GENERAL NOTES

1. THESE PLANS, SPECIFICATIONS, AND ALL MATERIALS SHALL BE IN FULL ACCORDANCE WITH ALL LEGAL AND INDUSTRY REQUIREMENTS, AND STANDARDS INCLUDING WITHOUT LIMITATION TO THE FOLLOWING:

   a. CALIFORNIA CODE OF REGULATIONS TITLE 24, PARTS 1 AND 2 (CALIFORNIA BUILDING CODE), 2019 EDITION.

   b. CALIFORNIA CODE OF REGULATIONS TITLE 24, PART 3 (CALIFORNIA ELECTRICAL CODE), 2019 EDITION.

   c. CALIFORNIA CODE OF REGULATIONS TITLE 24, PART 6 (CALIFORNIA ENERGY CODE), 2019 EDITION.

   d. CALIFORNIA CODE OF REGULATIONS TITLE 24, PART 9 (CALIFORNIA FIRE CODE), 2019 EDITION.

   e. OTHER REGULATING AGENCIES WHICH MAY HAVE AUTHORITY OVER ANY PORTION OF THE WORK, INCLUDING THE STATE OF CALIFORNIA DIVISION OF INDUSTRIAL SAFETY, AND THOSE CODES AND STANDARDS LISTED IN THESE NOTES AND SPECIFICATIONS.

   f. THE ELECTRICAL SYSTEMS FUNCTIONALITY STANDARDS SET FORTH IN TITLE 7 OF THE CALIFORNIA CIVIL CODE (THE "RIGHT TO REPAIR ACT").

   g. THE MANUFACTURER'S REQUIREMENTS OR RECOMMENDATIONS FOR ANY INCORPORATED PRODUCTS.

   h. THE MOST CURRENT APPROVED ISSUES OF ANY NOTED SPECIFICATIONS, CODES AND STANDARDS, INCLUDING SUPPLEMENTS, UNLESS NOTED OTHERWISE.

2. THE PLANS REPRESENT ONLY THE FINISHED ELECTRICAL AND DATA SYSTEMS, AND THEY ARE NOT INTENDED TO INDICATE OR REQUIRE ANY CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES.

3. IN USING THE PLANS FOR BIDDING OR CONSTRUCTION PURPOSES, THE CONTRACTOR IS REQUIRED TO REVIEW ALL OF THE PROJECT'S CONSTRUCTION DOCUMENTS AS A WHOLE IN ORDER TO IDENTIFY ALL REQUIREMENTS THAT DIRECTLY OR INDIRECTLY AFFECT ITS PORTION OF THE ELECTRICAL WORK, EVEN REQUIREMENTS LOCATED IN SECTIONS DESIGNATED AS APPLICABLE TO OTHER TRADES. IN CASE OF CONFLICTS, THE CONTRACTOR SHALL EITHER OBTAIN DIRECTION FROM AN APPROPRIATE OWNER REPRESENTATIVE OR OTHERWISE APPLY THE MORE STRINGENT REQUIREMENT.

4. IN INTERPRETATING THE PLANS, THE FOLLOWING GENERAL RULES APPLY:

   a. WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DRAWINGS.

   b. SCALED DIMENSIONS AND GRAPHICALLY SHOWN LOCATIONS ARE TO BE CONSIDERED ONLY APPROXIMATE. FIELD VERIFY DIMENSIONS PRIOR TO BID.

5. IN IMPLEMENTING THE PLANS, THE FOLLOWING GENERAL RULES APPLY:

   a. BECAUSE THE PLANS ARE INTENDED TO SET FORTH THE REQUIREMENTS FOR CONSTRUCTION IN ONLY AN INDUSTRY-STANDARD LEVEL OF QUALITY AND DETAIL, AND THEREFORE ARE INTENDED TO BE SUPPLEMENTED BY APPROPRIATE REQUESTS FOR CLARIFICATION AND INFORMATION, ERRORS AND OMISSIONS ARE TO BE EXPECTED AND ANTICIPATED; AND THE CONTRACTOR IS REQUIRED TO CAREFULLY REVIEW THE PLANS FOR ERRORS AND OMISSIONS AND TO BRING THESE ERRORS AND OMISSIONS TO THE ATTENTION OF AN APPROPRIATE OWNER REPRESENTATIVE IN A TIMELY MANNER AN ASSUMES THE RISK OF THE CONSEQUENCES OF FAILING TO DO SO BEFORE BIDDING OR OTHERWISE PROCEEDING.

   b. THE CONTRACTOR SHALL REVIEW AND VERIFY ALL DIMENSIONS PRIOR TO STARTING CONSTRUCTION, AND NOTIFY THE ELECTRICAL ENGINEER IMMEDIATELY OF ANY DISCREPANCIES OR INCONSISTENCIES..

6. IN NO EVENT WILL ANY SITE VISITS BY THE ELECTRICAL ENGINEER CONCERN CONSTRUCTION MEANS AND METHODS OR CONSTRUCTION SAFETY, AND ALL SUCH MATTERS SHALL REMAIN THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

7. COPIES OF THE PLANS PROVIDED IN ANY ELECTRONIC FORM ARE SUBJECT TO THE SAME PROVISIONS AS THE OTHER INSTRUMENTS OF SERVICE PREPARED BY OR ON BEHALF OF ELECTRICAL ENGINEER FOR THE PROJECT, INCLUDING WITHOUT LIMITATION THE ENGINEER'S COMMON LAW, STATUTORY OR OTHER RESERVED RIGHTS, INCLUDING COPYRIGHTS. A RECIPIENT IS GRANTED AT MOST A TRANSFERABLE NONEXCLUSIVE LICENSE TO REUSE THE PLANS SOLELY FOR PROJECT PURPOSES; AND NO RECIPIENT IS AUTHORIZED TO USE OR TO ALLOW THE USE OF ALL OR ANY PORTION OF THESE PLANS FOR ANY OTHER PURPOSE, AND ANY USE FOR ANY OTHER PURPOSE WOULD CONSTITUTE ACTIONABLE PLAGIARISM. ELECTRICAL ENGINEER PROVIDES DOCUMENTS IN AN ELECTRONIC FORM ONLY IN ITS STANDARD FORMATS AND CONVENTIONS AND WITH NO GUARANTEE OF COMPATIBILITY WITH ANY RECEIPIENT'S SOFTWARE OR HARDWARE, AND ANY USE WITH OR CONVERSION TO OTHER FORMATS OR CONVENTIONS, OR THE USE WITH ANY PARTICULAR SOFTWARE OR HARDWARE, IS AT THE RECIPIENT'S SOLE RISK.

