# PERALTA COMMUNITY COLLEGE DISTRICT

# BERKELEY CITY COLLEGE ENTRANCE DOOR REPLECEMENT

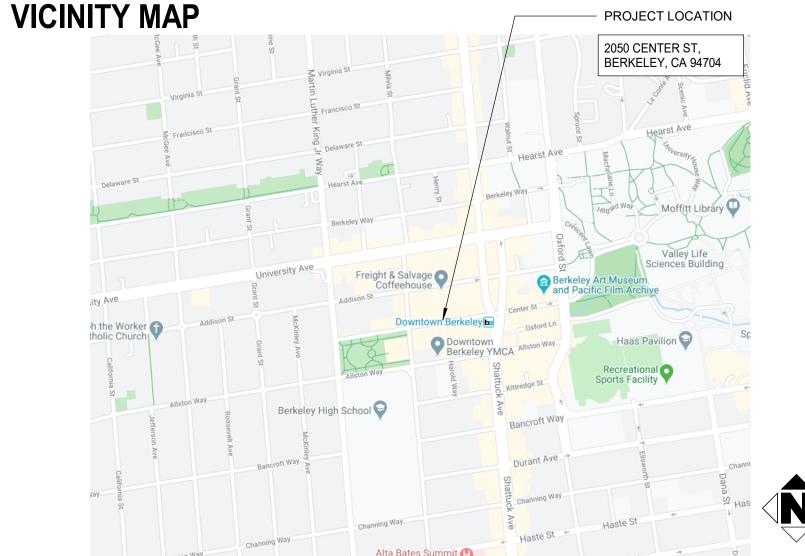
**DSA APPLICATION NUMBER: 01-119701** 

#### **ABBREVIATIONS**



# PROJECT INFORMATION

PROJECT BOUNDARY



THE EXISTING FIRE ALARM SYSTEM MONITORING THE DOORS TO ACCOMMODATE THE REPLACEMENT OF THE EXISTING DOORS. MODIFY THE EXISTING POWER SUPPLY SERVING THE EXISTING AUTOMATIC DOOR OPERATERS TO ACCOMMODATE THE REPLACEMENT OF THE EXISTING DOORS

PLAN REVIEW: DIVISION OF THE STATE ARCHITECT (DSA)

ADDRESS: 2050 CENTER ST, BERKELEY, CA 94704 EXISTING USE: CLASSROOMS, LIBRARY, TEACHING LABORATORIES, ASSEMBLY AREAS, EXHIBIT AREAS, AND OFFICES

EXISTING BUILDING OCCUPANCY: BUSINESS GROUP B **EXISTING STORIES ABOVE GRADE PLANE: 6 STORIES** PROPOSED STORIES ABOVE GRADE PLANE: NO CHANGE EXISTING BUILDING AREA: 160,000 SF

BUILDING AREA (AS DESCRIBED PER CBC SECTION 202): NO CHANGE TYPE OF CONSTRUCTION: TYPE I FIRE SPRINKLER COVERAGE: FULL

# **PROJECT TEAM**

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**ELECTRICAL ENGINEER** EDGE ELECTRICAL CONSULTING 300 27th STREET, SUITE 201 OAKLAND, CA 94612 CONTACT: MIGUEL CASTELLANOS T: 510-775-3836 EMAIL: MIGUEL@EDGE-ECONSULTING.COM

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	FIRE ALARM FA-001 FA-002 FA-101 FA-201 FA-601 FA-701	COVER SHEET SEQUENCE OF OPERATION DEVICE PLACEMENT PLAN - BASEMENT RISER DIAGRAM CALCULATIONS AND SCHEDULES WIRING TYPICALS
	ELECTRICAL	

SPECIFICATIONS

SYMBOLS LIST, ABBREVIATIONS, DETAILS OVERALL GROUND AND FIRST FLOOR PLAN - ELECTRICAL ENLARGED FIRST FLOOR PLAN - DEMOLITION AND NEW ELECTRICAL ONE LINE DIAGRAM, PANEL, SCHEDULES, DETAILS

#### **AGENCY APPROVAL**

#### **DEFERRED SUBMITTALS**

1. NO DEFERRED SUBMITTALS

**FACILITY MAP** 

#### APPLICABLE CODES AND STANDARDS

- THE CONTRACTOR SHALL NOTIFY THE DESIGN PROFESSIONAL OF RECORD IN RESPONSIBLE CHARGE WHERE A CONFLICT OR DISCREPANCY OCCURS BETWEEN THE CONSTRUCTION DRAWINGS AND ANY OTHER PORTION OF THE CONSTRUCTION DOCUMENTS, FIELD CONDITIONS, OR WHERE ANY CONDITIONS ARISE NOT COVERED BY THESE DOCUMENTS WHEREIN WORK WILL NOT COMPLY WITH CODE REQUIREMENTS. THE INTENT OF THE PLANS AND SPECIFICATIONS ARE TO CONSTRUCT OR ALTER THE BUILDING IN ACCORDANCE WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS. SHOULD ANY CONDITIONS DEVELOP NOT COVERED BY THE APPROVED PLANS AND SPECIFICATIONS WHEREIN THE
- CHANGE ORDER DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY THE AUTHORITY HAVING JURISDICTION (AHJ) BEFORE PROCEEDING WITH THE WORK PERFORMED WITHOUT AHJ APPROVAL IS DONE SO AT SOLE RISK TO THE CONTRACTOR WHO SHALL PROVIDE FOR REMOVAL, REPLACEMENT, OR CORRECTION OF WORK AT NO

FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS, A

- INCREASED COST UNLESS APPROVED TO PROCEED BY THE OWNER. ENFORCEABLE CODES. CONSTRUCTION, WORKMANSHIP AND MATERIAL SHALL CONFORM TO THE 2019 CALIFORNIA BUILDING STANDARDS CODE. 2019 CALIFORNIA ADMINISTRATIVE CODE (CAC), PART 1, TITLE 24, CALIFORNIA CODE OF
  - 2019 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24, CCR 2019 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24, CCR 2019 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24, CCR 2019 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24, CCR 2019 CALIFORNIA ENERGY CODE (TITLE 24), PART 6, TITLE 24, CCR.

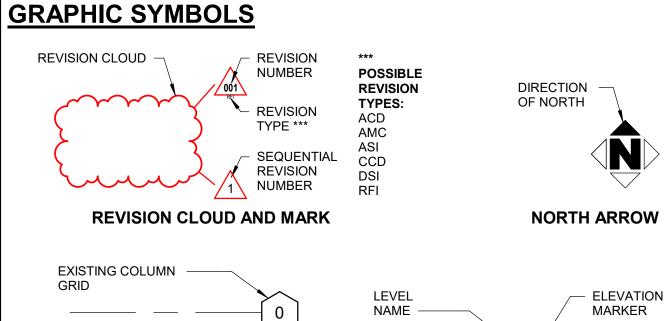
2010 ADA STANDARDS

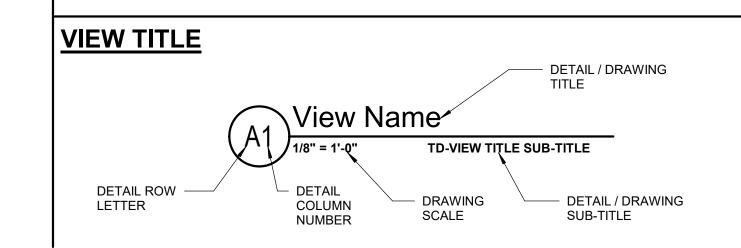
2019 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24, CCR 2019 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN), PART 11, TITLE 24, CCR, INCLUDING LOCAL JURISDICTION AMENDMENTS. CURRENT LOCAL JURISDICTION AMENDED CODES, REGULATIONS, AND ORDINANCES.

# DRAWING SYMBOLS

NEW COLUMN GRID

**GRID MARKERS** 





ELEVATION -

LEVEL MARKER

REVISION SCHEDULE NO. REVISION NAME

DSA RESUBMITTAL - BC#2

IDENTIFICATION STAME

APP: 01-119701 INC: REVIEWED FOR SS 🗹 FLS 🗹 ACS 🗹

**TAYLOR** 

**DESIGN PROFESSIONAL STAME** 

**PROJECT INFORMATION** 

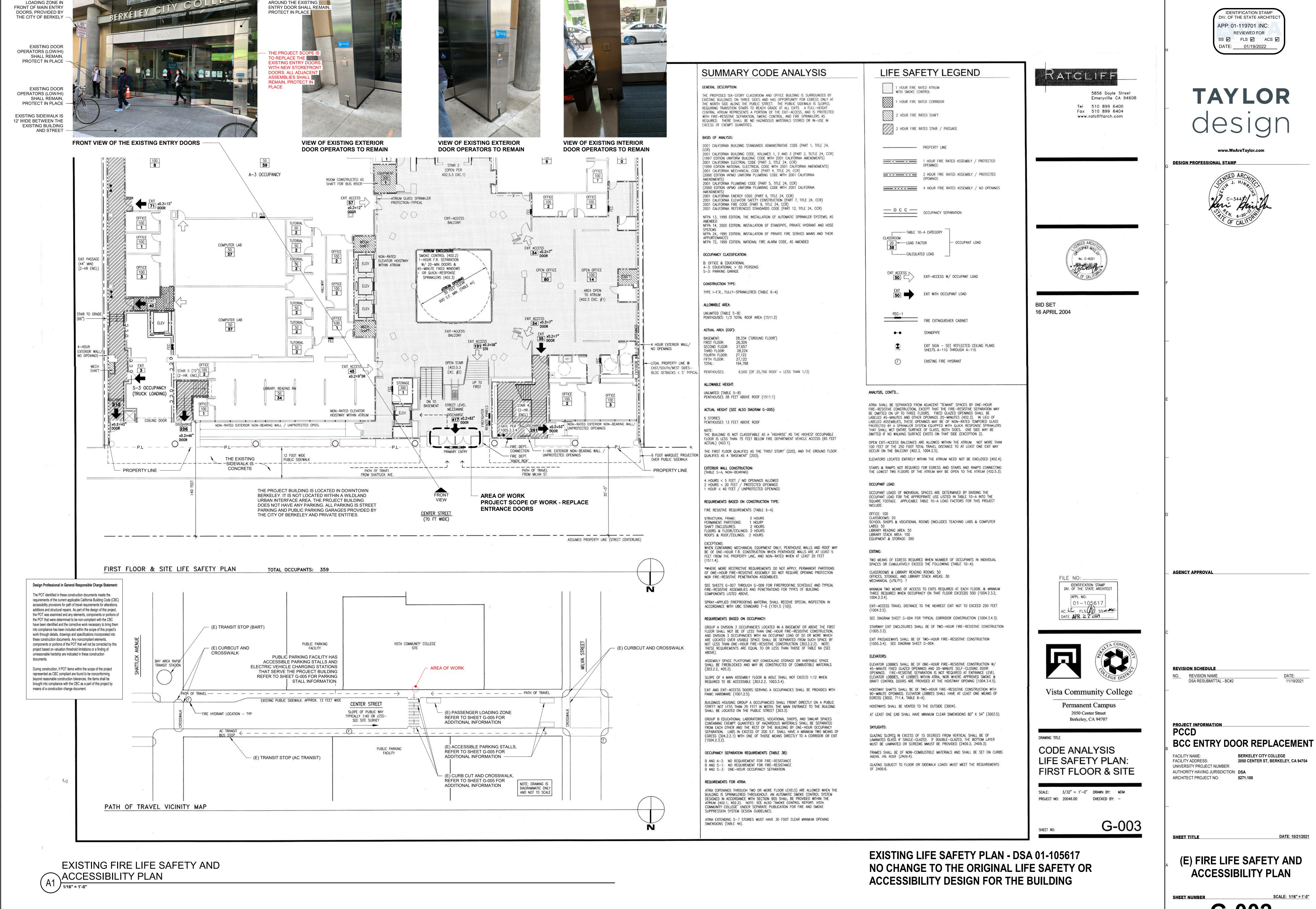
**BCC ENTRY DOOR REPLACEMENT** FACILITY NAME: BERKELEY CITY COLLEGE FACILITY ADDRESS: 2050 CENTER ST, BERKELEY, CA 94704 UNIVERSITY PROJECT NUMBER: AUTHORITY HAVING JURISDICTION: DSA

ARCHITECT PROJECT NO: 5271.100

DATE: 10/21/2021 SHEET TITLE

**COVERSHEET** 

G-001



**EXISTING PASSENGER** 

THE EXISTING SS ASSEMBLY

G-002

#### CFC CHAPTER 33 2019

- DURING CONSTRUCTION, ALTERATION AND DEMOLITION OPERATIONS, COMPLY WITH NFPA 241 2004 EDITION, (CFC 3301.1)
- TEMPORARY HEATING EQUIPMENT SHALL BE IN ACCORDANCE WITH SECTION 3303 OF THE 2019 CALIFORNIA FIRE CODE.
- PRECAUTIONS AGAINST FIRE SHALL BE IN ACCORDANCE WITH SECTION 3304 OF THE 2019 CALIFORNIA FIRE CODE.
- CUTTING AND WELDING OPERATIONS SHALL BE IN ACCORDANCE WITH CHAPTER 35 OF THE 2019 CALIFORNIA FIRE CODE. (2019 CFC
- STORAGE, USE AND HANDLING OF FLAMMABLE AND COMBUSTIBLE LIQUIDS SHALL BE IN ACCORDANCE WITH SECTION 5704 OF THE 2019 CALIFORNIA FIRE CODE. (2019 CFC 3305)
- FLAMMABLE AND COMBUSTIBLE LIQUID STORAGE AREAS SHALL BE MAINTAINED CLEAR OF COMBUSTIBLE VEGETATION, WASTE MATERIALS AND STORAGE OF COMBUSTIBLE MATERIALS. (2019 CFC
- SMOKING SHALL BE PROHIBITED EXCEPT IN APPROVED AREAS. IN APPROVED AREAS WHERE SMOKING IS PERMITTED, SIGNS SHALL BE POSTED AND APPROVED ASHTRAYS SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 310. (2019 CFC 3304.1, 3305.4)
- CLASS I AND II LIQUIDS SHALL BE KEPT IN APPROVED SAFETY CONTAINERS. (2019 CFC 3305.5)
- LEAKING SAFETY CONTAINERS SHALL BE IMMEDIATELY REPAIRED OF TAKEN OUT SERVICE. SPILLS SHALL BE IMMEDIATELY CLEANED UP AND PROPERLY DISPOSED. (2019 CFC 3305.6)
- 10. STORAGE, USE AND HANDLING OF FLAMMABLE GASES SHALL BE IN ACCORDANCE WITH CHAPTER 58 OF THE 2019 CALIFORNIA FIRE CODE. (2019 CFC 3306)
- 11. STORAGE, USE AND HANDLING OF EXPLOSIVE MATERIALS SHALL BE IN ACCORDANCE WITH CHAPTER 56 OF THE 2019 CALIFORNIA FIRE CODE. (2019 CFC 3307)
- 12. OWNERS SHALL DESIGNATE A PERSON TO BE THE FIRE PREVENTION PROGRAM SUPERINTENDENT.(2019 CFC 3308.1)
- 13. FIRE PREVENTION PROGRAM SUPERINTENDENT SHALL DEVELOP AND MAINTAIN AN APPROVED PRE-FIRE PLAN IN COOPERATION WITH THE FIRE CHIEF. FIRE CHIEF, FIRE CODE OFFICIAL SHALL BE IMMEDIATELY NOTIFIED OF ANY CHANGES AFFECTING THE UTILIZATION OF THE PRE-FIRE PLAN. (2019 CFC 3308.2)
- 14. FIRE PREVENTION PROGRAM SUPERINTENDENT SHALL BE RESPONSIBLE FOR TRAINING OF RESPONSIBLE PERSONNEL IN THE USE OF FIRE PROTECTION EQUIPMENT. (2019 CFC 3308.3)
- 15. FIRE PREVENTION PROGRAM SUPERINTENDENT SHALL BE RESPONSIBLE FOR THE SERVICE AND MAINTENANCE FOR PROTECTION EQUIPMENT. (2019 CFC 3308.4
- 16. FIRE PREVENTION PROGRAM SUPERINTENDENT SHALL BE RESPONSIBLE FOR SUPERVISING THE PERMIT SYSTEM FOR HOT WORK OPERATIONS IN ACCORDANCE WITH 2019 CALIFORNIA FIRE CODE CHAPTER 35 (2019 CFC 3308.5)
- 17. IMPAIRMENT TO ANY FIRE PROTECTION SYSTEM SHALL BE IN ACCORDANCE WITH 2019 CALIFORNIA FIRE CODE SECTION 901. (2019) CFC 3308.6)
- 18. AN EMERGENCY TELEPHONE SHALL BE READILY ACCESSIBLE IN AN APPROVED LOCATION. THE EMERGENCY FIRE DEPARTMENT NUMBER AND THE CONSTRUCTION SITE ADDRESS SHALL BE POSTED ADJACENT TO THE TELEPHONE (2019 CFC 3309)
- 19. APPROVED VEHICLE ACCESS FOR FIRE FIGHTING SHALL BE PROVIDED TO ALL CONSTRUCTION OR DEMOLITION SITES. VEHICLE ACCESS SHALL BE PROVIDED TO WITHIN 100 FEET OF TEMPORARY OR PERMANENT FIRE DEPARTMENT CONNECTIONS. VEHICLE ACCESS SHALL BE PROVIDED BY EITHER TEMPORARY OR PERMANENT ROADS, CAPABLE OF SUPPORTING VEHICLE LOADING UNDER ALL WEATHER CONDITIONS. VEHICLE ACCESS SHALL BE MAINTAINED UNTIL PERMANENT FIRE APPARATUS ACCESS ROADS ARE AVAILABLE. (2019) CFC 3310.1)
- 20. PROVIDE KEY BOX IN ACCORDANCE WITH 2019 CALIFORNIA FIRE CODE CHAPTER 5.(2019 CFC 3310.2)
- 21. DURING CONSTRUCTION, ALTERATION, REMODELING, AND DEMOLITION, REQUIRED MEANS OF EGRESS SHALL BE MAINTAINED. (2019 CFC 3311.2)
- 22. PROVIDE APPROVED FIRE PROTECTION WATER SUPPLY PRIOR TO ARRIVAL OF COMBUSTIBLE MATERIALS ON SITE. (2019 CFC 3312)
- 23. IN BUILDINGS REQUIRED TO HAVE STAND PIPES BY 905.3.1 NOT LESS THAN ONE STANDPIPE SHALL BE PROVIDED FOR USE DURING CONSTRUCTION. SUCH STANDPIPES SHALL BE INSTALLED PRIOR TO BUILDING EXCEEDING 40 FEET ABOVE THE LOWEST LEVEL OF FIRE DEPARTMENT VEHICLE ACCESS. SUCH STANDPIPE SHALL PROVIDE FIRE DEPARTMENT ACCESSIBLE HOSE CONNECTIONS ADJACENT TO USABLE STAIRS. MAINTAIN STAND PIPE WITHIN ONE FLOOR OF HIGHEST POINT OF CONSTRUCTION HAVING SECURED DECKING OR FLOORING. (2019 CFC 3313.1)
- 24. EXISTING BUILDING BEING DEMOLISHED SHALL MAINTAIN STAND PIPE IN OPERATIONAL CONDITION NOT MORE THAN ONE FLOOR BELOW FLOOR BEING DEMOLISHED. (2019 CFC 3313.2) IN BUILDINGS WHERE AN AUTOMATIC SPRINKLER SYSTEM IS REQUIRED BY THIS CODE OR THE CALIFORNIA BUILDING CODE, NO PORTION OF THE BUILDING OR STRUCTURE SHALL BE OCCUPIED PRIOR TO TESTING AND APPROVAL OF THE AUTOMATIC FIRE SPRINKLER SYSTEM. (2019 CFC 3314.1)
- 25. DURING CONSTRUCTION, ALTERATION AND DEMOLITION PROVIDE MINIMUM ONE APPROVED PORTABLE FIRE EXTINGUISHER IN ACCORDANCE WITH SECTION 906 AT EACH STAIRWAY ON ALL FLOORS WHERE COMBUSTIBLE MATERIALS HAVE ACCUMULATED. IN EVERY STORAGE AND CONSTRUCTION SHED, AND WHERE SPECIAL HAZARDS EXIST. (2019 CFC 3315)
- 26. INTERNAL-COMBUSTION-POWERED CONSTRUCTION EQUIPMENT SHALL BE USED SO THAT EXHAUST DOES NOT DISCHARGE AGAINST COMBUSTIBLE MATERIAL, EXHAUST IS PIPED TO THE OUTSIDE OF THE BUILDING, NO REFUELING TAKES PLACE WHILE IN OPERATION, AND SO THAT EQUIPMENT FUEL IS STORED IN AN APPROVED LOCATION OUTSIDE OF THE BUILDING. (2019 CFC 3316.1)
- 27. HOT WORK ROOFING OPERATIONS SHALL BE CONDUCTED IN ACCORDANCE WITH SECTIONS 3317.2 AND 3317.3 AND CHAPTER 35. (2019 CFC 3317.1)
- ROOFING OPERATIONS UTILIZING ASPHALT AND TAR KETTLES SHALL BE CONDUCTED IN ACCORDANCE WITH 2019 CALIFORNIA FIRE CODE SECTION 303. (2019 CFC 3317.2)
- 29. HOT WORK ROOFING OPERATION SHALL BE PROVIDED WITH MINIMUM ONE MULTIPURPOSE PORTABLE FIRE EXTINGUISHER. FIRE EXTINGUISHER SHALL HAVE MINIMUM 3-A 40-B:C RATING. (2019 CFC

#### **GENERAL ACCESSIBILITY NOTES**

- 1. COMPLY WITH THE (ADA) AMERICAN WITH DISABILITY ACT AND THE TITLE 24 ACCESSIBILITY REQUIREMENTS OF THE C.B.C. CHAPTER 11B. A. CONSTRUCTION SUPPORT FACILITIES:
  - a. CONTRACTOR SHALL APPLY REQUIREMENTS TO TEMPORARY OR PERMANENT CONSTRUCTION SUPPORT FACILITIES FOR USES AND ACTIVITIES NOT DIRECTLY ASSOCIATED WITH THE ACTUAL PROCESSES OF CONSTRUCTION, INCLUDING BUT NOT LIMITED TO OFFICES, MEETING ROOMS, PLAN ROOMS, OTHER ADMINISTRATIVE OR SUPPORT FUNCTIONS. WHEN PROVIDED, TOILET AND BATHING FACILITIES SERVING CONSTRUCTION SUPPORT FACILITIES SHALL COMPLY WITH SECTION 11B-213. WHEN TOILET AND BATHING FACILITIES SERVING CONSTRUCTION SUPPORT FACILITIES ARE PROVIDED BY PORTABLE UNITS, AT LEAST ONE OF EACH TYPE SHALL BE ACCESSIBLE AND CONNECTED TO THE CONSTRUCTION SUPPORT FACILITIES IT SERVES BY AN ACCESSIBLE ROUTE. CBC 11B-201.4
- WHERE CBC CHAPTER 11B AND THE ADA ARE AT VARIANCE WITH EACH OTHER IN THEIR REQUIREMENTS, COMPLY WITH THE MORE RESTRICTIVE REQUIREMENT THAT SATISFIES BOTH CODES. THE DIVISION OF THE STATE ARCHITECT HAS ISSUED INTERPRETATIONS FOR SOME SPECIFIC CONFLICTS AS FOLLOWS: A. REFER TO DSA IR 11B-4 FOR ALTERNATIVE DESIGNS OF

DETECTABLE WARNING SURFACES;

CBC 11B-402.1:

11B-206.2.1);

