 A   | 3 | 400 A        | 44836            | 43371          | 46340          | <u> </u>    | 1                    |
| 4      | DP-CUH1B     |              |                                           | 400 A   | 3 | 400 A        | 19141            | 18697          | 18392          | <b>—</b>    | 1                    |
| 5      | PH20         |              |                                           | 200 A   | 3 | 200 A        | 35604            | 39259          | 37489          | <del></del> | 1                    |
| 6<br>7 |              |              |                                           |         |   |              |                  |                |                |             |                      |
| 8      |              |              |                                           |         |   |              |                  |                |                |             |                      |
| 9      |              |              |                                           |         |   |              |                  |                |                |             |                      |
| 10     |              |              |                                           |         |   |              |                  |                |                |             |                      |
| 11     |              |              |                                           |         |   |              |                  |                |                |             |                      |
| 12     |              |              |                                           |         |   |              |                  |                |                |             |                      |
| 13     |              |              |                                           |         |   |              |                  |                |                |             |                      |
| 14     |              |              |                                           |         |   |              |                  |                |                |             |                      |
| 15     |              |              |                                           |         |   |              |                  |                |                |             |                      |
| 16     |              |              |                                           |         |   |              |                  |                |                |             |                      |
| 17     |              |              |                                           |         |   |              |                  |                |                |             |                      |
| 18     |              |              |                                           |         |   |              |                  |                |                |             |                      |
| 19     |              |              |                                           |         |   |              |                  |                |                | <u> </u>    |                      |
| 20     |              |              |                                           |         |   |              |                  |                |                | <u> </u>    |                      |
| 21     |              |              |                                           |         |   |              |                  |                |                |             |                      |
| 22     |              |              |                                           |         |   |              |                  |                |                | <u> </u>    |                      |
| 23     |              |              |                                           |         |   |              |                  |                |                | <u> </u>    |                      |
| 24     |              |              |                                           |         |   |              |                  |                |                |             |                      |
| OAD    | CLASSIFICAT  | ION          | CONNECTED                                 | DEMAN   | D | ESTI         | MATED            |                | PANE           | L TOTA      | ALS                  |
| Α      |              |              | 0 VA                                      | 0.00%   |   | _            | ) VA             |                |                |             |                      |
| IEAT   |              |              | 10558 VA                                  | 125.00% |   |              | 98 VA            |                |                |             |                      |
| TG.    |              |              | 25010 VA                                  | 125.00% |   |              | 263 VA           |                |                |             |                      |
| /ITR   |              |              | 519696 VA                                 | 110.20% |   |              | 696 VA           |                |                |             |                      |
| Other  |              |              | 30277 VA                                  | 100.00% |   |              | 277 VA           |                |                |             | 918346 VA            |
| CPT    |              |              | 223460 VA                                 | 52.24%  |   | _            | 730 VA           |                |                |             | 875632 VA            |
| Spare  | DEC          |              | 2000 VA                                   | 100.009 |   | _            | 00 VA            |                | ONN. CUR       |             |                      |
| X_SF   | EU           |              | 112098 VA                                 | 102.31% | 0 | 1146         | 691 VA           |                | EST. DEM       | ANU         | 1053 A               |
|        |              |              | ling, ELEV- Elevat<br>lotor, LTG -Lightir |         |   |              |                  |                | ounding,       | HEAT .      | ⊥<br>- Winter Hea    |

|          | MAIN DEVICE:<br>AINS RATING: | 12004        |                                                  |        |    |              | <b>3</b> : 65KAIC | •              |                       |             |                 |
|----------|------------------------------|--------------|--------------------------------------------------|--------|----|--------------|-------------------|----------------|-----------------------|-------------|-----------------|
| IVIA     | BUS AMPS:                    |              |                                                  |        |    | SDECIVI      | . GED S           |                | RATE COM              | DARTI       | MENT FOR LO     |
|          |                              |              | DOCKING STATION                                  | I      |    | SPECIA       |                   |                | ET WIRING             |             | VILIVI I OIVEO  |
|          | FED FROM:                    | GENERATOR    | DOCKING STATION                                  |        |    |              |                   |                |                       |             |                 |
| СКТ      |                              | NAME         |                                                  | SWITCH | D  | FUSE<br>SIZE | PHASE<br>A KVA    | PHASE<br>B KVA | PHASE<br>C KVA        |             | NOTES           |
|          | LS-H10                       | IVAIVIL      |                                                  | 200 A  | 3  | 200 A        | 0 VA              | 0 VA           | 0 VA                  |             | 1               |
| 2        | DP-CH11                      |              |                                                  | 800 A  | 3  | 800 A        | 0 VA              | 0 VA           | 0 VA                  |             | 1               |
| 3        | DP-CUH1A                     |              |                                                  | 400 A  | 3  | 400 A        | 0 VA              | 0 VA           | 0 VA                  |             | 1               |
| 4        | DP-CUH1B                     |              |                                                  | 400 A  | 3  | 400 A        | 0 VA              | 0 VA           | 0 VA                  |             | 1               |
| 5        | PH20                         |              |                                                  | 200 A  | 3  | 200 A        | 0 VA              | 0 VA           | 0 VA                  |             | 1               |
| 6        | FIRE PUMP                    |              |                                                  | 100 A  | 3  | 100 A        | 0 VA              | 0 VA           | 0 VA                  |             | 1               |
| 7        |                              |              |                                                  |        |    |              |                   |                |                       |             |                 |
| 8        |                              |              |                                                  |        |    |              |                   |                |                       |             |                 |
| 9        |                              |              |                                                  |        |    |              |                   |                |                       |             |                 |
| 10       |                              |              |                                                  |        |    |              |                   |                |                       |             |                 |
| 11<br>12 |                              |              |                                                  |        |    |              |                   |                |                       |             |                 |
| 13       |                              |              |                                                  |        |    |              |                   |                |                       |             |                 |
| 14       |                              |              |                                                  |        |    |              |                   |                |                       |             |                 |
| 15       |                              |              |                                                  |        |    |              |                   |                |                       |             |                 |
| 16       |                              |              |                                                  |        |    |              |                   |                |                       |             |                 |
| 17       |                              |              |                                                  |        |    |              |                   |                |                       |             |                 |
| 18       |                              |              |                                                  |        |    |              |                   |                |                       |             |                 |
| 19       |                              |              |                                                  |        |    |              |                   |                |                       |             |                 |
| 20       |                              |              |                                                  |        |    |              |                   |                |                       |             |                 |
| 21       |                              |              |                                                  |        |    |              |                   |                |                       |             |                 |
| 22       |                              |              |                                                  |        |    |              |                   |                |                       |             |                 |
| 23       |                              |              |                                                  |        |    |              |                   |                |                       |             |                 |
| 24       |                              |              |                                                  |        |    |              |                   |                |                       |             |                 |
| .OAD     | CLASSIFICAT                  | TON          | CONNECTED                                        | DEMAN  | D  | ESTI         | MATED             |                | PANEL                 | _ TOTA      | ALS             |
|          |                              |              |                                                  |        |    |              |                   |                |                       |             |                 |
|          |                              |              |                                                  |        |    |              |                   |                |                       |             |                 |
|          |                              |              |                                                  |        |    |              |                   |                | 001::::               | 015         | 0.144           |
|          |                              |              |                                                  |        |    |              |                   | FOT            | CONN. L               |             |                 |
|          |                              |              |                                                  |        |    |              |                   |                | DEMAND L<br>DNN. CURF |             |                 |
|          |                              |              |                                                  |        |    |              |                   |                | EST. DEM              |             |                 |
|          |                              |              |                                                  |        |    |              |                   |                | LUI. DLIVI            | ~.1 <b></b> |                 |
|          |                              |              | │<br>ling, ELEV- Elevato<br>lotor, LTG -Lighting |        |    |              |                   |                | ounding, I            | HEAT -      | · Winter Heatin |
| IOTE     |                              | . 3          | ,                                                |        |    | -            |                   |                |                       |             |                 |
|          |                              | T METER INTF | GRAL WITH BREAK                                  | ER.    |    |              |                   |                |                       |             |                 |
|          |                              |              | ECTED/DEMAND LO                                  |        | ES |              |                   |                |                       |             |                 |
|          |                              |              |                                                  |        |    |              |                   |                |                       |             |                 |

|     |      | LOCATION: ELECTR   | RICAL ROOM | 1 01650          | Α   |     |            | VOI | LTAG       | <b>E</b> : 4 | 80Y/2     | 277 \ | /. 3 ø 4 | W.       |                                  |          |    |   |
|-----|------|--------------------|------------|------------------|-----|-----|------------|-----|------------|--------------|-----------|-------|----------|----------|----------------------------------|----------|----|---|
|     |      | MOUNTING: SURFAC   | CE         |                  |     |     |            |     | A.F.C      | S            | EE S      | HOF   | RT CIRC  | CUIT STU | JDY                              |          |    |   |
|     |      | MAINS TYPE: MLO    |            |                  |     |     |            | SP  | ECIA       | L: S         | PD        |       |          |          |                                  |          |    |   |
|     |      | MAINS AMPS: 200A   |            |                  |     |     |            |     |            |              |           |       |          |          |                                  |          |    |   |
|     |      | BUS AMPS: 200A     |            |                  |     |     |            |     |            |              |           |       |          |          |                                  |          |    |   |
|     |      | FED FROM: MSBH-1   |            |                  |     |     |            |     |            |              |           |       |          |          |                                  |          |    |   |
| #   | вт   | LOAD DESCRIPTION   | l LT       | BKR              | Р   |     | ASE<br>(VA |     | ASE<br>(VA | PH/<br>C k   | ASE<br>VA | Р     | BKR      | LT       | LOAD DESCRI                      | PTION    | вт |   |
| 1   |      | AREA 'A' NORTH LTG | LTG        | 20 A             | 1   | 1.3 | 0.4        |     |            |              |           | 1     | 20 A     | LTG      | CLERESTORY EM                    | LTGS 'A' |    | Ī |
| 3   |      | AREA 'B' NORTH LTG | LTG        | 20 A             | 1   |     |            | 0.9 | 0.5        |              |           | 1     | 20 A     | LTG      | CELERESTORY LT                   | ΓG       |    |   |
| 5   |      | AREA 'A' SOUTH LTG | LTG        | 20 A             | 1   |     |            |     |            | 0.5          | 0.5       | 1     | 20 A     | LTG      | CELERESTORY LT                   | ΓGS ARE  |    | - |
| 7   |      | AREA 'B' SOUTH LTG | LTG        | 20 A             | 1   | 1.2 | 1.3        |     |            |              |           | 3     | 80 A     | Spare    | LS-H11                           |          |    | - |
| 9   |      | STORM INVERTER     | XX_S       | 20 A             | 1   |     |            | 0.7 | 1.0        |              |           |       |          |          |                                  |          |    |   |
| 11  |      | SPARE              |            | 20 A             | 1   |     |            |     |            | 0.0          | 0.9       |       |          |          |                                  |          |    |   |
| 13  |      | SPARE              |            | 20 A             | 1   | 0.0 | 0.0        |     |            |              |           | 1     | 30 A     |          | SPARE                            |          |    | - |
| 15  |      | SPARE              |            | 20 A             | 1   |     |            | 0.0 | 0.0        |              |           | 2     | 20 A     |          | SPARE                            |          |    | - |
| 17  |      | SPARE              |            | 20 A             | 1   |     |            |     |            | 0.0          | 0.0       |       |          |          |                                  |          |    |   |
| 19  |      | SPARE              |            | 20 A             | 1   | 0.0 | 0.0        |     |            |              |           | 3     | 20 A     |          | SPARE                            |          |    |   |
| 21  |      | SPARE              |            | 20 A             | 1   |     |            | 0.0 | 0.0        |              |           |       |          |          |                                  |          |    |   |
| 23  |      | SPARE              |            | 20 A             | 1   |     |            |     |            | 0.0          | 0.0       |       |          |          |                                  |          |    |   |
| 25  |      |                    |            |                  |     |     |            |     |            |              |           |       |          |          |                                  |          |    |   |
| 27  |      |                    |            |                  |     |     |            |     |            |              |           |       |          |          |                                  |          |    |   |
| 29  |      |                    |            |                  |     |     |            |     |            |              |           |       |          |          |                                  |          |    |   |
| 31  |      |                    |            |                  |     |     |            |     |            |              |           |       |          |          |                                  |          |    |   |
| 33  |      |                    |            |                  |     |     |            |     |            |              |           |       |          |          |                                  |          |    |   |
| 35  |      |                    |            |                  |     |     |            |     |            |              |           |       |          |          |                                  |          |    |   |
| 37  |      |                    |            |                  |     |     |            |     |            |              |           |       |          |          |                                  |          |    |   |
| 39  |      |                    |            |                  |     |     |            |     |            |              |           |       |          |          |                                  |          |    |   |
| 41  |      |                    |            |                  |     |     |            |     |            |              |           |       |          |          |                                  |          |    |   |
|     |      |                    |            | TAL LO<br>TAL AM |     |     | XVA        | 3 k |            | 2 k          |           |       |          |          |                                  |          |    | _ |
| OA  | D CL | ASSIFICATION       | CONNEC     |                  | P3: |     | A<br>AND   |     | A<br>ES    |              | ATED      | ) [   |          |          | PANEL TOTALS                     | <br>S    |    | _ |
| TG  |      |                    | 8532 V     |                  |     |     | .00%       |     |            | 0665         |           |       |          |          | .,                               |          |    | - |
| (X_ | SPEC |                    | 693 V      | Ą                |     | 100 | .00%       |     |            | 693          | VA        |       |          |          | ONNECTED LOAD:                   |          |    | _ |
|     |      |                    |            |                  |     |     |            |     |            |              |           |       |          |          | IMATED DEMAND:<br>ECTED CURRENT: |          |    | - |
|     |      |                    |            |                  |     |     |            |     |            |              |           |       |          |          | EMAND CURRENT:                   |          |    | - |
|     |      |                    |            |                  |     |     |            |     |            |              |           |       |          |          |                                  |          |    |   |
|     |      |                    |            |                  |     |     |            |     |            |              |           |       |          |          |                                  |          |    | _ |