12. PROTECT ALL WORK, MATERIALS AND EQUIPMENT FROM DAMAGE FROM ANY CAUSE WHATEVER AND PROVIDE ADEQUATE AND PROPER STORAGE FACILITIES DURING THE PROGRESS OF THE WORK. PROVIDE FOR THE SAFETY AND GOOD CONDITION OF ALL THE WORK UNTIL FINAL ACCEPTANCE OF THE WORK BY THE OWNER AND REPLACE ALL DAMAGED OR DEFECTIVE WORK, MATERIALS AND EQUIPMENT BEFORE REQUESTING FINAL ACCEPTANCE.

13. THE DRAWINGS INDICATE IN A DIAGRAMMATIC MANNER, THE DESIRED LOCATIONS OF ARRANGEMENT OF THE COMPONENTS OF ELECTRICAL WORK. DETERMINE EXACT CONDUIT ROUTING, CONDUIT BENDS, AUXILIARY JUNCTION BOXES, SUPPORTS, AND UNDEFINED CONSTRUCTION DETAILS AS A JOB CONDITION TO BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE CODE REQUIREMENTS. PROPER JUDGEMENT MUST BE EXERCISED IN EXECUTING THE WORK SO AS TO SECURE THE BEST POSSIBLE INSTALLATION IN THE AVAILABLE SPACE, AND TO OVERCOME LOCAL DIFFICULTIES DUE TO SPACE LIMITATIONS OR INTERFERENCE OF CONDITIONS ENCOUNTERED.

14. IN THE EVENT CHANGES IN THE INDICATED LOCATIONS OR ARRANGEMENTS ARE NECESSARY, DUE TO DEVELOPED CONDITIONS IN THE BUILDING CONSTRUCTION OR REARRANGEMENT OF EQUIPMENT, SUCH CHANGES SHALL BE MADE WITHOUT COST PROVIDING THE CHANGE IS ORDERED BEFORE THE CONDUIT RUNS, ETC., AND WORK DIRECTLY CONNECTED TO SAME IS INSTALLED AND NO EXTRA MATERIALS ARE REQUIRED.

15. THE DRAWINGS INDICATE APPROXIMATE LOCATIONS OF EXISTING CONDUITS. THE EXACT ROUTING SHALL BE VERIFIED IN FIELD AND LENGTH OF CONDUCTORS SHALL BE ADJUSTED TO THE LENGTH REQUIRED.

16. PROVIDE UL LISTED FIRE STOP FOR ALL PENETRATIONS THROUGH FIRE RATED FLOORS, WALLS AND CEILINGS TO MAINTAIN ALL FIRE RATINGS. THE FIRE STOP MATERIALS SHALL BE RE-ENTERABLE AND REUSABLE.

17. GROUNDING SHALL BE EXECUTED IN ACCORDANCE WITH ALL APPLICABLE CODES AND REGULATIONS, BOTH OF THE STATE OF CALIFORNIA AND LOCAL AUTHORITIES HAVING JURISDICTION.

18. PROVIDE GROUND WIRE IN EACH CONDUIT CONTAINING CIRCUITS FEEDING RECEPTACLES. THE CONDUIT SHALL NOT BE PERMITTED TO SERVE AS THE ONLY ELECTRICAL GROUND RETURN PATH.

19. WHERE CIRCUIT CHANGES OR ADDITIONS OCCUR IN PANELBOARDS UPDATE PANEL DIRECTORY CARDS WITH NEW TYPEWRITTEN CARDS INDICATING DESCRIPTION OF ALL CIRCUITS.

20. UNLESS NOTED OTHERWISE ALL 120 VOLT HOMERUNS OVER 100 FEET SHALL BE #10 AWG MINIMUM. ADJUST CONDUIT SIZE ACCORDINGLY.

21. UNLESS NOTED OTHERWISE ALL 277 VOLT HOMERUNS OVER 200 FEET SHALL BE #10 AWG MINIMUM. OVER 300 FEET SHALL BE #8 AWG MINIMUM. ADJUST CONDUIT SIZE ACCORDINGLY.

22. CONDUIT FOR TELEPHONE/DATA CABLING SHALL COMPLY WITH THE FOLLOWING ADDITIONAL REQUIREMENTS:

   a. INSIDE BEND RADIUS SHALL BE AT LEAST 10 TIMES ITS INTERNAL DIAMETER.

   b. PROVIDE PULL BOXES WHENEVER CONDUIT LENGTH EXCEEDS 150 FEET AND WHEN COMBINED BENDS ARE GREATER THAN 180 DEGREES.

   c. ALL CONDUIT SHALL BE PROVIDED WITH INSULATED BUSHINGS.

   d. MAINTAIN A MINIMUM CLEARANCE OF 4 FEET FROM MOTORS AND TRANSFORMERS.

   e. MAINTAIN A MINIMUM CLEARANCE OF 12 INCHES FROM POWER CIRCUITS.

28. COORDINATE MOUNTING HEIGHTS OF RECEPTACLES, SWITCHES, A/V DEVICES, SECURITY DEVICES, ETC. MOUNTED ON COMMON WALLS SO THAT ALL OUTLETS ARE MOUNTED TO ALIGN HORIZONTALLY.