- B. REFER TO DSA IR 11B-5 FOR TECHNICAL CRITERIA TO OPERATE EXTERIOR DOORS
- ACCESSIBLE ROUTE OF TRAVEL (PATH OF TRAVEL): PROVIDE AN ACCESSIBLE ROUTE OF TRAVEL COMPLYING WITH
- AT LEAST ONE ACCESSIBLE ROUTE WITHIN THE BOUNDARY OF 6. HAZARDS: THE SITE SHALL BE PROVIDED FROM PUBLIC TRANSPORTATION STOPS, ACCESSIBLE PARKING AND ACCESSIBLE PASSENGER LOADING ZONES AND PUBLIC STREETS OR SIDEWALKS TO THE ACCESSIBLE BUILDING ENTRANCE THEY SERVE. (CBC
- C. AT LEAST ONE ACCESSIBLE ROUTE SHALL CONNECT ACCESSIBLE BUILDINGS, FACILITIES, ELEMENTS AND SPACES THAT ARE ON THE SAME SITE. (CBC 11B-206.2.2);
- AT LEAST ONE ACCESSIBLE ROUTE SHALL CONNECT ACCESSIBLE BUILDING OR FACILITY ENTRANCES WITH ALL ACCESSIBLE SPACES AND ELEMENTS WITHIN THE BUILDING OR FACILITY (CBC 11B-206,2.4):
- E. ALL ENTRANCES AND EXTERIOR GROUND-FLOOR EXITS TO BUILDINGS AND FACILITIES SHALL COMPLY WITH SECTION 11B-404 (CBC 11B-206.4.1);
- F. IN EXISTING FACILITIES AND FACILITIES WHERE NOT ALL ENTRANCES COMPLY WITH SECTION 11B-404, ENTRANCES COMPLYING WITH SECTION 11B-404 SHALL BE IDENTIFIED BY THE INTERNATIONAL SYMBOL OF ACCESSIBILITY COMPLYING WITH SECTION 11B-703.7.2.1 DIRECTIONAL SIGNS COMPLYING WITH 11B-703.5 THAT INDICATE THE LOCATION OF THE NEAREST ENTRANCE COMPLYING WITH SECTION 11B-404 SHALL BE PROVIDED AT ENTRANCES THAT DO NOT COMPLY WITH SECTION 11B-404. DIRECTIONAL SIGNS COMPLYING WITH SECTION 11B-703.5, INCLUDING THE INTERNATIONAL SYMBOL OF ACCESSIBILITY COMPLYING WITH SECTION 11B-703.7.2.1 INDICATING THE ACCESSIBLE ROUTE TO THE NEAREST ACCESSIBLE ENTRANCE SHALL BE PROVIDED AT JUNCTIONS WHEN THE ACCESSIBLE ROUTE DIVERGES FROM THE REGULAR CIRCULATION PATH. (CBC 11B-216.6):
- G. CURB RAMPS. BLENDED TRANSITIONS AND ISLANDS ON ACCESSIBLE ROUTES SHALL COMPLY WITH SECTION 11B-406. CURB RAMPS MAY BE PERPENDICULAR, PARALLEL, OR A COMBINATION OF PERPENDICULAR AND PARALLEL. (CBC 11B-406.1);
- WHERE PROVIDED, PASSENGER DROP-OFF AND LOADING ZONES SHALL COMPLY WITH CBC 11B-503. PASSENGER DROP-OFF AND LOADING ZONES SHALL PROVIDE ACCESS AISLES COMPLYING WITH SECTION 503 ADJACENT AND PARALLEL TO THE VEHICLE PULL-UP SPACE. ACCESS AISLES SHALL ADJOIN AN ACCESSIBLE ROUTE AND SHALL NOT OVERLAP THE VEHICULAR WAY;
- RAMPS USED AS EXITS (MATERIAL DELETED) SHALL COMPLY WITH CBC 1022.1 AND CBC 1026.1. RAMPS ON ACCESSIBLE ROUTES SHALL COMPLY WITH SECTION 11B-405;
- ACCESSIBLE WALKING SURFACES SHALL COMPLY WITH CBC 11B-403.1:
- K. CHANGES IN LEVEL MAY BE VERTICAL WITHOUT EDGE TREATMENT UP TO 1/4". CHANGES IN LEVEL BETWEEN 1/4" AND 1/2" SHALL BE BEVELED AND WITH A SLOPE NO GREATER THAN 1:2. CHANGES IN LEVEL GREATER THAN 1/2" SHALL BE ACCOMPLISHED BY MEANS OF A COMPLYING CURB RAMP, RAMP, ELEVATOR OR PLATFORM LIFT. (CBC 11B-303);
- CROSS-SLOPE OF WALKING SURFACES SHALL NOT BE STEEPER THAN 1:48 (CBC 11B-403.3). CROSS SLOPE OF RAMP RUNS SHALL NOT BE STEEPER THAN 1:48. CHANGES IN LEVEL OTHER THAN THE RUNNING SLOPE AND CROSS SLOPE ARE NOT PERMITTED ON RAMP RUNS. (CBC 11B-405.4);
- M. IN NEW CONSTRUCTION OF BUILDINGS WHERE ELEVATORS ARE REQUIRED BY SECTION 11B-206.2.3 AND WHICH EXCEED 10,000 SQUARE FEET ON ANY FLOOR, AN ACCESSIBLE MEANS OF VERTICAL ACCESS VIA RAMP, ELEVATOR OR LIFT SHALL BE PROVIDED WITHIN 200 FEET OF TRAVEL OF EACH STAIR AND EACH ESCALATOR. IN EXISTING BUILDINGS THAT EXCEED 10,000 SQUARE FEET ON ANY FLOOR AND IN WHICH ELEVATORS ARE REQUIRED BY SECTION 11B-206.2.3 WHENEVER A NEWLY CONSTRUCTED MEANS OF VERTICAL ACCESS IS PROVIDED VIA STAIRS OR AN ESCALATOR, AN ACCESSIBLE MEANS OF VERTICAL ACCESS VIA RAMP. ELEVATOR OR LIFT SHALL BE PROVIDED WITHIN 200 FEET OF TRAVEL OF EACH NEW STAIR OR ESCALATOR;
- N. FLOOR OR GROUND SURFACES SHALL BE FREE OF OPENINGS WHENEVER POSSIBLE. OPENINGS SHALL NOT ALLOW PASSAGE OF A SPHERE MORE THAN 1/2" DIAMETER EXCEPT AS ALLOWED IN SECTIONS 11B-407.4.3, 11B-409.4.3, 11B-410.4, 11B-810.5.3, AND 11B-810.10. ELONGATED OPENINGS SHALL BE PLACED SO THAT THE LONG DIMENSION IS PERPENDICULAR TO THE DOMINANT DIRECTION OF TRAVEL. (CBC 11B-302.3)
- ACCESSIBLE ROUTES SHALL CONSIST OF ONE OR MORE OF THE FOLLOWING COMPONENTS: WALKING SURFACES WITH RUNNING SLOPE NOT STEEPER THAN 1:20 DOORWAYS, RAMPS, CURB RAMPS EXCLUDING THE FLARED SIDES. ELEVATORS AND PLATFORM LIFTS. ALL COMPONENTS OF AN ACCESSIBLE ROUTE WITH THE APPLICABLE REQUIREMENTS OF DIVISION 4. CBC. 11-
- P. THE CLEAR WIDTH FOR SIDEWALKS AND WALKS SHALL BE 48 INCHES MINIMUM. CBC 403.5.1
- Q. TOP OF GRIPPING SURFACES OF HANDRAILS SHALL BE 34 INCHES MINIMUM AND 38 INCHES MAXIMUM VERTICALLY ABOVE WALKING SURFACES, STAIR NOSINGS, AND RAMP SURFACES. HANDRAILS SHALL BE AT A CONSISTENT HEIGHT ABOVE WALKING SURFACES, STAIR NOSINGS, AND RAMP SURFACES

# **GENERAL ACCESSIBILITY NOTES** (CONTINUED)

ACCESSIBLE EGRESS: A. PROVIDE ACCESSIBLE EGRESS IN PORTIONS OF BUILDING REQUIRED TO BE ACCESSIBLE IN COMPLIANCE WITH CBC 1007

AND CBC 11B AS APPLICABLE.

- FIRE ALARM SYSTEMS SHALL HAVE PERMANENTLY INSTALLED AUDIBLE AND VISIBLE ALARMS COMPLYING WITH NFPA 72 AND CFC 907.5.2.1 AND 907.5.2.3
- ACCESSIBLE DOORS:
- A. AUTOMATIC AND POWER ASSISTED DOORS SHALL COMPLY WITH CBC 11B-404.3;
- B. THERE SHALL BE A FLOOR OR LANDING ON EACH SIDE OF A DOOR. SUCH FLOOR OR LANDING SHALL BE AT THE SAME ELEVATION ON EACH SIDE OF THE DOOR. LANDINGS SHALL BE LEVEL EXCEPT FOR EXTERIOR LANDINGS, WHICH ARE PERMITTED TO HAVE A SLOPE NOT TO EXCEED 2 PERCENT SLOPE. (CBC 1010.1.5);
- THE FORCE FOR PUSHING. PULLING. OR DELATCHING INTERIOR SWINGING EGRESS DOORS. SHALL NOT EXCEED 5 POUNDS. (CBC 11B-309.4 AND 11B-404.2.9);
- D. SWINGING DOOR AND GATE SURFACES WITHIN 10 INCHES OF THE FINISH FLOOR OR GROUND MEASURED VERTICALLY SHALL HAVE A SMOOTH SURFACE ON THE PUSH SIDE EXTENDING THE FULL WIDTH OF THE DOOR OR GATE. (CBC 11B-404.2.10):
- PROVIDE MANEUVERING CLEARANCE AT DOORS TO COMPLY WITH CBC 11B-404.2.4

- OBJECTS WITH LEADING EDGES MORE THAN 27 INCHES AND NOT MORE THAN 80 INCHES ABOVE THE FINISH FLOOR OR GROUND SHALL PROTRUDE 4 INCHES MAXIMUM HORIZONTALLY INTO THE CIRCULATION PATH. (CBC 11B-307.2);
- PROVIDE DETECTABLE WARNINGS AS REQUIRED BY CBC 11B-247.1.2. DETECTABLE WARNINGS SHALL COMPLY WITH CBC 11B-705.1.
- BATHING AND TOILET FACILITIES: ACCESSIBLE TOILET FACILITIES ON AN ACCESSIBLE PATH OF TRAVEL TO COMPLY WITH CBC 11B-601;
- WHERE TOILET COMPARTMENTS ARE PROVIDED, AT LEAST ONE TOILET COMPARTMENT SHALL COMPLY WITH SECTION 11B-604.8.1. (CBC 11B-213.3.1);
- PROVIDE AT LEAST ONE AMBULATORY TOILET COMPARTMENT IN EACH MULTIPLE ACCOMMODATION TOILET ROOM WHEN THE TOILET AND URINAL FIXTURE COUNT TOGETHER TOTALS 6 OR MORE FIXTURES. WHERE URINALS ARE PROVIDED. AT LEAST 10 PERCENT, BUT NO FEWER THAN ONE, SHALL COMPLY WITH ACCESSIBLE REQUIREMENTS OF CBC 11B-605. (CBC 11B-213.3.3);
- D. ACCESSIBLE LAVATORIES SHALL COMPLY WITH CBC 11B-606;
- E. WHERE DRINKING FOUNTAINS ARE PROVIDED ON AN EXTERIOR SITE, ON A FLOOR, OR WITHIN A SECURED AREA THEY SHALL BE PROVIDED IN ACCORDANCE TO CBC 11B-211. NO FEWER THAN TWO DRINKING FOUNTAINS SHALL BE PROVIDED. ONE DRINKING FOUNTAIN SHALL COMPLY WITH SECTIONS 11B-602.1 THROUGH 602.6 AND ONE DRINKING FOUNTAIN SHALL COMPLY WITH SECTION 11B-602.7 (CBC 11B-211.2), UNLESS A SINGLE DRINKING FOUNTAIN COMPLIES WITH SECTIONS 11B-602.1 THROUGH
  - AAB-602.6 AND 11B-602.7 (11B-211.2 EXCEPTION) 1. WHERE MORE THAN THE MINIMUM NUMBER OF DRINKING FOUNTAINS SPECIFIED IN SECTION 11B-211.2 ARE PROVIDED, 50 PERCENT OF THE TOTAL NUMBER OF DRINKING FOUNTAINS SHALL COMPLY WITH SECTIONS 11B-602.1 THROUGH 602.6, AND 50% OF THE TOTAL NUMBER OF DRINKING FOUNTAINS PROVIDED SHALL COMPLY WITH SECTION 11B-602.7 (11B-213.3);
- WHERE 50% OF THE DRINKING FOUNTAINS YIELDS A FRACTION, 50% SHALL BE PERMITTED TO BE ROUNDED UP OR DOWN PROVIDED THAT THE TOTAL NUMBER OF DRINKING FOUNTAINS COMPLYING WITH SECTION 11B-211 EQUALS 100 PERCENT OF DRINKING FOUNTAINS. (CBC 11B-211.3 EXCEPTION 1)
- A. FOR ELEMENTS REQUIRED TO PROVIDE TOE CLEARANCE OTHER THAN LAVATORIES AND BUILT-IN DINING AND WORK SURFACES, TOE CLEARANCE SHALL BE PROVIDED THAT IS 30 INCHES IN WIDTH AND 9 INCHES IN HEIGHT ABOVE THE FINISH FLOOR OR GROUND FOR A DEPTH OF 17 INCHES MINIMUM UNDER ELEMENTS REQUIRED TO BE ACCESSIBLE. (CBC

8. KNEE AND TOE CLEARANCE:

11B-306.2.3)

- CONTROLS AND MECHANISMS: A. OPERABLE PARTS ON ACCESSIBLE ELEMENTS, ACCESSIBLE ROUTES, AND IN ACCESSIBLE ROOMS AND SPACES SHALL COMPLY WITH CBC 11B-309. (CBC 11B-205):
- PROVIDE CLEAR FLOOR OR GROUND SPACE COMPLYING WITH CBC 11B-305 (CBC 11B-309.2);
- C. PLACE OPERABLE PARTS WITHIN ONE OR MORE OF THE REACH RANGES COMPLYING WITH CBC 11B-308 (CBC 11B-309.3);
- INSTALL ELECTRICAL SWITCHES AND RECEPTACLES WITH IN ALLOWABLE REACH RANGES. LOW REACH SHALL BE MEASURED TO THE BOTTOM OF THE OUTLET BOX AND HIGH REACH SHALL BE MEASURED TO THE TOP OF THE OUTLET BOX IN COMPLIANCE WITH CBC 11B-308.1.1 AND 11B-308.1.2
- HIGH FORWARD REACH THAT IS UNOBSTRUCTED SHALL BE 48 INCHES MAXIMUM AND THE LOW FORWARD REACH SHALL BE 15 INCHES MINIMUM ABOVE FINISH FLOOR OR GROUND. CBC 11B-308.2.1, FIGURE 11B-308.2.1
- F. REACH RANGES: 1. OBSTRUCTED FORWARD REACH RANGE SHALL BE AS PER FIGURE 11B-308.2.2
  - SIDE REACH SHALL BE LIMITED AS SHOWN IN FIGURE 11B-308.3.1 FOR UNOBSTRUCTED SIDE REACH, OR PER FIGURE 11B-308.3.2 FOR OBSTRUCTED SIDE REACH
- G. OPERABLE PARTS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. FORCE REQUIRED TO ACTIVATE OPERABLE PARTS SHALL BE 5 POUNDS MAXIMUM. CBC 11B-309.4 EXCEPTION: THESE FORCES DO NOT APPLY TO THE FORCE REQUIRED TO RETRACT LATCH BOLTS OR DISENGAGE OTHER DEVICES THAT HOLD THE DOOR OR

GATE IN A CLOSED POSITION (11B-404.2.9)

# **GENERAL ACCESSIBILITY NOTES** (CONTINUED)

- 10. SIGNS AND IDENTIFICATION: NEW OR ALTERED SIGNS AND IDENTIFICATION DEVICES SHALL
  - COMPLY WITH CBC 11B-703: B. CHARACTERS AND THEIR BACKGROUND SHALL HAVE A NON-GLARE FINISH. (CBC 11B-703.5.1) CHARACTERS SHALL

CONTRAST WITH THEIR BACKGROUNDS. (CBC 11B-703.5.1):

- CONFORM WITH CHARACTER SIZES AND TYPES IN CBC 11B-703.5.2, 11B-703.5.3, 11B-705-5.4, AND 11B-705.5.5
- 11. EXIT SIGNS AND MEANS OF EGRESS ILLUMINATION; WHERE REQUIRED. EXITS AND EXIT ACCESS DOORS SHALL BE MARKED BY AN APPROVED EXIT SIGN READILY VISIBLE FROM ANY DIRECTION OF EGRESS TRAVEL. THE PATH OF EGRESS TRAVEL TO EXITS AND WITHIN EXITS SHALL BE MARKED BY READILY VISIBLE EXIT SIGNS TO CLEARLY INDICATE THE DIRECTION OF EGRESS TRAVEL IN CASES WHERE THE EXIT OR THE PATH OF EGRESS TRAVEL IS NOT IMMEDIATELY VISIBLE TO THE OCCUPANTS. INTERVENING MEANS OF EGRESS DOORS WITHIN EXITS SHALL BE MARKED BY EXIT SIGNS. EXIT SIGN PLACEMENT SHALL BE SUCH THAT NO POINT IN AN EXIT
- EXIT SIGN SHALL BE INTERNALLY ILLUMINATED OR EXTERNALLY

CBC 1013.

ILLUMINATED A. INTERNALLY ILLUMINATED EXIT SIGNS SHALL BE LISTED AND LABELED IN ACCORDANCE WITH UL 924 AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND CHAPTER 270.

ACCESS CORRIDOR OR EXIT PASSAGEWAY IS MORE THAN 100

FEET (30 480MM) OR THE LISTED VIEWING DISTANCE FOR THE

SIGN, WHICHEVER IS LESS, FROM THE NEAREST VISIBLE SIGN.

- B. EXTERNALLY ILLUMINATED EXIT SIGNS SHALL COMPLY WITH THE GRAPHICS AND POWER SOURCE REQUIREMENTS IN SECTION 1013.6.1 AND 1013.6.3 RESPECTIVELY. WHEN THE FACE OF AN EXIT SIGN IS ILLUMINATED FROM AN EXTERNAL SOURCE, IT SHALL HAVE AN INTENSITY OF NOT LESS THAN 5-FOOT-CANDLES (54 LUX). CBC 1013.3.
- C. WHERE ILLUMINATED EXIT SIGNS ARE PROVIDED, TACTILE EXIT SIGNAGE ADJACENT TO EXIT DOORS WITH RAISED CHARACTER AND BRAILLE SHALL BE PROVIDED PER CBC 1013.4 AND 11B-2019.4.1
- POWER SOURCE. EXIT SIGNS SHALL BE ILLUMINATED AT ALL TIMES. TO ENSURE CONTINUED ILLUMINATION FOR A DURATION OF NOT LESS THAN 90 MINUTES IN CASE OF PRIMARY POWER LOSS, THE SIGN ILLUMINATION MEANS SHALL BE CONNECTED TO A SOURCE OF EMERGENCY POWER, INCLUDING EMERGENCY CIRCUITS AND BUILT-IN BATTERY PACKS. THE INSTALLATION OF THE EMERGENCY POWER SYSTEM SHALL BE IN ACCORDANCE WITH CHAPTER 27.
  - 1. IN ACCORDANCE PER CBC 1013.6.3 a. CORRIDOR, INTERIOR EXIT STAIRWAYS, RAMPS AND EXIT PASSAGEWAYS IN A BUILDING REQUIRED TO HAVE TWO OR MORE EXITS.
  - INTERIOR EXIT DISCHARGE ELEMENTS, AS PERMITTED IN SECTION 1028.1, IN BUILDINGS REQUIRED TO HAVE TWO OR MORE EXITS.
  - EXTERIOR LANDINGS, AS REQUIRED BY SECTION 1010.1.6 FOR EXIT DISCHARGE DOORWAYS IN BUILDINGS REQUIRE TO HAVE TWO OR MORE EXITS
- ILLUMINATION LEVEL UNDER EMERGENCY POWER. EMERGENCY LIGHTING FACILITIES SHALL BE ARRANGED TO PROVIDE INITIAL ILLUMINATION THAT IS AT LEAST AN AVERAGE OF 1 FOOTCANDLE (11 LUX) AND A MINIMUM AT ANY POINT OF 0.1 FOOTCANDLE (1 LUX) MEASURED ALONG THE PATH OF EGRESS AT FLOOR LEVEL. ILLUMINATION LEVELS SHALL BE PERMITTED TO DECLINE TO 0.6 FOOTCANDLE (6 LUX) AT THE END OF THE EMERGENCY LIGHTING TIME DURATION. A MAXIMUM-TO-MINIMUM ILLUMINATION UNIFORMITY RATIO OF 40 TO 1 SHALL NOT BE EXCEEDED.
- 12. MECHANICAL ACCESS: ACCESS TO MECHANICAL APPLIANCES IN UNDER-FLOOR AREAS, IN ATTIC SPACES, AND ON ROOFS OR ELEVATED STRUCTURES SHALL BE IN ACCORDANCE WITH THE MECHANICAL CODE.
- 13. MEDICAL CARE AND LONG-TERM CARE FACILITIES A. PROFESSIONAL OFFICES OF HEALTH CARE PROVIDERS SHALL COMPLY WITH 11B-805 MEDICAL CARE AND LONGTERM CARE FACILITIES.
- WHERE SEATING IS PROVIDED IN WAITING ROOMS, AT LEAST 5 PERCENT OF THE SEATING SHALL BE WHEELCHAIR SPACES COMPLYING WITH 11B-802.1 WHEELCHAIR SPACES OR 10 PERCENT IN WAITING ROOMS SERVING FACILITIES SPECIALIZING IN TREATING CONDITIONS THAT AFFECT MOBILITY.
- AREAS WHERE PATIENTS CHANGE OR ARE PREPARED FOR A PROCEDURE SHALL COMPLY WITH THE REQUIREMENTS OF 11B-222 DRESSING, FITTING, AND LOCKER ROOMS.
- D. ALL HAND WASHING FIXTURES, LAVATORIES AND SINKS SHALL COMPLY WITH 11B-606 LAVATORIES AND SINKS.
- BUILT-IN CABINETS, COUNTERS AND WORK SURFACES SHALL BE ACCESSIBLE, INCLUDING: PATIENT WARDROBES, NURSE'S STATIONS. ADMINISTRATIVE CENTERS. RECEPTION DESKS. MEDICINE PREPARATION AREAS, LABORATORY WORK STATIONS, EQUIPMENT CONSOLES, CLEAN AND SOILED UTILITY CABINETS, AND STORAGE AREAS; AND SHALL COMPLY WITH 11B-225 STORAGE AND 11B-902 DINING SURFACES AND WORK SURFACES.
- 14. DIMENSIONS FOR ACCESSIBILITY REQUIREMENTS SHOWN WITH A MINIMUM AND/OR MAXIMUM DIMENSION ARE NOT SUBJECT TO CONVENTIONAL INDUSTRY BUILDING TOLERANCES

# **GENERAL CONSTRUCTION NOTES**

- SCOPE OF DOCUMENTS: THESE DRAWINGS INDICATE THE GENERAL SCOPE OF THE PROJECT IN TERMS OF ARCHITECTURAL DESIGN CONCEPT, THE DIMENSIONS OF THE BUILDING, THE MAJOR ARCHITECTURAL ELEMENTS AND THE TYPE OF STRUCTURAL MECHANICAL AND ELECTRICAL SYSTEMS. ON THE BASIS OF THE GENERAL SCOPE INDICATED OR DESCRIBED, FURNISH ALL ITEMS REQUIRED FOR THE EXECUTION AND COMPLETION OF THE WORK.
- THE CONTRACTOR SHALL KEEP AN UP TO DATE SET OF CONTRACT DOCUMENT PERMIT SET INCLUDING APPROVED CHANGE ORDERS AT THE JOB SITE IN A LOCATION CONVENIENT FOR REFERENCE.
- 3. THE CONTRACTOR SHALL COORDINATE ALL NECESSARY UTILITY RELOCATIONS WITH THE APPROPRIATE UTILITY COMPANIES.
- 4. ALL CONSTRUCTION AND MATERIALS SHALL BE SPECIFIED AS REQUIRED BY THE CALIFORNIA BUILDING CODE, LOCAL GOVERNING CODES AND AUTHORITIES.
- VERIFY ALL DIMENSIONS AND SITE CONDITIONS BEFORE STARTING WORK. SHOULD A DISCREPANCY APPEAR IN THE SPECIFICATIONS OR DRAWINGS. OR IN THE WORK DONE BY OTHERS FROM THE CONTRACT DOCUMENTS THAT AFFECT ANY WORK, NOTIFY THE ARCHITECT AT ONCE FOR INSTRUCTION ON HOW TO PROCEED. I THE CONTRACTOR PROCEEDS WITH THE WORK AFFECTED WITHOUT INSTRUCTIONS FROM THE ARCHITECT, THE CONTRACTOR SHALL MAKE GOOD ANY RESULTING DAMAGE OR DEFECT.
- CONFINE ALL OPERATIONS ON THE SITE TO AREAS PERMITTED BY THE OWNER. THE WORK SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE LAWS, LOCAL ORDINANCES, PERMITS AND THE CONTRACT DOCUMENTS. THE JOB SITE IS TO BE MAINTAINED IN A CLEAN. ORDERLY CONDITION FREE OF DEBRIS AND LITTER AND SHALL NOT BE UNREASONABLE ENCUMBERED WITH ANY MATERIAL OR EQUIPMENT. EACH SUBCONTRACTOR UPON COMPLETION OF EACH PHASE OF HIS WORK SHALL IMMEDIATELY REMOVE ALL TRASH AND DEBRIS AS A RESULT OF HIS OPERATION.
- 7. ALL MATERIAL STORED ON THE SITE SHALL BE STACKED AND PROTECTED TO PREVENT DAMAGE AND DETERIORATION UNTIL USE. FAILURE TO PROTECT MATERIALS MAY BE CAUSE FOR REJECTION OF WORK.
- ALL CUTTING, FITTING OR PATCHING THAT MAY BE REQUIRED TO MAKE SEVERAL PARTS FIT TOGETHER PROPERLY SHALL BE DONE SO AS NOT TO ENDANGER ANY OTHER WORK BY CUTTING, EXCAVATING OR OTHERWISE ALTERING THE TOTAL WORK OR ANY PART OF IT. ALL PATCHING, REPAIRING AND REPLACING OF MATERIALS AND SURFACES, CUT OR DAMAGED IN EXECUTION OF WORK SHALL BE DONE WITH APPLICABLE MATERIAL SO THAT SURFACES REPLACED WILL, UPON COMPLETION, MATCH SURROUNDING SIMILAR SURFACES.
- NO PORTION OF THE WORK REQUIRING SHOP DRAWINGS OR A SAMPLE SUBMISSION SHALL BE COMMENCED UNTIL THE SUBMISSION HAS BEEN REVIEWED BY THE ARCHITECT. ALL SUCH PORTIONS OF THE WORK SHALL BE IN ACCORDANCE WITH THE REVIEWED SHOP DRAWINGS AND SAMPLES.
- DIMENSIONS A. DIMENSIONS HAVE PRIORITY OVER SCALE
- B. ALL DIMENSIONS ARE TO FACE OF STUD UNLESS NOTED
- C. CEILING HEIGHT DIMENSIONS ARE FROM FINISH FLOOR SLAB TO FINISH FACE OF CEILING UNLESS NOTED OTHERWISE.

D. ACCESSIBILITY DIMENSIONS ARE FROM FACE OF FINISH (FOF)

FURRING SHALL EXTEND THE FULL SURFACE OF THE WALL WIDTH

AND LENGTH WHERE THE FURRING OCCURS, UNLESS NOTED

- TO FACE OF FINISH (FOF) OR MINIMUM CLEARANCE DIMENSIONS AS NOTED ON THE DRAWINGS. 11. PROVIDE NECESSARY BACKING AND FRAMING FOR CASEWORK, GRAB
- BARS, FIRE EXTINGUISHER CABINETS, TOILET ACCESSORIES, LIGHT FIXTURES, ELECTRICAL UNITS AND ALL OTHER REQUIRED ITEMS. 12. WHERE LARGER STUDS OR FURRING ARE REQUIRED TO COVER DUCTS, PIPING AND CONDUITS, ETC., THE LARGER STUD SIZE OR
- OTHERWISE. 13. EXIT SIGNS: PROVIDE ALL ILLUMINATED AND NON-ILLUMINATED EXIT SIGNS AS INDICATED ON THE DRAWINGS AND AS REQUIRED BY THE
- LOCAL GOVERNING AUTHORITIES AND THE CALIFORNIA BUILDING CODE 1011. 14. PROVIDE ACCESS PANELS TO ALL CONCEALED SPACES (I.E. ATTICS,
- CODE AND LOCAL GOVERNING AUTHORITIES. 15. PROVIDE FIRE RESISTIVE ELEMENTS THROUGHOUT THE ENTIRE
- BUILDING PER THE CALIFORNIA BUILDING CODE, TABLE 601. 16. ALL ELECTRICAL PANELS, LIGHTS, FIRE EXTINGUISHER CABINETS, TOILET ACCESSORIES, ETC., LOCATED IN RATED PARTITIONS OR CEILINGS SHALL BE BACKED WITH GYPSUM BOARD AS REQUIRED TO

VOID SPACES, ETC.) AS REQUIRED BY THE CALIFORNIA BUILDING

17. COMPLY WITH THE DISABLED ACCESSIBILITY REQUIREMENTS OF THE CALIFORNIA BUILDING CODE CHAPTER 11 AND THE AMERICANS WITH DISABILITIES ACT (ADA).

MAINTAIN RATING.