1. PROVIDE SUBMETERING OF LS-H11 BREAKER (EXTERIOR LIGHTING).

|            |              | LOCATION: ELECTRIC MOUNTING: SURFACE                                                                               | AL ROOM              | /I 01650           | Α               |                 |           | 1     | A.F.C      | 6     | 5 KAI     |          | V. 3 ø 4 \ | W.  |                               |          |     |
|------------|--------------|--------------------------------------------------------------------------------------------------------------------|----------------------|--------------------|-----------------|-----------------|-----------|-------|------------|-------|-----------|----------|------------|-----|-------------------------------|----------|-----|
|            |              | MAINS TYPE: MLO MAINS AMPS: 80A                                                                                    |                      |                    |                 |                 |           | SF    | PECIA      | AL: S | PD        |          |            |     |                               |          |     |
|            |              | BUS AMPS: 80A                                                                                                      |                      |                    |                 |                 |           |       |            |       |           |          |            |     |                               |          |     |
|            |              | FED FROM: LS-H10                                                                                                   |                      |                    |                 |                 |           |       |            |       |           |          |            |     |                               |          |     |
| #          | вт           | LOAD DESCRIPTION                                                                                                   | LT                   | BKR                | Р               |                 | ASE<br>VA |       | ASE<br>(VA |       | ASE<br>VA | Р        | BKR        | LT  | LOAD DESCRI                   | PTION BT | . # |
| 1          |              | SOUTH&EAST PARKING                                                                                                 | LTG                  | 20 A               | 2               | 0.4             | 0.1       |       |            |       |           | 1        | 20 A       | LTG | FLAG LIGHT RELA               | Y        | 2   |
| 3          |              |                                                                                                                    |                      |                    |                 |                 |           | 0.4   | 0.2        |       |           | 1        | 20 A       | LTG | MAIN ENTRY RELA               | ΑΥ       | 4   |
| 5          |              | NORTH PARKING                                                                                                      | LTG                  | 20 A               | 2               |                 |           |       |            | 0.6   | 0.1       | 1        | 20 A       | LTG | PATIO RELAY                   |          | (   |
| 7          |              |                                                                                                                    |                      |                    |                 | 0.6             | 0.0       |       |            |       |           | 1        | 20 A       |     | SPARE                         |          | 8   |
| 9          |              | CANOPY RELAY                                                                                                       | LTG                  | 20 A               | 1               |                 |           | 0.3   | 0.0        |       |           | 1        | 20 A       |     | SPARE                         |          | 1   |
| 11         |              | SOUTH&WEST PARKING                                                                                                 | LTG                  | 20 A               | 2               |                 |           |       |            | 0.2   | 0.0       | 1        | 20 A       |     | SPARE                         |          | 1   |
| 13         |              |                                                                                                                    |                      |                    |                 | 0.2             |           |       |            |       |           |          |            |     |                               |          | 1   |
| 15         |              | SPARE                                                                                                              |                      | 20 A               | 1               |                 |           | 0.0   |            |       |           |          |            |     |                               |          | 1   |
| 17         |              | SPARE                                                                                                              |                      | 20 A               | 1               |                 |           |       |            | 0.0   |           |          |            |     |                               |          | 1   |
| 19         |              | SPARE                                                                                                              |                      | 20 A               | 1               | 0.0             |           |       |            |       |           |          |            |     |                               |          | 2   |
| 21         |              |                                                                                                                    |                      |                    |                 |                 |           |       |            |       |           |          |            |     |                               |          | 2   |
| 23         |              |                                                                                                                    |                      |                    |                 |                 |           |       |            |       |           |          |            |     |                               |          | 2   |
| 25         |              |                                                                                                                    |                      |                    |                 |                 |           |       |            |       |           |          |            |     |                               |          | 2   |
| 27         |              |                                                                                                                    |                      |                    |                 |                 |           |       |            |       |           |          |            |     |                               |          | 2   |
| 29         |              |                                                                                                                    |                      |                    |                 |                 |           |       |            |       |           |          |            |     |                               |          | 3   |
| 31         |              |                                                                                                                    |                      |                    |                 |                 |           |       |            |       |           |          |            |     |                               |          | 3   |
| 33         |              |                                                                                                                    |                      |                    |                 |                 |           |       |            |       |           |          |            |     |                               |          | 3   |
| 35         |              |                                                                                                                    |                      |                    |                 |                 |           |       |            |       |           |          |            |     |                               |          | 3   |
| 37         |              |                                                                                                                    |                      |                    |                 |                 |           |       |            |       |           |          |            |     |                               |          | 3   |
| 39         |              |                                                                                                                    |                      |                    |                 |                 |           |       |            |       |           |          |            |     |                               |          | 4   |
| 11         |              |                                                                                                                    |                      |                    |                 |                 |           |       |            |       |           |          |            |     |                               |          | 4   |
|            |              |                                                                                                                    |                      | TAL LO             |                 |                 | VA        |       | VA         |       | VA        |          |            |     |                               |          |     |
| OA         | D CL         | ASSIFICATION                                                                                                       | CONNEC               | TAL AM             | IPS:            |                 | A<br>IAND |       | A<br>E     | STIM  | A<br>ATEC | <u> </u> |            |     | PANEL TOTALS                  | <br>}    |     |
| TG         |              |                                                                                                                    | 3183 V               |                    |                 |                 | .00%      |       |            | 3979  |           |          |            |     |                               |          |     |
|            |              |                                                                                                                    |                      |                    |                 |                 |           |       |            |       |           |          |            |     | ONNECTED LOAD:                |          |     |
|            |              |                                                                                                                    |                      |                    |                 |                 |           |       |            |       |           |          |            |     | IMATED DEMAND: ECTED CURRENT: |          |     |
|            |              |                                                                                                                    |                      |                    |                 |                 |           |       |            |       |           |          |            |     | EMAND CURRENT:                |          |     |
|            |              |                                                                                                                    |                      |                    |                 |                 |           |       |            |       |           |          |            |     |                               |          |     |
| itc<br>rea | hen,<br>Iker | pes (LT): COOL - Summer (<br>L MTR - Largest Motor, LT<br>Types (BT): AF = Arc Fault,<br>g, NX = New Breaker For E | G -Lighti<br>GF = Gr | ng, MTF<br>ound Fa | R - M<br>ault ( | lotor,<br>Circu | RCP       | T - R | ecep       | tacle |           |          |            |     | <u>-</u> .                    |          |     |

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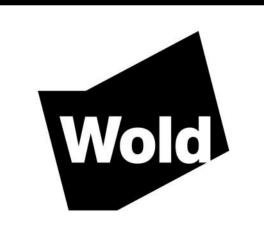
|            | BUS AMPS:<br>FED FROM:     |             | /ISBH-1 / EDPH-1)                       |              |     | SPECIA       | <b>L.</b> 3FD |                    |                          |    |                  |
|------------|----------------------------|-------------|-----------------------------------------|--------------|-----|--------------|---------------|--------------------|--------------------------|----|------------------|
| СКТ        |                            | NAME        |                                         | FRAME        | P   | TRIP<br>SIZE | A             | В                  | C                        |    | NOTES            |
| 1          | TC10 (CL10)                |             |                                         | 300 A        | 3   | 300 A        | 59227         | 49955              | 46504                    |    | 1                |
| 2          | TC2                        |             |                                         | 100 A        | 3   | 100 A        | 11140         | 13643              | 14242                    |    | 1                |
| 3          | CH10                       |             |                                         | 100 A        | 3   | 100 A        | 4246 VA       | 5802 VA            | 684 VA                   |    | 1                |
| 4          | GHP-1                      |             |                                         | 250 A        | 3   | 250 A        | 0 VA          | 0 VA               | 0 VA                     |    | 1,2              |
| √5 <u></u> | B-1                        | ~~~~        | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~  | 350 A        | 3   | 350 A        | V . V . V     | 70667              | 70667                    |    | 1,2              |
| 6          | AHU-1:SF-1                 |             |                                         | 40 A         | 3   | 40 A         |               | 7467 VA            | 4                        |    |                  |
| 7          | AHU-1:SF-2                 | ~~~         |                                         | 40 A         | 3   | 40 A         | $\sim$        | 7467 VA            |                          |    |                  |
| 8          | AHU-1:RF-1<br>AHU-1:RF-2   |             |                                         | 20 A         | 3   | 20 A         |               | 1333 VA            |                          |    |                  |
| 9_         | AHU-1:RF-2<br>AHU-2:SF-1   | ~~~~        | <b>****</b>                             | 20 A<br>40 A | 3   | 20 A<br>40 A | V 7 V 7       | 1333 VA<br>7467 VA |                          |    |                  |
| 10<br>11   | AHU-2:\$F-1<br>AHU-2:\$F-2 |             |                                         | 40 A<br>40 A | 3   | 40 A<br>40 A |               | 7467 VA            |                          |    |                  |
| 12         | AHU-2:RF-1                 | <u>~~~~</u> |                                         | 20 A         | 3   | 20 A         |               | 2100 VA            |                          |    |                  |
| 13         | AHU-2:RF-2                 |             |                                         | 20 A         | 3   | 20 A         |               | 2100 VA            | <b></b>                  |    |                  |
| 14         | AHU-2 RW                   |             |                                         | 20 A         | 3   | 20 A         | 300 VA        |                    |                          |    |                  |
| 15         | P-1                        |             |                                         | 20 A         | 3   | 20 A         |               |                    | 3867 VA                  |    |                  |
| 16         | P-2                        |             |                                         | 20 A         | 3   | 20 A         |               | 3867 VA            |                          |    |                  |
| 17         | P-3                        |             |                                         | 20 A         | 3   | 20 A         | 2100 VA       | 2100 VA            | 2100 VA                  |    |                  |
| 18         | P-4                        |             |                                         | 20 A         | 3   | 20 A         | 2100 VA       | 2100 VA            | 2100 VA                  |    |                  |
| 19         | P-5                        |             |                                         | 20 A         | 3   | 20 A         | 2100 VA       | 2100 VA            | 2100 VA                  |    |                  |
| 20         | P-6                        |             |                                         | 20 A         | 3   | 20 A         |               | 2100 VA            |                          |    |                  |
| 21         | P-7                        |             |                                         | 20 A         | 3   | 20 A         | 567 VA        |                    | 567 VA                   |    |                  |
| 22         | HU-1                       |             |                                         | 40 A         | 3   | 40 A         |               | 5000 VA            |                          |    | 1                |
| 23         | HU-2                       |             |                                         | 40 A         | 3   | 40 A         |               | 5000 VA            |                          |    | 1                |
| 24         | SPARE                      |             |                                         | 200 A        | 3   | 200 A        | 0 VA          | 0 VA               | 0 VA                     |    |                  |
| 25         | SPARE                      |             |                                         | 100 A        | 3   | 100 A        |               | 0 VA               | 0 VA                     |    |                  |
| 26<br>27   | SPARE<br>SPARE             |             |                                         | 20 A<br>20 A | 3   | 20 A<br>20 A | 0 VA<br>0 VA  | 0 VA<br>0 VA       | 0 VA<br>0 VA             |    |                  |
| 28         | SPARE                      |             |                                         | 20 A         | 3   | 20 A         | 0 VA          | 0 VA               | 0 VA                     |    |                  |
| 29         | SPARE                      |             |                                         | 20 A         | 3   | 20 A         | 0 VA          | 0 VA               | 0 VA                     |    |                  |
| 30         | 017112                     |             |                                         | 2071         |     | 2071         | 0 171         | 0 171              | 0 171                    |    |                  |
|            |                            |             |                                         |              |     |              | 1             |                    |                          |    |                  |
| LOAD       | CLASSIFICAT                | ION         | CONNECTED                               | DEMAN        | ID  | ESTI         | MATED         |                    | PANEL T                  | ОТ | ALS              |
| Other      |                            |             | 23015 VA                                | 100.00       |     |              | 15 VA         |                    |                          |    |                  |
| RCPT       |                            |             | 95692 VA                                | 55.23%       |     |              | 346 VA        |                    |                          |    |                  |
| FA         |                            |             | 0 VA                                    | 0.00%        |     |              | VA            |                    |                          |    |                  |
| MTR        |                            |             | 449196 VA                               | 111.80       |     |              | 196 VA        |                    |                          |    |                  |
| XX_SI      |                            |             | 24960 VA                                | 100.00       |     |              | 060 VA        |                    |                          |    | 606794 VA        |
| HEAT       |                            |             | 5760 VA                                 | 125.00       |     |              | 00 VA         |                    | DEMAND LO                |    |                  |
| LTG        |                            |             | 10732 VA                                | 125.00°      | 7/0 | 134          | 15 VA         |                    | ONN. CURRE<br>EST. DEMAN |    |                  |
|            |                            |             |                                         |              |     |              |               |                    | LOI. DEIVIAN             |    | 141 A            |
|            | - Kitchen, L M             |             | oling, ELEV- Eleva<br>Motor, LTG -Light |              |     |              |               |                    | rounding, HE             | AT | ⊔<br>- Winter He |

SWITCHBOARD: DP-CH10





656 Winchester Rd, Libertyville, IL 60048

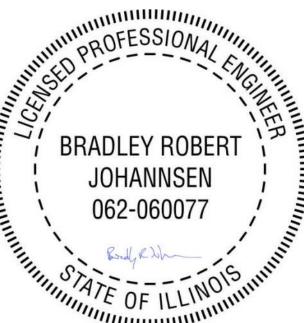


WOLD ARCHITECTS AND ENGINEERS 110 North Brockway, Suite 220 Palatine, Illinois 60067

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18294 Sonoma Highway Sonoma, CA 95476 rdcarchitecture.com | tel 707 996 8448