29. NOTIFY THE ELECTRICAL ENGINEER IN WRITING WHEN INSTALLATION IS COMPLETE AND THAT A FINAL INSPECTION OF THIS WORK CAN BE PERFORMED. IN THE EVENT DEFECTS OR DEFICIENCIES ARE FOUND DURING THIS FINAL INSPECTION, THEY SHALL BE CORRECTED TO THE SATISFACTION OF THE ARCHITECT BEFORE FINAL ACCEPTANCE CAN BE ISSUED.

30. ALL LOW VOLTAGE CABLING IN THE PLENUM SHALL BE PLENUM RATED.

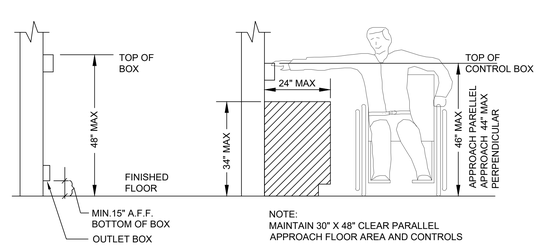
31. CONDUITS RUN ABOVE GRADE: PROVIDE OZ COMPANY TYPE "DX" EXPANSION/DEFLEXION FITTINGS WITH BONDING JUMPER ON ALL CONDUITS AT ALL BUILDING EXPANSION OR SEISMIC JOINT CROSSINGS.

SYMBOL LIST

(ALL SYMBOLS NOT NECESSARILY USED ON THESE DRAWINGS)
ALL SYMBOL DESCRIPTIONS ARE SUBJECT TO MODIFICATION AS NOTED ON THE DRAWINGS.
VERIFY EXACT LOCATIONS AND HEIGHTS OF OUTLETS WITH ARCHITECTURAL INTERIOR ELEVATIONS PRIOR TO ROUGH-IN.

- DUPLEX CONVENIENCE RECEPTACLE VERTICAL ON FLUSH WALL MOUNTED OUTLET BOX, +18". STEM INDICATES WALL MOUNTED OUTLET BOX, TYPICAL.
- DOUBLE DUPLEX (FOUR-PLEX) CONVENIENCE RECEPTACLE ON ONE FLUSH WALL MOUNTED OUTLET BOX +18".
- (J) JUNCTION BOX CONCEALED ABOVE ACCESSIBLE CEILING OR ON EXPOSED CEILING. U.N.O.
- (1)-(2) INDICATES CONNECTION TO EQUIPMENT AS REQUIRED, TYPICAL. U.N.O.
- A / E-1 PANELBOARD. ADJACENT LINE INDICATES PANEL FRONT. ADJACENT BALLOON INDICATES PANEL DESIGNATION "A", SEE DRAWING E-1 FOR PANEL SCHEDULE.
- TERMINAL CABINET OR EQUIPMENT CABINET. ADJACENT LINE INDICATES CABINET FRONT.
- CONDUIT, INSTALLED CONCEALED IN WALL OR IN CEILING SPACE.
- B-5,7 HOMERUN TO PANEL "B" FOR CIRCUITS 5, 7 CONDUIT AND SIRE SIZE AS NOTED.
- 1 PLAN NOTE CALLOUT. REFER TO CORRESPONDING NOTE ON DRAWING WHERE CALLOUT OCCURS.
- 4 / E-2 DETAIL CALLOUT, "C" INDICATES DETAIL, "E-2" INDICATES DRAWING WHERE DETAIL OCCURS.
- CIRCUIT BREAKER STATIONARY (NON-DRAWOUT), SECONDARY VOLTAGE.
- 3D DATA OUTLET , WITH THREE (3) CATEGORY 6A DATA OUTLET CONNECTORS, MOUNTED ON SURFACE RACEWAY. PROVIDE THREE (3) CATEGORY 6A CABLES FROM CONNECTORS TO THE BUILDING IDF.
- 2D DATA OUTLET , WITH TWO (2) CATEGORY 6A DATA OUTLET CONNECTORS, MOUNTED ON SURFACE RACEWAY. PROVIDE TWO (2) CATEGORY 6A CABLES FROM CONNECTORS TO THE BUILDING IDF.
- 4D DATA OUTLET , WITH FOUR (4) CATEGORY 6A DATA OUTLET CONNECTORS MOUNTED ON SURFACE RACEWAY. PROVIDE FOUR (4) CATEGORY 6A CABLES FROM CONNECTORS TO THE BUILDING IDF.

A.F.F.	ABOVE FINISH FLOOR
A.F.G.	ABOVE FINISH GRADE
AWG	AMERICAN WIRE GAUGE
AMP, A	AMPERE
A.I.C.	AMPERES INTERRUPTING CAPACITY (SYMMETRICAL)
AF/AT	AMP FRAME, AMP TRIP
AS/AF	AMP SWITCH, AMP FUSE
CIRC., CKT.	CIRCUIT
CB	CIRCUIT BREAKER
IG	CONDUIT
C.O.	CONDUIT ONLY
CONN	CONNECTED
CLCB	CURRENT LIMITING CIRCUIT BREAKER
DIA	DIAMETER
EMCS	ENERGY MANAGEMENT CONTROL SYSTEM
EMT	ELECTRICAL METALLIC TUBING
EWC	ELECTRIC WATER COOLER
E-O-L	END-OF-LINE CIRCUIT TERMINATOR
EF	EXHAUST FAN
FT OR '	FEET
FA	FIRE ALARM
FLA	FULL LOAD AMPS
GFI	GROUND FAULT INTERRUPTER
GRD	GROUND
HOA	HAND-OFF-AUTO
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
H.,W.,D.,L.	HEIGHT, WIDTH, DEPTH, LENGTH
HID	HIGH INTENSITY DISCHARGE
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
IN. OR "	INCHES
J-BOX	JUNCTION BOX
KVA	KILOVOLT AMPERES
KW	KILOWATT
LCL	LONG CONTINUOUS LOAD
L.F.	LINEAR FEET
LTG, LTS	LIGHTING
MCB	MAIN CIRCUIT BREAKER
MLO	MAIN LUGS ONLY
MH	METAL HALIDE
MCC	MOTOR CONTROL CENTER
MCM	THOUSAND CIRCULAR MILS
MCP	MOTOR CIRCUIT PROTECTOR
MTD	MOUNTED
MW	MICROWAVE
NEC	NATIONAL ELECTRIC CODE
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NF	NON-FUSED
NIC	NOT IN CONTRACT
NO. OR #	NUMBER
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
PRIMARY	OVER 600 VOLTS
PH. OR Ø	PHASE
PROVIDE	FURNISH, INSTALL AND CONNECT
PA	PUBLIC ADDRESS
REC, RECEPT	RECEPTACLE
U.N.O.	UNLESS NOTED OTHERWISE