- 18. THE CONTRACTORS AND SUB-CONTRACTORS PERFORMING WORK ON THIS PROJECT SHALL BE RESPONSIBLE FOR INITIATING. MAINTAINING AND SUPERVISING A REASONABLE AND PRUDENT SAFETY PROGRAM INCLUDING, BUT NOT LIMITED TO, THE ISOLATION OF WORK AREAS AND THE PROMPT REMOVAL OF ANY DEBRIS OR TOOLS WHICH MIGHT ENDANGER VISITORS, OR PERSONNEL. ALL ROADS AND WALKWAYS SHALL REMAIN CLEAR AND UNOBSTRUCTED. WHEN NECESSARY, ALTERNATE ROUTES OR TRAFFIC CONTROL MUST BE MAINTAINED, SHOULD UNSAFE CONDITIONS OCCUR.
- 19. ANY TIME A BUILDING OR A PORTION OF A BUILDING IS OCCUPIED, THE MEANS OF EGRESS SERVING THE OCCUPIED PORTION SHALL BE ILLUMINATED AT AN INTENSITY OF NOT LESS THAN 1-FOOT-CANDLE (11 LUX) AT THE WALKING SURFACE LEVEL. CBC 1006

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITEC APP: 01-119701 INC: REVIEWED FOR SS 🗹 FLS 🗹 ACS 🗹 DATE: 01/19/2022

**DESIGN PROFESSIONAL STAMP** 

**AGENCY APPROVAL** 

**REVISION SCHEDULE** NO. REVISION NAME

**PROJECT INFORMATION** 

**BCC ENTRY DOOR REPLACEMENT FACILITY NAME:** BERKELEY CITY COLLEGE 2050 CENTER ST, BERKELEY, CA 94704 FACILITY ADDRESS: UNIVERSITY PROJECT NUMBER AUTHORITY HAVING JURISDICTION: DSA

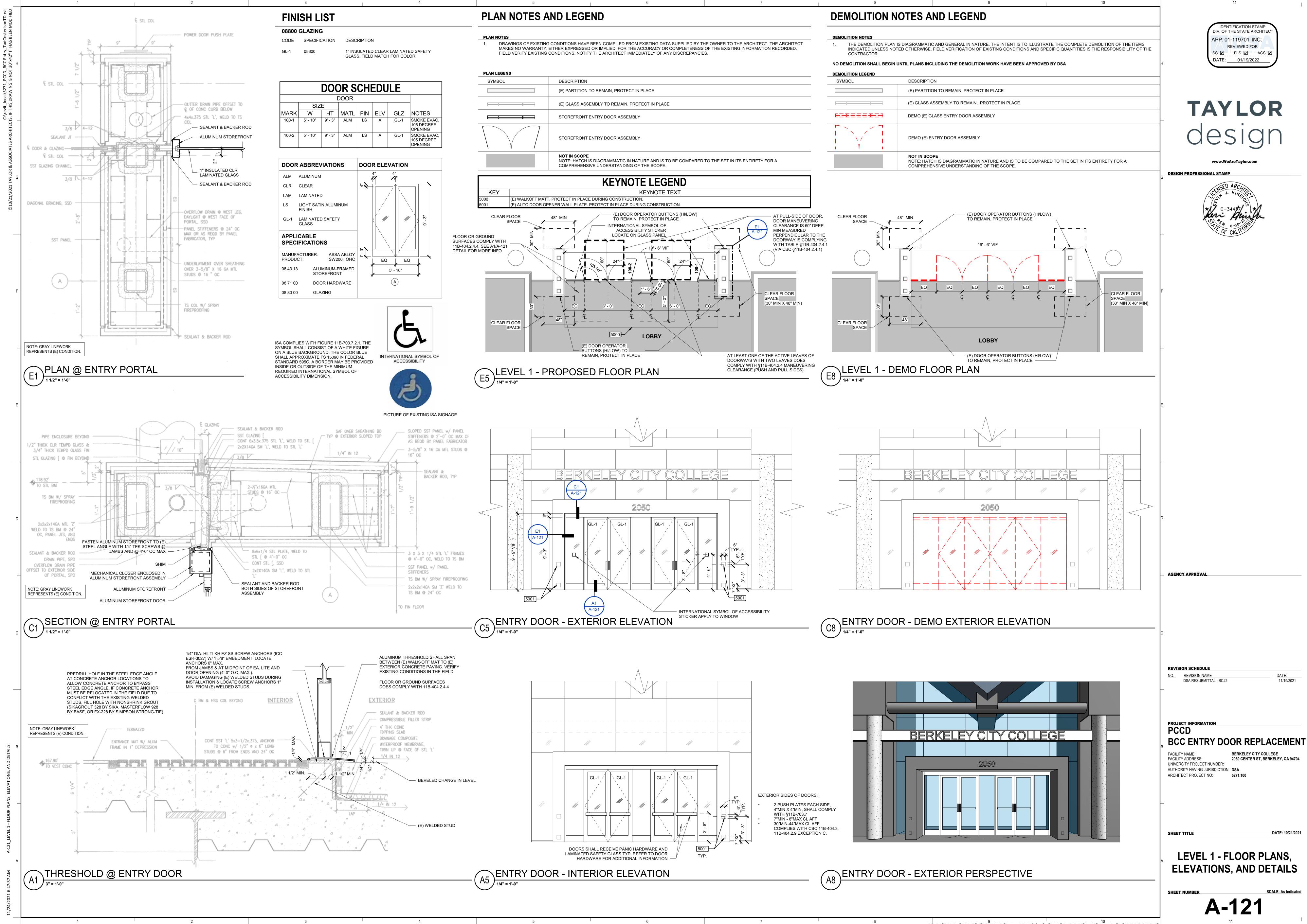
ARCHITECT PROJECT NO: 5271.100

SHEET TITLE

**GENERAL NOTES** 

DATE: 10/21/2021

SCALE: 1" = 1'-0" G-003



**SECTION 08 43 13** 

ALUMINUM-FRAMED STOREFRONTS

A. Section 08 71 00 - Door Hardware: Hardware items other than specified in this section.

A. AAMA CW-10 - Care and Handling of Architectural Aluminum From Shop to Site; 2015.

B. AAMA 501.2 - Quality Assurance and Diagnostic Water Leakage Field Check of Installed

C. AAMA 609 & 610 - Cleaning and Maintenance Guide for Architecturally Finished Aluminum

D. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum; 2014 (2015 Errata).

E. AAMA 1503 - Voluntary Test Method for Thermal Transmittance and Condensation Resistance

F. ASCE 7 - Minimum Design Loads and Associated Criteria for Buildings and Other Structures;

G. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods,

I. ASTM E283 - Standard Test Method for Determining the Rate of Air Leakage Through Exterior

J. ASTM E330/E330M - Standard Test Method for Structural Performance of Exterior Windows,

Doors, and Curtain Walls by Uniform Static Air Pressure Difference; 2000 (Reapproved 2016).

Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the

Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference; 2014.

K. ASTM E331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights,

B. Preinstallation Meeting: Conduct a preinstallation meeting one week before starting work of

anchorage and fasteners, glass and infill, door hardware, and internal drainage details.

B. Shop Drawings: Indicate system dimensions, framed opening requirements and tolerances,

C. Samples: Submit two samples illustrating finished aluminum surface, glass, and glazing

D. Design Data: Provide framing member structural and physical characteristics, engineering

affected related work, expansion and contraction joint location and details, and field welding

08 43 13 - 01

Coordinate with installation of other components that comprise the exterior enclosure.

A. Product Data: Provide component dimensions, describe components within assembly,

H. ASTM B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars,

PART 1 GENERAL

1.01 SECTION INCLUDES

1.02 RELATED REQUIREMENTS

1.03 REFERENCE STANDARDS

(Combined Document); 2015.

Wire, Profiles, and Tubes; 2014.

Specimen; 2004 (Reapproved 2012).

1.04 ADMINISTRATIVE REQUIREMENTS

1.05 SUBMITTALS

A. Aluminum-framed storefront, with vision glass.

B. Section 08 80 00 - Glazing: Glass and glazing accessories.

of Windows, Doors and Glazed Wall Sections; 2009.

Rods, Wire, Profiles, and Tubes (Metric); 2013.

this section; require attendance by all affected installers.

calculations, and dimensional limitations.

ALUMINUM-FRAMED STOREFRONTS

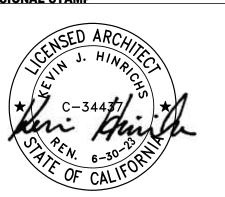
Storefronts, Curtain Walls, and Sloped Glazing Systems; 2015.

Most Recent Edition Cited by Referring Code or Reference Standard.

#### IDENTIFICATION STAMP DIV. OF THE STATE ARCHITEC APP: 01-119701 INC: REVIEWED FOR SS 🗹 FLS 🗹 ACS 🗹

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**DESIGN PROFESSIONAL STAMP** 



9. System Internal Drainage: Drain to the exterior by means of a weep drainage network any water entering joints, condensation occurring in glazing channel, and migrating moisture occurring within system. 10. Expansion/Contraction: Provide for expansion and contraction within system components

caused by cycling temperature range of 170 degrees F over a 12 hour period without

causing detrimental effect to system components, anchorages, and other building

#### 2.05 COMPONENTS

A. Aluminum Framing Members: Tubular aluminum sections, thermally broken with interior section insulated from exterior, drainage holes and internal weep drainage system. 1. Framing members for interior applications need not be thermally broken.

Glazing Stops: Flush. B. Glazing: As specified in Section 08 80 00.

#### 2.06 MATERIALS

- A. Extruded Aluminum: ASTM B221 (ASTM B221M).
- B. Fasteners: Stainless steel.

elements.

- C. Exposed Flashings: Aluminum sheet, 20 gage, 0.032 inch minimum thickness; finish to match
- D. Concealed Flashings: Stainless steel, 26 gage, 0.0187 inch minimum thickness. E. Sill Flashing Sealant: Elastomeric, silicone or polyurethane, compatible with flashing material.
- F. Sealant for Setting Thresholds: Non-curing butyl type. G. Glass: As specified in Section 08 8000. H. Glazing Gaskets: Type to suit application to achieve weather, moisture, and air infiltration
- Glazing Accessories: As specified in Section 08 80 00.
- 2.07 FINISHES A. Class I Light Satin Anodized Finish: AAMA 611 AA-M12C22A41 Clear anodic coating not less

#### than [] thick.

- 2.08 FABRICATION A. Fabricate components with minimum clearances and shim spacing around perimeter of
- assembly, yet enabling installation and dynamic movement of perimeter seal. B. Accurately fit and secure joints and corners. Make joints flush, hairline, and weatherproof.
- C. Prepare components to receive anchor devices. Fabricate anchors. D. Coat concealed metal surfaces that will be in contact with cementitious materials or dissimilar metals with bituminous paint.
- Arrange fasteners and attachments to conceal from view.
- Reinforce components internally for door hardware .
- G. Reinforce framing members for imposed loads.
- H. Finishing: Apply factory finish to all surfaces that will be exposed in completed assemblies. Touch-up surfaces cut during fabrication so that no natural aluminum is visible in
- completed assemblies, including joint edges.

#### PART 3 EXECUTION 3.01 EXAMINATION

A. Verify dimensions, tolerances, and method of attachment with other work.

ALUMINUM-FRAMED STOREFRONTS

08 43 13 - 04

#### 2.04 STOREFRONT

A. Manufacturer Qualifications: Company specializing in performing work of type specified and A. Aluminum-Framed Storefront: Factory fabricated, factory finished aluminum framing members with infill, and related flashings, anchorage and attachment devices. 1. Provide certified glass products through ANSI accredited certifications that include plant 1. Unitized, shop assembly.

Factory finish all surfaces that will be exposed in completed assemblies.

dissimilar metals with bituminous paint.

damage to components or deterioration of seals.

construction while allowing expected movement.

moisture occurring within system.

heel bead of glazing compound.

insulating glass installed.

B. Performance Requirements:

4. Finish Color: Light Satin Aluminum Finish, as selected by Architect.

concealed from view; reinforced as required for imposed loads.

harmonics, and prevent "stack effect" in internal spaces.

b. Coat concealed metal surfaces that will be in contact with cementitious materials or

5. Fabrication: Joints and corners flush, hairline, and weatherproof, accurately fitted and

6. Construction: Eliminate noises caused by wind and thermal movement, prevent vibration

7. System Internal Drainage: Drain to the exterior by means of a weep drainage network

any water entering joints, condensation occurring in glazing channel, and migrating

8. Expansion/Contraction: Provide for expansion and contraction within system components

causing detrimental effect to system components, anchorages, and other building

9. Movement: Allow for movement between storefront and adjacent construction, without

10. Perimeter Clearance: Minimize space between framing members and adjacent

11. Air and Vapor Seal: Maintain continuous air barrier and vapor retarder throughout

a. Design Wind Loads: Comply with requirements of ASCE 7.

direction, with full recovery of glazing materials.

caused by cycling temperature range of 170 degrees F over a 12 hour period without

assembly, primarily in line with inside pane of glazing and inner sheet of infill panel and

without damage or permanent set, when tested in accordance with ASTM E330/E330M,

using loads 1.5 times the design wind loads and 10 second duration of maximum load.

Water Penetration Resistance on Manufactured Assembly: No uncontrolled water on

3. Air Leakage Laboratory Test: Maximum of 0.06 cu ft/min sq ft of wall area, when tested

4. Condensation Resistance Factor of Framing: 50, minimum, measured in accordance with

in accordance with ASTM E283 at 6.27 psf pressure differential across assembly.

5. Movement: Accommodate movement between storefront and perimeter framing and

6. Air Infiltration: Limit air infiltration through assembly to 0.06 cu ft/min/sq ft of wall area.

7. Condensation Resistance Factor: Measure in accordance with AAMA 1503 with 1 inch

8. Water Leakage: None, when measured in accordance with ASTM E331 at specified

measured at specified differential pressure across assembly in accordance with ASTM

deflection of lintel, without damage to components or deterioration of seals.

interior face, when tested in accordance with ASTM E331 at pressure differential of 8 psf.

1. Wind Loads: Design and size components to withstand the specified load requirements

b. Member Deflection: Limit member deflection to flexure limit of glass in any

secured; prepared to receive anchors and hardware; fasteners and attachments

audits and independent laboratory performance testing. 2. Glazing Rabbet: For 1 inch insulating glazing. 3. Finish: Class I color anodized.

08 43 13 - 02

 Insulating Glass Certification Council (IGCC). b. Safety Glazing Certification Council (SGCC).

with at least three years of documented experience.

B. Installer Qualifications: Company specializing in performing work of type specified and with at least three years of documented experience.

#### 1.07 DELIVERY, STORAGE, AND HANDLING

- A. Handle products of this section in accordance with AAMA CW-10.
- B. Protect finished aluminum surfaces with wrapping. Do not use adhesive papers or sprayed coatings that bond to aluminum when exposed to sunlight or weather.
- 1.08 FIELD CONDITIONS A. Do not install sealants when ambient temperature is less than 40 degrees F. Maintain this minimum temperature during and 48 hours after installation.
- 1.09 WARRANTY Provide five year manufacturer warranty against failure of glass seal on insulating glass units,
  - B. Provide five year manufacturer warranty against excessive degradation of exterior finish. Include provision for replacement of units with excessive fading, chalking, or flaking.

including interpane dusting or misting. Include provision for replacement of failed units.

#### PART 2 PRODUCTS

1.06 QUALITY ASSURANCE

- 2.01 MANUFACTURERS
- A. Basis of Design: Kawneer North America; www.kawneer.com.. B. Other Acceptable - Aluminum-Framed Storefronts Manufacturers:
- Arcadia, Inc: www.arcadiainc.com. 2. C.R. Laurence Company, Inc; U.S. Aluminum: www.crl-arch.com.
- Oldcastle BuildingEnvelope: www.oldcastlebe.com.

#### 2.02 BASIS OF DESIGN -- FRAMING FOR INSULATING GLAZING A. Center-Set Style, Thermally-Broken:

- 1. Basis of Design: Kawneer North America; Series 451T, 2 by 4-1/2 inch Storefront
- Center-Set Style, Thermally Broken: www.kawneer.com. B. Other Manufacturers: Provide either the product identified as "Basis of Design" or an
- equivalent product of one of the manufacturers listed below: 1. Arcadia, Inc: www.arcadiainc.com.
- 2. C.R. Laurence Company, Inc; U.S. Aluminum: www.crl-arch.com.
- 3. Trulite Glass & Aluminum Solutions, LLC: www.trulite.com.

#### 2.03 BASIS OF DESIGN -- SWINGING DOORS A. Medium Stile, Insulating Glazing, Thermally-Broken:

- Basis of Design: Kawneer North America; Series 451T.
- Thickness: 1-3/4 inches. B. Other Manufacturers: Provide either the product identified as "Basis of Design" or an
- equivalent product of one of the manufacturers listed below: Arcadia, Inc: www.arcadiainc.com.
- C.R. Laurence Company, Inc; U.S. Aluminum: www.crl-arch.com. Trulite Glass & Aluminum Solutions, LLC: www.trulite.com.

ALUMINUM-FRAMED STOREFRONTS

**ALUMINUM-FRAMED STOREFRONTS** 

08 43 13 - 03

#### B. Verify that wall openings and adjoining air and vapor seal materials are ready to receive work of this section.

- 3.02 INSTALLATION Install wall system in accordance with manufacturer's instructions.
- B. Attach to structure to permit sufficient adjustment to accommodate construction tolerances and
- other irregularities. C. Provide alignment attachments and shims to permanently fasten system to building structure. D. Align assembly plumb and level, free of warp or twist. Maintain assembly dimensional
- tolerances, aligning with adjacent work. E. Provide thermal isolation where components penetrate or disrupt building insulation.
- F. Install sill flashings. Turn up ends and edges; seal to adjacent work to form water tight dam. G. Where fasteners penetrate sill flashings, make watertight by seating and sealing fastener
- heads to sill flashing. H. Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of
- thermal barrier. Set thresholds in bed of sealant and secure.
- Install hardware using templates provided.
- See Section 08 71 00 for hardware installation requirements. K. Install glass in accordance with Section 08 80 00, using [].
- L. Touch-up minor damage to factory applied finish; replace components that cannot be satisfactorily repaired.
- 3.03 TOLERANCES A. Maximum Variation from Plumb: 0.06 inch per 3 feet non-cumulative or 0.06 inch per 10 feet,
- B. Maximum Misalignment of Two Adjoining Members Abutting in Plane: 1/32 inch. 3.04 FIELD QUALITY CONTROL
- A. Provide services of storefront manufacturer's field representative to observe for proper
- installation of system and submit report. B. Water-Spray Test: Provide water spray quality test of installed storefront components in
- accordance with AAMA 501.2 during construction process and before installation of interior 1. Perform a minimum of two tests in each designated area as indicated on drawings.
- 2. Conduct tests in each area prior to 10 percent and 50 percent completion of this work. 3.05 ADJUSTING

#### Adjust operating hardware for smooth operation.

#### 3.06 CLEANING

- A. Remove protective material from pre-finished aluminum surfaces.
- B. Wash down surfaces with a solution of mild detergent in warm water, applied with soft, clean wiping cloths, and take care to remove dirt from corners and to wipe surfaces clean.
- C. Upon completion of installation, thoroughly clean aluminum surfaces in accordance with AAMA 3.07 PROTECTION
- A. Protect installed products from damage until Date of Substantial Completion. **END OF SECTION**

ALUMINUM-FRAMED STOREFRONTS

08 43 13 - 05

**PROJECT INFORMATION** 

**FACILITY NAME:** BERKELEY CITY COLLEGE 2050 CENTER ST, BERKELEY, CA 94704 FACILITY ADDRESS: UNIVERSITY PROJECT NUMBER AUTHORITY HAVING JURISDICTION: DSA ARCHITECT PROJECT NO: 5271.100

**AGENCY APPROVAL** 

REVISION SCHEDULE

NO. REVISION NAME

SCALE: 12" = 1'-0"

A-601

DATE:

DATE: 10/21/2021

**STOREFRONT SPECIFICATIONS** 

BERKELEY CITY COLLEGE ENTRY DOOR REPLACEMENT 5271.00 BERKELEY CITY COLLEGE ENTRY DOOR REPLACEMENT BERKELEY, CA BERKELEY, CA

1.3 SUBMITTALS

function, and finish of door hardware.

and subject to resubmission.

permanent cylinders/cores.

DOOR HARDWARE

Format for the Hardware Schedule."

3. Content: Include the following information:

b. Manufacturer of each item.

c. Fastenings and other pertinent information.

Mounting locations for door hardware.

Door and frame sizes and materials.

h. Warranty information for each product.

and in door and frame schedule.

A. Product Data: Manufacturer's product data sheets including installation details, material

B. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication

descriptions, dimensions of individual components and profiles, operational descriptions and

and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door

Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand,

1. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and

2. Organization: Organize the Door Hardware Schedule into door hardware sets indicating

a. Type, style, function, size, label, hand, and finish of each door hardware item.

e. Explanation of abbreviations, symbols, and codes contained in schedule.

essential to the coordinated review of the Door Hardware Schedule.

C. Keying Schedule: After a keying meeting with the owner has taken place prepare a separate

D. Proof of Compliance: (California located Projects): Provide a list of product(s) containing

will be exposed to consumers, the means of warning, and an illustration of the label.

keying schedule detailing final instructions. Submit the keying schedule in electronic format.

Include keying system explanation, door numbers, key set symbols, hardware set numbers and

special instructions. Owner must approve submitted keying schedule prior to the ordering of

chemicals known to cause cancer or reproductive toxicity as defined by the Office of

Environmental Health Hazard Assessment (OEHHA) under Proposition 65 (CA Code of

Regulations, Title 27, Section 27001). The list includes the specific chemical(s), if the chemical

d. Location of door hardware set, cross-referenced to Drawings, both on floor plans

Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date,

particularly where approval of the Door Hardware Schedule must precede fabrication of

Samples, Shop Drawings of other work affected by door hardware, and other information

other work that is critical in the Project construction schedule. Include Product Data,

complete designations of every item required for each door or opening. Organize door

hardware sets in same order as in the Door Hardware Sets at the end of Part 3. Submittals

that do not follow the same format and order as the Door Hardware Sets will be rejected

#### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

SECTION 087100 - DOOR HARDWARE

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

A. This Section includes commercial door hardware for the following:

#### Swinging doors.

Other doors to the extent indicated.

#### B. Door hardware includes, but is not necessarily limited to, the following:

Automatic operators. Cylinders specified for doors in other sections.

Mechanical door hardware.

#### C. Related Sections:

- Division 08 Section "Aluminum-Framed Entrances and Storefronts". Division 08 Section "Automatic Door Operators".
- D. Codes and References: Comply with the version year adopted by the Authority Having
- ANSI A117.1 Accessible and Usable Buildings and Facilities.
- ICC/IBC International Building Code. NFPA 70 - National Electrical Code.
- NFPA 80 Fire Doors and Windows.
- NFPA 101 Life Safety Code. NFPA 105 - Installation of Smoke Door Assemblies.
- 7. UL/ULC and CSA C22.2 Standards for Automatic Door Operators Used on Fire and
- Smoke Barrier Doors and Systems of Doors. 8. State Building Codes, Local Amendments.

E. Standards: All hardware specified herein shall comply with the following industry standards:

- ANSI/BHMA Certified Product Standards A156 Series
- 2. UL10C Positive Pressure Fire Tests of Door Assemblies

BERKELEY CITY COLLEGE ENTRY DOOR REPLACEMENT

physical product samples as required.

1.5 DELIVERY, STORAGE, AND HANDLING

1.6 COORDINATION

1.7 WARRANTY

preparatory work performed by other trades.

accessories at Project site without prior authorization.

installing hardware to comply with indicated requirements.

made by Contractor under requirements of the Contract Documents.

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1. Prior to installation of door hardware, conduct a project specific training meeting to

2. Inspect and discuss electrical roughing-in, power supply connections, and other

manufacturer's instructions and recommendations and according to approved schedule.

A. Inventory door hardware on receipt and provide secure lock-up and shelving for door hardware

B. Tag each item or package separately with identification related to the final Door Hardware

C. Deliver, as applicable, permanent keys, cylinders, cores, access control credentials, software

A. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other

B. Door and Frame Preparation: Doors and corresponding frames are to be prepared, reinforced

A. General Warranty: Reference Division 01, General Requirements. Special warranties specified

in this Article shall not deprive Owner of other rights Owner may have under other provisions

of the Contract Documents and shall be in addition to, and run concurrent with, other warranties

signaling and access control system hardware without additional in-field modifications.

work specified to be factory prepared for installing standard and electrified hardware. Check

Shop Drawings of other work to confirm that adequate provisions are made for locating and

and pre-wired (if applicable) to receive the installation of the specified electrified, monitoring,

Instructions for delivery to the Owner shall be established at the "Keying Conference".

and related accessories directly to Owner via registered mail or overnight package service.

Schedule, and include basic installation instructions with each item or package.

delivered to Project site. Do not store electronic access control hardware, software or

instruct the installing contractors' personnel on the proper installation and adjustment of

their respective products. Product training to be attended by installers of door hardware

(including electromechanical hardware) for aluminum, hollow metal and wood doors.

Training will include the use of installation manuals, hardware schedules, templates and

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B. Warranty Period: Written warranty, executed by manufacturer(s), agreeing to repair or replace components of standard and electrified door hardware that fails in materials or workmanship within specified warranty period after final acceptance by the Owner. Failures include, but are not limited to, the following:

- Structural failures including excessive deflection, cracking, or breakage. Faulty operation of the hardware.
- Deterioration of metals, metal finishes, and other materials beyond normal weathering. Review sequence of operation narratives for each unique access controlled opening. Electrical component defects and failures within the systems operation.
- 4. Review and finalize construction schedule and verify availability of materials. C. Standard Warranty Period: One year from date of Substantial Completion, unless otherwise 5. Review the required inspecting, testing, commissioning, and demonstration procedures I. At completion of installation, provide written documentation that components were applied to

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D. Special Warranty Periods

#### 1.8 MAINTENANCE SERVICE

A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.

#### PART 2 - PRODUCTS

#### 2.1 SCHEDULED DOOR HARDWARE

- A. General: Provide door hardware for each door to comply with requirements in Door Hardware Sets and each referenced section that products are to be supplied under.
- B. Designations: Requirements for quantity, item, size, finish or color, grade, function, and other distinctive qualities of each type of door hardware are indicated in the Door Hardware Sets at the end of Part 3. Products are identified by using door hardware designations, as follows:
  - 1. Named Manufacturer's Products: Product designation and manufacturer are listed for each door hardware type required for the purpose of establishing requirements. Manufacturers' names are abbreviated in the Door Hardware Schedule.
- C. Substitutions: Requests for substitution and product approval for inclusive mechanical and electromechanical door hardware in compliance with the specifications must be submitted in writing and in accordance with the procedures and time frames outlined in Division 01, Substitution Procedures. Approval of requests is at the discretion of the architect, owner, and their designated consultants.

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E. Informational Submittals:

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1. Product Test Reports: Indicating compliance with cycle testing requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified independent testing agency.

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- F. Operating and Maintenance Manuals: Provide manufacturers operating and maintenance manuals for each item comprising the complete door hardware installation in quantity as required in Division 01, Closeout Procedures.
- 1.4 QUALITY ASSURANCE
- A. Manufacturers Qualifications: Engage qualified manufacturers with a minimum 5 years of documented experience in producing hardware and equipment similar to that indicated for this Project and that have a proven record of successful in-service performance.
- B. Installer Qualifications: A minimum 3 years documented experience installing both standard and electrified door hardware similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
- C. Door Hardware Supplier Qualifications: Experienced commercial door hardware distributors with a minimum 5 years documented experience supplying both mechanical and electromechanical hardware installations comparable in material, design, and extent to that indicated for this Project. Supplier recognized as a factory direct distributor by the manufacturers of the primary materials with a warehousing facility in Project's vicinity. Supplier to have on staff a certified Architectural Hardware Consultant (AHC) available during the course of the Work to consult with Contractor, Architect, and Owner concerning both standard and electromechanical door hardware and keying.
- D. Source Limitations: Obtain each type and variety of door hardware specified in this section from a single source unless otherwise indicated.
- 1. Electrified modifications or enhancements made to a source manufacturer's product line by a secondary or third party source will not be accepted.
- California Building Code: Provide hardware that complies with CBC Section 11B.
  - 1. All openings as a part of an accessible route shall comply with CBC Section 11B-404.
- 2. The clear opening width for a door shall be 32" minimum. For a swinging door it shall be measured between the face of the door and the stop, with the door open 90 degrees. There shall be no projections into it below 34" and 4" maximum projections into it between 34" and 80" above the finish floor or ground. Door closers and stops shall be permitted to be 78" minimum above the finish floor or ground. CBC Section 11B-404.2.3.
- Operable hardware on accessible doors shall comply with CBC Section 11B-309.4 and shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. Operable parts of such hardware shall be 34" minimum and 44" maximum

A. Pivots: ANSI/BHMA A156.4, Grade 1, certified. Space intermediate pivots equally not less

A. General: Cylinder manufacturer to have minimum (10) years experience designing secured

Source Limitations: Obtain each type of keyed cylinder and keys from the same source

Mortise Type: Threaded cylinders with rings and cams to suit hardware application.