I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed PROFESSIONAL ENGINEER under the laws of the State of ILLINOIS

License Number: BRADLEY R. JOHANNSEN
Number: 062.060077 Date 12/30/2022

|             | Revisions |  |
|-------------|-----------|--|
| Description | Date      |  |
| Addendum #3 | 3/3/2023  |  |
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 Comm:
 213106

 Date:
 12/30/2022

 Drawn:
 R.HINKS

 Check:
 B.JOHANNSEN

PANEL SCHEDULES

MSBH-1 EDPH-1 DP-CH10

LS-H10 LS-H11 --

E6.10

|                      |    | LOCATION: SHIPF MOUNTING: RECE MAINS TYPE: MLO MAINS AMPS: 200A BUS AMPS: 200A FED FROM: CL11 |       | _             |   |    |     |                      | VO  |     | <b>E</b> : 2        | 08Y/1<br>8KAI | 20 \ | /. 3 ø 4 | W.      |                                |               |    |     |
|----------------------|----|-----------------------------------------------------------------------------------------------|-------|---------------|---|----|-----|----------------------|-----|-----|---------------------|---------------|------|----------|---------|--------------------------------|---------------|----|-----|
| #                    | вт | LOAD DESCRIPTION                                                                              | ON LT | ВК            | R | Р  |     | 4                    |     | В   | (                   | C             | Р    | BKR      | LT      | LOAD DESCRI                    | PTION         | вт | #   |
| 1                    |    | HEALTH & WELLNES                                                                              |       |               |   | 1  | 0.7 |                      |     |     |                     |               | 1    | 20 A     |         | HEALTH & WELLN                 |               |    | 2   |
| 3                    |    | HALLWAY, BUNK RM                                                                              | , RCF | T 20          | Α | 1  |     |                      | 1.4 | 1.4 |                     |               | 1    | 20 A     | RCPT    | TRAINING/BREAK                 | RM            |    |     |
| 5                    |    | BREAK/LUNCH RM R                                                                              |       | T 20          | A | 1  |     |                      |     |     | 1.4                 | 0.4           | 1    | 20 A     | RCPT    | GFI TOLIETS RCP                | Т             |    | - 6 |
| 7                    |    | TOLIETS & J/C RCPT                                                                            | RCF   | _             | _ | 1  | 1.3 | 0.2                  |     |     |                     |               | 1    | 20 A     | RCPT    | TRAINING RCPT                  |               |    | -   |
| 9                    |    | TEAMING AREA RCP                                                                              | T RCF |               |   | 1  |     |                      | 1.4 | 0.8 |                     |               | 1    | 20 A     |         | FRIDGE                         |               |    | 1   |
| 11                   |    | RCPT                                                                                          | RCF   | _             | _ | 1  |     |                      |     |     | 0.4                 | 0.8           | 1    | 20 A     |         | FRIDGE                         |               |    | 1:  |
| 13                   |    | FRIDGE                                                                                        | RCF   |               |   | 1  | 0.8 | 1.0                  |     |     |                     |               | 1    | 20 A     |         | COPIER RCPT                    |               |    | 1   |
| 15                   |    | FRIDGE                                                                                        | RCF   |               |   | 1  |     |                      | 0.8 | 0.2 |                     |               | 1    | 20 A     |         | COFFEE MAKER                   |               |    | 1   |
| 17                   |    | GFI KITCHEN RCPT                                                                              | RCF   |               | _ | 1  |     |                      | 0.0 | V.= | 0.5                 | 1.0           | 1    | 20 A     |         | MICROWAVE                      |               |    | 1   |
| 19                   |    | MICROWAVE                                                                                     | RCF   |               |   | 1  | 1.0 | 0.2                  |     |     | 0.0                 |               | 1    | 20 A     |         | MW NURSING RM                  |               |    | 2   |
| 21                   |    | BREAKRM GFCI                                                                                  | RCF   |               |   | 1  |     | V.=                  | 0.5 | 0.4 |                     |               | 1    | 20 A     |         | EXTERIOR RCPTS                 |               |    | 2   |
| 23                   |    | UC REF NURSE RM                                                                               | RCF   |               | _ | 1  |     |                      |     |     | 0.2                 | 1.0           | 1    | 20 A     |         | TREADMILL                      |               |    | 2   |
| <br>25               |    | TREADMILL                                                                                     | RCF   |               |   | 1  | 1.0 | 1.2                  |     |     | 0                   |               | 1    | 20 A     | MTR     | CUH-3                          |               |    | 2   |
| 27                   |    | GFI NURSING RM                                                                                | RCF   |               |   | 1  |     |                      | 0.5 | 0.8 |                     |               | 1    | 20 A     | RCPT    |                                |               |    | 2   |
| 29                   |    | COPIER                                                                                        | RCF   |               | _ | 1  |     |                      |     |     | 0.2                 | 1.4           | 1    | 20 A     |         | FB TEAMING ARE                 | A             |    | 3   |
| 31                   |    | RCPT TV TRAINING                                                                              | RCF   | _             | _ | 1  | 0.2 | 0.0                  |     |     | 0                   |               | 1    | 20 A     | MTR     | MTR                            |               |    | 3:  |
| 33                   |    | RCPT TRAINING                                                                                 | RCF   |               | _ | 1  |     |                      | 0.5 | 0.8 |                     |               | 1    | 20 A     | RCPT    |                                |               |    | 3   |
| 35                   |    | RCPT TRAINING                                                                                 | RCF   | _             | _ | 1  |     |                      |     |     | 0.5                 | 0.2           | 1    | 20 A     | MTR     | CUH-2                          |               |    | 3   |
| 37                   |    |                                                                                               | 1101  |               |   | -  |     |                      |     |     |                     |               |      |          |         |                                |               |    | 3   |
| 39                   |    |                                                                                               |       |               |   |    |     |                      |     | 0.0 |                     |               | 1    | 20 A     |         | SPARE                          |               |    | 4   |
| 41                   |    |                                                                                               |       |               |   |    |     |                      |     | 0.0 |                     | 0.0           | 1    | 20 A     |         | SPARE                          |               |    | 4   |
| 43                   |    | SPARE                                                                                         |       | 20            | A | 1  | 0.0 | 0.0                  |     |     |                     | 0.0           | 1    | 30 A     |         | SPARE                          |               |    | 4   |
| 45                   |    | SPARE                                                                                         |       | 20            |   | 1  | 0.0 | 0.0                  | 0.0 | 0.0 |                     |               | 2    | 20 A     |         | SPARE                          |               |    | 4   |
| 45<br>47             |    | SPARE                                                                                         |       | 20            |   | 1  |     |                      | 0.0 | 5.0 | 0.0                 | 0.0           |      |          |         |                                |               |    | 4   |
| <del>4</del> 7<br>49 |    | SPARE                                                                                         |       | 20            |   | 1  | 0.0 | 0.0                  |     |     | 0.0                 | 5.0           | 3    | 20 A     |         | SPARE                          |               | _  | 5   |
| <del>43</del><br>51  |    | SPARE                                                                                         |       | 20            | _ | 1  | 5.0 | 5.0                  | 0.0 | 0.0 |                     |               |      |          |         |                                |               |    | 5   |
| 53                   |    | SPARE                                                                                         |       | 20            | _ | 1  |     |                      | 0.0 | 0.0 | 0.0                 | 0.0           |      |          |         |                                |               |    | 5   |
|                      |    | 0171112                                                                                       |       | ΓΟTAL         |   | •  | 8 k | .VA                  | 10  | kVA |                     | VA            |      |          |         |                                |               |    | _   |
|                      |    |                                                                                               |       | TOTAL         |   | S: |     | Α                    |     | ) A |                     | ' A           |      |          |         |                                |               |    |     |
| <b>_OA</b><br>MTR    |    | ASSIFICATION                                                                                  |       | ECTED<br>O VA |   |    |     | 1 <b>AND</b><br>.43% |     |     | <b>STIM</b><br>1700 | ATED          | )    |          |         | PANEL TOTALS                   | <b>S</b><br>⊺ |    |     |
| RCP                  |    |                                                                                               |       | 0 VA          |   |    |     | .43 %<br>53%         |     |     | 17180               |               |      |          | C       | ONNECTED LOAD:                 | 25760 VA      |    |     |
|                      |    |                                                                                               |       |               |   |    |     |                      |     |     |                     |               |      |          |         | IMATED DEMAND:                 |               |    |     |
|                      |    |                                                                                               |       |               |   |    |     |                      |     |     |                     |               |      |          |         | ECTED CURRENT:  EMAND CURRENT: |               |    |     |
|                      |    |                                                                                               |       |               |   |    |     |                      |     |     |                     |               | -    |          | EOI. DE | INIMIND CORKENT:               | 32 A          |    |     |
| _                    |    |                                                                                               |       |               |   |    |     |                      |     |     |                     |               |      |          |         |                                |               |    |     |

|            |      | LOCATION: CRITICAL MOUNTING: SURFACE MAINS TYPE: MCB MAINS AMPS: 600A BUS AMPS: 600A FED FROM: TC1 |                | OOM 0 <sup>-</sup> | 1650        | В   |      |     |      | 6             | 5KAI( |   | /. 3 ø 4 ˈ | W.      |                |            |          |
|------------|------|----------------------------------------------------------------------------------------------------|----------------|--------------------|-------------|-----|------|-----|------|---------------|-------|---|------------|---------|----------------|------------|----------|
| #          | вт   | LOAD DESCRIPTION                                                                                   | LT             | BKR                | Р           |     | 4    |     | В    | (             | 2     | Р | BKR        | LT      | LOAD DESCRI    | PTION BT   | #        |
| 1          |      | FP-2                                                                                               | MTR            | 20 A               | 3           | 0.8 | 5.6  |     |      |               |       | 2 | 80 A       | MTR     | WH-1           |            | 2        |
| 3          |      |                                                                                                    |                |                    |             |     |      | 0.8 | 5.6  |               |       |   |            |         |                |            | 4        |
| 5          |      |                                                                                                    |                |                    |             |     |      |     |      | 0.8           | 5.6   | 2 | 80 A       | MTR     | WH-2           |            | 6        |
| 7          |      | NORTH GATE                                                                                         | MTR            | 20 A               | 3           | 0.9 | 5.6  |     |      |               |       |   |            |         |                |            | 8        |
| 9          |      |                                                                                                    |                |                    |             |     |      | 0.9 | 20.1 |               |       | 3 | 200 A      | Other   | CL11 / CL12    |            | 10       |
| <br>11     |      |                                                                                                    |                |                    |             |     |      |     |      |               | 16.5  |   |            |         |                |            | 12       |
| 13         |      | EV CHARGING                                                                                        | XX_S           | 40 A               | 2           | 3 1 | 23.0 |     |      | 0.0           | 10.0  |   |            |         |                |            | 14       |
|            |      |                                                                                                    | <del>-</del>   |                    |             | 3.1 | 23.0 | 3.1 | 3.9  |               |       | 3 |            |         |                |            | 16       |
| 15         |      |                                                                                                    | <br>VV C       | 40.4               |             |     |      | 3.1 | 3.9  | 2.4           | 4.0   |   |            |         |                |            | _        |
| 17         |      | EV CHARGING                                                                                        | XX_S           | 40 A               | 2           |     |      |     |      | 3.1           | 4.9   | - |            |         |                |            | 18       |
| 19         |      |                                                                                                    |                |                    |             | 3.1 | 3.8  |     |      |               |       |   |            |         |                |            | 20       |
| 21         |      | SHORE POWER                                                                                        | RCPT           | 30 A               | 1           |     |      | 0.5 | 13.5 |               |       | 3 | 100 A      | Spare   | CL14           |            | 22       |
| 23         |      | SHORE POWER                                                                                        | RCPT           | 20 A               | 1           |     |      |     |      | 0.2           | 14.0  |   |            |         |                |            | 24       |
| 25         |      | SHORE POWER                                                                                        | XX_S           | 50 A               | 2           | 1.0 | 12.0 |     |      |               |       |   |            |         |                |            | 26       |
| 27         |      |                                                                                                    |                |                    |             |     |      | 1.0 |      |               |       |   |            |         |                |            | 28       |
| 29         |      | NG-1C                                                                                              | MTR            | 20 A               | 3           |     |      |     |      | 0.9           |       |   |            |         |                |            | 30       |
| 31         |      |                                                                                                    |                |                    |             | 0.9 |      |     |      |               |       |   |            |         |                |            | 32       |
| 33         |      |                                                                                                    |                |                    |             |     |      | 0.9 |      |               |       |   |            |         |                |            | 34       |
| 35         |      |                                                                                                    |                |                    |             |     |      |     |      |               |       |   |            |         |                |            | 36       |
| 37         |      |                                                                                                    |                |                    |             |     |      |     |      |               |       |   |            |         |                |            | 38       |
| 39         |      |                                                                                                    |                |                    |             |     |      |     |      |               |       |   |            |         |                |            | 40       |
| 41         |      |                                                                                                    |                |                    |             |     |      |     |      |               |       |   |            |         |                |            | 42       |
| 43         |      |                                                                                                    |                |                    |             |     |      |     |      |               |       |   |            |         |                |            | 44       |
| 45         |      |                                                                                                    |                |                    |             |     |      |     |      |               |       |   |            |         |                |            | 46       |
| 47         |      |                                                                                                    |                |                    |             |     |      |     |      |               |       |   |            |         |                |            | 48       |
| 47<br>49   |      |                                                                                                    |                |                    |             |     |      |     |      |               |       |   |            |         |                |            | 50       |
|            |      |                                                                                                    |                |                    |             |     |      |     |      |               |       |   |            |         |                |            | 52       |
| 51         |      |                                                                                                    |                |                    |             |     |      |     |      |               |       |   |            |         |                |            |          |
| 53         |      |                                                                                                    | TO             | TAL LO             | <u>Δ</u> D· | 50  | kVA  | 50  | kVA  | 47            | kVA   |   |            |         |                |            | 54       |
|            |      |                                                                                                    |                | TAL AM             |             |     | 8 A  |     | 1 A  | _             | 8 A   |   | ~~~        | ~~~~    |                | ~~~        | <b>\</b> |
|            | D CI | LASSIFICATION                                                                                      | CONNEC         |                    |             |     | IAND |     | E    |               | ATED  | 1 |            |         | PANEL TOTALS   | 3          | '        |
| ΈΛ<br>ΈΑ   |      |                                                                                                    | 0 VA<br>5760 V |                    |             |     | .00% |     |      | 0 V<br>7200   |       | } |            |         | ONNECTED LOAD: | 155520 \/^ |          |
| IEA<br>ITF |      |                                                                                                    | 37396 \        |                    |             |     | .00% |     |      | 7200<br>40183 |       | } |            |         | IMATED DEMAND: |            |          |
| Othe       |      |                                                                                                    | 20602 \        |                    |             |     | .00% |     |      | 20602         |       | } |            |         | ECTED CURRENT: |            |          |
| RCF        |      |                                                                                                    | 78500 \        |                    |             |     | 37%  |     |      | 14250         |       | } |            | EST. DE | MAND CURRENT:  | 349 A      |          |
| Spai       | 'nе  |                                                                                                    | 1000 V         | Ά                  |             | 100 | .00% |     |      | 1000          | VA    | 5 |            |         |                |            |          |