MOUNTING HEIGHT OVER OBSTRUCTION DETAIL

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Consulting Electrical Engineers
150 Paularino Avenue Suite A120
Costa Mesa, CA 92626
949.852.9995 • 949.852.1657 (fax)
fbaengr.com

Stamp

Consultant

CYPRESS COLLEGE
CYBER SECURITY LAB

9200 VALLEY VIEW STREET
CYPRESS, CA 90630

FBA Project Number : 148 033	
File Name:	
Drawn: BN	Checked: SZ
Date: 05-02-2022	Scale:

Rev:	Date:	Description:

Drawing Title:
SYMBOL LIST, GENERAL NOTE AND DETAIL

Drawing No.:
E-1
drawing of

FBA Engineering / Plot Date: 6/3/2022 8:44 AM / Plotted by: Brandon Nguyen / Drawing Location: I:\148\033\E-1_148033 Symbol List and Gernal Notes.dwg

CYPRESS COLLEGE CYBER SECURITY LAB — PROJECT NO. 148 033

VOLTS 120/208 — PANELBOARD 1BA2 — MAIN 60A/3P
PHASE 3PH, 4W — BUS 100A
MTG FLUSH — LOCATION ELECTRICAL CLOSET

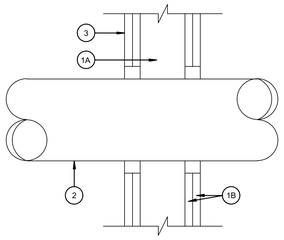
CKT	LOAD (VA) A	B	C	TYPE	BKR	OUTLET QUAN	DESCRIPTION
1	900	-----	-----	R	20/1	5	CONV. REC.
3	-----	900	-----	R	20/1	5	CONV. REC.
5	-----	-----	900	R	20/1	5	CONV. REC.
7	900	-----	-----	R	20/1	5	CONV. REC.
9	-----	900	-----	R	20/1	5	CONV. REC.
11	-----	-----	720	R	20/1	4	CONV. REC.
13	720	-----	-----	R	20/1	2	CONV. REC.
15	-----	720	-----	R	20/1	2	CONV. REC.
17	-----	-----			20/1		SPARE
19		-----	-----		20/1		SPARE
21	-----		-----		20/1		SPARE
23	-----	-----			20/1		SPARE
A 2	900	-----	-----	R	20/1	5	CONV. REC.
B 4	-----	900	-----	R	20/1	5	CONV. REC.
C 6	-----	-----	900	R	20/1	5	CONV. REC.
A 8	900	-----	-----	R	20/1	5	CONV. REC.
B 10	-----	720	-----	R	20/1	4	CONV. REC.
C 12	-----	-----	900	R	20/1	5	CONV. REC.
A 14		-----	-----		20/1		SPARE
B 16	-----		-----		20/1		SPARE
C 18	-----	-----			20/1		SPARE
A 20		-----	-----		20/1		SPARE
B 22	-----		-----		20/1		SPARE
C 24	-----	-----			20/1		SPARE

CONNECTED:

	VA	AMPS
PHASE A =	4320	36
PHASE B =	4140	35
PHASE C =	3420	29
TOTAL =	11880	33

L.C.L. @ 125% = 10940
RECEPT. ( ) 10 kVA @ 50% = 10940
KITCHEN @ 65% =
OTHER LOAD @ 100% =
TOTAL VA = 10940
TOTAL AMPS = 30

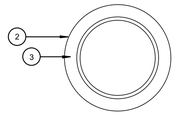
LOAD TYPE:
G - GENERAL (100%) — M - MOTOR (100%)
L - L.C.L. (125%) — M1 - MOTOR (125%)
R - RECEPTACLE (50%) — X - X-RAY (100%)
(10 kVA @ 100%) — X1 - X-RAY (50%)
K - KITCHEN (65%)



SECTION A-A

System No. W-L-1054
F Ratings - 1 and 2 Hr (See Items 1 and 3)
T Rating - 0 Hr
L Rating At Ambient - Less Than 1 CFM/Sq Ft
L Rating At 400 F - 4 CFM/Sq Ft

A



A

1. WALL ASSEMBLY -- THE 1 OR 2 HR FIRE-RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED THE MATERIALS AND IN THE MANNER SPECIFIED IN OF THE INDIVIDUAL U300 OR U400 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:

   STUDS -- WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOM 2 BY 4 IN. LUMBER SPACED 16 IN. OC. STEEL STUDS TO BE MIN 2-1/2 IN. WIDE AND SPACED MAX 24 IN. OC. WHEN STEEL STUDS ARE USED AND THE DIAM OF OPENING EXCEEDS THE WIDTH OF STUD CAVITY, THE OPENING SHALL BE FRAMED ON ALL SIDES USING LENGTHS OF STEEL STUD INSTALLED BETWEEN THE VERTICAL STUDS AND SCREW-ATTACHED TO THE STEEL STUDS AT EACH END. THE FRAMED OPENING IN THE WALL SHALL BE 4 TO 6 IN. WIDER AND 4 TO 6 IN. HIGHER THAN THE DIAM. OF THE PENETRATING ITEM SUCH THAT WHEN THE PENETRATING ITEM IS INSTALLED IN THE OPENING, A 2 TO 3 IN. CLEARANCE IS PRESENT BETWEEN THE PENETRATING ITEM AND THE FRAMING ON ALL FOUR SIDES.