4. Mortise and rim cylinder collars to be solid and recessed to allow the cylinder face to be

1. Conduct specified "Keying Conference" to define and document keying system

2. Furnish factory cut, nickel-silver large bow permanently inscribed with a visual key

3. Existing System: Field verify and key locks to match Owner's existing system.

Rim Type: Cylinders with back plate, flat-type vertical or horizontal tailpiece, and raised

master key systems and have on record a published security keying system policy.

manufacturer as locksets and exit devices, unless otherwise indicated.

Bored-Lock Type: Cylinders with tailpieces to suit locks.

flush and be free spinning with matching finishes.

D. Keying System: Each type of lock and cylinders to be factory keyed.

Keyway: Match Facility Standard.

instructions and requirements.

control number as directed by Owner.

Change Keys per Cylinder: Two (2)

E. Key Quantity: Provide the following minimum number of keys:

Construction Keys (where required): Ten (10).

F. Construction Keying: Provide construction master keyed cylinders.

Master Keys (per Master Key Level/Group): Five (5).

C. Cylinders: Original manufacturer cylinders complying with the following:

than 25 inches on center apart or not more than 35 inches on center for doors over 121 inches

DOOR HARDWARE

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b. Rixson Door Controls (RF).

high. Pivots to be UL listed for windstorm where applicable.

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2.2 HANGING DEVICES

Manufacturers:

CYLINDERS AND KEYING

trim ring.

4. Hardware (including panic hardware) shall not be provided with "nightlatch" function for

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hardware shall be exposed and usable from both sides.

any accessible doors or gates unless the following conditions are met:

above finish floor or ground. Where sliding doors are in the fully open position, operating

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- a. Such hardware has a 'dogging' feature and is dogged during the time the facility is
- b. All 'dogging' operation is performed only by employees as their job function (nonpublic use).
- 5. The force for pushing or pulling open a door shall be in accordance with CBC Section 11B-404.2.9.
- a. Interior hinged doors, sliding or folding doors, and exterior hinged doors: 5 pounds (22.2 N) maximum. Required fire doors: the minimum opening force allowable by the DSA authority, not to exceed 15 pounds (66.7N). These forces do not apply to the force required to retract latch bolts or disengage other devices that hold the door in a closed position.
- b. The force required for activating any operable parts, such as lever hardware, or disengaging other devices shall be 5 pounds (22.2N) maximum to comply with CBC Section 11B-309.4.
- 6. Door closing speed shall comply with CBC Section 11B-404.2.8. Closers shall be adjusted so that the required time to move a door from an open position of 90 degrees to a position of 12 degrees from the latch is 5 seconds minimum. Spring hinges shall be adjusted so that the required time to move a door from an open position of 70 degrees to the closed position is 1.5 seconds minimum.
- 7. Floor stops shall not be located in the path of travel and 4" maximum from walls.
- Thresholds shall comply with CBC Section 11B-404.2.5.
- F. Each unit to bear third party permanent label demonstrating compliance with the referenced
- G. Keying Conference: Conduct conference to comply with requirements in Division 01 Section "Project Meetings." Keying conference to incorporate the following criteria into the final keying schedule document:
  - Function of building, purpose of each area and degree of security required. Plans for existing and future key system expansion.
- Requirements for key control storage and software.
- Installation of permanent keys, cylinder cores and software.
- Address and requirements for delivery of keys.
- H. Pre-Submittal Conference: Conduct coordination conference in compliance with requirements in Division 01 Section "Project Meetings" with attendance by representatives of Supplier(s), Installer(s), and Contractor(s) to review proper methods and the procedures for receiving, handling, and installing door hardware.

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#### Provide transcript list in writing or electronic file as directed by the Owner.

2.4 LOCK AND LATCH STRIKES

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- A. Strikes: Provide manufacturer's standard strike with strike box for each latch or lock bolt, with curved lip extended to protect frame, finished to match door hardware set, unless otherwise indicated, and as follows:
- 1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by
- Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
- 3. Aluminum-Frame Strike Box: Provide manufacturer's special strike box fabricated for
- 4. Double-lipped strikes: For locks at double acting doors. Furnish with retractable stop for rescue hardware applications.
- B. Standards: Comply with the following:
- Strikes for Mortise Locks and Latches: BHMA A156.13. Strikes for Bored Locks and Latches: BHMA A156.2.
- Strikes for Auxiliary Deadlocks: BHMA A156.36. Dustproof Strikes: BHMA A156.16.
- 2.5 CONVENTIONAL EXIT DEVICES
- A. General Requirements: All exit devices specified herein shall meet or exceed the following
- 1. At doors not requiring a fire rating, provide devices complying with NFPA 101 and listed and labeled for "Panic Hardware" according to UL305. Provide proper fasteners as required by manufacturer including sex nuts and bolts at openings specified in the Hardware Sets.
- Where exit devices are required on fire rated doors, provide devices complying with NFPA 80 and with UL labeling indicating "Fire Exit Hardware". Provide devices with the proper fasteners for installation as tested and listed by UL. Consult manufacturer's catalog and template book for specific requirements.
- 3. Except on fire rated doors, provide exit devices with hex key dogging device to hold the pushbar and latch in a retracted position. Provide optional keyed cylinder dogging on devices where specified in Hardware Sets.
- Devices must fit flat against the door face with no gap that permits unauthorized dogging of the push bar. The addition of filler strips is required in any case where the door light
- extends behind the device as in a full glass configuration.
- 5. Lever Operating Trim: Where exit devices require lever trim, furnish manufacturer's heavy duty escutcheon trim with threaded studs for thru-bolts.

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DOOR HARDWARE

PACKAGE ISSUANCE: 100% CONSTRUCTION DOCUMENTS

**REVISION SCHEDULE** DATE: NO. REVISION NAME

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITEC

REVIEWED FOR SS 🗹 FLS 🗹 ACS 🗹

APP: 01-119701 INC:

DATE: 01/19/2022

www.WeAreTaylor.com

**DESIGN PROFESSIONAL STAMP** 

**PROJECT INFORMATION PCCD** 

BCC ENTRY DOOR REPLACEMENT FACILITY NAME: BERKELEY CITY COLLEGE

FACILITY ADDRESS: 2050 CENTER ST, BERKELEY, CA 94704 UNIVERSITY PROJECT NUMBER AUTHORITY HAVING JURISDICTION: DSA ARCHITECT PROJECT NO: 5271.100

DATE: 10/21/2021 SHEET TITLE

SCALE: 12" = 1'-0" SHEET NUMBER

DOOR HARDWARE

G. Key Registration List (Bitting List):

1. Provide keying transcript list to Owner's representative in the proper format for importing into key control software.

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DOOR HARDWARE

**AGENCY APPROVAL** 

BERKELEY CITY COLLEGE ENTRY DOOR REPLACEMENT

1. Fire-Rated Doors: Provide door operators for fire-rated door assemblies that comply with

NFPA 80 for fire-rated door components and are listed and labeled by a qualified testing

Opening Force if Power Fails: Not more than 15 lbf required to release a latch if

2. Entrapment Protection: Not more than 15 lbf required to prevent stopped door from

D. Configuration: Surface mounted or in-ground as required. Door operators to control single

E. Operation: Power opening and spring closing operation capable of meeting ANSI A117.1

F. Features: Operator units to have full feature adjustments for door opening and closing force and

G. Provide outputs and relays on board the operator to allow for coordination of exit device latch

H. Brackets and Reinforcements: Manufacturer's standard, fabricated from aluminum with

A. General: Door stops and holders to be of type and design as specified below or in the Hardware

B. Door Stops and Bumpers: ANSI/BHMA A156.16, Grade 1 certified door stops and wall

bumpers. Provide wall bumpers, either convex or concave types with anchorage as indicated.

unless floor or other types of door stops are specified in Hardware Sets. Do not mount floor

stops where they will impede traffic. Where floor or wall bumpers are not appropriate, provide

delay, obstruction recycle, and hold open time from 0 up to 30 seconds.

Besam Automated Entrance Systems (BE) – SW200i Series.

accessibility guideline. Provide time delay for door to remain open before initiating closing

speed, backcheck, motor assist acceleration from 0 to 30 seconds, time delay, vestibule interface

retraction, electric strikes, magnetic locks, card readers, safety and motion sensors and specified

Manufacturers: Subject to compliance with requirements, provide products by one of the

provided, not more than 30 lbf required to manually set door in motion, and not more

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indicated by certain manufacturers for their products.

temporary protective covering before shipping.

other conditions affecting performance.

specified by referenced standards for the applicable units of hardware

A. Hollow Metal Doors and Frames: Comply with ANSI/DHI A115 series.

B. Wood Doors: Comply with ANSI/DHI A115-W series.

devices; closing devices; and seals.

Hardware for Standard Steel Doors and Frames."

A. Standard: Designations used in the Hardware Sets and elsewhere indicate hardware finishes

B. Provide quality of finish, including thickness of plating or coating (if any), composition,

C. Protect mechanical finishes on exposed surfaces from damage by applying a strippable,

A. Examine scheduled openings, with Installer present, for compliance with requirements for

B. Notify architect of any discrepancies or conflicts between the door schedule, door types,

A. Install each item of mechanical and electromechanical hardware and access control equipment

B. Mounting Heights: Mount door hardware units at heights indicated in following applicable

publications, unless specifically indicated or required to comply with governing regulations:

1. Installers are to be trained and certified by the manufacturer on the proper installation and

adjustment of fire, life safety, and security products including: hanging devices; locking

Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural

to comply with manufacturer's written instructions and according to specifications.

installation tolerances, labeled fire door assembly construction, wall and floor construction, and

drawings and scheduled hardware. Proceed only after such discrepancies or conflicts have been

complying with ANSI/BHMA A156.18, including coordination with traditional U.S. finishes

hardness, and other qualities complying with manufacturer's standards, but in no case less than

2.10 FINISHES

PART 3 - EXECUTION

3.1 EXAMINATION

resolved in writing.

PREPARATION

INSTALLATION

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#### Hiawatha, Inc. (HI).

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b. Rockwood Products; ASSA ABLOY Architectural Door Accessories (RO). c. Trimco (TC).

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#### ARCHITECTURAL SEALS

- A. General: Thresholds, weatherstripping, and gasket seals to be of type and design as specified below or in the Hardware Sets. Provide continuous weatherstrip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated. At exterior applications provide non-corrosive fasteners and elsewhere where indicated.
- B. Smoke Labeled Gasketing: Assemblies complying with NFPA 105 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for smoke control ratings indicated, based on testing according to UL 1784.
  - 1. Provide smoke labeled perimeter gasketing at all smoke labeled openings.
- Fire Labeled Gasketing: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to UL-10C.
- 1. Provide intumescent seals as indicated to meet UL10C Standard for Positive Pressure Fire Tests of Door Assemblies, and NPFA 252, Standard Methods of Fire Tests of Door Assemblies.
- D. Sound-Rated Gasketing: Assemblies that are listed and labeled by a testing and inspecting agency, for sound ratings indicated.
- E. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.
- F. Manufacturers:
- National Guard Products (NG).
- Pemko Products; ASSA ABLOY Architectural Door Accessories (PE). Reese Enterprises, Inc. (RE).

#### 2.9 FABRICATION

DOOR HARDWARE

A. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to manufacturers recognized installation standards for application intended.

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than 15 lbf required to fully open door.

B. Standard: Certified ANSI/BHMA A156.19.

swinging and pair of swinging doors.

cycle as required by ANSI/BHMA A156.19.

nonferrous shims for aligning system components.

C. Performance Requirements:

b. Where function of exit device requires a cylinder, provide a cylinder (Rim or Mortise) as specified in Hardware Sets.

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at interior openings, provide as less bottom rod (LBR) unless otherwise indicated. Provide dust proof strikes where thermal pins are required to project into the floor.

6. Vertical Rod Exit Devices: Where surface or concealed vertical rod exit devices are used

a. Lock Trim Design: As indicated in Hardware Sets, provide finishes and designs to

- 7. Narrow Stile Applications: At doors constructed with narrow stiles, or as specified in Hardware Sets, provide devices designed for maximum 2" wide stiles.
- 8. Dummy Push Bar: Nonfunctioning push bar matching functional push bar.
- Through Bolt Installation: For exit devices and trim as indicated in Door Hardware Sets.

Rail Sizing: Provide exit device rails factory sized for proper door width application.

- B. Tubular Panic Devices: Certified panic devices conforming to ANSI/BHMA A156.3, Grade 1 Certified complying with NFPA 101 and listed and labeled for "Panic Hardware" according to UL305. Device to be ADA compliant requiring less than 5 lbs. of force to activate and meet California Building Code (2013) Sec 11B.309.4. Post mounting with optional mechanical dogging. Provide proper fasteners as required by manufacturer to meet application requirements. Provide exit devices on both leaves of pairs of doors.
- 1. Style: Exposed vertical rod. 1-1/4" grip diameter with interior operating panic handle in combination with exterior fixed pull handle. Panic mechanism shall be concealed within brass or stainless steel tubing. Optional entrance from exterior by a keyed cylinder.
- Configurations (provide as specified):

Full Height L-Shape Pull.

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match that of the specified locksets.

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- Push/pull operation when dogged from the inside.
- Latching: Top latching. Reversed, flat, Pullman style. Roller-type latching not acceptable. Engraved "PUSH" signage with optional paint infill and boundary grooves.
- Manufacturers:
- a. Rockwood Products; ASSA ABLOY Architectural Door Accessories (RO) PDU8500 Series

#### 2.6 ELECTROMECHANICAL DOOR OPERATORS

A. General: Provide low energy operators of size recommended by manufacturer for door size, weight, and movement; for condition of exposure; and for compliance with UL 325. Coordinate operator mechanisms with door operation, hinges, and activation devices.

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DOOR HARDWARE

Manufacturers:

2.7 DOOR STOPS AND HOLDERS

overhead type stops and holders.

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- Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for
- 3. Where indicated to comply with accessibility requirements, comply with ANSI A117.1
- "Accessibility Guidelines for Buildings and Facilities." 4. Provide blocking in drywall partitions where wall stops or other wall mounted hardware
- C. Retrofitting: Install door hardware to comply with manufacturer's published templates and written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 9 Sections. Do not install surface-mounted items until finishes have been completed on substrates
- D. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying

with requirements specified in Division 7 Section "Joint Sealants."

E. Storage: Provide a secure lock up for hardware delivered to the project but not yet installed. Control the handling and installation of hardware items so that the completion of the work will not be delayed by hardware losses before and after installation.

#### FIELD QUALITY CONTROL

A. Field Inspection (Punch-Out Report): Reference Division 01 Section "Closeout Procedures". Final inspect installed door hardware and state in report whether work complies with or deviates from specification requirements, including whether door hardware is properly installed, operating and adjusted.

#### 3.5 ADJUSTING

A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

#### CLEANING AND PROTECTION

- A. Protect all hardware stored on construction site in a covered and dry place. Protect exposed hardware installed on doors during the construction phase. Install any and all hardware at the latest possible time frame.
- B. Clean adjacent surfaces soiled by door hardware installation.
- C. Clean operating items as necessary to restore proper finish. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of

DOOR HARDWARE 087100 - 13 BERKELEY CITY COLLEGE ENTRY DOOR REPLACEMENT BERKELEY, CA

3.7 DEMONSTRATION

A. Instruct Owner's maintenance personnel to adjust, operate, and maintain mechanical and electromechanical door hardware.

#### 3.8 DOOR HARDWARE SETS

- A. The hardware sets represent the design intent and direction of the owner and architect based on drawings dated 01/17/2020. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality.
- B. The supplier is responsible for handing and sizing all products and providing the correct option for the appropriate door type and material where more than one is presented in the hardware sets. Quantities listed are for each pair of doors, or for each single door.
- C. Manufacturer's Abbreviations:

1. MK - McKinney 2. RF - Rixson 3. RO - Rockwood

4. OT - Other GS - ASSA ABLOY Glass Solutions

6. BM - Besam 7. PE - Pemko

Doors: 100-1, 100-2

1 Pair Door Operators

2 Door Stop

#### <u>Hardware Sets</u>

2 Pivot Set	147	626	RF	
2 Intermediate Pivot	M19	626	RF	
2 Tubular Exit Device	PDU8500-1	US32D	RO	4
2 Cylinder	Match Facility Standard		OT	
1 Electric Strike	ESK-DBL-24D	US32D	GS	4
1 Controller	ES-SMARTPACIII		GS	

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SW200i (concealed pair)

689 BM 💠

US26D RO

#### ADDITIONAL NOTES: - Tubular Exit Device, Part Number: PDU8500 -1

This device is not fire-rated This option was specifically designed to be used in the state of California or other areas where a 5 lb. activation force is required to meet ADA. The latch release on panic hardware device is 5 lbs max. 11B-309.4.

- Handles, pulls, latches, locks, and other operable parts on doors does comply with §11B-309.4 (via CBC § 11B-404.2.7).

- There are not door closures.

- Low-energy and power-assisted doors does comply with 11B-404.3 and ANSI/BHMA A156.19

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1 Threshold Per detail x FHSL14 3452CNB 2 Ext. Sweep 1 Card Reader & Power OT By Security Integrator

Notes: Door normally closed and secure outside of building hours. Valid credentials presented to card reader allows temporary access. Upon loss of power, door remains secure. Key override provided. Free egress at all times.

END OF SECTION 087100

SECTION 11B-309.4 OPERATION

OPERABLE PARTS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. THE FOR REQUIRED TO ACTIVATE OPERABLE PARTS SHALL BE 5 LBS MAX.

FOR THIS PROJECT, THE LATCH RELEASE ON THE PANIC HARDWARE DEVICE SHALL BE ADJUSTED TO 5 LBS MAX. HANDLES, PULLS, LATCHES, LOCKS, AND OTHER PARTS ON DOORS SHALL COMPLY WITH 11B-309.4 (VIA CBC 11B-404.2.7).

SECTION 11B-404.2.3 CLEAR WIDTH DOOR OPENINGS SHALL PROVIDE A CLEAR WIDTH OF 32" MIN.

EXCEPTION 2. DOOR CLOSERS AND DOOR STOPS SHALL BE PERMITTED TO BE 78" MIN ABOVE THE FINISH FLOOR OR GROUND.

FOR THIS PROJECT, DOOR SWING SHALL BE CONTROLLED BY AN OVERHEAD AUTOMATIC DOOR OPERATOR, BESAM 200SWi IS THE BASIS OF DESIGN. THE DOOR OPERATOR MECHANISM AND CONTROL ARM WILL BE INSTALLED AT 9'-3" AFF WHICH IS GREATER THAN 78". REFER TO

DOOR CLOSERS AND GATE CLOSERS SHALL BE ADJUSTED SO THAT FROM AN OPEN POSITION OF 90 DEGREES, THE TIME REQUIRED TO MOVE THE DOOR TO A POSITION OF 12 DEGREES FROM

FOR THIS PROJECT, DOOR CLOSING SPEED IS CONTROLLED BY THE BESAM 200SWI AUTOMATIC DOOR OPERATOR, WHICH INCLUDES ADJUSTABLE SPEED AND INTELLIGENT TRAJECTORY CONTROL. THE SPEED OF THE OPERATOR SHALL BE ADJUSTED TO MEET THE REQUIREMENTS OF SECTION 11B-404.2.8.

SECTION 11B-404.2.9 DOOR AND GATE OPENING FORCE

THE FORCE FOR PUSHING OR PULLING OPEN A HINGED DOOR OR GATE SHALL BE 5 LBS MAX. FOR THIS PROJECT, THE BESAM 200SWI AUTOMATIC DOOR OPERATOR SHALL BE ADJUSTED SO THAT THE OPENING FORCE TO PUSH OR PULL OPEN THE HINGED DOOR IS 5 LBS MAX.

#### SECTION 11B-404.3 AUTOMATIC AND POWER-ASSISTED DOORS AND GATES

AUTOMATIC DOORS AND AUTOMATIC GATES SHALL COMPLY WITH SECTION 11B-404.3. FULL-POWERED DOOR"AUTOMATIC DOORS SHALL COMPLY WITH ANSI/BHMA A156.10. LOW-ENERGY AND POWER-ASSISTED DOORS SHALL COMPLY WITH ANSI/BHMA A156.19.

FOR THIS PROJECT, BESAM 200SWI AUTOMATIC DOOR OPERATOR SHALL COMPLY WITH ANSI/BHMA A156.10 AND ANSI/BHMA A156.19 AND THE REQUIREMENTS OF SECTION 11B-404.3.

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITEC APP: 01-119701 INC: REVIEWED FOR SS 🗹 FLS 🗹 ACS 🗹 DATE: 01/19/2022



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**DESIGN PROFESSIONAL STAMP** 



**AGENCY APPROVAL** 

REVISION SCHEDULE NO. REVISION NAME DSA RESUBMITTAL - BC#2

**PROJECT INFORMATION** 

BCC ENTRY DOOR REPLACEMENT FACILITY NAME: BERKELEY CITY COLLEGE

2050 CENTER ST, BERKELEY, CA 94704 FACILITY ADDRESS: UNIVERSITY PROJECT NUMBER AUTHORITY HAVING JURISDICTION: DSA ARCHITECT PROJECT NO: 5271.100

SHEET TITLE

DOOR HARDWARE

DATE: 10/21/2021

SCALE: 12" = 1'-0" SHEET NUMBER

#### **SECTION 08 80 00** GLAZING

#### PART 1 GENERAL 1.01 SECTION INCLUDES

#### Insulating glass units. 1.02 REFERENCE STANDARDS

- A. 16 CFR 1201 Safety Standard for Architectural Glazing Materials; current edition.
- B. ANSI Z97.1 American National Standard for Safety Glazing Materials Used in Buildings -Safety Performance Specifications and Methods of Test; 2015.
- C. ASCE 7 Minimum Design Loads and Associated Criteria for Buildings and Other Structures; Most Recent Edition Cited by Referring Code or Reference Standard.
- D. ASTM C864 Standard Specification for Dense Elastomeric Compression Seal Gaskets,
- Setting Blocks, and Spacers; 2005 (Reapproved 2015).
- E. ASTM C920 Standard Specification for Elastomeric Joint Sealants; 2018.
- F. ASTM C1036 Standard Specification for Flat Glass; 2016. G. ASTM C1172 - Standard Specification for Laminated Architectural Flat Glass; 2014.
- H. ASTM C1193 Standard Guide for Use of Joint Sealants; 2016.
- I. ASTM C1376 Standard Specification for Pyrolytic and Vacuum Deposition Coatings on Flat Glass; 2015.
- J. ASTM E1300 Standard Practice for Determining Load Resistance of Glass in Buildings; K. ASTM E2190 - Standard Specification for Insulating Glass Unit Performance and Evaluation;
- L. GANA (SM) GANA Sealant Manual; 2008.
- M. NFRC 100 Procedure for Determining Fenestration Product U-factors; 2017. N. NFRC 200 - Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and
- Visible Transmittance at Normal Incidence; 2014, with Errata (2017). O. NFRC 300 - Test Method for Determining the Solar Optical Properties of Glazing Materials and Systems; 2017.

#### 1.03 ADMINISTRATIVE REQUIREMENTS

- A. Preinstallation Meeting: Convene a preinstallation meeting one week before starting work of this section; require attendance by each of the affected installers.
- 1.04 SUBMITTALS A. Product Data on Insulating Glass Unit Glazing Types: Provide structural, physical and
- environmental characteristics, size limitations, special handling and installation requirements. B. Product Data on Glazing Compounds and Accessories: Provide chemical, functional, and environmental characteristics, limitations, special application requirements, and identify
- C. Samples: Submit two samples 12 by 12 inch in size of glass units. D. Warranty Documentation: Submit manufacturer warranty and ensure that forms have been
- completed in Owner's name and registered with manufacturer. 1.05 QUALITY ASSURANCE
- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.

**GLAZING** 08 80 00 - 01 1. Provide certified glass products through ANSI accredited certifications that include plant audits and independent laboratory performance testing. Insulating Glass Certification Council (IGCC). Safety Glazing Certification Council (SGCC).

#### 1.06 FIELD CONDITIONS

- A. Do not install glazing when ambient temperature is less than 40 degrees F.
- B. Maintain minimum ambient temperature before, during and 24 hours after installation of
- 1.07 WARRANTY A. Insulating Glass Units: Provide a five (5) year manufacturer warranty to include coverage for
- seal failure, interpane dusting or misting, including providing products to replace failed units. B. Laminated Glass: Provide a five (5) year manufacturer warranty to include coverage for

#### PART 2 PRODUCTS

- 2.01 MANUFACTURERS
- A. Glass Fabricators: GGI - General Glass International: www.generalglass.com.
- Trulite Glass & Aluminum Solutions, LLC: www.trulite.com. Viracon, Inc: www.viracon.com.
- Old Castle Building Envelope, Architectural Glass: www.obe.com...
- B. Laminated Glass Manufacturers:

delamination, including providing products to replace failed units.

- Cardinal Glass Industries: www.cardinalcorp.com.
- Goldray Industries, Inc: www.goldrayglass.com.
- Viracon, Architectural Glass segment of Apogee Enterprises, Inc: www.viracon.com. Old Castle Building Envelope, Architectural Glass: www.obe.com..
- 2.02 PERFORMANCE REQUIREMENTS EXTERIOR GLAZING ASSEMBLIES A. Provide type and thickness of exterior glazing assemblies to support assembly dead loads, and
- to withstand live loads caused by positive and negative wind pressure acting normal to plane
- 1. Comply with ASTM E1300 for design load resistance of glass type, thickness, dimensions, and maximum lateral deflection of supported glass.
- 2. Seismic Loads: Design and size glazing components to withstand seismic loads and sway displacement in accordance with the requirements of ASCE 7.
- 3. Provide glass edge support system sufficiently stiff to limit the lateral deflection of supported glass edges to less than 1/175 of their lengths under specified design load. Glass thicknesses listed are minimum.
- B. Vapor Retarder and Air Barrier Seals: Provide completed assemblies that maintain continuity of building enclosure vapor retarder and air barrier.
- 1. In conjunction with vapor retarder and joint sealer materials described in other sections. C. Thermal and Optical Performance: Provide exterior glazing products with performance
- properties as indicated. Performance properties are in accordance with manufacturer's published data as determined with the following procedures and/or test methods: 1. Center of Glass U-Value: Comply with NFRC 100 using Lawrence Berkeley National
- Laboratory (LBNL) WINDOW 6.3 computer program. 2. Center of Glass Solar Heat Gain Coefficient (SHGC): Comply with NFRC 200 using

08 80 00 - 02

Lawrence Berkeley National Laboratory (LBNL) WINDOW 6.3 computer program. 3. Solar Optical Properties: Comply with NFRC 300 test method.