Breaker Types (BT): AF = Arc Fault, GF = Ground Fault Circuit Interrupt, GE = Ground Fault Equipment Protection (30mA), SH = Shunt Trip, EX

Kitchen, L MTR - Largest Motor, LTG -Lighting, MTR - Motor, RCPT - Receptacle

= Existing, NX = New Breaker For Existing Panel, M = Metered

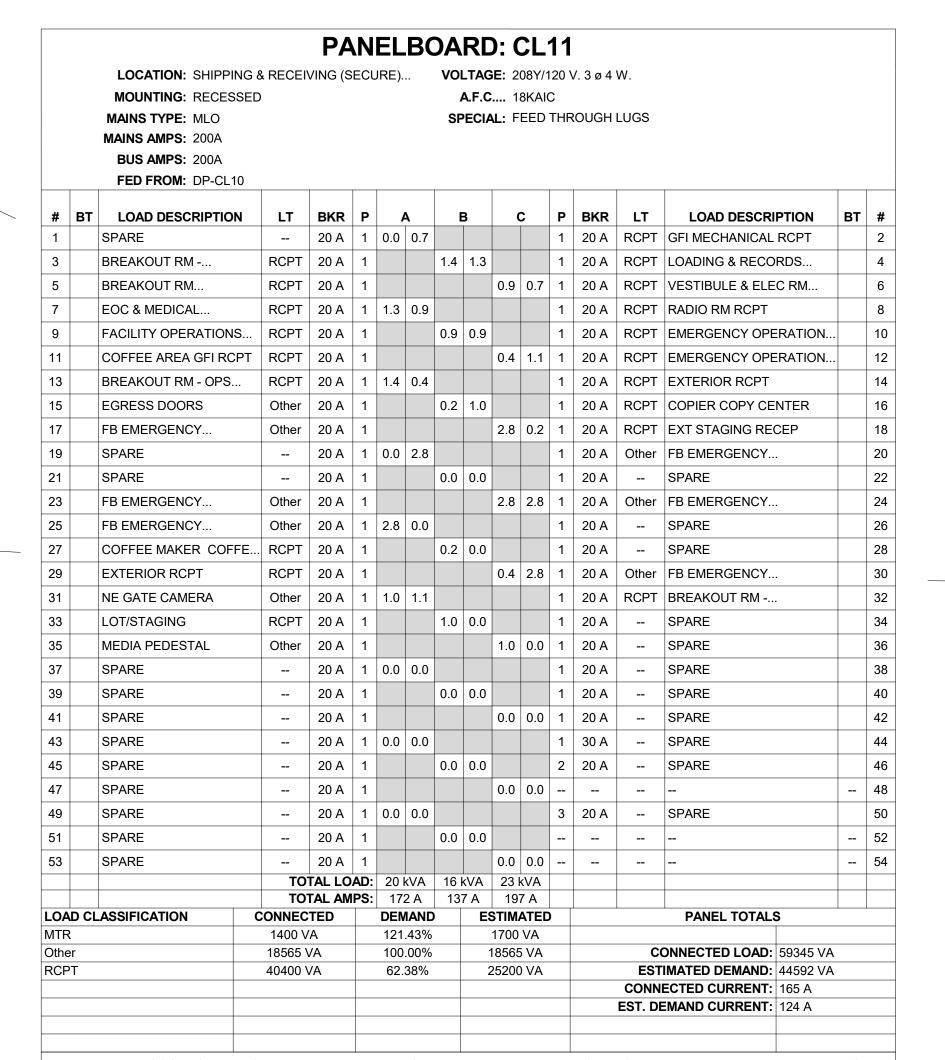
1. PROVIDE METERING FOR WATER HEATER BRANCH CIRCUITS.

1. PROVIDE METERING FOR EXHAUST FAN BRANCH CIRCUITS.

4 5

3

|            |            |                      |         | PA         | ١N  | EL  | BO                    | AC  | RE    | <b>): (</b>         | CL       | 13    | 1        |         |                               |             |        |    |
|------------|------------|----------------------|---------|------------|-----|-----|-----------------------|-----|-------|---------------------|----------|-------|----------|---------|-------------------------------|-------------|--------|----|
|            |            | LOCATION: SPRINKLE   | R SERV. | 01310C     | •   |     |                       | VO  | LTAG  | <b>SE</b> : 2       | 08Y/1    | 120 \ | /. 3 ø 4 | W.      |                               |             |        |    |
|            |            | MOUNTING: RECESSED   | )       |            |     |     |                       |     | A.F.C | 1                   | 0KAI     | С     |          |         |                               |             |        |    |
|            |            | MAINS TYPE: MCB      |         |            |     |     |                       | SF  | PECIA | AL: S               | PD       |       |          |         |                               |             |        |    |
|            |            | MAINS AMPS: 200A     |         |            |     |     |                       |     |       |                     |          |       |          |         |                               |             |        |    |
|            |            | BUS AMPS: 200A       |         |            |     |     |                       |     |       |                     |          |       |          |         |                               |             |        |    |
|            |            | FED FROM: TC2        |         |            |     |     |                       |     |       |                     |          |       |          |         |                               |             |        | Τ  |
| #          | вт         | LOAD DESCRIPTION     | LT      | BKR        | Р   |     | A                     |     | В     | _ (                 | <u> </u> | Р     | BKR      | LT      | LOAD DESCRI                   | PTION       | вт     |    |
| 1          |            | VESDA                | Other   | 20 A       | 1   | 1.0 | 0.7                   |     |       |                     |          | 1     | 20 A     | RCPT    | ROLL CALL ROOM                | 1 RCPT      |        |    |
| 3          |            | CLEAN AGENT          | Other   | 20 A       | 1   |     |                       | 1.0 | 0.2   |                     |          | 1     | 20 A     | RCPT    | QUIET RM GFI RCI              | PT          |        |    |
| 5          |            | QUIET ROOM & CIRC    | RCPT    | 20 A       | 1   |     |                       |     |       | 0.7                 | 0.7      | 1     | 20 A     | RCPT    | OPS WORK ROOM                 | /I RCPT     |        |    |
| 7          |            | OPS MNGR OFFICE RCPT | RCPT    | 20 A       | 1   | 0.9 | 0.7                   |     |       |                     |          | 1     | 20 A     | RCPT    | SP BREAKROOM F                | RCPT        |        |    |
| 9          |            | TRAINING MNGR OFFIC  | RCPT    | 20 A       | 1   |     |                       | 0.9 | 0.7   |                     |          | 1     | 20 A     | RCPT    | OPS. MNGR OFFIC               | CE RCPT     |        | 1  |
| 11         |            | CORRIDOR STRG        | RCPT    | 20 A       | 1   |     |                       |     |       | 1.3                 | 0.9      | 1     | 20 A     | RCPT    | GFI COMM CENTE                | R           |        | 1  |
| 13         |            | TECH WORKSHOP RCPT   | RCPT    | 20 A       | 1   | 1.4 | 0.7                   |     |       |                     |          | 1     | 20 A     | RCPT    | I.T. WORK RM RC               | PT          |        | 1  |
| 15         |            | TECH WORKSHOP RCPT   | RCPT    | 20 A       | 1   |     |                       | 1.3 | 2.2   |                     |          | 1     | 20 A     | RCPT    |                               |             |        | 1  |
| 17         |            | I.T. WORK RM RCPT    | RCPT    | 20 A       | 1   |     |                       |     |       | 0.7                 | 1.1      | 1     | 20 A     | RCPT    | I.T. MNGR OFFICE              | RCPT        |        | 1  |
| 19         |            | EXTERIOR RCPT        | RCPT    | 20 A       | 1   | 0.4 | 0.7                   |     |       |                     |          | 1     | 20 A     | RCPT    | SERVER HVAC & S               | SERVER      |        | 2  |
| 21         |            | SITE RCPT            | XX_S    | 50 A       | 2   |     |                       | 5.2 | 0.2   |                     | ~~       | 4     | 20 A     | RCPT    | CONVIENCE OUTL                | ET ROOF     | $\sim$ | _2 |
| 23         |            | <u></u>              |         |            |     | ~   |                       |     |       | 5.2                 | 1.7      | 1     | 20 A     | MTR     | EF-1                          |             |        | 2  |
| 25         |            | EF-2                 | MTR     | 20 A       | 1   | 1.7 | 0.0                   |     |       |                     |          | 1     | 20 A     | Other   | CRD REEL TECH V               | WRKSHOP     |        | 7  |
| 27         |            | JUNCTION TECH        | Other   | 20 A       | 1   |     |                       | 0.0 |       |                     |          |       |          |         |                               |             |        | 2  |
| 29         |            | CRD REEL TECH        | Other   | 20 A       | 1   |     |                       |     |       | 0.0                 | 0.7      | 1     | 20 A     | RCPT    | EWC CIRC                      |             |        | 3  |
| 31         |            |                      |         |            |     |     | 1.0                   |     |       |                     |          | 1     | 20 A     |         | TOWER                         |             |        | 3  |
| 33         |            | FRIDGE QUIET RM      | RCPT    | 20 A       | 1   |     |                       | 0.1 | 0.4   |                     |          | 1     | 20 A     | Other   | EGRESS DOORS                  |             |        | 3  |
| 35         |            | WEST GATE            | MTR     | 20 A       | 3   |     |                       |     |       | 0.9                 | 0.0      | 1     | 20 A     | Other   | JUNCTION TECH V               | WRKSHOP     |        | 3  |
| 37         |            |                      |         |            |     | 0.9 | 0.5                   |     |       |                     |          | 1     | 20 A     | MTR     | MECHOSHADES                   |             |        | 3  |
| 39         |            |                      |         |            |     |     |                       | 0.9 | 0.5   |                     |          | 1     | 20 A     | MTR     | MECHOSHADES                   |             |        | 2  |
| 41         |            | EGRESS DOORS         | Other   | 20 A       | 1   |     |                       |     |       | 0.2                 | 0.5      | 1     | 20 A     | MTR     | MECHOSHADES                   |             |        |    |
| 43         |            | MECHOSHADES          | MTR     | 20 A       | 1   | 0.5 | 0.0                   |     |       |                     |          | 1     | 30 A     |         | SPARE                         |             |        |    |
| 45         |            | MECHOSHADES          | MTR     | 20 A       | 1   |     |                       | 0.5 | 0.0   |                     |          | 2     | 20 A     |         | SPARE                         |             |        | 4  |
| 47         |            | SPARE                |         | 20 A       | 1   |     |                       |     |       | 0.0                 | 0.0      |       |          |         |                               |             |        |    |
| 49         |            | SPARE                |         | 20 A       | 1   | 0.0 | 0.0                   |     |       |                     |          | 3     | 20 A     |         | SPARE                         |             |        | 5  |
| 51         |            | SPARE                |         | 20 A       | 1   |     |                       | 0.0 | 0.0   |                     |          |       |          |         |                               |             |        | 5  |
| 53         |            | SPARE                |         | 20 A       | 1   |     |                       |     |       | 0.0                 | 0.0      |       |          |         |                               |             |        | 5  |
|            |            | 3.7 <u>-</u>         | TO      | TAL LO     | AD: | 11  | kVA                   | 14  | kVA   |                     | kVA      |       |          |         |                               |             |        | H  |
|            |            |                      |         | TAL AM     | PS: |     | 3 A                   |     | 7 A   |                     | 2 A      |       |          |         |                               |             |        |    |
| LOA<br>MTF |            | ASSIFICATION         | 8600 V  |            |     |     | <b>//ANC</b><br>7.85% |     |       | <b>STIM</b><br>9275 |          | ,     |          |         | PANEL TOTALS                  | <b>&gt;</b> |        |    |
| Othe       |            |                      | 2460 V  |            |     |     | .00%                  |     |       | 2460                |          |       |          | C       | ONNECTED LOAD:                | 38893 VA    |        |    |
| RCF        |            |                      | 17192 \ |            |     |     | .08%                  |     |       | 13596               |          |       |          |         | IMATED DEMAND:                |             |        |    |
| Spai       | re<br>SPE0 |                      | 1000 V  |            |     |     | .00%                  |     |       | 1000<br>10400       |          |       |          |         | ECTED CURRENT: EMAND CURRENT: |             |        |    |
| ^^_        | or E(      |                      | 10400 \ | <i>'</i> ^ |     | 100 | .00%                  |     |       | 10400               | , vA     |       |          | LOI. DI | LIVIAND CURRENT:              | 100 A       |        |    |
|            |            |                      |         |            |     |     |                       |     |       |                     |          |       |          |         |                               |             |        |    |