   GYPSUM BOARD* -- 5/8 IN. THICK, 4 FT WIDE WITH SQUARE OR TAPERED EDGES. THE GYPSUM BOARD TYPE, THICKNESS, NUMBER OF LAYERS, FASTENER TYPE AND SHEET ORIENTATION SHALL BE AS SPECIFIED IN THE INDIVIDUAL U300 OR U400 SERIES DESIGN IN THE UL FIRE RESISTANCE DIRECTORY. MAX DIAM OF OPENING IS 32-1/4 IN. FOR STEEL STUD WALLS. MAX DIAM OF OPENING IS 14-1/2 IN. FOR WOOD STUD WALLS. THE F RATING OF THE FIRESTOP SYSTEM IS EQUAL TO THE FIRE RATING OF THE WALL ASSEMBLY.

2. THROUGH-PENETRANTS -- ONE METALLIC PIPE, CONDUIT OR TUBING TO BE INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. THE ANNULAR SPACE SHALL BE MIN 0 IN. TO MAX 2-1/4 IN. PIPE MAY BE INSTALLED WITH CONTINUOUS POINT CONTACT. PIPE, CONDUIT OR TUBING MAY BE INSTALLED AT AN ANGLE NOT GREATER THAN 45 DEGREES FROM PERPENDICULAR. PIPE, CONDUIT OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES, CONDUITS OR TUBING MAY BE USED:

   A. STEEL PIPE -- NOM 30 IN DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.

   B. IRON PIPE -- NOM 30 IN. DIAM (OR SMALLER) CAST OR DUCTILE IRON PIPE.

   C. CONDUIT -- NOM 4 IN DIAM (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING OR 6 IN. DIAM STEEL CONDUIT.

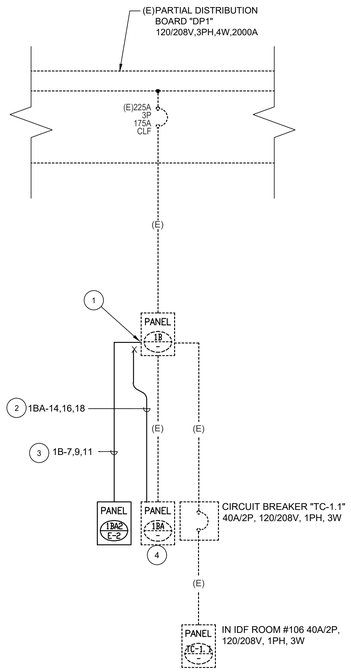
   D. COPPER TUBING -- NOM 6 IN. DIAM (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING.

   E. COPPER PIPE -- NOM 6 IN. DIAM (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.

3. FILL, VOID OR CAVITY MATERIAL* -- SEALANT -- MIN 5/8 IN. THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH WITH BOTH SURFACES OF WALL AT THE POINT OR CONTINUOUS CONTACT LOCATIONS BETWEEN PIPE AND WALL, A MIN 1/2 IN. DIAM BEAD OF FILL MATERIAL SHALL BE APPLIED AT THE PIPE WALL INTERFACE ON BOTH SURFACES OF WALL .

HILTI CONSTRUCTION CHEMICALS, DIV OF
HILTI INC -- FS-ONE SEALANT
*BEARING THE UL CLASSIFICATION MARK

RATED STUD WALL FIRE STOP DETAIL — SCALE: NONE — 4



PLAN NOTES:

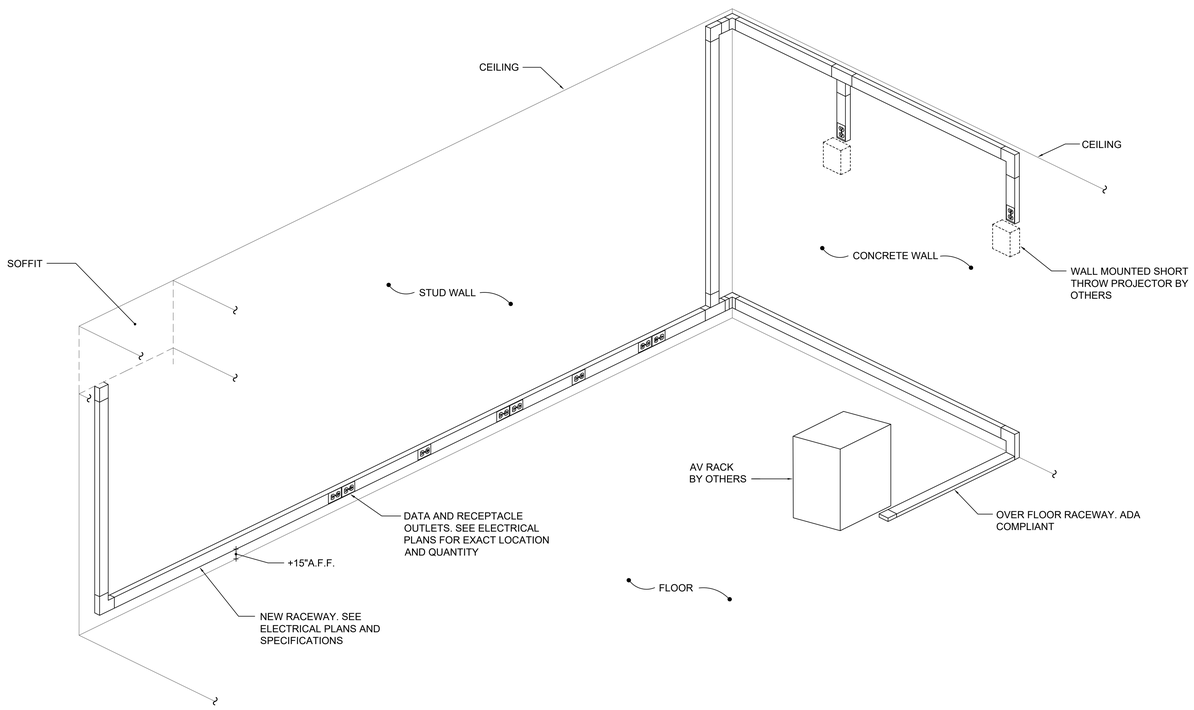
1. EXISTING ELECTRICAL PANEL 120/208V, 3 PHASE, 4 WIRE, 175 AMP MAIN TO REMAIN. CONTRACTOR SHALL REMOVE THREE (3) 20A/1 POLE CIRCUIT BREAKER #7,9,11 AND REPLACE WITH 60A/3P CIRCUIT BREAKER TO BACKFEED A NEW ELECTRICAL PANEL "1BA2" AS INDICATED. INTERCEPT AND EXTEND EXISTING CIRCUITS 7,9,11 TO EXISTING PANEL "1BA" CIRCUITS 14,16,18 AS REQURED.
2. PROVIDE 6 #12, 1 #12 GRD. - 1"C.
3. PROVIDE 4 #4, 1 #10 GRD. - 1 1/2"C.
4. PROVIDE THREE (3) 20A/1P NEW CIRCUIT BREAKER IN SPACES 14,16,18 OF EXISTING PANELBOARD "1BA" TO MATCH A.I.C. RATING OF DEVICES CURRENTLY USED. PROVIDE ALL REQUIRED MOUNTING HARDWARE.