#### 2.03 GLASS MATERIALS

**GLAZING** 

 A. Laminated Glass: Float glass laminated in accordance with ASTM C1172. 1. Laminated Safety Glass: Complies with ANSI Z97.1 - Class B or 16 CFR 1201 -Category I impact test requirements.

#### 2.04 INSULATING GLASS UNITS

- A. Manufacturers: 1. Fabricator certified by glass manufacturer for type of glass, coating, and treatment
- involved and capable of providing specified warranty. AGC Glass North America, Inc: www.agcglass.com.
- Guardian Glass, LLC: www.guardianglass.com.
- Pilkington North America Inc: www.pilkington.com/na. Viracon, Apogee Enterprises, Inc: www.viracon.com.
- Old Castle Building Envelope, Architectural Glass: www.obe.com..
- B. Insulating Glass Units: Types as indicated.
- Durability: Certified by an independent testing agency to comply with ASTM E2190. 2. Coated Glass: Comply with requirements of ASTM C1376 for pyrolytic (hard-coat) or magnetic sputter vapor deposition (soft-coat) type coatings on flat glass; coated vision glass, Kind CV; coated overhead glass, Kind CO; or coated spandrel glass, Kind CS.
- 3. Metal Edge Spacers: Aluminum, bent and soldered corners.
- Spacer Color: Black. Edge Seal:
- a. Dual-Sealed System: Provide polyisobutylene sealant as primary seal applied between spacer and glass panes, and silicone, polysulfide, or polyurethane sealant
- as secondary seal applied around perimeter. 6. Color: Black. 7. Purge interpane space with dry air, hermetically sealed.
- C. Type GL-1 Insulating Glass Units: Vision glass, double glazed. Match existing glass units, verify in the field.
- Applications: Exterior glazing unless otherwise indicated.
- Space between lites filled with air. 3. Outboard Lite: Laminated, 1/4 inch thick, minimum.
- a. Tint: Clear. To match existing glass color and tint. b. Coating: Low-E (solar control type), on #2 surface. To match existing coating.
- 4. Inboard Lite: Laminated, 1/4 inch thick, minimum. a. Tint: Clear. To match existing glass color and tint.

#### 5. Total Thickness: 1 inch.

- 2.05 GLAZING COMPOUNDS A. Silicone Sealant: Single component; neutral curing; capable of water immersion without loss of properties; non-bleeding, non-staining; ASTM C920, Type S, Grade NS, Class 25, Uses M, A, and G; with cured Shore A hardness range of 15 to 25; black color.
- 2.06 ACCESSORIES A. Setting Blocks: Silicone, with 80 to 90 Shore A durometer hardness; ASTM C864 Option II. Length of 0.1 inch for each square foot of glazing or minimum 4 inch by width of glazing rabbet
- space minus 1/16 inch by height to suit glazing method and pane weight and area. B. Spacer Shims: Neoprene, 50 to 60 Shore A durometer hardness; ASTM C864 Option II.
- Minimum 3 inch long by one half the height of the glazing stop by thickness to suit application, self adhesive on one face.
- C. Glazing Tape, Back Bedding Mastic Type: Preformed, butyl-based, 100 percent solids compound with integral resilient spacer rod applicable to application indicated; 5 to 30 cured

Shore A durometer hardness; coiled on release paper; black color. **GLAZING** 08 80 00 - 02 1. Width: As required for application.

2. Thickness: As required for application.

Spacer Rod Diameter: As required for application. D. Glazing Splines: Resilient silicone extruded shape to suit glazing channel retaining slot; ASTM

C864 Option II; color black. PART 3 EXECUTION

#### 3.01 VERIFICATION OF CONDITIONS

- A. Verify that openings for glazing are correctly sized and within tolerances, including those for
- size, squareness, and offsets at corners. B. Verify that the minimum required face and edge clearances are being provided.
- C. Verify that surfaces of glazing channels or recesses are clean, free of obstructions that may impede moisture movement, weeps are clear, and support framing is ready to receive glazing
- D. Verify that sealing between joints of glass framing members has been completed effectively.
- E. Proceed with glazing system installation only after unsatisfactory conditions have been

#### 3.02 PREPARATION

- A. Clean contact surfaces with appropriate solvent and wipe dry within maximum of 24 hours before glazing. Remove coatings that are not tightly bonded to substrates.
- B. Seal porous glazing channels or recesses with substrate compatible primer or sealer. C. Prime surfaces scheduled to receive sealant where required for proper sealant adhesion.
- 3.03 INSTALLATION, GENERAL A. Install glazing sealants in accordance with ASTM C1193, GANA (SM), and manufacturer's
- B. Do not exceed edge pressures around perimeter of glass lites as stipulated by glass
- C. Set glass lites of system with uniform pattern, draw, bow, and similar characteristics.
- D. Set glass lites in proper orientation so that coatings face exterior or interior as indicated.
- A. Remove excess glazing materials from finish surfaces immediately after application using
- solvents or cleaners recommended by manufacturers. B. Remove non-permanent labels immediately after glazing installation is complete.
- Clean glass and adjacent surfaces after sealants are fully cured.
- D. Clean glass on both exposed surfaces not more than 4 days prior to Date of Substantial Completion in accordance with glass manufacturer's written recommendations. 3.05 PROTECTION
- A. After installation, mark pane with an 'X' by using removable plastic tape or paste; do not mark heat absorbing or reflective glass units.
- B. Remove and replace glass that is damaged during construction period prior to Date of Substantial Completion.

**END OF SECTION** 

**GLAZING** 08 80 00 - 04

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**AGENCY APPROVAL** 

REVISION SCHEDULE NO. REVISION NAME DATE:

**PROJECT INFORMATION** 

**BCC ENTRY DOOR REPLACEMENT** BERKELEY CITY COLLEGE 2050 CENTER ST, BERKELEY, CA 94704 FACILITY ADDRESS: UNIVERSITY PROJECT NUMBER: AUTHORITY HAVING JURISDICTION: DSA

ARCHITECT PROJECT NO: 5271.100

**GLAZING SPECIFICATIONS** 

DATE: 10/21/2021

A-604



# PCCD BCC DOOR REPLACEMENT

# FIRE ALARM SYSTEM

FIRE ALARM SYMBOL LEGEND

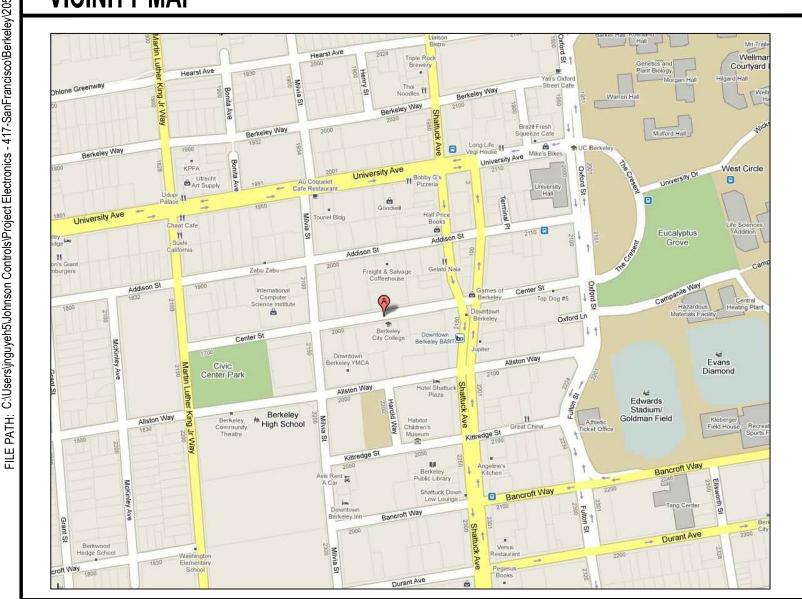
QTY SYMBOL DESCRIPTION

**MODULES AND RELAYS** 

**LEGENDS** 

**DRAWING INDEX** 

Sheet List Table	
Sheet Number	Sheet Title
FA-001	COVER SHEET
FA-002	SEQUENCE OF OPERATION
FA-101	DEVICE PLACEMENT PLAN - BASEMENT
FA-201	RISER DIAGRAM
FA-601	CALCULATIONS AND SCHEDULES
FA-701	WIRING TYPICALS



#### **GENERAL NOTES**

- THESE DRAWINGS DEPICT GENERAL LOCATIONS OF LIFE SAFETY EQUIPMENT & FIELD DEVICES. EXACT ROUTING OF CONDUITS IS TO BE DETERMINED IN THE FIELD BY THE INSTALLING CONTRACTOR TO SUIT CONDITIONS. ALL CHANGES SHALL BE CLEARLY INDICATED ON SHOULD ANY CONDITIONS EXIST THAT DIFFER FROM WHAT IS INDICATED ON THESE DRAWINGS WHICH CAUSE MAJOR DEVIATIONS IN
- THE WORK SHOWN, THE CONTRACTOR SHALL CONTACT JOHNSON CONTROLS IN A TIMELY MANNER SO AS NOT TO IMPAIR THE REQUIRED TO ACCOMMODATE THE RELOCATION OF EQUIPMENT AND/OR DEVICES WHICH ARE AFFECTED BY ANY AUTHORIZED CHANGE.
- A STAMPED SET OF APPROVED FIRE ALARM DRAWINGS SHALL BE AT THE JOB SITE AND SHALL BE USED FOR INSTALLATION. THE POWER CIRCUIT TO THE FACP AND TO THE FIRE ALARM POWER SUPPLIES SHALL BE ON A DEDICATED 120V, 20A BRANCH CIRCUIT BREAKER, AND SHALL HAVE A RED MARKING, LOCK-ON PROVISION AND SHALL BE IDENTIFIED AS "FIRE ALARM CIRCUIT CONTROL." THE LOCATION OF THE CIRCUIT DISCONNECT MEANS (CIRCUIT BREAKER) SHALL BE PERMANENTLY IDENTIFIED AT THE FIRE ALARM CONTROL
- 6. UPDATE THE AS-BUILT DRAWING SET DAILY WITH JOB PROGRESS. RETURN THE AS-BUILT DRAWING SET TO JOHNSON CONTROLS NO THE CONTRACTOR WILL MAINTAIN ALL AREAS OF THE BUILDING IN A NEAT AND WORKMANLIKE MANNER.
- DO NOT APPLY POWER EXCEPT IN THE PRESENCE OF A FACTORY TRAINED JOHNSON CONTROLS TECHNICAL REPRESENTATIVE. ANY SMOKE DETECTOR HEAD INSTALLED BEFORE THE BUILDING IS CLEANED AND ACCEPTED SHALL BE COVERED TO PROTECT FROM DUST. ANY FALSE ALARMS DUE TO DIRT CONTAMINATED HEADS SHALL BE THE RESPONSIBILITY OF THE FIRE ALARM INSTALLER.
- 10. THE FIRE ALARM INSTALLER WILL MAINTAIN THE FIRE RESISTANCE INTEGRITY OF ALL WALL, CEILING, AND ROOF ASSEMBLIES ANY TIME 11. INSTALLATION OF DEVICES SHALL BE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. POWER LIMITED AND NON-POWER LIMITED FIELD WIRING MUST BE INSTALLED WITHIN THE FACP ENCLOSURE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND
- APPLICABLE ELECTRICAL CODES. REFER TO 'APPLICABLE CODES & STANDARDS' FOR SPECIFIC CODE REFERENCES. 12. ALL WIRING SHALL BE INSTALLED ACCORDING TO APPLICABLE ELECTRICAL CODES. 13. FIRE ALARM CIRCUITS SHALL BE IDENTIFIED IN ACCORDANCE WITH APPLICABLE ELECTRICAL CODES. MARK ALL FIRE ALARM WIRES IN
- ACCORDANCE WITH APPLICABLE ELECTRICAL CODE SECTIONS FOR POWER LIMITED AND NON-POWER LIMITED WIRE. 14 FIRE ALARM CABLE INSTALLED IN DUCTS, PLENUM, AND OTHER SPACES USED FOR ENVIRONMENTAL AIR SHALL BE TYPE FPLP.
- 15. FIRE ALARM CABLE INSTALLED IN THE VERTICAL RUNS AND PENETRATING MORE THAN ONE FLOOR OR CABLES INSTALLED IN VERTICAL RUNS IN SHAFTS SHALL BE TYPE FPLR. 16. FIRE ALARM CABLE INSTALLED IN UNDERGROUND CONDUIT OR OTHER WET LOCATIONS SHALL BE UL LISTED FOR WET LOCATIONS.
- 17. FIRE ALARM CIRCUITS EXTENDING BEYOND ONE BUILDING AND RUN OUTDOORS SHALL BE INSTALLED IN ACCORDANCE APPLICABLE ELECTRICAL CODES, WHERE APPLICABLE. 18. ALL WIRING, INCLUDING SHIELDS MUST BE DRY AND FREE OF SHORTS AND GROUNDS.
- 19. ALL SHIELDED WIRE MUST HAVE SHIELD CONTINUITY AT FULL LENGTH OF THE WIRE.

ALL CHANGES SHALL BE CLEARLY INDICATED ON THE RECORD DRAWINGS.

- 20. ONLY SYSTEM WIRING CAN BE RUN IN THE SAME CONDUIT. 21. 120VAC IS NOT PERMITTED IN THE SAME CONDUIT WITH LOW VOLTAGE WIRING.
- 22. MAINTAIN MAXIMUM CONDUIT FILL RATIO AS PER APPLICABLE ELECTRICAL CODES REQUIREMENTS. 23. EXISTING CONDUITS MAY BE USED BY THE INSTALLATION CONTRACTOR AS DEEMED NECESSARY; HOWEVER, ANY EXISTING CONDUIT WILL BE USED ONLY IF CONDUITS MEET CURRENT STANDARDS AND CODES. JOHNSON CONTROLS MAKES NO STATEMENTS WRITTEN OR VERBAL AS TO THE CONDITION OF EXISTING CONDUITS.

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								PTAB TYP		
F	IRE ALARM \	WIRE LEG	SEND						*	
	CIRCUIT DESCRIPTION	CONSTRUCTION	GAUGE	CIRCUIT PROPERTIES	FPLR	FPLP	HH	TFFN	OUTDOOR	-
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	3/4"	0.213 SQ INCH	l*	1-1/2"		9.0	314 S	Q INC	CH*	
	1"	0.346 SQ INCH	<del> </del>  *	2"		1.3	342 S	Q INC	CH*	
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	GARY.HALE@JCI.COM PHONE: 925-273-1233	MANOHARA.G.K@JCI.COM PHONE: 804-199-0990
alifornia Fire Code, 2019 Edition, Title 24, Part 9	PHUNE: 925-213-1233	
alifornia Electric Code, 2019 Edition, Title 24, Part 3		<u>Drawings Reviewed By</u>
alifornia Elevator Safety Construction Code, 2019 Edition		DAVID ROUYA DAVID.ROUYA@JCI.COM PHONE: 925-273-1206
FPA 72, 2016 Edition with California Amendments		FIIUINE. 325-215-1200
BBREVIATIONS: SFM = CALIFORNIA STATE FIRE MARSHAL		
CCUPANCY TYPE(S):  BUSINESS GROUP  BUILDING IS FULLY SPRINKLED  A-3 ASSEMBLY GROUP		
SCOPE OF WORK	PROJECT DIRE	ECTORY
ODIFY EXISTING FIRE ALARM SYSTEM: REMOVE EXISTING RIAM AND REPLACE WITH NEW (2) RIAM AS SHOWN ON DRAWINGS.	Site	Johnson Controls District - 417
LL NEW WIRING TO BE CLASS B.  HE EXISTING FIRE ALARM SYSTEM SHALL NOT BE DISCONNECTED OR TAKEN OUT OF SERVICE WITHOUT WRITTEN PERMISSION FROM THE OWNER.  THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE OWNER THE TIMING OF ANY EXISTING FIRE ALARM SYSTEM DEMOLITION WORK.	PCCD BCC DOOR REPLACEMENT 2050 CENTER ST BERKELEY, CA, 94704	6952 PRESTON AVENUE, SUITE A LIVERMORE, CA 94551-9545 PHONE: 925-273-0100 FAX: 925-456-9087 SERVICE: 925-273-0100
	ELECTRICAL CONSULTING	<u>Owner</u>
	EDGE ELECTRICAL CONSULTING 300 27TH ST OAKLAND, CA, 94612	PERALTA COMM COLLEGE DISTRICT 333 E 8TH ST OAKLAND, CA, 94606
ABBREVIATIONS LEGEND	300 27TH ST	333 E 8TH ST OAKLAND, CA, 94606
AC = ABOVE CEILING  AFF = ABOVE FINISHED FLOOR  AHJ = AUTHORITY HAVING JURISDICTION  ALM = ALARM  ANN = ANNUNCIATOR  BMS = BUILDING MANAGEMENT SYSTEM  C = CEILING MOUNTED  CD = CANDELA RATING  DET = DETECTOR  DGP = DATA GATHERING PANEL  E = EXISTING TO REMOVE AND  EOL = REDOCATED  RC = STATUS COMMAND CENTER  E = CO = CHORD FLINE  E = EXISTING TO REMOVE AND COVER  BC = EXISTING TO REMOVE AND COVER  CR = EXISTING DEVICE TO BE RELOCATED  RC = RELOCATED DEVICE  RC = STATUS COMMAND CENTER  EPO = EMERGENCY POWER OFF  SLC = SIGNALING LINE CIRCUIT  SMK = SMOKE	DEVICE TAG LI  VISUAL CIR	333 E 8TH ST OAKLAND, CA, 94606
AC = ABOVE CEILING  AFF = ABOVE FINISHED FLOOR  AHJ = AUTHORITY HAVING JURISDICTION  ALM = ALARM  ANN = ANNUNCIATOR  BMS = BUILDING MANAGEMENT SYSTEM  C = CEILING MOUNTED  CD = CANDELA RATING  DET = DETECTOR  DGP = DATA GATHERING PANEL  E = EXISTING TO REMAIN  EOL = NOT IN CONTRACT  NPU = NETWORK PROCESSING UNIT  NTS = NOT TO SCALE  PAP = PRE-ACTION PANEL  RC = EXISTING TO REMOVE AND COVER  RD = EXISTING DEVICE TO BE RELOCATED  RL = RELOCATED DEVICE  RR = REMOVE EXISTING & REPLACE WITH NEW  SCC = STATUS COMMAND CENTER  EPO = EMERGENCY POWER OFF  SLC = SIGNALING LINE CIRCUIT	DEVICE TAG LI  VISUAL CIR	T4.6.2.16  PANEL LABEL  VISUAL DEVICES NUMBERING

JOHNSON CONTROLS CONTACTS

**APPLICABLE CODES & STANDARDS** 

IURISDICTIONS WITHIN THE STATE MAY HAVE AMENDMENTS TO THE STATE ADOPTED CODE. CHECK

WITH THE LOCAL JURISDICTION AUTHORITY FOR MORE DETAILS.

SS 🗹 FLS 🗹 ACS 🗹

HECKED BY: DR ISSUE DATE: 3/16/20 417434169 PROJECT #: 417:617452901 JOHNSON CONTROLS © 2021

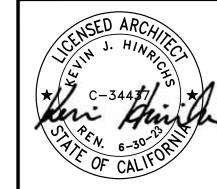
FIRE ALARM SYSTEM

**COVER SHEET** 

**FA-001** 

SYSTEM SEQUENCE OF OPERATIONS				IDENTIFICA DIV. OF THE ST
	ID	ATRIUM ZDNE DEVICE? X=YES  X X X X X X X X X X X X X X X X X X X	SUPERVISORY AT FACP  SUPERVISORY AT ANNUNCIATOR  SUPERVISORY AT ANNUNCIATOR  ALTERNATE ELECTRO-MAGNETIC DOOR HOLDERS  MAIN FLOOR ELEVATOR RECALL  ALTERNATE FLOOR ELEVATOR RECALL  ACTIVATE ATRIUM RELIEF FANS (RF) - DNF  ACTIVATE ATRIUM RELIEF FANS (RF) - DNF  ACTIVATE ATRIUM SUPPLY FANS (AC-1A,IB,IC) - DN ACTIVATE ATRIUM SUPPLY SMOKE DAMPERS (SD-1A) - CLOSE  X X X X X X X ACTIVATE ATRIUM SUPPLY SMOKE DAMPERS (SD-1A) - CLOSE  X X X X X X ACTIVATE ATRIUM SUPPLY SMOKE DAMPERS (SD-1A) - CLOSE  X X X X X X ACTIVATE ATRIUM SUPPLY SMOKE DAMPERS (SD-1A) - CLOSE  X X X X X X ACTIVATE ATRIUM SUPPLY SMOKE DAMPERS (SD-1A) - CLOSE  X X X X X X X ACTIVATE ATRIUM SUPPLY SMOKE DAMPERS (SD-1A) - CLOSE  X X X X X X X ACTIVATE ATRIUM ENTRY DOORS - OPEN  ACTIVATE ASSOCIATED SMOKE DAMPER  SHUTDOWN ASSOCIATED NON-LAB HVAC UNIT	APP: 01-119  REVIEW SS  DATE: 0
	S.D.   BASEMENT ELEV 3 LOBBY IN ATRIUM ID1-8	X X X X X X X X X X X X X X X X X X X		
	BASEMENT FSD GOS	X		ACEMENT
	2-0   S.D.   1FL ELEV 1   ID1-92	X		CCD BCC DOOR REPLA
	S.D.   FSD 114   ID1-137	X	X	Revisions shown with A surtboth Revisions Shown with A surtboth State of 11/19/2021
NEW SCOPE ————————————————————————————————————	D1-0   S.D.   1ST FSD 121   ID1-201	X		DRAWN B CHECKEE ISSUE DA JOB #: PROJECT JOH SYSTEM: FIRE
	29-0   T.S   GROUND PUMP ROOM TAMPER ID1-229		X	SHEET:  SEQU

**GENERAL NOTES:** IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT ALL CEILINGS ARE ASSUMED TO BE 10' A.F.F., SMOOTH CONSTRUCTION UN NOTED OTHERWISE.
 DO NOT CHANGE DEFAULT APPLIANCE CONFIGURATION SWITCH SETTINGS ADDRESSABLE AV DEVICES (CFIG1). REFER TO DEVICE DETAILS AND INSTALLATION INSTRUCTIONS FOR MORE INFORMATION. REVIEWED FOR SS 🗹 FLS 🗹 ACS 🗹 3. THE DEVICE ADDRESSES INDICATED ON THESE DRAWINGS ARE AN DATE ALPHANUMERIC DESCRIPTION OF WHICH CIRCUIT THE DEVICE IS LOCATED ON DEVICES MAY BE ASSIGNED A DIFFERENT NUMBER WITHIN THE PANEL PROGRAM. CONSULT WITH A JOHNSON CONTROLS TECHNICIAN BEFORE APPLYING A PHYSICAL LABEL TO ANY DEVICES. NOT IN CONTRACT NOT IN CONTRACT NOT IN CONTRACT -SCOPE OF WORK





PCCD BCC DOOR REPL

CHECKED BY: DR
ISSUE DATE: 3/16/20
JOB #: 417434169 PROJECT #: 417:617452901 JOHNSON CONTROLS © 2021

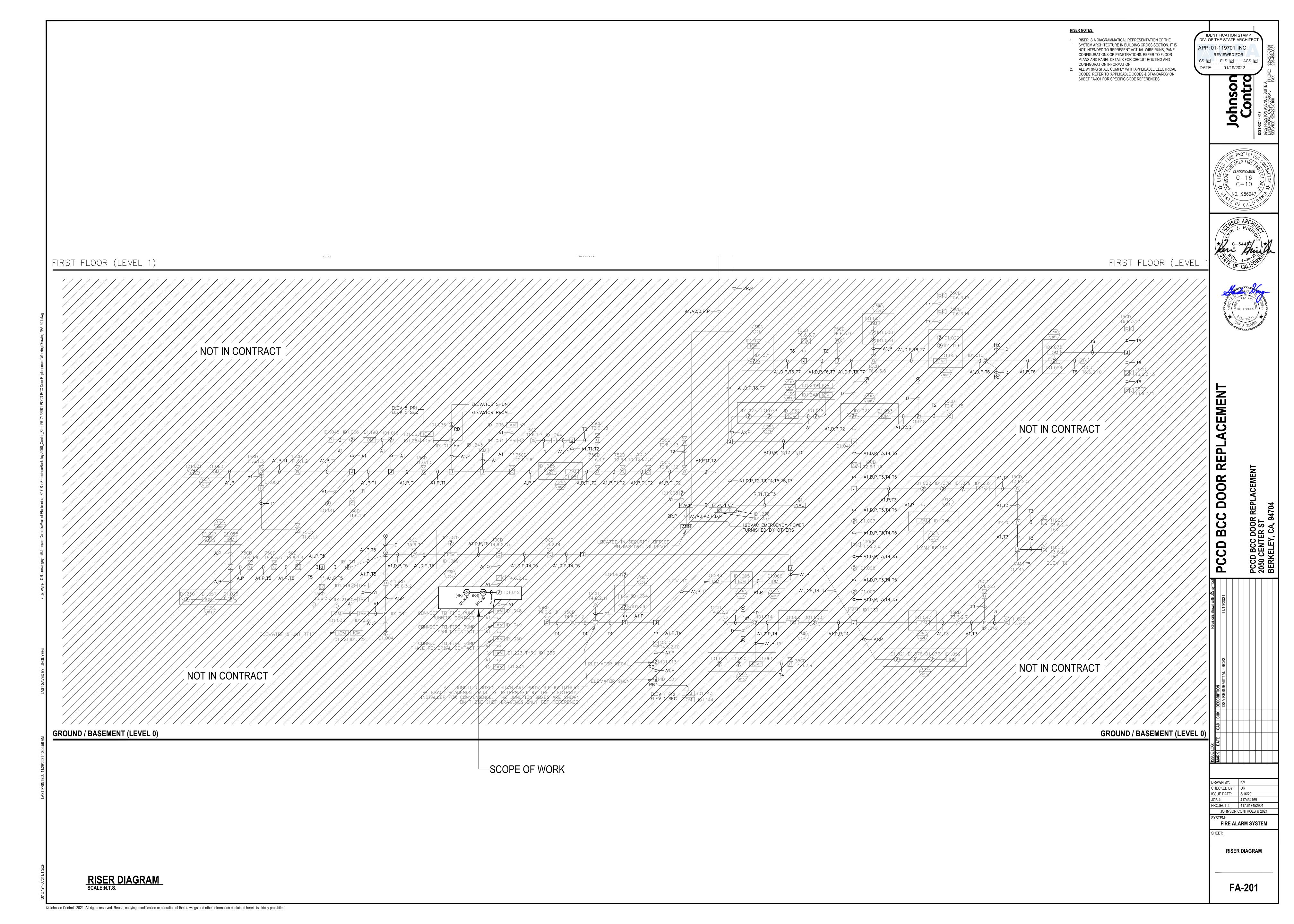
FIRE ALARM SYSTEM

DEVICE PLACEMENT PLAN -BASEMENT

FA-101

DEVICE PLACEMENT PLAN - BASEMENT
SCALE: 1/8" = 1'-0"