Load Types (LT): COOL - Summer Cooling, ELEV- Elevator, EQ - Equipment, EX -Existing, GND - Grounding, HEAT - Winter Heating, KTCH-Kitchen, L MTR - Largest Motor, LTG -Lighting, MTR - Motor, RCPT - Receptacle
Breaker Types (BT): AF = Arc Fault, GF = Ground Fault Circuit Interrupt, GE = Ground Fault Equipment Protection (30mA), SH = Shunt Trip, EX = Existing, NX = New Breaker For Existing Panel, M = Metered

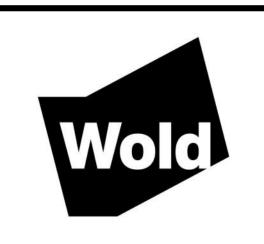
NOTES:

|        |      | LOCATION: HALLWAY ( MOUNTING: SURFACE MAINS TYPE: MLO MAINS AMPS: 100A BUS AMPS: 100A FED FROM: DP-CL10 | 01510   | PA     | <b>\N</b> | EL  | BC                 | VOI |     | <b>E</b> : 2 | 08Y/1<br>8KAI | 120 \ | /. 3 ø 4 | W.   |                               |          |    |    |
|--------|------|---------------------------------------------------------------------------------------------------------|---------|--------|-----------|-----|--------------------|-----|-----|--------------|---------------|-------|----------|------|-------------------------------|----------|----|----|
| #      | ВТ   | LOAD DESCRIPTION                                                                                        | LT      | BKR    | Р         |     | 4                  |     | 3   |              | 2             | P     | BKR      | LT   | LOAD DESCRI                   | PTION    | вт | #  |
| 1      |      | CIRCULATION 01320                                                                                       | RCPT    | 20 A   | 1         | 0.7 |                    |     |     |              | ,             | 1     | 20 A     |      | COMM. CENTER                  |          |    | 2  |
| 3      |      | COMM. CENTER WORK                                                                                       | RCPT    | 20 A   | 1         |     |                    | 1.0 | 1.0 |              |               | 1     | 20 A     | RCPT | COMM. CENTER                  | WORK     |    | 4  |
| 5      |      | COMM. CENTER WORK                                                                                       | RCPT    | 20 A   | 1         |     |                    |     |     | 1.0          | 1.0           | 1     | 20 A     |      | COMM. CENTER                  |          |    | 6  |
| 7      |      | COMM. CENTER WORK                                                                                       | RCPT    | 20 A   | 1         | 1.0 | 1.0                |     |     |              |               | 1     | 20 A     | RCPT | COMM. CENTER                  | WORK     |    | 8  |
| 9      |      | COMM. CENTER WORK                                                                                       | RCPT    | 20 A   | 1         |     |                    | 1.0 | 0.7 |              |               | 1     | 20 A     |      | COMM. CENTER                  |          |    | 10 |
| <br>11 |      | COMM. CENTER                                                                                            | RCPT    | 20 A   | 1         |     |                    |     | 0   | 1.0          | 1.0           | 1     | 20 A     | RCPT |                               |          |    | 12 |
| 13     |      | COMM. CENTER                                                                                            | RCPT    | 20 A   | 1         | 1.7 | 1.0                |     |     |              |               | 1     | 20 A     |      | COMM. CENTER                  |          |    | 14 |
| 15     |      | COMM. CENTER WORK                                                                                       | RCPT    | 20 A   | 1         |     | 1.0                | 1.3 | 1.0 |              |               | 1     | 20 A     |      | COMM. CENTER                  |          |    | 16 |
| 17     |      | COMM. CENTER WORK                                                                                       | RCPT    | 20 A   | 1         |     |                    | 1.0 | 1.0 | 1 0          | 1.0           | 1     | 20 A     |      | COMM. CENTER                  |          |    | 18 |
| 19     |      | COMM. CENTER                                                                                            | RCPT    | 20 A   | 1         | 1.0 | 1.0                |     |     | 1.0          | 1.0           | 1     | 20 A     |      | RCPTCOMM. CEN                 |          |    | 20 |
| 21     |      | COMM. CENTER                                                                                            | RCPT    | 20 A   | 1         |     | 1.0                | 1.0 | 1.0 |              |               | 1     | 20 A     |      | COMM. CENTER                  |          |    | 22 |
| 23     |      | COMM. CENTER                                                                                            | RCPT    | 20 A   | 1         |     |                    |     |     | 1.0          | 1.0           | 1     | 20 A     |      | COMM. CENTER                  |          |    | 24 |
| 25     |      | COMM. CENTER WORK                                                                                       | RCPT    | 20 A   | 1         | 1.0 | 1.0                |     |     | 1.0          | 1.0           | 1     | 20 A     |      | COMM. CENTER                  |          |    | 26 |
| <br>27 |      | RCPTCOMM. CENTER                                                                                        | RCPT    | 20 A   | 1         |     |                    | 1.0 | 1.0 |              |               | 1     | 20 A     |      | COMM. CENTER                  |          |    | 28 |
| <br>29 |      | RCPTCOMM. CENTER                                                                                        | RCPT    | 20 A   | 1         |     |                    |     |     | 1.0          | 1.0           | 1     | 20 A     |      | COMM. CENTER                  |          |    | 30 |
| 31     |      | COMM. CENTER WORK                                                                                       | RCPT    | 20 A   | 1         | 1.0 | 1.0                |     |     |              |               | 1     | 20 A     |      | COMM. CENTER                  |          |    | 32 |
| 33     |      | COMM. CENTER                                                                                            | RCPT    | 20 A   | 1         |     |                    | 1.0 | 1.0 |              |               | 1     | 20 A     |      | COMM. CENTER                  |          |    | 34 |
| 35     |      | COMM. CENTER                                                                                            | RCPT    | 20 A   | 1         |     |                    |     |     | 1.0          | 1.0           | 1     | 20 A     | RCPT |                               |          |    | 36 |
| 37     |      | COMM. CENTER WORK                                                                                       | RCPT    | 20 A   | 1         | 1.0 | 0.1                |     |     |              |               | 1     | 20 A     | MTR  | CUH-1                         |          |    | 38 |
| 39     |      | MECHOSHADES                                                                                             | MTR     | 20 A   | 1         |     |                    | 1.0 | 1.0 |              |               | 1     | 20 A     | MTR  | MECHOSHA                      | DES      |    | 40 |
| 41     |      | SPARE                                                                                                   |         | 20 A   | 1         |     |                    |     |     | 0.0          | 0.0           | 1     | 20 A     |      | SPARE                         |          |    | 42 |
| 43     |      | SPARE                                                                                                   |         | 20 A   | 1         | 0.0 | 0.0                |     |     |              |               | 1     | 20 A     |      | SPARE                         |          |    | 44 |
| 45     |      | SPARE                                                                                                   |         | 20 A   | 1         |     |                    | 0.0 | 0.0 |              |               | 1     | 20 A     |      | SPARE                         |          |    | 46 |
| 47     |      | SPARE                                                                                                   |         | 20 A   | 1         |     |                    |     |     | 0.0          | 0.0           | 1     | 20 A     |      | SPARE                         |          |    | 48 |
| 49     |      | SPARE                                                                                                   |         | 20 A   | 1         | 0.0 | 0.0                |     |     |              |               | 1     | 20 A     |      | SPARE                         |          |    | 50 |
| 51     |      | SPARE                                                                                                   |         | 20 A   | 1         |     |                    | 0.0 | 0.0 |              |               | 1     | 20 A     |      | SPARE                         |          |    | 52 |
| 53     |      | SPARE                                                                                                   |         | 20 A   | 1         |     |                    |     |     | 0.0          | 0.0           | 1     | 20 A     |      | SPARE                         |          |    | 54 |
|        |      |                                                                                                         |         | TAL LO |           | 14  |                    |     | kVA |              | ⟨VΑ           |       |          |      |                               |          |    |    |
| ΟΛ     | D CI | _ASSIFICATION (                                                                                         | CONNEC  | TAL AM | IPS:      |     | 5 A<br><b>IAND</b> | ь,  | 8 A | 100<br>STIM  | ATER          | Ļ     |          |      | PANEL TOTALS                  | <u> </u> |    |    |
| //TR   |      | LASSII ICATION C                                                                                        | 2100 V  |        |           |     | .90%               |     |     | 2350         |               | ,     |          |      | FANLE TOTAL                   |          |    |    |
| RCP    | Т    |                                                                                                         | 37420 \ | /A     |           | 63. | 36%                |     | 2   | 23710        | VA            |       |          |      | ONNECTED LOAD:                |          |    |    |
|        |      |                                                                                                         |         |        |           |     |                    |     |     |              |               |       |          |      | IMATED DEMAND: ECTED CURRENT: |          |    |    |
|        |      |                                                                                                         |         |        |           |     |                    |     |     |              |               |       |          |      | EMAND CURRENT:                |          |    |    |
|        |      |                                                                                                         |         |        |           |     |                    |     |     |              |               |       |          |      |                               |          |    |    |
|        | . –  | pes (LT): COOL - Summer C                                                                               |         |        | <u> </u>  |     |                    |     |     |              |               |       |          |      |                               |          |    |    |

Regional
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Facility



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woldae.com | 847 241 6100

## RossDrulisCusenbery

18294 Sonoma Highway Sonoma, CA 95476 rdcarchitecture.com | tel 707 996 8448

BRADLEY ROBERT JOHANNSEN J

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed PROFESSIONAL ENGINEER under the laws of the State of ILLINOIS

BRADLEY R. JOHANNSEN
or: 062.060077 Date 12/30/2022

Comm: 213106

Date: 12/30/2022

Drawn: R.HINKS

Check: **B.JOHANNSEN** 

PANEL

**SCHEDULES** 

CH10 DP-CL10 CL11

CL12 CL13 CL14

ESTIMATED

7190 VA

PANEL TOTALS

**CONNECTED LOAD:** 5752 VA

**ESTIMATED DEMAND:** 7190 VA

CONNECTED CURRENT: 7 A

EST. DEMAND CURRENT: 9 A

Load Types (LT): COOL - Summer Cooling, ELEV- Elevator, EQ - Equipment, EX -Existing, GND - Grounding, HEAT - Winter Heating, KTCH-Kitchen, L MTR - Largest Motor, LTG -Lighting, MTR - Motor, RCPT - Receptacle

Breaker Types (BT): AF = Arc Fault, GF = Ground Fault Circuit Interrupt, GE = Ground Fault Equipment Protection (30mA), SH = Shunt Trip, EX = Existing, NX = New Breaker For Existing Panel, M = Metered