NOTE:

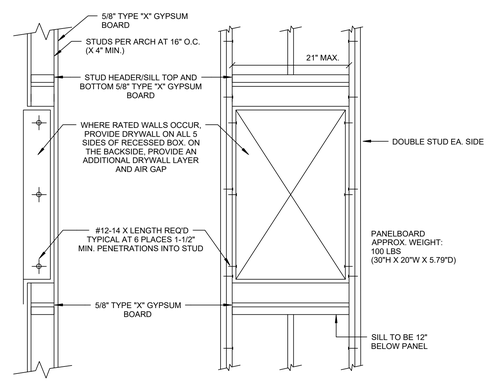
DASHED (--------) LINEWORK INDICATES EXISTING FEEDERS, DEVICES, ETC TO REMAIN U.N.O.

SOLID (———) LINEWORK INDICATES PROVIDE NEW ELECTRICAL EQUIPMENT, FEEDERS, ETC. IN THIS SCOPE OF WORK.

PARTIAL SINGLE LINE DIAGRAM — SCALE: NONE — 1



RACEWAY SYSTEM LAYOUT DETAIL — SCALE: NONE — 3



PANELBOARD/TERMINAL CABINET ANCHORAGE - FLUSH — SCALE: NONE — 2

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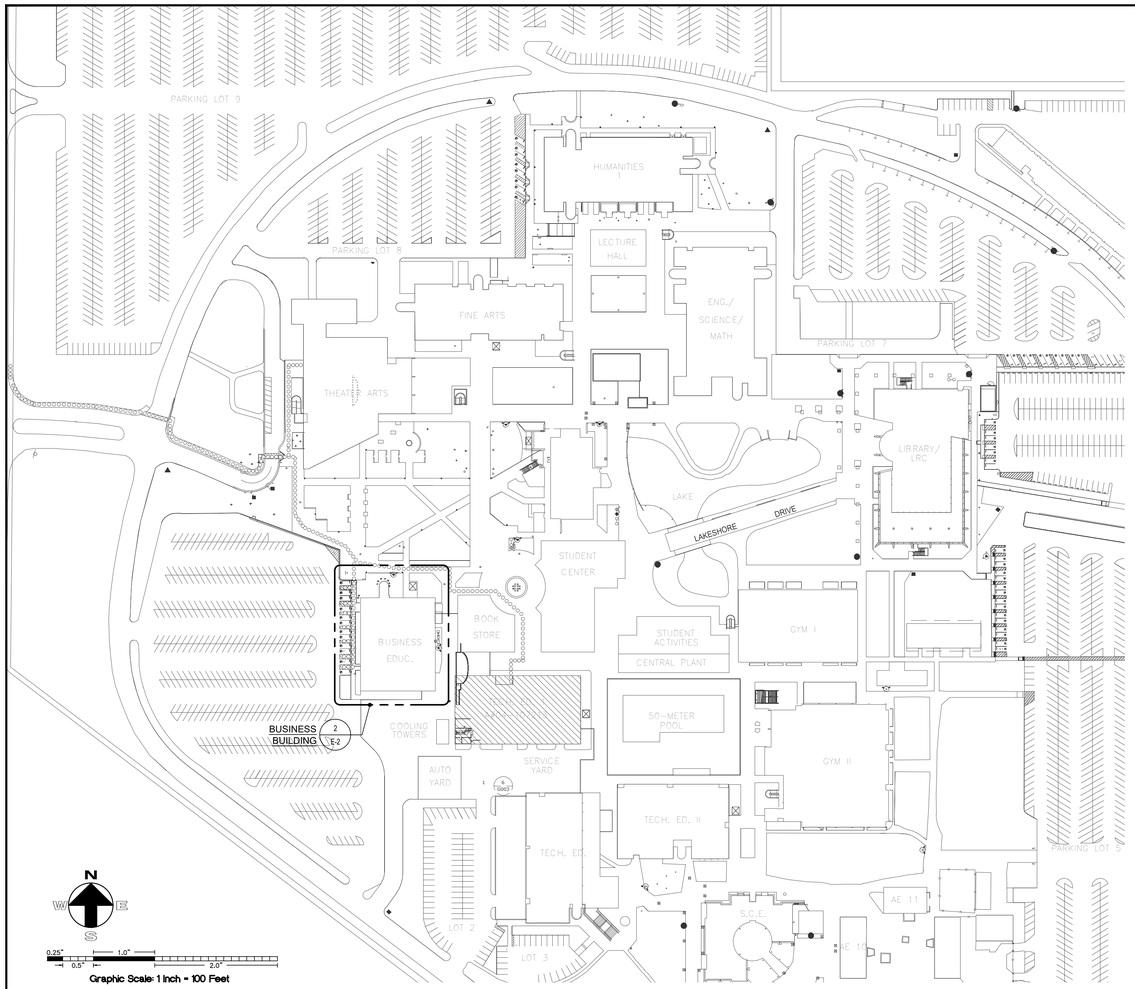
FBA Project Number : 148 033	
File Name:	
Drawn: BN	Checked: SZ
Date: 05-02-2022	Scale:

Rev:	Date:	Description:

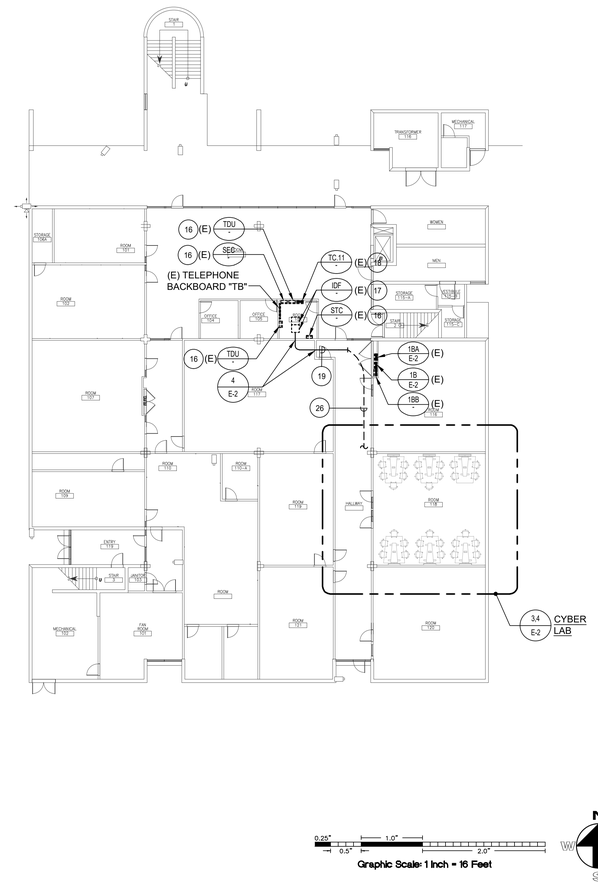
Drawing Title:
PARTIAL SINGLE LINE DIAGRAM, DETAILS AND PANEL SCHEDULE

Drawing No.:
E-2
drawing of

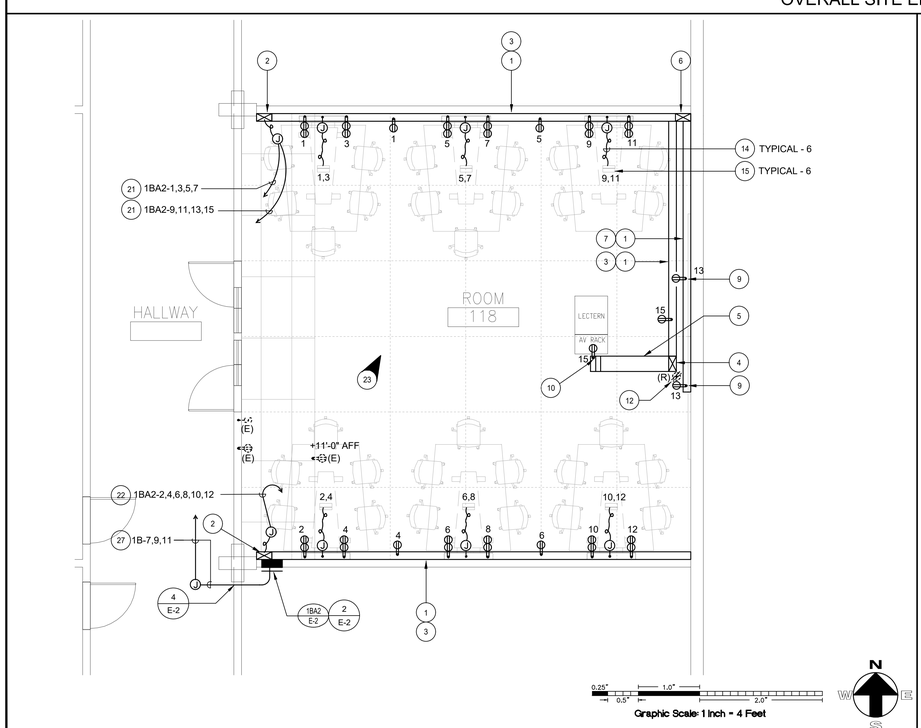
FBA Engineering / Plot Date: 6/3/2022 8:44 AM / Plotted by: Brandon Nguyen / Drawing Location: I:\148033\E-2_148033 Partial Single Line Diagram, Details, and Panel Schedule.dwg



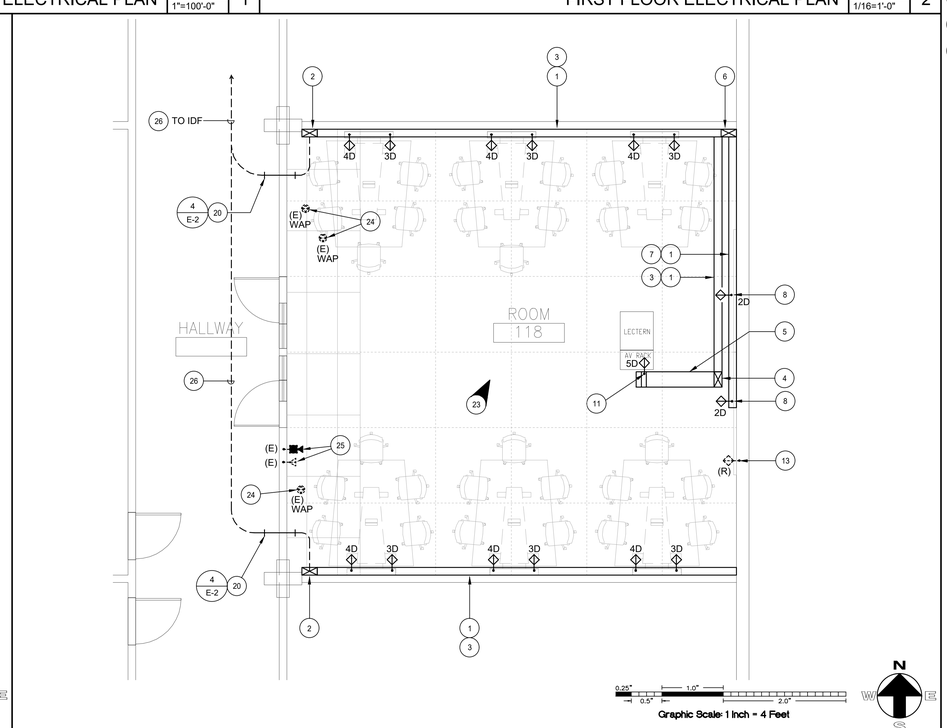
OVERALL SITE ELECTRICAL PLAN | SCALE: 1"=100'-0" | 1