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DRAWN BY: KM

CHECKED BY: DR

ISSUE DATE: 3/16/20

JOB #: 417434169

PROJECT #: 417:617452901

JOHNSON CONTROLS © 2021

SYSTEM:

FIRE ALARM SYSTEM

**CALCULATIONS AND SCHEDULES** 

**FA-601** 

(E) 4100U FACP

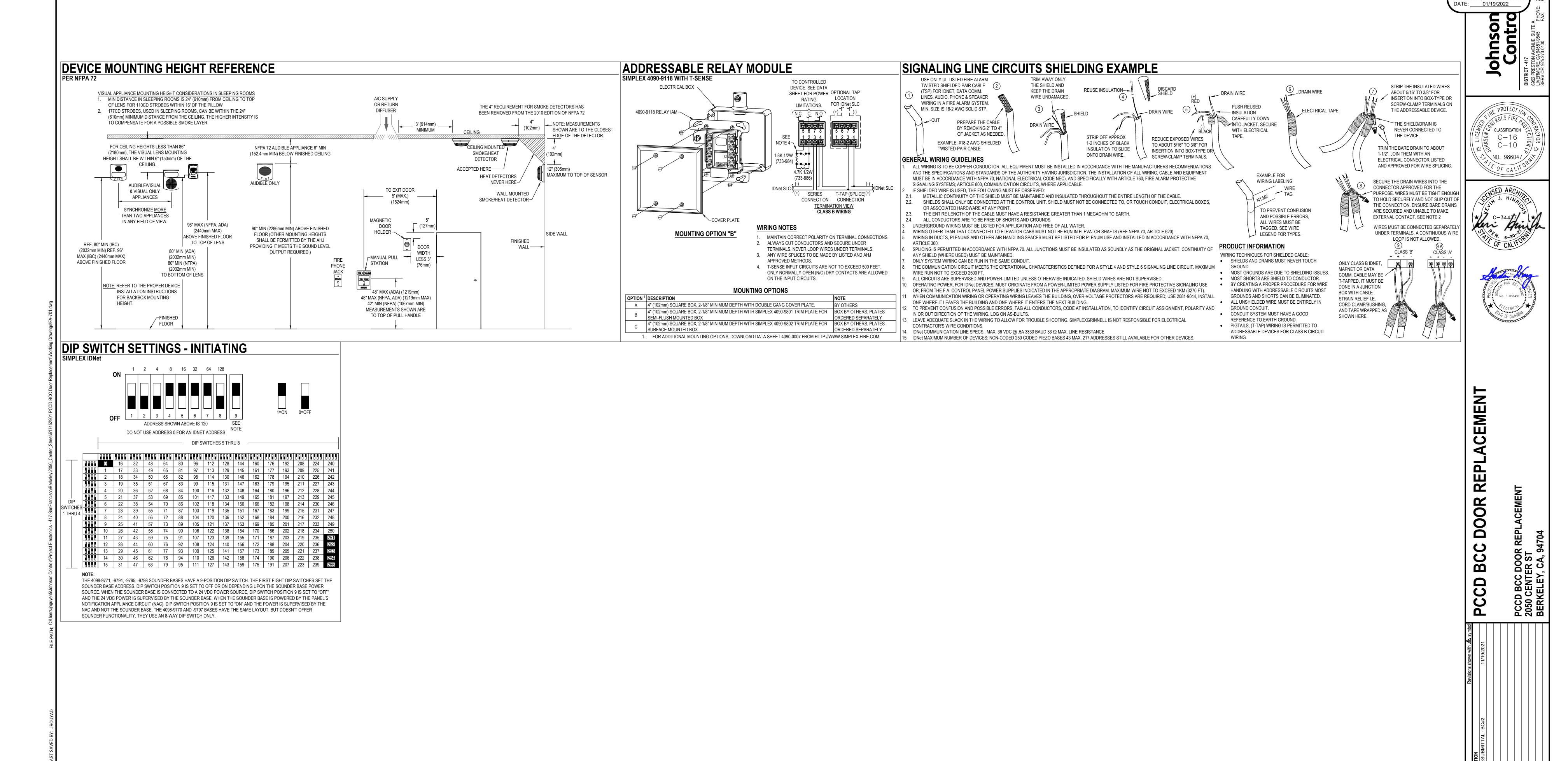
				Standby	Total	Alarm	Total
Modu	ıle Qty	Description		Current	Standby	Current	Alarm
Panel Equipn	nent						
4100-9	111 1	4100U CONFIG. DOMESTIC 120V		0.373000	0.373000	0.470	0.470
4100-3	101 2	IDNET MODULE, UP TO 250 POINTS	*	0.075000	0.150000	0.115	0.230
4100-3	202 1	4 RELAYS, 10 AMP CONTACTS		0.015000	0.015000	0.175	0.175
4100-6	014 1	NETWORK IF CARD, WIRED		0.046000	0.046000	0.046	0.046
4100-6	037 1	PHYSICAL BRIDGE, STYLE 7		0.300000	0.300000	0.300	0.300
4100-6	052 1	EVENT REPORTING DACT		0.030000	0.030000	0.040	0.040
4100-6	056 2	NETWORK MEDIA CARD WIRED		0.055000	0.110000	0.055	0.110
4100-6	060 1	SAFELINC FP INTERNET INTERFACE		0.115000	0.115000	0.115	0.115
	,			Total Panel Stby	1.139000	Total Panel Alarm	1.486
Peripheral De	evices						
4098-9	792 122	TRUEALARM SENSOR BASE	*	0.000000	0.000000	0.000	0.000
4098-9	791 4	TRUEALARM SENSOR BASE W/ RELAY DRIVER	*	0.000270	0.001080	0.004	0.016
2098-9	737 2	RELAY DPDT 3 AMP		0.000000	0.000000	0.024	0.048
4098-9	750 33	TRUEALARM PHOTO IN DUCT SMOKE SENSOR W/O RELAY	*	0.000000	0.000000	0.000	0.000
4098-9	756 6	TRUEALARM DUCT SMOKE SENSOR W/ RELAY OUTPUT	*	0.003000	0.018000	0.015	0.090
4099-9	0001 26	IDNET SINGLE ACTION PULL STATION	*	0.000000	0.000000	0.000	0.000
4090-9	0001 30	IDNET SUPERVISED IAM	*	0.000000	0.000000	0.000	0.000
4090-9	0002 4	IDNET RELAY IAM	*	0.000000	0.000000	0.000	0.000
117 (E) 4090-9	118 119	RELAY IDNET 2 IAM W/T SENSE	*	0.000000	0.000000	0.000	0.000
4090-9	120 11	4 POINT IDNET 2 I/O	*	0.030000	0.330000	0.030	0.330
4603-9	101 2	SERIAL LCD ANNUNCIATOR		0.030000	0.060000	0.170	0.340
				Total Periph Stby	0.4091	Total Periph Alarm	0.824
				Total Standby Amps	1.548	Total Alarm Amps	2.310

\* Additional Current Draw Included With Device Addresses Used (See additional current draws) 1. 2-wire detector alarm current is included in the alarm current of the Initiating Device Circuit.

			Standby		Alarm
Battery Set #1 (Cabinet/Charger #1)	Qty		Current		Current
Cabinet #1 Card Power			1.139	Backup Amplifier	1.486
Current Draw For 100 Watt Or 95 Watt Amplifiers		0	0.000	0	0.000
Current Draw For Flex 35 and 50 Watt Amplifiers		0	0.000		0.000
Power For External Peripheral Devices			0.40908		0.82400
			1.548	< Sub Totals>	2.310
Additional Current Draws					
RUI Connected Peripheral Devices		2	0.007		0.007
MAPNET/IDNet Device Addresses ordered / used	35	55 355.0	0.284		0.355
Spare addressable point capacity included for battery calc	0%	0	0.000		0.000
			1.839	<grand totals=""></grand>	2.672
Additional Battery Capacity Required	0%		0.000		0.000
Standby Time =	24	Hrs	44.138	Standby Ah	
Alarm Time =	5	Mins.	0.223	Alarm Ah	
_		Standby + Alarm =	44.361		
Minimum Battery Required per NFPA 72 2010	Р	W-PS12550U 55AH	53.233	20% Safety Margin Include	d
Battery Supplied	Р	W-PS12550U 55AH			

FOR DEVICE ADDRESS REFER FA-002 SEQUENCE OF OPERATION.

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DRAWN BY: KM

CHECKED BY: DR

ISSUE DATE: 3/16/20

JOB #: 417434169

PROJECT #: 417:617452901

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SYSTEM:

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITEC

APP: 01-119701 INC:

REVIEWED FOR

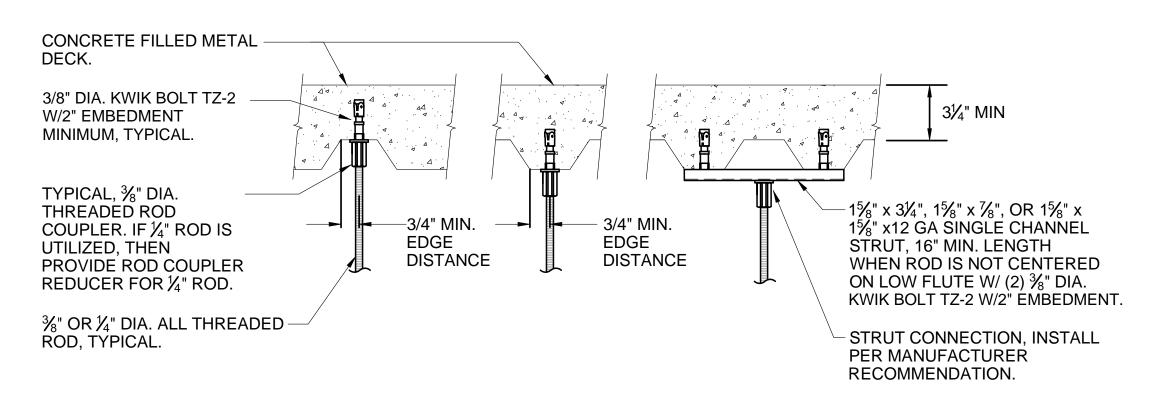
SS FLS ACS

FIRE ALARM SYSTEM

WIRING TYPICALS

FA-701

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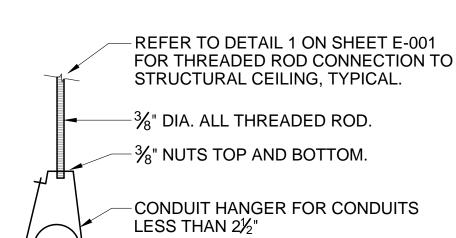
#### NOTES:

- VERIFY THAT CONCRETE OVER METAL DECK MUST COMPLY WITH ICC-ES ESR-4266. 2. UPON INSTALLATION OF FASTENER INTO CONCRETE FILLED METAL DECK, CONTRACTOR TO PATCH/REPAIR DAMAGE TO EXISTING. SPRAY APPLIED FIREPROOFING, AS REQUIRED, TO RESTORE ORIGINAL FIREPROOFING THICKNESS AND FIRE RATING.
- 3. ANCHOR MAY BE PLACED AT HIGH OR LOW FLUTE, CENTER ANCHOR IN FLUTE. 4. TORQUE TEST 50% OF EXPANSION ANCHORS TO 25FT-LBS.



NO SCALE

#### THREADED ROD TO CONC FILLED METAL DECK DETAIL 1



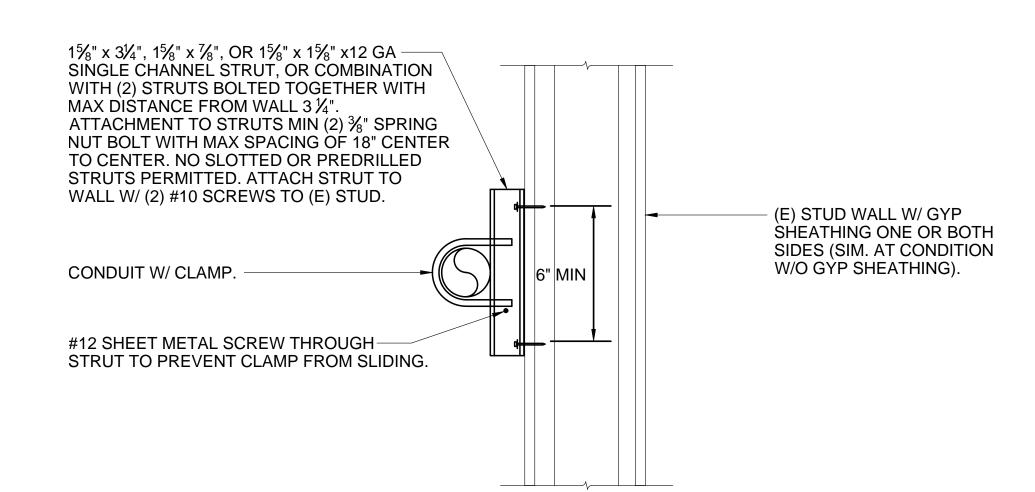
	RICAL METALLIC JBING (EMT)
TRADE SIZE	COMBINED WEIGHT (LBS/LINEAL FOOT)
1/2"	0.45
3/4"	0.72
1"	1.09
11/4"	1.73
1½"	2.14
2"	3.09

#### NOTES:

NO SCALE

1. SPACING BETWEEN HANGERS SHALL BE PER CEC REQUIREMENTS, NOT EXCEEDING 3 FEET OF EACH RACEWAY TERMINATION, MAXIMUM OF 10 FEET BETWEEN SUPPORTS.

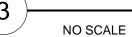
# CONDUIT SUPPORT DETAIL



#### NOTES:

1. FOR ¾" TO 2" CONDUIT, SUPPORTS @ 10'-0" OC MAX, MAX WEIGHT PER CONNECTION IS 20LBS. 2. FOR 3" CONDUIT, SUPPORTS @ 6'-0" OC MAX, MAX WEIGHT PER CONNECTION IS 50LBS. 3. FOR 4" CONDUIT, SUPPORTS @ 4'-0" OC MAX, MAX WEIGHT PER CONNECTION IS 55LBS.

#### CONDUIT TO WALL DETAIL



	STANDARD ELECTRICAL SYMBOLS						
SYMBOL	DESCRIPTION						
\$	1-POLE 1-PHASE MOTOR RATED DISCONNECT SWITCH.						
×	CONTROL AND/OR EQUIPMENT, PROVIDED UNDER ANOTHER DIVISION, PROVIDE POWER CONNECTION AS INDICATED.						
Ò	MOTOR, PROVIDED UNDER ANOTHER DIVISION, PROVIDE POWER CONNECTION AS INDICATED.						
(xx)	NUMBERED NOTE.						
x	EXISTING CONDUIT RUN TO BE ABANDONED. CONDUIT ABOVE THE FLOOR AND BELOW THE STRUCTURE ABOVE SHALL BE REMOVED. CONDUCTORS SHALL BE REMOVED.						
	BRANCH CIRCUIT WITHOUT FURTHER DESIGNATION INDICATES A 2 #12 AWG CIRCUIT WITH 1 #12 AWG GROUND.						
#10	BRANCH CIRCUIT RACEWAY WITH WIRE OTHER THAN #12 AWG. NUMBER ADJACENT TO STRAIGHT OR CURVED CROSS-LINES INDICATES WIRE SIZE. UNGROUNDED AND NEUTRAL CONDUCTORS SHALL BE THE SAME SIZE UNLESS OTHERWISE NOTED.						
#10	BRANCH CIRCUIT WITH GROUNDING WIRE LARGER THAN #12 AWG. NUMBER ADJACENT TO CURVED CROSS-LINE INDICATES WIRE SIZE.						
•	INDICATES RACEWAY TURNING DOWN.						

STANDARD ELECTRICAL SYMBOLS		ABBREV	'IATIC	NS
DESCRIPTION	1P, 2P, 3P	1 PHASE, 3 PHASE 1 POLE, 2 POLE, 3 POLE	MCA	MINIM
1-POLE 1-PHASE MOTOR RATED DISCONNECT SWITCH.	3W, 4W (D)	3 WIRE, 4 WIRE DEMO, DEMOLISH	MCB MCC	MAIN MOTO
CONTROL AND/OR EQUIPMENT, PROVIDED UNDER ANOTHER DIVISION, PROVIDE POWER CONNECTION AS INDICATED.	(E) (ER) (N) (R)	EXISTING EXISTING RELOCATED NEW RELOCATE	MLO MOCP MT	MAIN MAXIN PROT EMPT
MOTOR, PROVIDED UNDER ANOTHER DIVISION, PROVIDE POWER CONNECTION AS INDICATED.	A, AMPS	-A- AMPERES	NC	NORN
NUMBERED NOTE.	AC AF	ALTERNATING CURRENT FRAME RATING IN AMPERES	NCTC NEC	NURS NATIO
EXISTING CONDUIT RUN TO BE ABANDONED. CONDUIT ABOVE THE FLOOR AND BELOW THE STRUCTURE ABOVE SHALL BE REMOVED. CONDUCTORS SHALL BE REMOVED.	AFF AIC AL, ALUM ATS	ABOVE FINISHED FLOOR AMPERES INTERRUPTING CAPACITY	NEMA NIES NL	NATIO MANU NOT I SCOP NIGH
BRANCH CIRCUIT WITHOUT FURTHER DESIGNATION INDICATES A 2 #12 AWG CIRCUIT WITH 1 #12 AWG GROUND.	AT AWG	TRIP RATING IN AMPERES AMERICAN WIRE GAUGE	NO NTS	NORM NOT 1
BRANCH CIRCUIT RACEWAY WITH WIRE OTHER THAN #12 AWG. NUMBER ADJACENT TO STRAIGHT OR CURVED CROSS-LINES INDICATES WIRE SIZE. UNGROUNDED AND NEUTRAL CONDUCTORS SHALL BE THE SAME SIZE UNLESS OTHERWISE NOTED.	BTR C CB,C/B	-B- BUILDING TELECOM ROOM  -C- CONDUIT CIRCUIT BREAKER	OCP OFCI OFOI	OVER OWNE CONT OWNE
BRANCH CIRCUIT WITH GROUNDING WIRE LARGER THAN #12 AWG. NUMBER ADJACENT TO CURVED CROSS-LINE INDICATES WIRE SIZE.	CEC CT CU	CALIFORNIA ELECTRICAL CODE CURRENT TRANSFORMER COPPER	PT	POTE
INDICATES RACEWAY TURNING DOWN.		-D-	PVC	POLY
	DC EA	-E- EACH	RLA RSC	RUNN RIGID
	ELEC EMT	ELECTRICAL ELECTRICAL METALLIC TUBING	SPD	SURG

SHEET INDEX  SHEET DESCRIPTION  E-001 SYMBOLS LIST, ABBREVIATIONS, DETAIL  E-101 OVERALL GROUND AND FIRST FLOOR PLAN - ELECTRICAL  E-201 ENLARGED FIRST FLOOR PLAN - DEMOLITION AND NEW ELECTRICAL  C-301 ONE LINE DIAGRAM, PANEL SCHEDULES, DETAILS	LCP LTG	<b>-L-</b> LIGHTING CONTROL PANEL LIGHTING	XFMR XFER	-X- TRANSFORMER TRANSFER SWITCH	
E-001 SYMBOLS LIST, ABBREVIATIONS, DETAIL  E-101 OVERALL GROUND AND FIRST FLOOR PLAN - ELECTRICAL  E-201 ENLARGED FIRST FLOOR PLAN - DEMOLITION AND NEW ELECTRICAL  E-301 ONE LINE DIAGRAM, PANEL SCHEDULES, DETAILS		SHEET	INDE	X	_
E-101 OVERALL GROUND AND FIRST FLOOR PLAN - ELECTRICAL  E-201 ENLARGED FIRST FLOOR PLAN - DEMOLITION AND NEW ELECTRICAL  E-301 ONE LINE DIAGRAM, PANEL SCHEDULES, DETAILS	SHEET	DESCRIPTION			
	E-101 E-201	OVERALL GROUND AND FIRST F ENLARGED FIRST FLOOR PLAN -	LOOR PLAN	N AND NEW ELECTRICAL	D

SPST

UON

WP

FIRE ALARM

**FULL LOAD AMPS** 

FOOT OR FEET

INTERRUPTER

HAND-OFF-AUTO

HORSE POWER

JUNCTION BOX

GROUND

GAUGE

FIRE ALARM CONTROL PANEL

GROUND FAULT CIRCUIT

GROUND FAULT INTERRUPTER

ONE THOUSAND VOLT-AMPS

ONE THOUSAND WATTS

FIRE ALARM TERMINAL CABINET

FACP

FATC

FT

G, GND

J-BOX

KW

GFCI



MINIMUM CIRCUIT AMPACITY

MOTOR CONTROL CENTER

MAXIMUM OVER-CURRENT

EMPTY CONDUIT W/ PULL-LINE

NURSE CALL TERMINAL CABINET

MANUFACTURER ASSOCIATION NOT INCLUDED IN ELECTRICAL

OVER-CURRENT PROTECTION

CONTRACTOR INSTALLED

OWNER FURNISHED OWNER

POTENTIAL TRANSFORMER

SURGE PROTECTION DEVICE SINGLE POLE DOUBLE THROW

SINGLE POLE SINGLE THROW

TELECOM EQUIPMENT ROOM

UNLESS OTHERWISE NOTED

**VOLTS ALTERNATE CURRENT** 

UNINTERRUPTIBLE POWER

POLYVINYL CHLORIDE CONDUIT

NATIONAL ELECTRIC CODE

MAIN CIRCUIT BREAKER

MAIN LUGS ONLY

NORMALLY CLOSED

NATIONAL ELECTRICAL

PROTECTION

SCOPE

NIGHT LIGHT

INSTALLED

NOT TO SCALE

NORMALLY OPEN

OWNER FURNISHED

RUNNING LOAD AMP

SOLID STATE TRIP

TELECOM ROOM THERMAL MAGNETIC TERMINAL BACKBOARD

UNDERGROUND UNDERWRITERS LAB.

SUPPLY

VOLTS

WATTS

**VOLT-AMPS** 

WEATHERPROOF

RIGID STEEL CONDUIT

# **TAYLOR**

www.WeAreTaylor.com





1801 7th Street, Suite 150 Sacramento, CA 95811 Oakland, CA 94612 916.256.2460 510.775.3836

Project Number <u>G219</u> Contact <u>Miguel</u>

AGENCY APPROVAL

**REVISION SCHEDULE** 

NO. REVISION NAME

**PROJECT INFORMATION** 

**BCC ENTRY DOOR REPLACEMENT** 

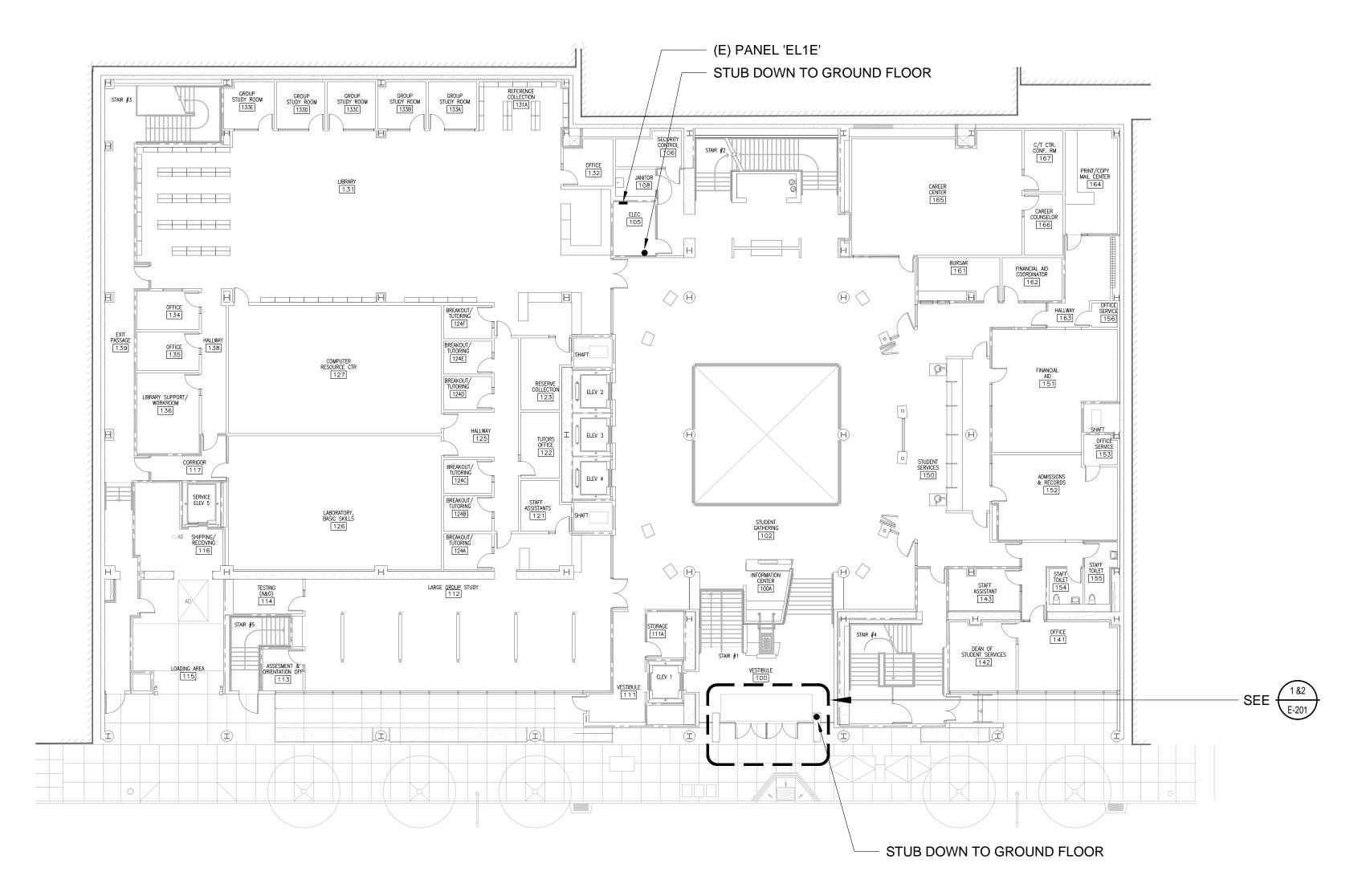
FACILITY NAME: BERKELEY CITY COLLEGE 2050 CENTER ST, BERKELEY, CA 94704 FACILITY ADDRESS: UNIVERSITY PROJECT NUMBER: AUTHORITY HAVING JURISDICTION: DSA ARCHITECT PROJECT NO: 5271.100

SHEET TITLE

DATE: 10/21/2021

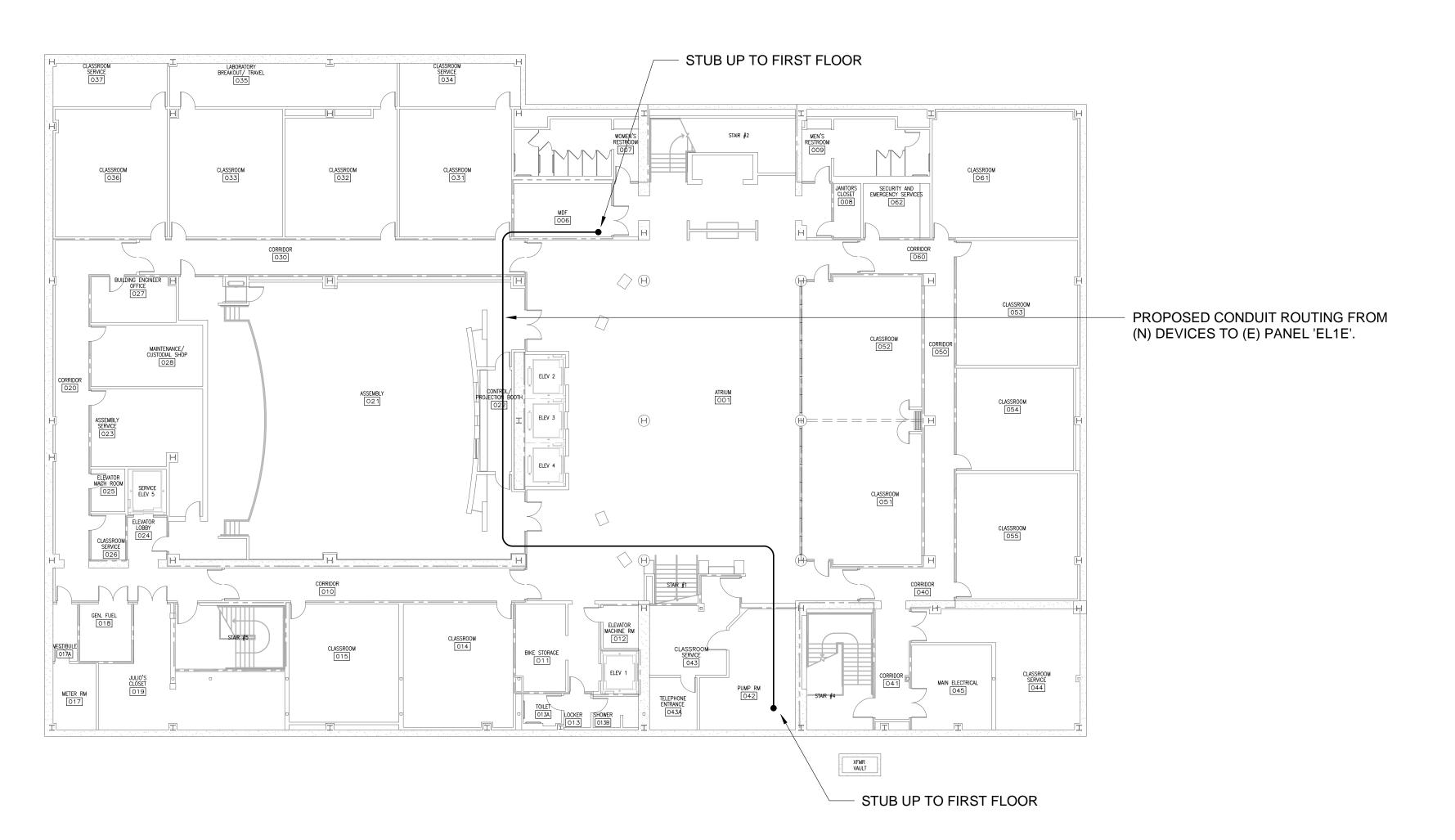
SYMBOLS LIST, ABBREVIATIONS, **DETAILS** 

E-001



OVERALL FIRST FLOOR PLAN - ELECTRICAL

SCALE: 1/16" = 1'-0"



OVERALL GROUND FLOOR PLAN - ELECTRICAL

**GENERAL NOTES** 

1. SEE SHEET E-201 FOR ADDITIONAL WORK.

2. CONTRACTOR SHALL USE THIS CONDUIT ROUTING AS A GUIDELINE ONLY. VERIFY CONDITIONS PRIOR TO INSTALLATION.

WHERE CONDUIT IS NOT CONCEALED ABOVE CEILING, CONTRACTOR SHALL PAINT CONDUIT TO MATCH (E) SURFACE.