TOTAL LOAD: 2 kVA 1 kVA 2 kVA

TOTAL AMPS: 8A 5A 9A

DEMAND

125.00%

**CONNECTED** 5752 VA

LOAD CLASSIFICATION

|             |      | LOCATION: HALLWAY   | Y 01150 |        |     |     |              | VO  | LTAG       | <b>E</b> : 2 | 08Y/1      | ا 20 | V. 3 ø 4 | W.      |                   |          |    |    |
|-------------|------|---------------------|---------|--------|-----|-----|--------------|-----|------------|--------------|------------|------|----------|---------|-------------------|----------|----|----|
|             |      | MOUNTING: RECESSI   | ED      |        |     |     |              | 4   | A.F.C      | 1            | 0KAI       | С    |          |         |                   |          |    |    |
|             |      | MAINS TYPE: MLO     |         |        |     |     |              | SF  | PECIA      | \L:          |            |      |          |         |                   |          |    |    |
|             |      | MAINS AMPS: 200A    |         |        |     |     |              |     |            |              |            |      |          |         |                   |          |    |    |
|             |      | BUS AMPS: 200A      |         |        |     |     |              |     |            |              |            |      |          |         |                   |          |    |    |
|             |      | FED FROM: TP20 / GU | JTTER   | 1      |     |     |              |     |            |              |            |      | 1        |         | T                 |          |    |    |
| #           | вт   | LOAD DESCRIPTION    | LT      | BKR    | Р   |     | ASE<br>(VA   | 1   | ASE<br>(VA |              | ASE<br>(VA | Р    | BKR      | LT      | LOAD DESCRI       | PTION    | вт | #  |
| 1           |      | 01420 RCPT          | RCPT    | 20 A   | 1   | 1.4 | 1.4          |     |            |              |            | 1    | 20 A     | RCPT    | 04120 RCPT        |          |    | 2  |
| 3           |      | 01420 RCPT          | RCPT    | 20 A   | 1   |     |              | 1.4 | 1.1        |              |            | 1    | 20 A     | RCPT    | 01420G RCPT       |          |    | 4  |
| 5           |      | 01420F RCPT         | RCPT    | 20 A   | 1   |     |              |     |            | 1.1          | 1.3        | 1    | 20 A     | RCPT    | 01420E RCPT       |          |    | 6  |
| 7           |      | 01420D RCPT         | RCPT    | 20 A   | 1   | 1.1 | 0.4          |     |            |              |            | 1    | 20 A     | RCPT    | COFFEE AREA 21    | 9 RCPT   |    | 8  |
| 9           |      | 01410B 01410A 01110 | RCPT    | 20 A   | 1   |     |              | 1.6 | 0.5        |              |            | 1    | 20 A     | RCPT    | 01420A RCPT       |          |    | 10 |
| 11          |      | 01110, 01100 RCPT   | RCPT    | 20 A   | 1   |     |              |     |            | 1.3          | 0.5        | 1    | 20 A     | RCPT    | 01411 01412 01410 | OC GFI   |    | 12 |
| 13          |      | 01420B 01150 RCPT   | RCPT    | 20 A   | 1   | 0.7 | 0.2          |     |            |              |            | 1    | 20 A     | RCPT    | COFFEE            |          |    | 14 |
| 15          |      | EXTERIOR RCPT       | RCPT    | 20 A   | 1   |     |              | 0.2 | 3.0        |              |            | 2    | 40 A     | XX_S    | EV CHARGING       |          |    | 16 |
| 17          |      | PLOTTER             | RCPT    | 20 A   | 1   |     |              |     |            | 0.2          | 3.0        |      |          |         |                   |          |    | 18 |
| 19          |      | EXTERIOR RCPT       | RCPT    | 20 A   | 1   | 0.2 | 0.2          |     |            |              |            | 1    | 20 A     | Other   | EGRESS DOORS      |          |    | 20 |
| 21          |      | EV CHARGING         | XX_S    | 40 A   | 2   |     |              | 3.0 | 0.3        |              |            | 1    | 20 A     | Other   | SOUND MASKING     |          |    | 22 |
| 23          | -    |                     |         |        |     |     |              |     |            | 3.0          |            |      |          |         |                   |          |    | 24 |
| 25          |      | SPARE               |         | 20 A   | 1   | 0.0 |              |     |            |              |            |      |          |         |                   |          |    | 26 |
| 27          |      | SPARE               |         | 20 A   | 1   |     |              | 0.0 | 0.0        |              |            | 1    | 20 A     |         | SPARE             |          |    | 28 |
| 29          |      | SPARE               |         | 20 A   | 1   |     |              |     |            | 0.0          | 0.0        | 1    | 30 A     |         | SPARE             |          |    | 30 |
| 31          |      | SPARE               |         | 20 A   | 1   | 0.0 | 0.0          |     |            |              |            | 1    | 30 A     |         | SPARE             |          |    | 32 |
| 33          |      | SPARE               |         | 20 A   | 1   |     |              | 0.0 | 0.0        |              |            | 2    | 20 A     |         | SPARE             |          |    | 34 |
| 35          |      | SPARE               |         | 20 A   | 1   |     |              |     |            | 0.0          | 0.0        |      |          |         |                   |          |    | 36 |
| 37          |      | SPARE               |         | 20 A   | 1   | 0.0 | 0.0          |     |            |              |            | 3    | 20 A     |         | SPARE             |          |    | 38 |
| 39          |      | SPARE               |         | 20 A   | 1   |     |              | 0.0 | 0.0        |              |            |      |          |         |                   |          |    | 40 |
| 41          |      | SPARE               |         | 20 A   | 1   |     |              |     |            | 0.0          | 0.0        |      |          |         |                   |          |    | 42 |
|             |      |                     |         | TAL LO |     |     | VΑ           |     | kVA        |              | κVA        |      |          |         |                   |          |    |    |
|             |      |                     |         | TAL AM | PS: |     | 7 A          |     | 7 A        |              | A          |      |          |         |                   | _        |    |    |
|             |      | ASSIFICATION        | CONNEC  |        |     |     | /AND         |     | E:         | 488          | ATED       | )    |          |         | PANEL TOTALS      | S<br>    |    |    |
| Othe<br>RCP |      |                     | 488 V   |        |     |     | .00%<br>29%  |     |            | 400<br> 2290 |            |      |          | C       | ONNECTED LOAD:    | 26462 VA |    |    |
|             | SPEC |                     | 12064 \ |        |     |     | .00%         |     |            | 2064         |            |      |          |         | IMATED DEMAND:    |          |    |    |
|             |      |                     |         |        |     |     | <del>-</del> |     |            |              |            |      |          |         | ECTED CURRENT:    |          |    |    |
|             |      |                     |         |        |     |     |              |     |            |              |            |      |          | EST. DE | MAND CURRENT:     | 67 A     |    |    |

Load Types (LT): COOL - Summer Cooling, ELEV- Elevator, EQ - Equipment, EX -Existing, GND - Grounding, HEAT - Winter Heating, KTCH-Kitchen, L MTR - Largest Motor, LTG -Lighting, MTR - Motor, RCPT - Receptacle
Breaker Types (BT): AF = Arc Fault, GF = Ground Fault Circuit Interrupt, GE = Ground Fault Equipment Protection (30mA), SH = Shunt Trip, EX = Existing, NX = New Breaker For Existing Panel, M = Metered

|                   |       | LOCATION: CRITICAL    | . EQUIP. R       | OOM 0  | 1650 | В   |                     | VOI | LTAG      | <b>E</b> : 2      | 08Y/1      | 20 \     | /. 3 ø 4 | W.      |                               |                      |     |
|-------------------|-------|-----------------------|------------------|--------|------|-----|---------------------|-----|-----------|-------------------|------------|----------|----------|---------|-------------------------------|----------------------|-----|
|                   |       | MOUNTING: SURFACE     | Ē                |        |      |     |                     | 1   | 4.F.C     | : S               | EE S       | HOF      | RT CIRC  | UIT STU | JDY                           |                      |     |
|                   |       | MAINS TYPE: MLO       |                  |        |      |     |                     | SP  | PECIA     | AL: S             | PD         |          |          |         |                               |                      |     |
|                   |       | MAINS AMPS: 100       |                  |        |      |     |                     |     |           |                   |            |          |          |         |                               |                      |     |
|                   |       | <b>BUS AMPS</b> : 100 |                  |        |      |     |                     |     |           |                   |            |          |          |         |                               |                      |     |
|                   |       | FED FROM: DP-CL10     |                  |        |      |     |                     |     |           |                   |            |          |          |         |                               |                      |     |
| #                 | вт    | LOAD DESCRIPTION      | LT               | BKR    | Р    |     | ASE<br>VA           | 1   | ASE<br>VA | 1                 | ASE<br>(VA | Р        | BKR      | LT      | LOAD DESCRII                  | PTION BT             | #   |
| 1                 |       | P-8                   | MTR              | 20 A   | 1    | 0.5 | 0.5                 |     |           |                   |            | 1        | 20 A     | Other   | AHU-1 UV                      |                      | 2   |
| 3                 |       | FIRE PUMP CP          | Other            | 20 A   | 1    |     |                     | 0.2 | 0.1       |                   |            | 1        | 20 A     | Other   | AHU-1 AUX                     |                      | 4   |
| 5                 |       | PREACTION             | Other            | 20 A   | 1    |     |                     |     |           | 0.5               | 0.1        | 1        | 20 A     | Other   | AHU-2 AUX                     |                      | 6   |
| 7                 |       | AHU-2 UV              | Other            | 20 A   | 1    | 0.5 | 0.0                 |     |           |                   |            | 1        | 20 A     | FA      | FACP                          |                      | 8   |
| 9                 |       | WT-1                  | MTR              | 20 A   | 1    |     |                     | 0.7 | 1.0       |                   |            | 1        | 20 A     |         | TOWER 1                       |                      |     |
| 11                |       | UH-1                  | MTR              | 20 A   | 1    |     |                     |     |           | 0.2               | 0.2        | 1        | 20 A     | Other   | DRY TYPE SYSTEM               |                      | 12  |
| 13                |       | FC-1                  | MTR              | 20 A   | 1    | 1.2 | 1.2                 |     |           |                   |            | 1        | 20 A     | MTR     | FC-2                          |                      | 14  |
| 15                |       | NORTH DOWNSPOUTS      | HEAT             | 20 A   | 2    |     |                     | 1.1 | 1.8       |                   | ~          | 2        | 20 A     | HEAT    | NORTH GUTTERS                 | Y . Y Y Y            | 16  |
| 17                |       |                       |                  |        |      |     |                     | {   |           | 1,1               | 1.8        | ,        | ، ت      | ٠ ټ٠ ،  |                               | , , , <del>,</del> , | ,18 |
| 19                |       | SPARE                 |                  | 20 A   | 1    | 0.0 | 0.0                 | ,   |           |                   |            | 1        | 20 A     |         | SPARE                         |                      | 20  |
| 21                |       | SPARE                 |                  | 20 A   | 1    |     |                     | 0.0 | 0.0       |                   |            | 1        | 20 A     |         | SPARE                         |                      | 22  |
| 23                |       | SPARE                 |                  | 20 A   | 1    |     |                     |     |           | 0.0               | 0.0        | 1        | 20 A     |         | SPARE                         |                      | 24  |
| 25                |       |                       |                  |        |      |     |                     |     |           |                   |            |          |          |         |                               |                      | 26  |
| 27                |       |                       |                  |        |      |     |                     |     |           |                   |            |          |          |         |                               |                      | 28  |
| 29                |       |                       |                  |        |      |     |                     |     |           |                   |            |          |          |         |                               |                      | 30  |
| 31                |       |                       |                  |        |      |     |                     |     |           |                   |            |          |          |         |                               |                      | 32  |
| 33                |       |                       |                  |        |      |     |                     |     |           |                   |            |          |          |         |                               |                      | 34  |
| 35                |       |                       |                  |        |      |     |                     |     |           |                   |            |          |          |         |                               |                      | 36  |
| 37                |       |                       |                  |        |      |     |                     |     |           |                   |            |          |          |         |                               |                      | 38  |
| 39                |       |                       |                  |        |      |     |                     |     |           |                   |            |          |          |         |                               |                      | 40  |
| 41                |       |                       |                  |        |      |     |                     |     |           |                   |            |          |          |         |                               |                      | 42  |
|                   |       |                       |                  | TAL LO |      |     | VA                  | 5 k | VA        | 4 k               | VA         |          |          |         |                               |                      |     |
|                   | D CI  | _ASSIFICATION         | CONNEC           | TAL AM | PS:  |     | A<br>IAND           | 41  |           | 32<br><b>STIM</b> | ATER       |          |          |         | PANEL TOTALS                  | <u> </u>             |     |
| -0 <i>F</i><br>-A | ID CL | _ASSIFICATION         | 0 VA             |        |      |     | 1 <b>AND</b><br>10% | '   | E         | 0 V               |            | <b>'</b> |          |         | PANEL IUIALS                  | 1                    |     |
| ΗEΑ               | ·Τ    |                       | 5760 V           |        |      |     | .00%                |     |           | 7200              |            |          |          | C       | ONNECTED LOAD:                | 12602 VA             |     |
| ИTF               |       |                       | 3800 V           |        |      |     | .89%                |     |           | 4100              |            |          |          |         | IMATED DEMAND:                |                      |     |
| Othe<br>Spa       |       |                       | 2076 V<br>1000 V |        |      |     | .00%                |     |           | 2076<br>1000      |            |          |          |         | ECTED CURRENT: EMAND CURRENT: |                      |     |
| υμα               |       |                       | 1000 V           | /1     |      | 100 | .00 /0              |     |           | 1000              | ٧٨         |          |          | _J. DI  | LINAIND CONNEINT.             | TV /\                |     |
|                   |       |                       |                  |        |      |     |                     |     |           |                   |            |          |          |         |                               |                      |     |