FIRST FLOOR ELECTRICAL PLAN | SCALE: 1/16=1'-0" | 2



ROOM 118 POWER PLAN | SCALE: 1/4=1'-0" | 3



ROOM 118 SIGNAL PLAN | SCALE: 1/4=1'-0" | 4

PLAN NOTES

1. PROVIDE 3-COMPARTMENT DIVIDED RACEWAY SYSTEM AS SHOWN COMPLETE WITH ALL NECESSARY ACCESSORIES SUCH AS END FITTINGS, ELBOWS, COUPLINGS, DEVICE PLATES, OUTLETS, ETC.
2. PROVIDE VERTICAL SECTION OF 3-COMPARTMENT DIVIDED RACEWAY SYSTEM FROM HORIZONTAL SECTION TO CEILING SPACE OF DUCT SOFFIT.
3. PROVIDE HORIZONTAL SECTION OF 3-COMPARTMENT DIVIDED RACEWAY SYSTEM SURFACE MOUNTED AT +15" A.F.F.
4. PROVIDE VERTICAL SECTION OF 3-COMPARTMENT DIVIDED RACEWAY SYSTEM FROM HORIZONTAL SECTION TO FLOOR SECTION.
5. PROVIDE MULTIPLE SERVICES LOW PROFILE OVER FLOOR RACEWAY (ADA COMPLIANT) AS SHOWN COMPLETE WITH ALL NECESSARY ACCESSORIES SUCH AS END FITTINGS, ELBOWS, COUPLINGS, DEVICE PLATES, OUTLETS, ETC.
6. PROVIDE VERTICAL 3-COMPARTMENT DIVIDED RACEWAY UP TO UNDERSIDE OF CONCRETE CEILING STRUCTURE.
7. PROVIDE HORIZONTAL SECTION OF 3-COMPARTMENT DIVIDED RACEWAY SYSTEM SURFACE MOUNTED JUST BELOW CONCRETE CEILING FOR WALL MOUNTED SHORT THROW PROJECTOR.
8. PROVIDE DATA OUTLET FOR WALL MOUNTED SHORT THROW PROJECTOR. COORDINATE EXACT LOCATION WITH AV INSTALLER/COLLEGE REPRESENTATIVE.
9. PROVIDE RECEPTACLE FOR WALL MOUNTED SHORT THROW PROJECTOR. COORDINATE EXACT LOCATION WITH AV INSTALLER/COLLEGE REPRESENTATIVE.
10. PROVIDE RECEPTACLE OUTLET FOR AV RACK. COORDINATE EXACT LOCATION WITH AV INSTALLER/COLLEGE REPRESENTATIVE.
11. PROVIDE DATA OUTLETS FOR AV RACK. COORDINATE EXACT LOCATION WITH AV INSTALLER/COLLEGE REPRESENTATIVE.
12. REMOVE EXISTING SURFACE MOUNTED FLOOR OUTLET AND ASSOCIATED WIRING.
13. REMOVE EXISTING DATA OUTLETS AND ASSOCIATED WIREMOLD AND CABLING.
14. ROUTE CONDUIT PER FURNITURE MANUFACTURER'S RECOMMENDATION.
15. PROVIDE CONNECTION TO FIVE (5) RECEPTACLES FURNISHED WITH BYRNE ELLORA FURNITURE FLIP UP MODULE. BYRNE ELLORA FLIP UP MODULE BY OTHERS.
16. EXISTING SIGNAL TERMINAL CABINET/CONTROL PANEL TO REMAIN.
17. PROVIDE CATEGORY 6A PATCH PANELS AT TOP OF EXISTING RACK TO TERMINATE ALL NEW CABLES.
18. EXISTING ELECTRICAL PANEL TO REMAIN.
19. PROVIDE 4" CONDUIT ABOVE CEILING FOR ROUTING NEW DATA CABLES FROM EXISTING IDF RACK TO CYBER LAB.
20. PROVIDE 3" CONDUIT SLEEVE STUBBED FROM CORRIDOR CEILING ATTIC SPACE ABOVE DUCT SOFFIT IN CLASSROOM FOR ROUTING DATA CABLES.
21. PROVIDE 8 #12, 1 #12 GRD. - 1"C.
22. PROVIDE 12 #12, 1 #12 GRD. - 1 1/2"C.
23. REFER TO DETAIL #3 SHEET E-2 FOR RACEWAY SYSTEM LAYOUT.
24. EXISTING WIRELESS ACCESS POINT TO REMAIN ON CEILING.
25. EXISTING FIRE ALARM STROBE AND TELEPHONE OUTLET TO REMAIN.
26. CATEGORY 6A COMPUTER CABLES SUSPEND ABOVE CEILING.
27. REFER TO SINGLE LINE DIAGRAM FOR FEEDER SIZE.

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Date: 05-02-2022	Scale:

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Drawing Title:
ELECTRICAL PLANS

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