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT

APP: 01-119701 INC:

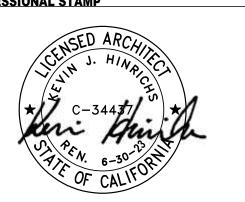
REVIEWED FOR

SS FLS ACS D

DATE: 01/19/2022

TAYLOR design

DESIGN PROFESSIONAL STAMP





Project Number <u>G219</u> Contact <u>Miguel</u>

AGENCY APPROVAL

REVISION SCHEDULE

NO. REVISION NAME DATE:

PROJECT INFORMATION
PCCD

BCC ENTRY DOOR REPLACEMENT

FACILITY NAME:

BERKELEY CITY COLLEGE

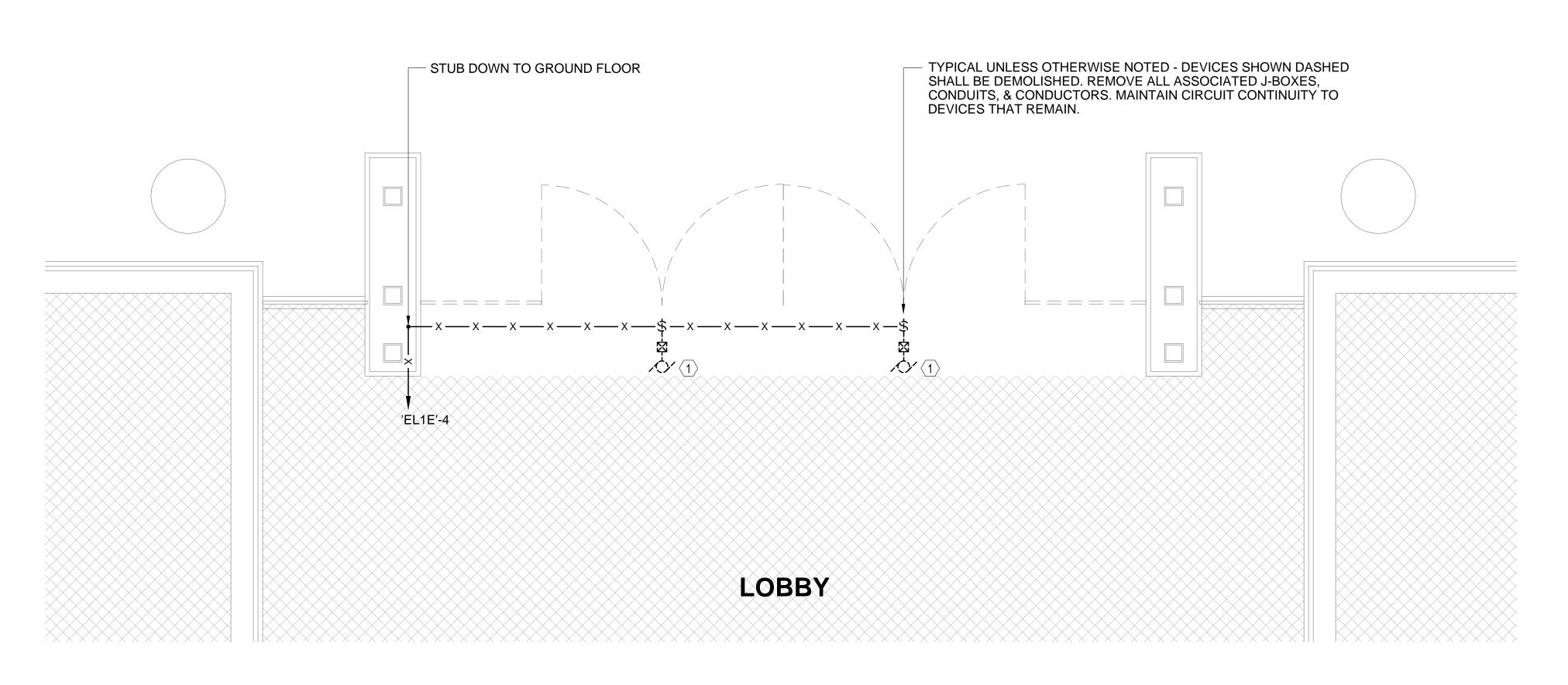
FACILITY ADDRESS: 2050 CENTER ST, BERKELEY, CA 94704
UNIVERSITY PROJECT NUMBER:
AUTHORITY HAVING JURISDICTION: DSA
ARCHITECT PROJECT NO: 5271.100

HEET TITLE DATE: 10/21/2021

OVERALL GROUND AND

FIRST FLOOR PLAN ELECTRICAL

E-101



**ENLARGED FIRST FLOOR - DEMOLITION ELECTRICAL** 

SCALE: 1/2" = 1'-0"

# STUB DOWN TO GROUND FLOOR #10 #10 LOBBY

ENLARGED FIRST FLOOR - NEW ELECTRICAL

## **GENERAL NOTES**

1. UNLESS OTHERWISE NOTED, ALL DEVICES ARE NEW.

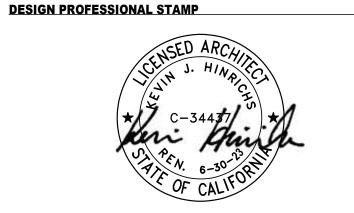
- CIRCUITING OF DEVICES HAS THE PANEL PREPARED TO DISAGGREGATE LOADS AS REQUIRED BY 2016 TITLE 24 PART 6, SECTION 130.5(b). CONTRACTOR SHALL NOT DEVIATE FROM INSTALLING DEVICES ON CIRCUITS SHOWN WITHOUT NOTIFICATION TO ENGINEER HOW COMPLIANCE WILL BE ACHIEVED.
- CIRCUITING OF DEVICES TAKES INTO ACCOUNT VOLTAGE DROP. ALL CIRCUITING SHOWN HAS A MAXIMUM 3% VOLTAGE DROP PER 2016 TITLE 24 PART 6, SECTION 130.5(c).
- 4. SEE SHEET E-101 FOR ADDITIONAL WORK.

#### NUMBERED NOTES

- (D) AUTODOOR OPENER, 0.50 KVA, 120V, 1PH.
- (N) AUTODOOR OPENER, 0.70 KVA, 120V, 1PH.
- (3) CONNECT TO (E) SPARE 20A/1P CIRCUIT BREAKER.

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITEC APP: 01-119701 INC: REVIEWED FOR SS 🗹 FLS 🗹 ACS 🗹

**TAYLOR** 





Project Number <u>G219</u> Contact <u>Miguel</u>

AGENCY APPROVAL

REVISION SCHEDULE NO. REVISION NAME

PROJECT INFORMATION PCCD

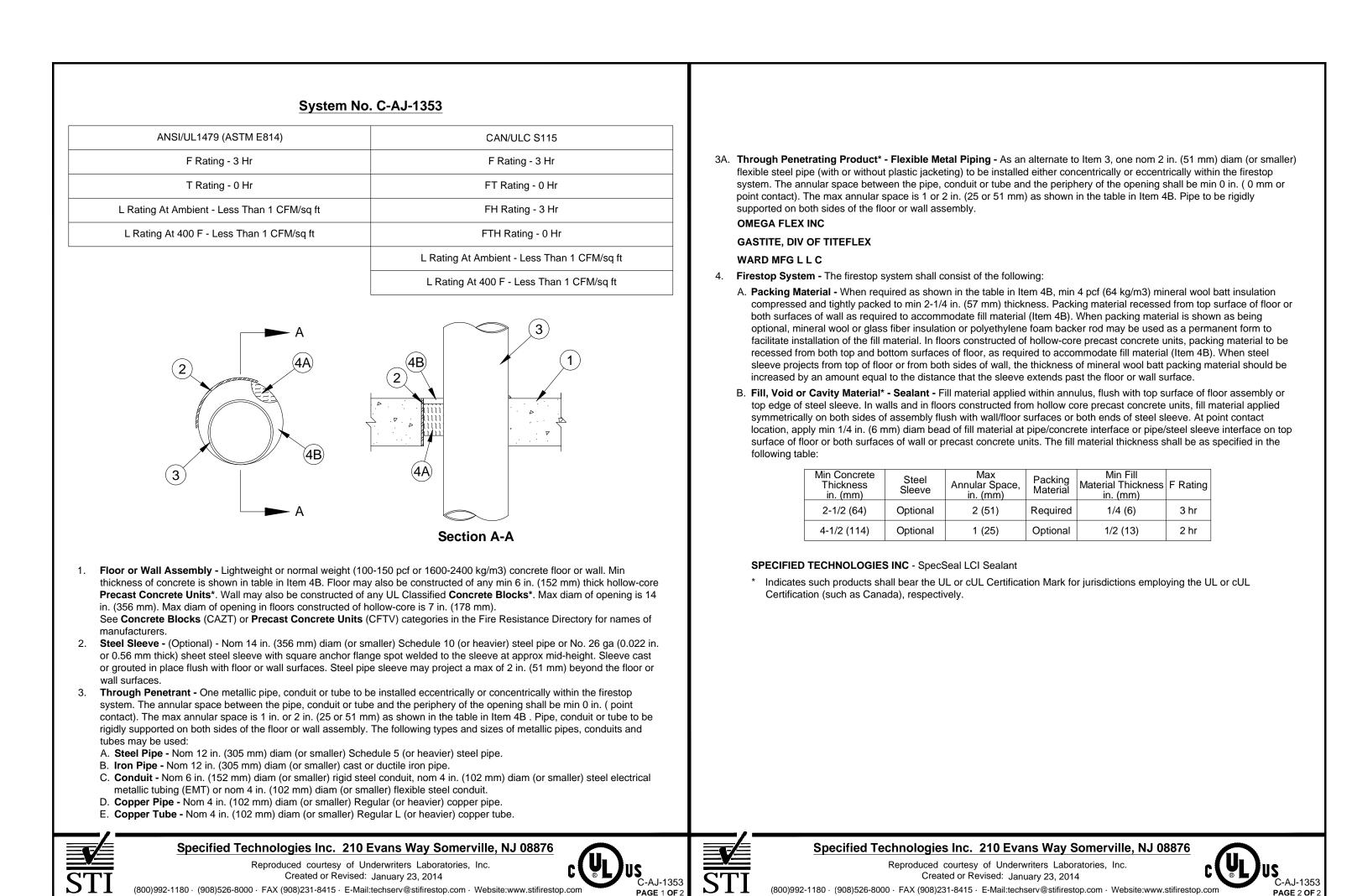
**BCC ENTRY DOOR REPLACEMENT** 

BERKELEY CITY COLLEGE 2050 CENTER ST, BERKELEY, CA 94704 FACILITY ADDRESS: UNIVERSITY PROJECT NUMBER: AUTHORITY HAVING JURISDICTION: DSA ARCHITECT PROJECT NO: 5271.100

DATE: 10/21/2021

**ENLARGED FIRST FLOOR** PLAN - DEMOLITION AND **NEW ELECTRICAL** 

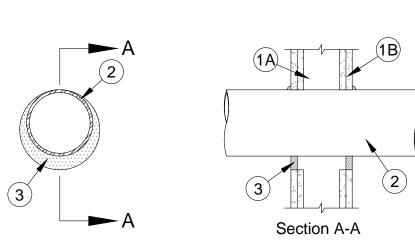
E-201



FIRE RATED FLOOR PENETRATION SYSTEM C-AJ-1353

#### System No. W-L-1049 ANSI/UL1479 (ASTM E814) CAN/ULC S115 F Ratings - 1 and 2 Hr (See Item 1) F Rating - 1 and 2 Hr (See Item 1) FT Rating - 0 Hr T Rating - 0 Hr L Rating At Ambient - Less Than 1 CFM/sq ft FH Rating - 1 and 2 Hr (See Item 1) L Rating At 400 F - Less Than 1 CFM/sq ft FTH Rating - 0 Hr L Rating At Ambient - Less Than 1 CFM/sq ft

L Rating At 400 F - Less Than 1 CFM/sq ft



- Wall Assembly The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Design in the UL Fire Resistance Directory and
- shall include the following construction features: A. Studs - Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-5/8 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) 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. (102 to 152 mm) wider and 4 to 6 in. (102 to 152 mm) higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. (51 to 76
- mm) clearance is present between the penetrating item and the framing on all four sides. B. Gypsum Board\* - 5/8 in. (16 mm) thick, 4 ft (1.22 m) 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 26 in. (660 mm) for steel stud walls. Max diam
- The hourly F and FH Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in 1A. Metallic Sleeve - (Optional, Not Shown) - Cylindrical sleeve fabricated from min 0.016 in. (0.41 mm) to max 0.105 in. (2.7 mm) thick sheet steel. Length of steel sleeve to be equal to the thickness of wall. Longitudinal seam of sleeve welded or

overlapped min 1 in. (25 mm). The ends of the steel sleeve shall be flush or recessed max 1/4 in. (6 mm) from wall surfaces.

Specified Technologies Inc. 2 10 Evans Way Somerville, NJ 08876

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(such as Canada), respectively.



PAGE 1 OF 2

FIRE RATED WALL PENETRATION SYSTEM W-L-1049

NO SCALE

Through Penetrant - One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. Pipe, conduit or tubing may be installed at an angle not greater than 45 degrees from perpendicular. The annular space between pipe, conduit or tubing and periphery of opening shall be min 0 in. (0 mm, point contact) to max 2 in. (51 mm). For maximum 16 in. (406 mm) diam (or smaller) pipes, annular space shall be min 0 in. (0 mm, point contact) to max 2 in. (51 mm). 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 36 in. (914 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe. B. Iron Pipe - Nom 36 in. (914 mm) diam (or smaller) cast or ductile iron pipe. C. Conduit - Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing, nom 6 in. (152 mm) diam (or smaller) steel conduit or nom 1 in. (25 mm) diam (or smaller) flexible steel conduit.

D. Copper Tubing - Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing. E. Copper Pipe - Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe. Fill, Void or Cavity Material\* - Sealant - Min 5/8 in. (16 mm) thickness of fill material applied within annulus, flush with both surfaces of wall. At the point contact location between through penetrant and gypsum board, a min 3/8 in. (10 mm) diam bead of fill material shall be applied at the gypsum board/through penetrant interface on both surfaces of wall. SPECIFIED TECHNOLOGIES INC - SpecSeal Series SSS Sealant or SpecSeal LCI Sealant

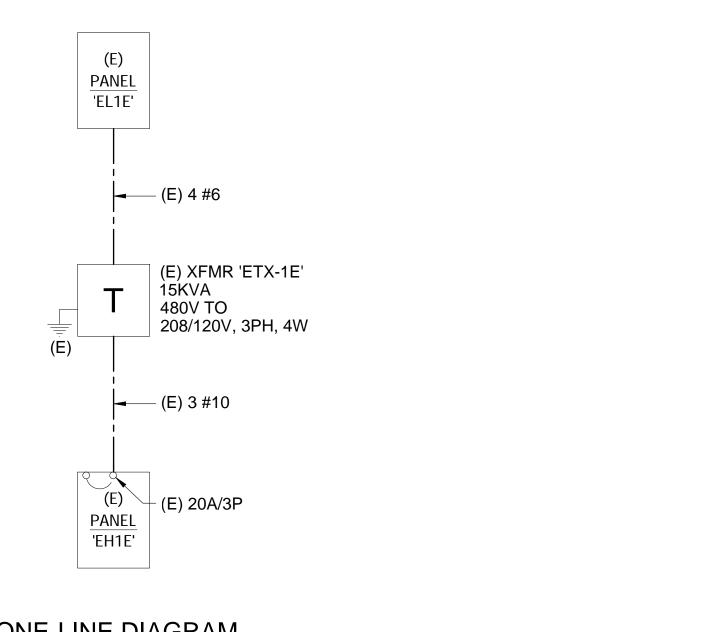
\* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification

(E) PANE	'F	I 1I	=•	SECT	ION	1	OF	1	1	BUS RATING: 125 AMP				THR	THREE PHASE VO				
				SERV	ING	EM	ERGE	NCY			MAIN BREAKER:					4-WIRE 208/		208/120Y	
LOCATION:	ELE	CTRM					FLUS	Н		X	MAIN LUGS ONLY								
PANEL A.I.C.	10	,000		MOUNTING:		Х	SURFACE		1		FED-1	ΓHRU	LUGS			1			
			KVA	LOAD		С	. B.	CKT	PH	СКТ	C.	В.		KVA	LOAD	<u> </u>			
LOAD DESCRIPTION		CONT.	RECP.	MOTOR	NON	AMP	POLE	#		#	POLE	POLE AMP		CONT. RECP. MOTO		NON	LOAI	DESCRIPTION	
(E) FIRE ALARM					0.40	20	1	1	Α	2	1	20	1.00				(E) LTG-ASSE	MBLY	
(E) FIRE ALARM					0.40	20	1	3	В	4	1	20			0.70		FRONT DOC	)R	
(E) EMCS-1					0.20	20	1	5	С	6	1	20			0.70		FRONT DOO	R	
(E) EMCS-2					0.20	20	1	7	Α	8	1	20				0.80	(E) FSD'S		
(E) FIRE ALARM					0.40	20	1	9	В	10	1	20				0.80	(E) FSD'S		
(E) EMCS-G					0.20	20	1	11	С	12	1	20				0.80	(E) FSD'S		
(E) EMCS-G1					0.20	20	1	13	Α	14	1	20				0.10	(E) FUEL OFF	PANEL	
(E) FIRE ALARM					0.40	20	1	15	В	16	1	30				1.50	(E) FUEL TRA	NSFER STATION	
(E) SPARE						20	1	17	С	18	1	20				0.20	(E) DIESEL PUMP ROOM		
(E) SPARE						20	1	19	Α	20	1	20					(E) SPARE	(E) SPARE	
(E) SPARE						20	1	21	В	22	1	20	20 0.10		0.10	(E) MAIN POWER CLOCK			
(E) SPARE						20	1	23	С	24	1 20			(E) SPARE					
(E) SPARE						20	1	25	Α	26	1	20					(E) SPARE		
(E) SPARE						20	1	27	В	28	1 20			(E) SPARE					
(E) SPARE						20	1	29	С	30	1	20					(E) SPARE		
(E) SPARE						20	1	31	Α	32	1	20					(E) SPARE		
(E) SPARE						20	1	33	В	34	1	20					(E) SPARE		
(E) SPARE						20	1	35	С	36	1	20					(E) SPARE		
(E) SPARE						20	1	37	Α	38	1	20					(E) SPARE		
(E) SPARE						20	1	39	В	40	1	20					(E) SPARE		
(E) SPARE						20	1	41	С	42	1	20					(E) SPARE		
TOTAL	S>	0.00	0.00	0.00	2.40		•		•	•			1.00	0.00	1.40	4.30	< TOTALS		
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·= = = ·		-	TOTAL/PHASE			2.70	4.30	2.10	0										

(E) PANEL	_	le"	CED	//N/C:		FDCF	NCV	†	$\vdash$	1225 A	NAD NA	A INI D D				4 WIDE	400/277\/
· /		SER	SERVING:		EMERGENCY		-	X	225-AMP MAIN BREAKER						4-WIRE	480/277Y	
LOCATION:	ELECT R	ECT ROOM		MOUNTING		FLUS				MAIN LUGS ONLY							
PANEL A.I.C.	14,00	0			Х	SURF	ACE			FED-1	THRU	LUGS					
LOAD DESCRIPTION		K۷	A LOAD		С	. B.	СКТ	PH	CKT	C.	B.		KVA L	.OAD		LOAD	DESCRIPTION
LOAD DESCRIPTION	CC	NT. REC	P. MOTO	R NON	AMP	POLE	#		#	POLE	AMP	CONT.	RECP.	MOTOR	NON	LOAL	DESCRIPTION
(E) LTG. GROUND FLR	3.	20			20	1	1	Α	2	1	20					(E) SPARE	
(E) LTG. 102 CONV	2.	80			20	1	3	В	4	1	20					(E) SPARE	
(E) LTG. STAIR #4	1.	79			20	1	5	С	6	1	20					(E) SPARE	
(E) LTG. STAIR #2,3	2.	21			20	1	7	Α	8	1	20					(E) SPARE	
(E) LTG. FIRST FLR	3.	00			20	1	9	В	10	1	20					(E) SPARE	
(E) LTG. SECOND FLR	3.	00			20	1	11	С	12	1	20					(E) SPARE	
(E) SPARE					20	1	13	Α	14	1	20					(E) SPARE	
(E) SPARE					20	1	15	В	16	1	20					(E) SPARE	
(E) SPARE					20	1	17	С	18	1	20					(E) SPARE	
(E) SPARE					20	1	19	Α	20	1	20					(E) SPARE	
(E) SPARE					20	1	21	В	22	1	20					(E) SPARE	
(E) SPARE					20	1	23	С	24	1 20			(E) SPARE				
(E) SPARE					20	1	25	Α	26	1	20					(E) SPARE	
(E) SPARE					20	1	27	В	28	1	20					(E) SPARE	
(E) SPARE					20	1	29	С	30	1	20					(E) SPARE	
(E) SPARE					20	1	31	Α	32	1	20					(E) SPARE	
(E) SPARE					20	1	33	В	34	1	20					(E) SPARE	
(E) SPARE					20	1	35	С	36	1	20					(E) SPARE	
	1.	0.0	0.00	1.70			37	Α	38	1	20					(E) SPARE	
(E) TRANSFORMER 'ETX-1E'	0.	0.0	0.70	3.60	20	3	39	В	40	1	20					(E) SPARE	
	0.	0.0	0.70	1.40			41	С	42	1	20					(E) SPARE	
TOTA	LS> 17	.00 0.0	1.40	6.70								0.00	0.00	0.00	0.00	< TOTALS	
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			-							I							
							A	В	l C							5 KVA	

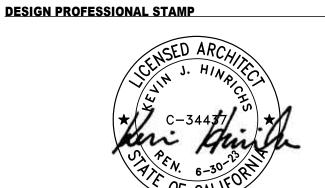
# PANEL SCHEDULE NOTES

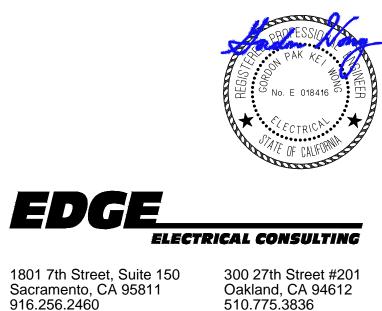
- 1. ALL CIRCUITS INDICATED "LIGHT" ON PANEL SCHEDULES ARE EXISTING TO REMAIN AND HAVE NOT BEEN MODIFIED AS PART OF THIS PROJECT.
- 2. ALL CIRCUITS INDICATED "BOLD" ON PANEL SCHEDULES HAVE BEEN MODIFIED, ALTERED, OR ADDED AS PART OF THIS PROJECT.
- 3. PROVIDE UPDATED 'TYPEWRITTEN' PANEL INDEX.
- 4. PROVIDE BLANK COVER PLATES OVER ANY EXPOSED CIRCUIT BREAKER SPACE THAT IS EXPOSED.
- 5. UPON OPENING EXISTING PANELS, TURN ANY CIRCUIT BREAKERS WITH NO CONDUCTORS OR NOT CONNECTED TO A LOAD INTO THE "OFF" POSITION AND UPDATE PANEL SCHEDULE.