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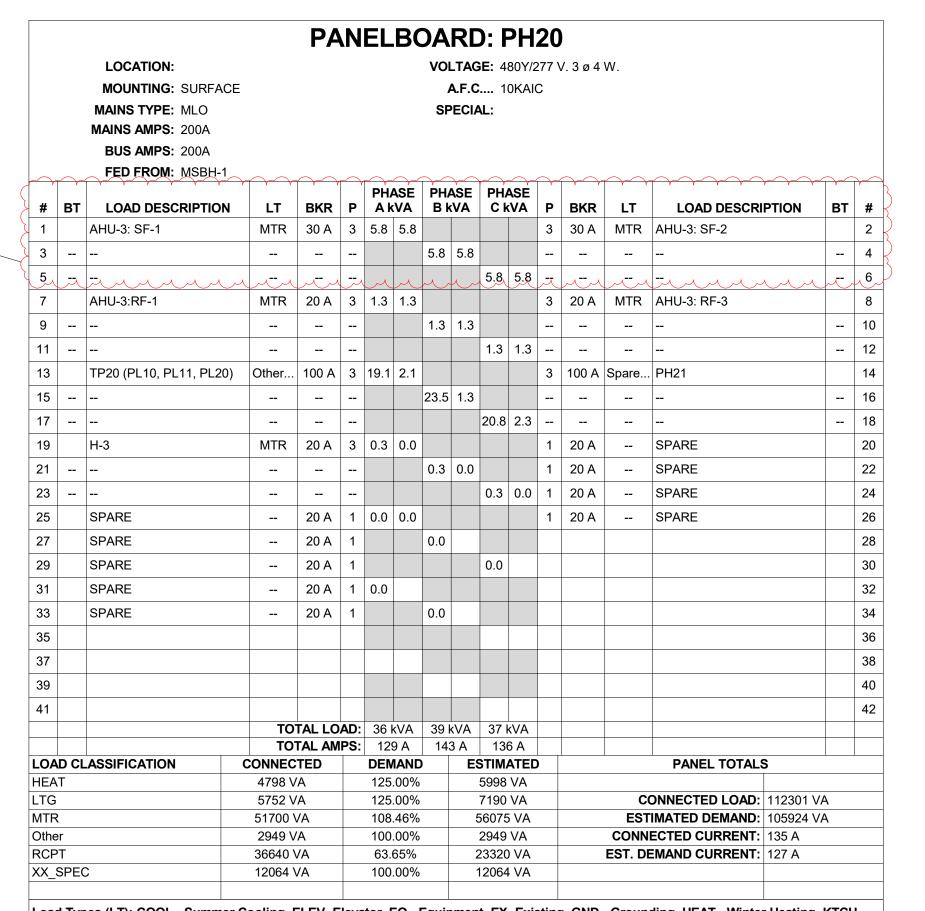
|       |      | LOCATION:               |         |        |      |     |            | VO  | LTAG       | <b>E</b> : 2 | 08Y/1      | 20 \ | /. 3 ø 4 ˈ | W.      |                  |          |    |
|-------|------|-------------------------|---------|--------|------|-----|------------|-----|------------|--------------|------------|------|------------|---------|------------------|----------|----|
|       |      | MOUNTING: RECESSE       | D       |        |      |     |            | 1   | A.F.C      | 1            | 0KAI       | 0    |            |         |                  |          |    |
|       |      | MAINS TYPE: MLO         |         |        |      |     |            | SF  | PECIA      | ۸L:          |            |      |            |         |                  |          |    |
|       |      | MAINS AMPS: 100A        |         |        |      |     |            |     |            |              |            |      |            |         |                  |          |    |
|       |      | BUS AMPS: 100A          |         |        |      |     |            |     |            |              |            |      |            |         |                  |          |    |
|       |      | FED FROM: TP20 / GU     | TTER    |        |      |     |            |     |            |              |            |      |            |         |                  |          |    |
| #     | вт   | LOAD DESCRIPTION        | LT      | BKR    | Р    |     | ASE<br>(VA | 1   | ASE<br>(VA |              | ASE<br>(VA | Р    | BKR        | LT      | LOAD DESCRI      | PTION BT |    |
| 1     |      | ADMIN CONF RCPT         | RCPT    | 20 A   | 1    | 1.1 | 0.7        |     |            |              |            | 1    | 20 A       | RCPT    | 01245 GFI RCPT   |          |    |
| 3     |      | 01240G RCPT             | RCPT    | 20 A   | 1    |     |            | 0.7 | 0.9        |              |            | 1    | 20 A       | RCPT    | 01240E RCPT      |          | ١. |
| 5     |      | 01240F RCPT             | RCPT    | 20 A   | 1    |     |            |     |            | 0.9          | 1.0        | 1    | 20 A       | RCPT    | PATIO            |          |    |
| 7     |      | 01240D RCPT             | RCPT    | 20 A   | 1    | 0.9 | 0.9        |     |            |              |            | 1    | 20 A       | RCPT    | 01240C RCPT      |          |    |
| 9     |      | 01240B RCPT             | RCPT    | 20 A   | 1    |     |            | 0.9 | 1.6        |              |            | 1    | 20 A       | RCPT    | 01220F RCPT      |          | 1  |
| 11    |      | OPEN OFFICE             | Other   | 20 A   | 1    |     |            |     |            | 1.0          | 0.2        | 1    | 20 A       | RCPT    | COFFEE MAKER (   | DPEN     | 1  |
| 13    |      | 01220E RCPT             | RCPT    | 20 A   | 1    | 1.4 | 1.3        |     |            |              |            | 1    | 20 A       | RCPT    | 01220B RCPT      |          | 1  |
| 15    |      | 01220D RCPT             | RCPT    | 20 A   | 1    |     |            | 1.4 | 0.9        |              |            | 1    | 20 A       | RCPT    | 01220 & 01220H R | CPT      | 1  |
| 17    |      | 01220C RCPT             | RCPT    | 20 A   | 1    |     |            |     |            | 1.4          | 0.2        | 1    | 20 A       | RCPT    | COPIER 01220     |          | 1  |
| 19    |      | 01220A GFI              | RCPT    | 20 A   | 1    | 0.4 | 1.0        |     |            |              |            | 1    | 20 A       | Other   | OPEN OFFICE FUI  | RNITURE  | 2  |
| 21    |      | 01220G RCPT             | RCPT    | 20 A   | 1    |     |            | 1.1 | 0.2        |              |            | 1    | 20 A       | RCPT    | EXTERIOR RCPT    |          | 2  |
| 23    |      | 01210, 01240, 01213 RCP | RCPT    | 20 A   | 1    |     |            |     |            | 1.3          | 0.2        | 1    | 20 A       | RCPT    | COFFEE MAKER (   | CONF RM  | 2  |
| 25    |      | COPIER                  | RCPT    | 20 A   | 1    | 0.4 | 0.7        |     |            |              |            | 1    | 20 A       | MTR     | CUH-4            |          | 2  |
| 27    |      | REF COFFEE AREA         | RCPT    | 20 A   | 1    |     |            | 0.2 | 0.3        |              |            | 1    | 20 A       | Other   | SOUND MASKING    |          | 2  |
| 29    |      | COFFEE MAKER COFFE.     | . RCPT  | 20 A   | 1    |     |            |     |            | 0.2          | 0.9        | 1    | 20 A       | RCPT    | 01240G RCPTS     |          | 3  |
| 31    |      |                         |         |        |      |     | 0.0        |     |            |              |            | 1    | 30 A       |         | SPARE            |          | 3  |
| 33    |      |                         |         |        |      |     |            |     | 0.0        |              |            | 2    | 20 A       |         | SPARE            |          | 3  |
| 35    |      | SPARE                   |         | 20 A   | 1    |     |            |     |            | 0.0          | 0.0        |      |            |         |                  |          | 3  |
| 37    |      | SPARE                   |         | 20 A   | 1    | 0.0 | 0.0        |     |            |              |            | 3    | 20 A       |         | SPARE            |          | 3  |
| 39    |      | SPARE                   |         | 20 A   | 1    |     |            | 0.0 | 0.0        |              |            |      |            |         |                  |          | 2  |
| 41    |      |                         |         |        |      |     |            |     |            |              | 0.0        |      |            |         |                  |          | 2  |
|       |      |                         |         | TAL LO |      |     |            |     | VΑ         |              | VA         |      |            |         |                  |          |    |
| 041   | 2 01 | ASSIFICATION            | CONNEC  | TAL AM | IPS: |     | A<br>AND   |     | ) A        |              | A<br>ATED  |      |            |         | DANEL TOTAL      |          |    |
| MTR   | JCL  | ASSIFICATION            | 700 V   |        |      |     | .00%       |     |            | 875          |            | '    |            |         | PANEL TOTALS     | <b>5</b> |    |
| Other | -    |                         | 1908 V  |        |      |     | .00%       |     |            | 1908         |            |      |            | C       | ONNECTED LOAD:   | 23952 VA |    |
| RCP   | Γ    |                         | 21520 \ | /A     |      | 73. | 23%        |     | 1          | 15760        | ) VA       |      |            | EST     | IMATED DEMAND:   | 18371 VA |    |
|       |      |                         |         |        |      |     |            |     |            |              |            |      | <u></u>    |         | ECTED CURRENT:   |          |    |
|       |      |                         |         |        |      |     |            |     |            |              |            |      |            | EST. DE | MAND CURRENT:    | 51 A     |    |

Kitchen, L MTR - Largest Motor, LTG -Lighting, MTR - Motor, RCPT - Receptacle
Breaker Types (BT): AF = Arc Fault, GF = Ground Fault Circuit Interrupt, GE = Ground Fault Equipment Protection (30mA), SH = Shunt Trip, EX

PROVIDE METERING FOR FAN COIL UNIT BRANCH CIRCUITS.

= Existing, NX = New Breaker For Existing Panel, M = Metered

PROVIDE METERING FOR HEAT TRACE BRANCH CIRCUITS.



Load Types (LT): COOL - Summer Cooling, ELEV- Elevator, EQ - Equipment, EX -Existing, GND - Grounding, HEAT - Winter Heating, KTCH-Kitchen, L MTR - Largest Motor, LTG -Lighting, MTR - Motor, RCPT - Receptacle
Breaker Types (BT): AF = Arc Fault, GF = Ground Fault Circuit Interrupt, GE = Ground Fault Equipment Protection (30mA), SH = Shunt Trip, EX = Existing, NX = New Breaker For Existing Panel, M = Metered

NOTES:

PROVIDE METERING FOR EXHAUST FAN BRANCH CIRCUITS.

|            |    |                     |                  | PA              | ١N       | EL  | BO            | AC  | RE    | ): F          | PL    | 20       |          |         |                |          |    |          |
|------------|----|---------------------|------------------|-----------------|----------|-----|---------------|-----|-------|---------------|-------|----------|----------|---------|----------------|----------|----|----------|
|            |    | LOCATION:           |                  |                 |          |     |               | VO  | LTAG  | <b>SE</b> : 2 | 08Y/1 | 20 \     | /. 3 ø 4 | W.      |                |          |    |          |
|            |    | MOUNTING: SURFACE   |                  |                 |          |     |               |     | A.F.C | 1             | 0KAI  | 2        |          |         |                |          |    |          |
|            |    | MAINS TYPE: MCB     |                  |                 |          |     |               | SF  | PECIA | ۸L:           |       |          |          |         |                |          |    |          |
|            |    | MAINS AMPS: 60A     |                  |                 |          |     |               |     |       |               |       |          |          |         |                |          |    |          |
|            |    | BUS AMPS: 60A       |                  |                 |          |     |               |     |       |               |       |          |          |         |                |          |    |          |
|            |    | FED FROM: TP20 / GU | TTER             |                 |          |     |               |     |       |               |       |          |          |         |                |          |    |          |
|            | ь. | LOAD DECODIDEION    |                  | DICE            |          |     | ASE           |     | ASE   |               | ASE   | _        | DICE     |         |                | DTION    | ь  |          |
| #          | ВТ | RCPT                | LT<br>RCPT       | <b>BKR</b> 20 A | <b>P</b> |     | <b>VA</b> 0.7 | В   | (VA   | CF            | (VA   | <b>P</b> | BKR      | LT      | EF-3           | PHON     | ВТ | 2        |
| 1          |    |                     |                  | -               | -        | 0.2 | 0.7           | 0.4 | 4.7   |               |       | •        | 20 A     | MTR     |                |          |    | $\vdash$ |
| 3          |    | MEZZANINE RCPT      | RCPT             | 20 A            | 1        |     |               | 0.4 | 1.7   |               |       | 3        | 20 A     | MTR     | HOIST          |          |    | 4        |
| 5          |    | EF-4                | MTR              | 20 A            | 1        |     |               |     |       | 0.7           | 1.7   |          |          |         |                |          |    | -        |
| 7          |    | AHU-3 UV            | Other            | 20 A            | 1        | 0.5 | 1.7           |     |       |               |       |          |          |         |                |          |    | 8        |
| 9          |    | AHU-3 AUX           | Other            | 20 A            | 1        |     |               | 0.1 | 0.6   |               |       | 2        | 20 A     | HEAT    | SOUTH DOWNSPO  | DUTS     |    | 1        |
| 11         |    | WT-3                | MTR              | 20 A            | 1        |     |               |     |       | 0.7           | 0.6   |          |          |         |                |          |    | 1        |
| 13         |    | SOUTH GUTTERS       | HEAT             | 20 A            | 2        | 1.8 | 0.0           |     |       |               |       | 1        | 20 A     |         | SPARE          |          |    | 1        |
| 15         |    |                     |                  |                 |          |     |               | 1.8 | 0.0   |               |       | 2        | 20 A     |         | SPARE          |          |    | 1        |
| 17         |    | SPARE               |                  | 20 A            | 1        |     |               |     |       | 0.0           | 0.0   |          |          |         |                |          |    | 1        |
| 19         |    | SPARE               |                  | 20 A            | 1        | 0.0 | 0.0           |     |       |               |       | 3        | 20 A     |         | SPARE          |          |    | 2        |
| 21         |    | SPARE               |                  | 20 A            | 1        |     |               | 0.0 | 0.0   |               |       |          |          |         |                |          |    | 2        |
| 23         |    | SPARE               |                  | 20 A            | 1        |     |               |     |       | 0.0           | 0.0   |          |          |         |                |          |    | 2        |
|            |    |                     | TO               | TAL LO          | AD:      | 5 k | .VA           | 5 k | XVA   | 4 k           | VΑ    |          |          |         |                |          |    | $\vdash$ |
|            |    |                     |                  | TAL AM          | IPS:     | 1   | Α             |     | ) A   |               | Α     |          |          |         |                |          |    |          |
|            |    | ASSIFICATION        | CONNEC           |                 |          |     | IAND          |     |       |               | ATED  | )        |          |         | PANEL TOTALS   | <b>S</b> |    |          |
| НEA<br>ИTR |    |                     | 4798 V<br>7100 V |                 |          |     | .00%<br>.61%  |     |       | 5998<br>8350  |       |          |          | C       | ONNECTED LOAD: | 13038 VA |    |          |
| Othe       |    |                     | 600 V            |                 |          |     | .00%          |     |       | 600           |       |          |          |         | IMATED DEMAND: |          |    | _        |
| RCP        | Т  |                     | 540 V            | A               |          | 100 | .00%          |     |       | 540           | VA    |          |          | CONN    | ECTED CURRENT: | 36 A     |    |          |
|            |    |                     |                  |                 |          |     |               |     |       |               |       |          |          | EST. DE | EMAND CURRENT: | 43 A     |    |          |
|            |    |                     |                  |                 | _        |     |               |     |       |               |       |          |          |         |                |          |    |          |

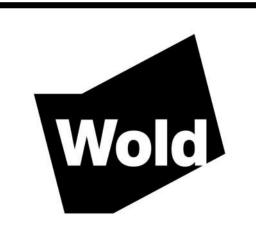
Load Types (LT): COOL - Summer Cooling, ELEV- Elevator, EQ - Equipment, EX -Existing, GND - Grounding, HEAT - Winter Heating, KTCH-Kitchen, L MTR - Largest Motor, LTG -Lighting, MTR - Motor, RCPT - Receptacle
Breaker Types (BT): AF = Arc Fault, GF = Ground Fault Circuit Interrupt, GE = Ground Fault Equipment Protection (30mA), SH = Shunt Trip, EX = Existing, NX = New Breaker For Existing Panel, M = Metered

PROVIDE METERING FOR EXHAUST FAN BRANCH CIRCUITS. PROVIDE METERING FOR HEAT TRACE BRANCH CIRCUITS.