**ONE-LINE DIAGRAM** 

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITEC APP: 01-119701 INC: REVIEWED FOR SS 🗹 FLS 🗹 ACS 🗹





Contact Miguel

AGENCY APPROVAL

REVISION SCHEDULE NO. REVISION NAME

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**PROJECT INFORMATION PCCD** 

BCC ENTRY DOOR REPLACEMENT FACILITY NAME: BERKELEY CITY COLLEGE FACILITY ADDRESS: 2050 CENTER ST, BERKELEY, CA 94704

UNIVERSITY PROJECT NUMBER: AUTHORITY HAVING JURISDICTION: DSA ARCHITECT PROJECT NO: 5271.100

DATE: 10/21/2021 SHEET TITLE

ONE LINE DIAGRAM, PANEL SCHEDULES, **DETAILS** 

SCALE: As indicated E-301

#### 1.01 CONDITIONS:

A. The Requirements of General Conditions and Special Conditions apply to Work of this Section as if fully repeated herein.

#### 1.02 WORK INCLUDED:

- A. Provide all labor, materials, tools, and equipment necessary for the complete in-place installation of all electrical and low voltage items complete as shown on drawings and as specified.
- B. Provide a complete working installation of all electrical and low voltage systems as shown of drawings or as specified.
- C. Complete new power distribution throughout project including circuit breaker, conduit, wire, pull boxes, junction boxes and miscellaneous materials.
- D. Electrical connections to equipment furnished and installed under other sections.
- Make electrical connections for equipment furnished as part of Work of other
- F. Include sealing and fireproofing of conduits, cable trays, cables etc.
- G. Electrical products are anchored and fastened to building elements and finishes as follows:
- 1. Concrete Structural Elements: Provide expansion anchors and powder actuated anchors.
- 2. Steel Structural Elements: Provide beam clamps and spring steel clips.
- 3. Sheet Metal: Provide sheet metal screws.
- 4. Wood Elements: Provide wood screws. Electrical components are identified as follows:
- 1. Nameplate for each electrical equipment enclosure
- 2. Label for identification of receptacles, light switches, and control device stations.
- 3. Wire marker for each conductor at panel boards' gutters, pull boxes, outlet and junction boxes, and each load connection.
- 4. Permanent ink felt tip marker on cover indicating panel and circuit for junction boxes located above suspended ceilings and below ceilings in non-public areas.

#### 1.03 SYSTEM DESCRIPTION:

A. Raceway and boxes located as indicated on Drawings, and at other locations required for splices, taps, wire pulling, equipment connections, and compliance with regulatory requirements. Raceway and boxes are shown in approximate locations unless dimensioned. Provide raceway to complete wiring system.

Conductor sizes are based on copper unless indicated as aluminum or "AL".

C. When aluminum conductor is substituted for copper conductor, size to match circuit requirements, terminations, conductor ampacity and voltage drop. Contractor shall be responsible for verifying maximum number of aluminum

conductors for substituted copper conductors in specified conduit.

- D. Product requirements: Provide products as follows:
- Solid conductor for feeders and branch circuits 10 AWG and smaller
- 2. Stranded conductors for control circuits.
- 3. Conductor not smaller than 12 AWG for power and lighting circuits. 4. Conductor not smaller than 16 AWG for control circuits
- 5. Increase wire size in branch circuits to limit voltage drop to a maximum of 3
- 6. 10 AWG conductors for 20 ampere or larger as designated on plans for 120
- volt branch circuit home runs longer than 75 feet. 7. 10 AWG conductors for 20 ampere or larger as designated on plans for 277
- volt branch circuit home runs longer than 200 feet.
- E. Wiring Methods: Provide the following wiring methods:
- 1. Concealed Dry Interior Locations: Use only building wire, Type THHN/THWN-2 insulation, in raceway.
- 2. Exposed Dry Interior Locations: Use only building wire, Type THHN/THWN-2 insulation, in raceway.
- 3. Above Accessible Ceilings: Use only building wire, Type THHN/THWN-2 insulation, in raceway.

#### 1.04 DEMOLITION:

- A. Removal of existing electrical equipment, wiring, and conduit in areas to be remodeled; removal of designated construction; dismantling, cutting and alterations for completion of the Work.
- Protect items to remain.
- 2. Relocate existing equipment to accommodate construction.
- 3. Conduct demolition to minimize interference with adjacent and occupied building areas.
- 4. Coordinate demolition work with other disciplines.
- 5. Coordinate and sequence demolition so as not to cause shutdown of operation of surrounding areas.
- 6. Shut-down Periods:
- a. Arrange timing of shut-down periods of in service panels with Owner. Do not shut down any utility without prior written approval.
- b. Keep shut-down period to minimum or use intermittent period as directed by Owner.
- c. Maintain life-safety systems in full operation in facilities, or provide notice minimum 72 hours in advance or as directed by Owner.

#### 1.05 QUALITY ASSURANCE:

- A. Requirements of Regulatory Agencies:
- 1. Nothing in the Contract Documents shall be construed to permit Work not conforming to applicable codes, laws, ordinances, rules or regulations. 2. All installed or connected equipment shall be labeled or certified for its use
- 3. All materials and equipment shall be installed in accordance with manufacturer's recommendations and in accordance with the National Electrical Contractors Association (NECA) Standard of Installation.

by a nationally recognized testing laboratory.

#### 1.06 SUBMITTALS:

- A. Submit product data, shop drawings, manufacturer's installation instructions for all electrical equipment and materials in accordance with General Conditions.
- B. All submittals shall be reviewed by the Contractor and stamped with his approval prior to submitting to the Architect. Contractor shall indicate in writing any deviation in submittals from requirement of Contract Documents.
- C. Forward all submittals to the Architect, together, at one time. Individual or incomplete submittals will not be acceptable. Only one request for substitution will be considered on each item of materials or equipment.
- 1.07 DRAWINGS AND COORDINATION WITH OTHER WORK:
- A. Drawings
  - 1. For purposes of clarity and legibility, Drawings are essentially diagrammatic to the extent that many offsets, bends, special fittings, and the exact locations of items are not shown, unless specifically dimensioned.

- 2. Exact routing of wiring and locations of outlets, panels, and other items, shall 2.05 ELECTRICAL METALLIC TUBING: be governed by structural conditions, and materials and equipment already in place. Use data in the Contract Documents. In addition, the Architect reserves the right, at no increase in Contract Sum, to make any reasonable change in locations of exposed electrical items, to group them into orderly relationship and/or increase their utility. Verify the Architect's requirements in this regard prior to roughing-in.
- 3. Dimensions, locations of doors, partitions and similar physical features shall be taken from Architectural Drawings, and verified at the site as part of the Work of this Division. Consult the Architectural Drawings for exact location of outlets to center with architectural features, panels, and similar items, at the approximate locations shown on the Electrical Drawings.
- 4. Drawings indicate, generally, routes of all branch circuits. All runs to panels are indicated as starting from nearest outlet, pointing to direction of panel. Continue all such circuits, conduits to panel as though routes were indicated in their entirety.

#### B. Coordination:

- 1. Work out all "tight" conditions involving Work of this Division and Work of other Divisions in advance of installation. Provide additional Work necessary to overcome "tight" conditions, at no increase in Contract Sum.
- 2. Differences of disputes concerning coordination, interference or extent of Work between Divisions shall be decided by Contractor. His decision, if consistent with Contract Document requirements, shall be final.
- 4. Provide templates, information and instructions for Work of other Divisions to

3. Coordinate electrical interface of mechanical equipment with Mechanical and

properly locate holes and openings to be cut or provided for Electrical Work. 5. Make every effort to keep existing electrical circuits, including telephone, public address, fire alarm, power, and other electrical services, in operation. Where power outages are unavoidable, schedule such outages with the

#### C. Equipment Rough-In:

facility functions.

1. Rough-in locations shown on Electrical Drawings for equipment furnished by the Owner and for equipment furnished under other Divisions are approximate only. Obtain exact rough-in locations from the following sources:

Owner to occur at such times as to cause the least disruption of normal

- a. From Shop Drawings for Contractor-furnished and installed equipment. 3.01 GENERAL:
- From the Architect for Owner-furnished, Contractor-installed equipment.
- c. From the Architect for existing equipment where such equipment is relocated as part of the Work of this Contract.
- Verify electrical characteristics of equipment before starting rough-in.
- 3. Unless otherwise shown or specified, equipment which requires electrical connection shall be installed as part of the Work of the Division in which specified. Internal components shall be wired to a single point with wiring in raceway direct connection (hardwired) to building electrical system or internal wiring and connections with cord and plug for receptacle connection to building wiring.
- 4. Unless otherwise shown or specified, provide direct raceway and conductor connections from building wiring system to equipment terminals for direct-connected equipment terminals for direct-connected equipment which is Contractor-furnished and Contractor-installed, Owner-furnished and Contractor-installed, and for existing equipment relocated by the Contractor.
- 5. Provide disconnect switches, flush type in finished spaces, where shown or 3.03 EQUIPMENT INSTALLATION: required by Codes for direct-connected equipment.

#### 1.08 PROJECT RECORD DOCUMENTS:

- A. Upon completion of Work, furnish Architect with complete sets of reproducible plans upon which shall be shown all Work installed under Contract which are not in accordance with Drawings.
- B. All symbols and designations used in preparing Record Drawings shall match those used in Contract Drawings.
- C. Maintain an up to date set of electrical drawings while construction.

#### 1.09 SITE EXAMINATION AND CONDITIONS:

- Examine site; verify dimensions and locations against drawings and become informed of all conditions under which work is to be done before submitting proposal. No allowance will be made for extra expenses because of omission on Contractor's part to include cost of work under prevailing conditions.
- Information shown relative to services is based upon available records and data shall be regarded as approximate only. Minor deviations found necessary to conform with actual locations and conditions shall be made without extra cost.

#### 1.10 INSPECTIONS:

- A. Arrange for required inspections and secure approvals from authorities having
- B. During its progress, work shall be subject to inspection by the Inspector of Record. 1.11 GUARANTEE:
- A. Provide one-year guarantee. Repair or replace as may be necessary any defective work, material or part with no increase in Contract Sum including repair or replacement of other Work, furnishing, equipment or premises caused by such repair or replacement of defective work.

#### PART 2 **PRODUCTS**

- 2.01 DESIGN REQUIREMENTS:
  - A. Minimum Raceway Size: 1. 0.75 inch.
- 2. 1 inch for homeruns. 2.02 BUILDING WIRE:
- A. Product Description: Single conductor insulated wire
- B. Conductor: Copper.
- C. Insulation Voltage Rating: 600 volts.
- D. Insulation Temperature Rating: 90 degrees C.

#### E. Insulation Material: Thermoplastic. 2.03 WIRING CONNECTORS:

- A. Bolted pressure connectors: Cast bronze compression bolts designed for parallel taps, tees, crosses or end-to-end connections.
- B. Insulated spring wire connectors: Multi-part construction incorporating a steel spring enclosed with a color coded outer thermoplastic shell.

#### 2.04 FLEXIBLE METAL CONDUIT:

- Product Description: Interlocked steel construction.
- B. Fittings: NEMA FB 1.

- A. Product Description: ANSI C80.3; galvanized tubing.
- B. Fittings and Conduit Bodies: NEMA FB 1; steel couplings and connectors. Box connectors shall have with insulated throat. Set screw type couplings.

3.09 DEMOLITION:

disturbing existing installation.

C. Remove abandoned wiring to source of supply.

equipment that has been removed.

hangers, and other accessories.

extension work.

with new installation.

during construction.

extension work.

3.10 INSTALLATION - CONDUCTORS:

flush with walls and floors.

W. Cap abandoned empty conduit at both ends.

A. Route wire and cable to meet Project conditions.

D. Special Techniques--Building Wire in Raceway:

E. Special Techniques - Wiring Connections:

1. Pull conductors into raceway at same time.

with no perceptible temperature rise.

percent of insulation rating of conductor.

with no perceptible temperature rise.

percent of insulation rating of conductor.

connected device, such as circuit breakers.

conductor splices and taps, 8 AWG and smaller.

conductor splices and taps, 10 AWG and smaller

and larger.

screws.

cover for abandoned outlets which are not removed.

installation or provide access panel as appropriate.

Installations shall be concealed in finished areas.

wiring which are not part of final project.

conduit meets the support requirements.

Demolition Drawings are based on casual field observation and/or existing record

documents. Report discrepancies to Owner and Architect/Engineer before

B. Remove, relocate, and extend existing installations as necessary, to

compatible with existing electrical installations, or as specified.

accommodate new construction and to meet all requirements of these

specifications. Extend existing installations using materials and methods

D. Remove exposed abandoned conduit and abandoned conduit above accessible

not scheduled for removal, they shall be shown on the "As Built Drawings".

Disconnect and remove electrical devices and equipment serving utilization

H. Provide revised typed circuit directory in panelboards that have circuits removed.

Maintain access to existing electrical installations which remain active. Modify

Repair adjacent construction and finishes damaged during demolition and

K. Provide supplemental support for conduits that are routed through demolition

L. Remove conduit, wire, boxes, and fastening devices to avoid any interference

N. Remaining Circuits and Equipment: Reinstall existing electrical installations

O. Reconnect equipment being disturbed by renovation work and required for

P. Disconnect or shut off service to areas where electrical work is to be removed.

Q. Install temporary wiring and connections to maintain existing systems in service

R. Remove, relocate, and extend existing installations to accommodate new

S. Repair adjacent construction and finishes damaged during demolition and

T. Remove exposed abandoned grounding and bonding components, fasteners and

components above accessible ceiling finishes. Cut embedded support elements

supports, and electrical identification components, including abandoned

U. Clean and repair existing equipment to remain and/or to be reinstalled.

B. Neatly train and lace wiring inside boxes, equipment, and panelboards.

conductor with its circuit number or other designation indicated.

2. Install building wire 4 AWG and larger with pulling equipment

1. Clean conductor surfaces before installing lugs and connectors.

4. Clean conductor surfaces before installing lugs and connectors.

2. Make splices, taps, and terminations to carry full ampacity of conductors

3. Tape uninsulated conductors and connectors with electrical tape to 150

5. Make splices, taps, and terminations to carry full ampacity of conductors

6. Tape uninsulated conductors and connectors with electrical tape to 150

7. Install split bolt connectors for copper conductor splices and taps, 6 AWG

Install stranded conductors for branch circuits. Install crimp on fork terminals for

device terminations. Do not place bare stranded conductors directly under

H. Size lugs in accordance with manufacturer's recommendations terminating wire

sizes. Install 2-hole type lugs to connect wires 4 AWG and larger to copper bus

For terminal lugs fastened together such as on motors, transformers, and other

apparatus, or when space between studs is small enough that lugs can turn and

touch each other, insulate for dielectric strength of 2-1/2 times normal potential of

G. Install terminal lugs on ends of 600-volt wires unless lugs are furnished on

8. Install solderless pressure connectors with insulating covers for copper

9. Install insulated spring wire connectors with plastic caps for copper

C. Identify and color code wire and cable under wire color section. Identify each

V. Protect and retain power to existing active equipment remaining.

area, and are to remain. Supplemental support shall be added so that the

M. Disconnect electrical systems in walls, floors, and ceilings scheduled for removal.

or floors that are to be removed and are essential for the operation of other

original circuits, raceways, equipment and outlets to retain service continuity.

disturbed. Certain existing electrical installations may be located in walls, ceilings

remaining installations. Where this condition occurs provide a new extension of

continue service to panel as indicated on drawings or to nearest available panel.

Remove electrical fixtures, equipment, and related switches, outlets, conduit and

G. Disconnect and remove abandoned luminaires. Remove brackets, stems,

ceiling finishes, unless noted otherwise on drawings. Cut conduit flush with walls

and floors, and patch surfaces. If certain conduits and boxes are abandoned but

Disconnect abandoned outlets and remove devices. Remove abandoned outlets

if conduit and wiring servicing them is abandoned and removed. Provide blank

#### 2.06 OUTLET BOXES:

- A. Sheet Metal Outlet Boxes: NEMA OS 1, galvanized steel. 1. Luminaire and Equipment Supporting Boxes: Rated for weight of equipment supported; furnish 0.50-inch male fixture studs where required.
  - Boxes for shall be 1.5-inch deep by 4-inch square minimum.
  - Boxes for telecommunications outlets shall be 2-1/8-inch deep by 4-11/16-inch square minimum. Provide 1-gang device ring.

2.07 FLASH PROTECTION:

A. Electrical equipment including switchboards, panelboards, disconnect switches, etc. which are likely to require examination, adjustment or servicing while energized shall be field marked to warn of potential electric arch flash hazards per CEC Article 110.16. Marking shall be a pre-printed label which references NFPA 70E.

#### 2.08 NAMEPLATES:

- B. Product Description: Laminated three-layer plastic with engraved letters on contrasting background color.
- C. Letter Size:
- 1. 0.125-inch high letters for identifying individual equipment and loads.
- 2. 0.50-inch high letters for identifying grouped equipment and loads.

#### D. Minimum nameplate thickness: 0.125-inch. 2.09 LABELS:

A. Labels: Thermal transfer laminated adhesive tape with 0.125-inch black letters on clear tape cartridge.

#### **EXECUTION**

- Manufacturer's Directions: Follow manufacturer's directions where manufacturers of articles used furnish directions covering points not specified or shown.
- B. All Work shall be done in orderly, workmanlike manner and present neat appearing installation when completed.

#### 3.02 DRAWINGS AND COORDINATION:

- A. Examine Drawings and Site; be familiar with types of construction where electrical
- installation is involved. 1. Work shall be neatly installed in a workmanlike manner in accordance with NECA Standard of Installation. Work shall be coordinated with other trades to avoid conflicts. Clarifications will be made by Engineer and minor
- B. Layouts of equipment, accessories and wiring systems are diagrammatic (not pictorial), but shall be followed as closely as possible. Drawings and Specifications are for assistance and guidance, and exact locations, distances levels, etc., will be governed by Site.

adjustments shall be made without additional cost to Owner.

- A. Provide metal backing plates, anchor plates, and similar items that are required for anchorage for the Work of this Section; securely weld or bolt to metal framing. Wood blocking or backing will not be permitted in combination with metal framing.
- Equipment: Accurately set and level, neatly place support and anchor properly. Anchorage shall conform to the requirements of California Building Code. No allowance will be made for negligence to foresee means of placing, installing or supporting equipment in position.

#### 3.04 WORKING SPACE:

- A. Provide adequate working space around electrical equipment in compliance with Article 4 of Electrical Safety Orders. In general, provide 36-inches minimum clear work space in front of panelboards and controls for 120/208-volt systems and 48-inches minimum clear work space in front of panelboards and controls for
- 277/480-volt systems. 3.05 PROTECTION:
  - A. In performance of work, protect work from damage. Protect electrical equipment stored and installed, from dust, water or other damage.
- 3.06 INSTALLATION OF BRANCH CIRCUITS:
  - A. Single pole circuit breakers serving a multi-wire branch circuit shall be provided with an identified handle tie.

  - B. Emergency power circuits shall have dedicated neutrals.

section) and all special panels and consoles

coverplates to identify panel and circuit number.

C. Dedicated branch circuits shall have dedicated neutrals. D. Accomplish grounding of electrical system by using insulated grounding conductor installed with feeders and branch circuit conductors in conduits. Install from grounding bus of serving panel to ground bus of served panel, grounding screw of receptacles, lighting fixture housing, light switch outlet boxes or metal enclosures of service equipment. Ground conduits by means of grounding bushings on terminations at panelboards with installed number 12 AWG copper conductor to grounding bus.

## 3.07 EQUIPMENT IDENTIFICATION:

- Provide screwed-on engraved nameplates of black lamicoid with 0.75-inch high white lettering for main switchboards (including each breaker and switch), all panelboards, transformers, all relays, timers, terminal cabinets (including each
- Provide identifying numbers for each breaker in all panelboards in a permanently attached (not pasted on) directory with plexiglass cover with typewritten identification of each circuit.
- C. Provide screwed-on engraved nameplates of black lamicoid with white 0.5-inch
- high lettering, identifying function, for all disconnect switches and starters. D. Provide labels at each end of each pull cord for all empty conduits/raceways.
- E. Indicate type of equipment, equipment designation and origination, ex. "PANEL-XXX fed from SWITCHBOARD-XXX", PANEL-XXX fed from TRANSFORMER-XXX", etc.

F. Provide 0.25-inch high white lettering labels for all switch and receptacles

#### circuit. 3.11 WIRE COLOR:

- A. General: 1. For wire sizes 10 AWG and smaller, install wire colors in accordance with
- a. Black, red, and blue for circuits at 120/208 volts single or three phase 2. For wire sizes 8 AWG and larger, identify wire with colored tape at terminals. splices and boxes. Colors are as follows:
- a. Black, red, and blue for circuits at 120/208 volts single or three phase. B. Neutral Conductors: White. When two or more neutrals are located in one
- C. Branch Circuit Conductors: Install three or four wire home runs with each phase uniquely color coded.

conduit, individually identify each with proper circuit number.

- D. Feeder Circuit Conductors: Uniquely color code each phase. E. Ground Conductors:
- 1. For 6 AWG and smaller: Green.
- 2. For 4 AWG and larger: Identify with green tape at both ends and visible points including junction boxes.

#### 3.12 INSTALLATION - RACEWAY

- A. Raceway routing is shown in approximate locations unless dimensioned. Route to
- complete wiring system.
- B. Do not install PVC conduit above ground.
- C. Conduits installed on top of roof or covered walk structure (on top or below) shall be rigid steel or IMC. D. All Conduits Shall Be Rigid Steel or IMC, except EMT may be used at the following
- 1. In dry locations in furred spaces.
- In partitions other than concrete or solid masonry.
- 3. In exposed (above eight feet (8') excluding top of roof or covered walk structure (on top or below)) interior/ exterior locations and in electrical/ mechanical/ communications rooms made up with watertight compression type connectors and couplings. Connectors to outlets shall be insulated throat type with integral non-removable plastic insulator lining.
- E. Arrange raceway supports to prevent misalignment during wiring installation.
- F. Support raceway using coated steel or malleable iron straps, lay-in adjustable hangers, clevis hangers, and split hangers.
- G. Group related raceway; support using conduit rack. Construct rack using steel channel; provide space on each for 25 percent additional raceways.

H. Do not support raceway with wire or perforated pipe straps. Remove wire used for

- temporary supports
- I. Do not attach raceway to ceiling support wires or other piping systems.
- K. Route exposed raceway parallel and perpendicular to walls.

J. Construct wireway supports from steel channel.

L. Route raceway installed above accessible ceilings parallel and perpendicular to

M. Maintain clearance between raceway and piping for maintenance purposes.

- N. Maintain 12-inch clearance between raceway and surfaces with temperatures exceeding 104 degrees F.
- O. Cut conduit square using saw or pipe cutter; de-burr cut ends. P. Bring conduit to shoulder of fittings; fasten securely.
- Q. Install conduit hubs to fasten conduit to sheet metal boxes in damp and wet locations and to cast boxes. R. Install no more than equivalent of three 90-degree bends between boxes. Install
- elbows for bends in metal conduit larger than 2-inch size. S. Avoid moisture traps; install junction box with drain fitting at low points in conduit

conduit bodies to make sharp changes in direction, as around beams. Install factory

- T. Install fittings to accommodate expansion and deflection where raceway crosses seismic and expansion joints.
- V. Install suitable caps to protect installed conduit against entrance of dirt and moisture. W. Surface Raceway: Install flat-head screws, clips, and straps to fasten raceway channel to surfaces; mount plumb and level. Install insulating bushings and inserts at

U. Install suitable pull string or cord in each empty raceway except sleeves and nipples.

X. Close ends and unused openings in wireway

connections to outlets and corner fittings.

- 3.13 INSTALLATION BOXES: A. Install wall mounted boxes at elevations to accommodate mounting heights as
- indicated on Drawings. B. Adjust box location up to 10 feet prior to rough-in to accommodate intended purpose.
- D. In Accessible Ceiling Areas: Install outlet and junction boxes no more than 6 inches

C. Install pull boxes and junction boxes above accessible ceilings and in unfinished

- from ceiling access panel or from removable recessed luminaire. E. Locate flush mounting box in masonry wall to require cutting of masonry unit corner only. Coordinate masonry cutting to achieve neat opening.
- F. Do not install flush mounting box back-to-back in walls; install with minimum 6 inches separation. Install with minimum 24 inches separation in acoustic rated walls.
- G. Secure flush mounting box to interior wall and partition studs. Accurately position to allow for surface finish thickness.
- H. Install stamped steel bridges to fasten flush mounting outlet box between studs. I. Install flush mounting box without damaging wall insulation or reducing its
- J. Install adjustable steel channel fasteners for hung ceiling outlet box. K. Do not fasten boxes to ceiling support wires or other piping systems.

effectiveness.

sectional box.

- L. Support boxes independently of conduit. M. Install gang box where more than one device is mounted together. Do not use
- N. Install gang box with plaster ring for single device outlets.
- O. Junction box identification: All junction boxes located above suspended ceilings and below ceilings in non-public areas, shall be identified with permanent felt tip marker on cover indicating panel and circuit numbers. Black marker for normal branch power,
- Red marker for emergency branch power. 3.14 INSTALLATION - CIRCUIT BREAKERS IN EXISTING SWITCHBOARD / MOTOR
  - **CONTROL CENTER / PANELBOARDS:** A. Modifications to existing panelboards, switchboards, and control centers shall be as indicated on the Drawings. New equipment shall match existing where possible and in all cases be compatible with existing. Where new breakers are installed in existing equipment, provide all hardware and trim pieces as required for a complete closed installation. Provide new nameplates at equipment where existing breakers are

identified by nameplates and provide new breaker identification in directory where

- existing breakers are identified in a directory. Where new breakers are indicated to be installed in existing switchboard or panel, but insufficient space exists, provide enclosed circuit breakers externally and tap existing bussing. Tap conduit and wire sizes shall be same as breaker line side
- conduit and wire. 3.15 TESTING AND ADJUSTING:
  - A. Furnish all labor and test equipment required for the Work of this Division. Testing work is defined as that work necessary to establish that equipment has been properly assembled, connected, and checked to verify that intent and purpose of Drawings, manufacturer's instruction manuals, and directions of Architect have been
  - B. Test each individual circuit at panel with equipment connected for proper operation.

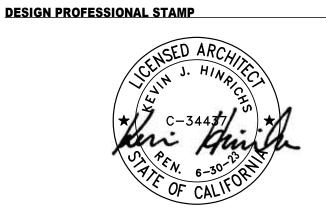
accomplished in satisfactory manner.

END OF SECTION

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITEC APP: 01-119701 INC: REVIEWED FOR SS 🗹 FLS 🗹 ACS 🗹 DATE: 01/19/2022

TAYLOR

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Contact Miguel

DATE:

DATE: 10/21/2021

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916.256.2460

**KEYPLAN** 

Project Number <u>G219</u>

AGENCY APPROVAL

REVISION SCHEDULE

**PCCD** 

NO. REVISION NAME

**PROJECT INFORMATION** 

**BCC ENTRY DOOR REPLACEMENT** FACILITY NAME: BERKELEY CITY COLLEGE FACILITY ADDRESS: 2050 CENTER ST, BERKELEY, CA 94704 UNIVERSITY PROJECT NUMBER AUTHORITY HAVING JURISDICTION: DSA

ARCHITECT PROJECT NO: 5271.100

SHEET TITLE

**SPECIFICATIONS** 

SCALE: As indicated