Regional Operations and Communications Facility



656 Winchester Rd, Libertyville, IL



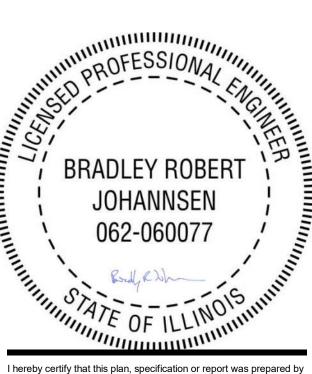
WOLD ARCHITECTS
AND ENGINEERS

110 North Brockway, Suite 220
Palatine, Illinois 60067

woldae.com | 847 241 6100

RossDrulisCusenbery

18294 Sonoma Highway Sonoma, CA 95476 rdcarchitecture.com | tel 707 996 8448



me or under my direct supervision and that I am a duly Licensed

PROFESSIONAL ENGINEER

under the laws of the State of ILLINOIS

Dense BRADLEY R. JOHANNSEN 062.060077 Date 12/30/2022

| Revisions   |           |     |  |  |  |  |  |
|-------------|-----------|-----|--|--|--|--|--|
| Description | Date      | Num |  |  |  |  |  |
| Addendum #2 | 2/24/2023 | 1   |  |  |  |  |  |
| Addendum #3 | 3/3/2023  | 2   |  |  |  |  |  |
|             |           |     |  |  |  |  |  |
|             |           |     |  |  |  |  |  |
|             |           |     |  |  |  |  |  |
|             |           |     |  |  |  |  |  |
|             |           |     |  |  |  |  |  |
|             |           |     |  |  |  |  |  |
|             |           |     |  |  |  |  |  |
|             |           |     |  |  |  |  |  |
|             |           |     |  |  |  |  |  |

 Comm:
 213106

 Date:
 12/30/2022

 Drawn:
 R.HINKS

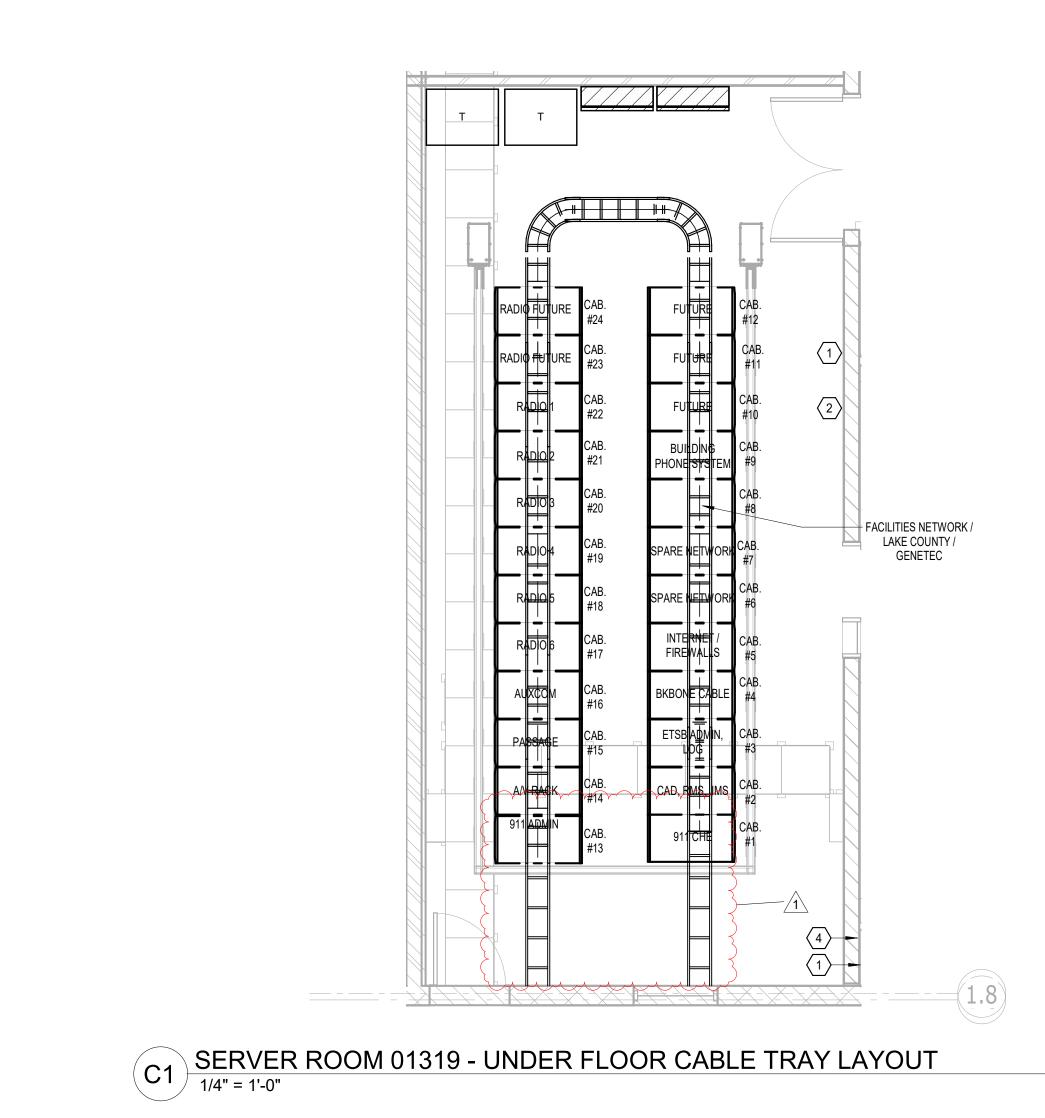
 Check:
 B.JOHANNSEN

PANEL SCHEDULES

PH21 CL10 PH20
PL10 PL11 PL20

Scale:

E



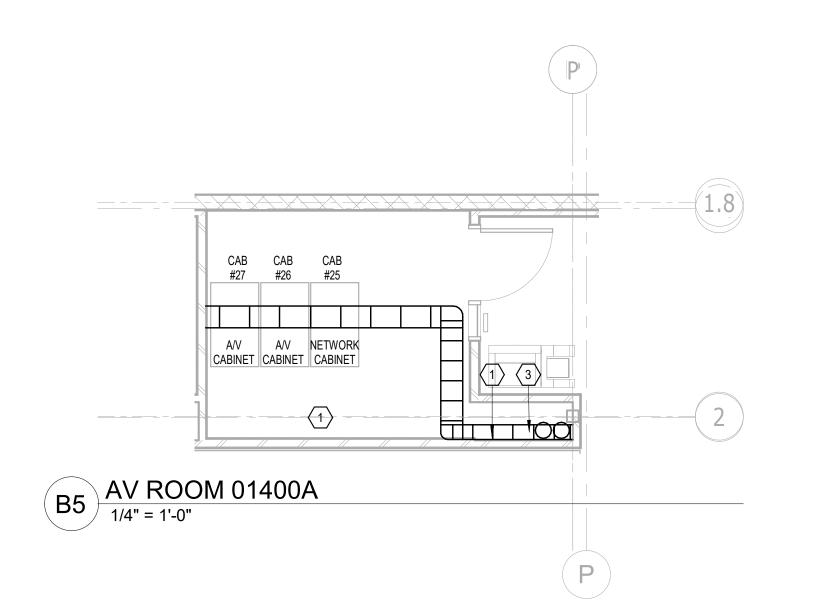
RADIO FUTURE CAB.

RADIO FUTURE CAB.

RADIO FUTURE CAB.

RADIO CAB

SERVER ROOM 01319 - LADDER RACK LAYOUT



mente and the commence of the

KEYED SHEET NOTES

1. FIRE-RATED PLYWOOD PAINTED TO MATCH WALL COLOR
2. ACCESS CONTROL AND POWER SUPPLIES
3. VERTICAL LADDER FOR LASHING CABLE.
4. OUTSIDE PLANT CONDUIT. EXTEND 4" AFF. MANAGE FIBER LOOPS ON PLYWOOD.
5. PRIMARY BUSBAR

LakeCounty

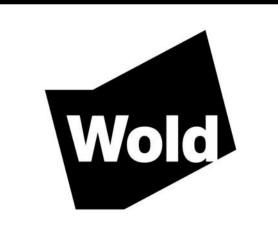
Regional

**Facility** 

Operations and

Communications

656 Winchester Rd, Libertyville, IL 60048



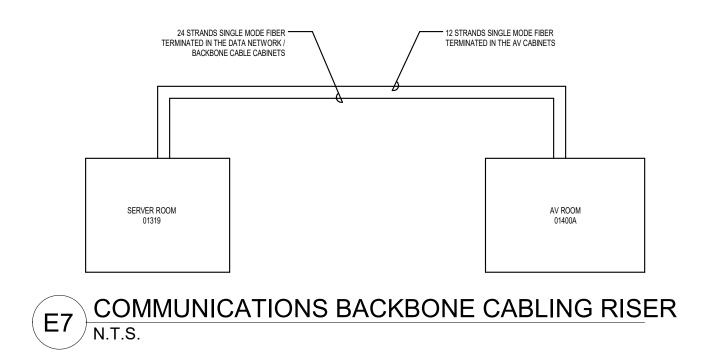
WOLD ARCHITECTS
AND ENGINEERS

110 North Brockway, Suite 220
Palatine, Illinois 60067

woldae.com | 847 241 6100

RosDrulisCusenbery

18294 Sonoma Highway Sonoma, CA 95476 rdcarchitecture.com | tel 707 996 8448





I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed PROFESSIONAL ENGINEER under the laws of the State of ILLINOIS

License Number: BRADLEY R. JOHANNSEN Date 12/30/2022

Revisions

Description Date Num

Addendum #3 3/3/2023 1

Comm: 213106

Date: 12/30/2022

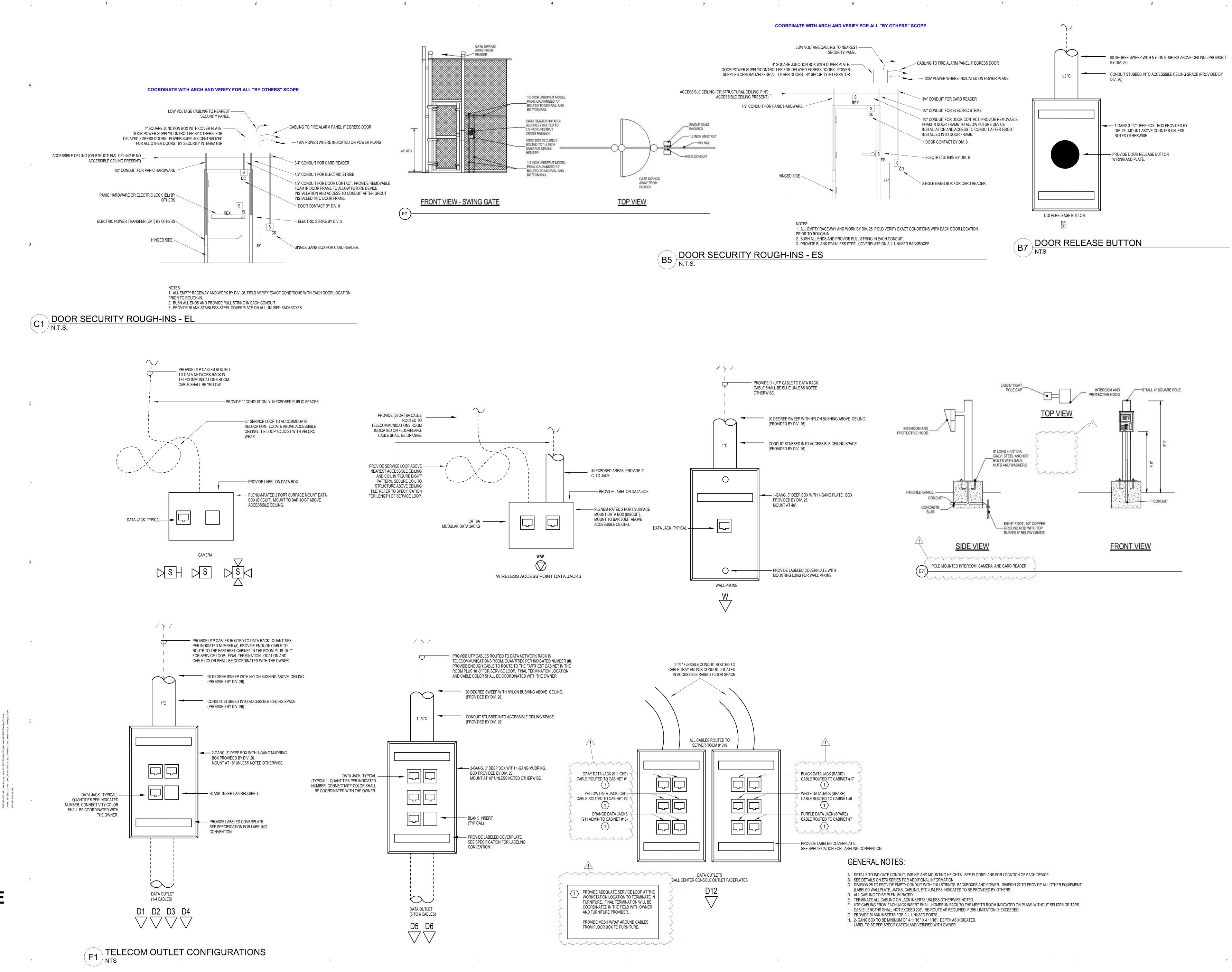
Drawn: S. GARRISON

Check: M KLEIN

ELECTRICAL DETAILS -SYSTEMS

Scale: **As indicated** 

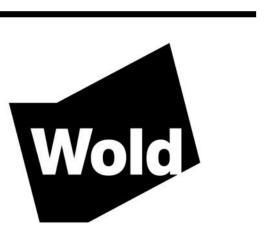
E7.10



Regional
Operations and
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## Ros Druli Susenbery

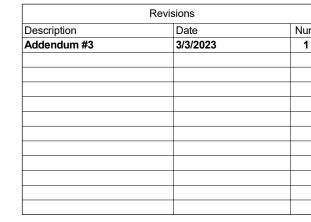
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under the laws of the State of ILLINOIS

License BRADLEY R. JOHANNSEN

Number: 062.060077 Date 12/30/2022



 Comm:
 213106

 Date:
 12/30/2022

 Drawn:
 S GARRISON

 Check:
 M KLEIN

ELECTRICAL DETAILS -SYSTEMS

Scale: N.T.S.

E7.11